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**ACUTE LETHALITY DATA
FOR ONTARIO'S ORGANIC
CHEMICAL MANUFACTURING SECTOR
EFFLUENTS COVERING THE PERIOD FROM
OCTOBER 1989 TO MARCH 1990**

**Environment
Ontario**

ACUTE LETHALITY DATA FOR ONTARIO'S
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EFFLUENTS COVERING THE PERIOD FROM
OCTOBER 1989 TO MARCH 1990

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SUMMARY

Under the MISA program, the Organic Chemical Manufacturing Sector was required to monitor its discharges (both process and cooling waters) for acute lethality to trout and to *Daphnia magna* by conducting laboratory toxicity tests. This requirement was based on provisions of the Ontario Environmental Protection Act which allowed the Ministry to write regulations requesting persons responsible for sources of contaminants to monitor, record and report to the Ministry. Specific details on the toxicity testing requirements may be found in the General Effluent Monitoring Regulation (Ontario Regulation 695/88) and the Effluent Monitoring Regulation For The Organic Chemical Manufacturing Sector (Ontario Regulation 209/89). For the purposes of these regulations, organic chemical manufacturing refers to the manufacture of chemicals based on carbon and the plants, within this industry, can be grouped into three classes of products; organic chemicals, plastics, and synthetic fibres. An overview of this sector in Ontario is described in the publication "The Development Document For The Effluent Monitoring Regulation For The Organic Chemical Manufacturing Sector. Env. Ontario 1989". Information collected under the MISA effluent monitoring program will be used toward the development of compliance limits for effluent acute toxicity. The following data report presents the toxicity results of this monitoring along with the results of audit samples that were tested at the Ministry's laboratory in Rexdale. In addition, toxicity tests of some intake waters were also submitted by industry and these have been included in this report.

The data collected during the first six months of monitoring indicate the majority of organic chemical manufactures' effluents were not acutely lethal. Over 80 % of the samples tested for trout toxicity and 60 % of the samples tested for *Daphnia* toxicity were determined to have been non-lethal by standard testing methods. Most of the samples that were determined to have been acutely lethal to trout and/or *Daphnia* were collected from sites at the following six companies: Cornwall Chemicals Ltd. (Cornwall), Courtaulds Fibres Canada (Cornwall), Du Pont Canada Inc. (Kingston), Du Pont Canada Inc. (Maitland), GE Plastics Canada Ltd. and Uniroyal Chemical Ltd. (Elmira). All these companies reported that one or more of their discharges were acutely lethal the majority of the time when sampled. The Figures 1 to 9 present selected toxicity data (LC50s) for trout and *Daphnia*. The plots are for those discharges that had some toxicity to both animals. Note that low values of LC50 mean high acute toxicity.

In general, toxicity tests are used as a rapid technique to assess the potential impact of complex effluents on the aquatic environment. In acute lethality toxicity testing, aquatic organisms are exposed to undiluted effluent, and several effluent dilutions, for a fixed period of time. Trout tests use a 96 hour exposure regime while *Daphnia* tests run for 48 hours. In both tests, the number of organisms which have died would be the measured parameter. The LC50 or the estimated concentration of effluent that causes 50 % mortality is generally used as the quantitative measure of toxicity. Non-lethal effluents are considered less likely to produce adverse impacts in the environment after dilution.

The Organic Chemical Manufacturing Sector Regulation required dischargers to collect information on their operations, and monitoring data from their effluents, and to provide this information to the Ministry. The timing of toxicity sampling was arranged to coincide with chemical characterization, also required under this regulation. The frequency of sampling was monthly for both toxicity test procedures on process effluents with the exception that if tests over three consecutive months showed insignificant mortalities with trout then in subsequent months a single concentration test may be used. For cooling water effluent, the required frequency of sampling and testing was quarterly. All acute lethality testing was conducted according to Ministry protocols (Protocol To Determine The Acute Lethality Of Liquid Effluents To Fish. Env. Ontario July 1983 and *Daphnia magna* Acute Lethality Toxicity Test Protocol. Env. Ontario April 1988).

The Organic Chemical Manufacturing Sector effluent acute toxicity monitoring originated sample results submitted for 58 sampling locations at a total of 27 companies. For the first six months of monitoring, starting in October 1989 and ending March 1990, 572 trout and *Daphnia* toxicity test results were submitted by the companies, and 54 audit tests were conducted by the Aquatic Toxicity Unit of Environment Ontario. BASF Canada Inc. (Arnprior), Du Pont Canada Inc. (Whitby), Guardsman Products (Cornwall), Morbern Chemicals (Cornwall), and Rohm and Haas Canada Inc. (Scarborough) were all brought under monitoring through regulation amendments after the initial promulgation date. Therefore, there were limited samples to review for these companies. BASF Canada Inc. (Sarnia), Courtaulds Fibres Canada (Cornwall), Du Pont Canada Inc. (Corunna and Maitland) and Esso Chemical Canada Ltd. (Sarnia) voluntarily submitted test results for tests conducted on intake water samples.

Of the 308 samples that were tested for acute toxicity to trout, 248 (80.5 %) were not acutely lethal. The effluent samples collected from 10 (37 %) companies were consistently non-acutely lethal. All the samples collected from cooling water discharges or from intake supplies were non-acutely lethal to trout. Companies included in this category are : AKZO Chemicals Ltd. (Sarnia), BASF Canada Inc. (Sarnia), Celanese Canada Inc. (Millhaven), Du Pont (Whitby), Esso Chemical Canada (Sarnia), Ethyl Canada Inc. (Corunna), Morbern Inc. (Cornwall), Novacor Chemicals Ltd. (Mooretown), Rohm & Haas Canada Inc. (Morrisburg) and Stepan Canada Inc. (Longford Mills). An additional 27 samples, 8.8 % of total, resulted in LC50s > 100 %. Many of these tests had only one fish die during the tests and might be interpreted as being not acutely lethal. Nine companies had one or more test result with a LC50 > 100 %. This category included the following companies : Amoco Canada Petroleum Canada Ltd. (Sarnia), B.F. Goodrich Canada Inc. (Thorold), BTL Specialty Resins (Belleville), Canadian Oxy Chemicals Ltd. (Fort Erie), Chinook Chemicals Company (Sombra), Dow Chemical Inc. (Sarnia), Du Pont Canada Inc. (Corunna), Du Pont Canada Inc. (Maitland) and Uniroyal Chemical Ltd. (Elmira).

Thirty-three samples, 10.7 % of the total number of samples tested, were determined to

have been acutely-lethal to trout (96 hour LC50 < 100 %). All the lethal samples were collected from 5 companies (19 % of total companies). This category included the following companies: Cornwall Chemicals Limited (Cornwall), Courtaulds Fibres Canada (Cornwall), Du Pont Canada Inc. (Kingston), GE Plastics Canada Ltd. (Coburg) and Polysar Ltd. (Sarnia). Polysar Ltd. had only one lethal effluent sample during the first six months of monitoring, while the other plants' process effluents were lethal the majority of the time when sampled. The most lethal samples were sampled from Courtaulds Fibres Canada (Cornwall), where the 96 hour LC50s ranged from 1 % to 61 %.

Of the 328 samples tested for acute toxicity to *Daphnia magna*, 198 samples (60.4 %) were determined to have been non-acutely lethal. The effluents from AKZO Chemicals Ltd., B.F. Goodrich Canada Inc., BASF Canada Inc., Canadian Oxy Chemicals Ltd., and Novacor Chemicals Ltd. were not acutely lethal to *Daphnia*. An additional 69 samples (21.2 %) had 48 h LC50s > 100 %. Many of these samples had only one neonate die during the test, and might be interpreted as being not acutely lethal. Fourteen samples elicited an unusual toxicity response, in which the effluent became more toxic when it was diluted.

Fifty-one of the 328 samples (15.5 %) were acutely toxic to *Daphnia*, generating 48 h LC50s < 100 %. All the lethal samples were from ten companies, and 36 of 51 toxic samples were from four companies (Courtaulds Fibres Canada, Cornwall Chemicals Ltd., and Du Pont Canada Inc. plants in Kingston and Maitland). The effluents from Courtaulds Fibres Canada process outfalls #100 and #300 were consistently among the most toxic in this sector. The LC50 values for these outfalls range from 0.9 % to 7.6 % effluent. The cause of toxicity is partially due to the extremes in pH found at these outfalls. Process effluent #100 consistently has a pH < 2, and process effluent # 300 consistently has a pH > 12.

For several of the toxic samples, a quick review of the matching analytical chemistry monitoring data has revealed some probable causes of the observed acute toxicity. Where this was possible, a brief explanation to the probable causes of toxicity has been described below. However for some effluent samples, which were consistently lethal, such as the effluents from Uniroyal, and Dupont Kingston, the causes of toxicity were not as conclusive, and will need the complete year of monitoring data before an assessment can be made. It is clear that Courtaulds Fibres effluent toxicity is associated with the effluents extreme pH conditions, and a mixture of several other toxic contaminants. One effluent was consistently measured to have a pH reading of 1.4, and another discharge was measured at 11.8. Water exhibiting a pH in the range between 6.5 and 8.5 is normally considered of good quality for fish health. In addition to the extreme pH conditions of Courtaulds effluent samples, which alone could have accounted for the observed mortalities, the bioassay fish were challenged also by high concentrations of sulphide, zinc, lead, nickel and mercury. These contaminants were consistently measured in Courtaulds' effluent at lethal or sublethal concentrations. Cornwall Chemical's process

effluent samples were consistently lethal to both trout and *Daphnia*. On the days where the effluent was lethal, high concentrations of sulphide and carbon tetrachloride were measured. Sulphide and carbon tetrachloride concentrations reached as high as 15 ppm and 20 ppm respectively. It is probable the hydrogen sulphide and carbon tetrachloride content in the effluent contributed to the observed lethality. Of all the intake water samples tested, only one source proved lethal. The Dupont Maitland intake samples for the months of November, January and February were determined to have been lethal to *Daphnia* and/or trout. The lethality is believed to have been caused by the high residual chlorine content. This is consistent with Dupont's practice of chlorinating their intake water prior to use. Dupont Maitland discharge water was also determined to have been lethal for the October and November samples. The effluent toxicity was due in part to the elevated levels of copper, zinc and ammonia. The combined process effluent samples from GE Plastics, Coburg were found to have been consistently lethal to test fish and not lethal to the *Daphnia magna*. High concentrations of cyanide and ammonia were measured in the effluent when lethality occurred, and could be considered as contributing factors to toxicity. *Daphnia*, like invertebrates in general, are less sensitive to ammonia and cyanide. This would account for the different observed effects between the two test species.

In general, the reporting of toxicity data by the industries went smoothly. The quality of the toxicity results and presentation has been good. Where the Ministry requested industry for data resubmission to correct data entry errors and/or for additional information, the companies complied favourably. Where Ministry audit samples were collected and tested, the results were consistent with results submitted by industry. The following portion of this report presents the acute lethality data as submitted by industry, grouped by company. A summary of each company's results precedes each grouping of individual results. The comment fields on individual Toxicity Test Reports were entered by the industry's laboratory performing the tests, and should not be expected to be consistent across samples and do not represent the views of the Ministry.

Figure 1. Acute Toxicity of Effluent Samples from outfall #100 at Cornwall Chemicals, Cornwall. (Δ) Trout (□) Daphnia magna)

Figure 2. Acute Toxicity of Effluent Samples from outfall #100 at Courtaulds Fibres Canada, Cornwall. (Δ Trout □ Daphnia magna) Solid symbols are MISA audits.

Figure 3. Acute Toxicity of Effluent Samples from outfall #300 at Courtaulds Fibres Canada, Cornwall. (Δ Trout $\square$ *Daphnia magna*) Solid symbols are MISA audits.

Figure 4. Acute Toxicity of Effluent Samples from outfall #700 at Courtaulds Fibres Canada, Cornwall. (Δ Trout $\square$ *Daphnia magna*) Solid symbols are MISA audits.

Figure 5. Acute Toxicity of Effluent Samples from outfall #700 at DuPont Canada Inc., Kingston. (Δ Trout $\square$ *Daphnia magna*) Solid symbols are MISA audits.

Figure 6. Acute Toxicity of Effluent Samples from outfall #1100 at DuPont Canada Inc., Kingston. (Δ Trout $\square$ Daphnia magna) Solid symbols are MISA audits.

Figure 7. Acute Toxicity of Effluent Samples from outfall #1100 at DuPont Canada Inc., Maitland. (Δ Trout $\square$ *Daphnia magna*) Solid symbols are MISA audits.

Figure 8. Acute Toxicity of Effluent Samples from outfall #600 at Uniroyal Chemicals Ltd., Elmira. (Δ Trout $\square$ Daphnia magna) Solid symbols are MISA audits.

Figure 9. Acute Toxicity of Effluent Samples from outfall #100 at G.E. Plastics Canada Ltd., Cobourg. (Δ Trout □ Daphnia magna)

COMPANY: AKZO Chemicals Ltd., Sarnia
(28690006)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

The data for three trout bioassays, conducted on cooling water samples collected between October 1989 and March 1990, were provided by AKZO Chemicals Ltd. All three cooling water samples were determined to have been non-acutely lethal to test fish. An additional audit sample collected in December from the cooling water effluent was tested by the O.M.E. laboratory and was determined to have been non-acutely lethal.

OT cooling water

03890235 sampled: 10/28/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890121 sampled: 11/22/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

01890285 sampled: 12/07/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA audit sample.

05900028 sampled: 02/07/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

OT cooling water

storm water

storm water

rain gauge

intake water

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03890235

TEST CONDITIONS

Company : AKZO Chemicals Ltd.
Sarnia, ONT
(28690006)
Region : Southwest
Industry : Organic Chemical
Control point : OT cooling water, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Pickering
Date Collected : 10/28/89
Received : 10/30/89
Tested : 10/31/89 at: 1330

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03890235

TEST CONC. %
E L A P S E D T I M E
00:00 04:00 24:00 48:00 72:00 96:00

Control	pH	7.9					8.4
	O2 ppm	8.5					9.3
	Cond.	560					552
	Temp(C)	16.0	15.5	14.0	15.0	15.0	15.0
10	pH	7.8					8.5
	O2 ppm	8.2					9.5
	Cond.	528					519
	Temp(C)	16.0	15.5	14.0	15.0	15.0	15.0
20	pH	7.8					8.3
	O2 ppm	8.2					9.4
	Cond.	495					496
	Temp(C)	16.0	15.5	14.0	15.0	15.0	15.0
40	pH	7.8					8.2
	O2 ppm	8.4					9.3
	Cond.	432					437
	Temp(C)	16.0	15.5	14.0	15.0	15.0	15.0
65	pH	7.9					8.2
	O2 ppm	8.8					9.5
	Cond.	352					358
	Temp(C)	16.0	15.5	14.0	15.0	15.0	15.0
100	pH	8.1					7.8
	O2 ppm	9.2					9.2
	Cond.	231					242
	Temp(C)	16.0	15.5	14.0	15.0	15.0	15.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 05890121

TEST CONDITIONS

Company : AKZO Chemicals Ltd.
Sarnia, ONT
(28690006)
Region : Southwest
Industry : Organic Chemical
Control point : OT cooling water, (100)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 11/22/89
Received : 11/22/89
Tested : 11/22/89 at: 1545

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	21:55	48:25	72:55	96:55	%
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890121

TEST CONC. %	E L A P S E D T I M E				
	00:00	21:55	48:25	72:55	96:55
100	pH 8.0 O2 ppm 10.5 Cond. 265 Temp(C) 15.0	7.8 7.8 9.7 9.0 15.0 15.0	7.8 7.8 9.0 9.9 15.0 15.0	7.8 7.8 9.9 9.9 15.0 15.0	7.6 7.6 9.8 9.8 175 175
75	pH 7.6 O2 ppm 10.3 Cond. 169 Temp(C) 15.0	7.9 7.9 9.9 9.2 15.0 15.0	7.8 7.8 9.2 10.0 15.0 15.0	7.8 7.8 10.0 10.0 15.0 15.0	7.7 7.7 9.9 9.9 172 172
56	pH 7.4 O2 ppm 10.1 Cond. 167 Temp(C) 15.0	7.8 7.8 9.7 9.1 15.0 15.0	7.8 7.8 9.1 9.9 15.0 15.0	7.7 7.7 9.9 9.9 15.0 15.0	7.6 7.6 9.6 9.6 172 172
25	pH 7.3 O2 ppm 9.8 Cond. 166 Temp(C) 15.0	7.8 7.8 9.8 9.2 15.0 15.0	7.8 7.8 9.2 10.0 15.0 15.0	7.7 7.7 10.0 10.0 15.0 15.0	7.6 7.6 9.8 9.8 172 172
10	pH 7.3 O2 ppm 9.8 Cond. 167 Temp(C) 15.0	7.8 7.8 9.6 8.8 15.0 15.0	7.8 7.8 8.8 9.9 15.0 15.0	7.7 7.7 9.9 9.9 171 171	7.6 7.6 9.9 9.9 15.0 15.0
1	pH 7.3 O2 ppm 9.8 Cond. 170 Temp(C) 15.0	7.7 7.7 9.8 9.1 15.0 15.0	7.7 7.7 9.1 9.8 15.0 15.0	7.7 7.7 9.8 9.8 15.0 15.0	7.6 7.6 9.6 9.6 175 175
Control	pH 7.1 O2 ppm 10.0 Cond. 165 Temp(C) 15.0	7.8 7.8 10.0 9.2 15.0 15.0	7.7 7.7 9.2 10.0 15.0 15.0	7.7 7.7 10.0 10.0 15.0 15.0	7.5 7.5 9.8 9.8 168 168
Control	pH 7.2 O2 ppm 10.2 Cond. 170 Temp(C) 15.0	7.7 7.7 9.8 9.1 15.0 15.0	7.7 7.7 9.1 10.1 15.0 15.0	7.7 7.7 10.1 10.1 15.0 15.0	7.5 7.5 10.0 10.0 166 166

TOXICITY TEST REPORT Sample: 01890285

TEST CONDITIONS

Company : AKZO Chemicals Ltd.
Sarnia, ONT
(28690006)
Region : Southwest
Industry : Organic Chemical
Control point : OT cooling water, (100)
Laboratory : MOE
Sampling Method : grab
Sampled By : J. Longlade
Date Collected : 12/07/89
Received : 12/08/89
Tested : 12/11/89 at: 1000

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E								TOTAL MORTALITY	
	%	00:00	00:30	01:00	02:00	04:00	26:00	47:30	71:00	96:00
100	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA audit sample.

TOXICITY TEST PARAMETERS

Sample Number: 01890285

TEST CONC. %	E L A P S E D T I M E							
	00:00	00:30	01:00	02:00	04:00	26:00	47:30	71:00
100	pH	7.0			7.5	7.8	7.7	7.7
	O2 ppm	10.1			10.3	11.4	11.1	10.4
	Cond.	170			160	160	165	170
	Temp(C)	14.0			14.0	14.0	14.0	14.0
65	pH				7.7	7.8	7.8	7.8
	O2 ppm				10.4	11.4	11.4	10.4
	Cond.				190	195	190	200
	Temp(C)				14.0	14.0	14.0	14.0
40	pH				7.7	7.8	7.8	7.8
	O2 ppm				10.4	11.4	11.1	10.4
	Cond.				215	210	210	220
	Temp(C)				14.0	14.0	14.0	14.0
30	pH				7.6	7.7	7.7	7.7
	O2 ppm				10.2	11.1	10.9	10.3
	Cond.				220	215	230	230
	Temp(C)				14.0	14.0	14.0	14.0
20	pH				7.7	7.9	7.6	7.8
	O2 ppm				10.5	11.4	11.1	10.4
	Cond.				230	225	245	260
	Temp(C)				14.0	14.0	14.0	14.0
10	pH				7.7	7.9	7.7	7.8
	O2 ppm				10.4	11.4	11.1	10.3
	Cond.				255	250	250	260
	Temp(C)				14.0	14.0	14.0	14.0
Control	pH				7.3	7.9	7.2	7.6
	O2 ppm				10.2	11.3	10.7	10.3
	Cond.				265	265	265	260
	Temp(C)				14.0	14.0	14.0	14.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 059000028

TOXICITY TEST PARAMETERS

TEST CONDITIONS

Company : AKZO Chemicals Ltd.
Sarnia, ONT
(28690006)
Region : Southwest
Industry : Organic Chemical
Control point : OT cooling water, (100)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 02/07/90
Received : 02/07/90
Tested : 02/08/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	03:00	00:00	23:00	45:00	67:30	97:00	%	
100	0	0	0	0	0	0	0	
75	0	0	0	0	0	0	0	
56	0	0	0	0	0	0	0	
25	0	0	0	0	0	0	0	
10	0	0	0	0	0	0	0	
1	0	0	0	0	0	0	0	
Control	0	0	0	0	0	0	0	
Control	0	0	0	0	0	0	0	

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

Sample Number: 059000028

TEST CONC. %
E L A P S E D T I M E
03:00 00:00 23:00 45:00 67:30 97:00

100	pH	7.9	7.7	7.7	7.7	7.7
	O2 ppm	8.8	9.4	9.4	9.3	9.3
	Cond.	200	167	167	165	165
	Temp(C)	20.0	15.0	15.0	15.0	15.0
75	pH	7.6	7.6	7.7	7.7	7.7
	O2 ppm	9.6	9.6	9.5	9.5	9.5
	Cond.	167	167	165	165	165
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	7.4	7.4	7.7	7.7	7.7
	O2 ppm	10.0	10.0	9.2	9.2	9.2
	Cond.	165	165	169	169	169
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.2	7.2	7.6	7.6	7.6
	O2 ppm	10.1	10.1	9.3	9.3	9.3
	Cond.	162	162	168	168	168
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.2	7.2	7.6	7.6	7.6
	O2 ppm	10.2	10.2	9.4	9.4	9.4
	Cond.	162	162	170	170	170
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.2	7.2	7.6	7.6	7.6
	O2 ppm	10.2	10.2	9.5	9.5	9.5
	Cond.	162	162	170	170	170
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.2	7.2	7.6	7.6	7.6
	O2 ppm	10.2	10.2	9.6	9.6	9.6
	Cond.	166	166	168	168	168
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.2	7.2	7.6	7.6	7.6
	O2 ppm	10.2	10.2	9.6	9.6	9.6
	Cond.	166	166	170	170	170
	Temp(C)	15.0	15.0	15.0	15.0	15.0

COMPANY: AKZO Chemicals Ltd., Sarnia
(28690006)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

Data for three Daphnia magna acute lethality toxicity tests conducted on samples of once through cooling water collected between October 1989 and March 1990 were submitted by AKZO Chemicals Ltd. of Sarnia. Two samples were not acutely lethal to Daphnia, and one sample had one animal die in the 100% concentration during the test. One sample of this effluent was tested in the Ministry laboratory in December. It was not acutely lethal to Daphnia.

OT cooling water

03890235 sampled: 10/28/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890121 sampled: 11/22/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

02890285 sampled: 12/07/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

05900028 sampled: 02/07/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

OT cooling water

storm water

storm water

rain gauge

intake water

TOXICITY TEST REPORT Sample: 03890235

TEST CONDITIONS

Company : AKZO Chemicals Ltd.
Sarnia, ONT
(28690006)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Pickering
Date Collected : 10/28/89
Received : 10/30/89
Tested : 10/31/89 at: 1315

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	04:00	24:00	48:00
Control	0	0	0	0
6	0	0	0	0
13	0	0	0	0
25	0	0	0	0
50	0	0	0	0
100	0	1	1	8

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03890235

TEST CONC. %

E L A P S E D T I M E

00:00 04:00 24:00 48:00

Control	pH	7.9	8.1
	O2 ppm	9.4	8.4
	Cond.	300	297
	Temp(C)	20.0	19.0
6	pH	7.9	8.1
	O2 ppm	9.2	8.7
	Cond.	299	293
	Temp(C)	20.0	19.0
13	pH	7.9	8.0
	O2 ppm	8.8	8.8
	Cond.	297	289
	Temp(C)	20.0	19.0
25	pH	7.9	8.1
	O2 ppm	8.7	8.9
	Cond.	287	281
	Temp(C)	20.0	19.0
50	pH	8.0	8.1
	O2 ppm	8.7	8.9
	Cond.	270	264
	Temp(C)	20.0	19.0
100	pH	8.1	7.9
	O2 ppm	8.8	8.9
	Cond.	233	229
	Temp(C)	20.0	19.0

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 05890121

TEST CONDITIONS

Company : AKZO Chemicals Ltd.
 : Sarnia, ONT
 : (28690006)
Region : SouthWest
Industry : Organic Chemical

Control point : OT cooling water, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 11/22/89
Received : 11/22/89
Tested : 11/22/89 at: 1535

Type of Bioassay : STATIC
 : (Daphnia magna Acute Lethality Toxicity
 : Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 48:35	%
100	0	0
50	0	0
26	0	0
13	0	0
6	0	0
Control	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890121

TEST CONC. %
E L A P S E D T I M E
00:00 48:35

100	pH 7.9 O2 ppm 9.0 Cond. 200 Temp(C) 198 20.0	7.9 9.0 200 20.0	7.9 9.0 198 20.0
50	pH 8.0 O2 ppm 8.6 Cond. 360 Temp(C) 352 20.0	8.0 8.6 360 20.0	8.0 8.2 352 20.0
26	pH 8.1 O2 ppm 8.6 Cond. 430 Temp(C) 430 20.0	8.1 8.6 430 20.0	8.1 8.2 430 20.0
13	pH 8.1 O2 ppm 8.5 Cond. 462 Temp(C) 462 20.0	8.1 8.5 462 20.0	8.1 8.6 462 20.0
6	pH 8.1 O2 ppm 8.6 Cond. 470 Temp(C) 485 20.0	8.1 8.6 470 20.0	8.1 8.8 485 20.0
Control	pH 8.1 O2 ppm 8.9 Cond. 498 Temp(C) 500 20.0	8.1 8.9 498 20.0	8.1 9.0 500 20.0

TOXICITY TEST REPORT Sample: 02890285

TEST CONDITIONS

Company : AKZO Chemicals Ltd.

Sarnia, ONT
(28690006)Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (100)

Laboratory : MOE

Sampling Method : grab

Sampled By : J. Longlade

Date Collected : 12/07/89

Received : 12/08/89

Tested : 12/11/89 at: 941

Type of Bioassay

: STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna

Weight(gm)

Length(mm)

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	01:39	24:00	48:00	%
100	0	0	0	0	0
60	0	0	0	0	0
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 02890285

TEST CONC.	E L A P S E D T I M E			
%	00:00	01:39	24:00	48:00
100	pH 7.6	9.9	7.7	7.7
	02 ppm Cond. 201		8.1	8.1
	Temp(C) 20.0	20.0	20.0	20.0
60	pH 7.8	9.4	7.8	7.8
	02 ppm Cond. 246		8.1	8.1
	Temp(C) 20.0	20.0	20.0	20.0
30	pH 7.9	9.2	7.8	7.8
	02 ppm Cond. 278		8.1	8.1
	Temp(C) 20.0	20.0	20.0	20.0
15	pH 7.9	9.2	7.8	7.8
	02 ppm Cond. 294		8.2	8.2
	Temp(C) 20.0	20.0	20.0	20.0
5	pH 7.9	9.1	7.8	7.8
	02 ppm Cond. 304		8.2	8.2
	Temp(C) 20.0	20.0	20.0	20.0
Control	pH 7.9	9.1	7.7	7.7
	02 ppm Cond. 305		8.3	8.3
	Temp(C) 20.0	20.0	20.0	20.0

TOXICITY TEST REPORT Sample: 059000028

TEST CONDITIONS

Company : AKZO Chemicals Ltd.
Sarnia, ONT
(286900006)
Region : Southwest
Industry : Organic Chemical
Control point : OT cooling water, (100)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 02/07/90
Received : 02/07/90
Tested : 02/08/90 at: 1200

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	%	ELAPSED TIME	TOTAL MORTALITY
100	0	00:00 48:00	0
50	0		0
26	0		0
13	0		0
6	0		0
Control	0		0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 059000028

TEST CONC. %
ELAPSED TIME
00:00 48:00

100	pH 7.9 O2 ppm 8.8 Cond. 200 Temp(C) 20.0	8.0 9.0 205 20.0
50	pH 8.1 O2 ppm 8.6 Cond. 360 Temp(C) 20.0	8.0 9.0 358 20.0
26	pH 8.2 O2 ppm 8.6 Cond. 430 Temp(C) 20.0	8.0 9.0 430 20.0
13	pH 8.2 O2 ppm 8.6 Cond. 470 Temp(C) 20.0	8.1 9.2 460 20.0
6	pH 8.2 O2 ppm 8.6 Cond. 488 Temp(C) 20.0	8.2 9.1 483 20.0
Control	pH 8.1 O2 ppm 8.6 Cond. 500 Temp(C) 20.0	8.2 9.2 500 20.0

COMPANY: Amoco Canada Petroleum Canada Ltd., Sarnia
(104330204)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

The data for two trout bioassays, conducted on storm water samples collected between October 1989 and March 1990, were provided by Amoco Canada Petroleum Canada Limited. One storm water sample had a 96 hour LC50 > 100 %, while the other sample was determined to have been non-acutely lethal to test fish.

Storm Water

03900087 sampled: 02/07/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900190 sampled: 03/12/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

Emergency Overflow

Emergency Overflow

Storm Water

Batch Discharge Effluent

Batch Discharge Effluent

TOXICITY TEST REPORT Sample: 03900087

TEST CONDITIONS

Company : Amoco Canada Petroleum Canada Ltd.

Sarnia, ONT
(104330204)Region : Southwest
Industry : Organic Chemical

Control point : Storm Water, (100)

Laboratory : BAR

Sampling Method : Grab

Sampled By : Ken Temple

Date Collected : 02/07/90

Received : 02/08/90

Tested : 02/08/90 at: 1630

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout

Weight(gm) :

Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	6	6	6	6	60
65	0	0	0	1	1	10
40	0	0	0	1	1	10
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	1	10

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900087

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00

100	pH	7.8	8.0		
	O2 ppm	7.0	8.2		
	Cond.	2540	2540		
	Temp(C)	14.5	15.0	15.0	15.0
65	pH	7.7			8.1
	O2 ppm	7.5			7.9
	Cond.	1850			1892
	Temp(C)	14.5	15.0	15.0	15.0
40	pH	7.8			8.2
	O2 ppm	7.8			8.1
	Cond.	1358			1378
	Temp(C)	14.5	15.0	15.0	15.0
20	pH	7.9			8.5
	O2 ppm	8.4			9.4
	Cond.	963			973
	Temp(C)	14.5	15.0	15.0	15.0
10	pH	7.9			8.5
	O2 ppm	8.4			9.3
	Cond.	754			762
	Temp(C)	14.5	15.0	15.0	15.0
5	pH	7.9			8.4
	O2 ppm	8.6			9.0
	Cond.	644			652
	Temp(C)	14.5	15.0	15.0	15.0
Control	pH	7.9			8.5
	O2 ppm	8.5			9.5
	Cond.	543			542
	Temp(C)	14.5	15.0	15.0	15.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900190

TEST CONDITIONS

Company : Amoco Canada Petroleum Canada Ltd.

Sarnia, ONT
(104330204)

Region : Southwest
Industry : Organic Chemical

Control point : Storm Water, (100)

Laboratory : BAR

Sampling Method : Grab

Sampled By : S. McKay

Date Collected : 03/12/90

Received : 03/13/90

Tested : 03/13/90 at: 1445

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout

Weight(gm) :

Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900190

TEST
CONC.
%
E L A P S E D T I M E
00:00 24:00 48:00 72:00 96:00

100	pH	7.7	7.8	7.8	7.8
	O2 ppm	8.4	8.4	8.8	8.8
	Cond.	1049	1049	1052	1052
	Temp(C)	15.0	15.0	16.0	16.0
65	pH	7.8	7.8	7.7	7.7
	O2 ppm	8.8	8.8	6.3	6.3
	Cond.	870	870	871	871
	Temp(C)	15.0	15.0	16.0	16.0
40	pH	7.8	7.8	8.0	8.0
	O2 ppm	9.0	9.0	9.1	9.1
	Cond.	744	744	740	740
	Temp(C)	15.0	15.0	16.0	16.0
20	pH	7.8	7.8	8.2	8.2
	O2 ppm	9.2	9.2	9.3	9.3
	Cond.	652	652	642	642
	Temp(C)	15.0	15.0	16.0	16.0
10	pH	7.8	7.8	8.1	8.1
	O2 ppm	9.3	9.3	9.0	9.0
	Cond.	595	595	587	587
	Temp(C)	15.0	15.0	16.0	16.0
5	pH	7.8	7.8	8.2	8.2
	O2 ppm	9.4	9.4	9.4	9.4
	Cond.	574	574	561	561
	Temp(C)	15.0	15.0	16.0	16.0
Control	pH	7.8	7.8	8.1	8.1
	O2 ppm	9.4	9.4	8.9	8.9
	Cond.	550	550	539	539
	Temp(C)	15.0	15.0	16.0	16.0

COMPANY: Amoco Canada Petroleum Canada Ltd., Sarnia
(104330204)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

The monitoring regulation did not come into force until February 1990 for Amoco Canada Petroleum Ltd. of Sarnia. This company has submitted data for two *Daphnia magna* acute lethality toxicity tests conducted on samples of effluent from storm water outfall #100. Both samples were not acutely lethal to *Daphnia*.

Storm Water

03900087 sampled: 02/07/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900190 sampled: 03/12/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

Emergency Overflow

Emergency Overflow

Storm Water

Batch Discharge Effluent

Batch Discharge Effluent

TOXICITY TEST REPORT Sample: 03900087

TEST CONDITIONS

Company : Amoco Canada Petroleum Canada Ltd.

Region : Sarnia, ONT
(104330204)

Industry : Southwest
: Organic Chemical

Control point : Storm Water, (100)

Laboratory : BAR

Sampling Method : Grab

Sampled By : K. Temple

Date Collected : 02/07/90

Received : 02/08/90

Tested : 02/08/90 at: 1425

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol, OME, 1988)

Test Animal : D. magna

Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0 0	0
50	0	0 0	0
25	0	0 0	0
13	0	0 0	0
6	0	0 0	0
Control	0	0 0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900087

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 7.5 O2 ppm 4.8 Cond. 2530 Temp(C) 20.0	7.7 2.0 2520 20.5	7.7 2.0 2520 20.0
50	pH 7.9 O2 ppm 6.9 Cond. 1440 Temp(C) 20.0	7.8 3.7 1428 20.5	7.8 3.7 1428 20.0
25	pH 8.3 O2 ppm 7.7 Cond. 881 Temp(C) 20.0	8.0 5.8 871 20.5	8.0 5.8 871 20.0
13	pH 8.3 O2 ppm 8.2 Cond. 599 Temp(C) 20.0	8.2 7.1 592 20.5	8.2 7.1 592 20.0
6	pH 8.4 O2 ppm 8.4 Cond. 436 Temp(C) 20.0	8.3 7.6 433 20.5	8.3 7.6 433 20.0
Control	pH 8.6 O2 ppm 8.7 Cond. 298 Temp(C) 20.0	8.4 8.1 297 20.5	8.4 8.1 297 20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900190

TEST CONDITIONS

Company : Amoco Canada Petroleum Canada Ltd.

Sarnia, ONT
(104330204)

Region : Southwest

Industry : Organic Chemical

Control point : Storm Water, (100)

Laboratory : BAR

Sampling Method : Grab

Sampled By : S. McLay

Date Collected : 03/12/90

Received : 03/13/90

Tested : 03/13/90 at: 1330

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol - OME, 1988)

Test Animal : D. magna

Weight(gm) :

Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 24:00 48:00	%
100	0 0 0	0
50	0 0 0	0
25	0 0 0	0
13	0 0 0	0
6	0 0 0	0
Control	0 0 0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900190

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 7.8 O2 ppm 8.3 Cond. 1030 Temp(C) 20.0	7.6 4.2 1024 20.5
50	pH 8.1 O2 ppm 8.6 Cond. 675 Temp(C) 20.0	7.8 6.2 668 20.5
25	pH 8.3 O2 ppm 8.8 Cond. 491 Temp(C) 20.0	8.0 7.4 487 20.5
13	pH 8.4 O2 ppm 8.9 Cond. 397 Temp(C) 20.0	8.1 7.7 394 20.5
6	pH 8.4 O2 ppm 9.0 Cond. 346 Temp(C) 20.0	8.2 8.0 341 20.5
Control	pH 8.4 O2 ppm 9.0 Cond. 299 Temp(C) 20.0	8.3 8.1 299 20.5

COMPANY: B.F. Goodrich Canada Inc., Thorold
(370304)
SECTOR: Organic Chemical
REGION: West Central

SUMMARY

The data for six trout bioassays, conducted on combined effluent samples collected between October 1989 and March 1990, were provided by B.F. Goodrich Canada Incorporated. All six combined effluent samples were determined to have been non-acutely lethal to test fish. An additional audit sample collected from this combined discharge in November was tested by the O.M.E. laboratory and was also determined to have been non-acutely lethal.

combined effluent

08890442	sampled: 10/18/89	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		
08890472	sampled: 11/16/89	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		
01890277	sampled: 11/29/89	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	MISA audit sample.	
08890512	sampled: 12/19/89	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		
08900061	sampled: 01/24/90	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:		
08900101	sampled: 02/12/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		
08900211	sampled: 03/12/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		

B.F. Goodrich Canada Inc. (continued)

waste site

rain gauge

intake water

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT

Sample: 08890442

TEST CONDITIONS

Company : B.F. Goodrich Canada Inc.

Thorold, ONT
(370304)

Region : West Central

Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Integrated

Sampling Method : grab

Sampled By : M. Whitwell

Date Collected : 10/18/89

Received : 10/19/89

Tested : 10/20/89 at: 1330

Type of Bioassay

: STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. ONE, 1983).

Test Animal

Weight(gm) : Rainbow trout

Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	01:00	02:00	04:00	25:10	48:00	72:00	96:00
100	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 08890442

TEST
CONC.

E L A P S E D T I M E

00:00 01:00 02:00 04:00 25:10 48:00 72:00 96:00

100	pH	7.8	7.2
	O2 ppm	8.6	9.3
	Cond.	285	572
	Temp(C)	15.0	15.0
65	pH	7.7	7.3
	O2 ppm	8.3	9.7
	Cond.	310	526
	Temp(C)	15.0	15.0
40	pH	7.6	7.4
	O2 ppm	8.2	9.4
	Cond.	328	494
	Temp(C)	15.0	15.0
30	pH	7.5	7.5
	O2 ppm	7.4	9.5
	Cond.	336	481
	Temp(C)	15.0	15.0
20	pH	7.7	7.4
	O2 ppm	7.6	9.4
	Cond.	343	468
	Temp(C)	15.0	15.0
10	pH	7.4	7.5
	O2 ppm	7.1	9.3
	Cond.	350	455
	Temp(C)	15.0	15.0
Control	pH	7.0	7.7
	O2 ppm	8.3	10.0
	Cond.	340	509
	Temp(C)	15.0	15.0

TOXICITY TEST REPORT Sample: 08890472

TEST CONDITIONS

Company : B.F. Goodrich Canada Inc.
Thorold, ONT
(370304)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Integrated
Sampling Method : grab
Sampled By : M. Whitwell
Date Collected : 11/16/89
Received : 11/17/89
Tested : 11/17/89 at: 1230

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E								TOTAL MORTALITY
%	00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 08890472

TEST
CONC.
%

E L A P S E D T I M E

00:00 01:00 02:00 04:00 24:00 48:00 72:00 96:00

100	pH 7.5 O2 ppm 10.4 Cond. 280 Temp(C) 9.0	7.9 9.1 370 15.0
65	pH 7.4 O2 ppm 9.5 Cond. 350 Temp(C) 10.0	8.2 9.2 500 15.0
40	pH 7.4 O2 ppm 8.9 Cond. 430 Temp(C) 10.0	8.4 9.2 490 15.0
30	pH 7.3 O2 ppm 9.3 Cond. 440 Temp(C) 11.0	8.4 9.5 510 15.0
10	pH 7.2 O2 ppm 7.4 Cond. 520 Temp(C) 11.0	8.4 8.0 530 15.0
Control	pH 7.2 O2 ppm 7.3 Cond. 700 Temp(C) 12.0	7.9 7.7 520 15.0

TOXICITY TEST REPORT Sample: 01890277

TEST CONDITIONS

Company : B.F. Goodrich Canada Inc.
 Thorold, ONT
 (370304)
 Region : West Central
 Industry : Organic Chemical
 Control point : combined effluent, (100)
 Laboratory : MOE
 Sampling Method : grab
 Sampled By : M. Smithson
 Date Collected : 11/29/89
 Received : 11/30/89
 Tested : 12/01/89 at: 1130

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY		
%	00:00	01:10	01:00	02:00	04:00	25:10	51:15	76:10	96:00	%
100	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA audit sample.

TOXICITY TEST PARAMETERS

Sample Number: 01890277

TEST E L A P S E D T I M E
 CONC. % 00:00 01:10 01:00 02:00 04:00 25:10 51:15 76:10 96:00

100	pH	7.2	7.5	7.5	7.5	7.5	7.5	7.7	7.7
	O2 ppm	4.4	8.6	8.5	8.5	8.5	8.5	10.0	9.7
	Cond.	3900	3600	3625	3675	3675	3600	375	375
	Temp(C)	14.0	14.0	14.0	14.0	14.0	15.0	14.0	14.0
65	pH	7.8	7.8	7.6	7.7	7.7	7.7	7.7	7.7
	O2 ppm	10.1	10.1	9.1	9.2	9.2	9.8	9.7	9.7
	Cond.	2500	2500	2550	2500	2550	2550	260	260
	Temp(C)	14.0	14.0	14.0	14.0	14.0	15.0	14.0	14.0
40	pH	7.6	7.6	7.3	7.3	7.3	7.3	7.3	7.3
	O2 ppm	9.5	9.5	8.0	8.0	8.0	8.0	8.0	8.0
	Cond.	1700	1700	1725	1700	1700	1700	170	170
	Temp(C)	14.0	14.0	14.0	14.0	14.0	15.0	14.0	14.0
30	pH	7.7	7.7	7.5	7.5	7.5	7.8	7.8	7.8
	O2 ppm	9.8	9.8	8.8	9.2	9.2	9.7	9.7	9.7
	Cond.	1360	1360	1350	1325	1300	140	140	140
	Temp(C)	14.0	14.0	14.0	14.0	14.0	15.0	14.0	14.0
20	pH	7.8	7.8	7.7	7.7	7.7	7.8	7.8	7.8
	O2 ppm	9.8	9.8	9.3	9.4	10.0	9.0	9.0	9.0
	Cond.	1000	1000	990	950	1000	100	100	100
	Temp(C)	14.0	14.0	14.0	14.0	14.0	15.0	14.0	14.0
10	pH	7.9	7.9	7.7	7.6	7.6	7.8	7.8	7.8
	O2 ppm	10.2	10.2	9.2	8.8	8.8	10.2	9.0	9.0
	Cond.	600	600	500	590	600	62	62	62
	Temp(C)	14.0	14.0	14.0	14.0	14.0	15.0	14.0	14.0
Control	pH	7.9	7.9	7.2	7.1	7.1	7.5	7.5	7.5
	O2 ppm	9.9	9.9	7.1	7.5	7.5	10.0	9.0	9.0
	Cond.	250	250	240	230	260	26	26	26
	Temp(C)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0

TOXICITY TEST REPORT Sample: 08890512

TEST CONDITIONS

Company : B.F. Goodrich Canada Inc.
 Thorold, ONT
 (370304)
 Region : West Central
 Industry : Organic Chemical
 Control point : combined effluent, (100)
 Laboratory : Integrated
 Sampling Method : grab
 Sampled By : M. Whitwell
 Date Collected : 12/19/89
 Received : 12/20/89
 Tested : 12/20/89 at: 1600

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	01:00	02:00	04:00	24:00	48:05	71:30	94:00
100	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 08890512

TEST CONC. %	E L A P S E D T I M E						
	00:00	01:00	02:00	04:00	24:00	48:05	71:30 94:00
100	pH 7.5 O2 ppm 7.2 Cond. 6000 Temp(C) 15.0						8.5 6.7 6200 15.5
65	pH 7.7 O2 ppm 7.1 Cond. 4000 Temp(C) 15.0						8.5 7.1 4100 15.5
40	pH 7.5 O2 ppm 7.1 Cond. 2800 Temp(C) 15.0						8.5 7.2 3000 15.5
30	pH 7.6 O2 ppm 7.1 Cond. 2300 Temp(C) 15.0						8.4 7.2 2350 15.5
10	pH 7.7 O2 ppm 7.0 Cond. 1300 Temp(C) 15.0						8.3 6.9 1300 15.5
5	pH 7.7 O2 ppm 7.2 Cond. 980 Temp(C) 15.0						8.2 7.4 1050 15.5
Control	pH 7.8 O2 ppm 7.2 Cond. 750 Temp(C) 15.0						7.9 7.3 750 15.5

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 08900061

TEST CONDITIONS

Company : B.F. Goodrich Canada Inc.
Thorold, ONT
(370304)
Region : West Central
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : integrated
Sampling Method : grab
Sampled By : Mark Whitwell
Date Collected : 01/24/90
Received : 01/25/90
Tested : 01/26/90 at: 1100

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY	
%	00:00	01:00	02:00	04:00	24:00	48:15	72:50	96:50	%
100	0	0	0	0	0	0	0	1	10
65	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0
10	0	0	0	1	1	1	1	1	10
5	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 08900061

TEST CONC.	E L A P S E D T I M E						
%	00:00	01:00	02:00	04:00	24:00	48:15	72:50 96:50
100	pH 8.0	02 ppm 8.9	Cond. 580	Temp(C) 15.5			8.1 9.5 620 16.0
65	pH 8.0	02 ppm 9.5	Cond. 640	Temp(C) 15.5			8.3 9.6 655 16.0
40	pH 8.0	02 ppm 9.6	Cond. 680	Temp(C) 15.5			8.4 9.7 645 16.0
30	pH 8.1	02 ppm 9.6	Cond. 700	Temp(C) 15.5			8.4 9.8 615 16.0
10	pH 8.1	02 ppm 9.2	Cond. 720	Temp(C) 15.5			8.4 9.6 570 16.0
5	pH 8.1	02 ppm 9.1	Cond. 720	Temp(C) 15.5			8.4 9.5 570 16.0
Control	pH 8.0	02 ppm 9.0	Cond. 700	Temp(C) 15.5			8.4 9.6 570 16.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 08900101

TEST CONDITIONS

Company : B.F. Goodrich Canada Inc.
Thorold, ONT
(370304)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Integrated
Sampling Method : grab
Sampled By : Mark Whitwell
Date Collected : 02/12/90
Received : 02/16/90
Tested : 02/16/90 at: 1230

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY	
%	00:00	01:15	02:05	04:15	24:10	48:10	73:10	97:00	%
100	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 08900101

TEST CONC.	E L A P S E D T I M E						
%	00:00	01:15	02:05	04:15	24:10	48:10	73:10 97:00
100	pH 7.3						8.3
	O2 ppm 8.8						8.2
	Cond. 510						575
	Temp(C) 16.0						16.0
65	pH 7.5						8.4
	O2 ppm 8.7						8.2
	Cond. 580						620
	Temp(C) 16.0						16.0
40	pH 7.7						8.4
	O2 ppm 8.6						8.2
	Cond. 610						680
	Temp(C) 16.0						16.0
30	pH 7.7						8.5
	O2 ppm 8.6						8.2
	Cond. 685						650
	Temp(C) 16.0						16.0
10	pH 7.7						8.4
	O2 ppm 8.6						8.2
	Cond. 740						660
	Temp(C) 16.0						16.0
5	pH 7.7						8.5
	O2 ppm 8.6						8.3
	Cond. 750						600
	Temp(C) 16.0						16.0
Control	pH 7.7						8.5
	O2 ppm 8.7						8.3
	Cond. 750						590
	Temp(C) 16.0						16.0

TOXICITY TEST REPORT Sample: 08900211

TEST CONDITIONS

Company : B.F. Goodrich Canada Inc.
 Thorold, ONT
 (370304)
 Region : West Central
 Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : integrated
 Sampling Method : grab
 Sampled By : Mark Whitwell
 Date Collected : 03/12/90
 Received : 03/16/90
 Tested : 03/16/90 at: 1130

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E								TOTAL MORTALITY	
%	00:00	01:05	02:10	04:00	25:05	50:10	73:10	96:15	%	
100	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 08900211

TEST CONC. %	E L A P S E D T I M E									
	00:00	01:05	02:10	04:00	25:05	50:10	73:10	96:15		
100	pH	7.6							8.1	
	O2 ppm	8.3							8.4	
	Cond.	610							625	
	Temp(C)	17.0							15.0	
65	pH	7.6							8.2	
	O2 ppm	8.1							8.4	
	Cond.	670							775	
	Temp(C)	17.0							15.0	
40	pH	7.6							8.1	
	O2 ppm	8.1							8.5	
	Cond.	680							700	
	Temp(C)	17.0							15.0	
30	pH	7.6							8.1	
	O2 ppm	8.0							8.5	
	Cond.	700							675	
	Temp(C)	17.0							15.0	
10	pH	7.5							8.1	
	O2 ppm	7.9							8.4	
	Cond.	700							650	
	Temp(C)	17.0							15.0	
5	pH	7.4							7.9	
	O2 ppm	7.4							8.4	
	Cond.	705							725	
	Temp(C)	17.0							15.0	
Control	pH	7.7							8.5	
	O2 ppm	8.7							8.5	
	Cond.	680							700	
	Temp(C)	17.0							15.0	

COMPANY: B.F. Goodrich Canada Inc., Thorold
(370304)
SECTOR: Organic Chemical
REGION: West Central

SUMMARY

Data for six *Daphnia magna* acute lethality toxicity tests conducted on samples of combined effluent collected between October 1989 and March 1990 have been submitted by B.F. Goodrich Canada Inc. of Thorold. Two samples were not acutely lethal to *Daphnia* and four other samples have LC50s greater than 100%. One sample of combined effluent was tested in the Ministry laboratory in November. This sample had one mortality in the 100% test concentration.

combined effluent

08890444 sampled: 10/18/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

08890474 sampled: 11/16/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

02890277 sampled: 11/22/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit/high conductivity

08890511 sampled: 12/19/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

08900062 sampled: 01/24/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

08900102 sampled: 02/12/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

08900212 sampled: 03/12/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

B.F. Goodrich Canada Inc. (continued)

waste site

rain gauge

intake water

TOXICITY TEST REPORT Sample: 08890444

TEST CONDITIONSCompany : B.F. Goodrich Canada Inc.
Thorold, ONT
(370304)Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory :

Sampling Method :

Sampled By :

Date Collected :

Received :

Tested :

Type of Bioassay :

: STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol: OME, 1988)

Test Animal :

Weight(gm) :

Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	01:00	02:00	04:00	24:00 48:00	%
100	0	0	0	0	1	8
50	0	0	0	0	0	0
25	0	0	0	0	0	0
15	0	0	1	0	0	1
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 08890444

TEST CONC. %

E L A P S E D T I M E

00:00 01:00 02:00 04:00 24:00 48:00

100	pH	6.4	7.5
	O2 ppm	8.0	5.2
	Cond.	358	479
	Temp(C)	20.0	20.0
50	pH	6.8	7.8
	O2 ppm	8.3	4.8
	Cond.	312	394
	Temp(C)	20.0	20.0
25	pH	6.8	7.8
	O2 ppm	8.6	4.8
	Cond.	289	359
	Temp(C)	20.0	20.0
15	pH	7.0	7.8
	O2 ppm	8.2	5.2
	Cond.	280	356
	Temp(C)	20.0	20.0
5	pH	7.0	7.9
	O2 ppm	8.5	4.8
	Cond.	271	346
	Temp(C)	20.0	20.0
Control	pH	7.0	7.9
	O2 ppm	8.5	4.8
	Cond.	271	346
	Temp(C)	20.0	20.0

TOXICITY TEST REPORT Sample: 08890474

TEST CONDITIONS

Company : B.F. Goodrich Canada Inc.
Thorold, ONT
(370304)
Region : West Central
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : Integrated
Sampling Method : grab
Sampled By : M. Whitwell
Date Collected : 11/16/89
Received : 11/17/89
Tested : 11/17/89 at: 1445
Type of Bioassay : STATIC.
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	01:00	02:00	04:00	24:25 48:00	%
100	0	0	0	0	0	0
50	0	0	0	0	0	0
25	0	0	0	0	0	0
15	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 08890474

TEST CONC.	E L A P S E D T I M E				
%	00:00	01:00	02:00	04:00	24:25 48:00
100	pH 7.8 O2 ppm 9.7 Cond. 340 Temp(C) 19.0				8.1 9.1 470 19.0
50	pH 7.7 O2 ppm 9.7 Cond. 311 Temp(C) 19.0				8.2 9.4 369 19.0
25	pH 7.7 O2 ppm 9.7 Cond. 290 Temp(C) 19.0				8.2 9.6 300 19.0
15	pH 7.7 O2 ppm 9.7 Cond. 312 Temp(C) 19.0				8.3 9.7 302 19.0
5	pH 7.7 O2 ppm 9.7 Cond. 272 Temp(C) 19.0				8.3 9.7 283 19.0
Control	pH 7.6 O2 ppm 9.7 Cond. 280 Temp(C) 19.0				8.4 9.8 290 19.0

TOXICITY TEST REPORT Sample: 02890277

TEST CONDITIONS

Company : B.F. Goodrich Canada Inc.
Thorold, ONT
(370304)
Region : West Central
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : MOE
Sampling Method : grab
Sampled By : M. Smithson
Date Collected : 11/22/89
Received : 11/30/89 at: 1245
Tested : 11/30/89

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	01:00	24:00	48:00	%
100	0	0	0	1	8
60	0	0	0	0	0
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit/high conductivity

TOXICITY TEST PARAMETERS

Sample Number: 02890277

TEST CONC.	E L A P S E D T I M E			
%	00:00	01:00	24:00	48:00
100	pH 7.2 O2 ppm 5.1 Cond. 5540 Temp(C) 20.0	7.4 6.4 5530 20.0	20.0	20.0
60	pH 7.5 O2 ppm 7.4 Cond. 3510 Temp(C) 20.0	7.6 7.3 3530 20.0	20.0	20.0
30	pH 7.7 O2 ppm 8.5 Cond. 1920 Temp(C) 20.0	7.7 7.9 1960 20.0	20.0	20.0
15	pH 7.9 O2 ppm 8.9 Cond. 1120 Temp(C) 20.0	7.7 8.1 1119 20.0	20.0	20.0
5	pH 8.0 O2 ppm 9.1 Cond. 591 Temp(C) 20.0	7.7 8.1 591 20.0	20.0	20.0
Control	pH 8.0 O2 ppm 9.3 Cond. 290 Temp(C) 20.0	7.9 8.4 307 20.0	20.0	20.0

TOXICITY TEST REPORT Sample: 08890511

TEST CONDITIONS

Company : B.F. Goodrich Canada Inc.
 Thorold, ONT
 (370304)
 Region : West Central
 Industry : Organic Chemical
 Control point : combined effluent, (100)
 Laboratory : Integrated
 Sampling Method : grab
 Sampled By : M. Whitwell
 Date Collected : 12/19/89
 Received : 12/20/89
 Tested : 12/20/89 at: 1600

Type of Bioassay : STATIC
 (Daphnia magna Acute Lethality Toxicity
 Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	01:14	02:00	04:00	24:10	48:00		%
100	0	0	0	0	0	1		8
50	0	0	0	0	1	0		0
25	0	0	0	0	0	0		0
15	0	0	0	0	0	2		16
5	0	0	0	0	0	1		8
Control	0	0	0	0	1	0		0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 08890511

TEST CONC. % E L A P S E D T I M E
 00:00 01:14 02:00 04:00 24:10 48:00

100	pH 7.3	02 ppm 8.0	Cond. 6000	Temp(C) 20.0	7.9	4.0	5500	19.0
50	pH 7.4	02 ppm 7.9	Cond. 3200	Temp(C) 20.0	8.0	5.0	2900	19.0
25	pH 7.5	02 ppm 7.8	Cond. 1700	Temp(C) 20.0	8.1	4.5	1600	19.0
15	pH 7.4	02 ppm 7.0	Cond. 1300	Temp(C) 20.0	8.1	6.0	1100	19.0
5	pH 7.5	02 ppm 7.5	Cond. 700	Temp(C) 20.0	8.2	5.5	600	19.0
Control	pH 7.4	02 ppm 7.8	Cond. 510	Temp(C) 20.0	8.1	7.5	400	19.0

TOXICITY TEST REPORT Sample: 089000062

TEST CONDITIONS

Company : B.F. Goodrich Canada Inc.
Thorold, ONT
(370304)
Region : West Central
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : Integrated
Sampling Method : grab
Sampled By : Mark Whitwell
Date Collected : 01/24/90
Received : 01/25/90
Tested : 01/26/90 at: 1045

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	01:00	02:00	04:00	25:00	50:10	%
100	0	0	0	0	2	3	25
50	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0
Control	0	0	0	0	0	1	8

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 089000062

TEST CONC.	E L A P S E D T I M E					
%	00:00	01:00	02:00	04:00	25:00	50:10
100	pH 7.4 O2 ppm 7.5 Cond. 550 Temp(C) 20.0					6.9 7.0 600 20.0
50	pH 8.0 O2 ppm 7.8 Cond. 480 Temp(C) 20.0					7.4 7.3 500 20.0
25	pH 8.1 O2 ppm 8.1 Cond. 460 Temp(C) 20.0					7.6 7.6 450 20.0
15	pH 8.1 O2 ppm 8.1 Cond. 450 Temp(C) 20.0					7.7 7.6 440 20.0
5	pH 8.4 O2 ppm 8.1 Cond. 400 Temp(C) 20.0					7.8 7.6 425 20.0
Control	pH 7.8 O2 ppm 8.1 Cond. 400 Temp(C) 20.0					7.9 7.6 425 20.0

TOXICITY TEST REPORT Sample: 08900102

TEST CONDITIONS

Company : B.F. Goodrich Canada Inc.
 Thorold, ONT
 (370304)
 Region : West Central
 Industry : Organic Chemical
 Control point : combined effluent, (100)
 Laboratory : integrated
 Sampling Method : grab
 Sampled By : Mark Whitwell
 Date Collected : 02/12/90
 Received : 02/16/90
 Tested : 02/16/90 at: 1345

Type of Bioassay : STATIC
 (Daphnia magna Acute Lethality Toxicity
 Test Protocol - OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	01:35	02:05	04:10	24:25	48:25	%
100	0	0	0	0	0	2	16
49	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 08900102

TEST CONC. %
 E L A P S E D T I M E
 00:00 01:35 02:05 04:10 24:25 48:25

100	pH 7.4	02 ppm 6.3	Cond. 515	Temp(C) 20.0	7.5	2.8	20.0
49	pH 7.9	02 ppm 7.0	Cond. 430	Temp(C) 20.0	7.8	3.6	475
29	pH 8.2	02 ppm 7.3	Cond. 410	Temp(C) 20.0	8.1	4.4	450
11	pH 8.3	02 ppm 7.6	Cond. 380	Temp(C) 20.0	8.4	5.1	410
4	pH 8.2	02 ppm 7.6	Cond. 370	Temp(C) 20.0	8.4	5.9	400
Control	pH 8.2	02 ppm 7.8	Cond. 365	Temp(C) 20.0	8.4	6.4	400

TOXICITY TEST REPORT Sample: 08900212

TEST CONDITIONS

Company : B.F. Goodrich Canada Inc.
Thorold, ONT
(370304)
Region : West Central
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : integrated
Sampling Method : grab
Sampled By : Mark Whitwell
Date Collected : 03/12/90
Received : 03/16/90
Tested : 03/16/90 at: 1330

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	01:05	02:00	04:00	24:00	48:35	%	
100	0	0	0	0	0	0	0	
50	0	0	0	0	0	0	0	
25	0	0	0	0	0	0	0	
15	0	0	0	0	0	0	0	
5	0	0	0	0	0	0	0	
Control	0	0	0	0	0	0	0	

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 08900212

TEST CONC. % E L A P S E D T I M E
00:00 01:05 02:00 04:00 24:00 48:35

100	pH 7.8 O2 ppm 7.1 Cond. 580 Temp(C) 20.0	8.4 6.6 610 19.0
50	pH 7.9 O2 ppm 7.1 Cond. 555 Temp(C) 20.0	8.3 6.6 570 19.0
25	pH 7.9 O2 ppm 7.2 Cond. 550 Temp(C) 20.0	8.4 6.7 560 19.0
15	pH 7.9 O2 ppm 7.1 Cond. 540 Temp(C) 20.0	8.4 6.6 550 19.0
5	pH 7.9 O2 ppm 7.2 Cond. 525 Temp(C) 20.0	8.4 6.7 545 19.0
Control	pH 7.8 O2 ppm 7.7 Cond. 525 Temp(C) 20.0	8.4 6.7 545 19.0

COMPANY: BASF Canada Inc., Sarnia
(740407)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

The data for six trout bioassays, conducted on cooling water and intake water samples collected between October 1989 and March 1990, were provided by BASF Canada Incorporated. Cooling water samples from both discharge locations, control points 0100 and 0200, were non-acutely lethal to test fish. Intake water samples were also determined to have been non-acutely lethal.

OT cooling water

05890108 sampled: 11/15/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900033 sampled: 02/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

OT cooling water

05890107 sampled: 11/15/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: D

05900034 sampled: 02/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

rain gauge

intake water

05890106 sampled: 11/15/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900031 sampled: 02/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

BASF Canada Inc. (continued)

TOXICITY TEST REPORT Sample: 05890108

TEST CONDITIONS

Company : BASF Canada Inc.
Sarnia, ONT
(740407)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (100)

Laboratory : Pollutech
Sampling Method : grab
Sampled By : C. Ferguson
Date Collected : 11/15/89
Received : 11/15/89
Tested : 11/16/89 at: 1230

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	22:10	49:00	73:10	96:00	%	
100	0	0	0	0	0	0	
75	0	0	0	0	0	0	
56	0	0	0	0	0	0	
25	0	0	0	0	0	0	
10	0	0	0	0	0	0	
1	0	0	0	0	0	0	
Control	0	0	0	0	0	0	
Control	0	0	0	0	0	0	

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890108

TEST CONC. %

E L A P S E D T I M E

00:00 22:10 49:00 73:10 96:00

100	pH 7.9	7.8	7.8	7.8	7.8	7.9
	O2 ppm 10.0	10.2	9.8	9.6	10.4	10.4
	Cond. 165				162	162
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0
75	pH 7.6	7.7	7.8	7.8	7.8	7.9
	O2 ppm 9.9	10.2	9.5	9.5	10.3	10.3
	Cond. 165				162	162
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0
56	pH 7.4	7.7	7.7	7.8	7.8	7.9
	O2 ppm 9.7	10.4	9.8	9.7	10.2	10.2
	Cond. 165				162	162
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0
25	pH 7.3	7.8	7.7	7.9	7.9	7.9
	O2 ppm 9.6	10.3	10.0	9.8	10.3	10.3
	Cond. 165				162	162
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0
10	pH 7.3	7.7	7.7	7.8	7.9	7.9
	O2 ppm 9.7	10.3	9.9	9.7	10.2	10.2
	Cond. 166				168	168
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0
1	pH 7.3	7.7	7.7	7.8	7.9	7.9
	O2 ppm 9.6	10.2	10.2	9.9	10.3	10.3
	Cond. 168				169	169
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0
Control	pH 7.2	7.6	7.7	7.7	7.8	7.8
	O2 ppm 9.9	10.0	9.5	9.5	9.9	9.9
	Cond. 165				165	165
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0
Control	pH 7.2	7.8	7.8	7.8	7.9	7.9
	O2 ppm 9.8	10.2	9.8	10.2	10.2	10.2
	Cond. 165				162	162
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0

SLOPE of Mortality Curve :
LC50 Calculated By :

MISA Trout

TOXICITY TEST PARAMETERS

TOXICITY TEST REPORT Sample: 05900033

TEST CONDITIONS

Company : BASF Canada Inc.
Sarnia, ONT
(740407)
Region : Southwest
Industry : Organic Chemical
Control point : OT cooling water, (100)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 02/13/90
Received : 02/13/90
Tested : 02/13/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	25:00	43:00	67:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

Sample Number: 05900033

TEST CONC. %	E L A P S E D T I M E				
	00:00	25:00	43:00	67:00	96:00
100	pH 7.9 O2 ppm 9.0 Cond. 168 Temp(C) 15.0				7.8 8.6 172 15.0
100	pH 7.9 O2 ppm 9.2 Cond. 168 Temp(C) 15.0				7.8 8.7 175 15.0
Control	pH 7.6 O2 ppm 10.0 Cond. 158 Temp(C) 15.0				7.7 9.6 175 15.0
Control	pH 7.6 O2 ppm 10.2 Cond. 160 Temp(C) 15.0				7.7 9.6 175 15.0

SLOPE of Mortality Curve : none
 LC50. Calculated By :

TOXICITY TEST REPORT Sample: 05890107

TEST CONDITIONS

Company : BASF Canada Inc.
 Sarnia, ONT
 (740407)
 Region : Southwest
 Industry : Organic Chemical
 Control point : OT cooling water, (200)
 Laboratory : Pollutech
 Sampling Method : grab
 Sampled By : C. Ferguson
 Date Collected : 11/15/89
 Received : 11/15/89
 Tested : 11/16/89 at: 1215
 Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).
 Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	22:25	49:15	72:25	96:00	%
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
 95% fid. limits : 0.0 - 0.0 %
 Comments : D

TOXICITY TEST PARAMETERS

Sample Number: 05890107

TEST CONC. %
 E L A P S E D T I M E
 00:00 22:25 49:15 72:25 96:00

100	pH	7.6	7.9	7.8	7.9	7.8	7.8
	O2 ppm	9.2	10.3	10.1	10.5	10.5	10.5
	Cond.	170					168
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
75	pH	7.4	7.8	7.8	7.8	7.8	7.8
	O2 ppm	9.3	10.1	10.1	10.4	10.4	10.4
	Cond.	170					168
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
56	pH	7.4	7.8	7.8	7.8	7.8	7.8
	O2 ppm	9.4	10.2	9.9	10.4	10.4	10.4
	Cond.	169					169
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
25	pH	7.4	7.7	7.7	7.8	7.8	7.7
	O2 ppm	9.6	9.9	9.9	10.3	10.3	10.3
	Cond.	166					166
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
10	pH	7.4	7.8	7.7	7.8	7.8	7.7
	O2 ppm	9.5	10.1	9.9	10.4	10.2	10.2
	Cond.	165					167
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
1	pH	7.3	7.8	7.7	7.8	7.7	7.7
	O2 ppm	9.5	10.0	10.0	10.1	10.0	10.0
	Cond.	168					179
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
Control	pH	7.2	7.6	7.7	7.7	7.7	7.8
	O2 ppm	9.9	10.0	9.5	9.5	9.9	9.9
	Cond.	165					165
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
Control	pH	7.2	7.8	7.8	7.8	7.8	7.9
	O2 ppm	9.8	10.2	9.8	10.2	10.2	10.2
	Cond.	165					162
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 059000034

TEST CONDITIONS

Company : BASF Canada Inc.
Sarnia, ONT
(740407)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (200)

Laboratory : Polutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 02/13/90
Received : 02/13/90
Tested : 02/14/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	25:00	43:00	67:00	96:00
100	0	0	0	0	0
Control	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 059000034

TEST CONC.	E L A P S E D T I M E			
%	00:00	25:00	43:00	67:00 96:00
100	pH 7.6			7.7
	O2 ppm 9.2			8.6
	Cond. 185			191
	Temp(C) 15.0			15.0
Control	pH 7.6			7.7
	O2 ppm 10.0			9.6
	Cond. 158			175
	Temp(C) 15.0			15.0
Control	pH 7.6			7.7
	O2 ppm 10.2			9.6
	Cond. 160			175
	Temp(C) 15.0			15.0

SLOPE of Mortality Curve : none
 LC50 Calculated By :

TOXICITY TEST REPORT Sample: 05890106

TEST CONDITIONS

Company : BASF Canada Inc.
 Sarnia, ONT
 (740407)
 Region : Southwest
 Industry : Organic Chemical
 Control point : intake water, (500)
 Laboratory : Pollutech
 Sampling Method : grab
 Sampled By : C. Ferguson
 Date Collected : 11/15/89
 Received : 11/15/89
 Tested : 11/16/89 at: 1230

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	22:10	49:00	72:10	97:10		%
100	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
 95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890106

TEST CONC.	E L A P S E D T I M E									
%	00:00	22:10	49:00	72:10	97:10					
100	pH	7.9	7.8	7.8	7.8	7.8				
	O2 ppm	10.6	10.4	10.2	10.2	10.6				
	Cond.	162				162				
	Temp(C)	15.0	15.0	15.0	15.0	15.0				
100	pH	7.9	7.9	7.9	7.9	7.9				
	O2 ppm	10.6	10.5	10.2	10.3	10.5				
	Cond.	162				162				
	Temp(C)	15.0	15.0	15.0	15.0	15.0				
Control	pH	7.2	7.6	7.7	7.7	7.8				
	O2 ppm	9.9	10.0	9.5	9.5	9.9				
	Cond.	165				165				
	Temp(C)	15.0	15.0	15.0	15.0	15.0				
Control	pH	7.2	7.8	7.8	7.8	7.9				
	O2 ppm	9.8	10.2	9.8	10.2	10.2				
	Cond.	165				162				
	Temp(C)	15.0	15.0	15.0	15.0	15.0				

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 05900031

TEST CONDITIONS

Company : BASF Canada Inc.
 : Sarnia, ONT
 : (740407)
Region : Southwest
Industry : Organic Chemical

Control point : intake water, (500)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 02/13/90
Received : 02/13/90
Tested : 02/14/90 at: 1500

Type of Bioassay : STATIC
 : (Protocol to determine the acute lethality
 : of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	25:00	43:00	67:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05900031

TEST CONC. %	E L A P S E D T I M E				
	00:00	25:00	43:00	67:00	96:00
100	pH 9.3 O2 ppm 10.3 Cond. 175 Temp(C) 15.0				7.8 9.3 178 15.0
100	pH 7.9 O2 ppm 10.4 Cond. 168 Temp(C) 15.0				7.9 9.4 175 15.0
Control	pH 7.6 O2 ppm 10.0 Cond. 158 Temp(C) 15.0				7.7 9.6 175 15.0
Control	pH 7.6 O2 ppm 10.2 Cond. 160 Temp(C) 15.0				7.7 9.6 175 15.0

COMPANY: BASF Canada Inc., Sarnia
(740407)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

Data for six *Daphnia magna* acute lethality toxicity tests conducted on samples of intake water and once through cooling water (outfalls #100 and 200) collected between October 1989 and March 1990 have been submitted by BASF Canada Inc. of Sarnia. Samples from the intake water and once through cooling water #100 were all not acutely lethal to *Daphnia*. One sample from once through cooling water #200 was nonlethal and the other sample had an LC50 greater than 100%.

OT cooling water

05890108 sampled: 11/15/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900033 sampled: 02/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

OT cooling water

05890107 sampled: 11/15/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900034 sampled: 02/13/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

rain gauge

intake water

05890106 sampled: 11/15/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900031 sampled: 02/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

BASF Canada Inc. (continued)

TOXICITY TEST REPORT Sample: 05890108

TEST CONDITIONS

Company : BASF Canada Inc.
Sarnia, ONT
(740407)
Region : Southwest
Industry : Organic Chemical
Control point : OT cooling water, (100)
Laboratory : Pollutech
Sampling Method : grab
Sampled By : C. Ferguson
Date Collected : 11/15/89
Received : 11/15/89
Tested : 11/15/89 at: 1140
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME	TOTAL MORTALITY
%	00:00 48:00	%
100	0 0	0
50	0 0	0
26	0 0	0
13	0 0	0
6	0 0	0
Control	0 0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

SLOPE of Mortality Curve : none
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890108

TEST CONC. %	ELAPSED TIME
	00:00 48:00

100	pH 7.9 O2 ppm 9.6 Cond. 200 Temp(C) 20.0	7.9 7.9 9.6 8.9 200 200 20.0 20.0
50	pH 8.0 O2 ppm 9.3 Cond. 358 Temp(C) 20.0	8.0 8.0 9.3 8.9 358 352 20.0 20.0
26	pH 8.1 O2 ppm 9.2 Cond. 430 Temp(C) 20.0	8.1 8.1 9.2 8.9 430 420 20.0 20.0
13	pH 8.1 O2 ppm 9.2 Cond. 460 Temp(C) 20.0	8.1 8.1 9.2 8.9 460 452 20.0 20.0
6	pH 8.1 O2 ppm 9.0 Cond. 480 Temp(C) 20.0	8.1 8.1 9.0 8.9 480 472 20.0 20.0
Control	pH 8.1 O2 ppm 9.6 Cond. 492 Temp(C) 20.0	8.1 8.1 9.6 8.9 492 490 20.0 20.0

TOXICITY TEST REPORT Sample: 05900033

TEST CONDITIONS

Company : BASF Canada Inc.
Sarnia, ONT
(740407)
Region : Southwest
Industry : Organic Chemical
Control point : OT cooling water, (100)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 02/13/90
Received : 02/13/90
Tested : 02/13/90 at: 1135

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	%	E L A P S E D T I M E	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05900033

TEST CONC. %
E L A P S E D T I M E
00:00 48:20

100	pH 8.0 7.9 O2 ppm 9.4 9.2 Cond. 196 208 Temp(C) 20.0 20.0
50	pH 8.2 8.1 O2 ppm 9.0 9.2 Cond. 350 355 Temp(C) 20.0 20.0
26	pH 8.2 8.2 O2 ppm 8.8 9.2 Cond. 420 422 Temp(C) 20.0 20.0
13	pH 8.3 8.2 O2 ppm 8.9 9.2 Cond. 452 456 Temp(C) 20.0 20.0
6	pH 8.3 8.2 O2 ppm 9.0 9.2 Cond. 470 480 Temp(C) 20.0 20.0
Control	pH 8.4 8.2 O2 ppm 9.0 9.1 Cond. 482 490 Temp(C) 20.0 20.0

TOXICITY TEST REPORT Sample: 05890107

TEST CONDITIONS

Company : BASF Canada Inc.
 : Sarnia, ONT
 : (740407)
 Region : Southwest
 Industry : Organic Chemical
 Control point : OT cooling water, (200)
 Laboratory : Pollutech
 Sampling Method : grab
 Sampled By : C. Ferguson
 Date Collected : 11/15/89
 Received : 11/15/89
 Tested : 11/15/89 at: 1105

Type of Bioassay : STATIC
 : (Daphnia magna Acute Lethality Toxicity
 : Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME	TOTAL MORTALITY
%	00:00 48:10	%
100	0	0
50	0	0
26	0	0
13	0	0
6	0	0
Control	0	0

48 Hour LC50 : Non-lethal
 95% fid. limits : 0.0 - 0.0 %
 Comments :

SLOPE of Mortality Curve : none
 LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890107
 TEST ELAPSED TIME
 CONC. % 00:00 48:10

100	pH 7.9	7.9	7.9
	O2 ppm 8.3	8.3	8.6
	Cond. 204	204	200
	Temp(C) 20.0	20.0	20.0
50	pH 7.9	7.9	8.1
	O2 ppm 8.7	8.7	8.7
	Cond. 364	364	360
	Temp(C) 20.0	20.0	20.0
26	pH 8.0	8.0	8.2
	O2 ppm 8.9	8.9	8.8
	Cond. 432	432	422
	Temp(C) 20.0	20.0	20.0
13	pH 8.1	8.1	8.2
	O2 ppm 9.0	9.0	8.8
	Cond. 466	466	454
	Temp(C) 20.0	20.0	20.0
6	pH 8.1	8.1	8.2
	O2 ppm 9.0	9.0	8.8
	Cond. 482	482	474
	Temp(C) 20.0	20.0	20.0
Control	pH 8.1	8.1	8.2
	O2 ppm 9.6	9.6	8.9
	Cond. 492	492	482
	Temp(C) 20.0	20.0	20.0

TOXICITY TEST REPORT Sample: 05900034

TEST CONDITIONS

Company : BASF Canada Inc.
Sarnia, ONT
(740407)
Region : Southwest
Industry : Organic Chemical
Control point : OT cooling water, (200)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 02/13/90
Received : 02/13/90
Tested : 02/13/90 at: 1200

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. ONE, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME	TOTAL MORTALITY
%	00:00 48:00	%
100	0	8
50	0	0
26	0	0
13	0	8
6	0	0
Control	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05900034

TEST CONC. %

ELAPSED TIME

00:00 48:00

100	pH 7.9	7.9	7.9
	O2 ppm 9.6	9.6	9.0
	Cond. 212	212	225
	Temp(C) 20.0	20.0	20.0
50	pH 8.2	8.2	8.1
	O2 ppm 9.0	9.0	9.1
	Cond. 358	358	360
	Temp(C) 20.0	20.0	20.0
26	pH 8.3	8.3	8.2
	O2 ppm 8.8	8.8	9.2
	Cond. 422	422	430
	Temp(C) 20.0	20.0	20.0
13	pH 8.4	8.4	8.2
	O2 ppm 8.8	8.8	9.0
	Cond. 458	458	465
	Temp(C) 20.0	20.0	20.0
6	pH 8.4	8.4	8.2
	O2 ppm 8.7	8.7	9.1
	Cond. 470	470	481
	Temp(C) 20.0	20.0	20.0
Control	pH 8.4	8.4	8.2
	O2 ppm 8.8	8.8	9.0
	Cond. 482	482	490
	Temp(C) 20.0	20.0	20.0

TOXICITY TEST REPORT Sample: 05890106

TEST CONDITIONS

Company : BASF Canada Inc.
 Sarnia, ONT
 (740407)
 Region : Southwest
 Industry : Organic Chemical
 Control point : intake water, (500)

Laboratory : Pollutech
 Sampling Method : grab
 Sampled By : C. Ferguson
 Date Collected : 11/15/89
 Received : 11/15/89
 Tested : 11/15/89 at: 1120

Type of Bioassay : STATIC
 (Daphnia magna Acute Lethality Toxicity
 Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00 48:05		%
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
 95% fid. limits : 0.0 - 0.0 %
 Comments :

SLOPE of Mortality Curve : none
 LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890106

TEST E L A P S E D T I M E
 CONC. % 00:00 48:05

100	pH 7.8 8.0 O2 ppm 9.2 9.0 Cond. 198 200 Temp(C) 20.0 20.0
50	pH 7.9 8.1 O2 ppm 9.6 9.0 Cond. 358 352 Temp(C) 20.0 20.0
26	pH 8.0 8.1 O2 ppm 9.6 9.0 Cond. 428 412 Temp(C) 20.0 20.0
13	pH 8.0 8.1 O2 ppm 9.6 9.0 Cond. 460 452 Temp(C) 20.0 20.0
6	pH 8.0 8.1 O2 ppm 9.4 9.0 Cond. 482 470 Temp(C) 20.0 20.0
Control	pH 8.0 8.1 O2 ppm 9.6 9.2 Cond. 492 488 Temp(C) 20.0 20.0

TOXICITY TEST REPORT Sample: 05900031

TEST CONDITIONS

Company : BASF Canada Inc.
Sarnia, ONT
(740407)
Region : Southwest
Industry : Organic Chemical
Control point : intake water, (500)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 02/13/90
Received : 02/13/90
Tested : 02/13/90 at: 1150

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 48:00	%
100	0	0
50	0	0
26	0	0
13	0	0
6	0	0
Control	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05900031

TEST CONC. % E L A P S E D T I M E
00:00 48:00

100	pH 8.0 7.8 O2 ppm 10.2 9.0 Cond. 196 205 Temp(C) 20.0 20.0
50	pH 8.2 8.0 O2 ppm 9.4 9.2 Cond. 350 355 Temp(C) 20.0 20.0
26	pH 8.3 8.2 O2 ppm 9.2 9.2 Cond. 420 422 Temp(C) 20.0 20.0
13	pH 8.3 8.2 O2 ppm 9.3 9.1 Cond. 452 459 Temp(C) 20.0 20.0
6	pH 8.3 8.2 O2 ppm 9.3 9.2 Cond. 470 472 Temp(C) 20.0 20.0
Control	pH 8.3 8.2 O2 ppm 9.3 9.2 Cond. 482 490 Temp(C) 20.0 20.0

COMPANY: BASF Fibres Inc., Arnprior
(740209)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

Acute toxicity monitoring requirement for BASF Fibres Incorporated was initiated July 31, 1990 therefore no acute toxicity results have been submitted for the period between October 1989 and March 1990.

COMPANY: BASF Fibres Inc., Arnprior
(740209)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

Toxicity monitoring for BASF Fibres Inc. of Arnprior was initiated on July 31, 1990 therefore no data for samples have been submitted for the period October 1989 to March 1990.

COMPANY: BTL Specialty Resins, Bellville
(1860006)
(now with Bellville Plant)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

The data for twelve trout bioassays, conducted on combined effluent samples collected between October 1989 and March 1990, were provided by BTL Specialty Resins. All six samples collected from the combined effluent discharge, control point 0100, were determined to have been non-acutely lethal to test fish. One sample from the combined effluent discharge, control point 0200, had a 96 hour LC50 > 100 %, while the remaining five samples from this source were determined to have been non-acutely lethal. An audit sample collected in January from control point 0100 was tested by O.M.E. laboratory and was determined to have been non-acutely lethal. An audit sample collected in January from control point 0200 had a 96 hour LC50 > 100 %. BTL ceased operation on March 31, 1990 and site decommissioning is currently underway.

combined effluent

03890214 sampled: 10/10/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03890252 sampled: 11/08/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03890353 sampled: 12/12/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900023 sampled: 01/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

01900007 sampled: 01/23/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA audit sample.

03900100 sampled: 02/06/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test

03900202 sampled: 03/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single concentration test; non-lethal

BTL Specialty Resins (continued)

combined effluent

03890215 sampled: 10/10/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03890251 sampled: 11/08/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03890354 sampled: 12/12/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900024 sampled: 01/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

01900008 sampled: 01/23/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA audit sample.

03900101 sampled: 02/06/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test

03900203 sampled: 03/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single concentration test; non-lethal

rain gauge

intake water

TOXICITY TEST REPORT Sample: 03890214

TEST CONDITIONS

Company : BTL Specialty Resins
 Bellville, ONT
 (1860006)
 Region : Southeast
 Industry : Organic Chemical
 Control point : combined effluent, (100)

Laboratory : BAR
 Sampling Method : Grab
 Sampled By : J Mirka
 Date Collected : 10/10/89
 Received : 10/12/89
 Tested : 10/13/89 at: 1300

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00	%	
Control	0	0	0	0	0	0	0	
10	0	0	0	0	0	0	0	
20	0	0	0	0	0	0	0	
40	0	0	0	0	0	0	0	
65	0	0	0	0	0	0	0	
100	0	0	0	0	0	0	0	

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
 LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890214

TEST CONC. % E L A P S E D T I M E
 00:00 04:00 24:00 48:00 72:00 96:00

Control	pH	7.8					8.4
	O2 ppm	7.1					8.8
	Cond.	567					566
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
10	pH	7.8					8.4
	O2 ppm	7.9					8.8
	Cond.	547					542
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
20	pH	7.7					8.5
	O2 ppm	7.2					9.2
	Cond.	525					530
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
40	pH	7.7					8.4
	O2 ppm	7.6					8.5
	Cond.	480					487
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
65	pH	7.8					8.2
	O2 ppm	8.4					8.4
	Cond.	423					433
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
100	pH	8.0					8.2
	O2 ppm	8.9					8.9
	Cond.	344					354
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 03890252

TEST CONDITIONS

Company : BTL Specialty Resins
Bellville, ONT
(1860006)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : M.J.
Date Collected : 11/08/89
Received : 11/09/89
Tested : 11/09/89 at: 1330

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
40	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890252

TEST CONC. %	E L A P S E D T I M E				
	00:00	04:00	24:00	48:00	72:00
Control	pH 7.7 O2 ppm 8.4 Cond. 9.3 Temp(C) 54.3	15.0	15.0	15.0	15.0
10	pH 7.7 O2 ppm 8.0 Cond. 8.2 Temp(C) 53.7	15.0	15.0	15.0	15.0
20	pH 7.6 O2 ppm 8.0 Cond. 7.9 Temp(C) 52.4	15.0	15.0	15.0	15.0
40	pH 7.7 O2 ppm 7.9 Cond. 7.6 Temp(C) 49.4	15.0	15.0	15.0	15.0
65	pH 7.7 O2 ppm 8.2 Cond. 9.2 Temp(C) 45.1	15.0	15.0	15.0	15.0
100	pH 7.7 O2 ppm 8.1 Cond. 8.9 Temp(C) 41.0	15.0	15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 03890353

TEST CONDITIONSCompany : BTL Specialty Resins
Bellville, ONT
(1860006)Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M.J.
Date Collected : 12/12/89
Received : 12/14/89
Tested : 12/17/89 at: 900Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890353

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00

100	pH	8.0			8.2
	O2 ppm	9.4			9.9
	Cond.	284			291
	Temp(C)	15.0	14.0	14.0	14.0
65	pH	8.0			8.3
	O2 ppm	9.2			9.9
	Cond.	385			390
	Temp(C)	15.0	14.0	14.0	14.0
40	pH	7.9			8.3
	O2 ppm	9.0			9.5
	Cond.	453			464
	Temp(C)	15.0	14.0	14.0	14.0
20	pH	7.9			8.5
	O2 ppm	8.9			9.9
	Cond.	507			514
	Temp(C)	15.0	14.0	14.0	14.0
10	pH	7.9			8.5
	O2 ppm	8.6			9.9
	Cond.	533			522
	Temp(C)	15.0	14.0	14.0	14.0
5	pH	7.9			8.5
	O2 ppm	8.1			9.8
	Cond.	542			534
	Temp(C)	15.0	14.0	14.0	14.0
Control	pH	7.8			8.5
	O2 ppm	8.7			9.8
	Cond.	534			553
	Temp(C)	15.0	14.0	14.0	14.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900023

TEST CONDITIONS

Company : BTL Specialty Resins
 : Bellville, ONT
 : (1860006)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : Mirka J.
Date Collected : 01/09/90
Received : 01/11/90
Tested : 01/12/90 at: 1100

Type of Bioassay : STATIC
 : (Protocol to determine the acute lethality
 : of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900023

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00
100	pH 7.7				7.9
	O2 ppm 9.7				8.7
	Cond. 410				419
	Temp(C) 15.0	15.0	15.0	15.0	15.0
Control	pH 7.9				8.4
	O2 ppm 8.9				9.1
	Cond. 553				564
	Temp(C) 15.0	15.0	15.0	15.0	15.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 01900007

TEST CONDITIONS

Company : BTL Specialty Resins
Bellville, ONT
(1860006)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : MOE
Sampling Method : grab
Sampled By : Brad Eckert
Date Collected : 01/23/90
Received : 01/24/90
Tested : 01/26/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E										TOTAL MORTALITY		
%	00:00	00:30	01:00	02:00	04:00	06:00	08:00	10:00	12:00	14:00	16:00	18:00	20:00
100	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA audit sample.

Sample Number: 019000007

TEST
CONC.
%
E L A P S E D T I M E
00:00 00:30 01:00 02:00 04:00 06:00 08:00 10:00 12:00 14:00 16:00 18:00 20:00

100	pH 7.0 O2 ppm 9.4 Cond. 255 Temp(C) 15.0	7.3 9.1 265 15.0	7.4 9.5 270 14.0	7.5 9.8 265 14.0	7.4 9.4 275 14.0	7.4 9.5 270 14.0	7.4 9.4 275 14.0	7.4 9.4 275 14.0	7.4 9.4 275 14.0	7.4 9.4 275 14.0	7.4 9.4 275 14.0	7.4 9.4 275 14.0	7.4 9.4 275 14.0
65	pH 7.3 O2 ppm 9.5 Cond. 270 Temp(C) 15.0	7.3 9.5 270 15.0	7.4 9.4 275 14.0	7.4 9.4 275 14.0	7.4 9.4 275 14.0	7.4 9.4 275 14.0	7.4 9.4 275 14.0	7.4 9.4 275 14.0	7.4 9.4 275 14.0	7.4 9.4 275 14.0	7.4 9.4 275 14.0	7.4 9.4 275 14.0	7.4 9.4 275 14.0
40	pH 7.3 O2 ppm 9.5 Cond. 275 Temp(C) 15.0	7.3 9.5 275 15.0	7.4 9.4 275 14.0	7.4 9.4 275 14.0	7.4 9.4 275 14.0	7.4 9.4 275 14.0	7.4 9.4 275 14.0	7.4 9.4 275 14.0	7.4 9.4 275 14.0	7.4 9.4 275 14.0	7.4 9.4 275 14.0	7.4 9.4 275 14.0	7.4 9.4 275 14.0
30	pH 7.3 O2 ppm 9.4 Cond. 275 Temp(C) 15.0	7.3 9.4 275 15.0	7.4 9.4 275 14.0	7.4 9.4 275 14.0	7.4 9.4 275 14.0	7.4 9.4 275 14.0	7.4 9.4 275 14.0	7.4 9.4 275 14.0	7.4 9.4 275 14.0	7.4 9.4 275 14.0	7.4 9.4 275 14.0	7.4 9.4 275 14.0	7.4 9.4 275 14.0
20	pH 7.2 O2 ppm 9.2 Cond. 280 Temp(C) 15.0	7.2 9.2 280 15.0	7.1 9.0 275 14.0	7.1 9.0 275 14.0	7.1 9.0 275 14.0	7.1 9.0 275 14.0	7.1 9.0 275 14.0	7.1 9.0 275 14.0	7.1 9.0 275 14.0	7.1 9.0 275 14.0	7.1 9.0 275 14.0	7.1 9.0 275 14.0	7.1 9.0 275 14.0
10	pH 7.2 O2 ppm 9.3 Cond. 280 Temp(C) 15.0	7.2 9.3 280 15.0	7.1 9.4 275 14.0	7.1 9.4 275 14.0	7.1 9.4 275 14.0	7.1 9.4 275 14.0	7.1 9.4 275 14.0	7.1 9.4 275 14.0	7.1 9.4 275 14.0	7.1 9.4 275 14.0	7.1 9.4 275 14.0	7.1 9.4 275 14.0	7.1 9.4 275 14.0
Control	pH 7.2 O2 ppm 9.4 Cond. 280 Temp(C) 15.0	7.2 9.4 280 15.0	7.0 9.4 280 14.0	7.0 9.4 280 14.0	7.0 9.4 280 14.0	7.0 9.4 280 14.0	7.0 9.4 280 14.0	7.0 9.4 280 14.0	7.0 9.4 280 14.0	7.0 9.4 280 14.0	7.0 9.4 280 14.0	7.0 9.4 280 14.0	7.0 9.4 280 14.0

TOXICITY TEST REPORT Sample: 03900100

TEST CONDITIONS

Company : BTL Specialty Resins
 (1860006)
 Region : Southeast
 Industry : Organic Chemical
 Control point : combined effluent, (100)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : Mirka J.
 Date Collected : 02/06/90
 Received : 02/08/90
 Tested : 02/08/90 at: 1530

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
 95% fid. limits : 0.0 - 0.0 %
 Comments : Single Concentration Test

TOXICITY TEST PARAMETERS

Sample Number: 03900100

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00
100	pH 7.9 O2 ppm 8.4 Cond. 303 Temp(C) 15.0			8.2 9.5 311 15.0
100	pH 7.9 O2 ppm 8.4 Cond. 303 Temp(C) 15.0			8.2 9.4 314 15.0
Control	pH 7.8 O2 ppm 7.7 Cond. 535 Temp(C) 15.0			8.4 9.2 542 15.0
Control	pH 7.8 O2 ppm 7.7 Cond. 535 Temp(C) 15.0			8.5 9.5 520 15.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900202

TEST CONDITIONS

Company : BTL Specialty Resins
Bellville, ONT
(18600006)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : Mirka J.
Date Collected : 03/13/90
Received : 03/15/90
Tested : 03/15/90 at: 1505

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single concentration test; non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900202

TEST CONC. %	ELAPSED TIME				
	00:00	24:00	48:00	72:00	96:00
100	pH 7.9 O2 ppm 10.2 Cond. 375 Temp(C) 16.0	15.0	16.0	15.5	16.0
100	pH 7.9 O2 ppm 10.2 Cond. 375 Temp(C) 16.0	15.0	16.0	15.5	16.0
Control	pH 7.9 O2 ppm 9.1 Cond. 588 Temp(C) 16.0	15.0	16.0	15.5	16.0
Control	pH 7.9 O2 ppm 9.1 Cond. 588 Temp(C) 16.0	15.0	16.0	15.5	16.0

TOXICITY TEST REPORT Sample: 03890215

TEST CONDITIONS

Company : BTL Specialty Resins
Bellville, ONT
(1860006)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : J. Mirka
Date Collected : 10/10/89
Received : 10/12/89
Tested : 10/13/89 at: 1300

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. ONE, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890215

TEST
CONC.
%
E L A P S E D T I M E
00:00 04:00 24:00 48:00 72:00 96:00

Control	pH	7.8	7.8	7.8	7.8	7.8	8.4
	O2 ppm	7.1	7.1	7.1	7.1	7.1	8.9
	Cond.	567	567	567	567	567	565
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
10	pH	7.8	7.8	7.8	7.8	7.8	8.5
	O2 ppm	8.0	8.0	8.0	8.0	8.0	9.1
	Cond.	544	544	544	544	544	541
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
20	pH	7.8	7.8	7.8	7.8	7.8	8.4
	O2 ppm	7.7	7.7	7.7	7.7	7.7	8.9
	Cond.	522	522	522	522	522	523
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
40	pH	7.9	7.9	7.9	7.9	7.9	8.4
	O2 ppm	8.3	8.3	8.3	8.3	8.3	9.2
	Cond.	475	475	475	475	475	476
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
65	pH	7.9	7.9	7.9	7.9	7.9	8.3
	O2 ppm	8.4	8.4	8.4	8.4	8.4	9.0
	Cond.	414	414	414	414	414	420
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
100	pH	7.7	7.7	7.7	7.7	7.7	8.0
	O2 ppm	8.8	8.8	8.8	8.8	8.8	8.3
	Cond.	330	330	330	330	330	336
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 03890251

TEST CONDITIONS

Company : BTL Specialty Resins
Bellville, ONT
(1860006)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : M.J.
Date Collected : 11/08/89
Received : 11/09/89 at: 1330
Tested : 11/09/89
Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890251

TEST E L A P S E D T I M E
CONC. % 00:00 04:00 24:00 48:00 72:00 96:00

Control	pH	7.7					8.4
	O2 ppm	8.7					9.2
	Cond.	561					529
	Temp(C)	15.0	15.0	15.0	15.0	15.0	14.0
10	pH	7.7					8.1
	O2 ppm	8.7					8.2
	Cond.	538					539
	Temp(C)	15.0	15.0	15.0	15.0	15.0	14.0
20	pH	7.7					8.2
	O2 ppm	8.7					9.1
	Cond.	514					515
	Temp(C)	15.0	15.0	15.0	15.0	15.0	14.0
40	pH	7.7					7.8
	O2 ppm	8.7					7.2
	Cond.	471					471
	Temp(C)	15.0	15.0	15.0	15.0	15.0	14.0
65	pH	7.6					8.1
	O2 ppm	9.1					9.1
	Cond.	403					407
	Temp(C)	15.0	15.0	15.0	15.0	15.0	14.0
100	pH	7.5					7.7
	O2 ppm	9.4					8.2
	Cond.	315					323
	Temp(C)	15.0	15.0	15.0	15.0	15.0	14.0

TOXICITY TEST REPORT Sample: 03890354

TEST CONDITIONS

Company : BTL Specialty Resins
 (1860006)
 Region : Southeast
 Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BAR
 Sampling Method : Grab
 Sampled By : M.J.
 Date Collected : 12/12/89
 Received : 12/14/89
 Tested : 12/17/89 at: 915

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
65	0	0	0	0	0
40	0	0	0	0	0
20	0	0	0	0	0
10	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890354

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00
100	pH 7.8 O2 ppm 9.4 Cond. 308 Temp(C) 15.0	14.0	14.0	14.0
65	pH 7.8 O2 ppm 9.2 Cond. 391 Temp(C) 15.0	14.0	14.0	14.0
40	pH 7.9 O2 ppm 8.8 Cond. 454 Temp(C) 15.0	14.0	14.0	14.0
20	pH 7.9 O2 ppm 8.9 Cond. 502 Temp(C) 15.0	14.0	14.0	14.0
10	pH 7.9 O2 ppm 8.8 Cond. 532 Temp(C) 15.0	14.0	14.0	14.0
5	pH 7.9 O2 ppm 8.6 Cond. 545 Temp(C) 15.0	14.0	14.0	14.0
Control	pH 7.8 O2 ppm 8.7 Cond. 555 Temp(C) 15.0	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900024

TEST CONDITIONS

Company : BTL Specialty Resins
 : Bellville, ONT
 : (1860006)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : Mirka J.
Date Collected : 01/09/90
 Received : 01/11/90
 Tested : 01/12/90 at: 1100

Type of Bioassay : STATIC
 : (Protocol to determine the acute lethality
 : of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900024

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00
100	pH 7.6				7.9
	O2 ppm 9.7				8.3
	Cond. 317				308
	Temp(C) 15.0	15.0	15.0	15.0	15.0
Control	pH 7.9				8.4
	O2 ppm 8.5				9.1
	Cond. 562				566
	Temp(C) 15.0	15.0	15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 019000008

TEST CONDITIONS

Company : BTL Specialty Resins
Bellville, ONT
(1860006)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (200)
Laboratory : MOE
Sampling Method : grab
Sampled By : Brad Eckert
Date Collected : 01/23/90
Received : 01/24/90
Tested : 01/26/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E										TOTAL MORTALITY
%	00:00	00:30	01:00	02:00	04:00	21:00	46:00	68:15	96:00	%	
100	0	0	0	0	0	0	0	0	1	10	
65	0	0	0	0	0	0	0	0	0	0	
40	0	0	0	0	0	0	0	0	0	0	
30	0	0	0	0	0	0	0	0	0	0	
20	0	0	0	0	0	0	0	0	0	0	
10	0	0	0	0	0	0	0	0	0	0	
Control	0	0	0	0	0	0	0	0	0	0	

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : MISA audit sample.

TOXICITY TEST PARAMETERS

Sample Number: 019000008

TEST E L A P S E D T I M E

CONC. % 00:00 00:30 01:00 02:00 04:00 21:00 46:00 68:15 96:00

100	pH	7.0	7.3	7.4	7.4	7.4	7.4	7.4	7.4
	02 ppm	9.3	9.3	9.5	9.5	9.5	9.5	9.5	9.5
	Cond.	235	240	245	250	250	250	250	250
	Temp(C)	15.0	15.0	14.0	14.0	14.0	14.0	14.0	14.0
65	pH	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4
	02 ppm	9.6	9.4	9.6	9.6	9.6	9.6	9.6	9.6
	Cond.	255	255	260	260	260	260	260	260
	Temp(C)	15.0	15.0	14.0	14.0	14.0	14.0	14.0	14.0
40	pH	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
	02 ppm	9.1	9.1	9.5	9.5	9.5	9.5	9.5	9.5
	Cond.	265	265	270	270	270	270	270	270
	Temp(C)	15.0	15.0	14.0	14.0	14.0	14.0	14.0	14.0
30	pH	7.4	7.4	7.2	7.2	7.2	7.2	7.2	7.2
	02 ppm	9.3	9.3	9.5	9.5	9.5	9.5	9.5	9.5
	Cond.	270	270	280	280	280	280	280	280
	Temp(C)	15.0	15.0	14.0	14.0	14.0	14.0	14.0	14.0
20	pH	7.3	7.3	7.1	7.1	7.1	7.1	7.1	7.1
	02 ppm	9.2	9.2	9.3	9.3	9.3	9.3	9.3	9.3
	Cond.	275	275	280	280	280	280	280	280
	Temp(C)	15.0	15.0	14.0	14.0	14.0	14.0	14.0	14.0
10	pH	7.3	7.3	7.1	7.1	7.1	7.1	7.1	7.1
	02 ppm	9.3	9.3	9.6	9.6	9.6	9.6	9.6	9.6
	Cond.	275	275	280	280	280	280	280	280
	Temp(C)	15.0	15.0	14.0	14.0	14.0	14.0	14.0	14.0
Control	pH	7.2	7.2	7.0	7.0	7.0	7.0	7.0	7.0
	02 ppm	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2
	Cond.	275	275	265	265	265	265	265	265
	Temp(C)	15.0	15.0	14.0	14.0	14.0	14.0	14.0	14.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900101

TEST CONDITIONS

Company : BTL Specialty Resins
 : Bellville, ONT
 : (1860006)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : Mirka J.
Date Collected : 02/06/90
Received : 02/08/90
Tested : 02/08/90 at: 1530

Type of Bioassay : STATIC
 : (Protocol to determine the acute lethality
 : of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	1	10
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : Single Concentration Test

TOXICITY TEST PARAMETERS

Sample Number: 03900101

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00 72:00 96:00

100	pH 7.7 O2 ppm 8.4 Cond. 311 Temp(C) 15.0	15.0	15.0	15.0	14.0	15.0	8.2 9.5 319
100	pH 7.7 O2 ppm 8.4 Cond. 311 Temp(C) 15.0	7.7 8.4 311 15.0	15.0	15.0	15.0	14.0	8.1 9.2 322 15.0
Control	pH 7.8 O2 ppm 7.7 Cond. 535 Temp(C) 15.0	7.8 7.7 535 15.0	15.0	15.0	15.0	14.0	8.5 9.7 519 15.0
Control	pH 7.8 O2 ppm 7.7 Cond. 535 Temp(C) 15.0	7.8 7.7 535 15.0	15.0	15.0	15.0	14.0	8.5 9.5 535 15.0

TOXICITY TEST REPORT Sample: 03900203

TEST CONDITIONS

Company : BTL Specialty Resins
Belleville, ONT
(1860006)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : Mirka J.
Date Collected : 03/13/90
Received : 03/15/90
Tested : 03/15/90 at: 1510

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
100	0	0	0	0	0
Control	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single concentration test; non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900203

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00
100	pH 7.5 O2 ppm 8.8 Cond. 255 Temp(C) 16.0	7.5 8.8 255 16.0	15.0 16.0 15.5	16.0 7.9 8.4 259 16.0
100	pH 7.5 O2 ppm 8.8 Cond. 255 Temp(C) 16.0	7.5 8.8 255 16.0	15.0 16.0 15.5	16.0 8.0 8.8 269 16.0
Control	pH 7.9 O2 ppm 9.2 Cond. 549 Temp(C) 16.0	7.9 9.2 549 16.0	15.0 16.0 15.5	16.0 8.3 8.7 545 16.0
Control	pH 7.9 O2 ppm 9.2 Cond. 549 Temp(C) 16.0	7.9 9.2 549 16.0	15.0 16.0 15.5	16.0 8.2 8.7 547 16.0

COMPANY: BTL Specialty Resins, Bellville
(1860006)
(now with Bellville Plant)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

Results from twelve Daphnia magna acute lethality toxicity tests conducted on samples of combined effluent (outfalls #100 and 200) collected between October 1989 and March 1990 were submitted by BTL Specialty Resins of Belleville. Three of six samples from combined effluent #100 were not acutely lethal to Daphnia. The remaining three samples had LC50 values greater than 100%. The sample collected in October had the greatest mortalities in the middle concentrations of effluent.

Three samples of combined effluent #200 were not acutely lethal to Daphnia and the remaining three samples had LC50 values greater than 100%.

One sample from each of these outfalls was tested in the Ministry laboratory in January. The sample from combined effluent #100 had one mortality in the 100% test solution, and the sample from combined effluent #200 was not acutely lethal to Daphnia.

BTL ceased operation on March 31, 1990 and site decommissioning is currently underway.

combined effluent

03890214	sampled: 10/10/89	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:	LC50 >100%	
03890252	sampled: 11/08/89	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:	Non-lethal	
03890353	sampled: 12/12/89	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non-lethal	
03900023	sampled: 01/09/90	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:	LC50 >100	
02900007	sampled: 01/23/90	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:	MISA Audit	
03900100	sampled: 02/06/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non-lethal	

BTL Specialty Resins (continued)

03900202 sampled: 03/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

combined effluent

03890215 sampled: 10/10/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03890251 sampled: 11/08/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03890354 sampled: 12/12/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900024 sampled: 01/09/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

02900008 sampled: 01/23/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900101 sampled: 02/06/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900203 sampled: 03/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

rain gauge

intake water

TOXICITY TEST REPORT Sample: 03890214

TEST CONDITIONS

Company : BTL Specialty Resins
Bellville, ONT
(1860006)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : J. Mirka
Date Collected : 10/10/89
Received : 10/12/89
Tested : 10/12/89 at: 1420
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	04:00	24:00	48:00
Control	0	0	0	0
6	0	0	0	16
13	0	0	0	16
25	0	0	1	8
50	0	0	1	16
100	0	0	0	0

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 >100%

TOXICITY TEST PARAMETERS

Sample Number: 03890214

TEST CONC. % E L A P S E D T I M E
00:00 04:00 24:00 48:00

Control	pH	8.4	8.4	8.4
	O2 ppm	7.8	7.8	8.8
	Cond.	315	315	316
	Temp(C)	19.5	20.5	21.0
			20.0	20.0
6	pH	8.2	8.3	8.3
	O2 ppm	8.0	8.7	8.7
	Cond.	319	322	322
	Temp(C)	19.5	20.5	21.0
			20.0	20.0
13	pH	8.3	8.3	8.3
	O2 ppm	8.0	8.7	8.7
	Cond.	322	322	322
	Temp(C)	19.5	20.5	21.0
			20.0	20.0
25	pH	8.3	8.3	8.3
	O2 ppm	8.1	8.7	8.7
	Cond.	325	325	325
	Temp(C)	19.5	20.5	21.0
			20.0	20.0
50	pH	8.2	8.2	8.2
	O2 ppm	8.2	8.7	8.7
	Cond.	331	328	328
	Temp(C)	19.5	20.5	21.0
			20.0	20.0
100	pH	7.9	8.2	8.2
	O2 ppm	8.3	8.7	8.7
	Cond.	340	337	337
	Temp(C)	19.5	20.5	21.0
			20.0	20.0

TOXICITY TEST REPORT Sample: 03890252

TEST CONDITIONS

Company : BTL Specialty Resins
Bellville, ONT
(18600006)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : M.J.
Date Collected : 11/08/89
Received : 11/09/89
Tested : 11/09/89 at: 1330
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	%
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	0	0	0
100	0	1	1	1	8

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890252

TEST CONC.	E L A P S E D T I M E			
%	00:00	04:00	24:00	48:00
Control	pH 8.4 O2 ppm 8.9 Cond. 304 Temp(C) 20.0	pH 8.4 O2 ppm 8.9 Cond. 304 Temp(C) 20.0	pH 8.4 O2 ppm 8.9 Cond. 304 Temp(C) 20.0	pH 8.4 O2 ppm 8.9 Cond. 304 Temp(C) 20.0
6	pH 8.2 O2 ppm 8.7 Cond. 301 Temp(C) 20.0	pH 8.2 O2 ppm 8.7 Cond. 301 Temp(C) 20.0	pH 8.2 O2 ppm 8.7 Cond. 301 Temp(C) 20.0	pH 8.2 O2 ppm 8.7 Cond. 301 Temp(C) 20.0
13	pH 8.3 O2 ppm 8.7 Cond. 313 Temp(C) 20.0	pH 8.3 O2 ppm 8.7 Cond. 313 Temp(C) 20.0	pH 8.3 O2 ppm 8.7 Cond. 313 Temp(C) 20.0	pH 8.3 O2 ppm 8.7 Cond. 313 Temp(C) 20.0
25	pH 8.2 O2 ppm 8.8 Cond. 324 Temp(C) 20.0	pH 8.2 O2 ppm 8.8 Cond. 324 Temp(C) 20.0	pH 8.2 O2 ppm 8.8 Cond. 324 Temp(C) 20.0	pH 8.2 O2 ppm 8.8 Cond. 324 Temp(C) 20.0
50	pH 7.9 O2 ppm 8.9 Cond. 344 Temp(C) 20.0	pH 7.9 O2 ppm 8.9 Cond. 344 Temp(C) 20.0	pH 7.9 O2 ppm 8.9 Cond. 344 Temp(C) 20.0	pH 7.9 O2 ppm 8.9 Cond. 344 Temp(C) 20.0
100	pH 7.6 O2 ppm 9.2 Cond. 387 Temp(C) 20.0	pH 7.6 O2 ppm 9.2 Cond. 387 Temp(C) 20.0	pH 7.6 O2 ppm 9.2 Cond. 387 Temp(C) 20.0	pH 7.6 O2 ppm 9.2 Cond. 387 Temp(C) 20.0

TOXICITY TEST REPORT Sample: 03890353

TEST CONDITIONS

Company : BTL Specialty Resins
Bellville, ONT
(1860006)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : M.J.
Date Collected : 12/12/89
Received : 12/14/89
Tested : 12/14/89 at: 1645
Type of Bioassay : STATIC.
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890353

TEST CONC. %	E L A P S E D T I M E		
	00:00	24:00	48:00

100	pH	7.9	8.2
	O2 ppm	9.7	8.5
	Cond.	281	283
	Temp(C)	20.0	19.5
50	pH	8.2	8.3
	O2 ppm	8.7	8.5
	Cond.	292	293
	Temp(C)	20.0	19.5
25	pH	8.3	8.4
	O2 ppm	8.5	8.5
	Cond.	298	298
	Temp(C)	20.0	19.5
13	pH	8.4	8.4
	O2 ppm	8.4	8.5
	Cond.	300	300
	Temp(C)	20.0	19.5
6	pH	8.4	8.4
	O2 ppm	8.4	8.6
	Cond.	298	301
	Temp(C)	20.0	19.5
Control	pH	8.4	8.4
	O2 ppm	8.7	8.2
	Cond.	297	295
	Temp(C)	20.0	19.5

TOXICITY TEST REPORT Sample: 03900023

TEST CONDITIONS

Company : BTL Specialty Resins
Bellville, ONT
(1860006)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : J. Mirka
Date Collected : 01/09/90
Received : 01/11/90
Tested : 01/12/90 at: 1045

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00 24:00 48:00	%	
100	0 1 1	8	
50	0 0 0	0	
25	0 0 0	0	
13	0 0 0	0	
6	0 0 0	0	
Control	0 0 0	0	

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900023

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 7.9	8.2
	O2 ppm 9.1	8.7
	Cond. 406	412
	Temp(C) 20.0	20.0
50	pH 8.2	8.3
	O2 ppm 8.8	8.8
	Cond. 351	356
	Temp(C) 20.0	20.0
25	pH 8.4	8.4
	O2 ppm 8.8	8.8
	Cond. 324	328
	Temp(C) 20.0	20.0
13	pH 8.4	8.5
	O2 ppm 8.8	8.8
	Cond. 309	315
	Temp(C) 20.0	20.0
6	pH 8.5	8.5
	O2 ppm 8.8	8.8
	Cond. 299	308
	Temp(C) 20.0	20.0
Control	pH 8.6	8.5
	O2 ppm 8.8	8.6
	Cond. 298	302
	Temp(C) 20.0	20.0

TOXICITY TEST REPORT Sample: 029000007

TEST CONDITIONS

Company : BTL Specialty Resins
Bellville, ONT
(1860006)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : MOE
Sampling Method : Grab
Sampled By : B. Eckert
Date Collected : 01/23/90
Received : 01/24/90
Tested : 01/26/90 at: 1548

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	01:00	23:00	48:00	%
100	0	0	1	1	8
60	0	0	0	0	0
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 029000007

TEST CONC. %	E L A P S E D T I M E		
	00:00	01:00	23:00 48:00
100	pH 7.7 O2 ppm 9.0 Cond. 322 Temp(C) 20.0	7.7 9.0 322 20.0	8.0 7.9 315 20.0
60	pH 7.8 O2 ppm 9.0 Cond. 321 Temp(C) 20.0	7.8 9.0 321 20.0	7.9 7.7 311 20.0
30	pH 8.0 O2 ppm 8.9 Cond. 318 Temp(C) 20.0	8.0 8.9 318 20.0	7.8 7.5 309 20.0
15	pH 8.1 O2 ppm 9.0 Cond. 319 Temp(C) 20.0	8.1 9.0 319 20.0	7.8 7.5 319 20.0
5	pH 8.2 O2 ppm 9.0 Cond. 317 Temp(C) 20.0	8.2 9.0 317 20.0	7.7 7.4 310 20.0
Control	pH 8.2 O2 ppm 9.0 Cond. 301 Temp(C) 20.0	8.2 9.0 301 20.0	7.7 7.6 308 20.0

TOXICITY TEST REPORT Sample: 03900100

TEST CONDITIONS

Company : BTL Specialty Resins
 : Bellville, ONT
 : (18600006)
 Region : Southeast
 Industry : Organic Chemical
 Control point : combined effluent, (100)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : Mirka J.
 Date Collected : 02/06/90
 Received : 02/08/90
 Tested : 02/08/90 at: 1150

Type of Bioassay : STATIC
 : (Daphnia magna Acute Lethality Toxicity
 : Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal
 95% fid. limits : 0.0 - 0.0 %
 Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900100

TEST CONC. %
 E L A P S E D T I M E
 00:00 24:00 48:00

100	pH 8.0	8.2
	O2 ppm 9.0	8.5
	Cond. 300	301
	Temp(C) 20.0	20.0
50	pH 8.3	8.4
	O2 ppm 8.8	8.4
	Cond. 300	299
	Temp(C) 20.0	20.0
25	pH 8.5	8.4
	O2 ppm 8.6	8.2
	Cond. 300	300
	Temp(C) 20.0	20.0
13	pH 8.5	8.4
	O2 ppm 8.6	8.0
	Cond. 300	298
	Temp(C) 20.0	20.0
6	pH 8.5	8.4
	O2 ppm 8.5	7.7
	Cond. 296	297
	Temp(C) 20.0	20.0
Control	pH 8.6	8.4
	O2 ppm 8.7	8.6
	Cond. 298	296
	Temp(C) 20.0	20.0

TOXICITY TEST REPORT Sample: 03900202

TEST CONDITIONS

Company : BTL Specialty Resins
 (1860006)
 Region : Southeast
 Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
 Sampling Method : Grab
 Sampled By : Minka J.
 Date Collected : 03/13/90
 Received : 03/15/90
 Tested : 03/15/90 at: 1215

Type of Bioassay : STATIC
 (Daphnia magna Acute Lethality Toxicity
 Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900202

TEST CONC. % E L A P S E D T I M E
 00:00 24:00 48:00

100	pH 7.8	8.0
	O2 ppm 8.8	8.8
	Cond. 372	367
	Temp(C) 20.5	20.0 20.0
50	pH 8.1	8.1
	O2 ppm 8.8	8.9
	Cond. 339	336
	Temp(C) 20.5	20.0 20.0
25	pH 8.2	8.2
	O2 ppm 8.7	8.9
	Cond. 324	319
	Temp(C) 20.5	20.0 20.0
13	pH 8.3	8.2
	O2 ppm 8.6	8.9
	Cond. 312	312
	Temp(C) 20.5	20.0 20.0
6	pH 8.3	8.2
	O2 ppm 8.6	8.9
	Cond. 309	306
	Temp(C) 20.5	20.0 20.0
Control	pH 8.5	8.3
	O2 ppm 8.6	8.7
	Cond. 305	307
	Temp(C) 20.5	20.0 20.0

TOXICITY TEST REPORT Sample: 03890215

TEST CONDITIONS

Company : BTL Specialty Resins
Belleville, ONT
(1860006)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : J. Mirka
Date Collected : 10/10/89
Received : 10/12/89 at: 1435
Tested : 10/12/89
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	%
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	0	0	0
100	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890215

TEST CONC. %	E L A P S E D T I M E			
	00:00	04:00	24:00	48:00

Control	pH	8.4			8.4
	O2 ppm	7.8			8.9
	Cond.	315			317
	Temp(C)	19.5	20.5	21.0	20.0
6	pH	8.3			8.3
	O2 ppm	8.2			9.1
	Cond.	318			323
	Temp(C)	19.5	20.5	21.0	20.0
13	pH	8.2			8.3
	O2 ppm	8.2			9.1
	Cond.	320			320
	Temp(C)	19.5	20.5	21.0	20.0
25	pH	8.1			8.3
	O2 ppm	8.3			9.0
	Cond.	321			321
	Temp(C)	19.5	20.5	21.0	20.0
50	pH	7.9			8.2
	O2 ppm	8.3			8.9
	Cond.	322			322
	Temp(C)	19.5	20.5	21.0	20.0
100	pH	7.5			8.0
	O2 ppm	8.5			8.7
	Cond.	323			322
	Temp(C)	19.5	20.5	21.0	20.0

TOXICITY TEST REPORT Sample: 03890251

TEST CONDITIONS

Company : BTL Specialty Resins
 Bellville, ONT
 (1860006)
 Region : Southeast
 Industry : Organic Chemical
 Control point : combined effluent, (200)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : M.J.
 Date Collected : 11/08/89
 Received : 11/09/89
 Tested : 11/09/89 at: 1320

Type of Bioassay : STATIC
 (Daphnia magna Acute Lethality Toxicity
 Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY	
%	00:00	04:00	24:00	48:00
Control	0	0	0	0
6	0	0	1	8
13	0	0	0	0
25	0	0	1	25
50	0	0	0	0
100	0	0	0	25

48 Hour LC50 : >100%
 95% fid. limits : 0.0 - 0.0 %
 Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03890251

TEST CONC. % E L A P S E D T I M E
 00:00 04:00 24:00 48:00

Control	pH	8.4	8.3
	O2 ppm	8.9	9.2
	Cond.	304	309
	Temp(C)	20.0	20.5
6	pH	8.4	8.3
	O2 ppm	8.7	8.3
	Cond.	307	303
	Temp(C)	20.0	20.5
13	pH	8.2	8.3
	O2 ppm	8.7	8.7
	Cond.	306	306
	Temp(C)	20.0	20.5
25	pH	8.1	8.3
	O2 ppm	8.8	8.8
	Cond.	307	307
	Temp(C)	20.0	20.5
50	pH	7.8	8.1
	O2 ppm	8.8	8.8
	Cond.	307	308
	Temp(C)	20.0	20.5
100	pH	7.3	7.9
	O2 ppm	8.9	8.7
	Cond.	308	311
	Temp(C)	20.0	20.5

TOXICITY TEST REPORT Sample: 03890354

TEST CONDITIONS

Company : BTL Specialty Resins
Bellville, ONT
(1860006)Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BAR

Sampling Method : Grab

Sampled By : M.J.

Date Collected : 12/12/89

Received : 12/14/89

Tested : 12/14/89 at: 1525

Type of Bioassay

: STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal

Weight(gm)

Length(mm)

: D. magna

:

:

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890354

TEST CONC. %	E L A P S E D T I M E		
	00:00	24:00	48:00

100	pH	7.6	8.2
	O2 ppm	9.1	8.7
	Cond.	288	295
	Temp(C)	20.0	19.0
50	pH	8.0	8.3
	O2 ppm	8.7	8.7
	Cond.	293	295
	Temp(C)	20.0	19.0
25	pH	8.2	8.4
	O2 ppm	8.5	8.6
	Cond.	293	296
	Temp(C)	20.0	19.0
13	pH	8.3	8.4
	O2 ppm	8.4	8.5
	Cond.	295	297
	Temp(C)	20.0	19.0
6	pH	8.3	8.4
	O2 ppm	8.3	8.4
	Cond.	295	301
	Temp(C)	20.0	19.0
Control	pH	8.4	8.3
	O2 ppm	8.7	8.8
	Cond.	297	295
	Temp(C)	20.0	19.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 039000024

TEST CONDITIONS

Company : BTL Specialty Resins
 (1860006)
 Region : Southeast
 Industry : Organic Chemical
 Control point : combined effluent, (200)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : J. Mirka
 Date Collected : 01/09/90
 Received : 01/11/90
 Tested : 01/12/90 at: 1100

Type of Bioassay : STATIC
 (Daphnia magna Acute Lethality Toxicity
 Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	8
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

SLOPE of Mortality Curve :
 LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 039000024

TEST CONC. %
 E L A P S E D T I M E
 00:00 24:00 48:00

100	pH 7.8 O2 ppm 9.2 Cond. 300 Temp(C) 20.0	8.2 8.8 300 20.0
50	pH 8.2 O2 ppm 8.9 Cond. 297 Temp(C) 20.0	8.3 8.9 301 20.0
25	pH 8.4 O2 ppm 8.8 Cond. 297 Temp(C) 20.0	8.4 8.9 301 20.0
13	pH 8.5 O2 ppm 8.8 Cond. 296 Temp(C) 20.0	8.4 8.9 301 20.0
6	pH 8.5 O2 ppm 8.7 Cond. 294 Temp(C) 20.0	8.4 8.9 301 20.0
Control	pH 8.6 O2 ppm 8.8 Cond. 298 Temp(C) 20.0	8.5 8.7 301 20.0

TOXICITY TEST REPORT Sample: 029000008

TEST CONDITIONS

Company : 8TL Specialty Resins
Bellville, ONT
(1860006)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (200)
Laboratory : MOE
Sampling Method : Grab
Sampled By : B. Eckert
Date Collected : 01/23/90
Received : 01/24/90
Tested : 01/26/90 at: 1357

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	01:00	24:00	48:00	%
100	0	0	0	0	0
60	0	0	0	0	0
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 029000008

TEST CONC.	E L A P S E D T I M E		
%	00:00	01:00	24:00 48:00
100	pH 7.3 O2 ppm 8.9 Cond. 293 Temp(C) 20.0	7.9 7.9 282 20.0	7.9 7.9 282 20.0
60	pH 7.6 O2 ppm 9.0 Cond. 303 Temp(C) 20.0	7.9 7.8 294 20.0	7.9 7.8 294 20.0
30	pH 7.9 O2 ppm 9.0 Cond. 309 Temp(C) 20.0	7.9 7.9 302 20.0	7.9 7.9 302 20.0
15	pH 8.0 O2 ppm 9.0 Cond. 314 Temp(C) 20.0	7.9 7.8 308 20.0	7.9 7.8 308 20.0
5	pH 8.1 O2 ppm 9.1 Cond. 316 Temp(C) 20.0	7.9 7.8 311 20.0	7.9 7.8 311 20.0
Control	pH 8.2 O2 ppm 9.0 Cond. 317 Temp(C) 20.0	7.9 7.9 297 20.0	7.9 7.9 297 20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900101

TEST CONDITIONS

Company : BTL Specialty Resins
 (1860006)
 Region : Southeast
 Industry : Organic Chemical
 Control point : combined effluent, (200)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : Mirka J.
 Date Collected : 02/06/90
 Received : 02/08/90
 Tested : 02/08/90 at: 1200

Type of Bioassay : STATIC
 (Daphnia magna Acute Lethality Toxicity
 Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	0	0
50	0	0	1	8
25	0	1	1	8
13	0	1	1	8
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : >100%
 95% fid. limits : 0.0 - 0.0 %
 Comments : LC50 >100

SLOPE of Mortality Curve :
 LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900101

TEST CONC. %
 E L A P S E D T I M E
 00:00 24:00 48:00

100	pH 7.6 O2 ppm 8.8 Cond. 308 Temp(C) 20.0	8.1 8.4 310 20.0
50	pH 8.0 O2 ppm 8.6 Cond. 304 Temp(C) 20.0	8.3 8.4 304 20.0
25	pH 8.3 O2 ppm 8.6 Cond. 303 Temp(C) 20.0	8.4 8.5 302 20.0
13	pH 8.5 O2 ppm 8.6 Cond. 301 Temp(C) 20.0	8.4 8.4 300 20.0
6	pH 8.5 O2 ppm 8.5 Cond. 300 Temp(C) 20.0	8.4 8.5 301 20.0
Control	pH 8.6 O2 ppm 8.7 Cond. 298 Temp(C) 20.0	8.4 8.5 297 20.0

TOXICITY TEST REPORT Sample: 03900203

TEST CONDITIONS

Company : BTL Specialty Resins
 Bellville, ONT
 (1860006)
 Region : Southeast
 Industry : Organic Chemical
 Control point : combined effluent, (200)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : Mirka J.
 Date Collected : 03/13/90
 Received : 03/15/90
 Tested : 03/15/90 at: 1155

Type of Bioassay : STATIC
 (Daphnia magna Acute Lethality Toxicity
 Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900203

TEST CONC. %
 E L A P S E D T I M E
 00:00 24:00 48:00

100	pH 7.5	7.7
	O2 ppm 8.5	8.4
	Cond. 253	255
	Temp(C) 21.0	20.0
50	pH 7.9	8.0
	O2 ppm 8.5	8.7
	Cond. 280	281
	Temp(C) 21.0	20.0
25	pH 8.2	8.1
	O2 ppm 8.5	8.8
	Cond. 292	293
	Temp(C) 21.0	20.0
13	pH 8.4	8.2
	O2 ppm 8.5	8.9
	Cond. 299	299
	Temp(C) 21.0	20.0
6	pH 8.5	8.2
	O2 ppm 8.6	8.9
	Cond. 300	302
	Temp(C) 21.0	20.0
Control	pH 8.5	8.3
	O2 ppm 8.6	8.7
	Cond. 305	304
	Temp(C) 21.0	20.0

COMPANY: Canadian Oxy Chemicals Ltd., Fort Erie
(1590009)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

The data for two trout bioassays, conducted on two cooling water samples collected between October 1989 and March 1990, were provided by Canadian Oxy Chemicals Limited. One cooling water sample had a 96 hour LC50 > 100 %, while the second sample was determined to have been non-acutely lethal to test fish. An audit sample collected in November from the cooling water discharge was tested by O.M.E. laboratory and was determined to have been non-acutely lethal.

OT cooling water

03890310 sampled: 11/27/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100%

01890276 sampled: 11/29/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA audit sample.

03900110 sampled: 02/12/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test - Non Lethal

rain gauge

intake water

TOXICITY TEST REPORT Sample: 03890310

TEST CONDITIONS

Company : Canadian Oxy Chemicals Ltd.

Fort Erie, ONT
(1590009)

Region : Southwest

Industry : Organic Chemical

Control point : OT cooling water, (100)

Laboratory : BAR

Sampling Method : Grab

Sampled By : T. Currah

Date Collected : 11/27/89

Received : 11/29/89

Tested : 11/30/89 at: 1330

Type of Bioassay :

: STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout

Weight(gm) :

Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	1	1	1	10
65	0	0	0	0	0
40	0	0	0	0	0
20	0	0	0	0	0
10	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100%

TOXICITY TEST PARAMETERS

Sample Number: 03890310

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00

100	pH	8.1			8.1
	O2 ppm	10.0			9.3
	Cond.	451			457
	Temp(C)	15.0	15.0	14.5	14.5
65	pH	8.0			8.1
	O2 ppm	9.4			9.1
	Cond.	492			498
	Temp(C)	15.0	15.0	14.5	14.5
40	pH	7.8			8.4
	O2 ppm	9.2			9.6
	Cond.	518			522
	Temp(C)	15.0	15.0	14.5	14.5
20	pH	7.8			8.2
	O2 ppm	9.2			8.8
	Cond.	544			550
	Temp(C)	15.0	15.0	14.5	14.5
10	pH	7.8			8.4
	O2 ppm	9.2			9.4
	Cond.	554			563
	Temp(C)	15.0	15.0	14.5	14.5
Control	pH	7.7			8.5
	O2 ppm	8.9			9.6
	Cond.	571			572
	Temp(C)	15.0	15.0	14.5	14.5

MISA Trout

TOXICITY TEST REPORT Sample: 01890276

TEST CONDITIONS

Company : Canadian Oxy Chemicals Ltd.

Region : Fort Erie, ONT
Industry : (1590009)
Southwest
Organic Chemical

Control point : OT cooling water, (100)

Laboratory : MOE
Sampling Method : grab
Sampled By : M. Smithson
Date Collected : 11/29/89
Received : 11/30/89
Tested : 12/01/89 at: 1130

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E										TOTAL MORTALITY		
%	00:00	01:10	01:00	02:00	04:00	05:10	25:10	51:00	75:10	96:15	%		
100	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA audit sample.

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 01890276

TEST CONC. %

E L A P S E D T I M E												
	00:00	01:10	01:00	02:00	04:00	05:10	25:10	51:00	75:10	96:15		
100	pH 7.6	7.9	7.9	8.1	7.9	7.9	7.9	7.9	7.9	7.8	7.9	7.9
	O2 ppm 9.7	9.7	9.7	10.2	9.7	9.7	9.7	9.7	9.7	10.2	9.7	9.7
	Cond. 330	330	320	315	320	320	320	320	320	310	320	320
	Temp(C) 14.0	14.0	14.0	15.0	14.0	14.0	14.0	14.0	14.0	15.0	14.0	15.0
65	pH 8.1	8.1	7.9	8.1	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9
	O2 ppm 10.2	10.2	9.7	10.2	9.7	9.7	9.7	9.7	9.7	10.2	9.7	9.7
	Cond. 290	290	295	290	300	295	295	295	295	290	300	300
	Temp(C) 15.0	15.0	14.0	15.0	14.0	14.0	14.0	14.0	14.0	15.0	14.0	15.0
40	pH 8.0	8.0	7.8	8.0	7.8	7.8	7.8	7.8	7.8	7.7	7.8	7.7
	O2 ppm 10.0	10.0	9.8	10.0	9.5	9.8	9.8	9.8	9.8	10.1	9.8	10.1
	Cond. 280	280	280	280	280	280	280	280	280	280	280	280
	Temp(C) 15.0	15.0	14.0	15.0	14.0	14.0	14.0	14.0	14.0	15.0	14.0	15.0
30	pH 8.1	8.1	7.8	8.1	7.8	7.8	7.8	7.8	7.8	7.7	7.8	7.7
	O2 ppm 10.1	10.1	9.8	10.1	9.6	9.8	9.8	9.8	9.8	10.2	9.8	10.2
	Cond. 270	270	275	270	270	275	275	275	275	275	275	280
	Temp(C) 15.0	15.0	14.0	15.0	14.0	14.0	14.0	14.0	14.0	15.0	14.0	15.0
20	pH 8.1	8.1	7.7	8.1	7.8	7.7	7.7	7.7	7.7	7.7	7.7	7.7
	O2 ppm 10.3	10.3	9.6	10.3	9.4	9.6	9.6	9.6	9.6	10.1	9.6	10.1
	Cond. 265	265	265	265	270	265	265	265	265	265	265	270
	Temp(C) 15.0	15.0	14.0	15.0	14.0	14.0	14.0	14.0	14.0	15.0	14.0	15.0
10	pH 8.1	8.1	7.6	8.1	7.4	7.6	7.6	7.6	7.6	7.6	7.6	7.6
	O2 ppm 10.1	10.1	9.4	10.1	8.0	9.4	9.4	9.4	9.4	10.0	9.4	10.0
	Cond. 255	255	260	255	260	260	260	260	260	260	260	270
	Temp(C) 15.0	15.0	14.0	15.0	14.0	14.0	14.0	14.0	14.0	15.0	14.0	15.0
Control	pH 8.1	8.1	7.7	8.1	7.7	7.7	7.7	7.7	7.7	7.6	7.7	7.6
	O2 ppm 10.2	10.2	9.8	10.2	9.8	9.8	9.8	9.8	9.8	10.1	9.8	10.1
	Cond. 260	260	230	260	240	230	230	230	230	255	240	255
	Temp(C) 15.0	15.0	14.0	15.0	14.0	14.0	14.0	14.0	14.0	15.0	14.0	15.0

TOXICITY TEST REPORT Sample: 03900110

TEST CONDITIONS

Company : Canadian Oxy Chemicals Ltd.

Fort Erie, ONT

(1590009)

Region : Southwest

Industry : Organic Chemical

Control point : OT cooling water, (100)

Laboratory : BAR

Sampling Method : Grab

Sampled By : T. Currah

Date Collected : 02/12/90

Received : 02/14/90

Tested : 02/14/90 at: 1500

Type of Bioassay :

: STATIC

(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal :

:

: Rainbow trout

:

Weight(gm)

Length(mm)

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	1	1	10
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test - Non Lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900110

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00

100	pH	8.1			8.3
	O2 ppm	10.2			9.5
	Cond.	523			526
	Temp(C)	16.0	15.0	14.0	14.0
100	pH	8.1			8.3
	O2 ppm	10.2			9.1
	Cond.	523			525
	Temp(C)	16.0	15.0	14.0	14.0
Control	pH	7.9			8.5
	O2 ppm	9.1			9.5
	Cond.	541			523
	Temp(C)	16.0	15.0	14.0	14.0
Control	pH	7.9			8.5
	O2 ppm	9.1			8.9
	Cond.	540			525
	Temp(C)	16.0	15.0	14.0	14.0

COMPANY: Canadian Oxy Chemicals Ltd., Fort Erie
(1590009)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

Results of two *Daphnia magna* acute lethality toxicity tests conducted on samples of once through cooling water collected between October 1989 and March 1990 were submitted by Canadian Oxy Chemicals Ltd. of Fort Erie. Both samples were not acutely lethal to *Daphnia*. One sample tested in the Ministry laboratory in November was also not acutely lethal to *Daphnia*.

OT cooling water

03890310 sampled: 11/27/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

02890276 sampled: 11/29/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900110 sampled: 02/12/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test

rain gauge

intake water

TOXICITY TEST REPORT Sample: 03890310

TEST CONDITIONS

Company : Canadian Oxy Chemicals Ltd.

Fort Erie, ONT

(1590009)

Region : Southwest

Industry : Organic Chemical

Control point : OT cooling water, (100)

Laboratory : BAR

Sampling Method : Grab

Sampled By : T. Currah

Date Collected : 11/27/89

Received : 11/29/89

Tested : 11/30/89 at: 1120

Type of Bioassay

: STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol, OME, 1988)

Test Animal

Weight(gm)

Length(mm)

: D. magna

:

:

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890310

TEST CONC.	E L A P S E D T I M E	
%	00:00	24:00 48:00

100	pH 8.1	8.2
	O2 ppm 9.6	9.6
	Cond. 4.0	4.3
	Temp(C) 19.0	19.5
50	pH 8.1	8.3
	O2 ppm 9.1	9.7
	Cond. 3.73	3.77
	Temp(C) 19.0	19.5
25	pH 8.3	8.3
	O2 ppm 9.1	9.8
	Cond. 3.41	3.46
	Temp(C) 19.0	19.5
13	pH 8.3	8.3
	O2 ppm 9.1	10.1
	Cond. 3.25	3.30
	Temp(C) 19.0	19.5
6	pH 8.3	8.3
	O2 ppm 9.1	9.8
	Cond. 3.16	3.14
	Temp(C) 19.0	19.5
Control	pH 8.4	8.4
	O2 ppm 9.1	9.4
	Cond. 3.06	3.06
	Temp(C) 19.0	19.5

MISA Daphnia

TOXICITY TEST REPORT Sample: 02890276

TEST CONDITIONS

Company : Canadian Oxy Chemicals Ltd.

Region : Fort Erie, ONT

Industry : (1590009)

Control point : Southwest

Laboratory : Organic Chemical

Sampling Method : OT cooling water, (100)

Sampled By : MOE

Date Collected : grab

Received : Smithson&Trach

Tested : 11/29/89

at: 1336

Type of Bioassay : STATIC

(Daphnia magna Acute Lethality Toxicity

Test Protocol: OME, 1988)

Test Animal : D. magna

Weight(gm) :

Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	01:39	24:39	48:39	%
100	0	0	0	0	0
60	0	0	0	0	0
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

SLOPE of Mortality Curve : none
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 02890276

TEST CONC. %
E L A P S E D T I M E
00:00 01:39 24:39 48:39

100	pH 7.9 O2 ppm 9.2 Cond. 375 Temp(C) 20.0	20.0	20.0	20.0	20.0	7.9 8.6 383
60	pH 8.0 O2 ppm 9.2 Cond. 351 Temp(C) 20.0	20.0	20.0	20.0	20.0	7.8 8.6 354
30	pH 8.0 O2 ppm 9.2 Cond. 331 Temp(C) 20.0	20.0	20.0	20.0	20.0	7.7 8.6 334
15	pH 8.0 O2 ppm 9.2 Cond. 321 Temp(C) 20.0	20.0	20.0	20.0	20.0	7.8 8.5 322
5	pH 8.0 O2 ppm 9.2 Cond. 315 Temp(C) 20.0	20.0	20.0	20.0	20.0	7.7 8.5 318
Control	pH 8.0 O2 ppm 9.1 Cond. 300 Temp(C) 20.0	20.0	20.0	20.0	20.0	7.5 8.6 303

TOXICITY TEST REPORT Sample: 03900110

TOXICITY TEST PARAMETERS

TEST CONDITIONS

Company : Canadian Oxy Chemicals Ltd.
Fort Erie, ONT
(1590009)
Region : Southwest
Industry : Organic Chemical
Control point : OT cooling water, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Currah
Date Collected : 02/12/90
Received : 02/14/90
Tested : 02/14/90 at: 1110

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	0	0
100	0	0	0	0
Control	0	0	1	8
Control	0	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single Concentration Test

Sample Number: 03900110

TEST CONC. %	E L A P S E D T I M E		
	00:00	24:00	48:00
100	pH 8.0 O2 ppm 9.1 Cond. 516 Temp(C) 20.5	20.0	8.3 8.5 523 19.5
100	pH 8.0 O2 ppm 9.1 Cond. 516 Temp(C) 20.5	20.0	8.3 8.5 515 19.5
Control	pH 8.6 O2 ppm 8.8 Cond. 299 Temp(C) 20.5	20.0	8.5 8.5 307 19.5
Control	pH 8.6 O2 ppm 8.8 Cond. 299 Temp(C) 20.5	20.0	8.5 8.4 302 19.5

COMPANY: Celanese Canada Inc., Millhaven
(1730001)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

The data for eighteen trout bioassays, conducted on combined effluent samples collected between October 1989 and March 1990, were provided by Celanese Canada Incorporated. All six combined effluent samples collected from control point 0100 were determined to have been non-acutely lethal to test fish. An audit sample collected from control point 0100 in December was tested by O.M.E. laboratory and it too was determined to have been non-acutely lethal. Five combined effluent samples collected from control point 0200 were determined to have been non-acutely lethal. One sample from this discharge had a 96 hour LC50 > 100 %. An audit sample collected from control point 0200 in December was determined to have been non-acutely lethal. All six combined effluent samples collected from control point 0300 were determined to have been non-acutely lethal. An audit sample collected in December from this discharge was also determined to have been non-acutely lethal by the O.M.E. laboratory.

combined effluent

06890944	sampld: 10/01/89	non-lethal
95% fid. limits:	0.0 - 0.0 %	
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED		
06891047	sampld: 11/06/89	non-lethal
95% fid. limits:	0.0 - 0.0 %	
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED		
06891173	sampld: 12/04/89	non-lethal
95% fid. limits:	0.0 - 0.0 %	
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED		
01890288	sampld: 12/11/89	non-lethal
95% fid. limits:	0.0 - 0.0 %	
comments: MISA audit sample.		
06900097	sampld: 01/16/90	non-lethal
95% fid. limits:	0.0 - 0.0 %	
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED		
06900224	sampld: 02/05/90	non-lethal
95% fid. limits:	0.0 - 0.0 %	
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED		

Celanese Canada Inc. (continued)

06900335 sampled: 03/04/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

combined effluent

06890946 sampled: 10/01/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

06891045 sampled: 11/06/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

06891171 sampled: 12/04/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: 10% MORTALITY IN FULL STRENGTH EFFLUENT

01890286 sampled: 12/11/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA audit sample.

06900099 sampled: 01/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

06900226 sampled: 02/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

06900337 sampled: 03/04/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

combined effluent

06890948 sampled: 10/01/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

06891049 sampled: 11/06/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

06891175 sampled: 12/04/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

01890287 sampled: 12/11/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA audit sample.

Celanese Canada Inc. (continued)

06900101 sampled: 01/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

06900228 sampled: 02/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

06900339 sampled: 03/04/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

process effluent

emergency overflow

storm water

rain gauge

intake water

TOXICITY TEST REPORT Sample: 06890944

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : BEAK
Sampling Method : 24HR COMPOSITE
Sampled By : WAYNE SCOTT
Date Collected : 10/01/89
Received : 10/02/89
Tested : 10/03/89 at: 1130

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
50	0	0	0	0	0	0
30	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

TOXICITY TEST PARAMETERS

Sample Number: 06890944

TEST
CONC.
%

E L A P S E D T I M E

00:00 24:00 48:00 72:00 96:00

100	pH	7.9	8.0	8.0	8.1	8.1
	O2 ppm	9.4	9.5	9.7	8.5	8.3
	Cond.	407				415
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	7.9	7.9	8.0	8.1	8.0
	O2 ppm	9.5	9.4	9.5	8.7	8.3
	Cond.	395				402
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	7.8	7.9	8.0	8.2	8.2
	O2 ppm	9.6	9.5	9.6	8.8	8.9
	Cond.	390				396
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	7.8	7.9	8.0	8.0	8.0
	O2 ppm	9.6	9.6	9.7	8.3	8.9
	Cond.	385				391
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	7.8	8.0	8.1	7.9	8.1
	O2 ppm	9.7	9.7	9.5	8.4	8.7
	Cond.	381				386
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.8	8.1	8.1	8.1	8.2
	O2 ppm	9.5	9.6	9.7	8.5	8.6
	Cond.	378				384
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.6	7.9	7.9	8.0	8.1
	O2 ppm	9.6	9.7	9.6	8.5	8.8
	Cond.	362				365
	Temp(C)	15.0	15.0	15.0	15.0	20.0

MISA Trout

TOXICITY TEST REPORT Sample: 06891047

TEST CONDITIONS

Company : Celanese Canada Inc.
 Millhaven, ONT
 (1730001)
 Region : Southeast
 Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BEAK
 Sampling Method : GRAB
 Sampled By : WAYNE SCOTT
 Date Collected : 11/06/89
 Received : 11/06/89 at: 1600
 Tested : 11/06/89

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
30	0	0	0	0	0	0
50	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

SLOPE of Mortality Curve :
 LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06891047

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
Control	pH 8.2 O2 ppm 7.5 Cond. 288 Temp(C) 15.0	8.0 7.6 7.6 7.6 15.0 15.0	8.2 8.1 7.6 7.8 15.0 15.0	8.1 8.1 7.8 7.6 15.0 15.0	8.1 8.1 7.6 366 15.0 15.0
10	pH 8.2 O2 ppm 7.7 Cond. 295 Temp(C) 15.0	8.4 8.4 9.7 9.0 15.0 15.0	8.5 8.3 9.0 7.9 15.0 15.0	8.3 8.0 7.9 357 15.0 15.0	8.0 8.0 7.6 357 15.0 15.0
20	pH 8.2 O2 ppm 8.7 Cond. 306 Temp(C) 15.0	8.4 8.6 9.6 9.6 15.0 15.0	8.6 8.6 9.6 9.7 15.0 15.0	8.6 8.1 9.7 358 15.0 15.0	8.0 8.1 8.1 358 15.0 15.0
30	pH 8.2 O2 ppm 9.4 Cond. 309 Temp(C) 15.0	8.5 8.6 9.7 9.6 15.0 15.0	8.6 8.5 9.6 9.6 15.0 15.0	8.5 8.1 9.6 9.4 15.0 15.0	8.1 8.1 9.4 361 15.0 15.0
50	pH 8.2 O2 ppm 9.4 Cond. 314 Temp(C) 15.0	8.5 8.6 9.8 9.8 15.0 15.0	8.5 8.5 9.8 9.7 15.0 15.0	8.5 8.2 9.7 9.2 15.0 15.0	8.2 8.2 9.2 347 15.0 15.0
65	pH 8.3 O2 ppm 9.7 Cond. 321 Temp(C) 15.0	8.5 8.6 9.9 9.8 15.0 15.0	8.5 8.5 9.8 9.8 15.0 15.0	8.5 8.0 9.8 7.7 15.0 15.0	8.0 8.0 7.7 377 15.0 15.0
100	pH 8.3 O2 ppm 9.6 Cond. 330 Temp(C) 15.0	8.4 8.6 9.9 9.8 15.0 15.0	8.5 8.5 9.8 9.9 15.0 15.0	8.5 8.0 9.9 8.1 15.0 15.0	8.0 8.1 8.1 383 15.0 15.0

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06891173

TEST ELAPSED TIME

00:00 24:00 48:00 72:00 96:00

	7-8	7-8	8-9	7-9	8-1
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2.02 ppm

Cond. Temp (°C)

(c) 1971

10 pH

20 ppm

Type of Bioassay : STATIC (Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

: Rainbow trout
: :
: :
: :

TEST CONC.	ELAPSED TIME	TOTAL MORTALITY
0.000	10.0	0.0
0.001	10.0	0.0
0.002	10.0	0.0
0.003	10.0	0.0
0.004	10.0	0.0
0.005	10.0	0.0
0.006	10.0	0.0
0.007	10.0	0.0
0.008	10.0	0.0
0.009	10.0	0.0
0.010	10.0	0.0
0.011	10.0	0.0
0.012	10.0	0.0
0.013	10.0	0.0
0.014	10.0	0.0
0.015	10.0	0.0
0.016	10.0	0.0
0.017	10.0	0.0
0.018	10.0	0.0
0.019	10.0	0.0
0.020	10.0	0.0
0.021	10.0	0.0
0.022	10.0	0.0
0.023	10.0	0.0
0.024	10.0	0.0
0.025	10.0	0.0
0.026	10.0	0.0
0.027	10.0	0.0
0.028	10.0	0.0
0.029	10.0	0.0
0.030	10.0	0.0
0.031	10.0	0.0
0.032	10.0	0.0
0.033	10.0	0.0
0.034	10.0	0.0
0.035	10.0	0.0
0.036	10.0	0.0
0.037	10.0	0.0
0.038	10.0	0.0
0.039	10.0	0.0
0.040	10.0	0.0
0.041	10.0	0.0
0.042	10.0	0.0
0.043	10.0	0.0
0.044	10.0	0.0
0.045	10.0	0.0
0.046	10.0	0.0
0.047	10.0	0.0
0.048	10.0	0.0
0.049	10.0	0.0
0.050	10.0	0.0
0.051	10.0	0.0
0.052	10.0	0.0
0.053	10.0	0.0
0.054	10.0	0.0
0.055	10.0	0.0
0.056	10.0	0.0
0.057	10.0	0.0
0.058	10.0	0.0
0.059	10.0	0.0
0.060	10.0	0.0
0.061	10.0	0.0
0.062	10.0	0.0
0.063	10.0	0.0
0.064	10.0	0.0
0.065	10.0	0.0
0.066	10.0	0.0
0.067	10.0	0.0
0.068	10.0	0.0
0.069	10.0	0.0
0.070	10.0	0.0
0.071	10.0	0.0
0.072	10.0	0.0
0.073	10.0	0.0
0.074	10.0	0.0
0.075	10.0	0.0
0.076	10.0	0.0
0.077	10.0	0.0
0.078	10.0	0.0
0.079	10.0	0.0
0.080	10.0	0.0
0.081	10.0	0.0
0.082	10.0	0.0
0.083	10.0	0.0
0.084	10.0	0.0
0.085	10.0	0.0
0.086	10.0	0.0
0.087	10.0	0.0
0.088	10.0	0.0
0.089	10.0	0.0
0.090	10.0	0.0
0.091	10.0	0.0
0.092	10.0	0.0
0.093	10.0	0.0
0.094	10.0	0.0
0.095	10.0	0.0
0.096	10.0	0.0
0.097	10.0	0.0
0.098	10.0	0.0
0.099	10.0	0.0
0.100	10.0	0.0

48:00 72:00 96:00

[illegible]

: Non-lethal

	%	%
0.0	0.0	..

: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 01890288

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : MOE
Sampling Method : grab
Sampled By : A. Verbaas
Date Collected : 12/11/89
Received : 12/13/89
Tested : 12/14/89 at: 1420

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E								TOTAL MORTALITY	
%	00:00	00:30	01:00	02:00	04:00	24:00	47:10	72:00	96:00	%
100	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA audit sample.

TOXICITY TEST PARAMETERS

Sample Number: 01890288

TEST E L A P S E D T I M E

CONC. % 00:00 00:30 01:00 02:00 04:00 24:00 47:10 72:00 96:00

100	pH	7.4	7.6	8.0	8.0	7.9	7.9	7.9	7.9
	O2 ppm	9.8	9.9	10.9	10.9	10.7	10.7	10.3	9.3
	Cond.	270	275	270	270	290	290	295	28
	Temp(C)	15.0	15.0	14.0	14.0	14.0	14.0	14.0	14.0
65	pH	7.6	7.6	8.0	8.0	7.8	7.7	7.7	7.7
	O2 ppm	9.9	9.9	10.7	10.7	10.4	10.2	9.2	9.2
	Cond.	260	260	265	265	280	265	27	27
	Temp(C)	15.0	15.0	14.0	14.0	14.0	14.0	14.0	14.0
40	pH	7.6	7.6	8.0	8.0	7.9	7.8	7.8	7.8
	O2 ppm	10.0	10.0	10.9	10.9	10.5	10.2	9.2	9.2
	Cond.	245	245	265	265	270	265	26	26
	Temp(C)	15.0	15.0	14.0	14.0	14.0	14.0	14.0	14.0
30	pH	7.6	7.6	8.0	8.0	8.0	7.8	7.8	7.8
	O2 ppm	10.0	10.0	10.7	10.7	10.8	10.5	9.2	9.2
	Cond.	255	255	250	250	260	260	26	26
	Temp(C)	15.0	15.0	14.0	14.0	14.0	14.0	14.0	14.0
20	pH	7.6	7.6	8.0	8.0	7.9	7.8	7.8	7.8
	O2 ppm	9.9	9.9	10.9	10.9	10.7	10.4	9.2	9.2
	Cond.	255	255	250	250	260	260	25	25
	Temp(C)	15.0	15.0	14.0	14.0	14.0	14.0	14.0	14.0
10	pH	7.6	7.6	8.0	8.0	8.0	7.8	7.8	7.8
	O2 ppm	10.0	10.0	10.9	10.9	10.7	10.6	9.2	9.2
	Cond.	250	250	250	250	260	260	24	24
	Temp(C)	15.0	15.0	14.0	14.0	14.0	14.0	14.0	14.0
Control	pH	7.7	7.7	7.9	7.9	7.9	7.7	7.7	7.7
	O2 ppm	9.7	9.7	10.7	10.7	10.8	10.5	9.2	9.2
	Cond.	245	245	245	245	250	240	24	24
	Temp(C)	15.0	15.0	14.0	14.0	14.0	14.0	14.0	14.0

TOXICITY TEST REPORT Sample: 069000097

TEST CONDITIONS

Company : Celanese Canada Inc.
 Millhaven, ONT
 (1730001)
 Region : Southeast
 Industry : Organic Chemical
 Control point : combined effluent, (100)
 Laboratory : BEAK
 Sampling Method : GRAB
 Sampled By : WAYNE SCOTT
 Date Collected : 01/16/90
 Received : 01/17/90
 Tested : 01/17/90 at: 1800

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00 72:00 96:00	%
Control	0	0	0	0
10	0	0	0	0
20	0	0	0	0
30	0	0	0	0
50	0	0	0	0
65	0	0	0	0
100	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

TOXICITY TEST PARAMETERS

Sample Number: 069000097

TEST CONC. %

E L A P S E D T I M E

00:00 24:00 48:00 72:00 96:00

Control	pH	7.4	8.1	8.2	8.2	8.2
	O2 ppm	9.7	9.0	9.1	8.8	8.6
	Cond.	361				401
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.5	8.0	8.1	8.2	8.1
	O2 ppm	10.2	10.0	9.9	9.3	9.2
	Cond.	365				362
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	7.5	8.0	8.1	8.2	8.1
	O2 ppm	10.1	9.3	8.9	8.8	9.3
	Cond.	376				372
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	7.6	8.0	8.2	8.2	8.1
	O2 ppm	10.2	10.4	9.3	9.1	9.1
	Cond.	384				382
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	7.6	7.9	8.1	8.1	7.9
	O2 ppm	9.2	8.6	8.4	8.4	8.1
	Cond.	401				402
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	7.7	8.0	8.2	8.2	8.1
	O2 ppm	9.8	9.1	9.3	9.2	9.1
	Cond.	414				414
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	7.7	8.0	8.2	8.2	8.1
	O2 ppm	9.4	8.8	9.4	8.7	8.6
	Cond.	439				439
	Temp(C)	15.0	15.0	15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 06900224

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : BEAK
Sampling Method : GRAB
Sampled By : WAYNE SCOTT
Date Collected : 02/05/90
Received : 02/06/90
Tested : 02/07/90 at: 1230
Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
50	0	0	0	0	0	0
30	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

TOXICITY TEST PARAMETERS

Sample Number: 06900224

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 7.9 O2 ppm 9.3 Cond. 443 Temp(C) 15.0	8.1 8.1 8.3 8.2 15.0 15.0	8.1 8.0 8.2 9.3 15.0 15.0	8.1 8.1 8.2 9.3 15.0 15.0	8.1 8.1 9.5 464 15.0 15.0
65	pH 7.8 O2 ppm 9.4 Cond. 425 Temp(C) 15.0	8.1 8.1 8.4 8.4 15.0 15.0	8.1 8.1 8.4 9.1 15.0 15.0	8.1 8.1 9.1 451 15.0 15.0	8.1 8.1 9.4 451 15.0 15.0
50	pH 7.8 O2 ppm 9.6 Cond. 418 Temp(C) 15.0	8.1 8.1 8.1 8.1 15.0 15.0	8.1 8.0 8.1 9.0 15.0 15.0	8.1 8.1 9.0 444 15.0 15.0	8.1 8.1 9.3 444 15.0 15.0
30	pH 7.8 O2 ppm 9.7 Cond. 408 Temp(C) 15.0	8.0 8.0 8.0 9.0 15.0 15.0	8.1 8.1 8.2 8.9 15.0 15.0	8.1 8.1 8.9 437 15.0 15.0	8.1 8.1 9.4 437 15.0 15.0
20	pH 7.8 O2 ppm 9.6 Cond. 407 Temp(C) 15.0	8.2 8.2 9.3 9.3 15.0 15.0	8.1 8.1 9.3 9.3 15.0 15.0	8.1 8.1 9.3 436 15.0 15.0	8.2 8.2 9.2 436 15.0 15.0
10	pH 7.7 O2 ppm 9.5 Cond. 403 Temp(C) 15.0	8.0 8.0 8.3 8.3 15.0 15.0	8.0 7.9 8.3 9.1 15.0 15.0	8.0 8.0 9.1 446 15.0 15.0	8.0 8.0 8.9 446 15.0 15.0
Control	pH 7.7 O2 ppm 9.8 Cond. 382 Temp(C) 15.0	8.1 8.1 9.3 9.0 15.0 15.0	8.2 8.0 9.0 8.9 15.0 15.0	8.0 8.0 8.9 410 15.0 15.0	8.1 8.1 9.0 410 15.0 15.0

TOXICITY TEST REPORT Sample: 06900335

TEST CONDITIONS

Company : Celanese Canada Inc.
 : Millhaven, ONT
 : (1730001)
 Region : Southeast
 Industry : Organic Chemical
 Control point : combined effluent, (100)
 Laboratory : BEAK
 Sampling Method : GRAB
 Sampled By : WAYNE SCOTT
 Date Collected : 03/04/90
 Received : 03/06/90
 Tested : 03/07/90 at: 1400
 Type of Bioassay : STATIC
 : (Protocol to determine the acute lethality
 : of liquid effluents to fish. OME, 1983).
 Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
50	0	0	0	0	0	0
30	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

TOXICITY TEST PARAMETERS

Sample Number: 06900335

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00
100	pH 7.6	8.2	8.1	8.2	8.1
	O2 ppm 7.7	9.6	8.7	10.4	9.6
	Cond. 472				459
	Temp(C) 15.0	15.0	15.0	15.0	15.0
65	pH 7.7	8.2	8.1	8.1	8.1
	O2 ppm 8.9	9.8	8.7	10.4	9.9
	Cond. 449				447
	Temp(C) 15.0	15.0	15.0	15.0	15.0
50	pH 7.7	8.1	8.0	8.0	8.1
	O2 ppm 8.8	9.7	8.3	10.2	9.6
	Cond. 437				446
	Temp(C) 15.0	15.0	15.0	15.0	15.0
30	pH 7.8	8.2	8.1	8.1	7.9
	O2 ppm 9.3	9.6	8.7	10.4	9.6
	Cond. 423				445
	Temp(C) 15.0	15.0	15.0	15.0	15.0
20	pH 7.8	8.2	8.1	8.1	8.1
	O2 ppm 9.6	9.5	8.7	10.2	9.7
	Cond. 417				444
	Temp(C) 15.0	15.0	15.0	15.0	15.0
10	pH 7.8	8.2	8.0	8.0	8.0
	O2 ppm 9.2	9.6	8.7	10.1	9.4
	Cond. 410				445
	Temp(C) 15.0	15.0	15.0	15.0	15.0
Control	pH 8.0	8.1	8.1	7.9	7.8
	O2 ppm 9.0	9.1	8.9	10.4	9.6
	Cond. 413				398
	Temp(C) 15.0	15.0	15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 06890946

TEST CONDITIONS

Company : Celanese Canada Inc.

Region : Millhaven, ONT
(1730001)Industry : Southeast
Organic Chemical

Control point : combined effluent, (200)

Laboratory : BEAK

Sampling Method : 24HR COMPOSITE

Sampled By : WAYNE SCOTT

Date Collected : 10/01/89

Received : 10/02/89

Tested : 10/03/89 at: 1130

Type of Bioassay

: STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout

Weight(gm)

Length(mm)

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
50	0	0	0	0	0	0
30	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06890946

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00

100	pH 7.8	8.1	8.1	8.1	8.2
	02 ppm 9.5	9.5	9.7	8.6	8.7
	Cond. 369				377
	Temp(C) 15.0	15.0	15.0	15.0	15.0
65	pH 7.8	8.0	8.0	8.0	8.0
	02 ppm 9.5	9.5	9.7	8.5	8.8
	Cond. 371				379
	Temp(C) 15.0	15.0	15.0	15.0	15.0
50	pH 7.7	8.1	8.0	8.1	8.2
	02 ppm 9.6	9.4	9.6	8.7	9.1
	Cond. 373				380
	Temp(C) 15.0	15.0	15.0	15.0	15.0
30	pH 7.7	8.0	7.9	8.0	8.0
	02 ppm 9.7	9.5	9.7	8.4	8.8
	Cond. 375				382
	Temp(C) 15.0	15.0	15.0	15.0	15.0
20	pH 7.6	8.0	7.8	8.1	8.1
	02 ppm 9.5	9.5	9.6	8.3	8.7
	Cond. 375				384
	Temp(C) 15.0	15.0	15.0	15.0	15.0
10	pH 7.6	7.9	7.9	7.8	7.8
	02 ppm 9.4	9.6	9.5	8.0	8.2
	Cond. 374				386
	Temp(C) 15.0	15.0	15.0	15.0	15.0
Control	pH 7.6	7.9	7.9	8.0	8.1
	02 ppm 9.6	9.7	9.6	8.5	8.8
	Cond. 362				365
	Temp(C) 15.0	15.0	15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 06891045

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (200)
Laboratory : BEAK
Sampling Method : GRAB
Sampled By : WAYNE SCOTT
Date Collected : 11/06/89
Received : 11/06/89
Tested : 11/06/89 at: 1600

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%	
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

TOXICITY TEST PARAMETERS

Sample Number: 06891045

TEST
CONC.
%

E L A P S E D T I M E

00:00 24:00 48:00 72:00 96:00

Control	pH 8.2	pH 7.5	pH 7.6	pH 7.6	pH 7.8	pH 8.1	pH 8.1
	02 ppm Cond.	02 ppm Cond.	02 ppm Cond.	02 ppm Cond.	02 ppm Cond.	02 ppm Cond.	02 ppm Cond.
	Temp(C)	Temp(C)	Temp(C)	Temp(C)	Temp(C)	Temp(C)	Temp(C)
	288	288	288	288	288	288	288
10	pH 8.3	pH 8.7	pH 8.6	pH 8.5	pH 8.4	pH 8.1	pH 8.1
	02 ppm Cond.	02 ppm Cond.	02 ppm Cond.	02 ppm Cond.	02 ppm Cond.	02 ppm Cond.	02 ppm Cond.
	Temp(C)	Temp(C)	Temp(C)	Temp(C)	Temp(C)	Temp(C)	Temp(C)
	291	291	291	291	291	291	291
20	pH 8.3	pH 9.0	pH 8.5	pH 8.5	pH 8.4	pH 8.1	pH 8.1
	02 ppm Cond.	02 ppm Cond.	02 ppm Cond.	02 ppm Cond.	02 ppm Cond.	02 ppm Cond.	02 ppm Cond.
	Temp(C)	Temp(C)	Temp(C)	Temp(C)	Temp(C)	Temp(C)	Temp(C)
	296	296	296	296	296	296	296
30	pH 8.3	pH 9.7	pH 8.5	pH 8.5	pH 8.5	pH 8.1	pH 8.1
	02 ppm Cond.	02 ppm Cond.	02 ppm Cond.	02 ppm Cond.	02 ppm Cond.	02 ppm Cond.	02 ppm Cond.
	Temp(C)	Temp(C)	Temp(C)	Temp(C)	Temp(C)	Temp(C)	Temp(C)
	294	294	294	294	294	294	294
50	pH 8.3	pH 9.8	pH 8.6	pH 8.5	pH 8.5	pH 8.1	pH 8.1
	02 ppm Cond.	02 ppm Cond.	02 ppm Cond.	02 ppm Cond.	02 ppm Cond.	02 ppm Cond.	02 ppm Cond.
	Temp(C)	Temp(C)	Temp(C)	Temp(C)	Temp(C)	Temp(C)	Temp(C)
	332	332	332	332	332	332	332
65	pH 8.4	pH 9.9	pH 8.6	pH 8.6	pH 8.5	pH 8.2	pH 8.2
	02 ppm Cond.	02 ppm Cond.	02 ppm Cond.	02 ppm Cond.	02 ppm Cond.	02 ppm Cond.	02 ppm Cond.
	Temp(C)	Temp(C)	Temp(C)	Temp(C)	Temp(C)	Temp(C)	Temp(C)
	285	285	285	285	285	285	285
100	pH 8.6	pH 10.0	pH 8.6	pH 8.6	pH 8.5	pH 8.1	pH 8.1
	02 ppm Cond.	02 ppm Cond.	02 ppm Cond.	02 ppm Cond.	02 ppm Cond.	02 ppm Cond.	02 ppm Cond.
	Temp(C)	Temp(C)	Temp(C)	Temp(C)	Temp(C)	Temp(C)	Temp(C)
	274	274	274	274	274	274	274
	15.0	15.0	15.0	15.0	15.0	15.0	15.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 06891171

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (200)
Laboratory : BEAK
Sampling Method : GRAB
Sampled By : WAYNE SCOTT
Date Collected : 12/04/89
Received : 12/05/89
Tested : 12/05/89 at: 1730

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
30	0	0	0	0	0	0
50	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	0	0	1	1	10

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : 10% MORTALITY IN FULL STRENGTH EFFLUENT

TOXICITY TEST PARAMETERS

Sample Number: 06891171

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00 72:00 96:00

Control	pH	7.8	7.8	8.0	8.0	8.0	8.1
	O2 ppm	9.4	8.4	8.4	8.4	9.3	9.3
	Cond.	407				390	
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
10	pH	7.8	7.5	8.0	8.0	8.0	8.0
	O2 ppm	9.3	9.2	9.3	8.7	9.7	9.7
	Cond.	364				371	
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
20	pH	7.8	7.6	7.9	8.0	8.0	8.0
	O2 ppm	9.4	8.4	9.3	9.1	8.9	8.9
	Cond.	362				366	
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
30	pH	7.8	7.6	7.9	8.0	8.0	8.0
	O2 ppm	9.5	8.7	9.6	9.3	9.4	9.4
	Cond.	361				361	
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
50	pH	7.8	7.5	7.9	8.0	8.0	8.0
	O2 ppm	9.7	8.4	9.9	9.6	9.3	9.3
	Cond.	344				356	
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
65	pH	7.8	7.6	7.9	8.0	8.0	8.0
	O2 ppm	9.8	8.8	9.6	9.5	9.3	9.3
	Cond.	345				349	
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
100	pH	7.9	7.6	7.9	8.0	8.0	8.0
	O2 ppm	10.0	9.3	9.9	9.4	8.7	8.7
	Cond.	308				339	
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 01890286

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (200)
Laboratory : MOE
Sampling Method : grab
Sampled By : A. Verbaas
Date Collected : 12/11/89
Received : 12/13/89
Tested : 12/14/89 at: 1400

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E								TOTAL MORTALITY	
%	00:00	00:30	01:00	02:00	04:00	23:30	47:00	72:00	96:00	%
100	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : MISA audit sample.

TOXICITY TEST PARAMETERS

Sample Number: 01890286

TEST CONC. % E L A P S E D T I M E

TEST CONC. %	00:00 00:30 01:00 02:00 04:00 23:30 47:00 72:00 96:00							
100	pH 7.6	7.7	7.9	8.0	7.8	7.7	7.8	7.7
	O2 ppm 10.7	10.1	11.0	11.0	10.8	10.8	10.8	9.9
	Cond. 240	235	225	245	240	245	245	23
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
65	pH 7.7	7.7	8.0	7.9	7.9	7.9	7.9	7.7
	O2 ppm 10.1	10.1	11.0	11.1	10.8	10.8	10.8	10.3
	Cond. 230	230	225	245	250	250	250	23
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
40	pH 7.6	7.6	8.0	7.9	7.8	7.8	7.8	7.7
	O2 ppm 10.1	10.1	10.8	10.9	10.7	10.7	10.7	9.9
	Cond. 240	240	245	245	250	250	250	23
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
30	pH 7.6	7.6	7.8	7.9	7.8	7.8	7.8	7.7
	O2 ppm 10.0	10.0	10.8	10.9	10.5	10.5	10.5	9.9
	Cond. 245	245	245	250	250	250	250	23
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
20	pH 7.5	7.5	7.9	7.9	7.8	7.8	7.8	7.7
	O2 ppm 10.0	10.0	10.8	10.8	10.7	10.7	10.7	10.3
	Cond. 245	245	245	250	250	250	250	23
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
10	pH 7.6	7.6	8.0	7.9	7.8	7.8	7.8	7.7
	O2 ppm 9.8	9.8	10.8	10.9	10.7	10.7	10.7	9.9
	Cond. 245	245	250	250	250	250	250	24
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Control	pH 7.6	7.6	8.0	7.9	7.8	7.8	7.8	7.7
	O2 ppm 9.8	9.8	10.8	10.8	10.6	10.6	10.6	10.3
	Cond. 250	250	250	250	230	230	230	25
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0

MISA Trout

SLOPE of Mortality Curve : MOVING AVERAGE
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 06900099

TEST CONDITIONS

Company : Celanese Canada Inc.

Region : Millhaven, ONT

Industry : (1730001)

Control point : Southeast

Laboratory : combined effluent, (200)

Sampling Method : BEAK

Sampled By : GRAB

Date Collected : WAYNE SCOTT

Received : 01/16/90

Tested : 01/17/90 at: 1830

Type of Bioassay : STATIC

Test Animal : (Protocol to determine the acute lethality

Weight(gm) : of liquid effluents to fish. OME, 1983).

Length(mm) : Rainbow trout

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
30	0	0	0	0	0	0
50	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

TOXICITY TEST PARAMETERS

Sample Number: 06900099

TEST CONC. %

E L A P S E D T I M E
00:00 24:00 48:00 72:00 96:00

Control	pH	7.4	8.1	8.2	8.2	8.2
	O2 ppm	9.7	9.0	9.1	8.8	8.6
	Cond.	361			401	
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.1	7.6	7.8	7.9	8.0
	O2 ppm	9.5	8.4	8.2	7.8	8.0
	Cond.	380			427	
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	7.3	7.8	8.0	8.0	7.9
	O2 ppm	9.5	8.1	8.1	8.1	7.8
	Cond.	375			401	
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	7.4	8.0	8.2	8.3	8.2
	O2 ppm	9.4	8.0	8.3	8.3	8.3
	Cond.	372			393	
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	7.5	8.0	8.2	8.2	8.1
	O2 ppm	9.5	8.1	8.6	8.1	8.1
	Cond.	367			385	
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	7.6	8.0	8.2	8.2	8.2
	O2 ppm	8.9	8.8	8.6	8.6	8.7
	Cond.	360			371	
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	7.7	7.9	8.1	8.1	8.1
	O2 ppm	8.7	8.5	8.5	8.3	7.9
	Cond.	355			349	
	Temp(C)	15.0	15.0	15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 06900226

TEST CONDITIONS

Company : Celanese Canada Inc.
 : Millhaven, ONT
 : (1730001)
 Region : Southeast
 Industry : Organic Chemical
 Control point : combined effluent, (200)
 Laboratory : BEAK
 Sampling Method : GRAB
 Sampled By : WAYNE SCOTT
 Date Collected : 02/05/90
 Received : 02/06/90
 Tested : 02/07/90 at: 1300

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
50	0	0	0	0	0	0
30	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

TOXICITY TEST PARAMETERS

Sample Number: 06900226

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH	8.1	8.1	8.2	8.1
	O2 ppm	9.2	8.6	8.7	9.3
	Cond.	331			350
	Temp(C)	15.0	15.0	15.0	15.0
65	pH	7.9	8.1	8.2	8.1
	O2 ppm	9.7	8.7	8.7	9.1
	Cond.	350			378
	Temp(C)	15.0	15.0	15.0	15.0
50	pH	7.9	8.1	8.1	8.1
	O2 ppm	9.8	8.7	8.7	9.4
	Cond.	360			386
	Temp(C)	15.0	15.0	15.0	15.0
30	pH	7.8	7.9	8.0	8.1
	O2 ppm	9.9	8.4	8.0	9.2
	Cond.	375			400
	Temp(C)	15.0	15.0	15.0	15.0
20	pH	7.9	8.2	8.2	8.2
	O2 ppm	9.8	9.3	8.8	9.3
	Cond.	381			405
	Temp(C)	15.0	15.0	15.0	15.0
10	pH	7.8	8.2	8.2	8.1
	O2 ppm	9.6	8.9	8.7	9.1
	Cond.	388			416
	Temp(C)	15.0	15.0	15.0	15.0
Control	pH	7.7	8.1	8.2	8.0
	O2 ppm	9.8	9.3	9.0	8.9
	Cond.	382			410
	Temp(C)	15.0	15.0	15.0	15.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST REPORT Sample: 06900337

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (200)
Laboratory : BEAK
Sampling Method : GRAB
Sampled By : WAYNE SCOTT
Date Collected : 03/04/90
Received : 03/06/90
Tested : 03/07/90 at: 1430

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
50	0	0	0	0	0	0
30	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

TOXICITY TEST PARAMETERS

Sample Number: 06900337

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.1 O2 ppm 9.6 Cond. 350 Temp(C) 15.0	8.2 8.1 9.7 8.4 15.0 15.0	8.1 8.1 9.7 10.6 15.0 15.0	8.1 8.1 10.6 10.0 15.0 15.0	8.0 8.0 10.0 339 15.0 15.0
65	pH 8.0 O2 ppm 9.5 Cond. 369 Temp(C) 15.0	8.2 8.1 9.6 9.1 15.0 15.0	8.1 8.2 9.1 10.4 15.0 15.0	8.2 8.1 10.4 370 15.0 15.0	8.1 8.1 9.8 370 15.0 15.0
50	pH 7.9 O2 ppm 9.6 Cond. 377 Temp(C) 15.0	8.1 8.0 9.7 9.0 15.0 15.0	8.1 8.1 10.4 10.0 15.0 15.0	8.1 8.0 10.4 382 15.0 15.0	8.0 8.0 10.0 382 15.0 15.0
30	pH 7.9 O2 ppm 9.7 Cond. 389 Temp(C) 15.0	8.1 8.0 9.5 8.9 15.0 15.0	8.1 8.1 10.4 10.0 15.0 15.0	8.1 8.0 10.4 400 15.0 15.0	8.0 8.0 9.6 400 15.0 15.0
20	pH 7.9 O2 ppm 9.5 Cond. 397 Temp(C) 15.0	8.1 8.0 9.4 8.3 15.0 15.0	8.1 8.1 10.2 10.0 15.0 15.0	8.1 8.0 10.2 410 15.0 15.0	8.0 8.0 9.8 410 15.0 15.0
10	pH 7.8 O2 ppm 9.7 Cond. 403 Temp(C) 15.0	8.2 8.1 9.5 9.4 15.0 15.0	8.1 8.2 9.4 10.0 15.0 15.0	8.2 8.1 10.0 421 15.0 15.0	8.1 8.1 9.8 421 15.0 15.0
Control	pH 8.0 O2 ppm 9.0 Cond. 413 Temp(C) 15.0	8.1 8.1 9.1 8.9 15.0 15.0	8.1 7.9 10.4 10.0 15.0 15.0	7.9 7.8 10.4 398 15.0 15.0	7.8 7.8 9.6 398 15.0 15.0

TOXICITY TEST REPORT Sample: 06890948

TEST CONDITIONSCompany : Celanese Canada Inc.
Millhaven, ONT
(1730001)Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (300)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : WAYNE SCOTT
Date Collected : 10/01/89
Received : 10/02/89
Tested : 10/03/89 at: 1130Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
50	0	0	0	0	0	0
30	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

TOXICITY TEST PARAMETERS

Sample Number: 06890948

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00

100	pH	7.9	8.0	8.1	8.0	8.3
	O2 ppm	9.4	9.5	9.5	8.5	8.8
	Cond.	365				376
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	7.8	8.0	8.0	7.8	8.2
	O2 ppm	9.3	9.6	9.7	8.5	8.6
	Cond.	372				379
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	7.8	8.1	8.0	7.9	8.0
	O2 ppm	9.4	9.7	9.6	8.1	8.4
	Cond.	372				381
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	7.8	7.9	7.9	8.0	8.1
	O2 ppm	9.6	9.6	9.5	8.3	8.7
	Cond.	375				383
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	7.8	7.9	7.8	8.1	8.2
	O2 ppm	9.5	9.5	9.5	8.7	8.4
	Cond.	377				381
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.8	8.1	7.8	8.2	8.2
	O2 ppm	9.4	9.4	9.6	8.8	8.5
	Cond.	371				383
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.6	7.9	7.9	8.0	8.1
	O2 ppm	9.6	9.7	9.6	8.5	8.8
	Cond.	362				365
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST REPORT Sample: 06891049

TEST CONDITIONS

Company : Celanese Canada Inc.

Region : Millhaven, ONT

Industry : (1730001)

Control point : combined effluent, (300)

Laboratory : BEAK

Sampling Method : GRAB

Sampled By : WAYNE SCOTT

Date Collected : 11/06/89

Received : 11/06/89

Tested : 11/06/89 at: 1600

Type of Bioassay

: STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal

Weight(gm)

Length(mm)

: Rainbow trout

:

:

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
30	0	0	0	0	0	0
50	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

TOXICITY TEST PARAMETERS

Sample Number: 06891049

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00

Control	pH	8.2	8.0	8.2	8.1	8.1
	O2 ppm	7.5	7.6	7.6	7.8	7.6
	Cond.	288				366
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	8.2	8.3	8.3	8.2	8.2
	O2 ppm	9.3	7.0	9.2	9.2	9.1
	Cond.	299				345
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	8.2	8.5	8.4	8.2	8.4
	O2 ppm	9.6	9.4	9.5	9.3	9.3
	Cond.	298				339
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	8.3	8.5	8.4	8.2	8.3
	O2 ppm	9.8	9.6	9.7	9.5	9.8
	Cond.	295				336
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	8.3	8.5	8.4	8.2	8.3
	O2 ppm	9.9	9.9	9.9	9.4	9.2
	Cond.	289				331
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	8.4	8.4	8.4	8.3	8.3
	O2 ppm	9.9	9.8	9.9	9.5	9.3
	Cond.	285				329
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	8.5	8.6	8.5	8.4	8.5
	O2 ppm	9.9	9.9	9.9	9.7	9.9
	Cond.	269				321
	Temp(C)	15.0	15.0	15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 06891175

TEST CONDITIONS

Company : Celanese Canada Inc.
 Millhaven, ONT
 (1730001)
 Region : Southeast
 Industry : Organic Chemical
 Control point : combined effluent, (300)
 Laboratory : BEAK
 Sampling Method : GRAB
 Sampled By : WAYNE SCOTT
 Date Collected : 12/04/89
 Received : 12/05/89 at: 1800
 Tested : 12/05/89

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
30	0	0	0	0	0	0
50	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

TOXICITY TEST PARAMETERS

Sample Number: 06891175

TEST CONC.	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
Control	pH 7.8 O2 ppm 9.4 Cond. 407 Temp(C) 15.0	pH 7.8 O2 ppm 8.4 Cond. 407 Temp(C) 15.0	pH 8.0 O2 ppm 8.4 Cond. 407 Temp(C) 15.0	pH 8.0 O2 ppm 8.4 Cond. 407 Temp(C) 15.0	pH 8.1 O2 ppm 9.3 Cond. 390 Temp(C) 15.0
10	pH 7.8 O2 ppm 8.9 Cond. 356 Temp(C) 15.0	pH 7.7 O2 ppm 8.4 Cond. 356 Temp(C) 15.0	pH 8.0 O2 ppm 10.2 Cond. 349 Temp(C) 15.0	pH 8.0 O2 ppm 10.1 Cond. 349 Temp(C) 15.0	pH 8.0 O2 ppm 9.3 Cond. 349 Temp(C) 15.0
20	pH 7.8 O2 ppm 9.3 Cond. 364 Temp(C) 15.0	pH 7.7 O2 ppm 9.2 Cond. 364 Temp(C) 15.0	pH 7.9 O2 ppm 9.9 Cond. 351 Temp(C) 15.0	pH 8.0 O2 ppm 10.2 Cond. 351 Temp(C) 15.0	pH 8.0 O2 ppm 9.5 Cond. 351 Temp(C) 15.0
30	pH 7.8 O2 ppm 9.5 Cond. 360 Temp(C) 15.0	pH 7.6 O2 ppm 9.3 Cond. 360 Temp(C) 15.0	pH 7.9 O2 ppm 10.3 Cond. 351 Temp(C) 15.0	pH 8.0 O2 ppm 9.8 Cond. 351 Temp(C) 15.0	pH 8.0 O2 ppm 9.2 Cond. 351 Temp(C) 15.0
50	pH 8.0 O2 ppm 9.7 Cond. 349 Temp(C) 15.0	pH 7.9 O2 ppm 9.7 Cond. 349 Temp(C) 15.0	pH 7.7 O2 ppm 9.3 Cond. 349 Temp(C) 15.0	pH 7.8 O2 ppm 8.7 Cond. 326 Temp(C) 15.0	pH 7.9 O2 ppm 9.3 Cond. 326 Temp(C) 15.0
65	pH 8.1 O2 ppm 9.8 Cond. 340 Temp(C) 15.0	pH 8.0 O2 ppm 9.1 Cond. 340 Temp(C) 15.0	pH 7.9 O2 ppm 8.9 Cond. 340 Temp(C) 15.0	pH 7.9 O2 ppm 9.1 Cond. 340 Temp(C) 15.0	pH 8.0 O2 ppm 9.2 Cond. 356 Temp(C) 15.0
100	pH 8.0 O2 ppm 9.8 Cond. 319 Temp(C) 15.0	pH 7.8 O2 ppm 8.7 Cond. 319 Temp(C) 15.0	pH 7.8 O2 ppm 9.5 Cond. 319 Temp(C) 15.0	pH 8.0 O2 ppm 9.6 Cond. 319 Temp(C) 15.0	pH 7.9 O2 ppm 9.3 Cond. 350 Temp(C) 15.0

TOXICITY TEST REPORT Sample: 01890287

TEST CONDITIONS

Company : Celanese Canada Inc.
 : Millhaven, ONT
 : (1730001)
 Region : Southeast
 Industry : Organic Chemical
 Control point : combined effluent, (300)
 Laboratory : MOE
 Sampling Method : grab
 Sampled By : A. Verbaas
 Date Collected : 12/11/89
 Received : 12/13/89
 Tested : 12/14/89 at: 1400

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E										TOTAL MORTALITY	
%	00:00	00:30	01:00	02:00	04:00	24:00	47:00	72:00	96:00	%		
100	0	0	0	0	0	0	0	0	0	0		
65	0	0	0	0	0	0	0	0	0	0		
40	0	0	0	0	0	0	0	0	0	0		
30	0	0	0	0	0	0	0	0	0	0		
20	0	0	0	0	0	0	0	0	0	0		
10	0	0	0	0	0	0	0	0	0	0		
Control	0	0	0	0	0	0	0	0	0	0		

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 ~ 0.0 %

Comments : MISA audit sample.

TOXICITY TEST PARAMETERS

Sample Number: 01890287

TEST E L A P S E D T I M E
 CONC. % 00:00 00:30 01:00 02:00 04:00 24:00 47:00 72:00 96:00

100	pH	7.6	7.8	8.0	7.9	7.8	7.8	7.8	7.8
	O2 ppm	11.3	10.1	10.8	10.8	10.5	10.5	10.5	9.23
	Cond.	235	230	235	245	245	245	245	23
	Temp(C)	15.0	15.0	14.0	14.0	14.0	14.0	14.0	14.0
65	pH	7.7	7.7	8.0	8.0	7.9	7.9	7.9	7.8
	O2 ppm	10.0	10.0	11.0	10.9	10.7	10.7	10.7	9.23
	Cond.	240	240	235	250	250	250	250	23
	Temp(C)	15.0	15.0	14.0	14.0	14.0	14.0	14.0	14.0
40	pH	7.7	7.7	8.0	7.8	7.8	7.8	7.8	7.8
	O2 ppm	9.9	9.9	10.7	10.8	10.6	10.6	10.7	9.23
	Cond.	240	240	235	250	250	250	250	24
	Temp(C)	15.0	15.0	14.0	14.0	14.0	14.0	14.0	14.0
30	pH	7.6	7.6	8.0	7.9	7.8	7.8	7.8	7.8
	O2 ppm	9.9	9.9	10.8	11.0	10.7	10.7	10.7	9.23
	Cond.	240	240	235	250	250	250	250	24
	Temp(C)	15.0	15.0	14.0	14.0	14.0	14.0	14.0	14.0
20	pH	7.6	7.6	8.0	7.9	7.8	7.8	7.8	7.8
	O2 ppm	9.9	9.9	11.2	11.0	10.7	10.7	10.7	10.23
	Cond.	240	240	250	245	250	250	250	24
	Temp(C)	15.0	15.0	14.0	14.0	14.0	14.0	14.0	14.0
10	pH	7.6	7.6	7.9	7.9	7.9	7.9	7.9	7.8
	O2 ppm	9.9	9.9	10.8	10.9	10.7	10.7	10.7	10.23
	Cond.	240	240	250	245	250	250	250	24
	Temp(C)	15.0	15.0	14.0	14.0	14.0	14.0	14.0	14.0
Control	pH	7.6	7.6	8.0	7.8	7.8	7.8	7.8	7.8
	O2 ppm	9.8	9.8	10.9	11.0	10.7	10.7	10.7	10.23
	Cond.	250	250	245	220	235	235	235	23
	Temp(C)	15.0	15.0	14.0	14.0	14.0	14.0	14.0	14.0

TOXICITY TEST REPORT Sample: 06900101

TEST CONDITIONS

Company : Celanese Canada Inc.
 : Millhaven, ONT
 : (1730001)
 Region : Southeast
 Industry : Organic Chemical
 Control point : combined effluent, (300)
 Laboratory : BEAK
 : GRAB
 Sampling Method : WAYNE SCOTT
 Sampled By :
 Date Collected : 01/16/90
 Received : 01/17/90
 Tested : 01/17/90 at: 1845

Type of Bioassay : STATIC
 : (Protocol to determine the acute lethality
 : of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 :
 :
 Weight(gm)
 Length(mm)

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
30	0	0	0	0	0	0
50	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

TOXICITY TEST PARAMETERS

Sample Number: 06900101

TEST CONC. % E L A P S E D T I M E
 : : 00:00 24:00 48:00 72:00 96:00

Control	pH	7.4	8.1	8.2	8.2	8.2
	O2 ppm	9.7	9.0	9.1	8.8	8.6
	Cond.	361				401
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.6	7.8	8.1	8.1	8.1
	O2 ppm	9.6	8.8	8.7	8.4	7.6
	Cond.	365				396
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	7.6	7.9	8.1	8.1	8.1
	O2 ppm	9.4	9.3	8.6	8.7	8.2
	Cond.	372				396
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	7.6	7.9	8.2	8.2	8.2
	O2 ppm	9.7	8.3	8.7	8.4	8.1
	Cond.	372				387
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	7.6	7.9	8.0	8.0	8.3
	O2 ppm	8.8	8.5	8.3	7.8	8.7
	Cond.	370				379
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	7.7	7.9	8.2	8.1	8.1
	O2 ppm	8.6	9.3	8.8	8.5	8.2
	Cond.	369				371
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	7.7	7.9	8.1	8.1	8.1
	O2 ppm	8.1	8.5	8.4	8.8	7.8
	Cond.	361				351
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 06900228

TEST CONDITIONS

Company : Celanese Canada Inc.
 : Millhaven, ONT
 : (1730001)
 Region : Southeast
 Industry : Organic Chemical

Control point : combined effluent, (300)

Laboratory : BEAK
 Sampling Method : GRAB
 Sampled By : WAYNE SCOTT
 Date Collected : 02/05/90
 Received : 02/06/90
 Tested : 02/07/90 at: 1330

Type of Bioassay : STATIC
 : (Protocol to determine the acute lethality
 : of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
50	0	0	0	0	0	0
30	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

SLOPE of Mortality Curve :
 LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06900228

TEST CONC. %
 E L A P S E D T I M E
 00:00 24:00 48:00 72:00 96:00

100	pH	8.0	8.0	7.9	8.0	8.1
	O2 ppm	9.6	7.8	7.8	9.2	8.8
	Cond.	331				349
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	7.9	8.0	8.1	8.0	8.1
	O2 ppm	9.6	8.1	8.7	9.3	8.9
	Cond.	352				373
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	7.8	8.1	8.1	8.0	8.1
	O2 ppm	9.9	8.4	8.4	9.4	9.2
	Cond.	360				385
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	7.8	7.9	7.9	7.9	8.0
	O2 ppm	9.6	8.8	8.3	8.9	9.3
	Cond.	372				399
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	7.8	8.0	8.0	8.0	8.1
	O2 ppm	9.7	8.9	8.7	9.2	9.0
	Cond.	378				407
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.8	7.9	8.1	8.0	8.1
	O2 ppm	9.7	8.8	8.3	9.0	8.7
	Cond.	379				411
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.7	8.1	8.2	8.0	8.1
	O2 ppm	9.8	9.3	9.0	8.9	9.0
	Cond.	382				410
	Temp(C)	15.0	15.0	15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 06900339

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (300)
Laboratory : BEAK
Sampling Method : GRAB
Sampled By : WAYNE SCOTT
Date Collected : 03/04/90
Received : 03/06/90
Tested : 03/07/90 at: 1500

Type of Bioassay

: STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
50	0	0	0	0	0	0
30	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

TOXICITY TEST PARAMETERS

Sample Number: 06900339

TEST CONC.	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.1 O2 ppm 8.7 Cond. 353 Temp(C) 15.0	8.1 9.7 15.0	8.0 8.2 15.0	8.1 10.2 15.0	8.0 9.6 345 15.0
65	pH 8.0 O2 ppm 9.3 Cond. 372 Temp(C) 15.0	8.2 9.8 15.0	8.1 8.6 15.0	8.2 10.6 15.0	8.1 10.0 372 15.0
50	pH 8.0 O2 ppm 9.5 Cond. 378 Temp(C) 15.0	8.2 9.7 15.0	8.1 9.0 15.0	8.2 10.6 15.0	8.1 9.8 381 15.0
30	pH 7.9 O2 ppm 9.2 Cond. 387 Temp(C) 15.0	8.1 9.8 15.0	8.0 8.9 15.0	8.0 10.4 15.0	7.9 9.8 396 15.0
20	pH 7.9 O2 ppm 9.6 Cond. 393 Temp(C) 15.0	8.2 9.8 15.0	8.1 8.7 15.0	8.2 10.6 15.0	8.1 9.0 402 15.0
10	pH 7.9 O2 ppm 9.7 Cond. 399 Temp(C) 15.0	8.2 9.7 15.0	8.1 9.5 15.0	8.1 10.4 15.0	8.0 10.0 406 15.0
Control	pH 8.0 O2 ppm 9.0 Cond. 413 Temp(C) 15.0	8.1 9.1 15.0	8.1 8.9 15.0	7.9 10.4 15.0	7.8 9.6 398 15.0

COMPANY: Celanese Canada Inc., Millhaven
(1730001)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

Results for eighteen *Daphnia magna* acute lethality toxicity tests conducted on samples collected from three combined effluent outfalls between October 1989 and March 1990 were submitted by Celanese Canada Inc. of Millhaven. The six samples from combined effluent #100 were not acutely lethal to *Daphnia*. Five samples from combined effluent #200 were not acutely lethal to *Daphnia* and a sixth sample had one mortality in the 100% effluent concentration. All six samples from combined effluent #300 were also nonlethal to *Daphnia*.

Tests conducted in the Ministry laboratory in December on samples of effluent for all three outfalls indicated that the effluents were nonlethal at this time.

combined effluent

06890945	sampled: 10/01/89	non-lethal
	95% fid. limits: 0.0 - 0.0 %	
	comments: NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS	
06891048	sampled: 11/06/89	non-lethal
	95% fid. limits: 0.0 - 0.0 %	
	comments: NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS	
06891174	sampled: 12/04/89	non-lethal
	95% fid. limits: 0.0 - 0.0 %	
	comments: NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS	
02890288	sampled: 12/11/89	non-lethal
	95% fid. limits: 0.0 - 0.0 %	
	comments: MISA Audit	
06900098	sampled: 01/16/90	non-lethal
	95% fid. limits: 0.0 - 0.0 %	
	comments: NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS	
06900225	sampled: 02/05/90	non-lethal
	95% fid. limits: 0.0 - 0.0 %	
	comments: NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS	
06900336	sampled: 03/04/90	non-lethal
	95% fid. limits: 0.0 - 0.0 %	
	comments: NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS	

Celanese Canada Inc. (continued)

combined effluent

06890947 sampled: 10/01/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: 10% MORTALITY IN FULL STRENGTH EFFLUENT

06891046 sampled: 11/06/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

06891172 sampled: 12/04/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

02890286 sampled: 12/11/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

06900100 sampled: 01/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

06900227 sampled: 02/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

06900338 sampled: 03/04/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

combined effluent

06891050 sampled: 11/06/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

06891176 sampled: 12/04/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

02890287 sampled: 12/11/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

06900102 sampled: 01/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

06900229 sampled: 02/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

Celanese Canada Inc. (continued)

06900340 sampled: 03/04/90 non-lethal

95% fid. limits: 0.0 - 0.0 %

comments: NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

process effluent

emergency overflow

storm water

rain gauge

intake water

TOXICITY TEST REPORT Sample: 06890945

TEST CONDITIONS

Company : Celanese Canada Inc.

Milthaven, ONT

(1730001)

Region : Southeast

Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory

Sampling Method

: 24HR COMPOSITE

Sampled By : WAYNE SCOTT

Date Collected

: 10/01/89

Received

: 10/02/89 at: 1140

Tested

Type of Bioassay

: STATIC

(Daphnia magna Acute Lethality Toxicity

Test Protocol. OME, 1988)

Test Animal

: D. magna

Weight(gm)

Length(mm)

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
65	0	0	0
50	0	0	0
30	0	0	0
20	0	0	0
10	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

TOXICITY TEST PARAMETERS

Sample Number: 06890945

TEST CONC.	E L A P S E D T I M E	
%	00:00	24:00 48:00

100	pH	8.0	8.3
	O2 ppm	8.9	8.4
	Cond.	366	386
	Temp(C)	20.0	20.0
65	pH	8.0	8.3
	O2 ppm	8.9	8.5
	Cond.	352	377
	Temp(C)	20.0	20.0
50	pH	8.0	8.3
	O2 ppm	9.3	8.4
	Cond.	347	371
	Temp(C)	20.0	20.0
30	pH	8.1	8.2
	O2 ppm	9.2	8.7
	Cond.	340	366
	Temp(C)	20.0	20.0
20	pH	8.1	8.2
	O2 ppm	9.2	8.7
	Cond.	337	362
	Temp(C)	20.0	20.0
10	pH	8.1	8.2
	O2 ppm	8.8	8.7
	Cond.	333	358
	Temp(C)	20.0	20.0
Control	pH	8.0	8.2
	O2 ppm	8.8	8.4
	Cond.	319	341
	Temp(C)	20.0	20.0

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST REPORT Sample: 06891048

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : BEAK
Sampling Method : GRAB
Sampled By : WAYNE SCOTT
Date Collected : 11/06/89
Received : 11/06/89
Tested : 11/06/89 at: 1600

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
Control	0	0	0	0
10	0	0	0	0
20	0	0	0	0
30	0	0	0	0
50	0	0	0	0
65	0	0	0	0
100	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

TOXICITY TEST PARAMETERS

Sample Number: 06891048

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

Control	pH 8.0	7.9
	O2 ppm 9.1	8.6
	Cond. 355	348
	Temp(C) 20.0	20.0
10	pH 8.2	8.0
	O2 ppm 9.2	8.7
	Cond. 354	352
	Temp(C) 20.0	20.0
20	pH 8.1	8.0
	O2 ppm 9.2	8.7
	Cond. 363	355
	Temp(C) 20.0	20.0
30	pH 8.1	8.1
	O2 ppm 9.3	8.7
	Cond. 388	359
	Temp(C) 20.0	20.0
50	pH 8.0	8.0
	O2 ppm 9.2	8.6
	Cond. 399	366
	Temp(C) 20.0	20.0
65	pH 8.0	8.0
	O2 ppm 9.4	8.5
	Cond. 405	372
	Temp(C) 20.0	20.0
100	pH 7.9	8.0
	O2 ppm 9.4	8.2
	Cond. 419	386
	Temp(C) 20.0	20.0

TOXICITY TEST REPORT Sample: 06891174

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : BEAK
Sampling Method : GRAB
Sampled By : WAYNE SCOTT
Date Collected : 12/04/89
Received : 12/05/89
Tested : 12/05/89 at: 1820

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
Control	0	0	0
10	0	0	0
20	0	0	0
30	0	0	0
50	0	0	0
65	0	0	0
100	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

TOXICITY TEST PARAMETERS

Sample Number: 06891174

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

Control	pH	8.2	7.9
	O2 ppm	8.4	8.3
	Cond.	378	387
	Temp(C)	20.0	20.0
10	pH	8.1	8.1
	O2 ppm	8.2	8.7
	Cond.	386	392
	Temp(C)	20.0	20.0
20	pH	8.1	8.1
	O2 ppm	8.1	8.7
	Cond.	393	404
	Temp(C)	20.0	20.0
30	pH	8.1	8.1
	O2 ppm	8.4	8.7
	Cond.	398	407
	Temp(C)	20.0	20.0
50	pH	8.0	8.1
	O2 ppm	8.4	8.7
	Cond.	406	412
	Temp(C)	20.0	20.0
65	pH	8.0	8.1
	O2 ppm	8.5	8.7
	Cond.	415	418
	Temp(C)	20.0	20.0
100	pH	7.9	8.0
	O2 ppm	8.8	8.6
	Cond.	432	431
	Temp(C)	20.0	20.0

TOXICITY TEST REPORT Sample: 02890288

TEST CONDITIONSCompany : Celanese Canada Inc.
Millhaven, ONT
(1730001)Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : MOE
Sampling Method : grab
Sampled By : A. Verbaas
Date Collected : 12/11/89
Received : 12/13/89
Tested : 12/13/89 at: 1553Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)Test Animal : D. magna
Weight(gm) :
Length(mm) :MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	01:00	24:00	48:00	%
100	0	0	0	0	0
60	0	0	0	0	0
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 02890288

TEST CONC. %	E L A P S E D T I M E			
	00:00	01:00	24:00	48:00

100	pH 7.6				7.7
	O2 ppm 9.0				7.5
	Cond. 351				357
	Temp(C) 20.0	20.0	20.0	20.0	20.0
60	pH 7.8				7.5
	O2 ppm 9.0				7.1
	Cond. 337				342
	Temp(C) 20.0	20.0	20.0	20.0	20.0
30	pH 7.9				7.6
	O2 ppm 9.0				7.3
	Cond. 323				330
	Temp(C) 20.0	20.0	20.0	20.0	20.0
15	pH 8.0				7.6
	O2 ppm 9.1				7.3
	Cond. 318				322
	Temp(C) 20.0	20.0	20.0	20.0	20.0
5	pH 8.1				7.7
	O2 ppm 9.0				7.5
	Cond. 314				314
	Temp(C) 20.0	20.0	20.0	20.0	20.0
Control	pH 8.1				7.7
	O2 ppm 9.1				7.5
	Cond. 312				311
	Temp(C) 20.0	20.0	20.0	20.0	20.0

TOXICITY TEST REPORT Sample: 06900098

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : BEAK
Sampling Method : GRAB
Sampled By : WAYNE SCOTT
Date Collected : 01/16/90
Received : 01/17/90
Tested : 01/17/90 at: 1835

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
Control	0	0	0
10	0	0	0
20	0	0	0
30	0	0	0
50	0	0	0
65	0	0	0
100	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

TOXICITY TEST PARAMETERS

Sample Number: 06900098

TEST E L A P S E D T I M E
CONC. %
00:00 24:00 48:00

Control	pH	8.0	8.0	8.2
	O2 ppm	8.4	8.4	8.2
	Cond.	389	389	384
	Temp(C)	20.0	21.0	20.0
10	pH	8.0	8.1	8.1
	O2 ppm	8.3	8.2	8.2
	Cond.	402	408	408
	Temp(C)	20.0	21.0	20.0
20	pH	8.1	8.1	8.1
	O2 ppm	8.5	8.0	8.0
	Cond.	411	420	420
	Temp(C)	20.0	21.0	20.0
30	pH	8.0	8.0	8.0
	O2 ppm	8.5	7.9	7.9
	Cond.	415	429	429
	Temp(C)	20.0	21.0	20.0
50	pH	8.0	8.0	8.0
	O2 ppm	8.6	7.8	7.8
	Cond.	424	436	436
	Temp(C)	20.0	21.0	20.0
65	pH	8.0	8.0	8.0
	O2 ppm	8.8	7.6	7.6
	Cond.	432	441	441
	Temp(C)	20.0	21.0	20.0
100	pH	7.9	7.9	7.9
	O2 ppm	9.0	7.2	7.2
	Cond.	448	458	458
	Temp(C)	20.0	21.0	20.0

TOXICITY TEST REPORT Sample: 06900225

TEST CONDITIONS

Company : Celanese Canada Inc.
 : Millhaven, ONT
 : (1750001)
 Region : Southeast
 Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BEAK
 Sampling Method : GRAB
 Sampled By : WAYNE SCOTT
 Date Collected : 02/05/90
 Received : 02/06/90
 Tested : 02/07/90 at: 1255

Type of Bioassay : STATIC
 : (Daphnia magna Acute Lethality Toxicity
 : Test Protocol. ONE, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
65	0	0	0
50	0	0	0
30	0	0	0
20	0	0	0
10	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

SLOPE of Mortality Curve :
 LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06900225

TEST CONC.	E L A P S E D T I M E	
%	00:00	24:00 48:00
100	pH 7.8 O2 ppm 9.0 Cond. 439 Temp(C) 20.0	8.0 7.4 458 21.0
65	pH 7.8 O2 ppm 8.9 Cond. 424 Temp(C) 20.0	8.0 7.7 442 21.0
50	pH 7.8 O2 ppm 8.9 Cond. 416 Temp(C) 20.0	8.0 7.9 436 21.0
30	pH 7.8 O2 ppm 8.9 Cond. 409 Temp(C) 20.0	8.0 8.1 430 21.0
20	pH 7.8 O2 ppm 9.0 Cond. 405 Temp(C) 20.0	8.1 8.2 427 21.0
10	pH 7.8 O2 ppm 9.0 Cond. 402 Temp(C) 20.0	8.1 8.4 420 21.0
Control	pH 7.8 O2 ppm 8.9 Cond. 396 Temp(C) 20.0	8.0 8.3 400 21.0

TOXICITY TEST REPORT Sample: 06900336

TEST CONDITIONS

Company : Celanese Canada Inc.
 Millhaven, ONT
 (1730001)
 Region : Southeast
 Industry : Organic Chemical
 Control point : combined effluent, (100)
 Laboratory : BEAK
 Sampling Method :
 Sampled By : WAYNE SCOTT
 Date Collected : 03/04/90
 Received : 03/06/90
 Tested : 03/07/90 at: 1530

Type of Bioassay : STATIC
 (Daphnia magna Acute Lethality Toxicity
 Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
65	0	0	0
50	0	0	0
30	0	0	0
20	0	0	0
10	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

TOXICITY TEST PARAMETERS

Sample Number: 06900336

TEST CONC. % E L A P S E D T I M E
 00:00 24:00 48:00

100	pH 7.5 O2 ppm 7.3 Cond. 460 Temp(C) 21.0	22.0	7.9 6.4 475 22.0
65	pH 7.7 O2 ppm 7.4 Cond. 445 Temp(C) 21.0	22.0	8.0 7.2 456 22.0
50	pH 7.8 O2 ppm 8.0 Cond. 439 Temp(C) 21.0	22.0	8.0 7.0 447 22.0
30	pH 8.0 O2 ppm 8.2 Cond. 430 Temp(C) 21.0	22.0	8.1 7.4 437 22.0
20	pH 8.1 O2 ppm 8.4 Cond. 425 Temp(C) 21.0	22.0	8.1 7.7 433 22.0
10	pH 8.2 O2 ppm 7.6 Cond. 427 Temp(C) 21.0	22.0	8.1 7.0 425 22.0
Control	pH 8.3 O2 ppm 8.0 Cond. 420 Temp(C) 21.0	22.0	8.2 7.0 418 22.0

TOXICITY TEST REPORT Sample: 06890947

TEST CONDITIONS

Company : Celanese Canada Inc.

: Millhaven, ONT
(1730001)

Region : Southeast

Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BEAK

Sampling Method : 24HR COMPOSITE

Sampled By : WAYNE SCOTT

Date Collected : 10/01/89

Received : 10/02/89

Tested : 10/03/89 at: 1145

Type of Bioassay

: STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna

Weight(gm) :

Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	1	10
65	0	0	0	0
50	0	0	0	0
30	0	0	0	0
20	0	0	0	0
10	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : 10% MORTALITY IN FULL STRENGTH EFFLUENT

TOXICITY TEST PARAMETERS

Sample Number: 06890947

TEST CONC.	E L A P S E D T I M E		
%	00:00	24:00	48:00

100	pH	8.0	8.3
	O2 ppm	8.8	8.5
	Cond.	332	352
	Temp(C)	20.0	20.0
65	pH	8.1	8.3
	O2 ppm	8.8	8.6
	Cond.	329	350
	Temp(C)	20.0	20.0
50	pH	8.1	8.3
	O2 ppm	9.0	8.6
	Cond.	327	350
	Temp(C)	20.0	20.0
30	pH	8.1	8.3
	O2 ppm	8.8	8.6
	Cond.	326	350
	Temp(C)	20.0	20.0
20	pH	8.1	8.3
	O2 ppm	9.1	8.4
	Cond.	325	347
	Temp(C)	20.0	20.0
10	pH	8.1	8.2
	O2 ppm	8.7	8.4
	Cond.	320	332
	Temp(C)	20.0	20.0
Control	pH	8.0	8.2
	O2 ppm	8.8	8.4
	Cond.	319	341
	Temp(C)	20.0	20.0

TOXICITY TEST REPORT Sample: 06891046

TEST CONDITIONS

Company : Celanese Canada Inc.

: Millhaven, ONT

: (1730001)

Region : Southeast

Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BEAK

Sampling Method : GRAB

Sampled By : WAYNE SCOTT

Date Collected : 11/06/89

Received : 11/06/89

Tested : 11/06/89 at: 1600

Type of Bioassay

: STATIC

: (Daphnia magna Acute Lethality Toxicity

Test Protocol. OME, 1988)

Test Animal : D. magna

Weight(gm) :

Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
Control	0	0	0
10	0	0	0
20	0	0	0
30	0	0	0
50	0	0	0
65	0	0	0
100	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

TOXICITY TEST PARAMETERS

Sample Number: 06891046

TEST CONC. %	E L A P S E D T I M E
	00:00 24:00 48:00

Control	pH	8.1	8.1	8.1
	O ₂ ppm	9.0	9.0	8.8
	Cond.	353	353	346
	Temp(C)	20.0	20.0	20.0
10	pH	8.1	8.1	8.1
	O ₂ ppm	9.1	9.1	8.7
	Cond.	374	374	350
	Temp(C)	20.0	20.0	20.0
20	pH	8.1	8.1	8.1
	O ₂ ppm	9.1	9.1	8.6
	Cond.	369	369	346
	Temp(C)	20.0	20.0	20.0
30	pH	8.1	8.1	8.1
	O ₂ ppm	9.1	9.1	8.7
	Cond.	367	367	343
	Temp(C)	20.0	20.0	20.0
50	pH	8.1	8.1	8.1
	O ₂ ppm	9.4	9.4	8.6
	Cond.	362	362	339
	Temp(C)	20.0	20.0	20.0
65	pH	8.1	8.1	8.1
	O ₂ ppm	9.6	9.6	8.5
	Cond.	359	359	335
	Temp(C)	20.0	20.0	20.0
100	pH	8.1	8.1	8.2
	O ₂ ppm	10.4	10.4	8.6
	Cond.	352	352	330
	Temp(C)	20.0	20.0	20.0

TOXICITY TEST REPORT Sample: 06891172

TEST CONDITIONS

Company : Celanese Canada Inc.
 : Millhaven, ONT
 : (1730001)
 Region : Southeast
 Industry : Organic Chemical
 Control point : combined effluent, (200)
 Laboratory : BEAK
 Sampling Method : GRAB
 Sampled By : WAYNE SCOTT
 Date Collected : 12/04/89
 Received : 12/05/89
 Tested : 12/05/89 at: 1815
 Type of Bioassay : STATIC
 : (Daphnia magna Acute Lethality Toxicity
 : Test Protocol. ONE, 1988)
 Test Animal : D. magna
 :
 :
 :
 Weight(gm)
 Length(mm)

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
Control	0	0	0
10	0	0	0
20	0	0	0
30	0	0	0
50	0	0	0
65	0	0	0
100	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

TOXICITY TEST PARAMETERS

Sample Number: 06891172

TEST
CONC. %

E L A P S E D T I M E

00:00 24:00 48:00

Control	pH	8.1	8.1	8.1
	O2 ppm	8.5	8.4	8.4
	Cond.	374	374	372
	Temp(C)	20.0	20.0	20.0
10	pH	8.1	8.1	8.1
	O2 ppm	8.5	8.0	8.0
	Cond.	378	379	379
	Temp(C)	20.0	20.0	20.0
20	pH	8.1	8.1	8.1
	O2 ppm	8.4	8.1	8.1
	Cond.	376	381	381
	Temp(C)	20.0	20.0	20.0
30	pH	8.2	8.0	8.0
	O2 ppm	8.5	8.2	8.2
	Cond.	373	378	378
	Temp(C)	20.0	20.0	20.0
50	pH	8.1	8.0	8.0
	O2 ppm	9.3	8.0	8.0
	Cond.	368	374	374
	Temp(C)	20.0	20.0	20.0
65	pH	8.1	8.0	8.0
	O2 ppm	9.1	8.0	8.0
	Cond.	364	372	372
	Temp(C)	20.0	20.0	20.0
100	pH	8.1	7.9	7.9
	O2 ppm	10.2	8.0	8.0
	Cond.	353	362	362
	Temp(C)	20.0	20.0	20.0

TOXICITY TEST REPORT Sample: 02890286

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (200)
Laboratory : MOE
Sampling Method : grab
Sampled By : A. Verbaas
Date Collected : 12/11/89
Received : 12/13/89
Tested : 12/13/89 at: 1540

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	01:00	24:00	48:00	%
100	0	0	0	0	0
60	0	0	0	0	0
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 02890286

TEST CONC. %	E L A P S E D T I M E		
	00:00	01:00	24:00 48:00
100	pH 7.8 O2 ppm 10.7 Cond. 299 Temp(C) 20.0	7.6 8.0 304 20.0	7.6 8.0 304 20.0
60	pH 7.9 O2 ppm 9.7 Cond. 305 Temp(C) 20.0	7.7 8.0 310 20.0	7.7 8.0 310 20.0
30	pH 8.0 O2 ppm 9.4 Cond. 309 Temp(C) 20.0	7.6 8.0 310 20.0	7.6 8.0 310 20.0
15	pH 8.0 O2 ppm 9.2 Cond. 310 Temp(C) 20.0	7.6 8.1 313 20.0	7.6 8.1 313 20.0
5	pH 8.0 O2 ppm 9.2 Cond. 311 Temp(C) 20.0	7.6 8.2 315 20.0	7.6 8.2 315 20.0
Control	pH 8.0 O2 ppm 9.1 Cond. 308 Temp(C) 20.0	7.5 8.0 312 20.0	7.5 8.0 312 20.0

TOXICITY TEST REPORT Sample: 06900100

TEST CONDITIONS

Company : Celanese Canada Inc.
 : Millhaven, ONT
 : (1730001)
 Region : Southeast
 Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BEAK
 Sampling Method : GRAB
 Sampled By : WAYNE SCOTT
 Date Collected : 01/16/90
 Received : 01/17/90
 Tested : 01/17/90 at: 1850

Type of Bioassay : STATIC
 : (Daphnia magna Acute Lethality Toxicity
 : Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
Control	0	0	0
10	0	0	0
20	0	0	0
30	0	0	0
50	0	0	0
65	0	0	0
100	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

TOXICITY TEST PARAMETERS

Sample Number: 06900100

TEST CONC. %
 E L A P S E D T I M E
 00:00 24:00 48:00

Control	pH	8.1	8.4	8.2
	O2 ppm		388	8.2
	Cond.		20.0	410
	Temp(C)		21.0	20.0
10	pH	8.1		8.1
	O2 ppm	8.3		8.4
	Cond.	389		387
	Temp(C)	20.0	21.0	20.0
20	pH	8.1		8.1
	O2 ppm	8.5		7.6
	Cond.	387		382
	Temp(C)	20.0	21.0	20.0
30	pH	8.0		8.0
	O2 ppm	8.5		7.4
	Cond.	381		375
	Temp(C)	20.0	21.0	20.0
50	pH	8.1		8.0
	O2 ppm	8.6		7.0
	Cond.	368		361
	Temp(C)	20.0	21.0	20.0
65	pH	8.0		8.0
	O2 ppm	8.7		6.9
	Cond.	358		349
	Temp(C)	20.0	21.0	20.0
100	pH	8.0		8.0
	O2 ppm	8.8		6.8
	Cond.	335		320
	Temp(C)	20.0	21.0	20.0

TOXICITY TEST REPORT Sample: 06900227

TEST CONDITIONS

Company : Celanese Canada Inc.

: Millhaven, ONT

Region : Southeast

Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BEAK

Sampling Method : GRAB

Sampled By : WAYNE SCOTT

Date Collected : 02/05/90

Received : 02/06/90

Tested : 02/07/90 at: 1320

Type of Bioassay

: STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal

Weight(gm) : D. magna

Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00	48:00
100	0	0	0
65	0	0	0
50	0	0	0
30	0	0	0
20	0	0	0
10	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

TOXICITY TEST PARAMETERS

Sample Number: 06900227

TEST CONC. %	E L A P S E D T I M E	
	00:00	24:00
	24:00	48:00

100	pH 8.0	8.0	8.1
	02 ppm 9.8	9.8	8.3
	Cond. 327	327	344
	Temp(C) 20.0	21.0	21.0
65	pH 8.0	8.0	8.1
	02 ppm 9.2	9.2	8.4
	Cond. 353	353	370
	Temp(C) 20.0	21.0	21.0
50	pH 7.9	7.9	8.1
	02 ppm 9.1	9.1	8.4
	Cond. 361	361	379
	Temp(C) 20.0	21.0	21.0
30	pH 7.9	7.9	8.1
	02 ppm 8.9	8.9	8.3
	Cond. 375	375	394
	Temp(C) 20.0	21.0	21.0
20	pH 7.9	7.9	8.1
	02 ppm 8.8	8.8	8.3
	Cond. 380	380	402
	Temp(C) 20.0	21.0	21.0
10	pH 7.8	7.8	8.0
	02 ppm 8.7	8.7	8.1
	Cond. 382	382	404
	Temp(C) 20.0	21.0	21.0
Control	pH 7.9	7.9	8.0
	02 ppm 8.6	8.6	8.3
	Cond. 387	387	400
	Temp(C) 20.0	21.0	21.0

TOXICITY TEST REPORT Sample: 06900338

TEST CONDITIONS

Company : Celanese Canada Inc.
 Milhaven, ONT
 (1730001)
 Region : Southeast
 Industry : Organic Chemical
 Control point : combined effluent, (200)

Laboratory : BEAK
 Sampling Method :
 Sampled By : WAYNE SCOTT
 Date Collected : 03/04/90
 Received : 03/06/90 at: 1530
 Tested : 03/07/90

Type of Bioassay : STATIC
 (Daphnia magna Acute Lethality Toxicity
 Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
65	0	0	0
50	0	0	0
30	0	0	0
20	0	0	0
10	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

TOXICITY TEST PARAMETERS

Sample Number: 06900338

TEST CONC. %
 E L A P S E D T I M E
 00:00 24:00 48:00

100	pH 8.1	8.2	8.2
	O2 ppm 7.9	7.9	6.8
	Cond. 360	350	350
	Temp(C) 21.0	22.0	22.0
65	pH 8.2	8.2	8.2
	O2 ppm 8.2	7.1	7.1
	Cond. 382	378	378
	Temp(C) 21.0	22.0	22.0
50	pH 8.2	8.2	8.2
	O2 ppm 8.5	7.7	7.7
	Cond. 390	390	390
	Temp(C) 21.0	22.0	22.0
30	pH 8.2	8.2	8.2
	O2 ppm 8.1	7.5	7.5
	Cond. 402	402	402
	Temp(C) 21.0	22.0	22.0
20	pH 8.2	8.2	8.2
	O2 ppm 8.6	7.5	7.5
	Cond. 407	410	410
	Temp(C) 21.0	22.0	22.0
10	pH 8.2	7.9	7.9
	O2 ppm 8.2	7.1	7.1
	Cond. 403	403	403
	Temp(C) 21.0	22.0	22.0
Control	pH 8.3	8.2	8.2
	O2 ppm 8.0	7.0	7.0
	Cond. 420	418	418
	Temp(C) 21.0	22.0	22.0

TOXICITY TEST REPORT Sample: 06891050

TEST CONDITIONS

Company : Celanese Canada Inc.
 : Millhaven, ONT
 : (1730001)
 Region : Southeast
 Industry : Organic Chemical
 Control point : combined effluent, (300)
 Laboratory : BEAK
 Sampling Method : GRAB
 Sampled By : WAYNE SCOTT
 Date Collected : 11/06/89
 Received : 11/06/89
 Tested : 11/06/89 at: 1600
 Type of Bioassay : STATIC
 : (Daphnia magna Acute Lethality Toxicity
 : Test Protocol. OME, 1988)
 Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00	48:00
Control	0	0	0
10	0	0	0
20	0	0	0
30	0	0	0
50	0	0	0
65	0	0	0
100	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

TOXICITY TEST PARAMETERS

Sample Number: 06891050

TEST CONC.
%
E L A P S E D T I M E
00:00 24:00 48:00

Control	pH 8.1	02 ppm 9.1	Cond. 369	Temp(C) 20.0	20.0	20.0	20.0
10	pH 8.2	02 ppm 9.1	Cond. 351	Temp(C) 20.0	20.0	20.0	20.0
20	pH 8.2	02 ppm 9.4	Cond. 348	Temp(C) 20.0	20.0	20.0	20.0
30	pH 8.2	02 ppm 9.6	Cond. 350	Temp(C) 20.0	20.0	20.0	20.0
50	pH 8.2	02 ppm 9.8	Cond. 354	Temp(C) 20.0	20.0	20.0	20.0
65	pH 8.2	02 ppm 10.0	Cond. 360	Temp(C) 20.0	20.0	20.0	20.0
100	pH 8.2	02 ppm 10.4	Cond. 355	Temp(C) 20.0	20.0	20.0	20.0

TOXICITY TEST REPORT Sample: 06891176

TEST CONDITIONS

Company : Celanese Canada Inc.
 : Millhaven, ONT
 : (1730001)
 Region : Southeast
 Industry : Organic Chemical

Control point : combined effluent, (300)

Laboratory : BEAK
 Sampling Method : GRAB
 Sampled By : WAYNE SCOTT
 Date Collected : 12/04/89
 Received : 12/05/89
 Tested : 12/05/89 at: 1810

Type of Bioassay : STATIC
 : (Daphnia magna Acute Lethality Toxicity
 : Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	%	E L A P S E D T I M E	TOTAL MORTALITY
Control	0	00:00 24:00 48:00	0

10	0	0	0
20	0	0	0
30	0	0	0
50	0	0	0
65	0	0	0
100	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

TOXICITY TEST PARAMETERS

Sample Number: 06891176

TEST CONC.	%	E L A P S E D T I M E
Control	0	00:00 24:00 48:00

10	pH 8.1 O2 ppm 8.4 Cond. 374 Temp(C) 20.0	7.9 8.3 376 20.0
20	pH 8.1 O2 ppm 8.6 Cond. 378 Temp(C) 20.0	8.1 8.7 375 20.0
30	pH 8.1 O2 ppm 8.8 Cond. 378 Temp(C) 20.0	8.1 8.6 384 20.0
50	pH 8.1 O2 ppm 8.9 Cond. 377 Temp(C) 20.0	8.1 8.5 383 20.0
65	pH 8.1 O2 ppm 9.2 Cond. 371 Temp(C) 20.0	8.1 8.5 381 20.0
100	pH 8.1 O2 ppm 10.3 Cond. 362 Temp(C) 20.0	8.1 8.5 373 20.0

TOXICITY TEST REPORT Sample: 02890287

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1750001)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (300)
Laboratory : MOE
Sampling Method : grab
Sampled By : A. Verbaas
Date Collected : 12/11/89
Received : 12/13/89
Tested : 12/13/89 at: 1546

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	01:00	24:00	48:00
100	0	0	0	0
60	0	0	0	0
30	0	0	0	0
15	0	0	0	0
5	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 02890287

TEST CONC. %	E L A P S E D T I M E		
	00:00	01:00	24:00 48:00
100	pH 7.9 O2 ppm 11.2 Cond. 297 Temp(C) 20.0	7.9 20.0	7.7 8.0 303 20.0
60	pH 8.0 O2 ppm 9.8 Cond. 306 Temp(C) 20.0	8.0 9.8 306 20.0	7.7 7.9 309 20.0
30	pH 8.0 O2 ppm 9.5 Cond. 308 Temp(C) 20.0	8.0 9.5 308 20.0	7.7 7.9 314 20.0
15	pH 8.1 O2 ppm 9.2 Cond. 310 Temp(C) 20.0	8.1 9.2 310 20.0	7.7 8.0 314 20.0
5	pH 8.1 O2 ppm 9.1 Cond. 310 Temp(C) 20.0	8.1 9.1 310 20.0	7.6 7.8 313 20.0
Control	pH 8.0 O2 ppm 9.1 Cond. 310 Temp(C) 20.0	8.0 9.1 310 20.0	7.8 8.2 313 20.0

TOXICITY TEST REPORT Sample: 06900102

TEST CONDITIONS

Company : Celanese Canada Inc.
 : Milhaven, ONT
 : (1730001)
 Region : Southeast
 Industry : Organic Chemical
 Control point : combined effluent, (300)

Laboratory : BEAK
 Sampling Method : GRAB
 Sampled By : WAYNE SCOTT
 Date Collected : 01/16/90
 Received : 01/17/90
 Tested : 01/17/90 at: 1915

Type of Bioassay : STATIC
 : (Daphnia magna Acute Lethality Toxicity
 : Test Protocol, OME, 1988)

Test Animal : D. magna
 :
 : Weight(gm)
 : Length(mm)

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
Control	0	0	0
10	0	0	0
20	0	0	0
30	0	0	0
50	0	0	0
65	0	0	0
100	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

TOXICITY TEST PARAMETERS

Sample Number: 06900102

TEST CONC. %
 E L A P S E D T I M E
 00:00 24:00 48:00

Control	pH	8.1	8.2
	O2 ppm	8.4	8.2
	Cond.	388	410
	Temp(C)	20.0	21.0 20.0
10	pH	8.1	8.2
	O2 ppm	8.4	8.0
	Cond.	392	421
	Temp(C)	20.0	21.0 20.0
20	pH	8.1	8.2
	O2 ppm	8.5	8.0
	Cond.	388	393
	Temp(C)	20.0	21.0 20.0
30	pH	8.1	8.2
	O2 ppm	8.5	7.8
	Cond.	381	386
	Temp(C)	20.0	21.0 20.0
50	pH	8.1	8.2
	O2 ppm	8.6	7.8
	Cond.	369	374
	Temp(C)	20.0	21.0 20.0
65	pH	8.0	8.2
	O2 ppm	8.7	7.7
	Cond.	360	367
	Temp(C)	20.0	21.0 20.0
100	pH	8.0	8.1
	O2 ppm	9.0	7.6
	Cond.	339	354
	Temp(C)	20.0	21.0 20.0

TOXICITY TEST REPORT

TEST CONDITIONS

Company	: Celanese Canada Inc. Millhaven, ONT (1730001)
Region	: Southeast
Industry	: Organic Chemical

Control point : combined effluent, (300)

Laboratory	: BEAK
Sampling Method	: GRAB
Sampled By	: WAYNE SCOTT
Date Collected	: 02/05/90
Received	: 02/06/90
Tested	: 02/07/90

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity Test Protocol, OME, 1988)

Test Animal	: D. magna
Weight (gm)	:
Length (mm)	:

MORTALITY DATA

TEST CONC.	ELAPSED TIME	TOTAL MORTALITY
%	00:00 24:00 48:00	%

[illegible]

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments: NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

TOXICITY TEST PARAMETERS

Sample Number: 06900229

TEST CONC.	ELAPSED TIME
%	00:00 24:00 48:00

100	pH	8.0	8.1
	O2 ppm	10.1	8.2
	Cond.	322	342
	Temp(C)	20.0	21.0

65	pH	8.1
	O2 ppm	8.2
	Cond.	371
	Temp(C)	21.0

50	pH	7.9	8.1
	O ₂ ppm	9.1	8.3
	Cond.	360	380
	Temp(C)	20.0	21.0

30	pH	7.9	8.1
	O2 ppm	9.0	8.4
	Cond.	375	383
	Temp(C)	20.0	21.0

20	pH	7.9	8.1
	02 ppm	8.9	8.4
	Cond.	381	393
	Temp(C)	20.0	21.0

10	pH	7.8	8.0
	O2 ppm	8.9	8.1
	Cond.	388	398
	Temp(C)	20.0	21.0

Control	pH	02 ppm	8.1
	Cond.	387	8.4
	Temp(C)	20.0	400
		21.0	21.0

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST REPORT Sample: 06900340

TEST CONDITIONS

Company : Celanese Canada Inc.
Millhaven, ONT
(1730001)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (300)

Laboratory : BEAK
Sampling Method :
Sampled By : WAYNE SCOTT
Date Collected : 03/04/90
Received : 03/06/90 at: 1600
Tested : 03/07/90

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
65	0	0	0
50	0	0	0
30	0	0	0
20	0	0	0
10	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

TOXICITY TEST PARAMETERS

Sample Number: 06900340

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.1 O2 ppm 8.8 Cond. 347 Temp(C) 21.0	22.0	8.2 7.5 353 22.0
65	pH 8.1 O2 ppm 8.2 Cond. 371 Temp(C) 21.0	22.0	8.2 7.8 374 22.0
50	pH 8.2 O2 ppm 8.6 Cond. 382 Temp(C) 21.0	22.0	8.2 7.9 387 22.0
30	pH 8.2 O2 ppm 8.5 Cond. 398 Temp(C) 21.0	22.0	8.2 7.8 402 22.0
20	pH 8.3 O2 ppm 8.0 Cond. 405 Temp(C) 21.0	22.0	8.1 7.8 409 22.0
10	pH 8.3 O2 ppm 8.7 Cond. 411 Temp(C) 21.0	22.0	8.1 7.9 414 22.0
Control	pH 8.3 O2 ppm 8.0 Cond. 420 Temp(C) 21.0	22.0	8.2 7.0 418 22.0

COMPANY: Chinook Chemicals Company, Sombra
(5600002)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

The data for six trout bioassays, conducted on combined effluent samples collected between October 1989 and March 1990, were provided by Chinook Chemicals Company. Five of six combined effluent samples were determined to have been non-acutely lethal to test fish. The remaining sample produced a 96 hour LC50 of >100 %.

combined effluent

03890220 sampled: 10/17/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03890289 sampled: 11/21/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03890379 sampled: 12/19/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900065 sampled: 01/23/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test

03900131 sampled: 02/20/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test--Non-lethal

03900221 sampled: 03/20/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; Non-lethal

emergency overflow

rain gauge

intake water

Chinook Chemicals Company (continued)

TOXICITY TEST REPORT Sample: 03890220

TEST CONDITIONS

Company : Chinook Chemicals Company
 Sombra, ONT
 (5600002)
 Region : Southwest
 Industry : Organic Chemical
 Control point : combined effluent, (100)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : T. Dawes
 Date Collected : 10/17/89
 Received : 10/18/89
 Tested : 10/18/89 at: 1400

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890220

TEST E L A P S E D T I M E
 CONC. % 00:00 04:00 24:00 48:00 72:00 96:00

Control	pH	7.8					8.5
	O2 ppm	8.7					9.4
	Cond.	571					551
	Temp(C)	15.0	15.0	14.0	14.5	14.0	15.0
10	pH	7.8					8.4
	O2 ppm	8.8					9.4
	Cond.	548					536
	Temp(C)	15.0	15.0	14.0	14.5	14.0	15.0
20	pH	7.8					8.3
	O2 ppm	8.9					9.4
	Cond.	535					521
	Temp(C)	15.0	15.0	14.0	14.5	14.0	15.0
40	pH	7.8					8.3
	O2 ppm	9.1					9.4
	Cond.	498					488
	Temp(C)	15.0	15.0	14.0	14.5	14.0	15.0
65	pH	7.9					8.2
	O2 ppm	9.5					9.2
	Cond.	450					441
	Temp(C)	15.0	15.0	14.0	14.5	14.0	15.0
100	pH	8.0					7.9
	O2 ppm	9.9					8.9
	Cond.	376					376
	Temp(C)	15.0	15.0	14.0	14.5	14.0	15.0

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890289

TEST CONC. %
E L A P S E D T I M E
00:00 04:00 24:00 48:00 72:00 96:00

Control	pH 7.2	O2 ppm 9.2	Cond. 562	Temp(C) 14.5	14.5	14.5	14.5	14.5	14.0	8.6	9.7	567	14.0
10	pH 7.9	O2 ppm 9.1	Cond. 538	Temp(C) 14.5	14.5	14.5	14.5	14.5	14.5	8.6	9.5	536	14.0
20	pH 7.8	O2 ppm 9.1	Cond. 517	Temp(C) 14.5	14.5	14.5	14.5	14.5	14.5	8.6	9.6	516	14.0
40	pH 7.8	O2 ppm 9.2	Cond. 467	Temp(C) 14.5	14.5	14.5	14.5	14.5	14.5	8.5	9.4	473	14.0
65	pH 7.9	O2 ppm 9.3	Cond. 409	Temp(C) 14.5	14.5	14.5	14.5	14.5	14.5	8.5	9.7	416	14.0
100	pH 8.0	O2 ppm 9.8	Cond. 323	Temp(C) 14.5	14.5	14.5	14.5	14.5	14.5	8.2	9.3	322	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890289

TEST CONDITIONS

Company : Chinook Chemicals Company
Sombra, ONT
(5600002)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : W. Teft
Date Collected : 11/21/89
Received : 11/22/89
Tested : 11/23/89 at: 1330

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY	%
%	00:00 04:00 24:00 48:00 72:00 96:00		
Control	0 0 0 0 0 0	0	0
10	0 0 0 0 0 0	0	0
20	0 0 0 0 0 0	0	0
40	0 0 0 0 0 1	1	10
65	0 0 0 0 0 0	0	0
100	0 0 0 0 0 1	1	10

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST REPORT Sample: 03890379

TEST CONDITIONS

Company : Chinook Chemicals Company
 Region : Sombra, ONT
 Industry : (5600002)
 : Southwest
 : Organic Chemical
 Control point : combined effluent, (100)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : W. Teft
 Date Collected : 12/19/89
 Received : 12/20/89
 Tested : 12/21/89 at: 1700

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
65	0	0	0	0	0
40	0	0	0	0	0
20	0	0	0	0	0
10	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal
 95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890379

TEST CONC. % E L A P S E D T I M E
 00:00 24:00 48:00 72:00 96:00

100	pH 7.8 O2 ppm 10.5 Cond. 961 Temp(C) 15.0	14.0	14.0	14.0	14.0	8.0 9.3 954 14.0
65	pH 7.8 O2 ppm 10.0 Cond. 792 Temp(C) 15.0	14.0	14.0	14.0	14.0	8.3 9.3 804 14.0
40	pH 7.9 O2 ppm 9.9 Cond. 702 Temp(C) 15.0	14.0	14.0	14.0	14.0	8.3 8.3 705 14.0
20	pH 7.9 O2 ppm 9.6 Cond. 624 Temp(C) 15.0	14.0	14.0	14.0	14.0	8.3 8.4 626 14.0
10	pH 7.9 O2 ppm 9.3 Cond. 590 Temp(C) 15.0	14.0	14.0	14.0	14.0	8.5 9.4 585 14.0
5	pH 7.8 O2 ppm 9.1 Cond. 587 Temp(C) 15.0	14.0	14.0	14.0	14.0	8.5 9.7 565 14.0
Control	pH 7.8 O2 ppm 9.1 Cond. 570 Temp(C) 15.0	14.0	14.0	14.0	14.0	8.4 8.7 537 14.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900065

TEST CONDITIONS

Company : Chinook Chemicals Company
 : Sombra, ONT
 : (5600002)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : W. Teft
Date Collected : 01/23/90
Received : 01/24/90
Tested : 01/25/90 at: 1700

Type of Bioassay : STATIC
 : (Protocol to determine the acute lethality
 : of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single Concentration Test

TOXICITY TEST PARAMETERS

Sample Number: 03900065

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 7.9 O2 ppm 9.1 Cond. 703 Temp(C) 15.0	14.5	14.5	14.5	15.0
Control	pH 7.9 O2 ppm 8.5 Cond. 545 Temp(C) 15.0	14.5	14.5	14.5	15.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900131

TEST CONDITIONS

Company : Chinook Chemicals Company
Sombra, ONT
(5600002)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : W. Teft
Date Collected : 02/20/90
Received : 02/21/90
Tested : 02/21/90 at: 1630

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single Concentration Test--Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900131

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00
100	pH 7.6 O2 ppm 8.6 Cond. 1713 Temp(C) 15.0	14.0	14.5	14.0
100	pH 7.8 O2 ppm 8.6 Cond. 1740 Temp(C) 15.0	14.0	14.5	14.0
Control	pH 7.8 O2 ppm 7.4 Cond. 544 Temp(C) 15.0	14.0	14.5	14.0
Control	pH 7.8 O2 ppm 7.8 Cond. 543 Temp(C) 15.0	14.0	14.5	14.0

TOXICITY TEST REPORT Sample: 03900221

TEST CONDITIONS

Company : Chinook Chemicals Company
 : Sombra, ONT
 : (5600002)
 Region : Southwest
 Industry : Organic Chemical
 Control point : combined effluent, (100)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : W. Teft
 Date Collected : 03/20/90
 Received : 03/21/90
 Tested : 03/21/90 at: 1400

Type of Bioassay : STATIC
 : (Protocol to determine the acute lethality
 : of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
 95% fid. limits : 0.0 - 0.0 %
 Comments : Single Concentration Test; Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900221

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00
100	pH 7.6 O2 ppm 10.5 Cond. 518 Temp(C) 15.0	14.5	14.5	14.5	8.0 9.2 524 14.5
100	pH 7.6 O2 ppm 10.5 Cond. 518 Temp(C) 15.0	14.5	14.5	14.5	8.0 9.3 523 14.5
Control	pH 7.9 O2 ppm 8.4 Cond. 551 Temp(C) 15.0	14.5	14.5	14.5	8.4 9.4 551 14.5
Control	pH 7.9 O2 ppm 8.4 Cond. 554 Temp(C) 15.0	14.5	14.5	14.5	8.4 9.4 547 14.5

COMPANY: Chinook Chemicals Company, Sombra
(5600002)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

Results for six *Daphnia magna* acute lethality toxicity tests conducted on samples of combined effluent collected between October 1989 and March 1990 were submitted by Chinook Chemicals Company of Sombra. The toxicity of the effluent samples was variable. Three samples were not acutely lethal to *Daphnia*, two samples had LC50s greater than 100%, and one sample had an LC50 of 17.1%.

combined effluent

03890220	sampled: 10/17/89	LC50: >100 %
	95% fid. limits: 0.0 -	0.0 %
	comments: Non-lethal	
03890289	sampled: 11/21/89	non-lethal
	95% fid. limits: 0.0 -	0.0 %
	comments: Non-lethal	
03890379	sampled: 12/19/89	LC50: 17.1 %
	95% fid. limits: 13.0 -	22.5 % slope: 4.4
	comments: Lethal	
03900065	sampled: 01/23/90	LC50: >100 %
	95% fid. limits: 0.0 -	0.0 %
	comments: LC50 >100	
03900131	sampled: 02/20/90	non-lethal
	95% fid. limits: 0.0 -	0.0 %
	comments: Non lethal	
03900221	sampled: 03/20/90	non-lethal
	95% fid. limits: 0.0 -	0.0 %
	comments: Non lethal	

emergency overflow

rain gauge

intake water

Chinook Chemicals Company (continued)

TOXICITY TEST REPORT Sample: 03890220

TEST CONDITIONSCompany : Chinook Chemicals Company
Sombra, ONT
(5600002)Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Dawes
Date Collected : 10/17/89
Received : 10/18/89
Tested : 10/18/89 at: 1545Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)Test Animal : D. magna
Weight(gm) :
Length(mm) :MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	%
Control	0	0	0	0	0
6	0	0	0	1	8
13	0	0	0	1	8
25	0	0	0	1	8
50	0	0	1	1	8
100	0	0	1	1	8

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890220

TEST CONC. %	E L A P S E D T I M E			
	00:00	04:00	24:00	48:00

Control	pH 8.4	8.7	8.3	8.3
	O2 ppm 296	302	302	302
	Cond. 20.5	20.0	19.5	20.0
	Temp(C)			
6	pH 8.4	8.5	8.3	8.3
	O2 ppm 302	302	308	308
	Cond. 20.5	20.0	19.5	20.0
	Temp(C)			
13	pH 8.3	8.6	8.3	8.3
	O2 ppm 303	303	304	304
	Cond. 20.5	20.0	19.5	20.0
	Temp(C)			
25	pH 8.3	8.7	8.2	8.2
	O2 ppm 312	312	311	311
	Cond. 20.5	20.0	19.5	20.0
	Temp(C)			
50	pH 8.2	8.9	8.2	8.2
	O2 ppm 328	328	328	328
	Cond. 20.5	20.0	19.5	20.0
	Temp(C)			
100	pH 8.0	9.3	8.1	8.1
	O2 ppm 364	364	364	364
	Cond. 20.5	20.0	19.5	20.0
	Temp(C)			

TOXICITY TEST REPORT Sample: 03890289

TEST CONDITIONS

Company : Chinook Chemicals Company
Sombra, ONT
(5600002)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : W. Teft
Date Collected : 11/21/89
Received : 11/22/89
Tested : 11/22/89 at: 1415

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	04:00	24:00 48:00	%
Control	0	0	0	0
6	0	0	0	0
13	0	0	0	0
25	0	0	0	0
50	0	0	0	0
100	0	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890289

TEST CONC. %	E L A P S E D T I M E		
	00:00	04:00	24:00 48:00
Control	pH 8.5 O2 ppm 9.1 Cond. 293 Temp(C) 19.5	pH 8.2 O2 ppm 10.2 Cond. 315 Temp(C) 20.0	
6	pH 8.3 O2 ppm 9.3 Cond. 305 Temp(C) 19.5	pH 8.2 O2 ppm 9.9 Cond. 309 Temp(C) 20.0	
13	pH 8.3 O2 ppm 9.1 Cond. 306 Temp(C) 19.5	pH 8.3 O2 ppm 9.7 Cond. 306 Temp(C) 20.0	
25	pH 8.2 O2 ppm 9.3 Cond. 306 Temp(C) 19.5	pH 8.2 O2 ppm 9.5 Cond. 309 Temp(C) 20.0	
50	pH 8.2 O2 ppm 9.5 Cond. 308 Temp(C) 19.5	pH 8.2 O2 ppm 9.3 Cond. 311 Temp(C) 20.0	
100	pH 8.0 O2 ppm 10.1 Cond. 313 Temp(C) 19.5	pH 8.1 O2 ppm 9.1 Cond. 313 Temp(C) 20.0	

TOXICITY TEST REPORT Sample: 03890379

TEST CONDITIONSCompany : Chinook Chemicals Company
Sombra, ONT
(5600002)Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : W. Teft
Date Collected : 12/19/89
Received : 12/20/89
Tested : 12/21/89 at: 1510Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)Test Animal : D. magna
Weight(gm) :
Length(mm) :MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	12	12	100
50	0	12	12	100
25	0	9	11	91
13	0	0	2	16
6	0	0	0	0
Control	0	0	0	0

3

48 Hour LC50 : 17.1 %

95% fid. limits : 13.0 - 22.5 %

Comments : Lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890379

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 7.9 O2 ppm 10.3 Cond. 921 Temp(C) 19.5	7.9 7.9 8.9 8.9 925 925 19.5 19.5
50	pH 8.1 O2 ppm 9.7 Cond. 625 Temp(C) 19.5	8.1 8.1 8.4 8.4 619 619 19.5 19.5
25	pH 8.3 O2 ppm 9.8 Cond. 461 Temp(C) 19.5	8.3 8.3 8.8 8.8 468 468 19.5 19.5
13	pH 8.2 O2 ppm 9.3 Cond. 390 Temp(C) 19.5	8.2 8.3 9.3 8.6 383 383 19.5 19.5
6	pH 8.4 O2 ppm 9.9 Cond. 345 Temp(C) 19.5	8.4 8.3 9.9 8.5 344 344 19.5 19.5
Control	pH 8.4 O2 ppm 9.6 Cond. 308 Temp(C) 19.5	8.4 8.4 8.9 8.9 310 310 19.5 19.5

TOXICITY TEST REPORT Sample: 03900065

TEST CONDITIONS

Company : Chinook Chemicals Company
 : Sombra, ONT
 : (5600002)
 Region : Southwest
 Industry : Organic Chemical
 Control point : combined effluent, (100)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : W. Teft
 Date Collected : 01/23/90
 Received : 01/24/90
 Tested : 01/25/90 at: 1110

Type of Bioassay : STATIC
 : (Daphnia magna Acute Lethality Toxicity
 : Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	1
25	0	0	1
13	0	2	2
6	0	1	1
Control	0	0	1

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900065

TEST CONC. %

E L A P S E D T I M E

00:00 24:00 48:00

100	pH	7.9	8.0
	O2 ppm	9.2	8.1
	Cond.	687	675
	Temp(C)	20.0	20.0
50	pH	8.3	8.2
	O2 ppm	9.1	8.2
	Cond.	491	489
	Temp(C)	20.0	20.0
25	pH	8.4	8.3
	O2 ppm	8.8	8.2
	Cond.	400	398
	Temp(C)	20.0	20.0
13	pH	8.4	8.4
	O2 ppm	8.8	8.1
	Cond.	351	349
	Temp(C)	20.0	20.0
6	pH	8.4	8.4
	O2 ppm	8.8	8.1
	Cond.	324	324
	Temp(C)	20.0	20.0
Control	pH	8.5	8.4
	O2 ppm	8.7	8.2
	Cond.	299	300
	Temp(C)	20.0	20.0

TOXICITY TEST REPORT Sample: 03900131

TEST CONDITIONS

Company : Chinook Chemicals Company
Sombra, ONT
(5600002)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : W. Teft
Date Collected : 02/20/90
Received : 02/21/90
Tested : 02/21/90 at: 1350

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	%	E L A P S E D	T I M E	TOTAL MORTALITY
		00:00	24:00 48:00	%
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900131

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 7.6 O2 ppm 8.7 Cond. 1732 Temp(C) 19.5	7.2 3.6 1700 20.0
50	pH 8.0 O2 ppm 8.6 Cond. 1038 Temp(C) 19.5	7.5 4.4 1025 20.0
25	pH 8.2 O2 ppm 8.6 Cond. 688 Temp(C) 19.5	7.7 5.7 667 20.0
13	pH 8.3 O2 ppm 8.6 Cond. 510 Temp(C) 19.5	7.9 7.2 498 20.0
6	pH 8.3 O2 ppm 8.6 Cond. 405 Temp(C) 19.5	8.1 8.0 390 20.0
Control	pH 8.4 O2 ppm 8.6 Cond. 305 Temp(C) 19.5	8.3 8.6 304 20.0

TOXICITY TEST REPORT Sample: 03900221

TEST CONDITIONS

Company : Chinook Chemicals Company
 (Sombra, ONT)
 Region : Southwest
 Industry : Organic Chemical
 Control point : combined effluent, (100)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : W. Teft
 Date Collected : 03/20/90
 Received : 03/21/90
 Tested : 03/21/90 at: 1430

Type of Bioassay : STATIC
 (Daphnia magna Acute Lethality Toxicity
 Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC:	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
 95% fid. limits : 0.0 - 0.0 %
 Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900221

TEST CONC. % E L A P S E D T I M E
 00:00 24:00 48:00

100	pH 7.6	7.4
	O2 ppm 8.2	4.0
	Cond. 511	488
	Temp(C) 20.0	20.0
50	pH 7.8	7.5
	O2 ppm 8.6	4.9
	Cond. 410	399
	Temp(C) 20.0	20.0
25	pH 7.9	7.7
	O2 ppm 8.9	6.5
	Cond. 363	359
	Temp(C) 20.0	20.0
13	pH 7.9	7.9
	O2 ppm 9.0	7.6
	Cond. 337	334
	Temp(C) 20.0	20.0
6	pH 7.9	8.0
	O2 ppm 9.0	8.2
	Cond. 326	320
	Temp(C) 20.0	20.0
Control	pH 8.0	8.2
	O2 ppm 8.9	8.5
	Cond. 311	306
	Temp(C) 20.0	20.0

COMPANY: Cornwall Chemicals Limited, Cornwall
(33050006)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

The data for seven trout bioassays, conducted on process effluent samples collected between October 1989 and March 1990, were provided by Cornwall Chemicals Limited. Four of the samples, collected from control point 0100, were determined to have been acutely lethal to test fish. Statistically, the percentage effluent required to kill 50 % of the test fish by the end of the four days exposure were 57.0 % (October), 80.6 % (December), 16.7 % (January), and 84.4 % (February). The remaining three samples were determined to have been non-acutely lethal to test fish.

process effluent

06890964 sampled: 10/02/89 LC50: 57.0 %
95% fid. limits: 65.0 - 50.0 %
comments: pH DECREASED IN 50&65% CONC. DURING 72&96 HRS

06891053 sampled: 11/06/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

06891181 sampled: 12/05/89 LC50: 80.6 %
95% fid. limits: 65.0 - 100.0 %
comments: 100% MORTALITY IN FULL STRENGTH EFFLUENT

06900028 sampled: 01/08/90 LC50: 16.7 %
95% fid. limits: 19.6 - 14.2 %
comments: 70% MORTALITY IN 20% CONCENTRATION.

06900025 sampled: 01/08/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

06900220 sampled: 02/05/90 LC50: 84.4 %
95% fid. limits: 0.0 - 0.0 %
comments: 90% MORTALITY IN FULL STRENGTH EFFLUENT

06900343 sampled: 03/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

Cornwall Chemicals Limited (continued)

rain gauge

intake water

TOXICITY TEST REPORT Sample: 06890964

TEST CONDITIONS

Company : Cornwall Chemicals Limited

Region : Cornwall, ONT
(33050006)Industry : Southeast
Organic Chemical

Control point : process effluent, (100)

Laboratory

Sampling Method

Sampled By : BUD O'BRIEN

Date Collected

Received : 10/02/89

Tested : 10/05/89 at: 1100

Type of Bioassay

: STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal

Weight(gm)

Length(mm)

: Rainbow trout

:

:

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	10	10	10	10	100
65	0	0	0	0	10	100
50	0	0	0	0	0	0
30	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : 57.0 %

95% fid. limits : 65.0 - 50.0 %

Comments : pH DECREASED IN 50&65% CONC. DURING 72&96 HRS

SLOPE of Mortality Curve : BINOMIAL
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 06890964

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00

100	pH	5.4	5.7		
	O2 ppm	7.2	8.5		
	Cond.	964			
	Temp(C)	15.0	15.0		
65	pH	6.2	6.9	6.5	4.1
	O2 ppm	7.8	7.9	7.8	10.0
	Cond.	824			939
	Temp(C)	15.0	15.0	15.0	15.0
50	pH	6.5	6.9	7.0	3.8
	O2 ppm	8.2	6.8	8.9	9.1
	Cond.	698			796
	Temp(C)	15.0	15.0	15.0	15.0
30	pH	6.8	7.7	7.8	7.5
	O2 ppm	8.5	8.4	9.0	10.0
	Cond.	585			597
	Temp(C)	15.0	15.0	15.0	15.0
20	pH	6.9	7.7	7.8	7.5
	O2 ppm	9.4	8.7	8.2	9.9
	Cond.	507			524
	Temp(C)	15.0	15.0	15.0	15.0
10	pH	7.2	7.8	7.9	7.6
	O2 ppm	9.5	8.5	8.3	9.8
	Cond.	439			447
	Temp(C)	15.0	15.0	15.0	15.0
Control	pH	7.4	7.9	7.9	7.4
	O2 ppm	9.6	8.3	8.3	9.6
	Cond.	385			375
	Temp(C)	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 06891053

TEST CONDITIONS

Company : Cornwall Chemicals Limited
 Region : Cornwall, ONT
 Industry : (33050006)
 : Southeast
 : Organic Chemical
 Control point : process effluent, (100)
 Laboratory : BEAK
 Sampling Method : GRAB
 Sampled By : BUD O'BRIEN
 Date Collected : 11/06/89
 Received : 11/08/89
 Tested : 11/08/89 at: 1400

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
30	0	0	0	0	0	0
50	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

SLOPE of Mortality Curve :
 LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06891053

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
Control	pH 8.2 O2 ppm 7.6 Cond. 317 Temp(C) 15.0	8.4 8.0 9.5 8.2 15.0 15.0	8.4 8.0 9.5 8.1 15.0 15.0	7.8 7.8 8.1 8.1 15.0 15.0	8.1 8.1 9.5 9.5 325 325
10	pH 8.3 O2 ppm 8.8 Cond. 381 Temp(C) 15.0	8.3 7.9 8.5 8.4 15.0 15.0	8.3 7.9 8.5 7.8 15.0 15.0	7.9 8.0 7.8 8.2 15.0 15.0	8.0 8.0 9.2 9.2 386 386
20	pH 8.3 O2 ppm 9.7 Cond. 434 Temp(C) 15.0	8.2 7.8 9.1 8.4 15.0 15.0	8.2 7.8 9.1 8.6 15.0 15.0	7.8 8.0 8.6 9.4 15.0 15.0	8.0 8.0 9.4 9.4 442 442
30	pH 8.2 O2 ppm 9.7 Cond. 486 Temp(C) 15.0	8.2 8.2 9.2 8.2 15.0 15.0	8.2 8.2 9.2 8.0 15.0 15.0	7.7 8.0 8.0 9.6 15.0 15.0	8.0 8.0 9.6 9.6 494 494
50	pH 8.2 O2 ppm 10.2 Cond. 570 Temp(C) 15.0	8.1 7.8 7.0 8.1 15.0 15.0	8.1 7.8 7.0 8.1 15.0 15.0	7.7 7.8 8.1 8.4 15.0 15.0	7.8 7.8 8.4 8.4 586 586
65	pH 8.1 O2 ppm 9.7 Cond. 657 Temp(C) 15.0	8.1 7.8 7.5 7.7 15.0 15.0	8.1 7.8 7.5 8.2 15.0 15.0	7.7 7.8 8.2 9.2 15.0 15.0	7.8 7.8 9.2 9.2 678 678
100	pH 8.1 O2 ppm 9.9 Cond. 815 Temp(C) 15.0	8.1 7.8 8.7 8.0 15.0 15.0	8.1 7.8 8.7 8.3 15.0 15.0	7.7 7.8 8.3 8.8 15.0 15.0	7.8 7.8 8.8 8.8 842 842

MISA Trout

SLOPE of Mortality Curve : BINOMIAL
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 06891181

TEST CONDITIONS

Company : Cornwall Chemicals Limited

Region : Cornwall, ONT
(33050006)

Industry : Southeast
Organic Chemical

Control point : process effluent, (100)

Laboratory : BEAK

Sampling Method : GRAB

Sampled By : BUD O'BRIEN

Date Collected : 12/05/89

Received : 12/05/89

Tested : 12/05/89 at: 1900

Type of Bioassay

: STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal

Weight(gm)

Length(mm)

: Rainbow trout

:

:

MORTALITY DATA

TEST CONC.	ELAPSED TIME					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
30	0	0	0	0	0	0
50	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	10	10	10	10	100

96 Hour LC50 : 80.6 %

95% fid. limits : 65.0 - 100.0 %

Comments : 100% MORTALITY IN FULL STRENGTH EFFLUENT

TOXICITY TEST PARAMETERS

Sample Number: 06891181

TEST CONC. %
ELAPSED TIME
00:00 24:00 48:00 72:00 96:00

Control	pH	8.0	7.6	7.7	8.0	8.0
	O2 ppm	9.2	8.3	8.2	8.7	8.7
	Cond.	422			367	
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.8	7.8	7.9	8.0	8.0
	O2 ppm	8.7	8.6	8.8	9.1	8.8
	Cond.	800			670	
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	8.0	7.8	7.9	8.0	8.0
	O2 ppm	8.5	8.1	9.0	8.2	8.2
	Cond.	965			960	
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	8.0	7.7	8.0	8.0	7.9
	O2 ppm	8.4	8.3	9.2	8.7	8.8
	Cond.	1232			1262	
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	8.1	7.9	7.9	7.9	7.7
	O2 ppm	8.5	8.3	8.8	8.6	8.2
	Cond.	1648			1756	
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	8.5	7.8	7.7	8.0	7.9
	O2 ppm	8.7	8.4	8.2	8.1	8.0
	Cond.	2860			2180	
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	8.5	8.0			
	O2 ppm	8.9	8.3			
	Cond.	3420	3190			
	Temp(C)	15.0	15.0			

TOXICITY TEST REPORT Sample: 069000028

TEST CONDITIONS

Company : Cornwall Chemicals Limited
 : Cornwall, ONT
 : (33050006)
 Region : Southeast
 Industry : Organic Chemical
 Control point : process effluent, (100)
 Laboratory : BEAK
 Sampling Method : GRAB
 Sampled By : F. O'BRIEN
 Date Collected : 01/08/90
 Received : 01/09/90
 Tested : 01/09/90 at: 2030

Type of Bioassay : STATIC
 : (Daphnia magna Acute Lethality Toxicity
 : Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00 24:00 48:00		%
Control	0	0	0
10	0	0	0
20	0	1	70
30	0	2	100
50	0	10	100
65	0	10	100
100	0	10	100

48 Hour LC50 : 16.7 %

95% fid. limits : 19.6 - 14.2 %

Comments : 70% MORTALITY IN 20% CONCENTRATION.

TOXICITY TEST PARAMETERS

Sample Number: 069000028

TEST CONC. %
 E L A P S E D T I M E
 00:00 24:00 48:00

Control	pH	8.0	8.1
	O2 ppm	8.7	9.1
	Cond.	350	379
	Temp(C)	20.0	21.0
10	pH	7.8	8.1
	O2 ppm	9.4	8.5
	Cond.	780	586
	Temp(C)	20.0	21.0
20	pH	7.6	7.7
	O2 ppm	9.4	7.0
	Cond.	800	762
	Temp(C)	20.0	21.0
30	pH	7.4	7.2
	O2 ppm	9.3	2.3
	Cond.	969	985
	Temp(C)	20.0	21.0
50	pH	7.2	7.0
	O2 ppm	9.4	1.0
	Cond.	1329	1406
	Temp(C)	20.0	21.0
65	pH	7.0	7.0
	O2 ppm	9.5	0.8
	Cond.	1670	1721
	Temp(C)	20.0	21.0
100	pH	6.8	6.9
	O2 ppm	9.8	0.8
	Cond.	2330	2420
	Temp(C)	20.0	21.0

MISA Trout

SLOPE of Mortality Curve : MOVING AVERAGE
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 06900025

TEST CONDITIONS

Company : Cornwall Chemicals Limited
Cornwall, ONT
(33050006)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : F. O'BRIEN
Date Collected : 01/08/90
Received : 01/09/90 at: 1830
Tested : 01/09/90

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
30	0	0	0	0	0	0
50	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

TOXICITY TEST PARAMETERS

Sample Number: 06900025

TEST CONC.	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
Control	pH 7.7 O2 ppm 8.7 Cond. 348 Temp(C) 15.0	pH 7.9 O2 ppm 8.4 Cond. 348 Temp(C) 15.0	pH 7.9 O2 ppm 8.4 Cond. 348 Temp(C) 15.0	pH 7.8 O2 ppm 9.6 Cond. 356 Temp(C) 15.0	pH 7.9 O2 ppm 9.5 Cond. 356 Temp(C) 15.0
10	pH 7.4 O2 ppm 8.7 Cond. 534 Temp(C) 15.0	pH 7.5 O2 ppm 8.2 Cond. 534 Temp(C) 15.0	pH 7.7 O2 ppm 8.4 Cond. 561 Temp(C) 15.0	pH 7.7 O2 ppm 9.6 Cond. 561 Temp(C) 15.0	pH 7.2 O2 ppm 7.8 Cond. 561 Temp(C) 15.0
20	pH 7.3 O2 ppm 10.2 Cond. 713 Temp(C) 15.0	pH 7.6 O2 ppm 8.4 Cond. 713 Temp(C) 15.0	pH 7.7 O2 ppm 8.5 Cond. 789 Temp(C) 15.0	pH 7.6 O2 ppm 9.7 Cond. 789 Temp(C) 15.0	pH 7.2 O2 ppm 8.1 Cond. 789 Temp(C) 15.0
30	pH 7.2 O2 ppm 10.7 Cond. 969 Temp(C) 15.0	pH 7.5 O2 ppm 8.6 Cond. 969 Temp(C) 15.0	pH 7.7 O2 ppm 8.7 Cond. 1001 Temp(C) 15.0	pH 7.5 O2 ppm 9.4 Cond. 1001 Temp(C) 15.0	pH 7.2 O2 ppm 8.0 Cond. 1001 Temp(C) 15.0
50	pH 7.0 O2 ppm 10.8 Cond. 1389 Temp(C) 15.0	pH 7.6 O2 ppm 8.7 Cond. 1389 Temp(C) 15.0	pH 7.8 O2 ppm 9.2 Cond. 1458 Temp(C) 15.0	pH 7.4 O2 ppm 9.3 Cond. 1458 Temp(C) 15.0	pH 7.2 O2 ppm 8.1 Cond. 1458 Temp(C) 15.0
65	pH 6.9 O2 ppm 10.8 Cond. 1566 Temp(C) 15.0	pH 7.2 O2 ppm 8.9 Cond. 1566 Temp(C) 15.0	pH 7.7 O2 ppm 9.1 Cond. 1707 Temp(C) 15.0	pH 7.2 O2 ppm 9.4 Cond. 1707 Temp(C) 15.0	pH 7.0 O2 ppm 8.1 Cond. 1707 Temp(C) 15.0
100	pH 6.7 O2 ppm 9.7 Cond. 2260 Temp(C) 15.0	pH 7.0 O2 ppm 8.7 Cond. 2260 Temp(C) 15.0	pH 7.3 O2 ppm 8.7 Cond. 2880 Temp(C) 15.0	pH 7.1 O2 ppm 9.1 Cond. 2880 Temp(C) 15.0	pH 6.8 O2 ppm 7.0 Cond. 2880 Temp(C) 15.0

TOXICITY TEST REPORT Sample: 06900220

TEST CONDITIONS

Company : Cornwall Chemicals Limited
Cornwall, ONT
(33050006)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : BUD O'BRIEN
Date Collected : 02/05/90
Received : 02/06/90
Tested : 02/07/90 at: 1100

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	7	8	8	9	90
65	0	0	0	0	0	0
50	0	0	0	0	0	0
30	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : 84.4 %

95% fid. limits : 0.0 - 0.0 %

Comments : 90% MORTALITY IN FULL STRENGTH EFFLUENT

TOXICITY TEST PARAMETERS

Sample Number: 06900220

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH	5.6	5.9	5.8	5.8
	O2 ppm	9.9	9.3	8.5	8.6
	Cond.	2150			1545
	Temp(C)	15.0	15.0	15.0	15.0
65	pH	6.3	6.7	6.7	6.6
	O2 ppm	9.8	8.9	8.7	9.2
	Cond.	1491			1315
	Temp(C)	15.0	15.0	15.0	15.0
50	pH	6.4	6.8	6.9	6.8
	O2 ppm	9.6	8.4	8.5	8.8
	Cond.	1266			937
	Temp(C)	15.0	15.0	15.0	15.0
30	pH	6.8	7.6	7.7	7.8
	O2 ppm	9.4	8.9	8.6	8.9
	Cond.	904			757
	Temp(C)	15.0	15.0	15.0	15.0
20	pH	6.9	7.8	7.9	7.9
	O2 ppm	9.6	9.2	8.8	9.0
	Cond.	733			578
	Temp(C)	15.0	15.0	15.0	15.0
10	pH	7.1	8.0	8.0	7.9
	O2 ppm	9.5	9.3	9.0	9.1
	Cond.	571			415
	Temp(C)	15.0	15.0	15.0	15.0
Control	pH	7.7	8.1	8.2	8.0
	O2 ppm	9.8	9.3	9.0	8.9
	Cond.	382			410
	Temp(C)	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 06900343

TEST CONDITIONS

Company : Cornwall Chemicals Limited
Cornwall, ONT
(33050006)

Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : BUD O'BRIEN
Date Collected : 03/05/90
Received : 03/06/90
Tested : 03/07/90 at: 1600

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
50	0	0	0	0	0	0
30	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06900343

TEST
CONC.
%

E L A P S E D T I M E

00:00 24:00 48:00 72:00 96:00

100	pH 5.8 O2 ppm 9.2 Cond. 8150 Temp(C) 15.0	6.3 9.7 8.3 10.6 15.0	6.1 8.3 10.6 15.0	6.2 8.9 7910 15.0
65	pH 6.5 O2 ppm 9.6 Cond. 5090 Temp(C) 15.0	7.3 9.8 8.8 10.2 15.0	7.2 8.8 10.2 15.0	6.9 9.0 5330 15.0
50	pH 6.7 O2 ppm 9.6 Cond. 3950 Temp(C) 15.0	7.6 9.6 8.5 10.0 15.0	7.4 8.5 10.0 15.0	7.3 8.6 4180 15.0
30	pH 7.0 O2 ppm 9.6 Cond. 2600 Temp(C) 15.0	7.7 9.7 8.4 10.0 15.0	7.6 8.4 10.0 15.0	7.5 9.2 2790 15.0
20	pH 7.2 O2 ppm 9.6 Cond. 1906 Temp(C) 15.0	8.0 9.5 8.5 10.2 15.0	7.8 8.5 10.2 15.0	7.8 9.8 1972 15.0
10	pH 7.4 O2 ppm 9.3 Cond. 1224 Temp(C) 15.0	8.1 9.6 8.7 10.0 15.0	7.9 8.7 10.0 15.0	7.9 9.8 1200 15.0
Control	pH 7.8 O2 ppm 8.3 Cond. 416 Temp(C) 15.0	8.1 9.2 9.2 10.0 15.0	8.1 9.2 10.0 15.0	7.9 10.0 402 15.0

COMPANY: Cornwall Chemicals Limited, Cornwall
(33050006)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

Results for six *Daphnia magna* acute lethality toxicity tests conducted on samples of process effluent collected between October 1989 and March 1990 were submitted by Cornwall Chemicals Limited of Sarnia. All six samples were toxic to *Daphnia* with LC50 values ranging between 14 and 61% effluent.

process effluent

06890965 sampled: 10/02/89 LC50: 39.0 %
95% fid. limits: 30.0 - 50.0 %
comments: 100% MORTALITY IN 50% CONCENTRATION

06891054 sampled: 11/06/89 LC50: 93.3 %
95% fid. limits: 75.7 - 178.8 %
comments: 60% MORTALITY IN FULL STRENGTH EFFLUENT

06891182 sampled: 12/05/89 LC50: 14.0 %
95% fid. limits: 10.0 - 20.0 %
comments: 100% MORTALITY IN 20% CONCENTRATION

06900028 sampled: 01/08/90 LC50: 16.7 %
95% fid. limits: 14.2 - 19.6 %
comments: 70 % MORTALITY IN 20 % CONCENTRATION

06900221 sampled: 02/05/90 LC50: 33.8 %
95% fid. limits: 29.5 - 38.5 %
comments: 100% MORTALITY IN 50% TEST CONCENTRATION

06900344 sampled: 03/05/90 LC50: 29.4 %
95% fid. limits: 25.5 - 33.9 %
comments: 60% MORTALITY IN 30% TEST CONCENTRATION

rain gauge

intake water

TOXICITY TEST REPORT Sample: 06890965

TEST CONDITIONS

Company : Cornwall Chemicals Limited
Cornwall, ONT
(33050006)Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : BUD O'BRIEN
Date Collected : 10/02/89
Received : 10/05/89
Tested : 10/05/89 at: 1550Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	10	100
65	0	10	100
50	0	10	100
30	0	0	0
20	0	0	0
10	0	0	0
Control	0	0	0

48 Hour LC50 : 39.0 %

95% fid. limits : 30.0 - 50.0 %

Comments : 100% MORTALITY IN 50% CONCENTRATION

TOXICITY TEST PARAMETERS

Sample Number: 06890965

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 5.4	4.2
	O2 ppm 6.4	7.6
	Cond. 1027	981
	Temp(C) 21.0	21.0
65	pH 6.3	4.0
	O2 ppm 7.5	6.2
	Cond. 784	800
	Temp(C) 21.0	21.0
50	pH 6.5	4.0
	O2 ppm 7.8	4.0
	Cond. 685	695
	Temp(C) 21.0	21.0
30	pH 6.8	6.9
	O2 ppm 8.2	3.7
	Cond. 553	548
	Temp(C) 21.0	21.0
20	pH 7.0	7.6
	O2 ppm 8.6	6.8
	Cond. 487	469
	Temp(C) 21.0	21.0
10	pH 7.3	8.2
	O2 ppm 8.6	8.9
	Cond. 420	404
	Temp(C) 21.0	21.0
Control	pH 8.0	8.1
	O2 ppm 9.1	8.9
	Cond. 332	305
	Temp(C) 21.0	21.0

TOXICITY TEST REPORT Sample: 06891054

TEST CONDITIONS

Company : Cornwall Chemicals Limited
 Cornwall, ONT
 (33050006)
 Region : Southeast
 Industry : Organic Chemical

Control point : process effluent, (100)

Laboratory : BEAK
 Sampling Method : GRAB
 Sampled By : BUD O'BRIEN
 Date Collected : 11/06/89
 Received : 11/08/89
 Tested : 11/08/89 at: 1430

Type of Bioassay : STATIC
 (Daphnia magna Acute Lethality Toxicity
 Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	6	60
65	0	0	10
50	0	0	10
30	0	0	0
20	0	0	0
10	0	0	0
Control	0	0	0

48 Hour LC50 : 93.3 %

95% fid. limits : 75.7 - 178.8 %

Comments : 60% MORTALITY IN FULL STRENGTH EFFLUENT

TOXICITY TEST PARAMETERS

Sample Number: 06891054

TEST CONC. %
 E L A P S E D T I M E
 00:00 24:00 48:00

100	pH 7.4	7.9
	O2 ppm 9.5	8.6
	Cond. 786	873
	Temp(C) 20.0	20.0
65	pH 7.5	7.9
	O2 ppm 9.2	8.5
	Cond. 617	702
	Temp(C) 20.0	20.0
50	pH 7.7	7.9
	O2 ppm 9.0	8.3
	Cond. 590	621
	Temp(C) 20.0	20.0
30	pH 7.8	7.9
	O2 ppm 8.8	8.2
	Cond. 512	531
	Temp(C) 20.0	20.0
20	pH 7.9	8.0
	O2 ppm 8.9	8.5
	Cond. 462	482
	Temp(C) 20.0	20.0
10	pH 7.9	8.0
	O2 ppm 8.9	8.2
	Cond. 411	422
	Temp(C) 20.0	20.0
Control	pH 8.0	7.8
	O2 ppm 8.7	8.0
	Cond. 364	364
	Temp(C) 20.0	20.0

TOXICITY TEST PARAMETERS

TEST CONDITIONS			
Company	: Cornwall Chemicals Limited Cornwall, ONT (33050006)		
Region	: Southeast		
Industry	: Organic Chemical		
Control point	: process effluent, (100)		
Laboratory	: BEAK		
Sampling Method	: GRAB		
Sampled By	: BUD O'BRIEN		
Date Collected	: 12/05/89		
Received	: 12/05/89		
Tested	: 12/06/89 at: 900		
Type of Bioassay	: STATIC (Daphnia magna Acute Lethality Toxicity Test Protocol. OME, 1988)		
Test Animal	: D. magna		
Weight(gm)	:		
Length(mm)	:		
MORTALITY DATA			
TEST CONC.	ELAPSED TIME	TOTAL MORTALITY	
%	00:00 24:00 48:00	%	
Control	0 0 0	0	
10	0 0 0	0	
20	0 10 10	100	
30	0 10 10	100	
50	0 10 10	100	
65	0 10 10	100	
100	0 10 10	100	
48 Hour LC50 : 14.0 %			
95% fid. limits : 10.0 - 20.0 %			
Comments : 100% MORTALITY IN 20% CONCENTRATION			

TOXICITY TEST REPORT Sample: 06900028

TEST CONDITIONS

Company : Cornwall Chemicals Limited
 Cornwall, ONT
 (33050006)
 Region : Southeast
 Industry : Organic Chemical

Control point : process effluent, (100)

Laboratory : BEAK
 Sampling Method : GRAB
 Sampled By : F. O'Brien
 Date Collected : 01/08/90
 Received : 01/09/90
 Tested : 01/09/90 at: 2030

Type of Bioassay : STATIC
 (Daphnia magna Acute Lethality Toxicity
 Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00	48:00
100	0	10	100
65	0	10	100
50	0	10	100
30	0	2	100
20	0	1	70
10	0	0	0
Control	0	0	0

48 Hour LC50 : 16.7 %

95% fid. limits : 14.2 - 19.6 %

Comments : 70 % MORTALITY IN 20 % CONCENTRATION

TOXICITY TEST PARAMETERS

Sample Number: 06900028

TEST CONC. % E L A P S E D T I M E
 00:00 24:00 48:00

100	pH 6.8	6.9	6.9
	O2 ppm 9.8	0.8	0.8
	Cond. 2330	2420	2420
	Temp(C) 20.0	21.0	21.0
65	pH 7.0	7.0	7.0
	O2 ppm 9.5	0.8	0.8
	Cond. 1670	1721	1721
	Temp(C) 20.0	21.0	21.0
50	pH 7.2	7.0	7.0
	O2 ppm 9.4	1.0	1.0
	Cond. 1329	1406	1406
	Temp(C) 20.0	21.0	21.0
30	pH 7.4	7.2	7.2
	O2 ppm 9.3	2.3	2.3
	Cond. 969	985	985
	Temp(C) 20.0	21.0	21.0
20	pH 7.6	7.7	7.7
	O2 ppm 9.4	7.0	7.0
	Cond. 800	762	762
	Temp(C) 20.0	21.0	21.0
10	pH 7.8	8.1	8.1
	O2 ppm 9.4	8.5	8.5
	Cond. 78	586	586
	Temp(C) 20.0	21.0	21.0
Control	pH 8.1	8.1	8.1
	O2 ppm 9.1	379	379
	Cond. 21.0	21.0	21.0
	Temp(C) 21.0	21.0	21.0

TOXICITY TEST REPORT Sample: 06900221

TEST CONDITIONSCompany : Cornwall Chemicals Limited
Cornwall, ONT
(33050006)Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : BUD O'BRIEN
Date Collected : 02/05/90
Received : 02/06/90
Tested : 02/07/90 at: 1145Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)Test Animal : D. magna
Weight(gm) :
Length(mm) :MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00	48:00
100	0	10	100
65	0	10	100
50	0	10	100
30	0	0	30
20	0	0	0
10	0	0	0
Control	0	0	0

48 Hour LC50 : 33.8 %

95% fid. limits : 29.5 - 38.5 %

Comments : 100% MORTALITY IN 50% TEST CONCENTRATION

TOXICITY TEST PARAMETERS

Sample Number: 06900221

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 5.7	5.7	4.8
	O2 ppm 9.2		1.6
	Cond. 2150		2210
	Temp(C) 20.0	21.0	21.0
65	pH 6.3	6.3	6.3
	O2 ppm 8.8		1.7
	Cond. 1468		1505
	Temp(C) 20.0	21.0	21.0
50	pH 6.5	6.5	6.5
	O2 ppm 8.7		2.0
	Cond. 1232		1258
	Temp(C) 20.0	21.0	21.0
30	pH 6.9	6.9	7.6
	O2 ppm 8.5		6.5
	Cond. 793		831
	Temp(C) 20.0	21.0	21.0
20	pH 6.9	6.9	7.7
	O2 ppm 8.5		7.3
	Cond. 727		758
	Temp(C) 20.0	21.0	21.0
10	pH 7.2	7.2	7.9
	O2 ppm 8.8		8.2
	Cond. 551		569
	Temp(C) 20.0	21.0	21.0
Control	pH 7.8	7.8	8.1
	O2 ppm 8.8		8.4
	Cond. 402		419
	Temp(C) 20.0	21.0	21.0

TOXICITY TEST REPORT Sample: 06900344

TEST CONDITIONS:Company : Cornwall Chemicals Limited
Cornwall, ONT
(33050006)Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : BUD O'BRIEN
Date Collected : 03/05/90
Received : 03/06/90
Tested : 03/07/90 at: 1700Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. ONE, 1988)Test Animal : D. magna
Weight(gm) :
Length(mm) :MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	10	100
65	0	10	100
50	0	7	100
30	0	2	60
20	0	0	0
10	0	0	0
Control	0	0	0

48 Hour LC50 : 29.4 %

95% fid. limits : 25.5 - 33.9 %

Comments : 60% MORTALITY IN 30% TEST CONCENTRATION

TOXICITY TEST PARAMETERS

Sample Number: 06900344

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 5.9 O2 ppm 9.1 Cond. 8090 Temp(C) 21.0	22.0	4.8 0.6 8190 22.0
65	pH 6.5 O2 ppm 8.5 Cond. 5580 Temp(C) 21.0	22.0	5.5 0.5 5540 22.0
50	pH 6.7 O2 ppm 8.4 Cond. 4360 Temp(C) 21.0	22.0	6.5 0.5 4380 22.0
30	pH 7.1 O2 ppm 8.1 Cond. 2750 Temp(C) 21.0	22.0	7.5 3.4 2740 22.0
20	pH 7.3 O2 ppm 8.2 Cond. 1814 Temp(C) 21.0	22.0	7.9 7.4 1844 22.0
10	pH 7.6 O2 ppm 8.0 Cond. 1152 Temp(C) 21.0	22.0	8.0 7.6 1317 22.0
Control	pH 8.2 O2 ppm 8.0 Cond. 408 Temp(C) 21.0	22.0	8.1 8.1 418 22.0

COMPANY: Courtaulds Fibres Canada, Cornwall
(1900000)
(now with Cornwall Plant)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

The data for thirty-eight trout bioassays, conducted on effluent samples collected between October 1989 and March 1990, were provided by Courtaulds Fibres Canada. All twelve samples of process effluent collected from control point 0100 and 0300 were determined to have been acutely lethal to test fish. For samples collected from 0100, statistically, the percentage effluent required to kill 50 % of the test fish by the end of the four days exposure were 6.3 %, 3.0 %, 3.9 %, 12.0 %, 1.0 % and 2.0 %. For samples collected from 0300, statistically, the percentage effluent required to kill 50 % of the test fish by the end of the four days exposure were 61.0 %, 8.8 %, 12.0 %, 14.1 %, 18.4 % and 12.6 %. All the samples collected from the four combined effluent discharges were determined to have been non-acutely lethal to test fish except for one sample. The Ministry audit sample, collected in November from combined effluent 0700, had a 96 hour LC50 of 53.0 %. Both intake water samples were determined to have been non-acutely lethal.

process effluent

03890221	sampled: 10/18/89	LC50:	6.3 %
	95% fid. limits: 4.7 -	8.5 % slope:	5.5
	comments:		
01890269	sampled: 11/21/89	LC50:	2.7 %
	95% fid. limits: 2.1 -	3.6 %	
	comments: MISA audit sample.		
03890296	sampled: 11/22/89	LC50:	3.0 %
	95% fid. limits: 1.9 -	4.6 % slope:	3.4
	comments:		
03890384	sampled: 12/19/89	LC50:	3.9 %
	95% fid. limits: 2.6 -	5.6 % slope:	3.4
	comments:		
03900041	sampled: 01/16/90	LC50:	12.0 %
	95% fid. limits: 9.1 -	15.7 % slope:	5.5
	comments:		
03900162	sampled: 02/27/90	LC50:	1.0 %
	95% fid. limits: 0.1 -	1.9 % slope:	2.1
	comments:		

Courtaulds Fibres Canada (continued)

03900228 sampled: 03/20/90 LC50: 2.0 %
 95% fid. limits: 1.2 - 3.1 % slope: 4.2
 comments: Lethal

pr 200

03890227 sampled: 10/18/89 LC50: 25.3 %
 95% fid. limits: 18.8 - 33.9 % slope: 5.5
 comments:

process effluent

03890222 sampled: 10/18/89 LC50: 61.0 %
 95% fid. limits: 40.0 - 65.0 %
 comments:

01890270 sampled: 11/21/89 LC50: 3.3 %
 95% fid. limits: 2.1 - 5.0 %
 comments: MISA audit sample.

03890297 sampled: 11/22/89 LC50: 8.8 %
 95% fid. limits: 6.8 - 11.4 % slope: 5.5
 comments:

03890385 sampled: 12/19/89 LC50: 12.0 %
 95% fid. limits: 9.1 - 15.7 % slope: 5.5
 comments:

03900042 sampled: 01/16/90 LC50: 14.1 %
 95% fid. limits: 10.0 - 20.0 %
 comments: Lethal

03900163 sampled: 02/27/90 LC50: 18.4 %
 95% fid. limits: 13.7 - 24.6 % slope: 5.7
 comments:

03900229 sampled: 03/20/90 LC50: 12.6 %
 95% fid. limits: 9.4 - 16.9 % slope: 5.5
 comments: Lethal

combined effluent

03890223 sampled: 10/18/89 non-lethal
 95% fid. limits: 0.0 - 0.0 %
 comments: Non-lethal

03890298 sampled: 11/22/89 non-lethal
 95% fid. limits: 0.0 - 0.0 %
 comments: Non lethal

Courtaulds Fibres Canada (continued)

03890386 sampled: 12/19/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900043 sampled: 01/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900164 sampled: 02/27/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test--Non-lethal

03900230 sampled: 03/20/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; Non lethal

combined effluent

03890224 sampled: 10/18/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03890299 sampled: 11/22/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03890387 sampled: 12/19/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900044 sampled: 01/16/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test

03900165 sampled: 02/27/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900231 sampled: 03/20/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

combined effluent

03890225 sampled: 10/18/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

01890273 sampled: 11/21/89 LC50: 53.0 %
95% fid. limits: 36.8 - 79.4 %
comments: MISA audit sample.

Courtaulds Fibres Canada (continued)

03890300 sampled: 11/22/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03890388 sampled: 12/19/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900045 sampled: 01/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900166 sampled: 02/27/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test--Non-lethal

03900232 sampled: 03/20/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; Non lethal

combined effluent

03890226 sampled: 10/18/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03890301 sampled: 11/22/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03890389 sampled: 12/19/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900046 sampled: 01/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900167 sampled: 02/27/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test--Non-lethal

03900233 sampled: 03/20/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; Non lethal

Courtaulds Fibres Canada (continued)

rain gauge

intake water

03890302 sampled: 11/22/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03890390 sampled: 12/19/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

TOXICITY TEST REPORT

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ON
(1900000)

Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 10/18/89
Received : 10/19/89
Tested : 10/19/89 at: 1630

Type of Bioassay : STATIC (Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal	: Rainbow trout
Weight(gm)	:
Length(mm)	:

MORTALITY DATA

[illegible]

96 Hour LC50 : 63 %

	95% fid. limits	:	4.7	-	8.5	%
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Comments

TOXICITY TEST PARAMETERS

Sample Number: 03890221

TEST ELAPSED TIME

00:00 01:00 02:00 04:00 24:00 48:00 72:00 96:00

Control	pH	O2 ppm	Cond.	Temp(C)	7.7	8.1	8.4
1	pH				7.5	8.7	8.3
	O2 ppm				639	637	9.1
	Cond.				14.0	14.0	15.5
	Temp(C)				14.0	14.0	15.0
2	pH				7.2	8.3	8.2
	O2 ppm				738	754	9.1
	Cond.				14.0	14.0	15.0
	Temp(C)				14.0	14.0	15.5
5	pH				6.8	8.3	7.8
	O2 ppm				936	957	8.0
	Cond.				14.0	14.0	15.0
	Temp(C)				14.0	14.0	15.5
10	pH				6.3	6.3	
	O2 ppm				8.4	8.4	
	Cond.				1330	1330	
	Temp(C)				14.0	14.0	
100	pH				2.0	2.0	
	O2 ppm				8.7	8.7	
	Cond.				1272	1272	
	Temp(C)				14.0	14.0	

TOXICITY TEST REPORT Sample: 01890269

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical
Control point : process effluent, (100)

Laboratory : MOE
Sampling Method : grab
Sampled By : J. Lebow
Date Collected : 11/21/89
Received : 11/23/89
Tested : 11/23/89 at: 1430

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E								TOTAL MORTALITY	
%	00:00	00:01	00:05	02:00	24:00	48:00	72:00	96:00	%	
100	0	10	10	10	10	10	10	10	100	100
65	0	0	10	10	10	10	10	10	100	100
40	0	0	10	10	10	10	10	10	100	100
30	0	0	10	10	10	10	10	10	100	100
20	0	0	10	10	10	10	10	10	100	100
10	0	0	10	10	10	10	10	10	100	100
1	0	0	0	0	0	1	1	1	10	10
1	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	1	1	1	1	10

96 Hour LC50 : 2.7 %

95% fid. limits : 2.1 - 3.6 %

Comments : MISA audit sample.

TOXICITY TEST PARAMETERS

Sample Number: 01890269

TEST E L A P S E D T I M E
CONC. %
00:00 00:01 00:05 02:00 24:00 48:00 72:00 96:00

100	pH	1.7	1.9				
	O2 ppm	11.9	9.7				
	Cond.	1800	1790				
	Temp(C)	13.0	14.0				
65	pH	1.9	1.9				
	O2 ppm	9.7	9.7				
	Cond.	1710	1710				
	Temp(C)	14.0	14.0				
40	pH	2.1	2.1				
	O2 ppm	9.8	9.8				
	Cond.	1540	1540				
	Temp(C)	14.0	14.0				
30	pH	2.1	2.1				
	O2 ppm	9.9	9.9				
	Cond.	1100	1100				
	Temp(C)	14.0	14.0				
20	pH	2.3	2.3				
	O2 ppm	9.9	9.9				
	Cond.	690	690				
	Temp(C)	14.0	14.0				
10	pH	2.8	2.8				
	O2 ppm	9.9	9.9				
	Cond.	575	575				
	Temp(C)	14.0	14.0				
1	pH	7.2	7.6	7.5	7.7	7.9	
	O2 ppm	10.0	10.6	10.7	10.7	9.8	
	Cond.	295	295	310	300	300	
	Temp(C)	14.0	14.0	14.0	14.0	14.0	
0	pH	7.3	7.7	7.6	7.8	8.1	
	O2 ppm	10.0	10.8	10.9	10.2	9.5	
	Cond.	255	265	280	265	290	
	Temp(C)	14.0	14.0	14.0	14.0	14.0	
Control	pH	7.5	7.7	7.6	7.9	8.0	
	O2 ppm	10.1	10.7	10.8	10.3	9.7	
	Cond.	240	245	250	255	265	
	Temp(C)	14.0	14.0	14.0	14.0	14.0	

TOXICITY TEST REPORT Sample: 03890296

TEST CONDITIONS

Company : Courtaulds Fibres Canada
 : Cornwall, ONT
 : (1900000)
 Region : Southeast
 Industry : Organic Chemical
 Control point : process effluent, (100)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : L. Lortie
 Date Collected : 11/22/89
 Received : 11/23/89
 Tested : 11/24/89 at: 1200

Type of Bioassay : STATIC
 : (Protocol to determine the acute lethality
 : of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY	
%	00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0
5	0	0	0	0	2	7	8	8	80
10	0	0	0	10	10	10	10	10	100
20	0	10	10	10	10	10	10	10	100
40	0	10	10	10	10	10	10	10	100
65	0	10	10	10	10	10	10	10	100
100	0	10	10	10	10	10	10	10	100

96 Hour LC50 : 3.0 %

95% fid. limits : 1.9 - 4.6 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03890296

TEST CONC. %

E L A P S E D T I M E	00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00
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Control	pH	7.8						
	O2 ppm	9.2						8.5
	Cond.	560						9.3
	Temp(C)	14.5	14.5	14.5	14.5	14.5	15.0	561
1	pH	7.3						15.0
	O2 ppm	9.0						8.5
	Cond.	642						9.4
	Temp(C)	14.5	14.5	14.5	14.5	14.5	15.0	654
5	pH	6.8				8.3		15.0
	O2 ppm	10.0				9.7		
	Cond.	934				1024		
	Temp(C)	14.5	14.5	14.5	14.5	14.5	15.0	15.0
10	pH	6.3			6.3			
	O2 ppm	10.6			10.6			
	Cond.	1396			1396			
	Temp(C)	14.5	14.5	14.5	14.5	14.5	14.5	
20	pH	3.1	3.1					
	O2 ppm	11.0	11.0					
	Cond.	2740	2740					
	Temp(C)	14.5	14.5					
40	pH	2.8	2.8					
	O2 ppm	10.4	10.4					
	Cond.	3500	3500					
	Temp(C)	14.5	14.5					
65	pH	2.3	2.3					
	O2 ppm	10.1	10.1					
	Cond.	7070	7070					
	Temp(C)	14.5	14.5					
100	pH	2.0	2.0					
	O2 ppm	10.1	10.1					
	Cond.	4290	4290					
	Temp(C)	14.5	14.5					

MISA Trout

TOXICITY TEST REPORT Sample: 03890384

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(19000000)
Region : Southeast
Industry : Organic Chemical
Control point : process effluent, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 12/19/89
Received : 12/21/89
Tested : 12/22/89 at: 1730

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME						TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%	
100	0	10	10	10	10	100	
20	0	10	10	10	10	100	
10	0	6	10	10	10	100	
5	0	0	5	6	6	60	
3	0	0	0	1	1	10	
1	0	0	0	1	1	10	
Control	0	0	0	0	0	0	

96 Hour LC50 : 3.9 %
95% fid. limits : 2.6 - 5.6 %
Comments :

SLOPE of Mortality Curve : 3.4
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03890384

TEST CONC. %
ELAPSED TIME
00:00 24:00 48:00 72:00 96:00

100	pH 2.2 3.2 O2 ppm 10.4 9.9 Cond. 9050 9070 Temp(C) 15.0 14.0				
20	pH 6.0 7.1 O2 ppm 10.2 9.9 Cond. 1690 1730 Temp(C) 15.0 14.0				
10	pH 6.8 7.3 O2 ppm 9.5 8.9 Cond. 1133 1120 Temp(C) 15.0 14.0 14.0				
5	pH 7.2 8.3 O2 ppm 9.2 9.0 Cond. 830 826 Temp(C) 15.0 14.0 14.0 14.0 14.5				
2	pH 7.3 8.4 O2 ppm 9.2 9.1 Cond. 666 699 Temp(C) 15.0 14.0 14.0 14.0 14.5				
1	pH 7.6 8.4 O2 ppm 8.9 8.7 Cond. 609 611 Temp(C) 15.0 14.0 14.0 14.0 14.5				
Control	pH 7.9 8.5 O2 ppm 8.9 9.0 Cond. 554 533 Temp(C) 15.0 14.0 14.0 14.0 14.5				

TOXICITY TEST REPORT Sample: 03900041

TEST CONDITIONS

Company : Courtaulds Fibres Canada
 : Cornwall, ONT
 : (1900000)
 Region : Southeast
 Industry : Organic Chemical
 Control point : process effluent, (100)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : M. Pelletier
 Date Collected : 01/16/90
 Received : 01/18/90
 Tested : 01/18/90 at: 1500

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E										TOTAL MORTALITY	
%	00:00	01:00	02:00	04:00	06:00	08:00	10:00	12:00	14:00	16:00	18:00	20:00
100	0	10	10	10	10	10	10	10	10	10	10	100
40	0	10	10	10	10	10	10	10	10	10	10	100
20	0	0	10	10	10	10	10	10	10	10	10	100
10	0	0	0	2	2	2	2	2	2	2	2	20
5	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0	0	0	0

96 Hour LC50 : 12.0 %

95% fid. limits : 9.1 - 15.7 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03900041

TEST CONC. %

E L A P S E D T I M E

00:00 01:00 02:00 04:00 06:00 08:00 10:00 12:00 14:00 16:00 18:00 20:00

100	pH	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
	O2 ppm	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3
	Cond.	8180	8180	8180	8180	8180	8180	8180	8180	8180	8180	8180
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
40	pH	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
	O2 ppm	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7
	Cond.	3040	3040	3040	3040	3040	3040	3040	3040	3040	3040	3040
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
20	pH	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
	O2 ppm	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2
	Cond.	1544	1544	1544	1544	1544	1544	1544	1544	1544	1544	1544
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
10	pH	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
	O2 ppm	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8
	Cond.	1031	1031	1031	1031	1031	1031	1031	1031	1031	1031	1031
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
5	pH	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4
	O2 ppm	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5
	Cond.	767	767	767	767	767	767	767	767	767	767	767
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
1	pH	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8
	O2 ppm	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5
	Cond.	597	597	597	597	597	597	597	597	597	597	597
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Control	pH	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9
	O2 ppm	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4
	Cond.	550	550	550	550	550	550	550	550	550	550	550
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 03900162

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical
Control point : process effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 02/27/90
Received : 03/01/90
Tested : 03/02/90 at: 1230

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E										TOTAL MORTALITY
%	00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00	%		%
100	0	10	10	10	10	10	10	10	10	10	100
65	0	10	10	10	10	10	10	10	10	10	100
40	0	10	10	10	10	10	10	10	10	10	100
20	0	10	10	10	10	10	10	10	10	10	100
10	0	0	0	0	10	10	10	10	10	10	100
5	0	0	0	0	0	9	9	9	9	9	90
1	0	0	0	0	0	0	4	5	5	5	50
Control	0	0	0	0	0	0	0	0	0	0	0

96 Hour LC50 : 1.0 %

95% fid. limits : 0.1 - 1.9 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03900162

TEST CONC. %	E L A P S E D T I M E									
	00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00		
100	pH 1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
	O2 ppm 8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1
	Cond. 4050	4050	4050	4050	4050	4050	4050	4050	4050	4050
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
65	pH 2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
	O2 ppm 8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3
	Cond. 9430	9430	9430	9430	9430	9430	9430	9430	9430	9430
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
40	pH 2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
	O2 ppm 8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4
	Cond. 5980	5980	5980	5980	5980	5980	5980	5980	5980	5980
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
20	pH 3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
	O2 ppm 8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5
	Cond. 5980	5980	5980	5980	5980	5980	5980	5980	5980	5980
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
10	pH 6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
	O2 ppm 8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5
	Cond. 1442	1442	1442	1442	1442	1442	1442	1442	1442	1442
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
5	pH 6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
	O2 ppm 8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7
	Cond. 984	984	984	984	984	984	984	984	984	984
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
1	pH 7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6
	O2 ppm 7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7
	Cond. 619	619	619	619	619	619	619	619	619	619
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Control	pH 7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9
	O2 ppm 8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9
	Cond. 543	543	543	543	543	543	543	543	543	543
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0

MISA Trout

SLOPE of Mortality Curve : 4.2
LC50 Calculated By : Probit

TOXICITY TEST REPORT Sample: 03900228

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(19000000)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 03/20/90
Received : 03/22/90
Tested : 03/22/90 at: 1420

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E								TOTAL MORTALITY	
%	00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00	%	
100	0	10	10	10	10	10	10	10	100	100
65	0	10	10	10	10	10	10	10	100	100
40	0	10	10	10	10	10	10	10	100	100
20	0	10	10	10	10	10	10	10	100	100
10	0	0	0	0	6	10	10	10	100	100
5	0	0	0	0	3	10	10	10	100	100
1	0	0	0	0	0	0	1	1	10	10
Control	0	0	0	0	0	0	0	0	0	0

96 Hour LC50 : 2.0 %

95% fid. limits : 1.2 - 3.1 %

Comments : Lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900228

TEST CONC. %	E L A P S E D T I M E									
	00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00		
100	pH 2.0	2.0	2.0							
	O2 ppm 9.7	9.7	9.7							
	Cond. 2900	2900	2900							
	Temp(C) 15.0	15.0	15.0							
65	pH 2.3	2.3	2.3							
	O2 ppm 9.4	9.4	9.4							
	Cond. 7850	7850	7850							
	Temp(C) 15.0	15.0	15.0							
40	pH 2.5	2.5	2.5							
	O2 ppm 9.4	9.4	9.4							
	Cond. 5000	5000	5000							
	Temp(C) 15.0	15.0	15.0							
20	pH 3.3	3.3	3.3							
	O2 ppm 8.8	8.8	8.8							
	Cond. 2350	2350	2350							
	Temp(C) 15.0	15.0	15.0							
10	pH 6.3	6.3	6.3							
	O2 ppm 8.5	8.5	8.5							
	Cond. 1283	1283	1283							
	Temp(C) 15.0	15.0	15.0							
5	pH 6.9	6.9	6.9							
	O2 ppm 8.3	8.3	8.3							
	Cond. 899	899	899							
	Temp(C) 15.0	15.0	15.0							
1	pH 7.6	7.6	7.6							
	O2 ppm 8.3	8.3	8.3							
	Cond. 614	614	614							
	Temp(C) 15.0	15.0	15.0							
Control	pH 7.9	7.9	7.9							
	O2 ppm 8.1	8.1	8.1							
	Cond. 553	553	553							
	Temp(C) 15.0	15.0	15.0							

TOXICITY TEST REPORT

TEST CONDITIONS

Company	<ul style="list-style-type: none"> • Courtaulds Fibres Canada • Cornwall, ONT (1900000)
Region	<ul style="list-style-type: none"> • Southeast
Industry	<ul style="list-style-type: none"> • Organic Chemical
Control point	<ul style="list-style-type: none"> • pr 200, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 10/18/89
Received : 10/19/89
Tested : 10/19/89 at: 1800

Type of Bioassay : STATIC (Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal	: Rainbow trout
Weight(gm)	:
Length(mm)	:

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E								TOTAL MORTALITY		
	00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00	%		
Control	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	1	1	1	1	10	10	10
40	0	3	3	10	10	10	10	10	100	100	100
65	0	10	10	10	10	10	10	10	100	100	100
100	0	10	10	10	10	10	10	10	100	100	100

96 Hour LC50 : 25.3 %

95% fid. limits	: 18.8	- 33.9 %
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Comments
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TOXICITY TEST PARAMETERS

Sample Number: 03890227

TEST CONC.	ELAPSED TIME
%	00:00 01:00 02:00 04:00 24:00 48:00 72:00 96:00

Control	pH	7.7	8.0	8.4
02 ppm	8.0	8.0	8.4	8.4
Cond.	571	571	571	550
Temp(C)	14.0	15.0	15.0	15.0
		15.0	15.0	15.0
5	pH	7.2	7.2	8.2
02 ppm	9.1	9.1	9.4	9.4
Cond.	575	575	564	564
Temp(C)	14.0	15.0	15.0	15.0
		15.0	15.0	15.0
10	pH	7.0	7.0	8.2
02 ppm	8.9	8.9	9.4	9.4
Cond.	597	597	569	569
Temp(C)	14.0	15.0	15.0	15.0
		15.0	15.0	15.0
20	pH	6.3	6.3	8.0
02 ppm	8.9	8.9	9.4	9.4
Cond.	607	607	583	583
Temp(C)	14.0	15.0	15.0	15.0
		15.0	15.0	15.0
40	pH	3.4	3.4	3.4
02 ppm	8.9	8.9	8.9	8.9
Cond.	846	846	846	846
Temp(C)	14.0	15.0	15.0	15.0
		15.0	15.0	15.0
65	pH	2.5	2.5	2.5
02 ppm	9.1	9.1	9.1	9.1
Cond.	2140	2140	2140	2140
Temp(C)	14.0	15.0	15.0	15.0
		15.0	15.0	15.0
100	pH	2.2	2.2	2.2
02 ppm	9.4	9.4	9.4	9.4
Cond.	3910	3910	3910	3910
Temp(C)	14.0	15.0	15.0	15.0
		15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 03890222

TEST CONDITIONSCompany : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (300)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 10/18/89
Received : 10/19/89
Tested : 10/19/89 at: 1730Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY	
%	00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0
65	0	0	0	0	10	10	10	10	100
100	0	10	10	10	10	10	10	10	100

96 Hour LC50 : 61.0 %

95% fid. limits : 40.0 - 65.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03890222

TEST CONC. %	E L A P S E D T I M E						
	00:00	01:00	02:00	04:00	24:00	48:00	72:00 96:00

Control	pH	7.7					8.2
	O2 ppm	8.1					8.4
	Cond.	572					558
	Temp(C)	14.0	14.0	14.0	15.0	15.0	15.5
10	pH	8.5					8.3
	O2 ppm	8.0					8.8
	Cond.	715					711
	Temp(C)	14.0	14.0	14.0	15.0	15.0	15.5
20	pH	9.0					8.2
	O2 ppm	7.9					8.8
	Cond.	871					826
	Temp(C)	14.0	14.0	14.0	15.0	15.0	15.5
40	pH	9.3					7.9
	O2 ppm	7.4					7.2
	Cond.	1093					1086
	Temp(C)	14.0	14.0	14.0	15.0	15.0	15.5
65	pH	10.1			10.0		
	O2 ppm	7.2			8.7		
	Cond.	1785			1784		
	Temp(C)	14.0	14.0	14.0	15.0		
100	pH	11.7	11.7				
	O2 ppm	7.0	7.0				
	Cond.	4530	4530				
	Temp(C)	14.0	14.0	14.0	15.0		

TOXICITY TEST REPORT Sample: 01890270

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (300)

Laboratory : MOE
Sampling Method : grab
Sampled By : J. Lebow
Date Collected : 11/21/89
Received : 11/23/89 at: 1430
Tested : 11/23/89

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E										TOTAL MORTALITY	
%	00:00	00:05	01:00	02:00	24:00	48:00	72:00	96:00				
100	0	10	10	10	10	10	10	10	10	10	100	100
65	0	10	10	10	10	10	10	10	10	10	100	100
40	0	10	10	10	10	10	10	10	10	10	100	100
30	0	10	10	10	10	10	10	10	10	10	100	100
20	0	0	0	0	10	10	10	10	10	10	100	100
10	0	0	0	0	0	10	10	10	10	10	100	100
5	0	0	0	0	0	2	4	5	6	6	60	60
1	0	0	0	0	0	0	0	0	1	1	10	10
Control	0	0	0	0	0	0	0	0	1	1	10	10

96 Hour LC50 : 3.3 %

95% fid. limits : 2.1 - 5.0 %

Comments : MISA audit sample.

TOXICITY TEST PARAMETERS

Sample Number: 01890270

TEST CONC. %	E L A P S E D T I M E									
	00:00	00:05	01:00	02:00	24:00	48:00	72:00	96:00		
100	pH 11.8	11.7								
	O2 ppm 5.0	7.4								
	Cond. 4300	4015								
	Temp(C) 13.0	14.0								
65	pH 11.3									
	O2 ppm 6.7									
	Cond. 2650									
	Temp(C) 14.0									
40	pH 11.0									
	O2 ppm 6.9									
	Cond. 1720									
	Temp(C) 14.0									
30	pH 10.7									
	O2 ppm 7.1									
	Cond. 1160									
	Temp(C) 14.0									
20	pH 8.8									
	O2 ppm 7.5									
	Cond. 840									
	Temp(C) 14.0									
10	pH 8.7									
	O2 ppm 8.0									
	Cond. 490									
	Temp(C) 14.0									
5	pH 8.4									
	O2 ppm 9.3									
	Cond. 345									
	Temp(C) 14.0									
1	pH 7.9									
	O2 ppm 9.7									
	Cond. 245									
	Temp(C) 14.0									
Control	pH 7.0									
	O2 ppm 9.8									
	Cond. 235									
	Temp(C) 14.0									

TOXICITY TEST REPORT Sample: 03890297

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical
Control point : process effluent, (300)
Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 11/22/89
Received : 11/23/89
Tested : 11/24/89 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	01:00	04:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0
10	0	0	0	5	5	7	7	70
20	0	0	10	10	10	10	10	100
40	0	10	10	10	10	10	10	100
65	0	10	10	10	10	10	10	100
100	0	10	10	10	10	10	10	100

96 Hour LC50 : 8.8 %

95% fid. limits : 6.8 - 11.4 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03890297

E L A P S E D T I M E

00:00 01:00 04:00 24:00 48:00 72:00 96:00

TEST CONC. %	E L A P S E D T I M E						
Control	pH	7.8	8.6	8.6	8.5	8.5	8.5
	O2 ppm	564	564	564	571	571	571
	Cond.	15.0	15.0	15.0	15.0	15.0	15.0
5	pH	8.6	8.6	8.6	8.5	8.5	8.5
	O2 ppm	604	604	604	607	607	607
	Cond.	15.0	15.0	15.0	15.0	15.0	15.0
10	pH	9.7	8.1	8.8	8.8	8.8	8.8
	O2 ppm	756	756	627	627	627	627
	Cond.	15.0	15.0	14.5	14.5	14.5	14.5
20	pH	10.3	10.3	10.3	10.3	10.3	10.3
	O2 ppm	1008	1008	1008	1008	1008	1008
	Cond.	15.0	15.0	14.5	14.5	14.5	14.5
40	pH	11.5	11.5	11.5	11.5	11.5	11.5
	O2 ppm	1960	1960	1960	1960	1960	1960
	Cond.	15.0	15.0	14.5	14.5	14.5	14.5
65	pH	12.0	12.0	12.0	12.0	12.0	12.0
	O2 ppm	3580	3580	3580	3580	3580	3580
	Cond.	15.0	15.0	14.5	14.5	14.5	14.5
100	pH	12.2	12.2	12.2	12.2	12.2	12.2
	O2 ppm	6180	6180	6180	6180	6180	6180
	Cond.	15.0	15.0	14.5	14.5	14.5	14.5

MISA Trout

SLOPE of Mortality Curve : 5.5
LC50 Calculated By : Probit

TOXICITY TEST REPORT Sample: 03890385

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical
Control point : process effluent, (300)
Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelleteir
Date Collected : 12/19/89
Received : 12/21/89
Tested : 12/22/89 at: 1730

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	01:00	04:00	24:00	48:00	72:00	96:00	%
100	0	10	10	10	10	10	10	100
65	0	10	10	10	10	10	10	100
40	0	10	10	10	10	10	10	100
20	0	0	0	10	10	10	10	100
10	0	0	0	0	0	1	2	20
5	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0

96 Hour LC50 : 12.0 %

95% fid. limits : 9.1 - 15.7 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03890385

TEST CONC. %
E L A P S E D T I M E
00:00 01:00 04:00 24:00 48:00 72:00 96:00

100	pH O2 ppm Cond. Temp(C)	12.0 7.0 4860 15.0	12.0 7.0 4860 15.0
65	pH O2 ppm Cond. Temp(C)	11.7 8.2 2870 15.0	11.7 8.2 2870 15.0
40	pH O2 ppm Cond. Temp(C)	11.1 7.9 1633 15.0	11.1 7.9 1633 15.0
20	pH O2 ppm Cond. Temp(C)	9.8 7.7 917 15.0	9.8 7.5 922 14.0
10	pH O2 ppm Cond. Temp(C)	9.0 7.6 669 15.0	9.0 7.6 669 15.0
5	pH O2 ppm Cond. Temp(C)	8.5 7.8 618 15.0	8.5 7.8 618 15.0
Control	pH O2 ppm Cond. Temp(C)	7.9 8.8 552 15.0	7.9 8.8 552 15.0

TOXICITY TEST REPORT Sample: 03900042

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (300)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 01/16/90
Received : 01/18/90
Tested : 01/18/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E								TOTAL MORTALITY	
%	00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00	%	
100	0	10	10	10	10	10	10	10	100	100
40	0	0	10	10	10	10	10	10	100	100
20	0	0	0	0	10	10	10	10	100	100
10	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	1	10
Control	0	0	0	0	0	0	0	0	0	0

96 Hour LC50 : 14.1 %

95% fid. limits : 10.0 - 20.0 %

Comments : Lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900042

TEST CONC. %	E L A P S E D T I M E									
	00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00		
100	pH O2 ppm Cond. Temp(C)	11.9 7.0 3890 15.0	11.9 7.0 3890 15.0							
40	pH O2 ppm Cond. Temp(C)	10.5 7.2 1451 15.0	10.5 7.2 1451 15.0	10.5 7.2 1451 15.0						
20	pH O2 ppm Cond. Temp(C)	9.5 7.5 887 15.0	9.5 7.5 887 15.0	9.0 8.7 889 15.0						
10	pH O2 ppm Cond. Temp(C)	8.7 8.0 694 15.0	8.7 8.0 694 15.0		15.0	15.0	15.0	14.0	14.0	14.0
5	pH O2 ppm Cond. Temp(C)	8.6 8.4 640 15.0	8.6 8.4 640 15.0		15.0	15.0	15.0	14.0	14.0	14.0
1	pH O2 ppm Cond. Temp(C)	8.1 8.6 574 15.0	8.1 8.6 574 15.0		15.0	15.0	15.0	14.0	14.0	14.0
Control	pH O2 ppm Cond. Temp(C)	7.9 8.4 559 15.0	7.9 8.4 559 15.0		15.0	15.0	15.0	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900163

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical
Control point : process effluent, (300)
Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 02/27/90
Received : 03/01/90
Tested : 03/02/90 at: 1400

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E											TOTAL MORTALITY
%	00:00	01:00	02:00	24:00	48:00	72:00	96:00					%
100	0	10	10	10	10	10	10	10	10	10	10	100
65	0	10	10	10	10	10	10	10	10	10	10	100
40	0	0	0	10	10	10	10	10	10	10	10	100
20	0	0	0	0	5	5	5	5	5	5	5	50
10	0	0	0	0	0	1	1	1	1	1	1	10
5	0	0	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0	0	0	0

96 Hour LC50 : 18.4 %

95% fid. limits : 13.7 - 24.6 %

Comments :

SLOPE of Mortality Curve : 5.7
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03900163

TEST CONC. %
E L A P S E D T I M E
00:00 01:00 02:00 24:00 48:00 72:00 96:00

100	pH	11.9	11.9									
	O2 ppm	7.0	7.0									
	Cond.	5870	5870									
	Temp(C)	15.0	14.5									
65	pH	11.5	11.5									
	O2 ppm	7.2	7.2									
	Cond.	3720	3720									
	Temp(C)	15.0	14.5									
40	pH	10.5	10.5					10.4				
	O2 ppm	7.3	7.3					8.4				
	Cond.	2270	2270					2270				
	Temp(C)	15.0	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5
20	pH	9.6	9.6					9.4				
	O2 ppm	7.5	7.5					8.5				
	Cond.	1307	1307					1293				
	Temp(C)	15.0	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5
10	pH	9.0	9.0					8.8				
	O2 ppm	8.0	8.0					9.2				
	Cond.	894	894					903				
	Temp(C)	15.0	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5
5	pH	8.8	8.8					8.7				
	O2 ppm	8.2	8.2					9.1				
	Cond.	734	734					742				
	Temp(C)	15.0	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5
Control	pH	7.9	7.9					8.5				
	O2 ppm	8.3	8.3					9.1				
	Cond.	544	544					549				
	Temp(C)	15.0	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5

TOXICITY TEST REPORT Sample: 03900229

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (300)

Laboratory : BAR

Sampling Method : Grab

Sampled By : M. Pelletier

Date Collected : 03/20/90

Received : 03/22/90

Tested : 03/22/90 at: 1320

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout

Weight(gm) :

Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E										TOTAL MORTALITY	
%	00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00	%			
100	0	10	10	10	10	10	10	10	100			
65	0	10	10	10	10	10	10	10	100			
40	0	0	0	6	10	10	10	10	100			
20	0	0	0	0	10	10	10	10	100			
10	0	0	0	0	1	1	1	1	10			
5	0	0	0	0	0	0	0	0	0			
Control	0	0	0	0	0	0	0	0	0			

96 Hour LC50 : 12.6 %

95% fid. Limits : 9.4 - 16.9 %

Comments : Lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900229

TEST CONC. %	E L A P S E D T I M E									
	00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00		
100	pH 11.8 O2 ppm 7.3 Cond. 5090 Temp(C) 15.0	11.8 7.3 5090 15.0	11.8 7.3 5090 15.0							
65	pH 11.3 O2 ppm 7.4 Cond. 2650 Temp(C) 15.0	11.3 7.4 2650 15.0	11.3 7.4 2650 15.0							
40	pH 10.6 O2 ppm 7.4 Cond. 1810 Temp(C) 15.0	10.6 7.4 1810 15.0	10.6 7.4 1810 15.0	10.6 7.4 1810 15.0	14.5 14.5 14.5 14.5					
20	pH 9.7 O2 ppm 7.3 Cond. 1076 Temp(C) 15.0	9.7 7.3 1076 15.0	9.7 7.3 1076 15.0	9.5 9.5 1052 14.5	9.5 9.5 1052 14.5					
10	pH 9.2 O2 ppm 7.2 Cond. 822 Temp(C) 15.0	9.2 7.2 822 15.0	9.2 7.2 822 15.0	14.5 14.5 14.5 14.5	14.5 14.5 14.5 14.5	14.5 14.5 14.5 14.5	14.5 14.5 14.5 14.5	15.0 15.0 15.0 15.0		
5	pH 8.9 O2 ppm 7.2 Cond. 688 Temp(C) 15.0	8.9 7.2 688 15.0	8.9 7.2 688 15.0	14.5 14.5 14.5 14.5	14.5 14.5 14.5 14.5	14.5 14.5 14.5 14.5	14.5 14.5 14.5 14.5	15.0 15.0 15.0 15.0		
Control	pH 7.9 O2 ppm 7.4 Cond. 549 Temp(C) 15.0	7.9 7.4 549 15.0	7.9 7.4 549 15.0	14.5 14.5 14.5 14.5	14.5 14.5 14.5 14.5	14.5 14.5 14.5 14.5	14.5 14.5 14.5 14.5	15.0 15.0 15.0 15.0		

MISA Trout

TOXICITY TEST REPORT Sample: 03890223

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (500)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 10/18/89
Received : 10/19/89
Tested : 10/19/89 at: 1800

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890223

TEST CONC. %
E L A P S E D T I M E
00:00 04:00 24:00 48:00 72:00 96:00

Control	pH	7.8					8.5
	O2 ppm	8.1					8.6
	Cond.	572					559
	Temp(C)	14.0	14.5	15.0	15.0	15.0	15.5
100	pH	7.8					8.0
	O2 ppm	8.7					9.0
	Cond.	456					463
	Temp(C)	14.0	14.5	15.0	15.0	15.0	15.5

TOXICITY TEST REPORT Sample: 03890298

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 11/22/89
Received : 11/23/89
Tested : 11/24/89 at: 1530

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890298

TEST
CONC.
%

E L A P S E D T I M E

00:00 04:00 24:00 48:00 72:00 96:00

Control	pH	7.9					8.6
	O2 ppm	9.1					9.5
	Cond.	560					553
	Temp(C)	14.5	14.5	14.5	15.0	14.5	14.5
10	pH	7.9					8.5
	O2 ppm	9.1					9.3
	Cond.	565					567
	Temp(C)	14.5	14.5	14.5	15.0	14.5	14.5
20	pH	7.9					8.5
	O2 ppm	9.2					9.2
	Cond.	562					564
	Temp(C)	14.5	14.5	14.5	15.0	14.5	14.5
40	pH	7.9					8.3
	O2 ppm	9.1					9.0
	Cond.	560					570
	Temp(C)	14.5	14.5	14.5	15.0	14.5	14.5
65	pH	7.8					8.3
	O2 ppm	9.1					9.3
	Cond.	552					568
	Temp(C)	14.5	14.5	14.5	15.0	14.5	14.5
100	pH	7.7					8.0
	O2 ppm	8.9					9.0
	Cond.	545					564
	Temp(C)	14.5	14.5	14.5	15.0	14.5	14.5

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03890386

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (500)
Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 12/19/89
Received : 12/21/89
Tested : 12/22/89 at: 1730

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
65	0	0	0	0	0
40	0	0	0	0	0
20	0	0	0	0	0
10	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890386

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00 72:00 96:00

100	pH 7.8	8.1
	O2 ppm 9.5	9.1
	Cond. 453	456
	Temp(C) 15.0	14.0
65	pH 7.9	8.2
	O2 ppm 9.2	9.1
	Cond. 488	492
	Temp(C) 15.0	14.0
40	pH 7.8	8.4
	O2 ppm 9.0	8.7
	Cond. 512	504
	Temp(C) 15.0	14.0
20	pH 7.8	8.5
	O2 ppm 9.3	8.7
	Cond. 531	522
	Temp(C) 15.0	14.0
10	pH 7.8	8.4
	O2 ppm 8.9	8.9
	Cond. 541	536
	Temp(C) 15.0	14.0
5	pH 7.8	8.4
	O2 ppm 8.8	9.2
	Cond. 545	541
	Temp(C) 15.0	14.0
Control	pH 7.8	8.5
	O2 ppm 8.7	8.5
	Cond. 554	555
	Temp(C) 15.0	14.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900043

TEST CONDITIONS

Company : Courtaulds Fibres Canada
 : Cornwall, ONT
 : (1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 01/16/90
 Received : 01/18/90
 Tested : 01/18/90 at: 1500

Type of Bioassay : STATIC
 : (Protocol to determine the acute lethality
 : of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900043

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 7.5				8.0
	O2 ppm 8.1				9.9
	Cond. 443				434
	Temp(C) 15.0	15.0	14.0	14.0	14.0
Control	pH 7.9				8.4
	O2 ppm 8.3				9.9
	Cond. 550				523
	Temp(C) 15.0	15.0	14.0	14.0	14.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900164

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (500)
Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 02/27/90
Received : 03/01/90
Tested : 03/02/90 at: 1400

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test--Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900164

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 7.6 O2 ppm 8.2 Cond. 413 Temp(C) 14.5	7.6 8.2 413 14.5	14.5 14.0 14.0 14.0	14.0 14.0 14.0 14.0	8.1 9.8 421 14.5
100	pH 7.6 O2 ppm 8.2 Cond. 413 Temp(C) 14.5	7.6 8.2 413 14.5	14.5 14.0 14.0 14.0	14.0 14.0 14.0 14.0	8.1 9.9 423 14.5
Control	pH 7.9 O2 ppm 8.1 Cond. 544 Temp(C) 14.5	7.9 8.1 544 14.5	14.5 14.0 14.0 14.0	14.0 14.0 14.0 14.0	8.4 9.8 532 14.5
Control	pH 7.9 O2 ppm 8.1 Cond. 544 Temp(C) 14.5	7.9 8.1 544 14.5	14.5 14.0 14.0 14.0	14.0 14.0 14.0 14.0	8.4 9.6 539 14.5

TOXICITY TEST REPORT Sample: 03900230

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 03/20/90
Received : 03/22/90
Tested : 03/22/90 at: 1615

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	1	1	1	1	10
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test; Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900230

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH	7.8			7.9
	O ₂ ppm	8.9			8.9
	Cond.	456			461
100	Temp(C)	15.0	14.0	14.5	15.0
	pH	7.8			7.9
	O ₂ ppm	8.9			8.9
Control	Cond.	456			461
	Temp(C)	15.0	14.0	14.5	15.0
Control	pH	7.9			8.5
	O ₂ ppm	8.3			9.4
	Cond.	549			523
Control	Temp(C)	15.0	14.0	14.5	15.0
	pH	7.9			8.5
	O ₂ ppm	8.3			9.4
Control	Cond.	549			523
	Temp(C)	15.0	14.0	14.5	15.0

TOXICITY TEST REPORT Sample: 03890224

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 10/18/89
Received : 10/19/89
Tested : 10/19/89 at: 1800

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	1	1	10

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890224

TEST E L A P S E D T I M E
CONC. %
00:00 04:00 24:00 48:00 72:00 96:00

Control	pH	7.8					8.4
	O2 ppm	8.1					9.3
	Cond.	572					541
	Temp(C)	14.0	15.0	15.0	15.0	15.0	15.5
10	pH	7.8					8.3
	O2 ppm	8.3					9.4
	Cond.	623					609
	Temp(C)	14.0	15.0	15.0	15.0	15.0	15.5
20	pH	7.7					8.3
	O2 ppm	8.3					9.4
	Cond.	676					668
	Temp(C)	14.0	15.0	15.0	15.0	15.0	15.5
40	pH	7.6					8.2
	O2 ppm	8.7					9.5
	Cond.	795					793
	Temp(C)	14.0	15.0	15.0	15.0	15.0	15.5
65	pH	7.5					8.0
	O2 ppm	8.9					9.0
	Cond.	959					956
	Temp(C)	14.0	15.0	15.0	15.0	15.0	15.5
100	pH	7.1					7.9
	O2 ppm	9.3					9.4
	Cond.	1198					1190
	Temp(C)	14.0	15.0	15.0	15.0	15.0	15.5

SLOPE of Mortality Curve :
LC50 Calculated By :

MISA Trout

TOXICITY TEST PARAMETERS

TOXICITY TEST REPORT Sample: 03890299

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 11/22/89
Received : 11/23/89
Tested : 11/24/89 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. ONE, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
40	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

Sample Number: 03890299

TEST CONC. %
E L A P S E D T I M E
00:00 04:00 24:00 48:00 72:00 96:00

Control	pH 7.8 O2 ppm 7.9 Cond. 562 Temp(C) 14.5	8.2 8.7 578 15.0
10	pH 7.7 O2 ppm 7.9 Cond. 698 Temp(C) 14.5	8.4 9.0 708 15.0
20	pH 7.7 O2 ppm 8.0 Cond. 861 Temp(C) 14.5	8.3 8.9 853 15.0
40	pH 7.7 O2 ppm 8.1 Cond. 1112 Temp(C) 14.5	8.4 9.1 1132 15.0
65	pH 7.6 O2 ppm 7.9 Cond. 1451 Temp(C) 14.5	8.2 9.1 1473 15.0
100	pH 7.3 O2 ppm 7.9 Cond. 1911 Temp(C) 14.5	8.0 9.1 1950 15.0

TOXICITY TEST REPORT Sample: 03890387

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 12/19/89
Received : 12/21/89
Tested : 12/22/89 at: 1730

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890387

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 7.5 O2 ppm 9.5 Cond. 433 Temp(C) 15.0				8.2 9.4 432 14.5
65	pH 7.7 O2 ppm 9.2 Cond. 473 Temp(C) 15.0				8.3 9.3 468 14.5
40	pH 7.8 O2 ppm 9.0 Cond. 508 Temp(C) 15.0				8.5 9.2 497 14.5
20	pH 7.8 O2 ppm 8.9 Cond. 534 Temp(C) 15.0				8.6 9.0 520 14.5
10	pH 7.8 O2 ppm 8.8 Cond. 545 Temp(C) 15.0				8.5 8.9 522 14.5
5	pH 7.8 O2 ppm 8.7 Cond. 551 Temp(C) 15.0				8.5 9.3 530 14.5
Control	pH 7.8 O2 ppm 8.8 Cond. 554 Temp(C) 15.0				8.5 9.0 533 14.5

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 039000044

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 7.1				
	02 ppm 8.7				
	Cond. 632				
	Temp(C) 15.0	14.0	14.0	14.0	14.0
Control	pH 7.9				
	02 ppm 8.3				
	Cond. 560				
	Temp(C) 15.0	14.0	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 039000044

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (600)
Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 01/16/90
Received : 01/18/90
Tested : 01/19/90 at: 900
Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	2	8	16	16	80
Control	0	0	0	0	0	0

96 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : Single Concentration Test

MISA Trout

TOXICITY TEST REPORT Sample: 03900165

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (600)
Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 02/27/90
Received : 03/01/90
Tested : 03/02/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
65	0	0	0	0	0
40	0	0	0	0	0
20	0	0	0	0	0
10	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900165

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00
100	pH 7.3 O2 ppm 8.9 Cond. 1895 Temp(C) 14.5	14.5	14.0	14.0 8.0 9.8 1944 14.0
65	pH 7.6 O2 ppm 8.9 Cond. 1431 Temp(C) 14.5	14.5	14.0	14.0 8.3 9.9 1474 14.0
40	pH 7.7 O2 ppm 8.7 Cond. 1098 Temp(C) 14.5	14.5	14.0	14.0 8.3 9.8 1121 14.0
20	pH 7.8 O2 ppm 8.5 Cond. 812 Temp(C) 14.5	14.5	14.0	14.0 8.4 9.7 828 14.0
10	pH 8.0 O2 ppm 8.4 Cond. 680 Temp(C) 14.5	14.5	14.0	14.0 8.5 9.8 688 14.0
5	pH 7.9 O2 ppm 8.3 Cond. 613 Temp(C) 14.5	14.5	14.0	14.0 8.4 9.7 620 14.0
Control	pH 7.9 O2 ppm 8.2 Cond. 544 Temp(C) 14.5	14.5	14.0	14.0 8.4 9.6 556 14.0

TOXICITY TEST REPORT Sample: 03900231

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(19000000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 03/20/90
Received : 03/22/90
Tested : 03/22/90 at: 1620

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900231

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 7.1 O2 ppm 9.3 Cond. 572 Temp(C) 15.0				8.1 9.6 562 15.0
65	pH 7.5 O2 ppm 9.2 Cond. 561 Temp(C) 15.0		14.0	14.5	8.2 9.4 558 15.0
40	pH 7.7 O2 ppm 9.4 Cond. 556 Temp(C) 15.0		14.0	14.5	8.4 9.5 547 15.0
20	pH 7.8 O2 ppm 9.3 Cond. 549 Temp(C) 15.0		14.0	14.5	8.4 9.4 541 15.0
10	pH 7.9 O2 ppm 8.9 Cond. 546 Temp(C) 15.0		14.0	14.5	8.4 9.4 530 15.0
5	pH 7.9 O2 ppm 8.7 Cond. 543 Temp(C) 15.0		14.0	14.5	8.3 8.8 543 15.0
Control	pH 7.9 O2 ppm 8.6 Cond. 543 Temp(C) 15.0		14.0	14.5	8.5 9.4 528 15.0

TOXICITY TEST REPORT Sample: 03890225

TEST CONDITIONS

Company : Courtaulds Fibres Canada

: Cornwall, ONT

Region : Southeast

Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR

Sampling Method : Grab

Sampled By : L. Lortie

Date Collected : 10/18/89

Received : 10/19/89

Tested : 10/19/89 at: 1800

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout

Weight(gm) :

Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890225

TEST CONC. %	E L A P S E D T I M E					
	00:00	04:00	24:00	48:00	72:00	96:00

Control	pH	7.7				8.3
	O2 ppm	7.9				9.4
	Cond.	571				561
	Temp(C)	14.0	15.0	15.0	15.0	15.5
5	pH					8.3
	O2 ppm					9.2
	Cond.					561
	Temp(C)	14.0	15.0	15.0	15.0	15.5
10	pH	7.6				8.4
	O2 ppm	7.7				9.5
	Cond.	567				553
	Temp(C)	14.0	15.0	15.0	15.0	15.5
25	pH	7.7				8.3
	O2 ppm	7.5				9.5
	Cond.	553				553
	Temp(C)	14.0	15.0	15.0	15.0	15.5
50	pH	7.5				8.2
	O2 ppm	8.1				9.5
	Cond.	542				547
	Temp(C)	14.0	15.0	15.0	15.0	15.5
100	pH	7.1				7.7
	O2 ppm	8.3				9.3
	Cond.	538				541
	Temp(C)	14.0	15.0	15.0	15.0	15.5

TOXICITY TEST REPORT Sample: 01890273

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (700)
Laboratory : MOE
Sampling Method : grab
Sampled By : J. Lebow
Date Collected : 11/21/89
Received : 11/23/89
Tested : 11/24/89 at: 1000

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E										TOTAL MORTALITY	
%	00:00	00:30	01:00	02:00	04:00	24:00	48:00	72:00	96:00	%		
100	0	0	0	0	0	1	6	7	8	80		
65	0	0	0	0	0	1	7	8	8	80		
40	0	0	0	0	0	0	1	2	2	20		
30	0	0	0	0	0	0	0	1	1	2		
20	0	0	0	0	0	0	0	3	4	40		
10	0	0	0	0	0	0	0	2	3	30		
Control	0	0	0	0	0	0	0	0	0	0		

96 Hour LC50 : 53.0 %

95% fid. limits : 36.8 - 79.4 %

Comments : MISA audit sample.

TOXICITY TEST PARAMETERS

Sample Number: 01890273

TEST E L A P S E D T I M E

TEST CONC. %	00:00 00:30 01:00 02:00 04:00 24:00 48:00 72:00 96:00									
100	pH	5.4	7.1	7.4	7.4	7.4	7.2	7.2	7.2	7.2
	O2 ppm	10.5	9.6	10.7	11.0	11.0	9.9	9.9	9.9	9.9
	Cond.	480	500	485	500	500	520	520	520	520
	Temp(C)	11.7	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
65	pH	7.3	7.3	7.6	7.5	7.4	7.4	7.4	7.4	7.4
	O2 ppm	9.8	9.8	10.7	11.0	9.9	9.9	9.9	9.9	9.9
	Cond.	400	400	400	395	420	420	420	420	420
	Temp(C)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
40	pH	7.3	7.3	7.6	7.5	7.5	7.5	7.5	7.5	7.5
	O2 ppm	9.6	9.6	10.9	11.1	10.1	10.1	10.1	10.1	10.1
	Cond.	360	360	350	345	360	360	360	360	360
	Temp(C)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
30	pH	7.3	7.3	7.6	7.6	7.6	7.6	7.6	7.6	7.6
	O2 ppm	9.4	9.4	10.7	11.0	9.4	9.4	9.4	9.4	9.4
	Cond.	330	330	320	300	320	320	320	320	320
	Temp(C)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
20	pH	7.2	7.2	7.7	7.6	7.6	7.6	7.6	7.6	7.6
	O2 ppm	9.5	9.5	10.8	11.1	10.0	10.0	10.0	10.0	10.0
	Cond.	290	290	290	295	310	310	310	310	310
	Temp(C)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
10	pH	7.0	7.0	7.8	7.6	7.6	7.7	7.7	7.7	7.7
	O2 ppm	9.3	9.3	10.9	11.0	9.9	9.9	9.9	9.9	9.9
	Cond.	270	270	265	270	275	275	275	275	275
	Temp(C)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
Control	pH	7.0	7.0	7.7	7.6	7.8	7.8	7.8	7.8	7.8
	O2 ppm	9.4	9.4	10.6	10.8	10.8	10.8	10.8	10.8	10.8
	Cond.	260	260	245	245	255	255	255	255	255
	Temp(C)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890300

TEST CONC.	ELAPSED TIME
%	00:00 04:00 24:00 48:00 72:00 96:00

Control pH	7.8	8.5
Control pH	7.8	8.5

	Control	pH O ₂ Cond. Temp(C)	7.8 9.2 564 14.5	7.8 9.2 564 14.5	14.5 14.5 14.5 14.5	15.0 15.0 15.0 15.0	8.5 9.4 566 15.0
10		pH O ₂ Cond. Temp(C)	7.7 9.1 568 14.5	7.7 9.1 568 14.5	14.5 14.5 14.5 14.5	15.0 15.0 15.0 15.0	8.4 9.3 575 15.0

20	pH	0.2 ppm
8.4	7.6	9.2
9.3	9.2	9.2
9.4		

20	pH	7.6	8.4
	0.2 ppm	9.2	9.3
	Cond.	57.4	581
	Temp.(C)	14.5	15.0
		14.5	15.0
		14.5	15.0

65	pH	7.2	8.3
	02 ppm	9.6	9.4
	Cond.	604	620
	Temp(C)	14.5	15.0
100	error		

Non-lethal

	%
0.0	-
0.0	0.0

Non lethal

TOXICITY TEST REPORT Sample: 03890388

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (700)
Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 12/19/89
Received : 12/21/89
Tested : 12/22/89 at: 1730

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890388

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH	7.6			8.1
	O2 ppm	9.5			9.0
	Cond.	424			432
	Temp(C)	15.0	14.0	14.0	14.0 14.5
65	pH	7.7			8.2
	O2 ppm	9.3			8.7
	Cond.	470			473
	Temp(C)	15.0	14.0	14.0	14.0 14.5
40	pH	7.8			8.1
	O2 ppm	9.1			8.6
	Cond.	502			506
	Temp(C)	15.0	14.0	14.0	14.0 14.5
20	pH	7.9			8.5
	O2 ppm	8.9			8.7
	Cond.	528			524
	Temp(C)	15.0	14.0	14.0	14.0 14.5
10	pH	7.9			8.5
	O2 ppm	8.8			9.1
	Cond.	540			529
	Temp(C)	15.0	14.0	14.0	14.0 14.5
5	pH	7.9			8.5
	O2 ppm	8.8			8.8
	Cond.	550			525
	Temp(C)	15.0	14.0	14.0	14.0 14.5
Control	pH	7.9			8.5
	O2 ppm	8.9			9.0
	Cond.	552			533
	Temp(C)	15.0	14.0	14.0	14.0 14.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900045

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)

Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 01/16/90
Received : 01/18/90
Tested : 01/19/90 at: 900

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900045

TEST
CONC.
%

E L A P S E D T I M E

00:00 24:00 48:00 72:00 96:00

100 pH 7.5 8.1
O2 ppm 8.9 9.3
Cond. 400 412
Temp(C) 15.0 14.0 14.0 14.0 14.0

Control pH 7.9 8.5
O2 ppm 8.3 9.2
Cond. 550 533
Temp(C) 15.0 14.0 14.0 14.0 14.0

TOXICITY TEST REPORT Sample: 03900166

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (700)
Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 02/27/90
Received : 03/01/90
Tested : 03/02/90 at: 1400

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test--Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900166

TEST CONC. %		E L A P S E D T I M E					
		00:00 24:00 48:00 72:00 96:00					
100	pH	6.6					7.8
	O2 ppm	9.0					9.9
	Cond.	644					654
	Temp(C)	14.5	14.5	14.5	14.0	14.5	
100	pH	6.6					7.8
	O2 ppm	9.0					9.9
	Cond.	644					654
	Temp(C)	14.5	14.5	14.5	14.0	14.5	
Control	pH	7.9					8.4
	O2 ppm	8.2					9.8
	Cond.	544					524
	Temp(C)	14.5	14.5	14.5	14.0	14.5	
Control	pH	7.9					8.4
	O2 ppm	8.2					9.8
	Cond.	544					517
	Temp(C)	14.5	14.5	14.5	14.0	14.5	

TOXICITY TEST REPORT Sample: 03900232

TEST CONDITIONS

Company : Courtaulds Fibres Canada

Region : Cornwall, ONT
(1900000)Industry : Southeast
Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR

Sampling Method : Grab

Sampled By : M. Pelletier

Date Collected : 03/20/90

Received : 03/22/90

Tested : 03/22/90 at: 1625

Type of Bioassay : STATIC

(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout

Weight(gm) :

Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50

: Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments

: Single Concentration Test; Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900232

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00

100	pH	7.3			8.0
	O2 ppm	9.7			9.2
	Cond.	451			452
	Temp(C)	15.0	14.0	14.5	15.0
100	pH	7.3			8.0
	O2 ppm	9.7			9.2
	Cond.	451			452
	Temp(C)	15.0	14.0	14.5	15.0
Control	pH	7.9			8.4
	O2 ppm	8.7			9.2
	Cond.	550			530
	Temp(C)	15.0	14.0	14.5	15.0
Control	pH	7.9			8.4
	O2 ppm	8.7			9.2
	Cond.	550			530
	Temp(C)	15.0	14.0	14.5	15.0

TOXICITY TEST REPORT Sample: 03890226

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (800)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 10/18/89
Received : 10/19/89
Tested : 10/19/89 at: 1800

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890226

TEST CONC. % E L A P S E D T I M E
00:00 04:00 24:00 48:00 72:00 96:00

Control	pH	7.7					8.4
	O2 ppm	8.2					9.4
	Cond.	572					545
	Temp(C)	14.0	14.0	15.0	15.0	15.0	15.5
10	pH	7.7					8.3
	O2 ppm	8.3					9.4
	Cond.	560					549
	Temp(C)	14.0	14.0	15.0	15.0	15.0	15.5
20	pH	7.7					8.3
	O2 ppm	8.3					9.5
	Cond.	562					547
	Temp(C)	14.0	14.0	15.0	15.0	15.0	15.5
40	pH	7.6					8.0
	O2 ppm	8.6					8.9
	Cond.	555					546
	Temp(C)	14.0	14.0	15.0	15.0	15.0	15.5
65	pH	7.4					8.2
	O2 ppm	8.8					9.0
	Cond.	546					542
	Temp(C)	14.0	14.0	15.0	15.0	15.0	15.5
100	pH	7.1					7.7
	O2 ppm	9.5					9.1
	Cond.	541					536
	Temp(C)	14.0	14.0	15.0	15.0	15.0	15.5

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

Sample: 03890301

TOXICITY TEST REPORT

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (800)
Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 11/22/89
Received : 11/23/89
Tested : 11/24/89 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. ONE, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	10	10	10	100

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

Sample Number: 03890301

TEST
CONC.
%
E L A P S E D T I M E
00:00 04:00 24:00 48:00 72:00 96:00

Control	pH	7.8					8.4
	O2 ppm	8.1					9.3
	Cond.	560					542
	Temp(C)	14.5	14.5	14.5	14.5	15.0	15.0
10	pH	7.7					8.5
	O2 ppm	8.1					9.2
	Cond.	563					572
	Temp(C)	14.5	14.5	14.5	14.5	15.0	15.0
20	pH	7.6					8.5
	O2 ppm	8.2					9.3
	Cond.	571					579
	Temp(C)	14.5	14.5	14.5	14.5	15.0	15.0
40	pH	7.5					8.4
	O2 ppm	8.3					9.3
	Cond.	588					602
	Temp(C)	14.5	14.5	14.5	14.5	15.0	15.0
65	pH	7.3					8.2
	O2 ppm	8.6					9.2
	Cond.	617					628
	Temp(C)	14.5	14.5	14.5	14.5	15.0	15.0
100	pH	6.8					7.8
	O2 ppm	8.8					9.3
	Cond.	660					671
	Temp(C)	14.5	14.5	14.5	14.5	15.0	15.0

TOXICITY TEST PARAMETERS

Sample Number: 03890389

TEST CONC.	ELAPSED TIME
%	00:00 24:00 48:00

100	pH	
7.6		
8.2		

02 ppm

Cond.

Temp(C)

2

65 pH

20 ppm

Type of Bioassay : STATIC (Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Temp (C)

20 pH

10
pH
02 ppm
Cond.
Temp.(C)

	pH	Cond.	Temp(C)
5	02 ppm		
Control	02 ppm		

TOXICITY TEST PARAMETERS

Sample Number: 03890389

TEST CONC.	ELAPSED TIME
%	00:00 24:00 48:00

100	pH	
7.6		
8.2		

02 ppm

Cond.

Temp(C)

2

65 pH

20 ppm

40
pH 02 ppm

Temp (C)

20 pH

Temp (C)

10
pH
02 ppm
Cond.
Temp.(C)

	pH	Cond.	Temp(C)
5	02 ppm		
Control	02 ppm		

Control pH
02 ppm
Cond.
Temp (C)

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 039000046

TOXICITY TEST PARAMETERS

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (800)

Laboratory : BAR
Sampling Method : Grab
Sampled By : H. Pelletier
Date Collected : 01/16/90
Received : 01/18/90
Tested : 01/18/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

Sample Number: 039000046

TEST CONC. %	ELAPSED TIME			
	00:00	24:00	48:00	72:00 96:00

100	pH 6.8			7.8
	02 ppm 9.3			9.8
	Cond. 537			521
	Temp(C) 15.0	15.0	14.0	14.0
Control	pH 7.9			8.4
	02 ppm 8.3			9.9
	Cond. 550			522
	Temp(C) 15.0	15.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900167

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (800)
Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 02/27/90
Received : 03/01/90
Tested : 03/02/90 at: 1400

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single Concentration Test--Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900167

TEST CONC.	ELAPSED TIME				
%	00:00	24:00	48:00	72:00	96:00
100	pH 6.6 O2 ppm 9.3 Cond. 614 Temp(C) 14.5	14.5	14.0	14.0	7.7 9.8 618 14.0
100	pH 6.6 O2 ppm 9.3 Cond. 614 Temp(C) 14.5	14.5	14.0	14.0	7.8 9.9 625 14.0
Control	pH 7.9 O2 ppm 8.3 Cond. 544 Temp(C) 14.5	14.5	14.0	14.0	8.5 9.9 541 14.0
Control	pH 7.9 O2 ppm 8.3 Cond. 544 Temp(C) 14.5	14.5	14.0	14.0	8.5 9.8 536 14.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900233

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (800)
Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 03/20/90
Received : 03/22/90
Tested : 03/22/90 at: 1630

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test; Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900233

TEST CONC.	E L A P S E D T I M E			
%	00:00	24:00	48:00	72:00 96:00
100	pH 7.3 O2 ppm 9.4 Cond. 431 Temp(C) 15.0	14.0	14.5	14.5 8.1 9.3 439 15.0
100	pH 7.3 O2 ppm 9.4 Cond. 431 Temp(C) 15.0	14.0	14.5	14.5 8.1 9.3 439 15.0
Control	pH 7.9 O2 ppm 8.6 Cond. 548 Temp(C) 15.0	14.0	14.5	14.5 8.4 9.3 532 15.0
Control	pH 7.9 O2 ppm 8.6 Cond. 548 Temp(C) 15.0	14.0	14.5	14.5 8.4 9.3 532 15.0

TOXICITY TEST REPORT Sample: 03890302

TEST CONDITIONSCompany : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)Region : Southeast
Industry : Organic Chemical

Control point : intake water, (1300)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 11/22/89
Received : 11/23/89
Tested : 11/24/89 at: 1200Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890302

TEST CONC. %	E L A P S E D T I M E					
	00:00	04:00	24:00	48:00	72:00	96:00

Control	pH	7.8				8.1
	O2 ppm	7.8				8.4
	Cond.	563				576
	Temp(C)	14.5	14.5	14.5	14.5	15.0
10	pH	7.8				8.4
	O2 ppm	7.8				9.2
	Cond.	547				555
	Temp(C)	14.5	14.5	14.5	14.5	15.0
20	pH	7.8				8.3
	O2 ppm	7.8				8.9
	Cond.	527				536
	Temp(C)	14.5	14.5	14.5	14.5	15.0
40	pH	7.8				8.4
	O2 ppm	8.1				9.1
	Cond.	481				494
	Temp(C)	14.5	14.5	14.5	14.5	15.0
65	pH	7.9				8.1
	O2 ppm	8.2				9.0
	Cond.	439				450
	Temp(C)	14.5	14.5	14.5	14.5	15.0
100	pH	9.1				8.1
	O2 ppm	8.4				9.0
	Cond.	375				387
	Temp(C)	14.5	14.5	14.5	14.5	15.0

TOXICITY TEST REPORT Sample: 03890390

TEST CONDITIONS

Company : Courtaulds Fibres Canada
 Cornwall, ONT
 (1900000)
 Region : Southeast
 Industry : Organic Chemical
 Control point : intake water, (1300)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : M. Pelleteir
 Date Collected : 12/19/89
 Received : 12/21/89
 Tested : 12/22/89 at: 1730

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. ONE, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
65	0	0	0	0	0
40	0	0	0	0	0
20	0	0	0	0	0
10	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890390

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00
100	pH 8.0 O2 ppm 9.7 Cond. 355 Temp(C) 15.0	14.0	14.0	14.0
65	pH 8.0 O2 ppm 9.4 Cond. 425 Temp(C) 15.0	14.0	14.0	14.0
40	pH 7.9 O2 ppm 9.2 Cond. 474 Temp(C) 15.0	14.0	14.0	14.0
20	pH 7.9 O2 ppm 9.0 Cond. 515 Temp(C) 15.0	14.0	14.0	14.0
10	pH 7.9 O2 ppm 9.0 Cond. 533 Temp(C) 15.0	14.0	14.0	14.0
5	pH 7.8 O2 ppm 8.8 Cond. 540 Temp(C) 15.0	14.0	14.0	14.0
Control	pH 7.9 O2 ppm 8.8 Cond. 550 Temp(C) 15.0	14.0	14.0	14.0

COMPANY: Courtaulds Fibres Canada, Cornwall
(1900000)
(now with Cornwall Plant)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

Results for thirty-eight *Daphnia magna* acute lethality toxicity tests conducted on effluent samples collected between October 1989 and March 1990 were submitted by Courtaulds Fibres Canada of Cornwall. The samples from the various outfall points of this plant were either very toxic, or had low levels of acute toxicity. One sample of intake water collected in December was nonlethal, and one sample of storm water collected in October had an LC50 of 8.8%.

Sixteen of seventeen samples from combined effluents #500, 600 and 800 were either not acutely lethal to *Daphnia* (29% of samples) or had less than 4 test animals die during any one test. One sample from combined effluent #600 collected in January was acutely lethal to *Daphnia*, with an LC50 = 60.9%.

The samples from combined effluent #700 were more variable than all the others from this plant. Three samples were nonlethal, one sample had an LC50 > 100%, and two samples had Lc50 values of 87.1 and 93.3%.

Samples from process effluents #100 and #300 are consistently acutely toxic. All twelve samples from these outfalls had LC50s < 8% effluent, and 11 of 12 samples had LC50s < 4%. Much of the toxicity from these outfalls can be attributed to the extremes in pH of the effluents. The acid sewer (#100) effluent consistently has pH values of 2, and the alkal sewer (#300) effluent consistently has pH > 11.5. At these pH levels *Daphnia* are killed within the first hour of exposure to 100% effluent concentrations.

Audit samples for combined effluents #100, 300, 500, 600, 700, and 800 were tested in the Ministry laboratory in November. The results were consistent with those submitted by the company.

process effluent

03890221 sampled: 10/18/89 LC50: 1.9 %
95% fid. limits: 1.4 - 2.5 % slope: 5.1
comments:

02890269 sampled: 11/21/89 LC50: 0.0 - 5.0 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit/ low pH, rapidly lethal

Courtaulds Fibres Canada (continued)

03890296	sampled: 11/22/89	LC50:	1.4 %
	95% fid. limits: 1.0 -	1.8 % slope:	5.1
	comments:		
03890384	sampled: 12/19/89	LC50:	1.7 %
	95% fid. limits: 1.3 -	2.3 % slope:	7.3
	comments:		
03900041	sampled: 01/16/90	LC50:	7.6 %
	95% fid. limits: 5.8 -	9.8 % slope:	5.5
	comments: Lethal		
03900162	sampled: 02/27/90	LC50:	3.7 %
	95% fid. limits: 2.8 -	4.7 % slope:	5.8
	comments:		
03900228	sampled: 03/20/90	LC50:	1.7 %
	95% fid. limits: 1.1 -	2.1 % slope:	5.6
	comments:		

pr 200

03890227	sampled: 10/18/89	LC50:	8.8 %
	95% fid. limits: 6.7 -	11.4 % slope:	6.1
	comments:		

process effluent

03890222	sampled: 10/18/89	LC50:	1.7 %
	95% fid. limits: 1.3 -	2.2 % slope:	4.7
	comments:		
02890270	sampled: 11/21/89	LC50:	2.0 %
	95% fid. limits: 0.5 -	7.8 %	
	comments: MISA Audit/high pH, low oxygen, rapidly leth.		
03890297	sampled: 11/22/89	LC50:	3.0 %
	95% fid. limits: 2.4 -	3.7 % slope:	5.8
	comments:		
03890385	sampled: 12/19/89	LC50:	1.1 %
	95% fid. limits: 0.7 -	1.6 % slope:	4.1
	comments:		
03900042	sampled: 01/16/90	LC50:	0.9 %
	95% fid. limits: 0.4 -	1.5 % slope:	3.2
	comments: Lethal		
03900163	sampled: 02/27/90	LC50:	2.1 %
	95% fid. limits: 1.5 -	3.0 %	
	comments:		

Courtaulds Fibres Canada (continued)

03900229 sampled: 03/20/90 LC50: 2.6 %
 95% fid. limits: 2.0 - 3.4 % slope: 6.1
 comments:

combined effluent

03890223 sampled: 10/18/89 non-lethal
 95% fid. limits: 0.0 - 0.0 %
 comments: Non-lethal

02890272 sampled: 11/21/89 LC50: >100 %
 95% fid. limits: 0.0 - 0.0 %
 comments: MISA Audit

03890298 sampled: 11/22/89 non-lethal
 95% fid. limits: 0.0 - 0.0 %
 comments: Non-lethal

03890386 sampled: 12/19/89 non-lethal
 95% fid. limits: 0.0 - 0.0 %
 comments: Non-lethal

03900043 sampled: 01/16/90 LC50: >100 %
 95% fid. limits: 0.0 - 0.0 %
 comments: LC50 >100

03900164 sampled: 02/27/90 non-lethal
 95% fid. limits: 0.0 - 0.0 %
 comments: Non-lethal

03900230 sampled: 03/20/90 LC50: >100 %
 95% fid. limits: 0.0 - 0.0 %
 comments: LC50 >100

combined effluent

03890224 sampled: 10/18/89 non-lethal
 95% fid. limits: 0.0 - 0.0 %
 comments: Non-lethal

02890268 sampled: 11/21/89 LC50: >100 %
 95% fid. limits: 0.0 - 0.0 %
 comments: MISA Audit/several floaters in 100% & 60%

03890299 sampled: 11/22/89 non-lethal
 95% fid. limits: 0.0 - 0.0 %
 comments: Non-lethal

03890387 sampled: 12/19/89 LC50: >100 %
 95% fid. limits: 0.0 - 0.0 %
 comments: LC50 >100

Courtaulds Fibres Canada (continued)

03900044 sampled: 01/16/90 LC50: 60.9 %
 95% fid. limits: 35.9 - 103.0 % slope: 2.0
 comments: Lethal

03900165 sampled: 02/27/90 LC50: >100 %
 95% fid. limits: 0.0 - 0.0 %
 comments: LC50>100

03900231 sampled: 03/20/90 LC50: >100 %
 95% fid. limits: 0.0 - 0.0 %
 comments: LC50 >100

combined effluent

03890225 sampled: 10/18/89 non-lethal
 95% fid. limits: 0.0 - 0.0 %
 comments: Non-lethal

02890273 sampled: 11/21/89 LC50: 64.5 %
 95% fid. limits: 51.9 - 80.1 %
 comments: MISA Audit/

03890300 sampled: 11/22/89 non-lethal
 95% fid. limits: 0.0 - 0.0 %
 comments: Non-lethal

03900045 sampled: 01/16/90 LC50: 93.3 %
 95% fid. limits: 66.2 - 131.3 % slope: 3.6
 comments: lethal

03900166 sampled: 02/27/90 non-lethal
 95% fid. limits: 0.0 - 0.0 %
 comments: Non-lethal

03900232 sampled: 03/20/90 LC50: >100 %
 95% fid. limits: 0.0 - 0.0 %
 comments: LC50 >100

combined effluent

03890226 sampled: 10/18/89 LC50: >100 %
 95% fid. limits: 0.0 - 0.0 %
 comments: Non-lethal

02890271 sampled: 11/21/89 non-lethal
 95% fid. limits: 0.0 - 0.0 %
 comments: MISA Audit

03890301 sampled: 11/22/89 LC50: >100 %
 95% fid. limits: 0.0 - 0.0 %
 comments: LC50>100

Courtaulds Fibres Canada (continued)

03890389 sampled: 12/19/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900046 sampled: 01/16/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 > 100

03900167 sampled: 02/27/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900233 sampled: 03/20/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

rain gauge

intake water

03890302 sampled: 11/22/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03890390 sampled: 12/19/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

TOXICITY TEST REPORT Sample: 03890221

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical
Control point : process effluent, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 10/18/89
Received : 10/19/89
Tested : 10/19/89 at: 1500

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol - OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	01:00	02:00	04:00	24:00	48:00		%
Control	0	0	0	0	0	0		0
1	0	0	0	0	0	0		0
3	0	0	0	0	3	10		83
5	0	0	0	0	9	12		100
10	0	0	0	11	12	12		100
100	0	12	12	12	12	12		100

48 Hour LC50 : 1.9 %

95% fid. limits : 1.4 - 2.5 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03890221

TEST CONC.	E L A P S E D T I M E						
%	00:00	01:00	02:00	04:00	24:00	48:00	

Control	pH	8.4					8.3
	O2 ppm	9.5					9.4
	Cond.	294					295
	Temp(C)	21.0	20.0	20.0	20.0	20.0	19.5
1	pH	7.5					7.9
	O2 ppm	8.2					8.6
	Cond.	390					380
	Temp(C)	21.0	20.0	20.0	20.0	20.0	19.5
2	pH	7.0					7.6
	O2 ppm	8.2					8.4
	Cond.	531					522
	Temp(C)	21.0	20.0	20.0	20.0	20.0	19.5
5	pH	6.5					7.2
	O2 ppm	8.3					8.3
	Cond.	724					712
	Temp(C)	21.0	20.0	20.0	20.0	20.0	19.5
10	pH	4.2					4.7
	O2 ppm	8.4					9.1
	Cond.	1216					1163
	Temp(C)	21.0	20.0	20.0	20.0	20.0	19.5
100	pH	2.0	2.0				
	O2 ppm	8.6	8.6				
	Cond.	1205	1205				
	Temp(C)	21.0	20.0	20.0	20.0	20.0	

TOXICITY TEST REPORT Sample: 02890269

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (100)

Laboratory : MOE
Sampling Method : grab
Sampled By : J. Lebow
Date Collected : 11/21/89
Received : 11/23/89
Tested : 11/23/89 at: 1410

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol, ONE, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	01:00	24:00	48:00	%
100	0	12	12	12	100
60	0	12	12	12	100
30	0	12	12	12	100
15	0	12	12	12	100
5	0	0	6	12	100
Control	0	0	0	0	0

48 Hour LC50 : 0.0 - 5.0 %

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit/ low pH, rapidly lethal

TOXICITY TEST PARAMETERS

Sample Number: 02890269

TEST CONC. %
E L A P S E D T I M E
00:00 01:00 24:00 48:00

100	pH O2 ppm Cond. Temp(C)	8.4 1078 20.0	20.0	20.0	20.0	1.9 8.2 1040 20.0
60	pH O2 ppm Cond. Temp(C)	2.1 8.7 6890 20.0	20.0	20.0	20.0	2.0 8.2 6580 20.0
30	pH O2 ppm Cond. Temp(C)	2.3 9.2 3810 20.0	20.0	20.0	20.0	2.2 8.3 3560 20.0
15	pH O2 ppm Cond. Temp(C)	2.6 9.4 1960 20.0	20.0	20.0	20.0	2.5 8.4 1880 20.0
5	pH O2 ppm Cond. Temp(C)	5.6 9.2 661 20.0	20.0	20.0	20.0	6.8 7.8 620 20.0
Control	pH O2 ppm Cond. Temp(C)	8.0 9.2 295 20.0	20.0	20.0	20.0	6.9 8.0 262 20.0

TOXICITY TEST REPORT Sample: 03890296

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : process effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 11/22/89
Received : 11/23/89
Tested : 11/24/89 at: 1310

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	01:00	02:00	04:00	24:00	48:00		%
Control	0	0	0	0	0	0		0
2	0	0	0	0	0	7		58
3	0	0	0	0	7	12		100
6	0	0	0	0	12	12		100
13	0	0	11	12	12	12		100
25	0	12	12	12	12	12		100
100	0	12	12	12	12	12		100

48 Hour LC50 : 1.4 %

95% fid. limits : 1.0 - 1.8 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03890296

TEST CONC. % E L A P S E D T I M E
00:00 01:00 02:00 04:00 24:00 48:00

Control	pH 8.5 O2 ppm 9.0 Cond. 301 Temp(C) 20.0						8.3 9.9 303 20.0
1	pH 7.1 O2 ppm 9.0 Cond. 451 Temp(C) 20.0						7.9 9.2 453 20.0
3	pH 6.9 O2 ppm 9.2 Cond. 600 Temp(C) 20.0						7.7 9.2 604 20.0
6	pH 6.3 O2 ppm 8.7 Cond. 931 Temp(C) 20.0						7.1 9.5 892 20.0
13	pH 3.1 O2 ppm 9.1 Cond. 1933 Temp(C) 20.0						3.1 9.1 1933 20.0
25	pH 2.6 O2 ppm 9.0 Cond. 3900 Temp(C) 20.0						2.6 9.0 3900 20.0
100	pH 2.0 O2 ppm 8.6 Cond. 3560 Temp(C) 20.0						2.0 8.6 3560 20.0

TOXICITY TEST REPORT Sample: 03890384

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical
Control point : process effluent, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 12/19/89
Received : 12/21/89
Tested : 12/22/89 at: 1045

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	%
100	0	12	12	12	100
50	0	12	12	12	100
25	0	12	12	12	100
13	0	0	7	12	100
6	0	0	0	12	100
3	0	0	0	12	100
1	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : 1.7 %
95% fid. limits : 1.3 - 2.3 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03890384

TEST CONC.	E L A P S E D T I M E			
%	00:00	04:00	24:00	48:00

100	pH	2.2	2.2	
	O2 ppm	9.3	9.3	
	Cond.	9270	9270	
	Temp(C)	20.0	19.5	
50	pH	2.5	2.5	
	O2 ppm	9.8	9.5	
	Cond.	4640	4640	
	Temp(C)	20.0	19.5	
25	pH	3.1	3.1	
	O2 ppm	9.8	9.8	
	Cond.	2170	2170	
	Temp(C)	20.0	19.5	
13	pH	5.9	6.9	
	O2 ppm	9.4	9.0	
	Cond.	1078	1106	
	Temp(C)	20.0	19.5	20.0
6	pH	6.9	7.8	
	O2 ppm	9.0	9.0	
	Cond.	657	661	
	Temp(C)	20.0	19.5	20.0
3	pH	7.4	7.9	
	O2 ppm	8.8	9.2	
	Cond.	485	487	
	Temp(C)	20.0	19.5	20.0
1	pH	7.8	8.2	
	O2 ppm	8.7	9.3	
	Cond.	365	372	
	Temp(C)	20.0	19.5	20.0
Control	pH	8.3	8.3	
	O2 ppm	8.8	9.4	
	Cond.	302	305	
	Temp(C)	20.0	19.5	20.0

TOXICITY TEST REPORT Sample: 039000041

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical
Control point : process effluent, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 01/16/90
Received : 01/18/90
Tested : 01/18/90 at: 1150

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	%
100	0	12	12	12	100
50	0	12	12	12	100
25	0	12	12	12	100
13	0	2	12	12	100
6	0	0	1	2	16
3	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : 7.6 %

95% fid. limits : 5.8 - 9.8 %

Comments : Lethal

TOXICITY TEST PARAMETERS

Sample Number: 039000041

TEST CONC. % E L A P S E D T I M E
00:00 04:00 24:00 48:00

100	pH 2.1 O2 ppm 9.4 Cond. 7700 Temp(C) 19.0	2.1 2.1 9.4 9.4 7700 7700 19.0 19.0
50	pH 2.5 O2 ppm 9.4 Cond. 4010 Temp(C) 19.0	2.5 2.5 9.4 9.4 4010 4010 19.0 19.0
25	pH 3.2 O2 ppm 9.2 Cond. 1887 Temp(C) 19.0	3.2 3.2 9.2 9.2 1887 1887 19.0 19.0
13	pH 6.1 O2 ppm 9.1 Cond. 1017 Temp(C) 19.0	6.1 6.6 9.1 9.2 1017 1024 19.0 20.0
6	pH 7.0 O2 ppm 9.0 Cond. 618 Temp(C) 19.0	7.0 7.8 9.0 8.7 618 625 19.0 20.0
3	pH 7.4 O2 ppm 9.0 Cond. 467 Temp(C) 19.0	7.4 8.0 9.0 8.8 467 471 19.0 20.0
Control	pH 8.5 O2 ppm 9.0 Cond. 301 Temp(C) 19.0	8.5 8.4 9.0 9.2 301 308 19.0 20.0

TOXICITY TEST REPORT Sample: 03900162

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical
Control point : process effluent, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 02/27/90
Received : 03/01/90
Tested : 03/02/90 at: 1045

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol, OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	%
100	0	12	12	12	100
50	0	12	12	12	100
25	0	12	12	12	100
13	0	12	12	12	100
6	0	0	12	12	100
3	0	0	2	2	16
2	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : 3.7 %
95% fid. limits : 2.8 - 4.7 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03900162

TEST CONC. %
E L A P S E D T I M E
00:00 04:00 24:00 48:00

100	pH 1.8 O2 ppm 8.4 Cond. 2870 Temp(C) 20.0	pH 1.8 O2 ppm 8.4 Cond. 2870 Temp(C) 20.0
50	pH 2.1 O2 ppm 8.6 Cond. 7080 Temp(C) 20.0	pH 2.1 O2 ppm 8.6 Cond. 7080 Temp(C) 20.0
25	pH 2.5 O2 ppm 8.9 Cond. 3590 Temp(C) 20.0	pH 2.5 O2 ppm 8.9 Cond. 3590 Temp(C) 20.0
13	pH 3.1 O2 ppm 8.8 Cond. 1796 Temp(C) 20.0	pH 3.1 O2 ppm 8.8 Cond. 1796 Temp(C) 20.0
6	pH 6.5 O2 ppm 8.5 Cond. 846 Temp(C) 20.0	pH 7.2 O2 ppm 8.5 Cond. 833 Temp(C) 20.5
3	pH 7.2 O2 ppm 8.2 Cond. 583 Temp(C) 20.0	pH 7.9 O2 ppm 9.4 Cond. 583 Temp(C) 20.5
1	pH 7.4 O2 ppm 8.2 Cond. 452 Temp(C) 20.0	pH 8.1 O2 ppm 9.5 Cond. 448 Temp(C) 20.5
Control	pH 8.5 O2 ppm 8.1 Cond. 303 Temp(C) 20.0	pH 8.6 O2 ppm 9.6 Cond. 305 Temp(C) 20.5

TOXICITY TEST REPORT Sample: 03900228

TEST CONDITIONS

Company : Courtaulds Fibres Canada

(1900000)
Region : Cornwall, ONTIndustry : Southeast
Organic Chemical

Control point : process effluent, (100)

Laboratory : BAR

Sampling Method : Grab

Sampled By : M. Pelletier

Date Collected : 03/20/90

Received : 03/22/90

Tested : 03/22/90 at: 1350

Type of Bioassay :

STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna

Weight(gm) :

Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	%
100	0	12	12	12	100
25	0	12	12	12	100
13	0	12	12	12	100
6	0	0	11	12	100
3	0	0	0	11	91
2	0	0	0	5	41
1	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : 1.7 %

95% fid. limits : 1.1 - 2.1 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03900228

TEST CONC.	E L A P S E D T I M E			
%	00:00	04:00	24:00	48:00

100	pH	2.0	2.0	2.0
	O2 ppm	9.3	9.3	9.3
	Cond.	1920	1920	1920
	Temp(C)	20.0	20.0	20.0
25	pH	2.6	2.6	2.6
	O2 ppm	9.3	9.3	9.3
	Cond.	3370	3370	3370
	Temp(C)	20.0	20.0	20.0
13	pH	3.2	3.2	3.2
	O2 ppm	9.3	9.3	9.3
	Cond.	1603	1603	1603
	Temp(C)	20.0	20.0	20.0
6	pH	6.4	6.4	7.3
	O2 ppm	9.2	9.2	8.7
	Cond.	746	746	741
	Temp(C)	20.0	20.0	20.0
3	pH	6.9	6.9	7.6
	O2 ppm	8.9	8.9	8.7
	Cond.	517	517	519
	Temp(C)	20.0	20.0	20.0
1	pH	7.3	7.3	8.0
	O2 ppm	8.8	8.8	8.5
	Cond.	416	416	408
	Temp(C)	20.0	20.0	20.0
0	pH	8.0	8.0	8.3
	O2 ppm	8.8	8.8	8.6
	Cond.	320	320	324
	Temp(C)	20.0	20.0	20.0
Control	pH	8.3	8.3	8.3
	O2 ppm	8.4	8.4	8.8
	Cond.	295	295	297
	Temp(C)	20.0	20.0	20.0

TOXICITY TEST REPORT Sample: 03890227

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)Region : Southeast
Industry : Organic Chemical

Control point : pr 200, (200)

Laboratory : BAR

Sampling Method : Grab

Sampled By : L. Lortie

Date Collected : 10/18/89

Received : 10/19/89

Tested : 10/22/89 at: 1245

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME						TOTAL MORTALITY
%	00:00	01:00	02:00	04:00	24:00	48:00	%
Control	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0
6	0	0	0	0	0	2	16
13	0	0	0	4	8	10	83
25	0	12	12	12	12	12	100
50	0	12	12	12	12	12	100
100	0	12	12	12	12	12	100

48 Hour LC50 : 8.8 %

95% fid. limits : 6.7 - 11.4 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03890227

TEST CONC.	ELAPSED TIME			
%	00:00	01:00	02:00	04:00 24:00 48:00

Control	pH	8.4			8.2
	O2 ppm	9.5			9.7
	Cond.	294			302
	Temp(C)	19.0	19.0	19.0	20.0
1	pH	7.9			8.2
	O2 ppm	8.0			8.8
	Cond.	304			303
	Temp(C)	19.0	19.0	19.0	20.0
3	pH	7.2			7.9
	O2 ppm	9.7			9.6
	Cond.	315			316
	Temp(C)	19.0	19.0	19.0	20.0
6	pH	6.9			7.5
	O2 ppm	9.2			8.9
	Cond.	327			326
	Temp(C)	19.0	19.0	19.0	20.0
13	pH	6.3			6.7
	O2 ppm	9.0			9.0
	Cond.	363			356
	Temp(C)	19.0	19.0	19.0	20.0
25	pH	3.6	3.6		
	O2 ppm	9.4	9.4		
	Cond.	527	527		
	Temp(C)	19.0	19.0		
50	pH	2.6	2.6		
	O2 ppm	9.2	9.2		
	Cond.	1623	1623		
	Temp(C)	19.0	19.0		
100	pH	2.2	2.2		
	O2 ppm	8.6	8.6		
	Cond.	3620	3620		
	Temp(C)	19.0	19.0		

TOXICITY TEST PARAMETERS

Company	: Courtaulds Fibres Canada Cornwall, ONT (1900000)
Region	: Southeast
Industry	: Organic Chemical
Control point	: process effluent, (300)

Sample Number: 03890222

TEST CONC.	ELAPSED TIME
%	00:00 01:00 02:00

Control point : process effluent, (300)

Laboratory : BAR

Sampling Method

Sampled By : L. Lortie

Date Collected : 10/18/89

Received : 10/19/89

Tested	: 10/19/89	at: 1340
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Type of Bioassay

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity Test Protocol. OME, 1988)

Test Animal : D. magna

Weight (gm)

Length (mm)

TEST CONC.	ELAPSED TIME	TOTAL MORTALITY
%	00:00 01:00 02:00 04:00 24:00 48:00	%

[illegible]

48 Hour LC50 : 1.7 %

95% fid. limits : 1.3 - 2.2 %

Comments ::

TOXICITY TEST PARAMETERS

Sample Number: 03890222

TEST CONC.	ELAPSED TIME
%	00:00 01:00 02:00

Control	pH	0.2 ppm Cond.	Temp.(C)	8.4 9.5 294 21.0	20.0	20.0	20.0	20.0	20.0	8.3 9.5 298 19.5
0	pH	0.2 ppm Cond.	Temp.(C)	8.6 8.9 335 21.0	20.0	20.0	20.0	20.0	20.0	8.5 8.5 314 19.5
1	pH	0.2 ppm Cond.	Temp.(C)	8.6 8.2 383 21.0	20.0	20.0	20.0	20.0	20.0	8.4 8.0 376 19.5
3	pH	0.2 ppm Cond.	Temp.(C)	9.0 7.9 389 21.0	20.0	20.0	20.0	20.0	20.0	8.5 7.9 394 19.5
6	pH	0.2 ppm Cond.	Temp.(C)	9.2 7.4 487 21.0	20.0	20.0	20.0	20.0	20.0	9.0 8.6 501 20.0
13	pH	0.2 ppm Cond.	Temp.(C)	9.6 7.1 716 21.0	20.0	20.0	20.0	20.0	20.0	9.5 7.8 740 20.0
25	pH	0.2 ppm Cond.	Temp.(C)	10.2 6.5 1156 21.0	20.0	20.0	20.0	20.0	20.0	10.2 6.5 1156 20.0
50	pH	0.2 ppm Cond.	Temp.(C)	11.1 6.3 2200 21.0	20.0	20.0	20.0	20.0	20.0	11.1 6.3 2200 20.0
100	pH	0.2 ppm Cond.	Temp.(C)	11.7 5.0 4390 21.0	11.7	5.0	4390	20.0	20.0	11.7 5.0 4390 20.0

TOXICITY TEST REPORT Sample: 02890270

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical
Control point : process effluent, (300)

Laboratory : MOE
Sampling Method : grab
Sampled By : J. Lebow
Date Collected : 11/21/89
Received : 11/23/89
Tested : 11/23/89 at: 1422

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol, OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	01:00	24:00	48:00	%
100	0	12	12	12	100
60	0	12	12	12	100
30	0	0	12	12	100
15	0	0	12	12	100
5	0	0	7	8	66
Control	0	0	0	0	0

48 Hour LC50 : 2.0 %

95% fid. limits : 0.5 - 7.8 %

Comments : MISA Audit/high pH, low oxygen, rapidly leth.

TOXICITY TEST PARAMETERS

Sample Number: 02890270

TEST CONC. % E L A P S E D T I M E
00:00 01:00 24:00 48:00

100	pH 11.6 O2 ppm 1.9 Cond. 5060 Temp(C) 20.0	11.0 3.8 4190 20.0	20.0	20.0	20.0	48:00
60	pH 11.4 O2 ppm 5.1 Cond. 3140 Temp(C) 20.0	10.6 4.6 2590 20.0	20.0	20.0	20.0	
30	pH 10.9 O2 ppm 6.7 Cond. 1640 Temp(C) 20.0	10.2 5.4 1410 20.0	20.0	20.0	20.0	
15	pH 10.2 O2 ppm 7.4 Cond. 924 Temp(C) 20.0	9.6 6.0 818 20.0	20.0	20.0	20.0	
5	pH 9.3 O2 ppm 7.6 Cond. 495 Temp(C) 20.0	8.5 5.3 462 20.0	20.0	20.0	20.0	
Control	pH 8.0 O2 ppm 8.3 Cond. 311 Temp(C) 20.0	8.0 7.8 331 20.0	20.0	20.0	20.0	

TOXICITY TEST REPORT Sample: 03890297

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)

Region : Southeast

Industry : Organic Chemical

Control point : process effluent, (300)

Laboratory : BAR

Sampling Method : Grab

Sampled By : L. Lortie

Date Collected : 11/22/89

Received : 11/23/89

Tested : 11/24/89 at: 1050

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna

Weight(gm) :

Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	01:00	02:00	04:00	24:00	48:00		%
Control	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0
3	0	0	0	0	5	6	50	50
6	0	0	0	10	12	12	100	100
13	0	0	0	12	12	12	100	100
25	0	0	10	12	12	12	100	100
100	0	12	12	12	12	12	100	100

48 Hour LC50 : 3.0 %

95% fid. limits : 2.4 - 3.7 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03890297

TEST CONC. %

E L A P S E D T I M E

00:00 01:00 02:00 04:00 24:00 48:00

Control	pH 8.5	02 ppm 9.0	Cond. 301	Temp(C) 20.0	20.0	20.0	20.0	20.0	20.0	8.4
1	pH 8.9	02 ppm 9.2	Cond. 341	Temp(C) 20.0	20.0	20.0	20.0	20.0	20.0	8.6
3	pH 9.2	02 ppm 8.0	Cond. 366	Temp(C) 20.0	20.0	20.0	20.0	20.0	20.0	8.6
6	pH 9.4	02 ppm 6.6	Cond. 387	Temp(C) 20.0	20.0	20.0	20.0	20.0	20.0	8.7
13	pH 10.4	02 ppm 5.8	Cond. 667	Temp(C) 20.0	20.0	20.0	20.0	20.0	20.0	360
25	pH 11.1	02 ppm 5.0	Cond. 1264	Temp(C) 20.0	20.0	20.0	20.0	20.0	20.0	9.2
100	pH 12.1	02 ppm 2.8	Cond. 5890	Temp(C) 20.0	20.0	20.0	20.0	20.0	20.0	8.9
										380

TOXICITY TEST REPORT Sample: 03890385

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical
Control point : process effluent, (300)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 12/19/89
Received : 12/21/89
Tested : 12/22/89 at: 1300

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	04:00	24:00	48:00
100	0	12	12	12
50	0	12	12	12
25	0	0	12	12
13	0	0	12	12
6	0	0	12	12
3	0	0	12	12
1	0	0	0	5
Control	0	0	0	0

48 Hour LC50 : 1.1 %
95% fid. limits : 0.7 - 1.6 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03890385

TEST CONC. %	E L A P S E D T I M E		
	00:00	04:00	24:00 48:00

100	pH 12.1	12.1	12.1
	O2 ppm 6.7	6.7	6.7
	Cond. 5100	5100	5100
	Temp(C) 19.5	19.5	19.5
50	pH 11.7	11.7	11.7
	O2 ppm 7.9	7.9	7.9
	Cond. 2340	2340	2340
	Temp(C) 19.5	19.5	19.5
25	pH 11.1	11.1	10.4
	O2 ppm 8.3	8.3	8.3
	Cond. 1115	959	959
	Temp(C) 19.5	19.5	20.0
13	pH 10.2	10.2	9.8
	O2 ppm 8.3	8.3	8.0
	Cond. 619	578	578
	Temp(C) 19.5	19.5	20.0
6	pH 9.6	9.6	9.1
	O2 ppm 8.3	8.3	8.2
	Cond. 424	399	399
	Temp(C) 19.5	19.5	20.0
3	pH 9.0	9.0	8.8
	O2 ppm 8.3	8.3	8.6
	Cond. 367	352	352
	Temp(C) 19.5	19.5	20.0
1	pH 8.9	8.9	8.5
	O2 ppm 9.0	9.0	8.0
	Cond. 320	333	333
	Temp(C) 19.5	19.5	20.0
Control	pH 8.3	8.3	8.4
	O2 ppm 8.8	9.8	9.8
	Cond. 302	304	304
	Temp(C) 19.5	19.5	20.0

TOXICITY TEST REPORT Sample: 03900042

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical
Control point : process effluent, (300)
Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 01/16/90
Received : 01/18/90
Tested : 01/18/90 at: 1210

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME		TOTAL MORTALITY
%	00:00	04:00 24:00 48:00	%
100	0	12 12 12	100
50	0	12 12 12	100
25	0	1 12 12	100
13	0	0 12 12	100
6	0	0 12 12	100
3	0	0 12 12	100
1	0	0 12 12	100
Control	0	0 4 7	58
		0 0 0	0

48 Hour LC50 : 0.9 %

95% fid. limits : 0.4 - 1.5 %

Comments : Lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900042

TEST CONC. %	ELAPSED TIME	
	00:00	04:00 24:00 48:00
100	pH 11.9 O2 ppm 7.7 Cond. 3880 Temp(C) 19.0	11.9 7.7 3880 19.0
50	pH 11.4 O2 ppm 8.4 Cond. 1853 Temp(C) 19.0	11.4 8.4 1853 19.0
25	pH 10.5 O2 ppm 8.4 Cond. 933 Temp(C) 19.0	10.5 8.4 933 19.0
13	pH 9.7 O2 ppm 8.0 Cond. 568 Temp(C) 19.0	9.7 8.0 568 19.0
6	pH 9.3 O2 ppm 8.1 Cond. 422 Temp(C) 19.0	9.3 8.1 422 19.0
3	pH 9.1 O2 ppm 8.4 Cond. 368 Temp(C) 19.0	9.1 8.4 368 19.0
1	pH 8.9 O2 ppm 8.6 Cond. 336 Temp(C) 19.0	8.9 8.6 336 19.0
Control	pH 8.5 O2 ppm 9.0 Cond. 301 Temp(C) 19.0	8.5 9.0 301 19.0

TOXICITY TEST REPORT Sample: 03900163

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical
Control point : process effluent, (300)
Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 02/27/90
Received : 03/01/90
Tested : 03/02/90 at: 1120

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. ONE, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	%
100	0	12	12	12	100
50	0	12	12	12	100
25	0	0	12	12	100
13	0	0	12	12	100
6	0	0	12	12	100
3	0	0	12	12	100
2	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : 2.1 %
95% fid. limits : 1.5 - 3.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03900163

TEST CONC. %
E L A P S E D T I M E
00:00 04:00 24:00 48:00

100	pH 11.7 O2 ppm 4.9 Cond. 5750 Temp(C) 20.0	11.7 4.9 5750 20.0	11.7 4.9 5750 20.0
50	pH 11.3 O2 ppm 6.5 Cond. 2930 Temp(C) 20.0	11.3 6.5 2930 20.0	11.3 6.5 2930 20.0
25	pH 10.4 O2 ppm 7.1 Cond. 1508 Temp(C) 20.0	10.4 7.1 1508 20.0	10.1 6.5 1470 20.5
13	pH 9.8 O2 ppm 7.2 Cond. 895 Temp(C) 20.0	9.8 7.2 895 20.0	9.5 7.4 864 20.5
6	pH 9.4 O2 ppm 7.4 Cond. 577 Temp(C) 20.0	9.4 7.4 577 20.0	9.1 8.0 562 20.5
3	pH 9.0 O2 ppm 7.7 Cond. 439 Temp(C) 20.0	9.0 7.7 439 20.0	8.8 8.3 433 20.5
1	pH 8.7 O2 ppm 7.9 Cond. 374 Temp(C) 20.0	8.7 7.9 374 20.0	8.7 9.0 379 20.5
Control	pH 8.5 O2 ppm 8.1 Cond. 303 Temp(C) 20.0	8.5 8.1 303 20.0	8.6 9.5 305 20.5

TOXICITY TEST REPORT Sample: 03900229

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical
Control point : process effluent, (300)
Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 03/20/90
Received : 03/22/90
Tested : 03/22/90 at: 1425

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol: OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	02:00	04:00	24:00	48:00	%
100	0	12	12	12	12	100
50	0	0	0	12	12	100
25	0	0	0	12	12	100
13	0	0	0	12	12	100
6	0	0	0	10	12	100
3	0	0	0	5	7	58
2	0	0	0	0	1	8
Control	0	0	0	0	0	0

48 Hour LC50 : 2.6 %

95% fid. limits : 2.0 - 3.4 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03900229

TEST CONC.	E L A P S E D T I M E				
%	00:00	02:00	04:00	24:00	48:00
100	pH 11.7	11.7	11.7		
	O2 ppm 6.0	6.0	6.0		
	Cond. 4870	4870	4870		
	Temp(C) 20.0	20.0	20.0		
50	pH 11.3	11.3	10.6		
	O2 ppm 7.4	7.4	6.3		
	Cond. 2420	2420	2130		
	Temp(C) 20.0	20.0	20.0		
25	pH 10.5	10.5	10.0		
	O2 ppm 7.9	7.9	6.8		
	Cond. 1203	1203	1125		
	Temp(C) 20.0	20.0	20.0		
13	pH 9.9	9.9	9.4		
	O2 ppm 8.0	8.0	7.2		
	Cond. 734	734	685		
	Temp(C) 20.0	20.0	20.0		
6	pH 9.4	9.4	8.6		
	O2 ppm 8.3	8.3	8.5		
	Cond. 496	496	470		
	Temp(C) 20.0	20.0	20.0		
3	pH 9.1	9.1	8.5		
	O2 ppm 8.4	8.4	8.7		
	Cond. 388	388	387		
	Temp(C) 20.0	20.0	20.0		
1	pH 8.7	8.7	8.4		
	O2 ppm 8.6	8.6	8.7		
	Cond. 341	341	348		
	Temp(C) 20.0	20.0	20.0		
Control	pH 8.3	8.3	8.3		
	O2 ppm 8.4	8.4	8.8		
	Cond. 295	295	297		
	Temp(C) 20.0	20.0	20.0		

TOXICITY TEST REPORT Sample: 03890223

TEST CONDITIONS

Company : Courtaulds Fibres Canada
(Cornwall, ONT
(1900000))
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (500)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 10/18/89
Received : 10/19/89
Tested : 10/19/89 at: 1545

Type of Bioassay : STATIC.
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	%
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	0	0	0
100	0	0	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890223

TEST E L A P S E D T I M E
CONC. 00:00 04:00 24:00 48:00
%

Control	pH	8.4	8.4	8.4	8.4
	O2 ppm	9.5	9.5	9.4	9.4
	Cond.	294	294	297	297
	Temp(C)	21.0	20.0	20.0	19.5
6	pH	8.3	8.3	8.3	8.3
	O2 ppm	8.4	8.4	8.7	8.7
	Cond.	315	315	301	301
	Temp(C)	21.0	20.0	20.0	19.5
13	pH	8.3	8.3	8.3	8.3
	O2 ppm	8.2	8.2	8.9	8.9
	Cond.	329	329	320	320
	Temp(C)	21.0	20.0	20.0	19.5
25	pH	8.2	8.2	8.2	8.2
	O2 ppm	8.2	8.2	9.0	9.0
	Cond.	347	347	341	341
	Temp(C)	21.0	20.0	20.0	19.5
50	pH	8.2	8.2	8.2	8.2
	O2 ppm	8.3	8.3	8.8	8.8
	Cond.	387	387	380	380
	Temp(C)	21.0	20.0	20.0	19.5
100	pH	8.0	8.0	7.9	7.9
	O2 ppm	8.6	8.6	8.5	8.5
	Cond.	465	465	452	452
	Temp(C)	21.0	20.0	20.0	19.5

TOXICITY TEST REPORT Sample: 02890272

TEST CONDITIONSCompany : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : MOE
Sampling Method : grab
Sampled By : J. Lebow
Date Collected : 11/21/89
Received : 11/23/89
Tested : 11/23/89 at: 1441Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)Test Animal : D. magna
Weight(gm) :
Length(mm) :MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	01:00	24:00	48:00	%
100	0	0	0	0	0
60	0	0	1	1	8
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 02890272

TEST CONC. %	E L A P S E D T I M E			
	00:00	01:00	24:00	48:00

100	pH 7.9	02 ppm 8.1	Cond. 519	Temp(C) 20.0	20.0	20.0	20.0	7.8 6.5 520
60	pH 8.0	02 ppm 8.2	Cond. 427	Temp(C) 20.0	20.0	20.0	20.0	7.9 6.7 414
30	pH 8.0	02 ppm 8.3	Cond. 376	Temp(C) 20.0	20.0	20.0	20.0	7.8 6.4 370
15	pH 8.0	02 ppm 8.3	Cond. 348	Temp(C) 20.0	20.0	20.0	20.0	7.8 6.5 340
5	pH 8.1	02 ppm 8.4	Cond. 324	Temp(C) 20.0	20.0	20.0	20.0	7.8 6.5 316
Control	pH 8.1	02 ppm 8.4	Cond. 305	Temp(C) 20.0	20.0	20.0	20.0	7.8 6.6 278

TOXICITY TEST REPORT Sample: 03890298

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (500)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 11/22/89
Received : 11/23/89
Tested : 11/24/89 at: 1320

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol - OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	%
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	0	0	0
100	0	0	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890298

TEST CONC. %
E L A P S E D T I M E
00:00 04:00 24:00 48:00

Control	pH	8.5	9.0	8.4	8.4
	O2 ppm	301		299	299
	Cond.	20.0	20.0	20.0	20.0
	Temp(C)	20.0	20.0	20.0	20.0
6	pH	8.5		8.4	8.4
	O2 ppm	8.2		9.2	9.2
	Cond.	332		315	315
	Temp(C)	20.0	20.0	20.0	20.0
13	pH	8.4		8.4	8.4
	O2 ppm	8.2		9.8	9.8
	Cond.	357		339	339
	Temp(C)	20.0	20.0	20.0	20.0
25	pH	8.3		8.2	8.2
	O2 ppm	8.1		9.6	9.6
	Cond.	370		363	363
	Temp(C)	20.0	20.0	20.0	20.0
50	pH	8.2		8.0	8.0
	O2 ppm	8.0		9.4	9.4
	Cond.	426		418	418
	Temp(C)	20.0	20.0	20.0	20.0
100	pH	7.8		7.8	7.8
	O2 ppm	8.0		8.7	8.7
	Cond.	548		532	532
	Temp(C)	20.0	20.0	20.0	20.0

TOXICITY TEST REPORT Sample: 03890386

TEST CONDITIONSCompany : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : BAR

Sampling Method : Grab

Sampled By : M. Pelletier

Date Collected : 12/19/89

Received : 12/21/89 at: 1125

Tested : 12/22/89

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)Test Animal : D. magna
Weight(gm) :
Length(mm) :MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890386

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 7.8 O2 ppm 9.3 Cond. 448 Temp(C) 19.5	8.1 8.6 442 20.0
50	pH 8.1 O2 ppm 9.0 Cond. 374 Temp(C) 19.5	8.2 8.7 374 20.0
25	pH 8.3 O2 ppm 8.9 Cond. 336 Temp(C) 19.5	8.3 8.8 337 20.0
13	pH 8.3 O2 ppm 8.8 Cond. 317 Temp(C) 19.5	8.3 8.9 322 20.0
6	pH 8.3 O2 ppm 8.8 Cond. 304 Temp(C) 19.5	8.4 8.9 309 20.0
Control	pH 8.3 O2 ppm 8.8 Cond. 302 Temp(C) 19.5	8.2 8.3 309 20.0

TOXICITY TEST REPORT Sample: 03900043

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (500)
Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 01/16/90
Received : 01/18/90
Tested : 01/18/90 at: 1220

Type of Bioassay

: STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal
Weight(gm)
Length(mm)

: D. magna
:
:

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	2	16
50	0	0	8
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900043

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 7.4 O2 ppm 8.7 Cond. 431 Temp(C) 19.0	7.9 8.0 441 20.0
50	pH 7.9 O2 ppm 8.7 Cond. 367 Temp(C) 19.0	8.2 8.2 373 20.0
25	pH 8.1 O2 ppm 8.7 Cond. 334 Temp(C) 19.0	8.3 8.2 340 20.0
13	pH 8.2 O2 ppm 8.7 Cond. 318 Temp(C) 19.0	8.3 8.2 322 20.0
6	pH 8.4 O2 ppm 8.7 Cond. 308 Temp(C) 19.0	8.4 8.2 313 20.0
Control	pH 8.5 O2 ppm 9.0 Cond. 301 Temp(C) 19.0	8.4 8.0 305 20.0

TOXICITY TEST REPORT Sample: 03900164

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(19000000)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (500)
Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 02/27/90
Received : 03/01/90
Tested : 03/02/90 at: 950

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900164

TEST CONC. %	E L A P S E D T I M E		
	00:00	24:00	48:00
100	pH 7.8 O2 ppm 8.0 Cond. 404 Temp(C) 20.0	7.8 8.0 404 20.5	8.2 9.3 399 20.5
50	pH 8.3 O2 ppm 7.8 Cond. 352 Temp(C) 20.0	8.3 7.8 352 20.5	8.4 9.4 348 20.5
25	pH 8.3 O2 ppm 7.7 Cond. 328 Temp(C) 20.0	8.3 7.7 328 20.5	8.5 9.3 325 20.5
13	pH 8.5 O2 ppm 7.6 Cond. 316 Temp(C) 20.0	8.5 7.6 316 20.5	8.5 9.3 314 20.5
6	pH 8.5 O2 ppm 7.6 Cond. 309 Temp(C) 20.0	8.5 7.6 309 20.5	8.5 9.3 311 20.5
Control	pH 8.5 O2 ppm 8.1 Cond. 303 Temp(C) 20.0	8.5 8.1 303 20.5	8.5 9.0 306 20.5

TOXICITY TEST REPORT Sample: 03900230

TOXICITY TEST PARAMETERS

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : BAR
Sampling Method : Grab
Sampled By : H. Pelletier
Date Collected : 03/20/90
Received : 03/22/90 at: 1440
Tested : 03/22/90

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	0	0
50	0	0	0	0
25	0	1	1	8
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

Sample Number: 03900230

TEST CONC. % E L A P S E D T I M E
00:00 24:00 48:00

100	pH 7.9	7.9	7.8
	02 ppm 9.2		8.2
	Cond. 444		447
	Temp(C) 20.0	20.0	20.0
50	pH 8.0	8.0	8.0
	02 ppm 8.9		8.6
	Cond. 370		372
	Temp(C) 20.0	20.0	20.0
25	pH 8.1	8.1	8.1
	02 ppm 8.7		8.8
	Cond. 333		336
	Temp(C) 20.0	20.0	20.0
13	pH 8.2	8.2	8.2
	02 ppm 8.7		8.8
	Cond. 317		317
	Temp(C) 20.0	20.0	20.0
6	pH 8.1	8.1	8.2
	02 ppm 8.7		8.8
	Cond. 304		305
	Temp(C) 20.0	20.0	20.0
Control	pH 8.3	8.3	8.3
	02 ppm 8.4		8.8
	Cond. 295		297
	Temp(C) 20.0	20.0	20.0

SLOPE of Mortality Curve :
LC50 Calculated By :

Sample: 03890224

TOXICITY TEST REPORT

TEST CONDITIONS

Company : Courtaulds Fibres Canada

Region : Cornwall, ONT

Industry : Southeast

Control point : Organic Chemical

Laboratory : combined effluent, (600)

Sampling Method : BAR

Sampled By : L. Lortie

Date Collected : 10/18/89

Received : 10/19/89

Tested : 10/19/89 at: 1350

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol, OME, 1988)

Test Animal : D. magna

Weight(gm) :

Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME	TOTAL MORTALITY
%	00:00 04:00 24:00 48:00	%
Control	0 0 0 1	8
6	0 0 0 0	0
13	0 0 0 0	0
25	0 0 1 1	8
50	0 0 0 0	0
100	0 0 0 0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890224

TEST CONC.	ELAPSED TIME
%	00:00 04:00 24:00 48:00

Control	pH	8.4	8.4
	O2 ppm	9.5	9.4
	Cond.	294	297
	Temp(C)	21.0	20.0
			19.5
6	pH	7.7	8.3
	O2 ppm	8.0	8.6
	Cond.	342	349
	Temp(C)	21.0	20.0
			19.5
13	pH	8.1	8.3
	O2 ppm	7.9	8.9
	Cond.	416	415
	Temp(C)	21.0	20.0
			19.5
25	pH	7.9	8.2
	O2 ppm	8.0	9.0
	Cond.	522	526
	Temp(C)	21.0	20.0
			19.5
50	pH	7.6	8.0
	O2 ppm	8.2	8.9
	Cond.	744	755
	Temp(C)	21.0	20.0
			19.5
100	pH	7.0	7.4
	O2 ppm	8.6	8.5
	Cond.	1181	1177
	Temp(C)	21.0	20.0
			19.5

TOXICITY TEST REPORT Sample: 02890268

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (600)
Laboratory : MOE
Sampling Method : grab
Sampled By : J. Lebow
Date Collected : 11/21/89
Received : 11/23/89
Tested : 11/23/89 at: 1115
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	01:00	24:00	48:00	%
100	0	0	0	0	0
60	0	0	1	1	8
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit/several floaters in 100% & 60%

TOXICITY TEST PARAMETERS

Sample Number: 02890268

TEST CONC. %	E L A P S E D T I M E			
	00:00	01:00	24:00	48:00
100	pH 6.7 O2 ppm 9.3 Cond. 420 Temp(C) 20.0	7.5 7.2 428 20.0	7.2 7.2 428 20.0	7.5 7.2 428 20.0
60	pH 7.2 O2 ppm 9.1 Cond. 379 Temp(C) 20.0	7.5 7.0 383 20.0	7.5 7.0 383 20.0	7.5 7.0 383 20.0
30	pH 7.5 O2 ppm 9.2 Cond. 349 Temp(C) 20.0	7.6 7.2 349 20.0	7.6 7.2 349 20.0	7.6 7.2 349 20.0
15	pH 7.7 O2 ppm 9.3 Cond. 332 Temp(C) 20.0	7.7 7.5 332 20.0	7.7 7.5 332 20.0	7.7 7.5 332 20.0
5	pH 7.9 O2 ppm 9.3 Cond. 320 Temp(C) 20.0	7.7 7.4 320 20.0	7.7 7.4 320 20.0	7.7 7.4 320 20.0
Control	pH 7.8 O2 ppm 9.3 Cond. 300 Temp(C) 20.0	7.9 8.2 294 20.0	7.9 8.2 294 20.0	7.9 8.2 294 20.0

TOXICITY TEST REPORT Sample: 03890299

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 11/22/89
Received : 11/23/89
Tested : 11/24/89 at: 1245

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY	
%	00:00	04:00 24:00 48:00	%	%
Control	0	0 0 0	0	0
6	0	0 0 0	0	0
13	0	0 0 0	0	0
25	0	0 0 0	0	0
50	0	0 0 0	0	0
100	0	0 0 0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890299

TEST CONC.	E L A P S E D T I M E	
%	00:00	04:00 24:00 48:00
Control	pH 8.5 O2 ppm 9.0 Cond. 301 Temp(C) 20.0	8.4 9.6 304 20.0
6	pH 8.4 O2 ppm 8.4 Cond. 397 Temp(C) 20.0	8.4 9.4 415 20.0
13	pH 8.3 O2 ppm 8.4 Cond. 508 Temp(C) 20.0	8.4 9.3 523 20.0
25	pH 8.2 O2 ppm 8.4 Cond. 692 Temp(C) 20.0	8.3 9.3 713 20.0
50	pH 7.9 O2 ppm 8.6 Cond. 1071 Temp(C) 20.0	8.2 9.2 1103 20.0
100	pH 7.4 O2 ppm 8.8 Cond. 1813 Temp(C) 20.0	8.0 9.2 1887 20.0

TOXICITY TEST REPORT Sample: 03890387

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (600)
Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 12/19/89
Received : 12/21/89
Tested : 12/22/89 at: 1210

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	1	8
Control	0	0	0

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03890387

TEST CONC. % E L A P S E D T I M E
00:00 24:00 48:00

100	pH 7.4	8.0
	O2 ppm 9.2	8.8
	Cond. 423	423
	Temp(C) 19.5	20.0
50	pH 7.9	8.2
	O2 ppm 8.9	8.9
	Cond. 366	365
	Temp(C) 19.5	20.0
25	pH 8.2	8.3
	O2 ppm 8.8	9.0
	Cond. 333	333
	Temp(C) 19.5	20.0
13	pH 8.3	8.3
	O2 ppm 8.8	8.9
	Cond. 317	319
	Temp(C) 19.5	20.0
6	pH 8.3	8.4
	O2 ppm 8.7	8.7
	Cond. 304	310
	Temp(C) 19.5	20.0
Control	pH 8.3	8.4
	O2 ppm 8.8	8.3
	Cond. 302	309
	Temp(C) 19.5	20.0

SLOPE of Mortality Curve : 2.0
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 039000044

TEST ELAPSED TIME
CONC. % 00:00 24:00 48:00

100	pH 7.2 O2 ppm 9.0 Cond. 610 Temp(C) 19.0	7.9 8.3 615 20.0
50	pH 7.7 O2 ppm 9.0 Cond. 455 Temp(C) 19.0	8.1 8.3 458 20.0
25	pH 8.0 O2 ppm 8.9 Cond. 376 Temp(C) 19.0	8.3 8.4 381 20.0
13	pH 8.2 O2 ppm 8.9 Cond. 339 Temp(C) 19.0	8.3 8.4 347 20.0
6	pH 8.3 O2 ppm 8.9 Cond. 315 Temp(C) 19.0	8.4 8.4 323 20.0
Control	pH 8.5 O2 ppm 9.0 Cond. 301 Temp(C) 19.0	8.4 8.3 307 20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 039000044

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (600)
Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 01/16/90
Received : 01/18/90
Tested : 01/18/90 at: 1230

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME	TOTAL MORTALITY
%	00:00 24:00 48:00	%
100	0 1 12	100
50	0 2 3	25
25	0 1 1	8
13	0 1 2	16
6	0 0 0	0
Control	0 0 0	0

48 Hour LC50 : 60.9 %
95% fid. limits : 35.9 - 103.0 %

Comments : Lethal

TOXICITY TEST REPORT Sample: 03900165

TEST CONDITIONSCompany : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 02/27/90
Received : 03/01/90
Tested : 03/02/90 at: 1100Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)Test Animal : D. magna
Weight(gm) :
Length(mm) :MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00	48:00
100	0	0	0
50	0	0	0
25	0	0	0
13	0	1	1
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50>100

TOXICITY TEST PARAMETERS

Sample Number: 03900165

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 7.4	7.9
	O2 ppm 8.2	9.5
	Cond. 1866	1870
	Temp(C) 20.0	20.5
50	pH 7.9	8.3
	O2 ppm 7.8	9.6
	Cond. 940	942
	Temp(C) 20.0	20.5
25	pH 8.1	8.4
	O2 ppm 7.8	9.6
	Cond. 708	712
	Temp(C) 20.0	20.5
13	pH 8.3	8.5
	O2 ppm 7.8	9.6
	Cond. 512	514
	Temp(C) 20.0	20.5
6	pH 8.4	8.5
	O2 ppm 7.7	9.6
	Cond. 399	394
	Temp(C) 20.0	20.5
Control	pH 8.5	8.5
	O2 ppm 8.1	9.4
	Cond. 303	297
	Temp(C) 20.0	20.5

TOXICITY TEST REPORT Sample: 03900231

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 03/20/90
Received : 03/22/90
Tested : 03/22/90 at: 1545

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	1	8
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900231

TEST CONC. % E L A P S E D T I M E
00:00 24:00 48:00

100	pH 7.1	7.6	7.6
	O2 ppm 9.2	8.7	8.7
	Cond. 573	577	577
	Temp(C) 20.0	20.0	20.0
50	pH 7.6	7.9	7.9
	O2 ppm 8.6	8.8	8.8
	Cond. 435	438	438
	Temp(C) 20.0	20.0	20.0
25	pH 7.8	8.0	8.0
	O2 ppm 8.4	8.8	8.8
	Cond. 369	370	370
	Temp(C) 20.0	20.0	20.0
13	pH 8.0	8.1	8.1
	O2 ppm 8.4	8.9	8.9
	Cond. 335	337	337
	Temp(C) 20.0	20.0	20.0
6	pH 8.2	8.2	8.2
	O2 ppm 8.4	8.8	8.8
	Cond. 318	321	321
	Temp(C) 20.0	20.0	20.0
Control	pH 8.3	8.3	8.3
	O2 ppm 8.4	8.8	8.8
	Cond. 295	297	297
	Temp(C) 20.0	20.0	20.0

TOXICITY TEST REPORT Sample: 03890225

TEST CONDITIONS

Company : Courtaulds Fibres Canada
 Cornwall, ONT
 (1900000)
 Region : Southeast
 Industry : Organic Chemical
 Control point : combined effluent, (700)

Laboratory : BAR
 Sampling Method : Grab
 Sampled By : L. Lortie
 Date Collected : 10/18/89
 Received : 10/19/89
 Tested : 10/19/89 at: 1400

Type of Bioassay : STATIC
 (Daphnia magna Acute Lethality Toxicity
 Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	%
Control	0	0	1	1	8
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	0	0	0
100	0	0	0	0	0

48 Hour LC50 : Non-lethal
 95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890225

TEST CONC. %	E L A P S E D T I M E			
	00:00	04:00	24:00	48:00

Control	pH	8.4	8.3
	O ₂ ppm	9.5	9.3
	Cond.	294	297
	Temp(C)	21.0	20.0
6	pH	7.5	8.3
	O ₂ ppm	8.2	8.6
	Cond.	313	314
	Temp(C)	21.0	20.0
13	pH	8.2	8.3
	O ₂ ppm	7.9	8.9
	Cond.	334	329
	Temp(C)	21.0	20.0
25	pH	8.0	8.1
	O ₂ ppm	8.0	9.0
	Cond.	361	356
	Temp(C)	21.0	20.0
50	pH	7.6	7.9
	O ₂ ppm	8.1	8.9
	Cond.	419	413
	Temp(C)	21.0	20.0
100	pH	7.9	7.4
	O ₂ ppm	8.4	8.6
	Cond.	530	527
	Temp(C)	21.0	20.0

TOXICITY TEST REPORT Sample: 02890273

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (700)

Laboratory : MOE
Sampling Method : grab
Sampled By : J. Lebow
Date Collected : 11/21/89
Received : 11/23/89
Tested : 11/23/89 at: 1511

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	01:00	24:00	48:00	%
100	0	0	1	10	83
60	0	0	0	2	16
30	0	0	1	0	0
15	0	0	2	2	16
5	0	0	1	3	25
Control	0	0	0	0	0

48 Hour LC50 : 64.5 %

95% fid. limits : 51.9 - 80.1 %

Comments : MISA Audit/

TOXICITY TEST PARAMETERS

Sample Number: 02890273

TEST CONC. %
E L A P S E D T I M E
00:00 01:00 24:00 48:00

100	pH 6.0 O2 ppm 8.1 Cond. 605 Temp(C) 20.0	6.7 6.2 587 20.0	20.0	20.0	20.0	48:00
60	pH 6.9 O2 ppm 8.2 Cond. 481 Temp(C) 20.0	7.2 5.9 481 20.0	20.0	20.0	20.0	48:00
30	pH 7.3 O2 ppm 8.3 Cond. 402 Temp(C) 20.0	7.5 6.1 392 20.0	20.0	20.0	20.0	48:00
15	pH 7.7 O2 ppm 8.3 Cond. 358 Temp(C) 20.0	7.6 6.5 349 20.0	20.0	20.0	20.0	48:00
5	pH 7.9 O2 ppm 8.3 Cond. 329 Temp(C) 20.0	7.7 6.6 329 20.0	20.0	20.0	20.0	48:00
Control	pH 8.0 O2 ppm 8.3 Cond. 306 Temp(C) 20.0	7.9 7.0 285 20.0	20.0	20.0	20.0	48:00

TOXICITY TEST REPORT Sample: 03890300

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (700)
Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 11/22/89
Received : 11/23/89 at: 945
Tested : 11/25/89

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol - OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	%
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	0	0	0
100	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890300

TEST CONC. %	E L A P S E D T I M E			
	00:00	04:00	24:00	48:00

Control	pH	7.9	8.3
	O ₂ ppm	9.0	8.9
	Cond.	301	302
	Temp(C)	20.0	20.0
6	pH	7.9	8.3
	O ₂ ppm	8.9	9.2
	Cond.	324	329
	Temp(C)	20.0	20.0
13	pH	7.9	8.3
	O ₂ ppm	9.0	9.2
	Cond.	347	350
	Temp(C)	20.0	20.0
25	pH	7.7	8.2
	O ₂ ppm	8.9	9.2
	Cond.	386	387
	Temp(C)	20.0	20.0
50	pH	7.4	8.0
	O ₂ ppm	9.0	9.1
	Cond.	469	468
	Temp(C)	20.0	20.0
100	pH	6.6	7.5
	O ₂ ppm	9.4	9.0
	Cond.	642	637
	Temp(C)	20.0	20.0

TOXICITY TEST REPORT Sample: 03900045

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 01/16/90
Received : 01/18/90
Tested : 01/18/90 at: 1305

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	7	7	58
50	0	0	1	8
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : 93.3 %

95% fid. limits : 66.2 - 131.3 %

Comments : lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900045

TEST
CONC.
%

E L A P S E D T I M E

00:00 24:00 48:00

100	pH 7.4 02 ppm 9.0 Cond. 389 Temp(C) 19.0	7.8 8.1 399 20.5 20.0
50	pH 7.9 02 ppm 9.0 Cond. 342 Temp(C) 19.0	8.1 8.3 354 20.5 20.0
25	pH 8.2 02 ppm 9.0 Cond. 319 Temp(C) 19.0	8.3 8.4 328 20.5 20.0
13	pH 8.3 02 ppm 9.0 Cond. 308 Temp(C) 19.0	8.3 8.5 317 20.5 20.0
6	pH 8.4 02 ppm 9.0 Cond. 302 Temp(C) 19.0	8.4 8.5 311 20.5 20.0
Control	pH 8.5 02 ppm 9.0 Cond. 301 Temp(C) 19.0	8.3 8.3 303 20.5 20.0

TOXICITY TEST REPORT Sample: 03900166

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (700)
Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 02/27/90
Received : 03/01/90
Tested : 03/02/90 at: 1005

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. ONE, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	1	8

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900166

TEST CONC. %	ELAPSED TIME	
	00:00	24:00 48:00
100	pH 6.9 O2 ppm 8.1 Cond. 628 Temp(C) 20.0	7.7 9.7 627 20.5
50	pH 7.5 O2 ppm 8.0 Cond. 463 Temp(C) 20.0	8.2 9.8 465 20.5
25	pH 7.9 O2 ppm 7.9 Cond. 383 Temp(C) 20.0	8.3 9.9 384 20.5
13	pH 8.2 O2 ppm 7.8 Cond. 345 Temp(C) 20.0	8.4 10.0 349 20.5
6	pH 8.2 O2 ppm 7.8 Cond. 323 Temp(C) 20.0	8.5 10.0 325 20.5
Control	pH 8.5 O2 ppm 8.1 Cond. 303 Temp(C) 20.0	8.5 9.9 310 20.5

TOXICITY TEST REPORT Sample: 03900232

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (700)
Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 03/20/90
Received : 03/22/90
Tested : 03/22/90 at: 1550

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	0	0
50	0	1	1	8
25	0	0	0	0
13	0	0	0	0
6	0	1	1	8
Control	0	0	0	0

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900232

TEST CONC. %

E L A P S E D T I M E

00:00 24:00 48:00

100	pH	7.2	7.8
	O2 ppm	9.1	8.6
	Cond.	444	450
	Temp(C)	20.0	20.0
50	pH	7.7	8.0
	O2 ppm	8.9	8.8
	Cond.	371	371
	Temp(C)	20.0	20.0
25	pH	7.9	8.1
	O2 ppm	8.8	8.8
	Cond.	336	338
	Temp(C)	20.0	20.0
13	pH	8.0	8.1
	O2 ppm	8.7	8.8
	Cond.	317	320
	Temp(C)	20.0	20.0
6	pH	8.1	8.2
	O2 ppm	8.6	8.9
	Cond.	305	318
	Temp(C)	20.0	20.0
Control	pH	8.3	8.3
	O2 ppm	8.4	8.9
	Cond.	295	297
	Temp(C)	20.0	20.0

TOXICITY TEST REPORT Sample: 03890226

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (800)
Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 10/18/89
Received : 10/19/89
Tested : 10/19/89 at: 1415

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. ONE, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	%
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	1	1	8
100	0	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890226

TEST CONC. %	E L A P S E D T I M E		
	00:00	04:00	24:00 48:00

Control	pH	8.4			8.4
	O2 ppm	9.5			9.3
	Cond.	294			298
	Temp(C)	21.0	20.0	20.0	19.5
6	pH	8.2			8.3
	O2 ppm	8.2			8.8
	Cond.	300			307
	Temp(C)	21.0	20.0	20.0	19.5
13	pH	8.1			8.2
	O2 ppm	8.1			8.8
	Cond.	324			327
	Temp(C)	21.0	20.0	20.0	19.5
25	pH	7.9			8.2
	O2 ppm	8.2			8.9
	Cond.	352			355
	Temp(C)	21.0	20.0	20.0	19.5
50	pH	7.5			8.0
	O2 ppm	8.3			8.8
	Cond.	408			412
	Temp(C)	21.0	20.0	20.0	19.5
100	pH	7.1			7.6
	O2 ppm	8.7			8.5
	Cond.	519			524
	Temp(C)	21.0	20.0	20.0	19.5

TOXICITY TEST REPORT Sample: 02890271

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (800)

Laboratory : MDE
Sampling Method : grab
Sampled By : J. Lebow
Date Collected : 11/21/89
Received : 11/23/89
Tested : 11/23/89 at: 1432

Type of Bioassay : STATIC.
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	01:00	24:00	48:00	%
100	0	0	0	0	0
60	0	0	0	0	0
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 02890271

TEST CONC. %
E L A P S E D T I M E
00:00 01:00 24:00 48:00

100	pH	7.0	7.5
	O2 ppm	8.0	6.5
	Cond.	431	428
	Temp(C)	20.0	20.0
60	pH	7.4	7.6
	O2 ppm	8.1	6.6
	Cond.	381	381
	Temp(C)	20.0	20.0
30	pH	7.7	7.8
	O2 ppm	8.2	7.0
	Cond.	350	347
	Temp(C)	20.0	20.0
15	pH	7.9	7.8
	O2 ppm	8.2	6.9
	Cond.	332	330
	Temp(C)	20.0	20.0
5	pH	8.0	7.8
	O2 ppm	8.2	6.9
	Cond.	320	315
	Temp(C)	20.0	20.0
Control	pH	8.1	8.0
	O2 ppm	8.3	7.6
	Cond.	303	297
	Temp(C)	20.0	20.0

TOXICITY TEST REPORT Sample: 03890301

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (800)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Lortie
Date Collected : 11/22/89
Received : 11/23/89
Tested : 11/24/89 at: 1150

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	%
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	1	8
50	0	0	0	0	0
100	0	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50>100

TOXICITY TEST PARAMETERS

Sample Number: 03890301

TEST CONC. %	E L A P S E D T I M E			
	00:00	04:00	24:00	48:00

Control	pH	8.5	8.4
	O2 ppm	9.0	9.5
	Cond.	301	304
	Temp(C)	20.0	20.0
6	pH	8.4	8.4
	O2 ppm	8.3	9.4
	Cond.	323	331
	Temp(C)	20.0	20.0
13	pH	8.2	8.3
	O2 ppm	8.4	9.3
	Cond.	352	352
	Temp(C)	20.0	20.0
25	pH	7.8	8.1
	O2 ppm	8.4	9.3
	Cond.	387	392
	Temp(C)	20.0	20.0
50	pH	7.4	7.9
	O2 ppm	8.5	9.2
	Cond.	466	475
	Temp(C)	20.0	20.0
100	pH	6.6	7.3
	O2 ppm	9.0	9.1
	Cond.	643	648
	Temp(C)	20.0	20.0

TOXICITY TEST REPORT Sample: 03890389

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (800)
Laboratory : BAR
Sampling Method : Grab
Sampled By : H. Pelletier
Date Collected : 12/19/89
Received : 12/21/89
Tested : 12/22/89 at: 1235

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol, OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	%	ELAPSED TIME	TOTAL MORTALITY
100	0	0 0 0	0
50	0	0 0 0	0
25	0	0 0 0	0
13	0	0 0 0	0
6	0	0 0 0	0
Control	0	0 0 0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890389

TEST CONC. %
ELAPSED TIME
00:00 24:00 48:00

100	pH 7.4 O2 ppm 9.1 Cond. 419 Temp(C) 19.5	8.0 8.8 426 20.0
50	pH 7.9 O2 ppm 8.8 Cond. 361 Temp(C) 19.5	8.2 8.8 365 20.0
25	pH 8.2 O2 ppm 8.7 Cond. 331 Temp(C) 19.5	8.3 8.9 334 20.0
13	pH 8.3 O2 ppm 8.7 Cond. 315 Temp(C) 19.5	8.3 8.9 319 20.0
6	pH 8.3 O2 ppm 8.7 Cond. 303 Temp(C) 19.5	8.3 8.9 304 20.0
Control	pH 8.3 O2 ppm 8.8 Cond. 302 Temp(C) 19.5	8.2 8.6 264 20.0

TOXICITY TEST REPORT Sample: 03900046

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (800)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 01/16/90
Received : 01/18/90
Tested : 01/18/90 at: 1315

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	1	8
50	0	0	8
25	0	0	8
13	0	0	0
6	0	0	8
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 > 100

TOXICITY TEST PARAMETERS

Sample Number: 03900046

TEST CONC. % E L A P S E D T I M E
00:00 24:00 48:00

100	pH 6.9	7.7
	O2 ppm 9.0	8.3
	Cond. 517	528
	Temp(C) 19.0	20.5
50	pH 7.4	8.1
	O2 ppm 9.0	8.4
	Cond. 408	415
	Temp(C) 19.0	20.0
25	pH 7.9	8.2
	O2 ppm 9.0	8.5
	Cond. 353	359
	Temp(C) 19.0	20.5
13	pH 8.1	8.3
	O2 ppm 9.0	8.5
	Cond. 326	331
	Temp(C) 19.0	20.0
6	pH 8.3	8.3
	O2 ppm 9.0	8.5
	Cond. 311	317
	Temp(C) 19.0	20.5
Control	pH 8.5	8.4
	O2 ppm 9.0	8.2
	Cond. 301	305
	Temp(C) 19.0	20.5

TOXICITY TEST REPORT Sample: 03900167

TEST CONDITIONS

Company : Courtaulds Fibres Canada
Cornwall, ONT
(1900000)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (800)
Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 02/27/90
Received : 03/01/90
Tested : 03/02/90 at: 1020

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol: OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	8
Control	0	1	8

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900167

TEST CONC. %
ELAPSED TIME
00:00 24:00 48:00

100	pH 6.9 O2 ppm 8.2 Cond. 596 Temp(C) 20.0	7.7 9.8 597 20.5
50	pH 7.5 O2 ppm 8.0 Cond. 449 Temp(C) 20.0	8.2 9.9 447 20.5
25	pH 7.9 O2 ppm 7.9 Cond. 376 Temp(C) 20.0	8.4 10.0 376 20.5
13	pH 8.2 O2 ppm 7.9 Cond. 341 Temp(C) 20.0	8.4 10.0 344 20.5
6	pH 8.2 O2 ppm 7.8 Cond. 320 Temp(C) 20.0	8.5 10.0 327 20.5
Control	pH 8.5 O2 ppm 8.1 Cond. 303 Temp(C) 20.0	8.5 9.9 305 20.5

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900233

TEST CONDITIONS

Company : Courtaulds Fibres Canada

Region : Cornwall, ONT

Industry : Southeast

Control point : combined effluent, (800)

Laboratory : BAR

Sampling Method : Grab

Sampled By : M. Pelletier

Date Collected : 03/20/90

Date Received : 03/22/90

Tested : 03/22/90 at: 1610

Type of Bioassay

: STATIC

(Daphnia magna Acute Lethality Toxicity

Test Protocol. OME, 1988)

Test Animal : D. magna

Weight(gm) :

Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	1	8
25	0	1	16
13	0	0	0
6	0	0	0
Control	0	1	8

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900233

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 7.3 O2 ppm 9.3 Cond. 423 Temp(C) 20.0	7.8 8.7 432 20.0
50	pH 7.7 O2 ppm 8.9 Cond. 360 Temp(C) 20.0	8.0 8.8 365 20.0
25	pH 8.0 O2 ppm 8.8 Cond. 330 Temp(C) 20.0	8.1 8.8 334 20.0
13	pH 8.1 O2 ppm 8.6 Cond. 314 Temp(C) 20.0	8.2 8.9 319 20.0
6	pH 8.1 O2 ppm 8.3 Cond. 301 Temp(C) 20.0	8.2 8.8 309 20.0
Control	pH 8.3 O2 ppm 8.4 Cond. 295 Temp(C) 20.0	8.3 8.9 297 20.0

TOXICITY TEST REPORT Sample: 03890302

TEST CONDITIONS

Company : Courtaulds Fibres Canada
 : Cornwall, ONT
 : (1900000)
 Region : Southeast
 Industry : Organic Chemical

Control point : intake water, (1300)

Laboratory : BAR
 Sampling Method : Grab
 Sampled By : L. Lortie
 Date Collected : 11/23/89
 Received : 11/23/89
 Tested : 11/24/89 at: 1200

Type of Bioassay : STATIC
 : (Daphnia magna Acute Lethality Toxicity
 : Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	%
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	0	0	0
100	0	0	0	0	0

48 Hour LC50 : Non-lethal
 95% fid. limits : 0.0 - 0.0 %
 Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890302

TEST
CONC.
%

E L A P S E D T I M E

00:00 04:00 24:00 48:00

Control	pH	8.5	8.4	8.4
	O2 ppm	9.0	9.4	9.4
	Cond.	301	304	304
	Temp(C)	20.0	20.0	20.0
6	pH	8.4	8.4	8.4
	O2 ppm	8.2	9.4	9.4
	Cond.	308	313	313
	Temp(C)	20.0	20.0	20.0
13	pH	8.4	8.4	8.4
	O2 ppm	8.3	9.4	9.4
	Cond.	318	315	315
	Temp(C)	20.0	20.0	20.0
25	pH	8.4	8.3	8.3
	O2 ppm	8.3	9.5	9.5
	Cond.	326	322	322
	Temp(C)	20.0	20.0	20.0
50	pH	8.3	8.3	8.3
	O2 ppm	8.4	9.4	9.4
	Cond.	341	336	336
	Temp(C)	20.0	20.0	20.0
100	pH	8.1	8.2	8.2
	O2 ppm	8.7	9.2	9.2
	Cond.	371	365	365
	Temp(C)	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890390

TEST CONDITIONS

Company : Courtaulds Fibres Canada
 : Cornwall, ONT
 : (1900000)
Region : Southeast
Industry : Organic Chemical

Control point : Intake water, (1300)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Pelletier
Date Collected : 12/19/89
 Received : 12/21/89
 Tested : 12/22/89 at: 1110

Type of Bioassay : STATIC
 : (Daphnia magna Acute Lethality Toxicity
 : Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	1	1	8
50	0	0	0	0
25	0	1	1	8
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890390

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.1 O2 ppm 9.6 Cond. 348 Temp(C) 19.5	20.0	8.2 8.8 353 20.0
50	pH 8.2 O2 ppm 9.1 Cond. 326 Temp(C) 19.5	20.0	8.3 8.8 329 20.0
25	pH 8.3 O2 ppm 8.9 Cond. 313 Temp(C) 19.5	20.0	8.3 8.7 317 20.0
13	pH 8.3 O2 ppm 8.8 Cond. 307 Temp(C) 19.5	20.0	8.3 8.7 313 20.0
6	pH 8.3 O2 ppm 8.8 Cond. 301 Temp(C) 19.5	20.0	8.3 8.7 311 20.0
Control	pH 8.3 O2 ppm 8.8 Cond. 302 Temp(C) 19.5	20.0	8.2 8.5 305 20.0

COMPANY: Dow Chemical Canada Inc., Sarnia
(910109)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

The data for forty-three trout bioassays, conducted on process effluent, combined effluent and once through cooling water effluent samples collected between October 1989 and March 1990, were provided by Dow Chemical Canada Incorporated. All six samples collected from combined effluent control point 0200 were determined to have been non-acutely lethal to test fish. One audit sample collected in March and tested by the O.M.E. laboratory was also non-acutely lethal. All six samples from combined effluent control point 0500 were also non-acutely lethal. An audit sample collected in March was also non-acutely lethal. All six samples from combined effluent control point 0600 were non-acutely lethal. The audit sample collected in March was similiarily determined as non-acutely lethal. All six samples collected from combined effluent 0700 were determined to have been non-acutely lethal. The audit sample collected in March was also non-acutely lethal. Five of six samples from the combined effluent control point 0900 were determined to have been non-acutely lethal while the remaining had a 96 hour LC50 > 100 %. The audit sample collected in March was non-acutely lethal. All twelve once through cooling water samples from control point 0300 and 1000 were non-acutely lethal. The two audit samples for the two OTCW discharges were also non-acutely lethal. Four of five process effluent samples collected from control point 2100 were determined to have been non-lethal. The remaining sample and the audit sample collected in March had a 96 hour LC50s > 100 %.

intake water

combined effluent

03890206 sampled: 10/10/89 non-lethal
95% fid. limits: 100.0 - 100.0 %
comments:

03890256 sampled: 11/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03890359 sampled: 12/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

Dow Chemical Canada Inc. (continued)

03900018 sampled: 01/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900111 sampled: 02/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test

01900028 sampled: 03/04/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900209 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; Non-lethal

OT cooling water

03890203 sampled: 10/10/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

03890261 sampled: 11/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Don Lethal

03900016 sampled: 01/09/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

01900027 sampled: 03/04/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900210 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; Non-lethal

combined effluent

03890207 sampled: 10/10/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

03890257 sampled: 11/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03890360 sampled: 12/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

Dow Chemical Canada Inc. (continued)

03900015 sampled: 01/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900112 sampled: 02/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test

01900029 sampled: 03/04/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900211 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; Non-lethal

combined effluent

03890209 sampled: 10/10/89 non-lethal
95% fid. limits: 100.0 - 100.0 %
comments:

03890258 sampled: 11/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03890356 sampled: 12/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900013 sampled: 01/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900113 sampled: 02/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single concentration test - Non lethal

01900031 sampled: 03/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900212 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; Non-lethal

Dow Chemical Canada Inc. (continued)

combined effluent

03890205 sampled: 10/10/89 non-lethal
95% fid. limits: 100.0 - 100.0 %
comments:

03890259 sampled: 11/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03890358 sampled: 12/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900014 sampled: 01/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900114 sampled: 02/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test

01900030 sampled: 03/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900213 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; Non-lethal

combined effluent

03890202 sampled: 10/10/89 non-lethal
95% fid. limits: 100.0 - 100.0 %
comments: Non lethal

03890260 sampled: 11/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03890361 sampled: 12/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900012 sampled: 01/09/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900115 sampled: 02/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration test

Dow Chemical Canada Inc. (continued)

01900032 sampled: 03/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900214 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; Non-lethal

OT cooling water

03890204 sampled: 10/10/89 non-lethal
95% fid. limits: 100.0 - 100.0 %
comments:

03890262 sampled: 11/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900017 sampled: 01/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

01900035 sampled: 03/12/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900215 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; non-lethal

intake water

process effluent

process effluent

process effluent

process effluent

process effluent

process effluent

process effluent

Dow Chemical Canada Inc. (continued)

process effluent

process effluent

03890274	sampled: 11/16/89	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non lethal	
03890357	sampled: 12/13/89	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:	LC50 >100%	
03900011	sampled: 01/09/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non-lethal	
03900116	sampled: 02/13/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non lethal	
01900034	sampled: 03/14/90	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:	MISA Audit	
03900216	sampled: 03/19/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non-lethal	

waste site

total plant

steam plant

north pump house

south pump house

rain gauge

TOXICITY TEST REPORT Sample: 03890206

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 10/10/89
Received : 10/11/89
Tested : 10/12/89 at: 1400

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00 96:00	%
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
40	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 100.0 - 100.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03890206

TEST CONC. %
E L A P S E D T I M E
00:00 04:00 24:00 48:00 72:00 96:00

Control	pH	7.7	7.7	7.7	7.7	7.7	8.4
	O2 ppm	7.9	7.9	7.9	7.9	7.9	9.1
	Cond.	558	558	558	558	558	564
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
10	pH	7.7	7.7	7.7	7.7	7.7	8.4
	O2 ppm	7.9	7.9	7.9	7.9	7.9	9.2
	Cond.	529	529	529	529	529	533
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
20	pH	7.8	7.8	7.8	7.8	7.8	8.3
	O2 ppm	7.9	7.9	7.9	7.9	7.9	9.2
	Cond.	498	498	498	498	498	502
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
40	pH	7.8	7.8	7.8	7.8	7.8	8.3
	O2 ppm	8.3	8.3	8.3	8.3	8.3	9.1
	Cond.	435	435	435	435	435	444
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
65	pH	7.8	7.8	7.8	7.8	7.8	8.1
	O2 ppm	8.4	8.4	8.4	8.4	8.4	8.8
	Cond.	359	359	359	359	359	364
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
100	pH	8.2	8.2	8.2	8.2	8.2	7.8
	O2 ppm	8.5	8.5	8.5	8.5	8.5	8.7
	Cond.	241	241	241	241	241	249
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST REPORT Sample: 03890256

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910106)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 11/13/89
Received : 11/14/89
Tested : 11/15/89 at: 1030

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890256

TEST CONC. %
E L A P S E D T I M E
00:00 04:00 24:00 48:00 72:00 96:00

Control	pH 7.7	7.5	8.6	9.7	560	14.0
	O2 ppm 561	15.0	15.0	14.0	14.0	14.0
	Temp(C) 15.0	15.0	15.0	14.0	14.0	14.0
10	pH 7.7	7.9	8.5	9.7	534	14.0
	O2 ppm 534	15.0	15.0	14.0	14.0	14.0
	Temp(C) 15.0	15.0	15.0	14.0	14.0	14.0
20	pH 7.7	8.0	8.5	9.8	502	14.0
	O2 ppm 504	15.0	15.0	14.0	14.0	14.0
	Temp(C) 15.0	15.0	15.0	14.0	14.0	14.0
40	pH 7.8	8.4	8.3	9.4	440	14.0
	O2 ppm 436	15.0	15.0	14.0	14.0	14.0
	Temp(C) 15.0	15.0	15.0	14.0	14.0	14.0
65	pH 7.9	9.2	8.4	9.7	354	14.0
	O2 ppm 352	15.0	15.0	14.0	14.0	14.0
	Temp(C) 15.0	15.0	15.0	14.0	14.0	14.0
100	pH 8.1	9.7	8.2	9.8	245	14.0
	O2 ppm 236	15.0	15.0	14.0	14.0	14.0
	Temp(C) 15.0	15.0	15.0	14.0	14.0	14.0

TOXICITY TEST REPORT Sample: 03890359

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910106)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (200)
Laboratory : BAR
Sampling Method : Effluent
Sampled By : D. McLaughtlin
Date Collected : 12/13/89
Received : 12/14/89
Tested : 12/17/89 at: 800

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890359

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00
100	pH 8.2 O2 ppm 9.8 Cond. 245 Temp(C) 15.0	14.0	14.0	15.0 14.0
65	pH 8.0 O2 ppm 9.2 Cond. 359 Temp(C) 15.0	14.0	14.0	15.0 14.0
40	pH 8.0 O2 ppm 9.0 Cond. 438 Temp(C) 15.0	14.0	14.0	15.0 14.0
20	pH 8.0 O2 ppm 8.6 Cond. 501 Temp(C) 15.0	14.0	14.0	15.0 14.0
10	pH 8.0 O2 ppm 8.6 Cond. 531 Temp(C) 15.0	14.0	14.0	15.0 14.0
5	pH 8.0 O2 ppm 8.5 Cond. 546 Temp(C) 15.0	14.0	14.0	15.0 14.0
Control	pH 7.8 O2 ppm 8.7 Cond. 554 Temp(C) 15.0	14.0	14.0	15.0 14.0

SLOPE of Mortality Curve : Intuitive
 LC50 Calculated By :

MISA Trout

TOXICITY TEST REPORT Sample: 03900018

TOXICITY TEST PARAMETERS

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
 Sarnia, ONT
 (910106)

Region : Southwest
 Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BAR
 Sampling Method : Grab
 Sampled By : D. McLaughlin
 Date Collected : 01/09/90
 Received : 01/10/90
 Tested : 01/11/90 at: 1100

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal
 95% fid. limits : 0.0 - 0.0 %
 Comments : Non-lethal

Sample Number: 03900018

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00
100	pH 8.1 O2 ppm 10.4 Cond. 258 Temp(C) 15.0	14.5	15.0	15.0
Control	pH 7.9 O2 ppm 9.1 Cond. 563 Temp(C) 15.0	14.5	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900111

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910106)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 02/13/90
Received : 02/14/90 at: 1530
Tested : 02/14/90

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
100	0	0	0	0	0
Control	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single Concentration Test

SLOPE of Mortality Curve : Intuitive
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900111

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00
100	pH 8.1 O2 ppm 10.1 Cond. 230 Temp(C) 15.0	8.1 10.1 230 15.0	14.0 14.0 14.0 14.0	8.1 8.9 238 14.0
100	pH 8.1 O2 ppm 10.1 Cond. 230 Temp(C) 15.0	8.1 10.1 230 15.0	14.0 14.0 14.0 14.0	8.0 9.3 241 14.0
Control	pH 7.9 O2 ppm 9.2 Cond. 533 Temp(C) 15.0	7.9 9.2 533 15.0	14.0 14.0 14.0 14.0	8.4 9.2 531 14.0
Control	pH 7.9 O2 ppm 9.2 Cond. 533 Temp(C) 15.0	7.9 9.2 533 15.0	14.0 14.0 14.0 14.0	8.4 9.2 530 14.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 01900028

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910106)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (200)
Laboratory : MOE
Sampling Method : Grab
Sampled By : D. Hamilton
Date Collected : 03/04/90
Received : 03/06/90
Tested : 03/08/90 at: 1400

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E										TOTAL MORTALITY	
%	00:00	00:30	01:00	02:00	04:00	20:00	50:00	74:00	96:00	%		
100	0	0	0	0	0	0	0	0	0	0		
65	0	0	0	0	0	0	0	0	0	0		
40	0	0	0	0	0	0	0	0	0	0		
30	0	0	0	0	0	0	0	0	0	0		
20	0	0	0	0	0	0	0	0	0	0		
10	0	0	0	0	0	0	0	0	0	0		
Control	0	0	0	0	0	0	0	0	0	0		

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 01900028

TEST E L A P S E D T I M E

TEST CONC. %	00:00 00:30 01:00 02:00 04:00 20:00 50:00 74:00 96:00									
100	pH	6.4	7.6	7.5	7.4	7.5	7.4	7.3	7.3	7.
	O2 ppm	9.7	9.6	9.6	9.5	9.6	9.5	8.7	9.7	9.
	Cond.	200	175	175	180	180	180	180	180	18
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.
65	pH	7.5	7.5	7.5	7.4	7.5	7.4	7.6	7.6	7.
	O2 ppm	9.6	9.6	9.6	9.5	9.6	9.6	9.7	9.7	9.
	Cond.	205	205	205	200	205	205	205	205	21
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.
40	pH	7.5	7.5	7.5	7.4	7.4	7.4	7.6	7.6	7.
	O2 ppm	9.7	9.7	9.7	9.5	9.7	9.7	9.8	9.8	9.
	Cond.	225	225	225	225	230	230	230	230	23
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.
30	pH	7.5	7.5	7.5	7.3	7.3	7.3	7.5	7.5	7.
	O2 ppm	9.6	9.6	9.6	9.1	9.6	9.7	9.7	9.7	9.
	Cond.	235	235	235	235	235	240	240	240	24
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.
20	pH	7.5	7.5	7.5	7.6	7.4	7.4	7.5	7.5	7.
	O2 ppm	9.6	9.6	9.6	9.7	9.7	9.7	10.0	10.0	9.
	Cond.	245	245	245	245	245	250	250	250	25
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.
10	pH	7.5	7.5	7.5	7.5	7.4	7.4	7.6	7.6	7.
	O2 ppm	9.7	9.7	9.7	9.6	9.7	9.7	10.0	10.0	9.
	Cond.	255	255	255	250	255	255	260	260	26
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.
Control	pH	7.4	7.4	7.4	7.4	7.4	7.4	7.7	7.7	7.
	O2 ppm	9.4	9.4	9.4	9.8	9.8	9.8	9.9	9.9	10.
	Cond.	260	260	260	260	265	265	265	265	27
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.

MISA Trout

TOXICITY TEST REPORT Sample: 03900209

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910106)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/20/90 at: 1610

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test; Non-lethal

SLOPE of Mortality Curve : Intuitive
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900209

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00
100	pH 7.9 O2 ppm 10.8 Cond. 247 Temp(C) 15.0	14.0	15.0	15.0	8.2 10.3 242 14.5
100	pH 7.9 O2 ppm 10.8 Cond. 247 Temp(C) 15.0	14.0	15.0	15.0	8.1 10.1 241 14.5
Control	pH 7.9 O2 ppm 8.2 Cond. 549 Temp(C) 15.0	14.0	15.0	15.0	8.4 9.9 541 14.5
Control	pH 7.9 O2 ppm 8.2 Cond. 549 Temp(C) 15.0	14.0	15.0	15.0	8.4 9.9 540 14.5

TOXICITY TEST REPORT Sample: 03890203

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical
Control point : OF cooling water, (300)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 10/10/89
Received : 10/11/89
Tested : 10/12/89 at: 1115

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 100.0 - 100.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03890203

TEST CONC. %
E L A P S E D T I M E
00:00 04:00 24:00 48:00 72:00 96:00

Control	pH	7.6	7.6	7.6	7.6	7.6	8.5
	O2 ppm	7.4	7.4	7.4	7.4	7.4	9.4
	Cond.	555	555	555	555	555	482
	Temp(C)	15.5	15.0	15.0	15.0	15.0	15.5
10	pH	7.8	7.8	7.8	7.8	7.8	8.4
	O2 ppm	8.4	8.4	8.4	8.4	8.4	8.7
	Cond.	536	536	536	536	536	540
	Temp(C)	15.5	15.0	15.0	15.0	15.0	15.5
20	pH	7.9	7.9	7.9	7.9	7.9	8.4
	O2 ppm	8.5	8.5	8.5	8.5	8.5	9.0
	Cond.	505	505	505	505	505	506
	Temp(C)	15.5	15.0	15.0	15.0	15.0	15.5
40	pH	7.9	7.9	7.9	7.9	7.9	8.3
	O2 ppm	8.6	8.6	8.6	8.6	8.6	8.7
	Cond.	439	439	439	439	439	447
	Temp(C)	15.5	15.0	15.0	15.0	15.0	15.5
65	pH	8.0	8.0	8.0	8.0	8.0	8.2
	O2 ppm	8.8	8.8	8.8	8.8	8.8	8.8
	Cond.	357	357	357	357	357	365
	Temp(C)	15.5	15.0	15.0	15.0	15.0	15.5
100	pH	8.1	8.1	8.1	8.1	8.1	8.0
	O2 ppm	8.8	8.8	8.8	8.8	8.8	8.8
	Cond.	238	238	238	238	238	247
	Temp(C)	15.5	15.0	15.0	15.0	15.0	15.5

MISA Trout

SLOPE of Mortality Curve : Intuitive
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03890261

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical
Control point : OT cooling water, (300)
Laboratory : BAR
Sampling Method : Grab
Sampled By : H. Rankin
Date Collected : 11/13/89
Received : 11/14/89
Tested : 11/15/89 at: 1030

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
40	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Don Lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890261

TEST CONC. %	E L A P S E D T I M E				
	00:00	04:00	24:00	48:00	72:00
Control	pH 7.7 O2 ppm 7.8 Cond. 560 Temp(C) 15.0				
10	pH 7.7 O2 ppm 7.9 Cond. 527 Temp(C) 15.0				
20	pH 7.7 O2 ppm 8.0 Cond. 496 Temp(C) 15.0				
40	pH 7.8 O2 ppm 8.5 Cond. 433 Temp(C) 15.0				
65	pH 7.8 O2 ppm 8.8 Cond. 351 Temp(C) 15.0				
100	pH 8.1 O2 ppm 9.7 Cond. 234 Temp(C) 15.0				

MISA Trout

SLOPE of Mortality Curve : Intuitive
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900016

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
 : Sarnia, ONT
 : (910106)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (300)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 01/09/90
Received : 01/10/90
Tested : 01/11/90 at: 1100

Type of Bioassay : STATIC
 : (Protocol to determine the acute lethality
 : of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	1	5
Control	0	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900016

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00
100	pH 8.2				8.2
	O2 ppm 10.3				9.6
	Cond. 242				244
	Temp(C) 15.0	14.0	15.0	15.0	15.0
Control	pH 7.9				8.4
	O2 ppm 9.1				9.7
	Cond. 563				535
	Temp(C) 15.0	14.0	15.0	15.0	15.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 01900027

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical
Control point : OF cooling water, (300)
Laboratory : MOE
Sampling Method : Grab
Sampled By : D. Hamilton
Date Collected : 03/04/90
Received : 03/06/90
Tested : 03/08/90 at: 1030

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY	
%	00:00	01:10	01:00	02:00	04:00	24:10	53:00	78:10	96:00 %
100	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 01900027

E L A P S E D T I M E

TEST CONC. % 00:00 01:10 01:00 02:00 04:00 24:10 53:00 78:10 96:00

100	pH 7.3							
	O2 ppm 9.8							
	Cond. 175							
	Temp(C) 15.0	7.5	7.8	7.4	7.6	7.7	7.6	7.7
65	pH 9.9	9.9	9.6	9.6	9.8	10.1	9.6	9.6
	O2 ppm 175	175	175	175	175	180	180	18
	Cond. 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.
	Temp(C) 7.5	7.7	7.5	7.5	7.5	7.7	7.7	7.
40	pH 9.8	9.8	9.8	9.6	9.6	9.6	9.6	9.
	O2 ppm 205	205	200	205	205	205	205	20
	Cond. 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.
	Temp(C) 7.5	7.4	7.3	7.3	7.3	7.6	7.6	7.
30	pH 9.8	9.8	9.4	9.6	9.6	9.6	9.6	9.
	O2 ppm 235	235	235	235	240	240	240	24
	Cond. 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.
	Temp(C) 7.5	7.4	7.3	7.3	7.3	7.4	7.4	7.
20	pH 9.8	9.8	9.8	9.8	9.9	9.9	9.9	9.
	O2 ppm 245	245	245	245	255	255	255	25
	Cond. 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.
	Temp(C) 7.5	7.5	7.4	7.4	7.5	7.5	7.5	7.
10	pH 9.8	9.8	9.4	9.2	9.2	9.6	9.6	9.
	O2 ppm 250	250	250	255	260	260	260	26
	Cond. 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.
	Temp(C) 7.4	7.4	7.3	7.3	7.3	7.3	7.3	7.
Control	pH 9.7	9.7	9.4	9.7	9.8	9.8	9.8	9.
	O2 ppm 265	265	265	265	270	270	270	27
	Cond. 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.
	Temp(C) 7.4	7.4	7.3	7.3	7.5	7.5	7.5	7.

MISA Trout

SLOPE of Mortality Curve : Intuitive
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900210

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910106)
Region : Southwest
Industry : Organic Chemical
Control point : OT cooling water, (300)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/20/90 at: 1610

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single Concentration Test; Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900210

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.0 O2 ppm 11.2 Cond. 231 Temp(C) 15.0	14.0	15.0	15.0	8.0 10.0 234 14.0
100	pH 8.0 O2 ppm 11.2 Cond. 231 Temp(C) 15.0	14.0	15.0	15.0	8.1 10.1 236 14.0
Control	pH 7.9 O2 ppm 8.2 Cond. 549 Temp(C) 15.0	14.0	15.0	15.0	8.4 10.1 543 14.0
Control	pH 7.9 O2 ppm 8.2 Cond. 549 Temp(C) 15.0	14.0	15.0	15.0	8.3 9.9 541 14.0

TOXICITY TEST REPORT Sample: 03890207

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910106)

Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 10/10/89
Received : 10/11/89
Tested : 10/12/89 at: 1400

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 100.0 - 100.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03890207

TEST CONC. %
E L A P S E D T I M E
00:00 04:00 24:00 48:00 72:00 96:00

Control	pH	7.7	7.9	8.4
	O2 ppm	7.9	558	9.1
	Cond.	15.0	15.0	564
	Temp(C)	15.0	15.0	15.0
10	pH	7.6	8.3	8.3
	O2 ppm	8.8	9.0	9.0
	Cond.	574	577	577
	Temp(C)	15.0	15.0	15.0
20	pH	7.7	8.2	8.2
	O2 ppm	7.5	8.7	8.7
	Cond.	593	597	597
	Temp(C)	15.0	15.0	15.0
40	pH	7.7	8.2	8.2
	O2 ppm	7.8	8.9	8.9
	Cond.	626	627	627
	Temp(C)	15.0	15.0	15.0
65	pH	7.8	8.2	8.2
	O2 ppm	8.3	9.1	9.1
	Cond.	656	667	667
	Temp(C)	15.0	15.0	15.0
100	pH	8.2	7.9	7.9
	O2 ppm	8.6	9.0	9.0
	Cond.	718	722	722
	Temp(C)	15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 03890257

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910106)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (500)
Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 11/13/89
Received : 11/14/89
Tested : 11/15/89 at: 1230

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
40	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890257

TEST CONC. %	E L A P S E D T I M E				
	00:00	04:00	24:00	48:00	72:00

Control	pH	7.6				8.5
	O2 ppm	7.0				9.6
	Cond.	559				559
	Temp(C)	15.0	15.0	15.0	14.0	14.0
10	pH	7.7				8.5
	O2 ppm	7.2				9.7
	Cond.	572				578
	Temp(C)	15.0	15.0	15.0	14.0	14.0
20	pH	7.7				8.5
	O2 ppm	7.1				9.6
	Cond.	588				588
	Temp(C)	15.0	15.0	15.0	14.0	14.0
40	pH	7.8				8.4
	O2 ppm	7.8				9.7
	Cond.	617				637
	Temp(C)	15.0	15.0	15.0	14.0	14.0
65	pH	7.9				8.4
	O2 ppm	8.1				9.6
	Cond.	657				682
	Temp(C)	15.0	15.0	15.0	14.0	14.0
100	pH	8.2				8.4
	O2 ppm	9.4				9.7
	Cond.	712				740
	Temp(C)	15.0	15.0	15.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890360

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (500)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 12/13/89
Received : 12/14/89
Tested : 12/17/89 at: 930

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. ONE, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

SLOPE of Mortality Curve : Intuitive
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890360

TEST CONC.	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.1 O2 ppm 9.5 Cond. 1821 Temp(C) 15.0	14.0	14.0	14.0	8.3 10.0 1847 14.0
65	pH 8.0 O2 ppm 9.1 Cond. 1390 Temp(C) 15.0	14.0	14.0	14.0	8.3 9.6 1403 14.0
40	pH 7.9 O2 ppm 8.9 Cond. 1071 Temp(C) 15.0	14.0	14.0	14.0	8.2 9.2 1078 14.0
20	pH 7.9 O2 ppm 8.7 Cond. 811 Temp(C) 15.0	14.0	14.0	14.0	8.3 8.7 819 14.0
10	pH 7.9 O2 ppm 8.7 Cond. 701 Temp(C) 15.0	14.0	14.0	14.0	8.4 9.7 699 14.0
5	pH 7.9 O2 ppm 8.7 Cond. 618 Temp(C) 15.0	14.0	14.0	14.0	8.3 9.3 631 14.0
Control	pH 7.8 O2 ppm 8.7 Cond. 554 Temp(C) 15.0	14.0	14.0	14.0	8.4 9.2 557 14.0

MISA Trout

TOXICITY TEST REPORT Sample: 039000015

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910106)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (500)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 01/09/90
Received : 01/10/90
Tested : 01/11/90 at: 1100

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

SLOPE of Mortality Curve : Intuitive
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 039000015

TEST CONC. % E L A P S E D T I M E
00:00 24:00 48:00 72:00 96:00

100	pH	8.2			8.4
	O2 ppm	10.3			9.7
	Cond.	1597			1613
	Temp(C)	15.0	14.0	14.0	14.5
Control	pH	7.9			8.5
	O2 ppm	9.1			9.9
	Cond.	563			547
	Temp(C)	15.0	14.0	14.0	14.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900112

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 02/13/90
Received : 02/14/90 at: 1530
Tested : 02/14/90

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single Concentration Test

SLOPE of Mortality Curve : Intuitive
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900112

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00
100	pH 8.1 O2 ppm 10.1 Cond. 1273 Temp(C) 15.0	14.0	14.0	14.0
100	pH 8.1 O2 ppm 10.1 Cond. 1273 Temp(C) 15.0	14.0	14.0	14.0
Control	pH 7.9 O2 ppm 9.2 Cond. 533 Temp(C) 15.0	14.0	14.0	14.0
Control	pH 7.9 O2 ppm 9.2 Cond. 533 Temp(C) 15.0	14.0	14.0	14.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 01900029

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910106)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (500)
Laboratory : MOE
Sampling Method : Grab
Sampled By : D. Hamilton
Date Collected : 03/04/90
Received : 03/06/90
Tested : 03/08/90 at: 1400

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E											TOTAL MORTALITY
%	00:00	00:30	01:00	02:00	04:00	20:30	50:00	74:30	96:00	%		%
100	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 01900029

TEST CONC. %
E L A P S E D T I M E
00:00 00:30 01:00 02:00 04:00 20:30 50:00 74:30 96:00

100	pH 0.7 O2 ppm 9.8 Cond. 980 Temp(C) 15.0	7.8 9.7 980 15.0	7.7 8.8 760 15.0	7.8 9.6 960 15.0	7.9 9.8 980 15.0	8.0 9.9 100 15.0
65	pH 7.8 O2 ppm 9.8 Cond. 740 Temp(C) 15.0	7.8 9.8 740 15.0	7.8 9.7 720 15.0	7.7 9.6 720 15.0	7.8 9.8 740 15.0	7.9 9.8 740 15.0
40	pH 7.7 O2 ppm 9.7 Cond. 560 Temp(C) 15.0	7.7 9.7 560 15.0	7.8 9.7 550 15.0	7.7 9.7 540 15.0	7.8 9.8 560 15.0	7.9 9.9 56 15.0
30	pH 7.6 O2 ppm 9.8 Cond. 485 Temp(C) 15.0	7.6 9.8 485 15.0	7.7 9.7 475 15.0	7.7 9.7 480 15.0	7.8 9.8 485 15.0	7.9 9.9 49 15.0
20	pH 7.5 O2 ppm 9.6 Cond. 410 Temp(C) 15.0	7.5 9.6 410 15.0	7.4 9.0 410 15.0	7.3 8.9 405 15.0	7.4 8.9 415 15.0	7.5 9.0 41 15.0
10	pH 7.5 O2 ppm 9.7 Cond. 355 Temp(C) 15.0	7.5 9.7 355 15.0	7.3 8.0 355 15.0	7.6 9.8 350 15.0	7.8 9.8 355 15.0	7.9 9.9 36 15.0
Control	pH 7.4 O2 ppm 9.6 Cond. 265 Temp(C) 15.0	7.4 9.6 265 15.0	7.5 9.6 260 15.0	7.4 9.7 260 15.0	7.6 9.7 270 15.0	7.7 9.8 27 15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900211

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (500)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/20/90 at: 1740

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test; Non-lethal

SLOPE of Mortality Curve : Intuitive
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900211

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00
100	pH 8.1 O2 ppm 10.5 Cond. 338 Temp(C) 15.0	14.0	15.0	15.0	8.0 10.1 338 14.5
100	pH 8.1 O2 ppm 10.5 Cond. 338 Temp(C) 15.0	14.0	15.0	15.0	8.0 9.6 341 14.5
Control	pH 7.9 O2 ppm 8.2 Cond. 549 Temp(C) 15.0	14.0	15.0	15.0	8.3 9.8 539 14.5
Control	pH 7.9 O2 ppm 8.2 Cond. 549 Temp(C) 15.0	14.0	15.0	15.0	8.2 9.8 542 14.5

TOXICITY TEST REPORT Sample: 03890209

TEST CONDITIONS

Company : Dow Chemical Canada Inc.

Sarnia, ONT
(910106)

Region : Southwest

Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : BAR

Sampling Method : Grab

Sampled By : M. Rankin

Date Collected : 10/10/89

Received : 10/11/89

Tested : 10/12/89 at: 1400

Type of Bioassay :

: STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout

Weight(gm) :

Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00 96:00	%
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
40	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 100.0 - 100.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03890209

TEST CONC. %	E L A P S E D T I M E				
	00:00	04:00	24:00	48:00	72:00 96:00

Control	pH	7.7				8.4
	O2 ppm	7.9				9.1
	Cond.	558				564
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.8				8.4
	O2 ppm	7.9				9.0
	Cond.	528				534
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	7.8				8.4
	O2 ppm	8.2				9.0
	Cond.	496				504
	Temp(C)	15.0	15.0	15.0	15.0	15.0
40	pH	7.8				8.2
	O2 ppm	8.2				8.9
	Cond.	436				445
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	7.9				8.0
	O2 ppm	8.4				8.8
	Cond.	357				367
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	8.1				8.0
	O2 ppm	8.7				9.2
	Cond.	244				255
	Temp(C)	15.0	15.0	15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 03890258

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 11/13/89
Received : 11/14/89
Tested : 11/15/89 at: 1230

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. ONE, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890258

TEST
CONC.
%
E L A P S E D T I M E
00:00 04:00 24:00 48:00 72:00 96:00

Control	pH	7.7					8.5
	02 ppm	7.2					9.4
	Cond.	563					561
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
10	pH	7.7					8.5
	02 ppm	7.4					9.7
	Cond.	534					535
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
20	pH	7.7					8.4
	02 ppm	8.1					9.6
	Cond.	497					511
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
40	pH	7.7					8.4
	02 ppm	8.4					9.8
	Cond.	435					455
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
65	pH	7.8					8.3
	02 ppm	8.8					9.5
	Cond.	357					362
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
100	pH	8.0					8.2
	02 ppm	9.5					9.6
	Cond.	238					250
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890356

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (600)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 12/13/89
Received : 12/14/89
Tested : 12/17/89 at: 1000

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve : Intuitive
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890356

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.1 O2 ppm 9.1 Cond. 259 Temp(C) 14.0	14.0	14.0	14.0	8.0 9.2 268 14.0
65	pH 8.0 O2 ppm 9.2 Cond. 365 Temp(C) 14.0	14.0	14.0	14.0	8.0 8.8 375 14.0
40	pH 7.9 O2 ppm 9.0 Cond. 440 Temp(C) 14.0	14.0	14.0	14.0	8.4 9.4 447 14.0
20	pH 7.9 O2 ppm 8.7 Cond. 498 Temp(C) 14.0	14.0	14.0	14.0	8.4 9.2 500 14.0
10	pH 7.9 O2 ppm 8.6 Cond. 526 Temp(C) 14.0	14.0	14.0	14.0	8.4 9.0 523 14.0
5	pH 7.9 O2 ppm 8.1 Cond. 539 Temp(C) 14.0	14.0	14.0	14.0	8.4 9.2 539 14.0
Control	pH 7.8 O2 ppm 8.7 Cond. 554 Temp(C) 14.0	14.0	14.0	14.0	8.4 9.3 557 14.0

TOXICITY TEST REPORT Sample: 03900013

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (600)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 01/09/90
Received : 01/10/90
Tested : 01/11/90 at: 1100

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900013

TEST CONC.	E L A P S E D T I M E			
%	00:00	24:00	48:00	72:00 96:00
100	pH 8.0	10.1	250	260
	Cond. 15.0	14.0	15.0	15.0
Control	pH 8.0	9.1	563	575
	Cond. 15.0	14.0	15.0	15.0

TOXICITY TEST REPORT Sample: 03900113

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (600)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 02/13/90
Received : 02/14/90
Tested : 02/14/90 at: 1530

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single concentration test - Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900113

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.1 O2 ppm 10.1 Cond. 234 Temp(C) 15.0	8.1 10.1 234 15.0	15.0	14.0	14.0
100	pH 8.1 O2 ppm 10.1 Cond. 234 Temp(C) 15.0	8.1 10.1 234 15.0	15.0	14.0	14.0
Control	pH 8.0 O2 ppm 9.2 Cond. 541 Temp(C) 15.0	8.0 9.2 541 15.0	15.0	14.0	14.0
Control	pH 8.0 O2 ppm 9.2 Cond. 541 Temp(C) 15.0	8.0 9.2 541 15.0	15.0	14.0	14.0

TOXICITY TEST REPORT Sample: 01900031

TEST CONDITIONS

Company : Dow Chemical Canada Inc.

Sarnia, ONT
(910109)

Region : Southwest

Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : MOE

Sampling Method : Grab

Sampled By : D. Hamilton

Date Collected : 03/05/90

Received : 03/06/90

Tested : 03/08/90 at: 1400

Type of Bioassay

: STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal

Weight(gm)

Length(mm)

: Rainbow trout

:

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E										TOTAL MORTALITY	
%	00:00	00:30	01:00	02:00	04:00	21:00	50:30	72:00	96:00	%		
100	0	0	0	0	0	0	0	0	0	0		
65	0	0	0	0	0	0	0	0	0	0		
40	0	0	0	0	0	0	0	0	0	0		
30	0	0	0	0	0	0	0	0	0	0		
20	0	0	0	0	0	0	0	0	0	0		
10	0	0	0	0	0	0	0	0	0	0		
Control	0	0	0	0	0	0	0	0	0	0		

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments

: MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 01900031

TEST E L A P S E D T I M E

CONC.

00:00 00:30 01:00 02:00 04:00 21:00 50:30 72:00 96:00

100	pH	7.4	7.5	7.5	7.5	7.4	7.4	7.6	7.6	7.7
	02 ppm	9.2	9.6	9.6	9.8	9.8	9.8	9.5	9.5	9.6
	Cond.	180	180	180	230	235	235	180	180	185
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
65	pH	7.4	7.4	7.6	7.5	7.6	7.5	7.6	7.6	7.7
	02 ppm	9.7	9.7	9.9	9.9	9.9	9.6	9.6	9.6	9.9
	Cond.	210	210	205	210	215	210	210	210	215
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
40	pH	7.4	7.4	7.5	7.5	7.5	7.5	7.5	7.5	7.7
	02 ppm	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8
	Cond.	235	235	230	230	235	235	235	235	235
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
30	pH	7.4	7.4	7.5	7.5	7.5	7.5	7.5	7.5	7.6
	02 ppm	9.7	9.7	9.8	9.8	9.8	9.8	9.8	9.8	9.9
	Cond.	245	245	245	240	245	240	240	240	245
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
20	pH	7.1	7.1	7.6	7.6	7.6	7.6	7.6	7.6	7.7
	02 ppm	9.6	9.6	9.9	9.9	9.9	9.9	9.9	9.9	9.9
	Cond.	280	280	250	250	250	250	250	250	260
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
10	pH	7.3	7.3	7.6	7.6	7.6	7.6	7.6	7.6	7.7
	02 ppm	9.7	9.7	9.7	9.7	9.7	9.6	9.6	9.6	9.8
	Cond.	260	260	255	260	260	260	260	260	266
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Control	pH	7.0	7.0	7.6	7.6	7.6	7.6	7.6	7.6	7.8
	02 ppm	9.8	9.8	9.9	9.9	9.9	9.8	9.8	9.8	9.8
	Cond.	270	270	265	265	270	270	270	270	277
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST REPORT Sample: 03900212

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (600)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/20/90 at: 1730

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single Concentration Test; Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900212

TEST CONC.	ELAPSED TIME				
%	00:00	24:00	48:00	72:00	96:00
100	pH 8.0 O2 ppm 10.8 Cond. 253 Temp(C) 15.0	14.0	15.0	15.0	8.0 10.0 250 14.5
100	pH 8.0 O2 ppm 10.8 Cond. 253 Temp(C) 15.0	14.0	15.0	15.0	8.0 10.2 250 14.5
Control	pH 7.9 O2 ppm 8.2 Cond. 549 Temp(C) 15.0	14.0	15.0	15.0	8.4 10.2 542 14.5
Control	pH 7.9 O2 ppm 8.2 Cond. 549 Temp(C) 15.0	14.0	15.0	15.0	8.4 10.2 537 14.5

TOXICITY TEST REPORT Sample: 03890205

TEST CONDITIONS

Company : Dow Chemical Canada Inc.

: Sarnia, ONT
(910109)

Region :

: Southwest
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory :

Sampling Method :

Sampled By : M. Rankin

Date Collected :

Received :

Tested : 10/11/89 at: 1115

Type of Bioassay :

: STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal :

Weight(gm) :

Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 100.0 - 100.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03890205

TEST E L A P S E D T I M E

CONC. % 00:00 04:00 24:00 48:00 72:00 96:00

Control	pH	7.6					8.4
	O2 ppm	7.4					8.9
	Cond.	555					568
	Temp(C)	15.5	15.0	15.0	15.0	15.0	
10	pH	7.7					8.4
	O2 ppm	7.9					8.7
	Cond.	531					535
	Temp(C)	15.5	15.0	15.0	15.0	15.0	15.5
20	pH	7.8					8.4
	O2 ppm	8.1					9.0
	Cond.	501					505
	Temp(C)	15.5	15.0	15.0	15.0	15.0	15.5
40	pH	7.8					8.3
	O2 ppm	8.3					8.7
	Cond.	439					448
	Temp(C)	15.5	15.0	15.0	15.0	15.0	15.5
65	pH	7.8					8.1
	O2 ppm	8.3					8.5
	Cond.	360					369
	Temp(C)	15.5	15.0	15.0	15.0	15.0	15.5
100	pH	8.0					7.9
	O2 ppm	8.6					8.6
	Cond.	244					256
	Temp(C)	15.5	15.0	15.0	15.0	15.0	15.5

MISA Trout

SLOPE of Mortality Curve : Intuitive
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03890259

TOXICITY TEST PARAMETERS

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 11/13/89
Received : 11/14/89
Tested : 11/15/89 at: 1130

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
40	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

Sample Number: 03890259

TEST CONC. %
E L A P S E D T I M E
00:00 04:00 24:00 48:00 72:00 96:00

Control	pH	7.7					8.5
	O2 ppm	7.2					9.7
	Cond.	560					554
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
10	pH	7.7					8.5
	O2 ppm	7.3					9.6
	Cond.	540					534
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
20	pH	7.7					8.4
	O2 ppm	7.3					9.7
	Cond.	500					498
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
40	pH	7.7					8.5
	O2 ppm	8.0					9.7
	Cond.	440					446
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
65	pH	7.9					8.1
	O2 ppm	8.3					9.6
	Cond.	356					369
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
100	pH	8.2					8.0
	O2 ppm	9.5					9.4
	Cond.	236					245
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0

TOXICITY TEST REPORT Sample: 03890358

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 12/13/89
Received : 12/14/89
Tested : 12/17/89 at: 900

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890358

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.1 O2 ppm 9.5 Cond. 251 Temp(C) 15.0	14.0	14.0	14.0	7.8 8.7 261 14.0
65	pH 8.1 O2 ppm 9.6 Cond. 254 Temp(C) 15.0	14.0	14.0	14.0	7.9 9.0 262 14.0
40	pH 7.9 O2 ppm 8.9 Cond. 436 Temp(C) 15.0	14.0	14.0	14.0	8.0 8.6 450 14.0
20	pH 7.9 O2 ppm 8.8 Cond. 499 Temp(C) 15.0	14.0	14.0	14.0	8.4 9.9 507 14.0
10	pH 7.9 O2 ppm 8.6 Cond. 526 Temp(C) 15.0	14.0	14.0	14.0	8.4 9.6 535 14.0
5	pH 7.9 O2 ppm 8.7 Cond. 554 Temp(C) 15.0	14.0	14.0	14.0	8.5 9.9 558 14.0
Control	pH 7.8 O2 ppm 8.7 Cond. 534 Temp(C) 15.0	14.0	14.0	14.0	8.5 9.3 554 14.0

MISA Trout

SLOPE of Mortality Curve : Intuitive
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900014

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910106)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (700)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 01/09/90
Received : 01/10/90
Tested : 01/11/90 at: 1100

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900014

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00
100	pH 8.1	10.5	24.7	25.8
	O2 ppm 15.0	14.0	15.0	14.5
Control	pH 7.9	9.1	9.2	8.4
	O2 ppm 563	563	580	580
	Temp(C) 15.0	14.0	15.0	14.5

TOXICITY TEST REPORT Sample: 03900114

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 02/13/90
Received : 02/14/90
Tested : 02/14/90 at: 1530

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single Concentration Test

TOXICITY TEST PARAMETERS

Sample Number: 03900114

TEST CONC. % E L A P S E D T I M E
00:00 24:00 48:00 72:00 96:00

100	pH 8.1	10.1	228	15.0	15.0	14.0	14.0	8.0
	O2 ppm							8.8
	Cond.							236
	Temp(C)							14.0
100	pH 8.1	10.1	228	15.0	15.0	14.0	14.0	8.2
	O2 ppm							9.7
	Cond.							236
	Temp(C)							14.0
Control	pH 7.9	9.3	533	15.0	15.0	14.0	14.0	8.5
	O2 ppm							9.5
	Cond.							537
	Temp(C)							14.0
Control	pH 7.9	9.3	533	15.0	15.0	14.0	14.0	8.5
	O2 ppm							9.1
	Cond.							536
	Temp(C)							14.0

TOXICITY TEST REPORT Sample: 01900030

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (700)
Laboratory : MOE
Sampling Method : Grab
Sampled By : D. Hamilton
Date Collected : 03/05/90
Received : 03/05/90 at: 1100
Tested : 03/08/90

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY		
%	00:00	00:30	01:00	02:00	04:00	24:00	54:00	78:00	96:00	%
100	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 01900030

TEST CONC. E L A P S E D T I M E

TEST CONC.	00:00 00:30 01:00 02:00 04:00 24:00 54:00 78:00 96:00								
100	pH	7.4							
	O2 ppm	9.1							
	Cond.	175							
	Temp(C)	15.0							
65	pH	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
	O2 ppm	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4
	Cond.	175	175	175	175	175	175	175	175
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
40	pH	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4
	O2 ppm	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3
	Cond.	205	206	210	210	235	235	235	24
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
30	pH	7.3	7.5	7.5	7.5	7.5	7.5	7.5	7.5
	O2 ppm	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
	Cond.	225	230	230	240	240	245	245	25
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
20	pH	6.9	7.6	7.6	7.6	7.6	7.6	7.6	7.6
	O2 ppm	9.6	9.6	9.6	9.6	9.6	9.5	9.5	9.5
	Cond.	230	240	240	250	255	255	250	26
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
10	pH	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
	O2 ppm	9.8	9.5	9.5	9.4	9.5	9.5	9.5	9.5
	Cond.	250	255	255	260	265	265	265	26
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Control	pH	7.4	7.5	7.5	7.5	7.5	7.5	7.5	7.5
	O2 ppm	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7
	Cond.	280	270	270	275	275	275	275	27
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03900213

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910106)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (700)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/20/90 at: 1700

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
100	0	0	0	0	0
Control	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test; Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By : Intuitive

TOXICITY TEST PARAMETERS

Sample Number: 03900213

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.1 O2 ppm 10.2 Cond. 237 Temp(C) 15.0	14.0	15.0	15.0	8.0 10.2 240 14.5
100	pH 8.1 O2 ppm 10.2 Cond. 237 Temp(C) 15.0	14.0	15.0	15.0	8.1 10.2 241 14.5
Control	pH 7.9 O2 ppm 8.4 Cond. 546 Temp(C) 15.0	14.0	15.0	15.0	8.4 10.2 534 14.5
Control	pH 7.9 O2 ppm 8.4 Cond. 546 Temp(C) 15.0	14.0	15.0	15.0	8.4 10.1 536 14.5

TOXICITY TEST REPORT Sample: 03890202

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (900)
Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 10/10/89
Received : 10/11/89
Tested : 10/12/89 at: 1115

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00 96:00	%
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
40	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 100.0 - 100.0 %
Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890202

TEST E L A P S E D T I M E
CONC. %
00:00 04:00 24:00 48:00 72:00 96:00

Control	pH	7.6	7.4	7.6	8.4
	O2 ppm	555	555	567	567
	Cond.	15.5	15.0	15.0	15.5
	Temp(C)	7.7	8.1	8.3	8.3
10	pH	7.7	8.1	8.8	8.8
	O2 ppm	855	855	884	884
	Cond.	15.5	15.0	15.0	15.5
	Temp(C)	7.8	8.3	8.3	8.3
20	pH	7.8	8.3	8.6	8.6
	O2 ppm	1150	1150	1173	1173
	Cond.	15.5	15.0	15.0	15.5
	Temp(C)	7.9	8.6	8.7	8.3
40	pH	7.9	8.6	8.7	8.7
	O2 ppm	1780	1780	1783	1783
	Cond.	15.5	15.0	15.0	15.5
	Temp(C)	8.0	8.7	8.2	8.2
65	pH	8.0	8.7	8.9	8.9
	O2 ppm	2520	2520	2540	2540
	Cond.	15.5	15.0	15.0	15.5
	Temp(C)	8.4	9.0	7.9	7.9
100	pH	8.4	9.0	8.7	8.7
	O2 ppm	3550	3550	3580	3580
	Cond.	15.5	15.0	15.0	15.5
	Temp(C)	15.5	15.0	15.0	15.5

MISA Trout

SLOPE of Mortality Curve : Intuitive
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03890260

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (900)
Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 11/13/89
Received : 11/14/89
Tested : 11/15/89 at: 1100

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890260

TEST CONC. %
E L A P S E D T I M E
00:00 04:00 24:00 48:00 72:00 96:00

Control	pH	7.7					8.5
	O2 ppm	7.4					9.5
	Cond.	560					556
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
10	pH	7.7					8.5
	O2 ppm	7.4					9.7
	Cond.	862					856
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
20	pH	7.7					8.5
	O2 ppm	7.8					9.8
	Cond.	1177					1167
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
40	pH	7.8					8.3
	O2 ppm	8.4					9.5
	Cond.	1773					1787
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
65	pH	8.0					8.3
	O2 ppm	8.9					9.7
	Cond.	2520					2530
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
100	pH	8.5					7.8
	O2 ppm	9.3					9.6
	Cond.	3550					3580
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0

TOXICITY TEST REPORT Sample: 03890361

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (900)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 12/13/89
Received : 12/14/89
Tested : 12/17/89 at: 900

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
65	0	0	0	0	0
40	0	0	0	0	0
20	0	0	0	0	0
10	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890361

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00
100	pH 8.1 O2 ppm 9.9 Cond. 3710 Temp(C) 15.0	14.0	14.0	14.0
65	pH 8.1 O2 ppm 9.6 Cond. 2680 Temp(C) 15.0	14.0	14.0	14.0
40	pH 7.9 O2 ppm 9.0 Cond. 1841 Temp(C) 15.0	14.0	14.0	14.0
20	pH 7.9 O2 ppm 8.8 Cond. 1202 Temp(C) 15.0	14.0	14.0	14.0
10	pH 7.9 O2 ppm 8.6 Cond. 882 Temp(C) 15.0	14.0	14.0	14.0
5	pH 7.9 O2 ppm 8.3 Cond. 713 Temp(C) 15.0	14.0	14.0	14.0
Control	pH 7.8 O2 ppm 8.7 Cond. 554 Temp(C) 15.0	14.0	14.0	14.0

TOXICITY TEST REPORT Sample: 03900012

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
 : Sarnia, ONT
 : (910109)
 Region : Southwest
 Industry : Organic Chemical

Control point : combined effluent, (900)

Laboratory : BAR
 Sampling Method : Grab
 Sampled By : D. McLaughlin
 Date Collected : 01/09/90
 Received : 01/10/90
 Tested : 01/11/90 at: 1100

Type of Bioassay : STATIC
 : (Protocol to determine the acute lethality
 : of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	1	1	5
Control	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900012

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00
100	pH 8.1			7.9
	O2 ppm 10.3			9.0
	Cond. 3640			3640
	Temp(C) 15.0	14.0	15.0	15.0
Control	pH 7.9			8.4
	O2 ppm 9.1			9.3
	Cond. 563			557
	Temp(C) 15.0	14.0	15.0	15.0

TOXICITY TEST REPORT Sample: 03900115

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (900)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 02/13/90
Received : 02/14/90
Tested : 02/14/90 at: 1530

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single Concentration test

TOXICITY TEST PARAMETERS

Sample Number: 03900115

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH O2 ppm Cond. Temp(C)	8.7 10.2 2990 15.0	8.1 8.9 3130 15.0	14.0	14.0
100	pH O2 ppm Cond. Temp(C)	8.7 10.2 2990 15.0	8.1 9.2 3100 15.0	14.0	14.0
Control	pH O2 ppm Cond. Temp(C)	7.9 9.2 543 15.0	8.4 9.6 540 15.0	14.0	14.0
Control	pH O2 ppm Cond. Temp(C)	7.9 9.2 543 15.0	8.5 9.5 544 15.0	14.0	14.0

SLOPE of Mortality Curve :
LC50 Calculated By :

MISA Trout

TOXICITY TEST REPORT Sample: 01900032

TOXICITY TEST PARAMETERS

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910106)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (900)
Laboratory : MOE
Sampling Method : Grab
Sampled By : D. Hamilton
Date Collected : 03/05/90
Received : 03/06/90
Tested : 03/08/90 at: 1400

Type of Bioassay

: STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal
Weight(gm)
Length(mm)

: Rainbow trout
:
:

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E										TOTAL MORTALITY
%	00:00	00:30	01:00	02:00	04:00	21:30	42:00	66:30	96:00	%	
100	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

Sample Number: 01900032

TEST CONCENT. %

E L A P S E D T I M E									
	00:00	00:30	01:00	02:00	04:00	21:30	42:00	66:30	96:00
100	pH 7.7	7.6	7.4	7.2	7.2	7.2	7.2	7.2	7.2
	O2 ppm 9.2	9.2	8.3	8.3	8.3	8.3	8.3	8.3	8.3
	Cond. 2000	1950	1960	1980	2000	2000	2000	2000	2000
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
65	pH 7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6
	O2 ppm 9.7	9.7	9.6	9.5	9.4	9.4	9.4	9.4	9.4
	Cond. 1400	1390	1400	1420	142	142	142	142	142
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
40	pH 7.6	7.6	7.5	7.7	7.7	7.7	7.7	7.7	7.7
	O2 ppm 9.9	9.9	9.8	9.7	9.8	9.8	9.8	9.8	9.8
	Cond. 960	960	950	960	980	980	980	980	980
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
30	pH 7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6
	O2 ppm 9.8	9.8	9.7	9.6	9.7	9.7	9.7	9.7	9.7
	Cond. 785	790	785	790	800	800	800	800	800
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
20	pH 7.5	7.5	7.6	7.6	7.6	7.6	7.6	7.6	7.6
	O2 ppm 9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8
	Cond. 620	620	620	620	640	640	640	640	640
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
10	pH 7.5	7.5	7.7	7.6	7.7	7.7	7.7	7.7	7.7
	O2 ppm 9.9	9.9	9.9	9.9	10.0	10.0	10.0	10.0	10.0
	Cond. 475	475	470	480	485	485	485	485	485
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Control	pH 7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6
	O2 ppm 9.9	9.9	9.9	9.8	9.9	9.9	9.9	9.9	9.9
	Cond. 275	275	275	275	280	280	280	280	280
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 03900214

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (900)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/20/90 at: 1640

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test; Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900214

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00
100	pH 8.0 O2 ppm 9.9 Cond. 1655 Temp(C) 15.0	14.0	15.0	15.0
100	pH 8.0 O2 ppm 9.9 Cond. 1655 Temp(C) 15.0	14.0	15.0	15.0
Control	pH 7.9 O2 ppm 8.3 Cond. 546 Temp(C) 15.0	14.0	15.0	15.0
Control	pH 7.9 O2 ppm 8.3 Cond. 546 Temp(C) 15.0	14.0	15.0	15.0

TOXICITY TEST REPORT Sample: 03890204

TEST CONDITIONS

Company : Dow Chemical Canada Inc.

Sarnia, ONT
(910109)

Region : Southwest

Industry : Organic Chemical

Control point : OT cooling water, (1000)

Laboratory : BAR

Sampling Method : Grab

Sampled By : M. Rankin

Date Collected : 10/10/89

Received : 10/11/89

Tested : 10/12/89 at: 1115

Type of Bioassay :

: STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout

Weight(gm) :

Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
40	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 100.0 - 100.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03890204

TEST CONC. %	E L A P S E D T I M E				
	00:00	04:00	24:00	48:00	72:00
					96:00

Control	pH	7.6					8.4
	O2 ppm	7.4					8.5
	Cond.	555					565
	Temp(C)	15.5	15.0	15.0	15.0	15.0	15.5
10	pH	7.8					8.4
	O2 ppm	8.3					8.9
	Cond.	532					536
	Temp(C)	15.5	15.0	15.0	15.0	15.0	15.5
20	pH	7.9					8.3
	O2 ppm	8.6					8.7
	Cond.	503					510
	Temp(C)	15.5	15.0	15.0	15.0	15.0	15.5
40	pH	7.7					8.3
	O2 ppm	8.0					8.9
	Cond.	443					449
	Temp(C)	15.5	15.0	15.0	15.0	15.0	15.5
65	pH	7.9					8.2
	O2 ppm	8.5					8.9
	Cond.	365					374
	Temp(C)	15.5	15.0	15.0	15.0	15.0	15.5
100	pH	8.0					7.9
	O2 ppm	8.7					8.7
	Cond.	252					261
	Temp(C)	15.5	15.0	15.0	15.0	15.0	15.5

TOXICITY TEST REPORT Sample: 03890262

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical
Control point : OT cooling water, (1000)
Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 11/13/89
Received : 11/14/89
Tested : 11/15/89 at: 1030

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
40	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890262

TEST CONC. % E L A P S E D T I M E
00:00 04:00 24:00 48:00 72:00 96:00

Control	pH	7.7					8.5
	O2 ppm	7.9					9.4
	Cond.	566					554
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
10	pH	7.7					8.6
	O2 ppm	8.1					9.6
	Cond.	539					521
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
20	pH	7.8					8.6
	O2 ppm	8.6					9.7
	Cond.	507					502
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
40	pH	7.9					8.5
	O2 ppm	9.5					9.7
	Cond.	444					446
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
65	pH	8.1					8.4
	O2 ppm	9.8					9.8
	Cond.	365					364
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0
100	pH	8.3					8.2
	O2 ppm	9.9					9.7
	Cond.	255					259
	Temp(C)	15.0	15.0	15.0	14.0	14.0	14.0

MISA Trout

SLOPE of Mortality Curve : Intuitive
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900017

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
 : Sarnia, ONT
 : (910106)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (1000)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 01/09/90
Received : 01/10/90
Tested : 01/11/90 at: 1100

Type of Bioassay : STATIC
 : (Protocol to determine the acute lethality
 : of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	11:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900017

TEST CONC.	E L A P S E D T I M E				
%	11:00	24:00	48:00	72:00	96:00
100	pH 8.0				8.1
	O2 ppm 10.4				9.6
	Cond. 274				284
	Temp(C) 15.0	14.0	15.0	15.0	15.0
Control	pH 7.9				8.5
	O2 ppm 9.1				9.7
	Cond. 563				559
	Temp(C) 15.0	14.0	15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 01900035

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical
Control point : OT cooling water, (1000)
Laboratory : MOE
Sampling Method : Grab
Sampled By : D. Hamilton
Date Collected : 03/12/90
Received : 03/13/90
Tested : 03/16/90 at: 1130

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	01:10	01:00	23:00	51:00	71:00	96:00	%
100	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 01900035

E L A P S E D T I M E

TEST CONC. %
00:00 01:10 01:00 23:00 51:00 71:00 96:00

100	pH 7.6 O2 ppm 9.8 Cond. 190 Temp(C) 15.0	7.8 10.5 200 15.0	7.8 10.6 195 15.0	7.7 10.3 191 15.0	7.7 10.2 195 15.0
65	pH 7.9 O2 ppm 10.6 Cond. 240 Temp(C) 15.0	7.9 10.6 240 15.0	7.9 10.8 235 15.0	7.8 10.4 235 15.0	7.9 10.4 240 15.0
40	pH 7.9 O2 ppm 10.7 Cond. 225 Temp(C) 15.0	7.9 10.7 225 15.0	7.9 10.8 220 15.0	7.8 10.4 220 15.0	7.9 10.4 220 15.0
30	pH 7.8 O2 ppm 10.5 Cond. 255 Temp(C) 15.0	7.8 10.5 255 15.0	7.8 10.8 250 15.0	7.8 10.4 250 15.0	7.9 10.3 255 15.0
20	pH 7.7 O2 ppm 10.4 Cond. 250 Temp(C) 15.0	7.7 10.4 250 15.0	7.8 10.6 245 15.0	7.6 10.1 245 15.0	7.8 10.0 250 15.0
10	pH 7.7 O2 ppm 10.5 Cond. 270 Temp(C) 15.0	7.7 10.5 270 15.0	7.9 10.9 270 15.0	7.8 10.3 265 15.0	7.8 10.3 275 15.0
Control	pH 7.5 O2 ppm 10.4 Cond. 260 Temp(C) 15.0	7.5 10.4 260 15.0	7.9 10.6 240 15.0	7.7 10.4 255 15.0	7.9 10.3 265 15.0

TOXICITY TEST REPORT Sample: 03900215

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910106)
Region : Southwest
Industry : Organic Chemical
Control point : OF cooling water, (1000)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/20/90 at: 1630

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish, OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single Concentration Test; non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900215

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH	8.0			8.0
	O2 ppm	10.0			10.4
	Cond.	952			974
	Temp(C)	15.0	14.0	15.0	14.5
100	pH	8.0			8.0
	O2 ppm	10.0			10.4
	Cond.	952			974
	Temp(C)	15.0	14.0	15.0	14.5
Control	pH	7.9			8.5
	O2 ppm	8.3			10.4
	Cond.	545			535
	Temp(C)	15.0	14.0	15.0	14.5
Control	pH	7.9			8.4
	O2 ppm	8.3			10.1
	Cond.	545			543
	Temp(C)	15.0	14.0	15.0	14.5

TOXICITY TEST REPORT Sample: 03890274

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical
Control point : process effluent, (2100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 11/16/89
Received : 11/17/89
Tested : 11/18/89 at: 1230

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
40	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890274

TEST CONC. %	E L A P S E D T I M E					
	00:00	04:00	24:00	48:00	72:00	96:00

Control	pH	7.9				8.6
	O2 ppm	8.6				9.9
	Cond.	558				530
	Temp(C)	15.0	15.0	14.0	15.0	14.0
10	pH	7.8				8.6
	O2 ppm	8.9				9.9
	Cond.	1263				1236
	Temp(C)	15.0	15.0	14.0	15.0	14.0
20	pH	7.8				8.6
	O2 ppm	8.8				9.8
	Cond.	1960				1914
	Temp(C)	15.0	15.0	14.0	15.0	14.0
40	pH	7.8				8.5
	O2 ppm	8.7				9.8
	Cond.	3400				3360
	Temp(C)	15.0	15.0	14.0	15.0	14.0
65	pH	7.7				8.4
	O2 ppm	8.5				9.8
	Cond.	5040				4950
	Temp(C)	15.0	15.0	14.0	15.0	14.0
100	pH	7.6				8.2
	O2 ppm	8.4				9.6
	Cond.	7330				7250
	Temp(C)	15.0	15.0	14.0	15.0	14.0

TOXICITY TEST REPORT Sample: 03890357

TEST CONDITIONS

Company : Dow Chemical Canada Inc.

Sarnia, ONT

(910106)

Region : Southwest

Industry : Organic Chemical

Control point : process effluent, (2100)

Laboratory : BAR

Sampling Method : Grab

Sampled By : D. McLaughlin

Date Collected : 12/13/89

Received : 12/14/89

Tested : 12/17/89 at: 900

Type of Bioassay

: STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal

Weight(gm)

Length(mm)

: Rainbow trout

:

:

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	4	4	40
65	0	0	0	0	0
40	0	0	0	0	0
20	0	0	0	0	0
10	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100%

TOXICITY TEST PARAMETERS

Sample Number: 03890357

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00

100	pH 7.0	O2 ppm 7.0	Cond. 1198	Temp(C) 15.0	14.0	14.0	14.0	14.0	7.8
65	pH 7.4	O2 ppm 7.3	Cond. 8220	Temp(C) 15.0	14.0	14.0	14.0	14.0	8.0
40	pH 7.6	O2 ppm 7.6	Cond. 5250	Temp(C) 15.0	14.0	14.0	14.0	14.0	8.1
20	pH 7.7	O2 ppm 7.6	Cond. 3010	Temp(C) 15.0	14.0	14.0	14.0	14.0	8.3
10	pH 7.7	O2 ppm 7.6	Cond. 1851	Temp(C) 15.0	14.0	14.0	14.0	14.0	8.3
5	pH 7.9	O2 ppm 7.6	Cond. 1162	Temp(C) 15.0	14.0	14.0	14.0	14.0	8.4
Control	pH 7.8	O2 ppm 8.7	Cond. 561	Temp(C) 15.0	14.0	14.0	14.0	14.0	8.4

TOXICITY TEST REPORT Sample: 03900011

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical
Control point : process effluent, (2100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 01/09/90
Received : 01/10/90
Tested : 01/11/90 at: 1100

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
65	0	0	0	0	0
40	0	0	0	0	0
20	0	0	0	0	0
10	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900011

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00
100	pH 8.4 O2 ppm 7.4 Cond. 4150 Temp(C) 15.0	14.0	15.0	15.0
65	pH 8.3 O2 ppm 7.7 Cond. 2970 Temp(C) 15.0	14.0	15.0	15.0
40	pH 8.3 O2 ppm 8.0 Cond. 2060 Temp(C) 15.0	14.0	15.0	15.0
20	pH 8.2 O2 ppm 8.6 Cond. 1305 Temp(C) 15.0	14.0	15.0	15.0
10	pH 8.2 O2 ppm 8.5 Cond. 933 Temp(C) 15.0	14.0	15.0	15.0
5	pH 8.2 O2 ppm 8.4 Cond. 735 Temp(C) 15.0	14.0	15.0	15.0
Control	pH 8.1 O2 ppm 8.2 Cond. 565 Temp(C) 15.0	14.0	15.0	15.0

TOXICITY TEST REPORT Sample: 03900116

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
 : Sarnia, ONT
 : (910109)
 Region : Southwest
 Industry : Organic Chemical
 Control point : process effluent, (2100)

Laboratory : BAR
 Sampling Method : Grab
 Sampled By : D. McLaughlin
 Date Collected : 02/13/90
 Received : 02/14/90
 Tested : 02/14/90 at: 1600

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish, OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
 95% fid. limits : 0.0 - 0.0 %
 Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900116

E L A P S E D T I M E
 TEST CONC. % 00:00 24:00 48:00 72:00 96:00

100	pH	8.3				8.1
	O2 ppm	7.1				9.5
	Cond.	3580				3620
	Temp(C)	15.0	15.0	14.0	14.0	14.0
65	pH	8.1				8.3
	O2 ppm	7.8				9.6
	Cond.	2570				2560
	Temp(C)	15.0	15.0	14.0	14.0	14.0
40	pH	8.0				8.4
	O2 ppm	8.4				9.2
	Cond.	1824				1797
	Temp(C)	15.0	15.0	14.0	14.0	14.0
20	pH	8.0				8.4
	O2 ppm	8.9				8.2
	Cond.	1187				1166
	Temp(C)	15.0	15.0	14.0	14.0	14.0
10	pH	8.0				8.5
	O2 ppm	9.2				9.5
	Cond.	867				849
	Temp(C)	15.0	15.0	14.0	14.0	14.0
5	pH	8.0				8.3
	O2 ppm	9.3				8.9
	Cond.	715				689
	Temp(C)	15.0	15.0	14.0	14.0	14.0
Control	pH	7.9				8.5
	O2 ppm	9.2				9.0
	Cond.	551				527
	Temp(C)	15.0	15.0	14.0	14.0	14.0

TOXICITY TEST REPORT Sample: 01900034

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : process effluent, (2100)

Laboratory : MOE
Sampling Method : Grab
Sampled By : D. Hamilton
Date Collected : 03/14/90
Received : 03/13/90
Tested : 03/16/90 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E								TOTAL MORTALITY	
%	00:00	00:30	01:00	02:00	22:30	50:00	70:00	96:00	%	
100	0	0	0	0	0	0	0	1	10	
65	0	0	0	0	0	0	0	1	10	
40	0	0	0	0	0	0	0	0	0	
30	0	0	0	0	0	0	0	0	0	
20	0	0	0	0	0	0	0	0	0	
10	0	0	0	0	0	0	0	0	0	
Control	0	0	0	0	0	0	0	0	0	

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 01900034

TEST CONC. %	E L A P S E D T I M E									
	00:00	00:30	01:00	02:00	22:30	50:00	70:00	96:00		
100	pH 7.6			7.6	7.9	8.0	8.0	8.1		
	O2 ppm 8.9			9.0	10.1	10.3	9.8	9.8		
	Cond. 2400			2350	2300	2400	2380	2400		
	Temp(C) 15.0			15.0	15.0	15.0	15.0	15.0		
65	pH 7.7			7.7	7.9	8.0	8.0	8.1		
	O2 ppm 9.2			9.2	10.2	10.4	10.2	10.0		
	Cond. 1650			1650	1600	1650	1650	1700		
	Temp(C) 15.0			15.0	15.0	15.0	15.0	15.0		
40	pH 7.8			7.8	7.9	7.9	8.0	8.0		
	O2 ppm 9.3			9.3	10.3	10.4	10.1	10.0		
	Cond. 1150			1150	1130	1170	1140	1160		
	Temp(C) 15.0			15.0	15.0	15.0	15.0	15.0		
30	pH 7.8			7.8	7.9	7.9	7.9	8.0		
	O2 ppm 9.6			9.6	10.4	10.5	10.0	10.0		
	Cond. 975			975	910	940	920	940		
	Temp(C) 15.0			15.0	15.0	15.0	15.0	15.0		
20	pH 7.9			7.9	7.9	7.9	7.9	8.0		
	O2 ppm 9.7			9.7	10.3	10.6	10.1	10.0		
	Cond. 750			750	730	700	720	740		
	Temp(C) 15.0			15.0	15.0	15.0	15.0	15.0		
10	pH 7.8			7.8	7.8	7.8	7.9	7.9		
	O2 ppm 9.8			9.8	10.3	10.5	10.2	10.1		
	Cond. 600			600	570	550	560	580		
	Temp(C) 15.0			15.0	15.0	15.0	15.0	15.0		
Control	pH 7.8			7.8	7.7	7.7	7.7	7.9		
	O2 ppm 9.8			9.8	10.3	10.6	10.3	10.3		
	Cond. 275			275	260	250	270	285		
	Temp(C) 15.0			15.0	15.0	15.0	15.0	15.0		

MISA Trout

SLOPE of Mortality Curve : Intuitive
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900216

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910106)
Region : SouthWest
Industry : Organic Chemical
Control point : process effluent, (2100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/20/90 at: 1620

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900216

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00 72:00 96:00

100	pH 7.7 O2 ppm 7.0 Cond. 3410 Temp(C) 15.0	14.0	15.0	14.5	7.8 9.6 3420 14.0
65	pH 7.7 O2 ppm 7.5 Cond. 2410 Temp(C) 15.0	14.0	15.0	14.5	8.0 10.1 2430 14.0
40	pH 7.8 O2 ppm 8.2 Cond. 1659 Temp(C) 15.0	14.0	15.0	14.5	8.0 9.7 1709 14.0
20	pH 7.8 O2 ppm 8.3 Cond. 1134 Temp(C) 15.0	14.0	15.0	14.5	8.2 9.9 1142 14.0
10	pH 7.9 O2 ppm 8.6 Cond. 830 Temp(C) 15.0	14.0	15.0	14.5	8.2 9.9 830 14.0
5	pH 7.9 O2 ppm 8.6 Cond. 684 Temp(C) 15.0	14.0	15.0	14.5	8.2 10.0 694 14.0
Control	pH 7.9 O2 ppm 8.6 Cond. 548 Temp(C) 15.0	14.0	15.0	14.5	8.4 10.2 545 14.0

COMPANY: Dow Chemical Canada Inc., Sarnia
(910109)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

Data for forty-three *Daphnia magna* acute lethality toxicity tests conducted on samples of effluent collected between October 1989 and March 1990 were submitted by Dow Chemical Canada Inc. of Sarnia. Overall, the samples tested for Dow Chemical had little or no acute toxicity to *Daphnia*. In all test results submitted there were never more than three neonates dead in any one concentration of effluent and in most cases less than two animals died during the test.

Four of eight samples from once through cooling water outfalls #300 and 1000 were not acutely lethal to *Daphnia*. The remaining four samples had LC50s > 100%.

Five samples from process effluent #2100 were tested for toxicity to *Daphnia*. Three of these were not acutely lethal to *Daphnia* and the remaining two had 48 h LC50s > 100%.

Samples from the combined effluent outfalls (#200, 500, 600, 700, and 900) were rarely acutely toxic to *Daphnia*. Seventy-seven percent of the samples were nonlethal. The remaining seven samples had LC50s > 100%. Outfalls #200, 700, and 900 were toxic during the January sampling period, and outfalls #200 and 500 were toxic during the October sampling period.

In March, audit tests were conducted by Ministry Scientists on samples from all outfalls being examined at Dow Chemical. Once through cooling water #1000 was not acutely lethal to *Daphnia*, and OTCW #300 had an LC50 > 100%. Samples of combined effluent from outfalls #200, 500 and 900 were nonlethal, and only one neonate died in each of the tests with effluents from outfalls #600 and 700.

intake water

combined effluent

03890206 sampled: 10/10/89 non-lethal
95% fid. limits: 100.0 - 100.0 %
comments: Non-lethal

03890256 sampled: 11/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

Dow Chemical Canada Inc. (continued)

03890359 sampled: 12/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900018 sampled: 01/09/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900111 sampled: 02/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

02900028 sampled: 03/04/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900209 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

OT cooling water

03890203 sampled: 10/10/89 non-lethal
95% fid. limits: 100.0 - 100.0 %
comments: Non-lethal

03890261 sampled: 11/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900016 sampled: 01/09/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

02900027 sampled: 03/04/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900210 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test: Non lethal

combined effluent

03890207 sampled: 10/10/89 non-lethal
95% fid. limits: 100.0 - 100.0 %
comments: 16.7% mortality @ 6%

03890257 sampled: 11/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

Dow Chemical Canada Inc. (continued)

03890360 sampled: 12/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900015 sampled: 01/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900112 sampled: 02/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

02900029 sampled: 03/04/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900211 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

combined effluent

03890209 sampled: 10/10/89 non-lethal
95% fid. limits: 100.0 - 100.0 %
comments: Non-lethal

03890258 sampled: 11/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03890356 sampled: 12/13/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100%.

03900013 sampled: 01/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900113 sampled: 02/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

02900031 sampled: 03/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900212 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

Dow Chemical Canada Inc. (continued)

combined effluent

03890205 sampled: 10/10/89 non-lethal
95% fid. limits: 100.0 - 100.0 %
comments: Non-lethal

03890259 sampled: 11/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03890358 sampled: 12/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900014 sampled: 01/09/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900114 sampled: 02/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

02900030 sampled: 03/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900213 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

combined effluent

03890202 sampled: 10/10/89 non-lethal
95% fid. limits: 100.0 - 100.0 %
comments: Non-lethal.

03890260 sampled: 11/13/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03890361 sampled: 12/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900012 sampled: 01/09/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900115 sampled: 02/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

Dow Chemical Canada Inc. (continued)

02900032 sampled: 03/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit/high conductivity

03900214 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

OT cooling water

03890204 sampled: 10/10/89 non-lethal
95% fid. limits: 100.0 - 100.0 %
comments: 16.7% mortality @ 13%

03890262 sampled: 11/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100%

03900017 sampled: 01/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

02900035 sampled: 03/12/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900215 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

intake water

process effluent

process effluent

process effluent

process effluent

process effluent

process effluent

process effluent

Dow Chemical Canada Inc. (continued)

process effluent

process effluent

03890274	sampled: 11/16/89	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non-lethal	
03890357	sampled: 12/13/89	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:	LC50>100	
03900011	sampled: 01/09/90	LC50: >100 %
95% fid. limits:	0.0 -	0.0 %
comments:	LC50 >100	
03900116	sampled: 02/13/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non-lethal	
02900034	sampled: 03/12/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	MISA Audit/high conductivity, low D. O.	
03900216	sampled: 03/19/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non lethal	

waste site

total plant

steam plant

north pump house

south pump house

rain gauge

TOXICITY TEST REPORT Sample: 03890206

TEST CONDITIONS

Company : Dow Chemical Canada Inc.

Sarnia, ONT
(910106)Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory

Sampling Method

Sampled By : M. Rankin

Date Collected

Received : 10/11/89

Tested

: 10/11/89 at: 1730

Type of Bioassay

: STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal

Weight(gm)

Length(mm)

: D. magna

:

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	1	8
50	0	0	0	1	8
100	0	0	0	0	0

48 Hour LC50

: Non-lethal

95% fid. limits : 100.0 - 100.0 %

Comments

: Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890206

TEST CONC.	E L A P S E D T I M E			
%	00:00	04:00	24:00	48:00

Control	pH	8.4	8.2
	O2 ppm	8.8	9.3
	Cond.	301	304
	Temp(C)	20.0	20.0
6	pH	8.4	8.3
	O2 ppm	8.7	9.4
	Cond.	294	309
	Temp(C)	20.0	20.0
13	pH	8.4	8.3
	O2 ppm	8.6	9.0
	Cond.	288	294
	Temp(C)	20.0	20.0
25	pH	8.3	8.3
	O2 ppm	8.6	8.9
	Cond.	282	287
	Temp(C)	20.0	20.0
50	pH	8.3	8.2
	O2 ppm	8.7	8.8
	Cond.	267	274
	Temp(C)	20.0	20.0
100	pH	8.2	8.1
	O2 ppm	8.7	8.6
	Cond.	237	244
	Temp(C)	20.0	20.0

TOXICITY TEST REPORT Sample: 03890256

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 11/13/89
Received : 11/14/89 at: 1510
Tested

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	%
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	0	0	0
100	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890256

TEST CONC. %
E L A P S E D T I M E
00:00 04:00 24:00 48:00

Control	pH	8.2	8.2	8.1
	O2 ppm	8.7	8.7	8.7
	Cond.	292	301	301
	Temp(C)	20.5	20.5	20.0
6	pH	8.2	8.2	8.2
	O2 ppm	8.8	8.6	8.6
	Cond.	291	297	297
	Temp(C)	20.5	20.5	20.0
13	pH	8.2	8.2	8.2
	O2 ppm	8.8	8.4	8.4
	Cond.	287	292	292
	Temp(C)	20.5	20.5	20.0
25	pH	8.2	8.1	8.1
	O2 ppm	8.9	8.3	8.3
	Cond.	280	285	285
	Temp(C)	20.5	20.5	20.0
50	pH	8.2	8.1	8.1
	O2 ppm	8.9	8.3	8.3
	Cond.	263	271	271
	Temp(C)	20.5	20.5	20.0
100	pH	8.2	8.1	8.1
	O2 ppm	9.1	8.0	8.0
	Cond.	231	238	238
	Temp(C)	20.5	20.5	20.0

TOXICITY TEST REPORT Sample: 03890359

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 12/13/89
Received : 12/14/89
Tested : 12/15/89 at: 1225

Type of Bioassay : STATIC.
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890359

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.3 O2 ppm 9.4 Cond. 238 Temp(C) 19.5	8.2 8.5 248 19.0
50	pH 8.4 O2 ppm 9.0 Cond. 269 Temp(C) 19.5	8.3 8.4 275 19.0
25	pH 8.4 O2 ppm 8.8 Cond. 283 Temp(C) 19.5	8.4 8.4 289 19.0
13	pH 8.4 O2 ppm 8.7 Cond. 290 Temp(C) 19.5	8.4 8.4 295 19.0
6	pH 8.5 O2 ppm 8.8 Cond. 295 Temp(C) 19.5	8.4 8.3 300 19.0
Control	pH 8.5 O2 ppm 8.8 Cond. 298 Temp(C) 19.5	8.4 8.3 298 19.0

TOXICITY TEST REPORT Sample: 03900018

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 01/09/90
Received : 01/10/90 at: 1700
Tested : 01/10/90

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00	48:00
100	0	0	0
50	0	0	0
25	0	0	1
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900018

TEST CONC. %

E L A P S E D T I M E

00:00 24:00 48:00

100	pH 8.1	8.1	8.1	8.1
	O2 ppm 10.1	10.1	8.6	8.6
	Cond. 233	233	236	236
	Temp(C) 20.0	20.0	19.5	20.0
50	pH 8.1	8.1	8.2	8.2
	O2 ppm 9.4	9.4	8.7	8.7
	Cond. 270	270	274	274
	Temp(C) 20.0	20.0	19.5	20.0
25	pH 8.1	8.1	8.3	8.3
	O2 ppm 9.2	9.2	8.6	8.6
	Cond. 285	285	290	290
	Temp(C) 20.0	20.0	19.5	20.0
13	pH 8.2	8.2	8.3	8.3
	O2 ppm 9.0	9.0	8.6	8.6
	Cond. 295	295	297	297
	Temp(C) 20.0	20.0	19.5	20.0
6	pH 8.2	8.2	8.3	8.3
	O2 ppm 8.8	8.8	8.5	8.5
	Cond. 297	297	303	303
	Temp(C) 20.0	20.0	19.5	20.0
Control	pH 8.2	8.2	8.3	8.3
	O2 ppm 8.9	8.9	8.7	8.7
	Cond. 301	301	310	310
	Temp(C) 20.0	20.0	19.5	20.0

TOXICITY TEST REPORT Sample: 03900111

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 02/13/90
Received : 02/14/90
Tested : 02/14/90 at: 1415

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900111

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.1 O2 ppm 9.1 Cond. 231 Temp(C) 20.5	8.2 8.6 231 19.5
50	pH 8.2 O2 ppm 9.0 Cond. 261 Temp(C) 20.5	8.3 8.5 264 19.5
25	pH 8.3 O2 ppm 9.0 Cond. 277 Temp(C) 20.5	8.4 8.5 279 19.5
13	pH 8.3 O2 ppm 8.9 Cond. 283 Temp(C) 20.5	8.4 8.4 287 19.5
6	pH 8.3 O2 ppm 9.0 Cond. 289 Temp(C) 20.5	8.4 8.4 293 19.5
Control	pH 8.3 O2 ppm 9.0 Cond. 293 Temp(C) 20.5	8.4 8.4 305 19.5

TOXICITY TEST REPORT Sample: 02900028

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (200)
Laboratory : MOE
Sampling Method : Grab
Sampled By : D. Hamilton
Date Collected : 03/04/90
Received : 03/06/90 at: 1429
Tested : 03/06/90

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	01:00	24:00	48:00	%
100	0	0	0	0	0
60	0	0	0	0	0
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 02900028

TEST CONC. %	E L A P S E D T I M E			
	00:00	01:00	24:00	48:00
100	pH 7.7 O2 ppm 10.0 Cond. 214 Temp(C) 20.0	7.8 7.8 214 20.0	20.0	20.0
60	pH 7.8 O2 ppm 9.5 Cond. 262 Temp(C) 20.0	7.8 7.8 267 20.0	20.0	20.0
30	pH 7.9 O2 ppm 9.3 Cond. 296 Temp(C) 20.0	7.9 8.0 300 20.0	20.0	20.0
15	pH 7.9 O2 ppm 9.2 Cond. 315 Temp(C) 20.0	7.9 8.0 319 20.0	20.0	20.0
5	pH 7.9 O2 ppm 9.2 Cond. 328 Temp(C) 20.0	7.8 7.9 334 20.0	20.0	20.0
Control	pH 7.9 O2 ppm 9.2 Cond. 329 Temp(C) 20.0	7.9 7.9 334 20.0	20.0	20.0

TOXICITY TEST REPORT Sample: 03900209

TEST CONDITIONS

Company : Dow Chemical Canada Inc.-
Sarnia, ONT
(910106)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/21/90 at: 1045

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol, OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00	48:00
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900209

TEST CONC. %	E L A P S E D T I M E	
	00:00	24:00
100	pH 8.0 O2 ppm 9.2 Cond. 233 Temp(C) 20.5	8.2 8.2 237 20.0
50	pH 8.2 O2 ppm 9.0 Cond. 267 Temp(C) 20.5	8.2 8.1 287 20.0
25	pH 8.3 O2 ppm 9.0 Cond. 285 Temp(C) 20.5	8.2 8.2 290 20.0
13	pH 8.3 O2 ppm 8.9 Cond. 293 Temp(C) 20.5	8.2 8.1 300 20.0
6	pH 8.3 O2 ppm 8.8 Cond. 299 Temp(C) 20.5	8.2 8.1 302 20.0
Control	pH 8.3 O2 ppm 8.5 Cond. 302 Temp(C) 20.5	8.2 8.2 300 20.0

TOXICITY TEST REPORT Sample: 03890203

TEST CONDITIONS

Company : Dow Chemical Canada Inc.

Sarnia, ONT
(910109)

Region : Southwest

Industry : Organic Chemical

Control point : OT cooling water, (300)

Laboratory : BAR

Sampling Method : Grab

Sampled By : M. Rankin

Date Collected : 10/10/89

Received : 10/11/89

Tested : 10/11/89 at: 1600

Type of Bioassay

: STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal

: D. magna

Weight(gm)

Length(mm)

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	%
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	1	8
50	0	0	0	1	8
100	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 100.0 - 100.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890203

TEST CONC.	E L A P S E D T I M E			
%	00:00	04:00	24:00	48:00
Control	pH 8.4			8.3
	O2 ppm 8.8			8.4
	Cond. 301			294
	Temp(C) 20.0	20.0	20.0	20.0
6	pH 8.4			8.3
	O2 ppm 8.6			8.4
	Cond. 295			297
	Temp(C) 20.0	20.0	20.0	20.0
13	pH 8.4			8.3
	O2 ppm 8.6			8.4
	Cond. 291			292
	Temp(C) 20.0	20.0	20.0	20.0
25	pH 8.4			8.2
	O2 ppm 8.7			8.5
	Cond. 282			285
	Temp(C) 20.0	20.0	20.0	20.0
50	pH 8.4			8.2
	O2 ppm 8.7			8.4
	Cond. 265			270
	Temp(C) 20.0	20.0	20.0	20.0
100	pH 8.2			8.0
	O2 ppm 8.9			8.4
	Cond. 233			240
	Temp(C) 20.0	20.0	20.0	20.0

SLOPE of Mortality Curve :
LC50 Calculated By :

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890261

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910106)
Region : Southwest
Industry : Organic Chemical
Control point : OT cooling water, (300)
Laboratory : BAR
Sampling Method : Grab
Sampled By : H. Rankin
Date Collected : 11/13/89
Received : 11/14/89
Tested : 11/14/89 at: 1620

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	04:00	24:00	48:00
Control	0	0	0	0
6	0	0	0	0
13	0	0	0	0
25	0	0	0	0
50	0	0	0	0
100	0	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890261

TEST CONC. %	E L A P S E D T I M E		
	00:00	04:00	24:00 48:00
Control	pH 8.2 O2 ppm 8.7 Cond. 292 Temp(C) 20.5	pH 8.1 O2 ppm 8.5 Cond. 290 Temp(C) 19.0	
6	pH 8.2 O2 ppm 8.8 Cond. 287 Temp(C) 20.5	pH 8.1 O2 ppm 8.4 Cond. 288 Temp(C) 19.0	
13	pH 8.2 O2 ppm 8.8 Cond. 281 Temp(C) 20.5	pH 8.1 O2 ppm 8.5 Cond. 283 Temp(C) 19.0	
25	pH 8.1 O2 ppm 8.9 Cond. 275 Temp(C) 20.5	pH 8.1 O2 ppm 8.5 Cond. 277 Temp(C) 19.0	
50	pH 8.1 O2 ppm 8.9 Cond. 259 Temp(C) 20.5	pH 8.0 O2 ppm 8.5 Cond. 261 Temp(C) 19.0	
100	pH 8.0 O2 ppm 9.1 Cond. 236 Temp(C) 20.5	pH 7.9 O2 ppm 8.6 Cond. 240 Temp(C) 19.0	

TOXICITY TEST REPORT Sample: 03900016

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (300)

Laboratory : BAR
Sampling Method : OT Cooling water
Sampled By : D. McLaughlin
Date Collected : 01/09/90
Received : 01/10/90
Tested : 01/10/90 at: 1625

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	1	4
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900016

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH	8.0	8.1
	O2 ppm	10.8	8.5
	Cond.	236	238
	Temp(C)	20.0	19.5 20.0
Control	pH	8.3	8.4
	O2 ppm	8.8	8.7
	Cond.	305	307
	Temp(C)	20.0	19.5 20.0

TOXICITY TEST REPORT Sample: 02900027

TEST CONDITIONSCompany : Dow Chemical Canada Inc.
Sarnia, ONT
(910105)Region : Southwest
Industry : Organic Chemical

Control point : OF cooling water, (300)

Laboratory : MOE

Sampling Method : Grab

Sampled By : D. Hamilton

Date Collected : 03/04/90

Received : 03/06/90

Tested : 03/06/90 at: 1428

Type of Bioassay

: STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal

Weight(gm)

Length(mm)

: D. magna

:

:

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	01:00	24:00	48:00	%
100	0	0	0	1	8
60	0	0	1	1	8
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 02900027

TEST CONC. %	E L A P S E D T I M E		
	00:00	01:00	24:00 48:00

100	pH 7.6	7.9	
	02 ppm 10.0	8.2	
	Cond. 209	218	
	Temp(C) 20.0	20.0	20.0
60	pH 7.8	7.9	
	02 ppm 9.3	8.3	
	Cond. 266	271	
	Temp(C) 20.0	20.0	20.0
30	pH 7.8	8.0	
	02 ppm 9.1	8.3	
	Cond. 300	308	
	Temp(C) 20.0	20.0	20.0
15	pH 7.8	7.9	
	02 ppm 9.2	8.5	
	Cond. 317	324	
	Temp(C) 20.0	20.0	20.0
5	pH 7.8	7.9	
	02 ppm 9.2	8.5	
	Cond. 330	337	
	Temp(C) 20.0	20.0	20.0
Control	pH 7.6	7.9	
	02 ppm 9.2	8.5	
	Cond. 333	343	
	Temp(C) 20.0	20.0	20.0

MISA Daphnia

SLOPE of Mortality Curve : Intuitive
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900210

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : OT cooling water, (300)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 03/19/90
Received : 03/20/90 at: 1700
Tested : 03/20/90

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME	TOTAL MORTALITY
%	00:00 24:00 48:00	%
100	0 0 0	0
100	0 0 0	0
Control	0 0 0	0
Control	0 0 0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test: Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900210

TEST ELAPSED TIME
CONC. %
00:00 24:00 48:00

100	pH 8.1 O2 ppm 9.3 Cond. 231 Temp(C) 21.0	20.0	8.0 8.6 231 20.0
100	pH 8.1 O2 ppm 9.3 Cond. 231 Temp(C) 21.0	20.0	8.0 8.7 229 20.0
Control	pH 8.5 O2 ppm 8.6 Cond. 299 Temp(C) 21.0	20.0	8.2 8.5 297 20.0
Control	pH 8.5 O2 ppm 8.6 Cond. 299 Temp(C) 21.0	20.0	8.3 8.6 301 20.0

TOXICITY TEST REPORT Sample: 03890207

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910106)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 10/10/89
Received : 10/11/89
Tested : 10/11/89 at: 1720

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	04:00	24:00	48:00
Control	0	0	0	0
6	0	0	0	16
13	0	0	0	0
25	0	0	0	8
50	0	0	0	0
100	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 100.0 - 100.0 %

Comments : 16.7% mortality @ 6%

TOXICITY TEST PARAMETERS

Sample Number: 03890207

TEST CONC. %
E L A P S E D T I M E
00:00 04:00 24:00 48:00

Control	pH	8.4	8.3
	O2 ppm	8.8	8.6
	Cond.	301	289
	Temp(C)	20.0	20.0
6	pH	8.5	8.3
	O2 ppm	8.6	8.7
	Cond.	328	325
	Temp(C)	20.0	20.0
13	pH	8.4	8.2
	O2 ppm	8.6	8.7
	Cond.	356	350
	Temp(C)	20.0	20.0
25	pH	8.4	8.3
	O2 ppm	8.6	8.8
	Cond.	402	397
	Temp(C)	20.0	20.0
50	pH	8.4	8.2
	O2 ppm	8.6	8.6
	Cond.	501	496
	Temp(C)	20.0	20.0
100	pH	8.3	8.1
	O2 ppm	8.7	8.5
	Cond.	702	692
	Temp(C)	20.0	20.0

TOXICITY TEST REPORT Sample: 03890257

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (500)
Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 11/13/89
Received : 11/14/89 at: 1545
Tested : 11/14/89

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	04:00	24:00 48:00	%
Control	0	0	0	0
6	0	0	0	0
13	0	0	0	0
25	0	0	0	0
50	0	0	0	0
100	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890257

TEST CONC.		E L A P S E D T I M E		
%		00:00	04:00	24:00 48:00
Control	pH	8.2	8.1	
	O2 ppm	8.7	8.6	
	Cond.	292	288	
	Temp(C)	20.5	20.5	20.0 19.0
6	pH	8.2	8.1	
	O2 ppm	8.8	8.5	
	Cond.	315	311	
	Temp(C)	20.5	20.5	20.0 19.0
13	pH	8.2	8.0	
	O2 ppm	8.8	8.6	
	Cond.	346	342	
	Temp(C)	20.5	20.5	20.0 19.0
25	pH	8.2	8.1	
	O2 ppm	8.8	8.6	
	Cond.	394	389	
	Temp(C)	20.5	20.5	20.0 19.0
50	pH	8.2	8.0	
	O2 ppm	8.9	8.7	
	Cond.	495	493	
	Temp(C)	20.5	20.5	20.0 19.0
100	pH	8.3	7.9	
	O2 ppm	9.1	8.8	
	Cond.	695	691	
	Temp(C)	20.5	20.5	20.0 19.0

TOXICITY TEST REPORT Sample: 03890360

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910106)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (500)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 12/13/89
Received : 12/14/89
Tested : 12/15/89 at: 1400

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol: OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890360

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.2	8.3
	O2 ppm 9.2	8.5
	Cond. 1795	1766
	Temp(C) 19.5	19.0
50	pH 8.3	8.4
	O2 ppm 8.8	8.6
	Cond. 1042	1036
	Temp(C) 19.5	19.0
25	pH 8.4	8.4
	O2 ppm 8.8	8.6
	Cond. 673	673
	Temp(C) 19.5	19.0
13	pH 8.4	8.4
	O2 ppm 8.7	8.6
	Cond. 495	493
	Temp(C) 19.5	19.0
6	pH 8.4	8.4
	O2 ppm 8.8	8.6
	Cond. 389	388
	Temp(C) 19.5	19.0
Control	pH 8.5	8.4
	O2 ppm 8.8	8.5
	Cond. 298	296
	Temp(C) 19.5	19.0

TOXICITY TEST REPORT Sample: 03900015

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (500)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 01/09/90
Received : 01/10/90
Tested : 01/10/90 at: 1620

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol - OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00 24:00 48:00	%	
100	0 0 0	0	0
50	0 0 0	0	0
25	0 0 0	0	0
13	0 0 0	0	0
6	0 0 0	0	0
Control	0 0 0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900015

TEST CONC. % E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.3 8.3 O2 ppm 9.8 8.4 Cond. 1570 1578 Temp(C) 20.0 19.5 20.0
50	pH 8.3 8.3 O2 ppm 9.2 8.4 Cond. 953 944 Temp(C) 20.0 19.5 20.0
25	pH 8.2 8.4 O2 ppm 8.9 8.4 Cond. 626 618 Temp(C) 20.0 19.5 20.0
13	pH 8.3 8.3 O2 ppm 8.8 8.4 Cond. 466 460 Temp(C) 20.0 19.5 20.0
6	pH 8.2 8.3 O2 ppm 8.7 8.2 Cond. 382 378 Temp(C) 20.0 19.5 20.0
Control	pH 8.3 8.4 O2 ppm 8.8 8.6 Cond. 305 307 Temp(C) 20.0 19.5 20.0

TOXICITY TEST REPORT Sample: 03900112

TEST CONDITIONS

Company : Dow Chemical Canada Inc.

Sarnia, ONT

(910106)

Region : Southwest

Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : BAR

Sampling Method : Grab

Sampled By : D. McLaughlin

Date Collected : 02/13/90

Received : 02/14/90

Tested : 02/14/90 at: 1425

Type of Bioassay

: STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal

Weight(gm)

Length(mm)

: D. magna

:

:

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900112

TEST CONC. %	E L A P S E D T I M E	
	00:00	24:00 48:00

100	pH	8.2	8.3
	O2 ppm	9.1	8.6
	Cond.	1286	1291
	Temp(C)	20.5	20.0 19.5
50	pH	8.2	8.3
	O2 ppm	9.0	8.7
	Cond.	785	787
	Temp(C)	20.5	20.0 19.5
25	pH	8.3	8.4
	O2 ppm	9.0	8.7
	Cond.	549	550
	Temp(C)	20.5	20.0 19.5
13	pH	8.3	8.4
	O2 ppm	8.9	8.7
	Cond.	422	422
	Temp(C)	20.5	20.0 19.5
6	pH	8.3	8.4
	O2 ppm	8.9	8.7
	Cond.	353	355
	Temp(C)	20.5	20.0 19.5
Control	pH	8.3	8.5
	O2 ppm	8.9	8.6
	Cond.	293	297
	Temp(C)	20.5	20.0 19.5

TOXICITY TEST REPORT Sample: 02900029

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (500)

Laboratory : MDE
Sampling Method : Grab
Sampled By : D. Hamilton
Date Collected : 03/04/90
Received : 03/06/90
Tested : 03/06/90 at: 1526

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	01:00	24:00	48:00
100	0	0	0	0
60	0	0	0	0
30	0	0	0	0
15	0	0	0	0
5	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 02900029

TEST CONC. %
E L A P S E D T I M E
00:00 01:00 24:00 48:00

100	pH 7.8 O2 ppm 8.9 Cond. 1152 Temp(C) 20.0	20.0	20.0	20.0	20.0	8.2 7.6 1127
60	pH 7.8 O2 ppm 8.9 Cond. 831 Temp(C) 20.0	20.0	20.0	20.0	20.0	8.1 7.6 821
30	pH 7.9 O2 ppm 8.6 Cond. 573 Temp(C) 20.0	20.0	20.0	20.0	20.0	8.0 7.6 578
15	pH 7.9 O2 ppm 8.5 Cond. 449 Temp(C) 20.0	20.0	20.0	20.0	20.0	8.0 7.5 460
5	pH 7.9 O2 ppm 9.1 Cond. 376 Temp(C) 20.0	20.0	20.0	20.0	20.0	7.9 7.4 382
Control	pH 7.6 O2 ppm 9.2 Cond. 328 Temp(C) 20.0	20.0	20.0	20.0	20.0	7.7 7.5 338

TOXICITY TEST REPORT Sample: 03900211

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (500)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/21/90 at: 1050

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	%	ELAPSED TIME	TOTAL MORTALITY
		00:00 24:00 48:00	%
100	0	0 0 0	0
50	0	0 0 0	0
25	0	0 0 0	0
13	0	0 0 0	0
6	0	0 0 0	0
Control	0	0 0 0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900211

TEST CONC. %
ELAPSED TIME
00:00 24:00 48:00

100	pH 8.1 O2 ppm 9.0 Cond. 329 Temp(C) 20.5	8.1 9.0 331 20.5	8.1 8.5 331 20.5
50	pH 8.2 O2 ppm 8.9 Cond. 315 Temp(C) 20.5	8.2 8.9 315 20.5	8.2 8.4 316 20.5
25	pH 8.3 O2 ppm 8.8 Cond. 309 Temp(C) 20.5	8.3 8.8 309 20.5	8.2 8.4 310 20.5
13	pH 8.3 O2 ppm 8.8 Cond. 306 Temp(C) 20.5	8.3 8.8 306 20.5	8.2 8.4 307 20.5
6	pH 8.3 O2 ppm 8.8 Cond. 303 Temp(C) 20.5	8.3 8.8 303 20.5	8.2 8.4 305 20.5
Control	pH 8.3 O2 ppm 8.5 Cond. 302 Temp(C) 20.5	8.3 8.5 302 20.5	8.2 8.3 304 20.5

TOXICITY TEST REPORT Sample: 03890209

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910105)Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 10/10/89
Received : 10/11/89
Tested : 10/11/89 at: 1600Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	%
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	0	0	0
100	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 100.0 - 100.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890209

TEST CONC.	E L A P S E D T I M E			
%	00:00	04:00	24:00	48:00

Control	pH	8.4	8.3
	O2 ppm	8.8	8.6
	Cond.	301	290
	Temp(C)	20.0	20.0
6	pH	8.4	8.3
	O2 ppm	8.8	8.8
	Cond.	294	301
	Temp(C)	20.0	20.0
13	pH	8.4	8.2
	O2 ppm	8.7	8.7
	Cond.	294	299
	Temp(C)	20.0	20.0
25	pH	8.4	8.2
	O2 ppm	8.6	8.6
	Cond.	285	287
	Temp(C)	20.0	20.0
50	pH	8.3	8.2
	O2 ppm	8.7	8.6
	Cond.	272	275
	Temp(C)	20.0	20.0
100	pH	8.1	8.0
	O2 ppm	8.9	8.5
	Cond.	244	247
	Temp(C)	20.0	20.0

TOXICITY TEST REPORT Sample: 03890258

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (600)
Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 11/13/89
Received : 11/14/89 at: 1600
Tested

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	04:00 24:00 48:00	%
Control	0	0 0 0	0
6	0	0 0 0	0
13	0	0 0 0	0
25	0	0 0 0	0
50	0	0 0 0	0
100	0	0 0 0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890258

TEST CONC. %

E L A P S E D T I M E

00:00 04:00 24:00 48:00

Control	pH	8.2	8.1
	O2 ppm	8.7	8.5
	Cond.	292	289
	Temp(C)	20.5	20.0 19.0
6	pH	8.2	8.1
	O2 ppm	8.8	8.8
	Cond.	287	293
	Temp(C)	20.5	20.0 19.0
13	pH	8.2	8.1
	O2 ppm	8.8	8.8
	Cond.	286	290
	Temp(C)	20.5	20.0 19.0
25	pH	8.2	8.1
	O2 ppm	8.8	8.7
	Cond.	278	282
	Temp(C)	20.5	20.0 19.0
50	pH	8.2	8.1
	O2 ppm	8.9	8.8
	Cond.	262	265
	Temp(C)	20.5	20.0 19.0
100	pH	8.1	8.0
	O2 ppm	9.1	8.6
	Cond.	235	239
	Temp(C)	20.5	20.0 19.0

TOXICITY TEST REPORT Sample: 03890356

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 12/13/89
Received : 12/14/89
Tested : 12/15/89 at: 1100

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00	48:00
100	0	0	0
50	0	0	0
25	0	1	8
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100%.

TOXICITY TEST PARAMETERS

Sample Number: 03890356

TEST CONC. % E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.2	8.2	8.2
	02 ppm 9.4	9.4	8.6
	Cond. 255	255	254
	Temp(C) 19.5	19.0	19.0
50	pH 8.4	8.4	8.3
	02 ppm 9.1	9.1	8.6
	Cond. 277	277	275
	Temp(C) 19.5	19.0	19.0
25	pH 8.4	8.4	8.4
	02 ppm 8.9	8.9	8.6
	Cond. 289	289	286
	Temp(C) 19.5	19.0	19.0
13	pH 8.4	8.4	8.4
	02 ppm 8.8	8.8	8.5
	Cond. 294	294	291
	Temp(C) 19.5	19.0	19.0
6	pH 8.5	8.5	8.4
	02 ppm 8.8	8.8	8.4
	Cond. 397	397	294
	Temp(C) 19.5	19.0	19.0
Control	pH 8.5	8.5	8.4
	02 ppm 8.8	8.8	8.3
	Cond. 298	298	296
	Temp(C) 19.5	19.0	19.0

SLOPE of Mortality Curve : Intuitive
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900013
TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH	8.1	8.1
	O2 ppm	10.2	8.3
	Cond.	249	252
	Temp(C)	20.0	19.5 20.0
50	pH	8.2	8.3
	O2 ppm	9.4	8.4
	Cond.	278	283
	Temp(C)	20.0	19.5 20.0
25	pH	8.2	8.3
	O2 ppm	9.1	8.3
	Cond.	291	296
	Temp(C)	20.0	19.5 20.0
13	pH	8.3	8.3
	O2 ppm	8.9	8.2
	Cond.	299	302
	Temp(C)	20.0	19.5 20.0
6	pH	8.2	8.3
	O2 ppm	8.9	8.0
	Cond.	303	305
	Temp(C)	20.0	19.5 20.0
Control	pH	8.3	8.4
	O2 ppm	8.8	8.5
	Cond.	305	307
	Temp(C)	20.0	19.5 20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900013

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (600)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 01/09/90
Received : 01/10/90
Tested : 01/10/90 at: 1550

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 24:00 48:00	%
100	0 0 0	0
50	0 0 0	0
25	0 0 0	0
13	0 0 0	0
6	0 0 0	0
Control	0 0 0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST REPORT Sample: 03900113

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910106)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (600)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 02/13/90
Received : 02/14/90
Tested : 02/14/90 at: 1440

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900113

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.1	8.2	8.2
	O2 ppm 9.1	8.6	8.6
	Cond. 238	240	240
	Temp(C) 20.5	20.0	19.5
50	pH 8.2	8.3	8.3
	O2 ppm 9.0	8.6	8.6
	Cond. 264	269	269
	Temp(C) 20.5	20.0	19.5
25	pH 8.2	8.4	8.4
	O2 ppm 8.9	8.6	8.6
	Cond. 278	282	282
	Temp(C) 20.5	20.0	19.5
13	pH 8.2	8.4	8.4
	O2 ppm 8.9	8.6	8.6
	Cond. 286	288	288
	Temp(C) 20.5	20.0	19.5
6	pH 8.3	8.4	8.4
	O2 ppm 8.9	8.5	8.5
	Cond. 290	294	294
	Temp(C) 20.5	20.0	19.5
Control	pH 8.3	8.4	8.4
	O2 ppm 8.9	8.5	8.5
	Cond. 293	294	294
	Temp(C) 20.5	20.0	19.5

TOXICITY TEST REPORT Sample: 02900031

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (600)
Laboratory : MOE
Sampling Method : Grab
Sampled By : D. Hamilton
Date Collected : 03/05/90
Received : 03/06/90
Tested : 03/07/90 at: 1356

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	01:00	24:00	48:00	%
100	0	0	0	0	0
60	0	0	0	0	0
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 02900031

TEST CONC.	E L A P S E D T I M E			
%	00:00	01:00	24:00	48:00
100	pH 7.6 O2 ppm 10.0 Cond. 218 Temp(C) 20.0	20.0	20.0	20.0
60	pH 7.8 O2 ppm 9.2 Cond. 270 Temp(C) 20.0	20.0	20.0	20.0
30	pH 7.9 O2 ppm 8.9 Cond. 302 Temp(C) 20.0	20.0	20.0	20.0
15	pH 7.9 O2 ppm 9.2 Cond. 321 Temp(C) 20.0	20.0	20.0	20.0
5	pH 7.9 O2 ppm 9.1 Cond. 332 Temp(C) 20.0	20.0	20.0	20.0
Control	pH 7.8 O2 ppm 9.0 Cond. 333 Temp(C) 20.0	20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900212

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910106)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (600)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/21/90 at: 1115

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

SLOPE of Mortality Curve : Intuitive
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900212

TEST CONC. %	ELAPSED TIME	
	00:00	24:00 48:00
100	pH 8.0 O2 ppm 9.2 Cond. 240 Temp(C) 20.5	8.2 8.3 8.3 24.6 20.0 20.5
50	pH 8.2 O2 ppm 9.0 Cond. 272 Temp(C) 20.5	8.2 8.2 8.2 27.6 20.0 20.5
25	pH 8.3 O2 ppm 8.8 Cond. 286 Temp(C) 20.5	8.2 8.0 8.0 291 20.0 20.5
13	pH 8.3 O2 ppm 8.8 Cond. 294 Temp(C) 20.5	8.2 8.1 8.1 29.6 20.0 20.5
6	pH 8.3 O2 ppm 8.8 Cond. 298 Temp(C) 20.5	8.2 8.2 8.2 301 20.0 20.5
Control	pH 8.3 O2 ppm 8.5 Cond. 302 Temp(C) 20.5	8.2 8.4 8.4 30.5 20.0 20.5

TOXICITY TEST REPORT Sample: 03890205

TOXICITY TEST PARAMETERS

TEST CONDITIONS

Company : Dow Chemical Canada Inc.

Sarnia, ONT
(910109)

Region : Southwest

Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory

Sampling Method

Sampled By : M. Rankin

Date Collected

: 10/10/89

Received

: 10/11/89 at: 1600

Tested

Type of Bioassay

: STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal

Weight(gm)

Length(mm)

: D. magna

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL* MORTALITY
%	00:00	04:00	24:00	48:00	%
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	0	0	0
100	0	0	0	0	0

48 Hour LC50

: Non-lethal

95% fid. limits : 100.0 - 100.0 %

Comments

: Non-lethal

Sample Number: 03890205

TEST CONC. %

E L A P S E D T I M E

00:00 04:00 24:00 48:00

Control	pH	8.4	8.3
	O2 ppm	8.8	8.7
	Cond.	301	297
	Temp(C)	20.0	20.0
6	pH	8.4	8.2
	O2 ppm	8.6	8.8
	Cond.	293	300
	Temp(C)	20.0	20.0
13	pH	8.4	8.3
	O2 ppm	8.6	8.7
	Cond.	295	296
	Temp(C)	20.0	20.0
25	pH	8.4	8.3
	O2 ppm	8.6	8.7
	Cond.	288	289
	Temp(C)	20.0	20.0
50	pH	8.3	8.2
	O2 ppm	8.6	8.6
	Cond.	273	276
	Temp(C)	20.0	20.0
100	pH	8.2	8.1
	O2 ppm	8.8	8.3
	Cond.	245	246
	Temp(C)	20.0	20.0

TOXICITY TEST REPORT Sample: 03890259

TEST CONDITIONS

Company : Dow Chemical Canada Inc.

Sarnia, ONT

(910109)

Region : Southwest

Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR

Sampling Method : Grab

Sampled By : M. Rankin

Date Collected : 11/13/89

Received : 11/14/89

Tested : 11/14/89 at: 1620

Type of Bioassay : STATIC

(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna

Weight(gm) :

Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	%
Control	0	0	0	1	8
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	0	0	0
100	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890259

TEST CONC.	E L A P S E D T I M E			
%	00:00	04:00	24:00	48:00

Control	pH	8.2	8.7	8.1
	O ₂ ppm	8.7	8.7	8.8
	Cond.	292	289	289
	Temp(C)	20.5	20.5	20.0
6	pH	8.2	8.0	8.0
	O ₂ ppm	8.8	8.9	8.9
	Cond.	288	291	291
	Temp(C)	20.5	20.5	20.0
13	pH	8.2	8.1	8.1
	O ₂ ppm	8.8	8.7	8.7
	Cond.	286	287	287
	Temp(C)	20.5	20.5	20.0
25	pH	8.2	8.1	8.1
	O ₂ ppm	8.8	8.7	8.7
	Cond.	278	280	280
	Temp(C)	20.5	20.5	20.0
50	pH	8.2	8.1	8.1
	O ₂ ppm	8.9	8.7	8.7
	Cond.	262	265	265
	Temp(C)	20.5	20.5	20.0
100	pH	8.2	8.1	8.1
	O ₂ ppm	9.2	8.6	8.6
	Cond.	234	236	236
	Temp(C)	20.5	20.5	20.0

TOXICITY TEST REPORT Sample: 03890358

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910106)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (700)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 12/13/89
Received : 12/14/89
Tested : 12/15/89 at: 1215

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol - OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	%	ELAPSED TIME	TOTAL MORTALITY
		00:00 24:00 48:00	%
100	0	0 0 0	0
50	0	0 0 0	0
25	0	0 0 0	0
13	0	0 0 0	0
6	0	0 0 0	0
Control	0	0 0 0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890358

TEST CONC. % ELAPSED TIME
00:00 24:00 48:00

100	pH 8.3	8.2
	O2 ppm 9.4	8.5
	Cond. 247	247
	Temp(C) 19.5	19.0
50	pH 8.4	8.4
	O2 ppm 8.9	8.5
	Cond. 273	271
	Temp(C) 19.5	19.0
25	pH 8.4	8.4
	O2 ppm 8.6	8.5
	Cond. 286	284
	Temp(C) 19.5	19.0
13	pH 8.5	8.4
	O2 ppm 8.5	8.6
	Cond. 292	290
	Temp(C) 19.5	19.0
6	pH 8.4	8.4
	O2 ppm 8.4	8.6
	Cond. 295	295
	Temp(C) 19.5	19.0
Control	pH 8.5	8.4
	O2 ppm 8.8	8.5
	Cond. 298	295
	Temp(C) 19.5	19.0

TOXICITY TEST REPORT Sample: 03900014

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910106)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (700)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 01/09/90
Received : 01/10/90
Tested : 01/10/90 at: 1600

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	1	8
13	0	0	0
6	0	0	0
Control	0	1	8

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900014

TEST CONC.	E L A P S E D T I M E	
%	00:00	24:00 48:00

100	pH 8.1 O2 ppm 10.3 Cond. 241 Temp(C) 20.0	19.5 20.0
50	pH 8.2 O2 ppm 9.5 Cond. 273 Temp(C) 20.0	19.5 20.0
25	pH 8.2 O2 ppm 9.2 Cond. 291 Temp(C) 20.0	19.5 20.0
13	pH 8.2 O2 ppm 8.9 Cond. 298 Temp(C) 20.0	19.5 20.0
6	pH 8.3 O2 ppm 8.9 Cond. 302 Temp(C) 20.0	19.5 20.0
Control	pH 8.3 O2 ppm 8.8 Cond. 305 Temp(C) 20.0	19.5 20.0

TOXICITY TEST REPORT Sample: 03900114

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (700)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 02/13/90
Received : 02/14/90
Tested : 02/14/90 at: 1450

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00	48:00
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900114

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.1 O2 ppm 9.2 Cond. 229 Temp(C) 20.5	8.2 8.4 234 20.0	8.2 8.4 234 19.5
50	pH 8.2 O2 ppm 9.1 Cond. 260 Temp(C) 20.5	8.3 8.4 265 20.0	8.3 8.4 265 19.5
25	pH 8.2 O2 ppm 9.0 Cond. 278 Temp(C) 20.5	8.3 8.5 280 20.0	8.3 8.5 280 19.5
13	pH 8.2 O2 ppm 8.9 Cond. 283 Temp(C) 20.5	8.4 8.5 288 20.0	8.4 8.5 288 19.5
6	pH 8.3 O2 ppm 8.9 Cond. 290 Temp(C) 20.5	8.4 8.5 292 20.0	8.4 8.5 292 19.5
Control	pH 8.3 O2 ppm 8.9 Cond. 293 Temp(C) 20.5	8.4 8.5 290 20.0	8.4 8.5 290 19.5

TOXICITY TEST REPORT Sample: 02900030

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910106)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (700)
Laboratory : MOE
Sampling Method : Grab
Sampled By : D. Hamilton
Date Collected : 03/05/90
Received : 03/06/90
Tested : 03/07/90 at: 1343

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	01:00	24:00	48:00	%
100	0	0	0	0	0
60	0	0	0	0	0
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 02900030

TEST CONC.	E L A P S E D T I M E			
%	00:00	01:00	24:00	48:00
100	pH 7.7 O2 ppm 10.4 Cond. 212 Temp(C) 20.0	7.8 8.3 217 20.0	20.0	20.0
60	pH 7.8 O2 ppm 9.6 Cond. 264 Temp(C) 20.0	7.9 8.2 270 20.0	20.0	20.0
30	pH 7.9 O2 ppm 9.3 Cond. 300 Temp(C) 20.0	7.9 8.2 305 20.0	20.0	20.0
15	pH 7.8 O2 ppm 9.2 Cond. 318 Temp(C) 20.0	7.9 8.3 322 20.0	20.0	20.0
5	pH 7.8 O2 ppm 9.1 Cond. 327 Temp(C) 20.0	7.9 8.3 337 20.0	20.0	20.0
Control	pH 7.8 O2 ppm 9.1 Cond. 328 Temp(C) 20.0	7.6 8.4 341 20.0	20.0	20.0

TOXICITY TEST REPORT Sample: 03900213

TEST CONDITIONSCompany : Dow Chemical Canada Inc.
Sarnia, ONT
(910106)Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/21/90 at: 1125Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)Test Animal : D. magna
Weight(gm) :
Length(mm) :MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900213

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.0	8.2
	O2 ppm 9.3	8.6
	Cond. 230	237
	Temp(C) 20.5	20.0 20.5
50	pH 8.0	8.2
	O2 ppm 8.9	8.5
	Cond. 267	271
	Temp(C) 20.5	20.0 20.5
25	pH 8.2	8.2
	O2 ppm 8.8	8.5
	Cond. 286	291
	Temp(C) 20.5	20.0 20.5
13	pH 8.3	8.2
	O2 ppm 8.8	8.5
	Cond. 290	296
	Temp(C) 20.5	20.0 20.5
6	pH 8.3	8.2
	O2 ppm 8.8	8.5
	Cond. 295	299
	Temp(C) 20.5	20.0 20.5
Control	pH 8.3	8.2
	O2 ppm 8.5	8.5
	Cond. 302	304
	Temp(C) 20.5	20.0 20.5

TOXICITY TEST REPORT Sample: 03890202

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (900)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 10/10/89
Received : 10/11/89 at: 1600
Tested : 10/11/89

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	%
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	0	0	0
100	0	0	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 100.0 - 100.0 %
Comments : Non-lethal.

TOXICITY TEST PARAMETERS

Sample Number: 03890202

TEST CONC. %
E L A P S E D T I M E
00:00 04:00 24:00 48:00

Control	pH	8.4	8.8	8.3	8.9
	O2 ppm	301	297	297	297
	Cond.	20.0	20.0	20.0	20.0
	Temp(C)	20.0	20.0	20.0	20.0
6	pH	8.5	8.5	8.3	8.3
	O2 ppm	494	501	501	501
	Cond.	20.0	20.0	20.0	20.0
	Temp(C)	20.0	20.0	20.0	20.0
13	pH	8.5	8.5	8.3	8.3
	O2 ppm	737	745	745	745
	Cond.	20.0	20.0	20.0	20.0
	Temp(C)	20.0	20.0	20.0	20.0
25	pH	8.5	8.7	8.3	8.3
	O2 ppm	1107	1105	1105	1105
	Cond.	20.0	20.0	20.0	20.0
	Temp(C)	20.0	20.0	20.0	20.0
50	pH	8.5	8.7	8.3	8.3
	O2 ppm	1907	1923	1923	1923
	Cond.	20.0	20.0	20.0	20.0
	Temp(C)	20.0	20.0	20.0	20.0
100	pH	8.6	8.8	8.3	8.3
	O2 ppm	3440	3500	3500	3500
	Cond.	20.0	20.0	20.0	20.0
	Temp(C)	20.0	20.0	20.0	20.0

TOXICITY TEST REPORT Sample: 03890260

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910106)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (900)

Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 11/13/89
Received : 11/14/89
Tested : 11/14/89 at: 1620

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	04:00	24:00	47:00	%
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	1	1	8
50	0	0	1	1	8
100	0	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890260

TEST CONC. %
E L A P S E D T I M E
00:00 04:00 24:00 47:00

Control	pH	8.2	8.1
	O2 ppm	8.8	8.9
	Cond.	292	289
	Temp(C)	20.5	20.0
6	pH	8.2	8.1
	O2 ppm	8.8	9.0
	Cond.	484	491
	Temp(C)	20.5	20.0
13	pH	8.2	8.2
	O2 ppm	8.8	8.9
	Cond.	717	723
	Temp(C)	20.5	20.0
25	pH	8.2	8.3
	O2 ppm	8.8	8.8
	Cond.	1114	1115
	Temp(C)	20.5	20.0
50	pH	8.4	8.3
	O2 ppm	8.9	8.8
	Cond.	1879	1892
	Temp(C)	20.5	20.0
100	pH	8.6	8.3
	O2 ppm	9.1	8.7
	Cond.	3440	3470
	Temp(C)	20.5	20.0

TOXICITY TEST REPORT Sample: 03890361

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (900)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 12/13/89
Received : 12/14/89
Tested : 12/15/89 at: 1410

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890361

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.3 O2 ppm 9.7 Cond. 3640 Temp(C) 19.5	8.2 8.6 3600 19.0
50	pH 8.3 O2 ppm 9.2 Cond. 1980 Temp(C) 19.5	8.3 8.5 1970 19.0
25	pH 8.4 O2 ppm 8.9 Cond. 1151 Temp(C) 19.5	8.4 8.5 1146 19.0
13	pH 8.4 O2 ppm 8.6 Cond. 726 Temp(C) 19.5	8.4 8.5 739 19.0
6	pH 8.4 O2 ppm 8.6 Cond. 506 Temp(C) 19.5	8.4 8.4 507 19.0
Control	pH 8.5 O2 ppm 8.8 Cond. 298 Temp(C) 19.5	8.4 8.3 298 19.0

TOXICITY TEST REPORT Sample: 03900012

TEST CONDITIONS

Company : Dow Chemical Canada Inc.

Sarnia, ONT
(910109)

Region : Southwest

Industry : Organic Chemical

Control point : combined effluent, (900)

Laboratory : BAR

Sampling Method : Grab

Sampled By : D. McLaughlin

Date Collected : 01/09/90

Received : 01/10/90

Tested : 01/10/90 at: 1510

Type of Bioassay :

: STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna

Weight(gm) :

Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	1	16
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900012

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.1	8.1	8.1	8.1
	O2 ppm 10.2	10.2	10.2	8.6
	Cond. 3560	3560	3530	3530
	Temp(C) 20.0	20.0	19.5	20.0
50	pH 8.2	8.2	8.2	8.2
	O2 ppm 9.5	9.5	8.6	8.6
	Cond. 1965	1965	1950	1950
	Temp(C) 20.0	20.0	19.5	20.0
25	pH 8.2	8.2	8.3	8.3
	O2 ppm 9.1	9.1	8.7	8.7
	Cond. 1156	1156	1148	1148
	Temp(C) 20.0	20.0	19.5	20.0
13	pH 8.2	8.2	8.3	8.3
	O2 ppm 9.0	9.0	8.6	8.6
	Cond. 1142	1142	1142	1142
	Temp(C) 20.0	20.0	19.5	20.0
6	pH 8.2	8.2	8.4	8.4
	O2 ppm 8.8	8.8	8.6	8.6
	Cond. 494	494	495	495
	Temp(C) 20.0	20.0	19.5	20.0
Control	pH 8.3	8.3	8.4	8.4
	O2 ppm 8.8	8.8	8.2	8.2
	Cond. 305	305	307	307
	Temp(C) 20.0	20.0	19.5	20.0

TOXICITY TEST REPORT Sample: 039000115

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910106)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (900)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 02/13/90
Received : 02/14/90
Tested : 02/14/90 at: 1500

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 24:00 48:00	%
100	0 0 0	0
50	0 0 0	0
25	0 0 0	0
13	0 0 0	0
6	0 0 0	0
Control	0 0 0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 039000115

TEST CONC. % E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.7 O2 ppm 9.1 Cond. 2980 Temp(C) 20.0	8.3 8.4 2980 20.0	8.3 8.4 19.5
50	pH 8.4 O2 ppm 8.9 Cond. 1658 Temp(C) 20.0	8.3 8.5 1662 20.0	8.3 8.5 19.5
25	pH 8.3 O2 ppm 9.0 Cond. 991 Temp(C) 20.0	8.4 8.4 995 20.0	8.4 8.4 19.5
13	pH 8.3 O2 ppm 8.9 Cond. 654 Temp(C) 20.0	8.3 8.4 658 20.0	8.3 8.4 19.5
6	pH 8.3 O2 ppm 8.9 Cond. 469 Temp(C) 20.0	8.4 8.4 467 20.0	8.4 8.4 19.5
Control	pH 8.3 O2 ppm 8.9 Cond. 293 Temp(C) 20.0	8.4 8.4 292 20.0	8.4 8.4 19.5

TOXICITY TEST REPORT Sample: 02900032

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (900)
Laboratory : MOE
Sampling Method : Grab
Sampled By : D. Hamilton
Date Collected : 03/05/90
Received : 03/06/90
Tested : 03/07/90 at: 1438

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	01:00	24:00	48:00	%
100	0	0	0	0	0
60	0	0	0	0	0
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : MISA Audit/high conductivity

TOXICITY TEST PARAMETERS

Sample Number: 02900032

TEST CONC. %	E L A P S E D T I M E			
	00:00	01:00	24:00	48:00
100	pH 7.8 O2 ppm 10.0 Cond. 2310 Temp(C) 20.0	pH 8.0 O2 ppm 2300 Cond. 20.0	pH 8.4 O2 ppm 2300 Cond. 20.0	pH 8.0 O2 ppm 8.0 Cond. 1540 Temp(C) 20.0
60	pH 7.9 O2 ppm 9.5 Cond. 1520 Temp(C) 20.0	pH 8.4 O2 ppm 1540 Cond. 20.0	pH 8.0 O2 ppm 8.0 Cond. 1540 Temp(C) 20.0	pH 8.0 O2 ppm 8.0 Cond. 1540 Temp(C) 20.0
30	pH 7.9 O2 ppm 9.2 Cond. 930 Temp(C) 20.0	pH 8.0 O2 ppm 912 Cond. 20.0	pH 8.4 O2 ppm 912 Cond. 20.0	pH 8.0 O2 ppm 8.0 Cond. 1540 Temp(C) 20.0
15	pH 7.8 O2 ppm 8.9 Cond. 622 Temp(C) 20.0	pH 7.9 O2 ppm 8.4 Cond. 639 Temp(C) 20.0	pH 8.0 O2 ppm 8.0 Cond. 1540 Temp(C) 20.0	pH 8.0 O2 ppm 8.0 Cond. 1540 Temp(C) 20.0
5	pH 7.8 O2 ppm 9.1 Cond. 427 Temp(C) 20.0	pH 7.9 O2 ppm 8.5 Cond. 437 Temp(C) 20.0	pH 8.0 O2 ppm 8.0 Cond. 1540 Temp(C) 20.0	pH 8.0 O2 ppm 8.0 Cond. 1540 Temp(C) 20.0
Control	pH 7.7 O2 ppm 8.9 Cond. 325 Temp(C) 20.0	pH 8.4 O2 ppm 329 Cond. 20.0	pH 8.0 O2 ppm 8.0 Cond. 1540 Temp(C) 20.0	pH 8.0 O2 ppm 8.0 Cond. 1540 Temp(C) 20.0

TOXICITY TEST REPORT Sample: 03900214

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (900)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/21/90 at: 1135

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. ONE, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	%	00:00	24:00	48:00	TOTAL MORTALITY
100	0	0	0	0	0
50	0	0	0	0	0
25	0	0	0	0	0
13	0	0	0	0	0
6	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900214

TEST CONC. %

E L A P S E D T I M E

00:00 24:00 48:00

100	pH 8.0	8.2
	O2 ppm 9.2	8.6
	Cond. 1612	1618
	Temp(C) 20.5	20.0 20.5
50	pH 8.1	8.2
	O2 ppm 8.9	8.6
	Cond. 970	976
	Temp(C) 20.5	20.0 20.5
25	pH 8.1	8.2
	O2 ppm 8.8	8.7
	Cond. 639	641
	Temp(C) 20.5	20.0 20.5
13	pH 8.2	8.2
	O2 ppm 8.8	8.7
	Cond. 479	473
	Temp(C) 20.5	20.0 20.5
6	pH 8.3	8.2
	O2 ppm 8.7	8.7
	Cond. 383	389
	Temp(C) 20.5	20.0 20.5
Control	pH 8.3	8.2
	O2 ppm 8.5	8.5
	Cond. 302	305
	Temp(C) 20.5	20.0 20.5

Sample: 03890204

TOXICITY TEST REPORT

TEST CONDITIONS

Company : Dow Chemical Canada Inc.

Sarnia, ONT
(910109)

Region : Southwest

Industry : Organic Chemical

Control point : OT cooling water, (1000)

Laboratory : BAR

Sampling Method : Grab

Sampled By : M. Rankin

Date Collected : 10/10/89

Received : 10/11/89

Tested : 10/11/89 at: 1600

Type of Bioassay

: STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal

Weight(gm)

Length(mm)

: D. magna

:

:

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	%
Control	0	0	0	0	0
6	0	0	0	1	8
13	0	0	0	2	16
25	0	0	0	0	0
50	0	0	0	0	0
100	0	0	0	0	0

48 Hour LC50

: Non-lethal

95% fid. limits : 100.0 - 100.0 %

Comments : 16.7% mortality @ 13%

TOXICITY TEST PARAMETERS

Sample Number: 03890204

TEST CONC.	E L A P S E D T I M E			
%	00:00	04:00	24:00	48:00

Control	pH	8.4	8.3	8.3
	O2 ppm	8.8	9.8	9.8
	Cond.	301	301	301
	Temp(C)	20.0	20.0	20.0
6	pH	8.3	8.3	8.3
	O2 ppm	8.7	9.7	9.7
	Cond.	293	302	302
	Temp(C)	20.0	20.0	20.0
13	pH	8.4	8.3	8.3
	O2 ppm	8.7	9.6	9.6
	Cond.	293	299	299
	Temp(C)	20.0	20.0	20.0
25	pH	8.4	8.3	8.3
	O2 ppm	8.7	9.3	9.3
	Cond.	287	292	292
	Temp(C)	20.0	20.0	20.0
50	pH	8.3	8.2	8.2
	O2 ppm	8.7	9.1	9.1
	Cond.	276	281	281
	Temp(C)	20.0	20.0	20.0
100	pH	8.1	8.0	8.0
	O2 ppm	8.8	8.8	8.8
	Cond.	252	257	257
	Temp(C)	20.0	20.0	20.0

TOXICITY TEST REPORT Sample: 03890262

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical
Control point : OT cooling water, (1000)
Laboratory : BAR
Sampling Method : Grab
Sampled By : M. Rankin
Date Collected : 11/13/89
Received : 11/14/89
Tested : 11/14/89 at: 1645

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. ONE, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		T O T A L M O R T A L I T Y	
%	00:00	04:00 24:00 48:00	%	
Control	0	0 1 1	8	
6	0	0 0 0	0	
13	0	0 0 0	0	
25	0	0 0 0	0	
50	0	0 0 0	0	
100	0	0 2 2	16	

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 >100%

TOXICITY TEST PARAMETERS

Sample Number: 03890262

TEST CONC. %

E L A P S E D T I M E

00:00 04:00 24:00 48:00

Control	pH	8.2	8.1
	O2 ppm	8.7	8.6
	Cond.	292	292
	Temp(C)	20.5	20.0
6	pH	8.2	8.1
	O2 ppm	8.7	8.6
	Cond.	292	291
	Temp(C)	20.5	20.0
13	pH	8.2	8.1
	O2 ppm	8.9	8.7
	Cond.	291	290
	Temp(C)	20.5	20.0
25	pH	8.2	8.1
	O2 ppm	8.9	8.8
	Cond.	287	287
	Temp(C)	20.5	20.0
50	pH	8.2	8.1
	O2 ppm	8.9	8.8
	Cond.	275	278
	Temp(C)	20.5	20.0
100	pH	8.3	8.0
	O2 ppm	9.1	9.0
	Cond.	256	261
	Temp(C)	20.5	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900017

TEST CONDITIONS

Company : Dow Chemical Canada Inc.

 : Sarnia, ONT
 : (910106)

Region : Southwest

Industry : Organic Chemical

Control point : OT cooling water, (1000)

Laboratory : BAR

Sampling Method : Grab

Sampled By : D. McLaughlin

Date Collected : 01/09/90

Received : 01/10/90

Tested : 01/10/90 at: 1705

Type of Bioassay

: STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal

Weight(gm) : D. magna

Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00 24:00 48:00		%
100	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve : Intuitive
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900017

TEST CONC. % E L A P S E D T I M E
 00:00 24:00 48:00

100	pH 8.0	8.1
	O2 ppm 10.6	8.5
	Cond. 269	277
	Temp(C) 20.0	19.5 20.0
Control	pH 8.2	8.4
	O2 ppm 8.9	8.6
	Cond. 301	312
	Temp(C) 20.0	19.5 20.0

TOXICITY TEST REPORT Sample: 02900035

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical
Control point : OT cooling water, (1000)
Laboratory : MOE
Sampling Method : Grab
Sampled By : D. Hamilton
Date Collected : 03/12/90
Received : 03/13/90
Tested : 03/13/90 at: 1249

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	01:00 24:00 48:00	%
100	0	0 0 0	0
60	0	0 0 0	0
30	0	0 0 0	0
15	0	0 0 0	0
5	0	0 0 1	8
Control	0	0 0 1	8

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 02900035

TEST CONC.	E L A P S E D T I M E	
%	00:00	01:00 24:00 48:00
100	pH 7.6 O2 ppm 10.2 Cond. 228 Temp(C) 20.0	7.8 8.2 229 20.0
60	pH 7.7 O2 ppm 9.3 Cond. 260 Temp(C) 20.0	7.9 8.3 262 20.0
30	pH 7.7 O2 ppm 9.4 Cond. 283 Temp(C) 20.0	7.9 8.2 285 20.0
15	pH 7.8 O2 ppm 9.3 Cond. 294 Temp(C) 20.0	7.9 8.3 297 20.0
5	pH 7.8 O2 ppm 9.1 Cond. 302 Temp(C) 20.0	7.9 8.2 304 20.0
Control	pH 7.8 O2 ppm 8.9 Cond. 298 Temp(C) 20.0	7.9 8.3 305 20.0

TOXICITY TEST REPORT Sample: 03900215

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910105)
Region : Southwest
Industry : Organic Chemical
Control point : OT cooling water, (1000)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/20/90 at: 1700

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME	TOTAL MORTALITY
%	00:00 24:00 48:00	%
100	0 0 0	0
100	0 0 0	0
Control	0 0 0	0
Control	0 0 0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900215

TEST CONC. %
ELAPSED TIME
00:00 24:00 48:00

100	pH 8.1 O2 ppm 9.4 Cond. 949 Temp(C) 21.0	20.0	8.0 8.6 932 20.0
100	pH 8.1 O2 ppm 9.4 Cond. 949 Temp(C) 21.0	20.0	7.9 8.6 950 20.0
Control	pH 8.5 O2 ppm 8.6 Cond. 299 Temp(C) 21.0	20.0	8.3 8.7 297 20.0
Control	pH 8.5 O2 ppm 8.6 Cond. 299 Temp(C) 21.0	20.0	8.3 8.6 294 20.0

TOXICITY TEST REPORT Sample: 03890274

TOXICITY TEST PARAMETERS

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical
Control point : process effluent, (2100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Weatherstone
Date Collected : 11/16/89
Received : 11/17/89
Tested : 11/20/89 at: 1630

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	%
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	0	0	0
100	0	0	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

Sample Number: 03890274

TEST CONC. %
E L A P S E D T I M E
00:00 04:00 24:00 48:00

Control	pH	8.5	7.9	8.3
	O2 ppm	300	300	298
	Cond.	20.0	20.0	20.0
	Temp(C)	20.0	20.0	19.5
6	pH	8.4	8.4	8.4
	O2 ppm	9.3	10.1	10.1
	Cond.	770	748	748
	Temp(C)	20.0	20.0	19.5
13	pH	8.2	8.3	8.3
	O2 ppm	9.1	10.2	10.2
	Cond.	1303	1269	1269
	Temp(C)	20.0	20.0	19.5
25	pH	8.1	8.3	8.3
	O2 ppm	9.1	10.0	10.0
	Cond.	2120	2070	2070
	Temp(C)	20.0	20.0	19.5
50	pH	7.9	8.2	8.2
	O2 ppm	8.7	9.6	9.6
	Cond.	3910	3780	3780
	Temp(C)	20.0	20.0	19.5
100	pH	7.8	8.0	8.0
	O2 ppm	8.5	9.0	9.0
	Cond.	7300	7120	7120
	Temp(C)	20.0	20.0	19.5

TOXICITY TEST REPORT Sample: 03890357

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical
Control point : process effluent, (2100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 12/13/89
Received : 12/14/89
Tested : 12/15/89 at: 1110

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	%	ELAPSED TIME	TOTAL MORTALITY
100	0	0 3	25
50	0	0 0	0
25	0	0 0	0
13	0	0 0	0
6	0	0 0	0
Control	0	0 0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50>100

TOXICITY TEST PARAMETERS

Sample Number: 03890357

TEST CONC. %
ELAPSED TIME
00:00 24:00 48:00

100	pH 7.3 O2 ppm 1.6 Cond. 1198 Temp(C) 19.5	7.6 2.5 1189 19.0	7.6 2.5 1189 19.0
50	pH 7.5 O2 ppm 3.2 Cond. 6430 Temp(C) 19.5	7.7 2.8 6350 19.0	7.7 2.8 6350 19.0
25	pH 7.8 O2 ppm 5.3 Cond. 3540 Temp(C) 19.5	7.9 5.7 3490 19.0	7.9 5.7 3490 19.0
13	pH 8.1 O2 ppm 7.3 Cond. 1999 Temp(C) 19.5	8.1 7.3 1949 19.0	8.1 7.3 1949 19.0
6	pH 8.3 O2 ppm 8.4 Cond. 1099 Temp(C) 19.5	8.3 8.2 1063 19.0	8.3 8.2 1063 19.0
Control	pH 8.5 O2 ppm 8.8 Cond. 298 Temp(C) 19.5	8.4 8.7 292 19.0	8.4 8.7 292 19.0

TOXICITY TEST REPORT Sample: 03900011

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical
Control point : process effluent, (2100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughtlin
Date Collected : 01/09/90
Received : 01/10/90
Tested : 01/10/90 at: 1500

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	0	0
50	0	0	0	0
25	0	1	1	8
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900011

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.7 O2 ppm 8.6 Cond. 4080 Temp(C) 20.0	19.5	8.2 3.7 4070 20.0
50	pH 8.6 O2 ppm 7.6 Cond. 2260 Temp(C) 20.0	19.5	8.2 6.3 2250 20.0
25	pH 8.5 O2 ppm 8.3 Cond. 1306 Temp(C) 20.0	19.5	8.3 7.5 1305 20.0
13	pH 8.4 O2 ppm 8.6 Cond. 837 Temp(C) 20.0	19.5	8.3 7.9 835 20.0
6	pH 8.3 O2 ppm 8.7 Cond. 550 Temp(C) 20.0	19.5	8.3 8.2 555 20.0
Control	pH 8.3 O2 ppm 8.8 Cond. 305 Temp(C) 20.0	19.5	8.3 8.2 307 20.0

TOXICITY TEST REPORT Sample: 03900116

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical
Control point : process effluent, (2100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 02/13/90
Received : 02/14/90
Tested : 02/14/90 at: 1505

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol, OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900116

TEST CONC. %	E L A P S E D T I M E	
	00:00	24:00 48:00
100	pH 8.3 O2 ppm 8.0 Cond. 3460 Temp(C) 20.5	8.0 6.0 3570 20.0 19.5
50	pH 8.3 O2 ppm 8.1 Cond. 1937 Temp(C) 20.5	8.2 7.1 1964 20.0 19.5
25	pH 8.3 O2 ppm 8.5 Cond. 1118 Temp(C) 20.5	8.3 7.8 1133 20.0 19.5
13	pH 8.3 O2 ppm 8.6 Cond. 734 Temp(C) 20.5	8.3 8.0 739 20.0 19.5
6	pH 8.3 O2 ppm 8.8 Cond. 496 Temp(C) 20.5	8.3 8.3 498 20.0 19.5
Control	pH 8.3 O2 ppm 8.9 Cond. 293 Temp(C) 20.5	8.5 8.4 304 20.0 19.5

TOXICITY TEST REPORT Sample: 02900034

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910105)
Region : Southwest
Industry : Organic Chemical

Control point : process effluent, (2100)

Laboratory : MOE
Sampling Method : Grab
Sampled By : D. Hamilton
Date Collected : 03/12/90
Received : 03/13/90
Tested : 03/13/90 at: 1227

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	01:00	24:00	48:00	%
100	0	0	0	0	0
60	0	0	0	0	0
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit/high conductivity, low D. O.

TOXICITY TEST PARAMETERS

Sample Number: 02900034

TEST CONC. %	E L A P S E D T I M E			
	00:00	01:00	24:00	48:00
100	pH 7.7 O2 ppm 3.8 Cond. 2830 Temp(C) 20.0	20.0	20.0	20.0
60	pH 7.7 O2 ppm 6.8 Cond. 1840 Temp(C) 20.0	20.0	20.0	20.0
30	pH 7.8 O2 ppm 7.7 Cond. 1088 Temp(C) 20.0	20.0	20.0	20.0
15	pH 7.7 O2 ppm 8.1 Cond. 694 Temp(C) 20.0	20.0	20.0	20.0
5	pH 7.6 O2 ppm 8.3 Cond. 433 Temp(C) 20.0	20.0	20.0	20.0
Control	pH 7.6 O2 ppm 8.8 Cond. 306 Temp(C) 20.0	20.0	20.0	20.0

TOXICITY TEST REPORT Sample: 03900216

TEST CONDITIONS

Company : Dow Chemical Canada Inc.
Sarnia, ONT
(910109)
Region : Southwest
Industry : Organic Chemical
Control point : process effluent, (2100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. McLaughlin
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/21/90 at: 1140

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	%	E L A P S E D	T I M E	TOTAL MORTALITY
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900216

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 7.6 O2 ppm 7.7 Cond. 3310 Temp(C) 20.5	7.9 7.9 3290 20.5	7.9 7.9 3290 20.5
50	pH 7.9 O2 ppm 8.3 Cond. 1812 Temp(C) 20.5	7.9 8.3 1812 20.5	8.0 8.4 1814 20.5
25	pH 8.1 O2 ppm 8.3 Cond. 1077 Temp(C) 20.5	8.1 8.3 1077 20.5	8.2 8.5 1082 20.5
13	pH 8.2 O2 ppm 8.5 Cond. 701 Temp(C) 20.5	8.2 8.5 701 20.5	8.2 8.5 716 20.5
6	pH 8.2 O2 ppm 8.7 Cond. 498 Temp(C) 20.5	8.2 8.7 498 20.5	8.2 8.6 512 20.5
Control	pH 8.3 O2 ppm 8.5 Cond. 302 Temp(C) 20.5	8.3 8.5 302 20.5	8.2 8.6 306 20.5

COMPANY: Du Pont Canada Inc., Corunna
(80309)
(now with St. Clair River Site)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

The data for thirteen trout bioassays, conducted on intake water and combined effluent samples collected between October 1989 and March 1990, were provided by Du Pont Canada Incorporated. All thirteen samples were determined to have been non-acutely lethal to test fish.

intake water

05890088 sampled: 10/18/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890111 sampled: 11/15/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890127 sampled: 12/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900008 sampled: 01/10/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900035 sampled: 02/14/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: 10% Control Mortalities, Valid by Protocol

05900056 sampled: 03/14/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

combined effluent

05890089 sampled: 10/18/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890110 sampled: 11/15/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890126 sampled: 12/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

Du Pont Canada Inc. (continued)

05900009 sampled: 01/10/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900036 sampled: 02/14/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: 10% Control Mortalities - Valid by Protocol

01900016 sampled: 02/20/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900055 sampled: 03/14/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

combined effluent

01900017 sampled: 02/20/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

rain gauge

TOXICITY TEST REPORT Sample: 05890088

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)

Region : Southwest
Industry : Organic Chemical

Control point : intake water, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 10/18/89
Received : 10/18/89
Tested : 10/19/89 at: 1030

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	23:10	50:00	76:00	97:00			%
100	0	0	0	0	0			0
100	0	0	0	0	0			0
Control	0	0	0	0	0			0
Control	0	0	0	0	0			0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890088

TEST
CONC.
%

E L A P S E D T I M E

00:00 23:10 50:00 76:00 97:00

100	pH	7.8	7.5	7.5	7.5	7.5	7.6
	O2 ppm	10.3	8.3	9.2	9.2	9.2	9.2
	Cond.	220					220
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
100	pH	7.8	7.5	7.5	7.5	7.5	7.5
	O2 ppm	10.3	8.7	9.2	9.2	9.2	9.1
	Cond.	220					215
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
Control	pH	6.9	7.3	7.3	7.3	7.3	7.3
	O2 ppm	8.3	8.5	9.0	9.2	9.2	8.8
	Cond.	170					175
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0
Control	pH	6.9	7.3	7.3	7.4	7.4	7.4
	O2 ppm	8.0	7.6	8.8	8.6	8.6	8.6
	Cond.	175					172
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 05890111

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)
Region : Southwest
Industry : Organic Chemical
Control point : intake water, (100)
Laboratory : Pollutech
Sampling Method : grab
Sampled By : C. Ferguson
Date Collected : 11/15/89
Received : 11/15/89
Tested : 11/16/89 at: 1230

Type of Bioassay

: STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	22:10	49:00	72:10	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890111

TEST CONC.	E L A P S E D T I M E				
%	00:00	22:10	49:00	72:10	96:00
100	pH	7.8	7.9	7.8	7.8
	O2 ppm	10.9	10.3	9.9	10.2
	Cond.	240			230
100	Temp(C)	15.0	15.0	15.0	15.0
	pH	7.8	7.8	7.8	7.8
	O2 ppm	10.6	10.2	10.2	10.6
Control	Cond.	238			230
	Temp(C)	15.0	15.0	15.0	15.0
Control	pH	7.2	7.6	7.7	7.8
	O2 ppm	9.9	10.0	9.5	9.9
	Cond.	165			165
Control	Temp(C)	15.0	15.0	15.0	15.0
	pH	7.2	7.8	7.8	7.9
	O2 ppm	9.8	10.2	9.8	10.2
Control	Cond.	165			162
	Temp(C)	15.0	15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 05890127

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)
Region : Southwest
Industry : Organic Chemical
Control point : intake water, (100)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P. Tymstra
Date Collected : 12/13/89
Received : 12/13/89
Tested : 12/13/89 at: 1700

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	18:00	41:00	65:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890127

TEST CONC. %	E L A P S E D T I M E				
	00:00	18:00	41:00	65:00	96:00
100	pH 7.7 O2 ppm 11.2 Cond. 232 Temp(C) 15.0	7.6 7.7 9.5 9.4 15.0 15.0	7.6 7.7 9.5 9.4 15.0 15.0	7.8 7.8 9.6 9.6 15.0 15.0	8.0 8.0 9.0 9.0 236 236
100	pH 7.7 O2 ppm 11.2 Cond. 235 Temp(C) 15.0	7.6 7.8 9.6 9.3 15.0 15.0	7.6 7.8 9.3 9.2 15.0 15.0	7.8 7.8 9.2 9.2 15.0 15.0	8.0 8.0 9.2 9.2 238 238
Control	pH 7.7 O2 ppm 11.4 Cond. 165 Temp(C) 15.0	7.5 7.8 9.8 9.9 15.0 15.0	7.5 7.8 9.8 9.9 15.0 15.0	7.9 7.9 9.8 9.8 15.0 15.0	8.0 8.0 9.6 9.6 174 174
Control	pH 7.7 O2 ppm 11.5 Cond. 165 Temp(C) 15.0	7.5 7.8 9.8 10.0 15.0 15.0	7.5 7.8 9.8 10.0 15.0 15.0	7.9 7.9 9.6 9.6 15.0 15.0	8.0 8.0 9.6 9.6 174 174

TOXICITY TEST REPORT Sample: 05900008

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)
Region : Southwest
Industry : Organic Chemical
Control point : intake water, (100)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P. Tymstra
Date Collected : 01/10/90
Received : 01/10/90
Tested : 01/10/90 at: 1645

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	19:25	41:55	72:25	96:55	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	1	1	10

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05900008

TEST CONC. %	E L A P S E D T I M E				
	00:00	19:25	41:55	72:25	96:55
100	pH	7.8	7.6	7.6	7.8
	O2 ppm	11.6	8.8	8.3	8.4
	Cond.	235			250
100	Temp(C)	15.0	15.0	15.0	15.0
	pH	7.8	7.5	7.6	7.7
	O2 ppm	11.7	8.6	8.0	8.6
Control	Cond.	235			250
	Temp(C)	15.0	15.0	15.0	15.0
Control	pH	7.5	7.6	7.6	7.8
	O2 ppm	11.2	9.2	8.4	9.3
	Cond.	170			185
Control	Temp(C)	15.0	15.0	15.0	15.0
	pH	7.5	7.5	7.6	7.7
	O2 ppm	11.0	9.0	8.2	8.6
Control	Cond.	175			185
	Temp(C)	15.0	15.0	15.0	15.0

TOXICITY TEST REPORT

Sample: 05900035

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)
Region : Southwest
Industry : Organic Chemical
Control point : intake water, (100)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 02/14/90
Received : 02/14/90
Tested : 02/15/90 at: 1130

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	23:10	47:10	71:10	97:00	%	
100	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0
Control	0	0	0	0	1	10	10
Control	0	0	0	0	1	10	10

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : 10% Control Mortalities, Valid by Protocol

TOXICITY TEST PARAMETERS

Sample Number: 05900035

TEST CONC. %	E L A P S E D T I M E					
	00:00	23:10	47:10	71:10	97:00	
100	pH	7.7				7.7
	O2 ppm	11.8				9.0
	Cond.	210				228
	Temp(C)	15.0				15.0
100	pH	7.7				7.7
	O2 ppm	11.6				9.2
	Cond.	212				228
	Temp(C)	15.0				15.0
Control	pH	7.7				7.4
	O2 ppm	9.6				9.5
	Cond.	170				170
	Temp(C)	15.0				15.0
Control	pH	7.7				7.4
	O2 ppm	9.8				9.4
	Cond.	172				175
	Temp(C)	15.0				15.0

TOXICITY TEST REPORT Sample: 05900056

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)
Region : Southwest
Industry : Organic Chemical

Control point : intake water, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 03/14/90
Received : 03/14/90
Tested : 03/15/90 at: 1130

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	25:25	48:10	71:10	97:10	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05900056

TEST E L A P S E D T I M E
CONC. % 00:00 25:25 48:10 71:10 97:10

100	pH	8.0				7.9
	O2 ppm	11.2				9.4
	Cond.	220				228
	Temp(C)	15.0				15.0
100	pH	8.0				8.0
	O2 ppm	11.2				9.0
	Cond.	220				228
	Temp(C)	15.0				15.0
Control	pH	7.5				7.7
	O2 ppm	10.8				9.1
	Cond.	168				180
	Temp(C)	15.0				15.0
Control	pH	7.6				7.7
	O2 ppm	10.7				9.1
	Cond.	168				180
	Temp(C)	15.0				15.0

TOXICITY TEST REPORT Sample: 05890089

TEST CONDITIONS

Company : Du Pont Canada Inc.
 : Corunna, ONT
 : (80309)
 Region : Southwest
 Industry : Organic Chemical
 Control point : combined effluent, (200)
 Laboratory : Pollutech
 Sampling Method : Grab
 Sampled By : C. Ferguson
 Date Collected : 10/18/89
 Received : 10/18/89
 Tested : 10/19/89 at: 1030
 Type of Bioassay : STATIC
 : (Protocol to determine the acute lethality
 : of liquid effluents to fish. OME, 1983).
 Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	23:10	50:00	73:00	97:00			%
100	0	0	0	0	0			0
75	0	0	0	0	0			0
56	0	0	0	0	0			0
25	0	0	0	0	0			0
10	0	0	0	0	1			10
1	0	0	0	0	0			0
Control	0	0	0	0	0			0
Control	0	0	0	0	0			0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
 LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890089

TEST CONC.	E L A P S E D T I M E						
%	00:00	23:10	50:00	73:00	97:00		

100	pH	7.7	7.4	7.5	7.4	7.5	
	02 ppm	8.9	8.2	8.6	8.8	8.3	
	Cond.	250				239	
	Temp(C)	15.0	15.0	15.0	15.0	15.0	
75	pH	7.3	7.4	7.5	7.4	7.5	
	02 ppm	8.5	8.2	8.2	9.0	9.1	
	Cond.	230				220	
	Temp(C)	15.0	15.0	15.0	15.0	15.0	
56	pH	7.2	7.4	7.4	7.4	7.5	
	02 ppm	8.3	8.2	8.6	8.9	9.0	
	Cond.	210				105	
	Temp(C)	15.0	15.0	15.0	15.0	15.0	
25	pH	7.1	7.4	7.4	7.4	7.5	
	02 ppm	8.1	8.8	8.6	8.8	9.0	
	Cond.	195				191	
	Temp(C)	15.0	15.0	15.0	15.0	15.0	
10	pH	7.1	7.3	7.4	7.4	7.4	
	02 ppm	8.0	8.0	8.1	8.7	8.9	
	Cond.	182				180	
	Temp(C)	15.0	15.0	15.0	15.0	15.0	
1	pH	7.0	7.3	7.3	7.3	7.4	
	02 ppm	8.0	7.7	8.6	8.6	8.7	
	Cond.	178				175	
	Temp(C)	15.0	15.0	15.0	15.0	15.0	
Control	pH	6.9	7.3	7.3	7.4	7.3	
	02 ppm	8.3	8.5	9.0	9.2	8.8	
	Cond.	170				175	
	Temp(C)	15.0	15.0	15.0	15.0	15.0	
Control	pH	6.9	7.3	7.3	7.4	7.4	
	02 ppm	8.0	7.6	8.8	9.0	8.6	
	Cond.	175				172	
	Temp(C)	15.0	15.0	15.0	15.0	15.0	

TOXICITY TEST REPORT Sample: 05890110

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (200)
Laboratory : Pollutech
Sampling Method : grab
Sampled By : C. Ferguson
Date Collected : 11/15/89
Received : 11/15/89 at: 1230
Tested : 11/16/89
Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	22:10	49:00	73:10	96:00	%
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890110

TEST CONC. %	E L A P S E D T I M E				
	00:00	22:10	49:00	73:10	96:00
100	pH 7.3 O2 ppm 9.2 Cond. 238 Temp(C) 15.0	pH 7.8 O2 ppm 10.2 Cond. 238 Temp(C) 15.0	pH 7.8 O2 ppm 9.8 Cond. 230 Temp(C) 15.0	pH 7.8 O2 ppm 10.0 Cond. 230 Temp(C) 15.0	pH 7.8 O2 ppm 9.9 Cond. 230 Temp(C) 15.0
75	pH 7.3 O2 ppm 9.4 Cond. 215 Temp(C) 15.0	pH 7.6 O2 ppm 9.9 Cond. 215 Temp(C) 15.0	pH 7.8 O2 ppm 10.0 Cond. 211 Temp(C) 15.0	pH 7.8 O2 ppm 10.2 Cond. 211 Temp(C) 15.0	pH 7.7 O2 ppm 9.6 Cond. 211 Temp(C) 15.0
56	pH 7.4 O2 ppm 9.4 Cond. 205 Temp(C) 15.0	pH 7.6 O2 ppm 10.2 Cond. 205 Temp(C) 15.0	pH 7.8 O2 ppm 10.0 Cond. 200 Temp(C) 15.0	pH 7.8 O2 ppm 10.4 Cond. 200 Temp(C) 15.0	pH 7.7 O2 ppm 9.7 Cond. 200 Temp(C) 15.0
25	pH 7.5 O2 ppm 9.4 Cond. 180 Temp(C) 15.0	pH 7.6 O2 ppm 10.0 Cond. 180 Temp(C) 15.0	pH 7.7 O2 ppm 9.4 Cond. 180 Temp(C) 15.0	pH 7.8 O2 ppm 10.0 Cond. 180 Temp(C) 15.0	pH 7.7 O2 ppm 9.7 Cond. 180 Temp(C) 15.0
10	pH 7.6 O2 ppm 9.6 Cond. 171 Temp(C) 15.0	pH 7.7 O2 ppm 10.1 Cond. 171 Temp(C) 15.0	pH 7.7 O2 ppm 9.8 Cond. 171 Temp(C) 15.0	pH 7.8 O2 ppm 10.3 Cond. 171 Temp(C) 15.0	pH 7.7 O2 ppm 9.9 Cond. 171 Temp(C) 15.0
1	pH 7.8 O2 ppm 9.4 Cond. 165 Temp(C) 15.0	pH 7.7 O2 ppm 10.0 Cond. 165 Temp(C) 15.0	pH 7.7 O2 ppm 9.9 Cond. 168 Temp(C) 15.0	pH 7.8 O2 ppm 10.2 Cond. 168 Temp(C) 15.0	pH 7.7 O2 ppm 10.0 Cond. 168 Temp(C) 15.0
Control	pH 7.2 O2 ppm 9.9 Cond. 165 Temp(C) 15.0	pH 7.6 O2 ppm 10.0 Cond. 165 Temp(C) 15.0	pH 7.7 O2 ppm 9.5 Cond. 165 Temp(C) 15.0	pH 7.7 O2 ppm 9.5 Cond. 165 Temp(C) 15.0	pH 7.8 O2 ppm 9.9 Cond. 165 Temp(C) 15.0
Control	pH 7.2 O2 ppm 9.8 Cond. 165 Temp(C) 15.0	pH 7.8 O2 ppm 10.2 Cond. 165 Temp(C) 15.0	pH 7.8 O2 ppm 9.8 Cond. 162 Temp(C) 15.0	pH 7.8 O2 ppm 10.2 Cond. 162 Temp(C) 15.0	pH 7.9 O2 ppm 10.2 Cond. 162 Temp(C) 15.0

TOXICITY TEST REPORT Sample: 05890126

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (200)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P. Tymstra
Date Collected : 12/13/89
Received : 12/13/89
Tested : 12/13/89 at: 1700
Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. ONE, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	18:00	41:00	65:00	96:00	%
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890126

TEST CONC. %	E L A P S E D T I M E				
	00:00	18:00	41:00	65:00	96:00
100	pH	7.7	7.6	7.9	7.8
	O2 ppm	9.7	9.2	8.6	9.0
	Cond.	240			248
75	Temp(C)	15.0	15.0	15.0	15.0
	pH	7.7	7.6	7.9	7.8
	O2 ppm	10.0	9.2	9.0	9.2
56	Cond.	222			228
	Temp(C)	15.0	15.0	15.0	15.0
25	pH	7.7	7.6	7.8	7.8
	O2 ppm	11.2	9.4	9.1	9.4
	Cond.	189			194
10	Temp(C)	15.0	15.0	15.0	15.0
	pH	7.7	7.5	7.9	7.8
	O2 ppm	11.2	9.4	9.0	9.6
1	Cond.	167			182
	Temp(C)	15.0	15.0	15.0	15.0
Control	pH	7.7	7.7	7.8	7.9
	O2 ppm	11.0	9.8	9.4	9.8
	Cond.	165			172
Control	Temp(C)	15.0	15.0	15.0	15.0
	pH	7.7	7.5	7.8	7.9
	O2 ppm	11.4	9.8	9.9	9.8
Control	Cond.	165			174
	Temp(C)	15.0	15.0	15.0	15.0
Control	pH	7.7	7.5	7.8	7.9
	O2 ppm	11.5	9.8	10.0	9.6
	Cond.	165			174
Control	Temp(C)	15.0	15.0	15.0	15.0
	pH	7.7	7.5	7.8	7.9
	O2 ppm	11.5	9.8	10.0	9.6
Control	Cond.	165			174
	Temp(C)	15.0	15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 059000009

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (200)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P. Tymstra
Date Collected : 01/10/90
Received : 01/10/90
Tested : 01/10/90 at: 1645

Type of Bioassay

: STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	19:25	41:55	72:25	96:55	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	1	1	10

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 059000009

TEST CONC. %	E L A P S E D T I M E				
	00:00	19:25	41:55	72:25	96:55
100	pH	7.8	7.5	7.6	7.7
	O2 ppm	9.8	8.2	7.3	8.0
	Cond.	231			245
	Temp(C)	15.0	15.0	15.0	15.0
100	pH	7.8	7.5	7.6	7.8
	O2 ppm	9.9	8.4	7.9	8.4
	Cond.	238			245
	Temp(C)	15.0	15.0	15.0	15.0
Control	pH	7.5	7.6	7.6	7.8
	O2 ppm	11.2	9.2	8.4	9.3
	Cond.	170			185
	Temp(C)	15.0	15.0	15.0	15.0
Control	pH	7.5	7.5	7.6	7.7
	O2 ppm	11.0	9.0	8.2	8.6
	Cond.	175			185
	Temp(C)	15.0	15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 05900036

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (200)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 02/14/90
Received : 02/14/90
Tested : 02/15/90 at: 1130
Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	23:10	47:10	71:10	97:00			%
100	0	0	1	1	1			10
100	0	0	0	0	0			0
Control	0	0	0	0	1			10
Control	0	0	0	0	1			10

96 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : 10% Control Mortalities - Valid by Protocol

TOXICITY TEST PARAMETERS

Sample Number: 05900036

TEST CONC. %	E L A P S E D T I M E						
	00:00	23:10	47:10	71:10	97:00		
100	pH	7.7					7.6
	O2 ppm	9.3					8.9
	Cond.	220					230
	Temp(C)	15.0					15.0
100	pH	7.7					7.6
	O2 ppm	9.2					8.8
	Cond.	220					232
	Temp(C)	15.0					15.0
Control	pH	7.7					7.4
	O2 ppm	9.6					9.5
	Cond.	170					172
	Temp(C)	15.0					15.0
Control	pH	7.7					7.4
	O2 ppm	9.8					9.4
	Cond.	172					175
	Temp(C)	15.0					15.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 01900016

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (200)
Laboratory : MOE
Sampling Method : Grab
Sampled By : Don Hamilton
Date Collected : 02/20/90
Received : 02/21/90
Tested : 02/22/90 at: 1400

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME										TOTAL MORTALITY
%	00:00	00:30	01:00	02:00	04:00	20:00	49:00	74:00	96:00	%	
100	0	0	0	0	0	0	0	0	0	0	
65	0	0	0	0	0	0	0	0	0	0	
40	0	0	0	0	0	0	0	0	0	0	
30	0	0	0	0	0	0	0	0	0	0	
20	0	0	0	0	0	0	0	0	0	0	
10	0	0	0	0	0	0	0	0	0	0	
Control	0	0	0	0	0	0	0	0	0	0	

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 01900016

TEST CONC. %
ELAPSED TIME
00:00 00:30 01:00 02:00 04:00 20:00 49:00 74:00 96:00

100	pH 7.1 O2 ppm 10.0 Cond. 260 Temp(C) 15.0	7.4 9.3 215 15.0	7.5 10.9 270 15.0	7.6 10.5 270 15.0	7.6 10.5 270 15.0	7.6 10.5 270 15.0	7.6 10.5 270 15.0	7.6 10.5 270 15.0	7.6 10.5 270 15.0
65	pH 7.1 O2 ppm 10.0 Cond. 260 Temp(C) 15.0	7.4 9.3 215 15.0	7.5 10.9 270 15.0	7.6 10.5 270 15.0	7.6 10.5 270 15.0	7.6 10.5 270 15.0	7.6 10.5 270 15.0	7.6 10.5 270 15.0	7.6 10.5 270 15.0
40	pH 7.1 O2 ppm 10.0 Cond. 260 Temp(C) 15.0	7.4 9.3 215 15.0	7.5 10.9 270 15.0	7.6 10.5 270 15.0	7.6 10.5 270 15.0	7.6 10.5 270 15.0	7.6 10.5 270 15.0	7.6 10.5 270 15.0	7.6 10.5 270 15.0
30	pH 7.1 O2 ppm 10.0 Cond. 260 Temp(C) 15.0	7.4 9.3 215 15.0	7.5 10.9 270 15.0	7.6 10.5 270 15.0	7.6 10.5 270 15.0	7.6 10.5 270 15.0	7.6 10.5 270 15.0	7.6 10.5 270 15.0	7.6 10.5 270 15.0
20	pH 7.1 O2 ppm 10.0 Cond. 260 Temp(C) 15.0	7.4 9.3 215 15.0	7.5 10.9 270 15.0	7.6 10.5 270 15.0	7.6 10.5 270 15.0	7.6 10.5 270 15.0	7.6 10.5 270 15.0	7.6 10.5 270 15.0	7.6 10.5 270 15.0
10	pH 7.1 O2 ppm 10.0 Cond. 260 Temp(C) 15.0	7.4 9.3 215 15.0	7.5 10.9 270 15.0	7.6 10.5 270 15.0	7.6 10.5 270 15.0	7.6 10.5 270 15.0	7.6 10.5 270 15.0	7.6 10.5 270 15.0	7.6 10.5 270 15.0
Control	pH 7.1 O2 ppm 10.0 Cond. 260 Temp(C) 15.0	7.4 9.3 215 15.0	7.5 10.9 270 15.0	7.6 10.5 270 15.0	7.6 10.5 270 15.0	7.6 10.5 270 15.0	7.6 10.5 270 15.0	7.6 10.5 270 15.0	7.6 10.5 270 15.0

TOXICITY TEST REPORT Sample: 05900055

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (200)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 03/14/90
Received : 03/14/90
Tested : 03/15/90 at: 1130
Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	25:25	48:10	71:10	97:10	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05900055

TEST CONC.	E L A P S E D T I M E				
%	00:00	25:25	48:10	71:10	97:10
100	pH	7.9			8.0
	O2 ppm	9.2			9.6
	Cond.	240			240
	Temp(C)	15.0			15.0
100	pH	8.0			8.0
	O2 ppm	9.2			9.0
	Cond.	245			242
	Temp(C)	15.0			15.0
Control	pH	7.5			7.7
	O2 ppm	10.8			9.1
	Cond.	168			180
	Temp(C)	15.0			15.0
Control	pH	7.6			7.7
	O2 ppm	10.7			9.0
	Cond.	168			180
	Temp(C)	15.0			15.0

TOXICITY TEST REPORT

Sample: 01900017

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (400)
Laboratory : MOE
Sampling Method : Grab
Sampled By : Don Hamilton
Date Collected : 02/20/90
Received : 02/21/90
Tested : 02/22/90 at: 1400

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E										TOTAL MORTALITY	
	%	00:00	00:30	01:00	02:00	04:00	20:30	49:30	74:00	92:00	%	%
100	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 01900017

TEST E L A P S E D T I M E
CONC. %
00:00 00:30 01:00 02:00 04:00 20:30 49:30 74:00 92:00

100	pH	7.1	7.7	7.5	7.6	7.7	7.5	7.6	7.7
	O2 ppm	9.6	10.4	9.8	10.0	10.4	10.0	10.0	10.0
	Cond.	230	240	245	24	250	265	262	26
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
65	pH	7.7	7.7	7.5	7.6	7.7	7.5	7.6	7.7
	O2 ppm	10.6	10.6	9.9	10.0	10.6	10.0	10.0	10.0
	Cond.	250	250	255	254	255	265	265	26
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
40	pH	7.6	7.6	7.5	7.6	7.7	7.5	7.6	7.7
	O2 ppm	10.2	10.2	9.8	10.0	10.2	10.0	10.0	10.0
	Cond.	250	250	265	262	265	265	265	26
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
30	pH	7.7	7.7	7.5	7.6	7.7	7.5	7.6	7.7
	O2 ppm	10.7	10.7	10.0	10.0	10.7	10.0	10.0	10.0
	Cond.	260	260	265	265	260	265	265	26
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
20	pH	7.7	7.7	7.5	7.6	7.7	7.5	7.6	7.7
	O2 ppm	10.7	10.7	10.0	10.2	10.7	10.0	10.2	10.0
	Cond.	270	270	270	265	270	270	265	26
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
10	pH	7.7	7.7	7.4	7.5	7.7	7.4	7.5	7.7
	O2 ppm	10.3	10.3	9.8	10.0	10.3	9.8	10.0	10.0
	Cond.	270	270	275	275	270	275	275	27
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Control	pH	7.5	7.5	7.3	7.2	7.5	7.3	7.2	7.7
	O2 ppm	10.3	10.3	9.9	10.0	10.3	9.9	10.0	10.0
	Cond.	265	265	265	275	265	265	275	27
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0

COMPANY: Du Pont Canada Inc., Corunna
(80309)
(now with St. Clair River Site)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

Data for twelve *Daphnia magna* acute lethality toxicity test conducted on samples of intake water and combined effluent collected between October 1989 and March 1990 were submitted by Du Pont Canada Inc. of Corunna. Samples of intake water and effluent had little or no acute toxic effects on *Daphnia*.

Five of six samples of intake water were not acutely lethal to *Daphnia*. One sample had an LC50 > 100%.

Fifty percent of the effluent samples were nonlethal, and the remaining three samples had only one neonate die during the test.

Tests were conducted in the Ministry laboratory on samples collected in February from the effluent stream and from the pellet skimming pond. The combined effluent sample had an LC50 > 100%. The sample from the pellet skimming pond generated an unusual toxicity response in which most of the mortalities occurred in the middle (diluted) concentrations of effluent.

intake water

05890088 sampled: 10/18/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

05890111 sampled: 11/15/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890127 sampled: 12/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900056 sampled: 03/14/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

combined effluent

05890089 sampled: 10/18/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

Du Pont Canada Inc. (continued)

05890110 sampled: 11/15/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

05890126 sampled: 12/13/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

02900016 sampled: 02/20/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

05900055 sampled: 03/14/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

combined effluent

02900017 sampled: 02/20/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit/bell-shaped lethality curve

rain gauge

Sample: 05890088

TOXICITY TEST REPORT

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)
Region : Southwest
Industry : Organic Chemical
Control point : intake water, (100)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 10/18/89
Received : 10/18/89
Tested : 10/18/89 at: 1345

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol, OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME	TOTAL MORTALITY
%	00:00 48:00	%
100	0	8
50	0	16
26	0	0
13	0	0
6	0	0
Control	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890088

TEST CONC. %
ELAPSED TIME
00:00 48:00

100	pH 7.8 8.0 O2 ppm 9.6 8.4 Cond. 240 270 Temp(C) 20.0 20.0
50	pH 8.0 8.1 O2 ppm 9.4 8.4 Cond. 365 389 Temp(C) 20.0 20.0
26	pH 8.1 8.2 O2 ppm 9.4 8.5 Cond. 430 440 Temp(C) 20.0 20.0
13	pH 8.1 8.2 O2 ppm 9.3 8.5 Cond. 468 459 Temp(C) 20.0 20.0
6	pH 8.1 8.2 O2 ppm 9.3 8.8 Cond. 485 450 Temp(C) 20.0 20.0
Control	pH 8.0 7.9 O2 ppm 9.2 8.8 Cond. 492 475 Temp(C) 20.0 20.0

TOXICITY TEST REPORT Sample: 05890111

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)
Region : Southwest
Industry : Organic Chemical
Control point : intake water, (100)
Laboratory : Polylutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 11/15/89
Received : 11/15/89
Tested : 11/15/89 at: 1225

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	%	ELAPSED TIME	TOTAL MORTALITY
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890111

TEST CONC.	%	ELAPSED TIME
100	0	00:00 48:00

100	pH 7.8 7.9 O2 ppm 10.2 9.5 Cond. 254 274 Temp(C) 20.0 20.0
50	pH 8.0 8.1 O2 ppm 9.6 9.4 Cond. 392 381 Temp(C) 20.0 20.0
26	pH 8.1 8.1 O2 ppm 9.3 9.6 Cond. 450 430 Temp(C) 20.0 20.0
13	pH 8.1 8.1 O2 ppm 9.2 9.4 Cond. 478 460 Temp(C) 20.0 20.0
6	pH 8.1 8.1 O2 ppm 9.2 9.4 Cond. 490 470 Temp(C) 20.0 20.0
Control	pH 8.1 8.1 O2 ppm 9.6 9.5 Cond. 492 480 Temp(C) 20.0 20.0

TOXICITY TEST REPORT Sample: 05890127

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)
Region : Southwest
Industry : Organic Chemical
Control point : intake water, (100)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P. Tymstra
Date Collected : 12/13/89
Received : 12/13/89
Tested : 12/13/89 at: 1415

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME	TOTAL MORTALITY
%	00:00 48:15	%
100	0	0
50	0	0
26	0	0
13	0	0
6	0	0
Control	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890127

TEST ELAPSED TIME
CONC. %
00:00 48:15

100	pH 7.8 8.0 O2 ppm 9.4 9.4 Cond. 282 282 Temp(C) 20.0 20.0
50	pH 8.1 8.1 O2 ppm 9.3 9.3 Cond. 400 400 Temp(C) 20.0 20.0
26	pH 8.3 8.3 O2 ppm 9.4 9.4 Cond. 449 449 Temp(C) 20.0 20.0
13	pH 8.3 8.3 O2 ppm 9.2 9.2 Cond. 450 472 Temp(C) 20.0 20.0
6	pH 8.1 8.3 O2 ppm 9.0 9.1 Cond. 460 488 Temp(C) 20.0 20.0
Control	pH 8.1 8.2 O2 ppm 9.4 9.3 Cond. 488 495 Temp(C) 20.0 20.0

TOXICITY TEST REPORT Sample: 05900056

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)
Region : Southwest
Industry : Organic Chemical
Control point : intake water, (100)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 03/14/90
Received : 03/14/90
Tested : 03/14/90 at: 1220

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol, OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	%	ELAPSED TIME	TOTAL MORTALITY
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05900056

TEST CONC. %
ELAPSED TIME
00:00 48:00

100	pH 7.9 O2 ppm 9.3 Cond. 280 Temp(C) 20.0	7.9 7.9 9.3 9.3 280 280 20.0 20.0
50	pH 8.0 O2 ppm 9.1 Cond. 405 Temp(C) 20.0	8.0 8.0 9.1 9.1 405 405 20.0 20.0
26	pH 8.2 O2 ppm 9.1 Cond. 460 Temp(C) 20.0	8.2 8.2 9.1 9.1 460 460 20.0 20.0
13	pH 8.3 O2 ppm 9.3 Cond. 488 Temp(C) 20.0	8.3 8.3 9.3 9.3 488 488 20.0 20.0
6	pH 8.3 O2 ppm 9.2 Cond. 500 Temp(C) 20.0	8.3 8.3 9.2 9.2 500 500 20.0 20.0
Control	pH 8.3 O2 ppm 9.3 Cond. 505 Temp(C) 20.0	8.3 8.3 9.3 9.3 505 505 20.0 20.0

TOXICITY TEST REPORT Sample: 05890089

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (200)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 10/18/89
Received : 10/18/89
Tested : 10/18/89 at: 1415

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 49:00	%
100	0 0	0
50	0 1	8
26	0 0	0
13	0 0	0
6	0 0	0
Control	0 0	0

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890089

TEST CONC. % E L A P S E D T I M E
00:00 49:00

100	pH 7.8 7.9 O2 ppm 8.6 8.2 Cond. 272 275 Temp(C) 20.0 20.0
50	pH 9.1 8.1 O2 ppm 9.0 9.0 Cond. 430 380 Temp(C) 20.0 20.0
26	pH 8.1 8.1 O2 ppm 9.0 9.0 Cond. 430 430 Temp(C) 20.0 20.0
13	pH 8.2 8.2 O2 ppm 9.2 9.2 Cond. 470 470 Temp(C) 20.0 20.0
6	pH 8.1 8.1 O2 ppm 9.3 9.3 Cond. 480 480 Temp(C) 20.0 20.0
Control	pH 8.0 8.0 O2 ppm 9.2 9.2 Cond. 492 492 Temp(C) 20.0 20.0

TOXICITY TEST REPORT Sample: 05890110

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (200)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 11/15/89
Received : 11/15/89 at: 1200
Tested : 11/15/89

Type of Bioassay : STATIC.
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME	TOTAL MORTALITY
%	00:00 48:20	%
100	0	0
50	0	0
26	0	8
13	0	0
6	0	0
Control	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890110

TEST CONC. %
ELAPSED TIME
00:00 48:20

100	pH 7.8 7.9 O2 ppm 8.1 9.3 Cond. 276 270 Temp(C) 20.0 20.0
50	pH 8.0 8.0 O2 ppm 8.8 9.4 Cond. 346 382 Temp(C) 20.0 20.0
26	pH 8.1 8.1 O2 ppm 9.0 9.4 Cond. 450 432 Temp(C) 20.0 20.0
13	pH 8.1 8.1 O2 ppm 9.0 9.4 Cond. 476 454 Temp(C) 20.0 20.0
6	pH 8.1 8.1 O2 ppm 9.1 9.6 Cond. 488 470 Temp(C) 20.0 20.0
Control	pH 8.1 8.1 O2 ppm 9.6 9.6 Cond. 492 480 Temp(C) 20.0 20.0

TOXICITY TEST REPORT Sample: 05890134

TEST CONDITIONS

Company : Polysar Limited
 : Sarnia, ONT
 : (30007)
Region : Southwest
Industry : Organic Chemical

Control point : Batch, (1700)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 12/18/89
Received : 12/18/89
Tested : 12/19/89 at: 1015

Type of Bioassay : SIATIC
 : (Protocol to determine the acute lethality
 : of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	24:15	52:15	71:15	96:25		%
100	0	0	0	0	0		0
75	0	0	0	0	0		0
56	0	0	0	0	0		0
25	0	0	0	0	0		0
10	0	0	0	0	0		0
1	0	0	0	0	0		0
Control	0	0	0	0	0		0
Control	0	0	0	0	0		0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890134

TEST CONC. %	E L A P S E D T I M E									
	00:00	24:15	52:15	71:15	96:25					
100	pH	6.8	7.8	7.8	7.9	8.0				
	O2 ppm	8.0	8.8	9.2	9.5	9.3				
	Cond.	3810				3880				
75	Temp(C)	15.0	15.0	15.0	15.0	15.0				
	pH	6.9	7.9	7.9	7.8	8.0				
	O2 ppm	8.9	9.0	9.7	9.6	9.4				
56	Cond.	2930				2960				
	Temp(C)	15.0	15.0	15.0	15.0	15.0				
25	pH	7.0	7.9	7.9	7.9	7.9				
	O2 ppm	9.2	9.4	9.6	9.6	9.3				
	Cond.	2250				2280				
10	Temp(C)	15.0	15.0	15.0	15.0	15.0				
	pH	7.2	7.9	7.9	7.9	7.9				
	O2 ppm	10.2	9.5	9.5	9.7	9.3				
1	Cond.	1190				1230				
	Temp(C)	15.0	15.0	15.0	15.0	15.0				
Control	pH	7.4	7.8	7.8	8.0	7.8				
	O2 ppm	9.8	9.7	9.6	9.7	9.5				
	Cond.	201				210				
Control	Temp(C)	15.0	15.0	15.0	15.0	15.0				
	pH	7.4	7.9	7.8	7.8	7.8				
	O2 ppm	10.2	9.8	9.6	9.7	9.7				
Control	Cond.	168				172				
	Temp(C)	15.0	15.0	15.0	15.0	15.0				
Control	pH	7.4	7.9	7.7	7.7	7.7				
	O2 ppm	10.0	9.0	8.5	9.0	9.6				
	Cond.	168				172				
Control	Temp(C)	15.0	15.0	15.0	15.0	15.0				

MISA Trout

SLOPE of Mortality Curve : none
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 05890115

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT (30007)
Region : Southwest
Industry : Organic Chemical
Control point : Batch, (1700)
Laboratory : Pollutech
Sampling Method : grab
Sampled By : C. Ferguson
Date Collected : 11/20/89
Received : 11/20/89
Tested : 11/21/89 at: 1200
Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME						TOTAL MORTALITY
%	00:00	23:40	51:00	76:00	96:00	%	%
100	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890115

TEST CONC. %
ELAPSED TIME
00:00 23:40 51:00 76:00 96:00

100	pH	6.8	7.9	8.0	8.0	8.0
	O2 ppm	8.4	10.2	9.5	10.1	10.2
	Cond.	3610				3550
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	6.9	7.8	7.9	7.9	8.0
	O2 ppm	8.9	10.2	9.7	10.2	10.3
	Cond.	2880				2800
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	7.1	7.9	7.9	7.9	7.4
	O2 ppm	9.2	10.5	9.5	10.2	10.3
	Cond.	2100				2110
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.2	7.8	7.8	7.8	7.9
	O2 ppm	9.5	10.2	9.7	10.2	10.2
	Cond.	1130				1120
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.2	7.7	7.8	7.8	7.8
	O2 ppm	9.6	10.1	9.7	10.1	10.0
	Cond.	700				700
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.2	7.7	7.7	7.7	7.7
	O2 ppm	9.8	10.4	9.6	10.1	9.9
	Cond.	209				210
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.2	7.5	7.7	7.7	7.7
	O2 ppm	9.7	10.4	9.8	10.2	10.2
	Cond.	170				171
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.1	7.6	7.9	7.8	7.7
	O2 ppm	9.9	10.3	9.8	10.4	10.4
	Cond.	171				170
	Temp(C)	15.0	15.0	15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 05890091

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT (30007)
Region : Southwest
Industry : Organic Chemical
Control point : Batch, (1700)
Laboratory : Pollutech
Sampling Method : grab
Sampled By : C. Ferguson
Date Collected : 10/30/89
Received : 10/30/89
Tested : 10/31/89 at: 1400

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	19:00	44:00	68:00	96:30
100	0	0	0	0	0
75	0	0	0	0	0
56	0	0	0	0	0
25	0	0	0	0	0
10	0	0	0	0	0
1	0	0	0	0	0
Control	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890091

TEST CONC. %	E L A P S E D T I M E			
	00:00	19:00	44:00	68:00 96:30
100	pH 7.3 O2 ppm 7.7 Cond. 3190 Temp(C) 15.0	7.8 7.8 6.7 6.7	8.0 8.0 7.8 7.8	8.1 8.1 7.2 7.2 3070 3070 15.0 15.0
75	pH 7.2 O2 ppm 8.0 Cond. 2500 Temp(C) 15.0	7.6 7.6 5.5 5.5	7.8 7.8 6.0 6.0	7.9 7.9 7.0 7.0 2450 2450 15.0 15.0
56	pH 7.1 O2 ppm 8.3 Cond. 1890 Temp(C) 15.0	7.6 7.6 6.3 6.3	7.8 7.8 6.2 6.2	7.9 7.9 7.0 7.0 1900 1900 15.0 15.0
25	pH 7.0 O2 ppm 8.5 Cond. 990 Temp(C) 15.0	7.5 7.5 6.6 6.6	7.6 7.6 6.8 6.8	7.5 7.5 5.8 5.8 1000 1000 15.0 15.0
10	pH 7.0 O2 ppm 8.5 Cond. 510 Temp(C) 15.0	7.5 7.5 8.0 8.0	7.6 7.6 7.9 7.9	7.6 7.6 8.1 8.1 510 510 15.0 15.0
1	pH 7.0 O2 ppm 8.4 Cond. 200 Temp(C) 15.0	7.3 7.3 7.3 7.3	7.5 7.5 8.6 8.6	7.5 7.5 8.7 8.7 215 215 15.0 15.0
Control	pH 7.0 O2 ppm 8.5 Cond. 170 Temp(C) 15.0	7.2 7.2 7.4 7.4	7.4 7.4 8.4 8.4	7.5 7.5 8.4 8.4 180 180 15.0 15.0
Control	pH 7.0 O2 ppm 8.6 Cond. 170 Temp(C) 15.0	7.3 7.3 8.4 8.4	7.4 7.4 8.3 8.3	7.5 7.5 8.4 8.4 181 181 15.0 15.0

HISA Trout

TOXICITY TEST REPORT Sample: 05900024

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : Of cooling water, (1600)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 02/05/90
Received : 02/07/90 at: 1630
Tested

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME						TOTAL MORTALITY
%	00:00	24:10	45:00	68:10	96:00	%	
100	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900024

TEST CONC. %	ELAPSED TIME					
	00:00	24:10	45:00	68:10	96:00	
100	pH 7.8	7.6	7.6	7.8	7.8	
	O2 ppm 7.8	9.5	9.5	9.4	9.6	
	Cond. 182				190	
	Temp(C) 15.0	15.0	15.0	15.0	15.0	
100	pH 7.9	7.6	7.6	7.8	7.8	
	O2 ppm 7.8	9.4	9.7	9.5	9.7	
	Cond. 181				192	
	Temp(C) 15.0	15.0	15.0	15.0	15.0	
Control	pH 7.1	7.3	7.5	7.7	7.7	
	O2 ppm 10.4	9.9	9.9	9.8	9.6	
	Cond. 162				175	
	Temp(C) 15.0	15.0	15.0	15.0	15.0	
Control	pH 7.1	7.3	7.5	7.7	7.7	
	O2 ppm 10.1	10.2	9.8	9.6	9.7	
	Cond. 162				176	
	Temp(C) 15.0	15.0	15.0	15.0	15.0	

TOXICITY TEST REPORT Sample: 05890097

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : OT cooling water, (1600)
Laboratory : PolLutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 11/06/89
Received : 11/06/89
Tested : 11/07/89 at: 1800

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	22:00	40:30	64:00	96:00		%
100	0	0	0	0	0		0
75	0	0	0	0	0		0
56	0	0	0	0	0		0
25	0	0	0	0	0		0
10	0	0	0	0	0		0
1	0	0	0	0	0		0
Control	0	0	0	0	0		0
Control	0	0	0	0	0		0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890097

TEST CONC. %	E L A P S E D T I M E					
	00:00	22:00	40:30	64:00	96:00	
100	pH 8.0 02 ppm 10.4 Cond. 175 Temp(C) 15.0	7.6 9.4 7.8 9.5 9.2 169 15.0	7.7 9.2 7.7 9.3 9.2 169 15.0	7.7 9.2 7.7 9.2 9.0 170 15.0	7.7 9.2 7.7 9.2 9.0 170 15.0	7.7 9.6 169 15.0
75	pH 7.7 02 ppm 10.2 Cond. 172 Temp(C) 15.0	7.5 9.4 7.8 9.3 9.2 169 15.0	7.7 9.2 7.7 9.3 9.2 169 15.0	7.7 9.2 7.7 9.2 9.0 170 15.0	7.7 9.2 7.7 9.2 9.0 170 15.0	7.7 9.8 169 15.0
56	pH 7.4 02 ppm 10.2 Cond. 171 Temp(C) 15.0	7.4 9.2 7.7 9.2 9.0 170 15.0	7.4 9.2 7.7 9.2 9.0 170 15.0	7.7 9.2 7.7 9.2 9.0 170 15.0	7.7 9.2 7.7 9.2 9.0 170 15.0	7.7 9.4 170 15.0
25	pH 7.3 02 ppm 10.2 Cond. 170 Temp(C) 15.0	7.4 9.5 7.7 9.5 9.2 170 15.0	7.4 9.5 7.7 9.5 9.2 170 15.0	7.7 9.2 7.7 9.2 9.0 170 15.0	7.7 9.2 7.7 9.2 9.0 170 15.0	7.7 9.3 170 15.0
10	pH 7.3 02 ppm 10.0 Cond. 170 Temp(C) 15.0	7.4 9.4 7.7 9.6 9.4 170 15.0	7.4 9.4 7.7 9.6 9.4 170 15.0	7.7 9.2 7.7 9.2 9.0 170 15.0	7.7 9.2 7.7 9.2 9.0 170 15.0	7.7 9.5 170 15.0
1	pH 7.3 02 ppm 10.1 Cond. 167 Temp(C) 15.0	7.4 9.8 7.7 9.6 9.6 170 15.0	7.4 9.8 7.7 9.6 9.6 170 15.0	7.7 9.2 7.7 9.2 9.0 170 15.0	7.7 9.2 7.7 9.2 9.0 170 15.0	7.8 9.8 170 15.0
Control	pH 7.2 02 ppm 10.0 Cond. 167 Temp(C) 15.0	7.4 9.8 7.7 9.8 9.8 170 15.0	7.4 9.8 7.7 9.8 9.8 170 15.0	7.7 9.2 7.7 9.2 9.0 170 15.0	7.7 9.2 7.7 9.2 9.0 170 15.0	7.7 10.3 170 15.0
Control	pH 7.2 02 ppm 10.0 Cond. 169 Temp(C) 15.0	7.4 10.2 7.7 9.8 9.6 170 15.0	7.4 10.2 7.7 9.8 9.6 170 15.0	7.7 9.2 7.7 9.2 9.0 170 15.0	7.7 9.2 7.7 9.2 9.0 170 15.0	7.7 9.8 170 15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05900022

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT (30007)
Region : Southwest
Industry : Organic Chemical
Control point : Of cooling water, (1400)
Laboratory : Pollutitech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 02/05/90
Received : 02/05/90
Tested : 02/07/90 at: 1630

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:10	45:00	68:10	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900022

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:10	45:00	68:10	96:00
100	pH 7.7	7.6	7.6	7.7	7.7
	O2 ppm 10.0	0.6	9.5	9.6	9.4
	Cond. 165				172
	Temp(C) 15.0	15.0	15.0	15.0	15.0
100	pH 7.7	7.5	7.6	7.7	7.7
	O2 ppm 10.2	9.6	9.5	9.7	9.5
	Cond. 165				174
	Temp(C) 15.0	15.0	15.0	15.0	15.0
Control	pH 7.1	7.3	7.5	7.7	7.7
	O2 ppm 10.4	10.2	9.9	9.8	9.6
	Cond. 162				175
	Temp(C) 15.0	15.0	15.0	15.0	15.0
Control	pH 7.1	7.3	7.5	7.7	7.7
	O2 ppm 10.4	10.2	9.8	9.6	9.7
	Cond. 162				176
	Temp(C) 15.0	15.0	15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 05890095

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : OF cooling water, (1400)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 11/06/89
Received : 11/06/89
Tested : 11/07/89 at: 1800

Type of Bioassay : **STATIC**
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	22:00	40:30	64:00	96:00	%
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890095

TEST CONC. %	E L A P S E D T I M E				
	00:00	22:00	40:30	64:00	96:00

100	pH	7.8	7.5	7.9	7.8	7.8
	O2 ppm	10.2	10.1	9.8	9.5	9.5
	Cond.	172				167
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	7.5	7.3	7.7	7.7	7.7
	O2 ppm	10.0	9.4	9.4	9.3	9.5
	Cond.	172				170
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	7.3	7.3	7.7	7.7	7.7
	O2 ppm	10.0	9.4	9.3	9.3	9.4
	Cond.	170				170
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.2	7.2	7.8	7.7	7.7
	O2 ppm	9.8	9.8	9.4	9.2	9.5
	Cond.	171				170
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.2	7.2	7.8	7.7	7.7
	O2 ppm	9.8	9.8	9.5	9.2	9.3
	Cond.	170				170
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.2	7.3	7.7	7.7	7.7
	O2 ppm	9.9	9.9	9.7	9.8	9.8
	Cond.	172				172
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.2	7.4	7.7	7.8	7.7
	O2 ppm	10.0	9.8	10.2	9.8	10.3
	Cond.	167				170
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.2	7.4	7.7	7.7	7.7
	O2 ppm	10.0	10.2	9.8	9.6	9.8
	Cond.	169				170
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05900059

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (1100)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 03/19/90
Received : 03/19/90
Tested : 03/21/90 at: 1330

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	23:25	43:15	75:00	96:00
100	0	0	0	0	0
75	0	0	0	0	0
56	0	0	0	0	0
25	0	0	0	0	0
10	0	0	0	0	0
1	0	0	0	0	0
Control	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900059

TEST CONC. %
E L A P S E D T I M E
00:00 23:25 43:15 75:00 96:00

100	pH 7.7 O2 ppm 11.7 Cond. 229 Temp(C) 15.0	7.6 9.4 248 15.0
75	pH 7.6 O2 ppm 11.6 Cond. 219 Temp(C) 15.0	7.5 9.4 232 15.0
56	pH 7.5 O2 ppm 11.6 Cond. 205 Temp(C) 15.0	7.5 9.9 218 15.0
25	pH 7.4 O2 ppm 11.5 Cond. 171 Temp(C) 15.0	7.5 9.9 199 15.0
10	pH 7.3 O2 ppm 11.6 Cond. 165 Temp(C) 15.0	7.5 9.9 182 15.0
1	pH 7.3 O2 ppm 11.6 Cond. 162 Temp(C) 15.0	7.5 9.9 180 15.0
Control	pH 7.5 O2 ppm 12.1 Cond. 166 Temp(C) 15.0	7.7 9.8 189 15.0
Control	pH 7.6 O2 ppm 11.7 Cond. 168 Temp(C) 15.0	7.8 9.8 182 15.0

TOXICITY TEST REPORT Sample: 05900040

TEST CONDITIONS

Company : Polysar Limited
 : Sarnia, ONT
 : (30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 02/19/90
Received : 02/19/90
Tested : 02/21/90 at: 1900

Type of Bioassay : STATIC
 : (Protocol to determine the acute lethality
 : of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	16:00	44:50	63:30	96:00	%	
100	0	0	0	0	0	0	
100	0	0	0	0	0	0	
Control	0	0	0	0	0	0	
Control	0	0	0	0	0	0	

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05900040

TEST CONC.	E L A P S E D T I M E					
%	00:00	16:00	44:50	63:30	96:00	
100	pH 7.7				7.7	
	O2 ppm 10.4				10.0	
	Cond. 270				298	
	Temp(C) 15.0				15.0	
100	pH 7.7				7.7	
	O2 ppm 10.6				10.1	
	Cond. 260				278	
	Temp(C) 15.0				15.0	
Control	pH 7.5				7.4	
	O2 ppm 10.4				10.2	
	Cond. 170				188	
	Temp(C) 15.0				15.0	
Control	pH 7.6				7.4	
	O2 ppm 10.3				10.2	
	Cond. 169				188	
	Temp(C) 15.0				15.0	

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 059000012

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (1100)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P. Tymstra
Date Collected : 01/15/90
Received : 01/15/90
Tested : 01/15/90 at: 1530

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	20:10	42:10	66:00	97:10	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 059000012

TEST CONC.	E L A P S E D T I M E				
%	00:00	20:10	42:10	66:00	97:10
100	pH 7.9	7.7	7.6	7.6	7.5
	O2 ppm 10.8	9.0	8.5	9.0	9.0
	Cond. 229				241
	Temp(C) 15.0	15.0	15.0	15.0	15.0
100	pH 7.9	7.7	7.6	7.6	7.4
	O2 ppm 10.8	8.6	8.5	9.0	8.4
	Cond. 228				240
	Temp(C) 15.0	15.0	15.0	15.0	15.0
Control	pH 7.7	7.6	7.6	7.5	7.4
	O2 ppm 9.9	9.0	9.0	9.2	9.2
	Cond. 179				182
	Temp(C) 15.0	15.0	15.0	15.0	15.0
Control	pH 7.7	7.5	7.6	7.5	7.4
	O2 ppm 9.7	8.8	8.8	9.0	8.8
	Cond. 179				181
	Temp(C) 15.0	15.0	15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 05890131

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (1100)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 12/18/89
Received : 12/18/89
Tested : 12/18/89 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	19:30	43:30	72:30	96:15		%
100	0	0	0	0	0		0
75	0	0	0	0	0		0
56	0	0	0	0	0		0
25	0	0	0	0	0		0
10	0	0	0	0	0		0
1	0	0	0	0	0		0
Control	0	0	0	0	0		0
Control	0	0	0	0	0		0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890131

TEST CONC. %	E L A P S E D T I M E					
	00:00	19:30	43:30	72:30	96:15	
100	pH	7.9	7.5	7.8	7.8	7.7
	O2 ppm	11.1	8.8	9.4	8.0	9.2
	Cond.	196				199
75	Temp(C)	15.0	15.0	15.0	15.0	15.0
	pH	7.9	7.4	7.9	7.8	7.8
	O2 ppm	10.9	8.9	8.9	8.4	9.5
56	Cond.	190				192
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.8	7.4	8.0	7.8	7.8
	O2 ppm	10.6	8.9	8.9	8.4	9.5
	Cond.	187				189
10	Temp(C)	15.0	15.0	15.0	15.0	15.0
	pH	7.8	7.5	7.5	7.8	7.8
	O2 ppm	10.2	9.0	9.8	9.4	9.5
1	Cond.	181				185
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.7	7.5	7.9	7.8	7.8
	O2 ppm	10.4	9.5	9.6	9.6	9.7
	Cond.	177				182
Control	Temp(C)	15.0	15.0	15.0	15.0	15.0
	pH	7.7	7.6	7.8	7.6	7.8
	O2 ppm	10.5	10.0	9.3	9.2	9.8
Control	Cond.	170				176
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.7	7.6	7.8	7.7	7.8
	O2 ppm	10.4	9.9	9.4	9.4	9.6
	Cond.	170				176
Control	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

SLOPE of Mortality Curve : none
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 05890113

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (1100)
Laboratory : Pollutech
Sampling Method : grab
Sampled By : C. Ferguson
Date Collected : 11/20/89
Received : 11/20/89
Tested : 11/21/89 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	23:40	51:00	75:30	96:00	%
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890113

TEST CONC. %	E L A P S E D T I M E				
	00:00	23:40	51:00	75:30	96:00
100	pH 7.9 O2 ppm 10.3 Cond. 239 Temp(C) 15.0	7.8 10.3 239 15.0	7.8 9.4 242 15.0	7.8 9.8 242 15.0	7.8 9.6 242 15.0
75	pH 7.7 O2 ppm 10.2 Cond. 222 Temp(C) 15.0	7.8 10.4 222 15.0	7.8 9.6 222 15.0	7.8 9.9 222 15.0	7.8 10.0 222 15.0
56	pH 7.4 O2 ppm 10.0 Cond. 209 Temp(C) 15.0	7.7 10.1 209 15.0	7.7 9.5 210 15.0	7.8 10.0 210 15.0	7.8 10.2 210 15.0
25	pH 7.2 O2 ppm 9.9 Cond. 191 Temp(C) 15.0	7.7 10.0 191 15.0	7.7 9.5 189 15.0	7.8 9.9 189 15.0	7.8 10.0 189 15.0
10	pH 7.2 O2 ppm 9.8 Cond. 181 Temp(C) 15.0	7.7 10.1 181 15.0	7.6 9.3 179 15.0	7.7 9.9 179 15.0	7.7 10.1 179 15.0
1	pH 7.2 O2 ppm 9.8 Cond. 178 Temp(C) 15.0	7.7 10.2 178 15.0	7.7 9.9 174 15.0	7.8 10.2 174 15.0	7.8 10.3 174 15.0
Control	pH 7.2 O2 ppm 9.7 Cond. 170 Temp(C) 15.0	7.5 10.4 170 15.0	7.7 9.8 171 15.0	7.7 10.2 171 15.0	7.7 10.2 171 15.0
Control	pH 7.1 O2 ppm 9.9 Cond. 171 Temp(C) 15.0	7.6 10.3 171 15.0	7.9 9.8 170 15.0	7.8 10.4 170 15.0	7.7 10.4 170 15.0

TOXICITY TEST REPORT Sample: 05890087

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (1100)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 10/16/89
Received : 10/16/89
Tested : 10/17/89 at: 1145

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	21:55	46:55	76:55	96:55
100	0	0	0	0	0
75	0	0	0	0	0
56	0	0	0	0	0
25	0	0	0	0	0
10	0	0	0	0	0
1	0	0	0	0	0
Control	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890087

TEST
CONC.
%

E L A P S E D T I M E

00:00 21:55 46:55 76:55 96:55

100	pH	8.0	7.5	7.5	7.6	7.5
	O2 ppm	9.4	8.3	9.0	9.0	9.2
	Cond.	200				189
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	7.5	7.4	7.4	7.6	7.5
	O2 ppm	9.3	8.5	8.7	8.7	9.1
	Cond.	190				184
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	7.3	7.4	7.4	7.6	7.5
	O2 ppm	9.0	8.5	8.5	9.0	9.3
	Cond.	185				181
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.3	7.4	7.4	7.6	7.4
	O2 ppm	8.6	8.5	8.9	9.0	9.1
	Cond.	175				175
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.1	7.3	7.4	7.5	7.4
	O2 ppm	8.4	8.5	8.9	8.9	9.3
	Cond.	170				171
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.0	7.3	7.3	7.5	7.5
	O2 ppm	8.4	8.7	8.8	9.0	9.4
	Cond.	170				173
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	6.9	7.3	7.3	7.4	7.4
	O2 ppm	8.6	8.2	8.1	8.5	8.9
	Cond.	167				172
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	6.9	7.1	7.2	7.3	7.4
	O2 ppm	8.8	7.7	8.2	8.5	9.0
	Cond.	170				174
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT

TOXICITY TEST PARAMETERS

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (500)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 03/19/90
Received : 03/19/90
Tested : 03/21/90 at: 1330
Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME					TOTAL MORTALITY
%	00:00	23:25	43:15	75:00	96:00	%
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0
96 Hour LC50	: Non-lethal					
95% fid. limits	: 0.0 - 0.0 %					
Comments	:					

Sample Number: 05900060

TEST CONC.	ELAPSED TIME				
%	00:00	23:25	43:15	75:00	96:00
100	pH 7.9 O2 ppm 11.8 Cond. 169 Temp(C) 15.0				7.6 9.7 180 15.0
75	pH 7.7 O2 ppm 11.6 Cond. 168 Temp(C) 15.0				7.7 9.8 178 15.0
56	pH 7.6 O2 ppm 11.4 Cond. 165 Temp(C) 15.0				7.7 9.9 177 15.0
25	pH 7.6 O2 ppm 11.4 Cond. 162 Temp(C) 15.0				7.7 9.9 176 15.0
10	pH 7.5 O2 ppm 11.2 Cond. 160 Temp(C) 15.0				7.6 9.9 175 15.0
1	pH 7.5 O2 ppm 11.2 Cond. 160 Temp(C) 15.0				7.6 9.9 172 15.0
Control	pH 7.5 O2 ppm 12.1 Cond. 166 Temp(C) 15.0				7.7 9.8 189 15.0
Control	pH 7.6 O2 ppm 11.7 Cond. 168 Temp(C) 15.0				7.8 9.8 182 15.0

TOXICITY TEST REPORT Sample: 05900038

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (500)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 02/19/90
Received : 02/19/90
Tested : 02/20/90 at: 1710

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 01:30	%
100	0 10	100
Control	0 0	0

96 Hour LC50 : >100%
95% fid. limits : 0.0 - 100.0 %
Comments : Single Concentration Test - 100% mortality

TOXICITY TEST PARAMETERS

Sample Number: 05900038

TEST CONC. %
E L A P S E D T I M E
00:00 01:30

100	pH 8.3 8.2 O2 ppm 10.2 10.0 Cond. 178 180 Temp(C) 15.0 15.0
Control	pH 7.7 7.7 O2 ppm 9.8 9.8 Cond. 160 160 Temp(C) 15.0 15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05900014

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (500)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P. Tymstra
Date Collected : 01/15/90
Received : 01/15/90
Tested : 01/15/90 at: 1750
Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME					TOTAL MORTALITY
%	00:00	17:50	39:50	64:20	94:50	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900014

TEST CONC.	ELAPSED TIME				
%	00:00	17:50	39:50	64:20	94:50
100	pH 8.2	7.7	7.6	7.6	7.4
	O2 ppm 10.5	8.8	8.7	9.0	9.0
	Cond. 174				189
	Temp(C) 15.0	15.0	15.0	15.0	15.0
100	pH 7.7	7.7	7.7	7.6	7.3
	O2 ppm 10.4	8.9	8.5	8.8	8.6
	Cond. 175				188
	Temp(C) 15.0	15.0	15.0	15.0	15.0
Control	pH 7.7	7.7	7.6	7.5	7.4
	O2 ppm 9.9	9.0	9.0	9.2	9.2
	Cond. 179				182
	Temp(C) 15.0	15.0	15.0	15.0	15.0
Control	pH 7.7	7.7	7.6	7.5	7.4
	O2 ppm 9.7	8.8	8.8	9.0	8.8
	Cond. 179				181
	Temp(C) 15.0	15.0	15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 05890132

TEST CONDITIONS

Company : Polysar Limited
 : Sarnia, ONT
 : (30007)
 Region : Southwest
 Industry : Organic Chemical
 Control point : combined effluent, (500)
 Laboratory : Pollutech
 Sampling Method : Grab
 Sampled By : C. Ferguson
 Date Collected : 12/18/89
 Received : 12/18/89
 Tested : 12/18/89 at: 1500

Type of Bioassay : STATIC
 : (Protocol to determine the acute lethality
 : of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	19:30	43:30	72:30	96:15	%	
100	0	0	0	0	0	0	
75	0	0	0	0	0	0	
56	0	0	0	0	0	0	
25	0	0	0	0	0	0	
10	0	0	0	0	0	0	
1	0	0	0	0	0	0	
Control	0	0	0	0	0	0	
Control	0	0	0	0	0	0	

96 Hour LC50 : Non-lethal
 95% fid. limits : 0.0 - 0.0 %
 Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890132

TEST
CONC.
%

E L A P S E D T I M E

00:00 19:30 43:30 72:30 96:15

100	pH	8.2	7.9	8.0	7.8	7.8
	02 ppm	11.2	9.0	10.2	8.4	9.6
	Cond.	181				188
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	8.1	7.9	7.9	7.8	7.8
	02 ppm	11.2	9.2	9.8	9.3	9.5
	Cond.	180				186
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	8.0	7.9	7.9	7.7	7.8
	02 ppm	10.7	9.5	9.8	9.2	9.6
	Cond.	180				186
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.8	7.8	7.9	7.7	7.9
	02 ppm	10.4	9.6	9.8	9.2	9.6
	Cond.	178				184
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.8	7.8	7.8	7.6	7.7
	02 ppm	10.3	9.6	9.2	8.9	9.0
	Cond.	177				185
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.6	7.6	7.8	7.6	7.7
	02 ppm	10.3	9.5	9.6	9.2	9.0
	Cond.	177				185
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.7	7.6	7.8	7.6	7.8
	02 ppm	10.5	10.0	9.3	9.2	9.8
	Cond.	170				176
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.7	7.6	7.8	7.7	7.8
	02 ppm	10.4	9.9	9.4	9.4	9.6
	Cond.	170				176
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05890114

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT (30007)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (500)
Laboratory : Pollutech
Sampling Method : grab
Sampled By : C. Ferguson
Date Collected : 11/20/89
Received : 11/20/89
Tested : 11/21/89 at: 1200
Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	23:40	51:00	75:30	96:00	%	
100	0	0	0	0	0	0	
75	0	0	0	0	0	0	
56	0	0	0	0	0	0	
25	0	0	0	0	0	0	
10	0	0	0	0	0	0	
1	0	0	0	0	0	0	
Control	0	0	0	0	0	0	
Control	0	0	0	0	0	0	

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

SLOPE of Mortality Curve : none
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890114

TEST CONC.	E L A P S E D T I M E					
%	00:00	23:40	51:00	75:30	96:00	
100	pH 8.2	7.7	7.8	7.8	7.7	
	O2 ppm 10.2	9.6	9.4	9.7	9.8	
	Cond. 170				175	
	Temp(C) 15.0	15.0	15.0	15.0	15.0	
75	pH 7.8	7.6	7.8	7.9	7.8	
	O2 ppm 10.2	9.9	9.4	9.8	10.0	
	Cond. 172				172	
	Temp(C) 15.0	15.0	15.0	15.0	15.0	
56	pH 7.6	7.7	7.7	7.8	7.7	
	O2 ppm 9.9	9.9	9.0	9.8	9.8	
	Cond. 172				170	
	Temp(C) 15.0	15.0	15.0	15.0	15.0	
25	pH 7.2	7.6	7.8	7.8	7.7	
	O2 ppm 9.9	9.9	9.2	9.7	9.9	
	Cond. 171				170	
	Temp(C) 15.0	15.0	15.0	15.0	15.0	
10	pH 7.2	7.6	7.8	7.8	7.7	
	O2 ppm 9.8	10.1	9.4	9.8	9.8	
	Cond. 171				169	
	Temp(C) 15.0	15.0	15.0	15.0	15.0	
1	pH 7.2	7.7	7.8	7.8	7.7	
	O2 ppm 9.9	10.5	9.4	9.9	10.0	
	Cond. 170				169	
	Temp(C) 15.0	15.0	15.0	15.0	15.0	
Control	pH 7.2	7.5	7.7	7.7	7.7	
	O2 ppm 9.7	10.4	9.8	10.2	10.2	
	Cond. 170				171	
	Temp(C) 15.0	15.0	15.0	15.0	15.0	
Control	pH 7.1	7.6	7.9	7.8	7.7	
	O2 ppm 9.9	10.3	9.8	10.4	10.4	
	Cond. 171				170	
	Temp(C) 15.0	15.0	15.0	15.0	15.0	

TOXICITY TEST REPORT Sample: 05890085

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (500)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 10/16/89
Received : 10/16/89
Tested : 10/17/89 at: 1145

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	21:55	46:55	69:55	96:55			%
100	0	0	0	0	0			0
75	0	0	0	0	0			0
56	0	0	0	0	0			0
25	0	0	0	0	0			0
10	0	0	0	0	0			0
1	0	0	0	0	0			0
Control	0	0	0	0	0			0
Control	0	0	0	0	0			0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890085

TEST CONC. %
E L A P S E D T I M E
00:00 21:55 46:55 69:55 96:55

100	pH 8.3	7.5	7.4	7.5	7.4	7.3
	O2 ppm 9.8	8.3	8.2	8.7	9.0	9.0
	Cond. 183				181	
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0
75	pH 7.9	7.4	7.4	7.4	7.3	7.3
	O2 ppm 9.3	7.8	7.8	8.5	8.9	8.9
	Cond. 180				180	
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0
56	pH 7.5	7.4	7.4	7.5	7.3	7.3
	O2 ppm 9.1	8.2	8.0	8.3	9.0	9.0
	Cond. 180				178	
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0
25	pH 7.1	7.4	7.4	7.5	7.4	7.4
	O2 ppm 8.6	8.3	8.2	8.9	9.1	9.1
	Cond. 175				175	
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0
10	pH 7.0	7.4	7.4	7.5	7.4	7.4
	O2 ppm 8.6	8.3	8.6	8.9	9.4	9.4
	Cond. 170				172	
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0
1	pH 7.0	7.5	8.5	7.6	7.4	7.4
	O2 ppm 8.5	9.0	8.9	9.3	9.6	9.6
	Cond. 170				172	
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0
Control	pH 6.9	7.3	7.3	7.4	7.4	7.4
	O2 ppm 8.6	8.2	8.5	8.5	8.9	8.9
	Cond. 167				172	
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0
Control	pH 6.9	7.1	7.3	7.3	7.4	7.4
	O2 ppm 8.8	7.7	8.5	8.5	9.0	9.0
	Cond. 170				174	
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05900068

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT (30007)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (400)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 03/26/90
Received : 03/26/90
Tested : 03/28/90 at: 1630

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	25:10	42:00	71:20	96:00	%
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900068

TEST CONC. %
E L A P S E D T I M E
00:00 25:10 42:00 71:20 96:00

100	pH 7.8 O2 ppm 10.1 Cond. 188 Temp(C) 15.0	7.6 9.4 190 15.0
75	pH 7.6 O2 ppm 10.3 Cond. 181 Temp(C) 15.0	7.3 9.3 186 15.0
56	pH 7.5 O2 ppm 10.4 Cond. 179 Temp(C) 15.0	7.4 9.2 183 15.0
25	pH 7.4 O2 ppm 10.5 Cond. 170 Temp(C) 15.0	7.4 9.2 179 15.0
10	pH 7.4 O2 ppm 10.5 Cond. 168 Temp(C) 15.0	7.4 9.2 177 15.0
1	pH 7.3 O2 ppm 10.6 Cond. 165 Temp(C) 15.0	7.4 9.6 175 15.0
Control	pH 7.3 O2 ppm 10.6 Cond. 162 Temp(C) 15.0	7.5 9.3 172 15.0
Control	pH 7.3 O2 ppm 10.6 Cond. 165 Temp(C) 15.0	7.5 9.4 173 15.0

TOXICITY TEST REPORT Sample: 05900029

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (400)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 02/12/90
Received : 02/12/90
Tested : 02/14/90 at: 1400

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY	
%	00:00	26:00 44:00 68:00 97:00	%	%
100	0	0 0 0 0	0	0
100	0	0 0 0 0	0	0
Control	0	0 0 0 0	0	0
Control	0	0 0 0 0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05900029

TEST CONC. %	E L A P S E D T I M E	
	00:00	26:00 44:00 68:00 97:00
100	pH 7.8 O2 ppm 9.9 Cond. 185 Temp(C) 15.0	7.6 8.5 198 15.0
100	pH 7.8 O2 ppm 9.7 Cond. 185 Temp(C) 15.0	7.5 8.7 195 15.0
Control	pH 7.6 O2 ppm 10.0 Cond. 158 Temp(C) 15.0	7.7 9.6 175 15.0
Control	pH 7.6 O2 ppm 10.2 Cond. 160 Temp(C) 15.0	7.7 9.6 175 15.0

HISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 059000016

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (400)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P.Tymstra
Date Collected : 01/08/90
Received : 01/08/90
Tested : 01/09/90 at: 1730
Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	18:10	42:00	64:10	95:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 059000016

TEST CONC. %	E L A P S E D T I M E				
	00:00	18:10	42:00	64:10	95:00
100	pH	7.3	7.7	7.6	7.5
	O2 ppm	9.8	8.8	8.8	7.9
	Cond.	180			191
	Temp(C)	15.0	15.0	15.0	15.0
100	pH	7.3	7.7	7.6	7.6
	O2 ppm	10.0	9.0	8.9	8.2
	Cond.	179			191
	Temp(C)	15.0	15.0	15.0	15.0
Control	pH	7.4	7.5	7.6	7.6
	O2 ppm	10.2	10.4	9.0	8.7
	Cond.	170			180
	Temp(C)	15.0	15.0	15.0	15.0
Control	pH	7.4	7.5	7.6	7.7
	O2 ppm	10.2	10.2	9.1	8.2
	Cond.	171			182
	Temp(C)	15.0	15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 05890123

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (400)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P. Tymstra
Date Collected : 12/11/89
Received : 12/11/89
Tested : 12/12/89 at: 1430

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	20:10	44:10	68:10	97:10			%
100	0	0	0	0	0			0
75	0	0	0	0	0			0
56	0	0	0	0	0			0
25	0	0	0	0	0			0
10	0	0	0	0	0			0
1	0	0	0	0	0			0
Control	0	0	0	0	0			0
Control	0	0	0	0	0			0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890123
TEST CONC. %
E L A P S E D T I M E
00:00 20:10 44:10 68:10 97:10

100	pH 7.5	7.6	7.7	7.7	7.7	7.7
	O2 ppm 10.4	9.4	9.8	9.4	9.2	9.2
	Cond. 172				180	180
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0
75	pH 7.5	7.6	7.7	7.8	7.8	7.8
	O2 ppm 10.8	9.1	8.6	9.5	9.0	9.0
	Cond. 172				180	180
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0
56	pH 7.5	7.6	7.7	7.7	7.7	7.8
	O2 ppm 10.8	9.1	8.6	9.4	9.2	9.2
	Cond. 170				180	180
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0
25	pH 7.5	7.6	7.7	7.7	7.7	7.8
	O2 ppm 11.1	9.2	8.7	9.6	9.6	9.6
	Cond. 170				182	182
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0
10	pH 7.5	7.6	7.7	7.8	7.8	7.8
	O2 ppm 11.2	9.0	8.5	9.5	9.4	9.4
	Cond. 169				182	182
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0
1	pH 7.5	7.7	7.8	7.8	7.8	7.9
	O2 ppm 11.1	9.4	9.0	9.4	9.6	9.6
	Cond. 169				182	182
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0
Control	pH 7.4	7.6	7.7	7.8	7.8	7.8
	O2 ppm 11.2	9.6	9.2	9.5	9.6	9.6
	Cond. 170				180	180
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0
Control	pH 7.4	7.6	7.7	7.8	7.8	7.9
	O2 ppm 11.2	9.6	9.0	9.3	9.2	9.2
	Cond. 168				178	178
	Temp(C) 15.0	15.0	15.0	15.0	15.0	15.0

MISA Trout

SLOPE of Mortality Curve : none
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 05890103

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT (30007)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (400)
Laboratory : Pollutech
Sampling Method : grab
Sampled By : C. Ferguson
Date Collected : 11/13/89
Received : 11/13/89
Tested : 11/14/89 at: 1330

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	23:10	45:10	69:10	96:00			%
100	0	0	0	0	0			0
75	0	0	0	0	0			0
56	0	0	0	0	0			0
25	0	0	0	0	0			0
10	0	0	0	0	0			0
1	0	0	0	0	0			0
Control	0	0	0	0	0			0
Control	0	0	0	0	0			0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890103

TEST CONC. %	E L A P S E D T I M E						
	00:00	23:10	45:10	69:10	96:00		
100	pH 7.8 O2 ppm 10.1 Cond. 190 Temp(C) 15.0	7.7 7.8 9.5 9.9 15.0 15.0	7.7 7.8 9.5 9.9 15.0 15.0	7.8 7.8 10.6 10.6 15.0 15.0	7.8 7.8 10.6 10.6 15.0 15.0		
75	pH 7.6 O2 ppm 10.0 Cond. 185 Temp(C) 15.0	7.7 7.7 9.6 10.0 15.0 15.0	7.7 7.7 9.6 10.0 15.0 15.0	7.8 7.8 10.6 10.6 15.0 15.0	7.9 7.9 10.2 10.2 182 182		
56	pH 7.4 O2 ppm 10.0 Cond. 180 Temp(C) 15.0	7.6 7.6 9.5 9.9 15.0 15.0	7.7 7.7 9.9 10.4 15.0 15.0	7.8 7.8 10.4 10.4 15.0 15.0	7.8 7.8 9.9 9.9 180 180		
25	pH 7.2 O2 ppm 9.7 Cond. 175 Temp(C) 15.0	7.6 7.6 9.6 9.9 15.0 15.0	7.7 7.7 9.9 10.3 15.0 15.0	7.8 7.8 10.3 10.3 15.0 15.0	7.8 7.8 9.8 9.8 172 172		
10	pH 7.2 O2 ppm 9.6 Cond. 171 Temp(C) 15.0	7.7 7.7 9.6 10.0 15.0 15.0	7.8 7.8 10.4 10.4 15.0 15.0	7.8 7.8 10.4 10.4 15.0 15.0	7.9 7.9 10.2 10.2 171 171		
1	pH 7.2 O2 ppm 9.5 Cond. 169 Temp(C) 15.0	7.7 7.7 9.5 9.8 15.0 15.0	7.7 7.7 9.8 10.3 15.0 15.0	7.8 7.8 10.3 10.3 15.0 15.0	7.9 7.9 10.3 10.3 170 170		
Control	pH 7.2 O2 ppm 10.0 Cond. 169 Temp(C) 15.0	7.6 7.6 9.9 9.9 15.0 15.0	7.7 7.7 9.9 10.4 15.0 15.0	7.7 7.7 10.4 10.4 15.0 15.0	7.8 7.8 9.5 9.5 169 169		
Control	pH 7.2 O2 ppm 9.8 Cond. 169 Temp(C) 15.0	7.6 7.6 9.9 9.8 15.0 15.0	7.7 7.7 9.8 10.0 15.0 15.0	7.8 7.8 10.0 10.0 15.0 15.0	7.6 7.6 9.2 9.2 172 172		

TOXICITY TEST REPORT Sample: 05890081

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (400)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : T. Moran
Date Collected : 10/09/89
Received : 10/09/89
Tested : 10/10/89 at: 1600

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	17:00	41:30	65:30	96:00	%	
100	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890081

TEST
CONC.
%

E L A P S E D T I M E

00:00 17:00 41:30 65:30 96:00

100	pH	7.8	7.4	7.5	7.4	7.4
	O2 ppm	9.8	8.6	8.8	8.2	7.8
	Cond.	221				220
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	7.5	7.4	7.5	7.4	7.4
	O2 ppm	9.4	8.7	8.6	8.2	8.4
	Cond.	210				210
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	7.3	7.5	7.6	7.5	7.5
	O2 ppm	9.2	8.9	9.0	8.6	8.6
	Cond.	200				200
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.1	7.3	7.5	7.4	7.4
	O2 ppm	9.2	8.9	8.9	8.8	8.8
	Cond.	190				190
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.2	7.3	7.4	7.3	7.4
	O2 ppm	9.0	8.4	8.4	8.2	8.2
	Cond.	180				185
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.2	7.4	7.5	7.4	7.4
	O2 ppm	9.0	9.2	9.0	8.7	8.7
	Cond.	179				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.0	7.3	7.2	7.3	7.3
	O2 ppm	9.1	8.7	8.2	7.8	7.8
	Cond.	173				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.0	7.4	7.3	7.4	7.3
	O2 ppm	9.2	9.5	9.1	8.8	8.8
	Cond.	170				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

SLOPE of Mortality Curve : Spearman-Kärber
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 059000049

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (200)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 03/05/90
Received : 03/05/90
Tested : 03/06/90 at: 1100
Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. ONE, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	97:30	%
100	0	10	10	10	10	100
75	0	10	10	10	10	100
56	0	10	10	10	10	100
25	0	10	10	10	10	100
10	0	10	10	10	10	100
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : 3.2 %
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 059000049

TEST CONC. %	ELAPSED TIME				
	00:00	24:00	48:00	72:00	97:30
100	pH 8.1 O2 ppm 9.9 Cond. 192 Temp(C) 15.0	8.0 9.9 189 15.0	8.1 9.9 189 15.0	8.0 9.9 189 15.0	8.0 9.9 189 15.0
75	pH 7.9 O2 ppm 9.8 Cond. 186 Temp(C) 15.0	7.9 9.8 186 15.0	7.9 9.8 186 15.0	7.9 9.8 186 15.0	7.9 9.8 186 15.0
56	pH 7.8 O2 ppm 10.1 Cond. 180 Temp(C) 15.0	7.8 10.1 180 15.0	7.8 10.1 180 15.0	7.8 10.1 180 15.0	7.8 10.1 180 15.0
25	pH 7.7 O2 ppm 10.2 Cond. 171 Temp(C) 15.0	7.7 10.2 171 15.0	7.7 10.2 171 15.0	7.7 10.2 171 15.0	7.7 10.2 171 15.0
10	pH 7.6 O2 ppm 10.3 Cond. 168 Temp(C) 15.0	7.6 10.3 168 15.0	7.6 10.3 168 15.0	7.6 10.3 168 15.0	7.6 10.3 168 15.0
1	pH 7.6 O2 ppm 10.3 Cond. 166 Temp(C) 15.0	7.6 10.3 166 15.0	7.6 10.3 166 15.0	7.6 10.3 166 15.0	7.6 10.3 166 15.0
Control	pH 7.4 O2 ppm 10.2 Cond. 167 Temp(C) 15.0	7.4 10.2 167 15.0	7.4 10.2 167 15.0	7.4 10.2 167 15.0	7.4 10.2 167 15.0
Control	pH 7.5 O2 ppm 10.3 Cond. 168 Temp(C) 15.0	7.5 10.3 168 15.0	7.5 10.3 168 15.0	7.5 10.3 168 15.0	7.5 10.3 168 15.0

TOXICITY TEST REPORT Sample: 05900023

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (200)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 02/05/90
Received : 02/05/90
Tested : 02/07/90 at: 1630

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	24:10	45:00	68:10	96:00	%	
100	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05900023

TEST CONC.	E L A P S E D T I M E					
%	00:00	24:10	45:00	68:10	96:00	
100	pH	7.6				7.7
	O2 ppm	10.2				9.8
	Cond.	165				175
	Temp(C)	15.0				15.0
100	pH	7.6				7.7
	O2 ppm	10.1				9.6
	Cond.	166				175
	Temp(C)	15.0				15.0
Control	pH	7.1				7.7
	O2 ppm	10.4				9.6
	Cond.	162				175
	Temp(C)	15.0				15.0
Control	pH	7.1				7.7
	O2 ppm	10.4				9.7
	Cond.	162				176
	Temp(C)	15.0				15.0

HISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 059000001

TEST CONDITIONS

Company : Polysar Limited
 : Sarnia, ONT
 : (30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (200)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : T. Moran
Date Collected : 01/01/90
Received : 01/01/90
Tested : 01/02/90 at: 1200

Type of Bioassay : STATIC
 : (Protocol to determine the acute lethality
 : of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	28:00	45:00	69:30	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 059000001

TEST CONC. %	E L A P S E D T I M E				
	00:00	28:00	45:00	69:30	96:00
100	pH 7.8 O2 ppm 11.4 Cond. 165 Temp(C) 15.0	7.5 7.7 9.0 9.0 15.0 15.0	7.5 7.7 9.0 9.6 15.0 15.0	7.7 7.7 9.0 9.6 15.0 15.0	7.7 7.7 9.1 188 15.0 15.0
100	pH 7.9 O2 ppm 11.2 Cond. 165 Temp(C) 15.0	7.5 7.7 9.1 9.3 15.0 15.0	7.7 7.7 9.3 9.7 15.0 15.0	7.7 7.7 9.7 189 15.0 15.0	7.7 7.7 9.2 189 15.0 15.0
Control	pH 7.4 O2 ppm 10.6 Cond. 165 Temp(C) 15.0	7.4 7.5 9.2 9.1 15.0 15.0	7.5 7.6 9.1 9.1 15.0 15.0	7.6 7.6 9.1 190 15.0 15.0	7.6 7.6 8.8 190 15.0 15.0
Control	pH 7.4 O2 ppm 10.6 Cond. 165 Temp(C) 15.0	7.3 7.5 8.6 8.9 15.0 15.0	7.5 7.6 8.9 9.0 15.0 15.0	7.6 7.6 9.0 180 15.0 15.0	7.6 7.6 8.8 180 15.0 15.0

TOXICITY TEST REPORT Sample: 05890122

TEST CONDITIONS

Company : Polysar Limited
 : Sarnia, ONT
 : (30007)
 Region : Southwest
 Industry : Organic Chemical
 Control point : combined effluent, (200)
 Laboratory : Pollutech
 Sampling Method : Grab
 Sampled By : P. Tynstra
 Date Collected : 12/04/89
 Received : 12/04/89
 Tested : 12/05/89 at: 1655

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	16:45	45:45	66:45	96:15	%	%
100	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
 LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890122

TEST CONC. %	E L A P S E D T I M E					
	00:00	16:45	45:45	66:45	96:15	
100	pH 7.8 O2 ppm 11.3 Cond. 178 Temp(C) 15.0	7.6 7.8 8.2 9.1 15.0 15.0	7.6 7.8 8.2 9.1 15.0 15.0	7.8 7.8 8.8 8.8 15.0 15.0	7.8 7.8 8.8 8.8 15.0 15.0	7.8 7.8 8.8 8.8 15.0 15.0
75	pH 7.6 O2 ppm 11.2 Cond. 178 Temp(C) 15.0	7.6 7.8 8.3 9.3 15.0 15.0	7.6 7.8 8.3 9.3 15.0 15.0	7.8 7.8 8.9 8.9 15.0 15.0	7.7 7.7 9.3 9.3 15.0 15.0	7.7 7.7 9.3 9.3 15.0 15.0
56	pH 7.4 O2 ppm 11.2 Cond. 179 Temp(C) 15.0	7.4 7.6 8.3 9.5 15.0 15.0	7.6 7.8 8.3 9.5 15.0 15.0	7.8 7.8 8.8 8.8 15.0 15.0	7.7 7.7 9.4 9.4 15.0 15.0	7.7 7.7 9.4 9.4 15.0 15.0
25	pH 7.3 O2 ppm 11.3 Cond. 180 Temp(C) 15.0	7.3 7.5 8.2 8.8 15.0 15.0	7.5 7.7 8.2 8.8 15.0 15.0	7.7 7.7 8.5 8.5 15.0 15.0	7.6 7.6 9.2 9.2 15.0 15.0	7.6 7.6 9.2 9.2 15.0 15.0
10	pH 7.2 O2 ppm 11.3 Cond. 180 Temp(C) 15.0	7.2 7.5 8.2 9.1 15.0 15.0	7.5 7.7 8.2 9.1 15.0 15.0	7.7 7.7 8.6 8.6 15.0 15.0	7.6 7.6 8.8 8.8 15.0 15.0	7.6 7.6 8.8 8.8 15.0 15.0
1	pH 7.2 O2 ppm 11.2 Cond. 181 Temp(C) 15.0	7.2 7.5 8.2 8.8 15.0 15.0	7.5 7.6 8.8 8.4 15.0 15.0	7.7 7.7 8.4 8.4 15.0 15.0	7.6 7.6 8.6 8.6 15.0 15.0	7.6 7.6 8.6 8.6 15.0 15.0
Control	pH 7.0 O2 ppm 10.5 Cond. 172 Temp(C) 15.0	7.0 7.5 8.6 9.4 15.0 15.0	7.5 7.7 8.6 9.4 15.0 15.0	7.7 7.7 9.3 9.3 15.0 15.0	7.6 7.6 9.4 9.4 15.0 15.0	7.6 7.6 9.4 9.4 15.0 15.0
Control	pH 7.1 O2 ppm 11.2 Cond. 176 Temp(C) 15.0	7.1 7.5 8.7 9.2 15.0 15.0	7.5 7.6 9.2 9.0 15.0 15.0	7.7 7.7 9.0 9.0 15.0 15.0	7.6 7.6 9.3 9.3 15.0 15.0	7.6 7.6 9.3 9.3 15.0 15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05890096

TEST CONDITIONS

Company : Polysar Limited
 : Sarnia, ONT
 : (30007)
 Region : Southwest
 Industry : Organic Chemical
 Control point : combined effluent, (200)
 Laboratory : Pollutech
 Sampling Method : Grab
 Sampled By : C. Ferguson
 Date Collected : 11/06/89
 Received : 11/06/89
 Tested : 11/07/89 at: 1800

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	22:00	40:30	64:00	96:00	%	
100	0	0	0	0	0	0	
75	0	0	0	0	0	0	
56	0	0	0	0	0	0	
25	0	0	0	0	0	0	
10	0	0	0	0	0	0	
1	0	0	0	0	0	0	
Control	0	0	0	0	0	0	
Control	0	0	0	0	0	0	

96 Hour LC50 : Non-lethal
 95% fid. limits : 0.0 - 0.0 %
 Comments :

SLOPE of Mortality Curve :
 LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890096

TEST CONC. %	E L A P S E D T I M E					
	00:00	22:00	40:30	64:00	96:00	
100	pH 7.9	7.6	7.8	7.9	7.8	
	O2 ppm 9.8	9.8	10.0	9.7	10.2	
	Cond. 172				170	
	Temp(C) 15.0	15.0	15.0	15.0	15.0	
75	pH 7.6	7.6	7.8	7.9	7.7	
	O2 ppm 9.9	9.6	9.7	9.4	9.8	
	Cond. 171				170	
	Temp(C) 15.0	15.0	15.0	15.0	15.0	
56	pH 7.5	7.5	7.8	7.9	7.8	
	O2 ppm 9.9	9.8	10.1	9.8	10.2	
	Cond. 170				170	
	Temp(C) 15.0	15.0	15.0	15.0	15.0	
25	pH 7.5	7.5	7.8	7.8	7.8	
	O2 ppm 9.9	10.0	10.0	9.7	10.2	
	Cond. 167				170	
	Temp(C) 15.0	15.0	15.0	15.0	15.0	
10	pH 7.2	7.5	7.7	7.8	7.7	
	O2 ppm 8.9	10.0	9.6	9.6	9.8	
	Cond. 167				169	
	Temp(C) 15.0	15.0	15.0	15.0	15.0	
1	pH 7.2	7.4	7.8	7.9	7.8	
	O2 ppm 10.0	10.0	10.1	9.8	10.1	
	Cond. 167				168	
	Temp(C) 15.0	15.0	15.0	15.0	15.0	
Control	pH 7.2	7.4	7.7	7.7	7.7	
	O2 ppm 10.0	9.8	10.2	9.8	10.3	
	Cond. 167				170	
	Temp(C) 15.0	15.0	15.0	15.0	15.0	
Control	pH 7.2	7.4	7.7	7.7	7.7	
	O2 ppm 10.0	10.2	9.8	9.6	9.8	
	Cond. 169				170	
	Temp(C) 15.0	15.0	15.0	15.0	15.0	

TOXICITY TEST REPORT Sample: 05890083

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (200)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : T. Moran
Date Collected : 10/09/89
Received : 10/09/89
Tested : 10/10/89 at: 1600

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY	%
%	00:00	17:00	41:45	65:45	96:15		
100	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890083

TEST
CONC.
%

E L A P S E D T I M E

00:00 17:00 41:45 65:45 96:15

100	pH	7.7	7.5	7.7	7.5	7.5
	O2 ppm	9.8	9.1	9.2	7.5	8.9
	Cond.	175				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	7.5	7.5	7.7	7.5	7.5
	O2 ppm	9.6	9.2	9.2	8.8	8.8
	Cond.	175				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	7.4	7.5	7.6	7.4	7.4
	O2 ppm	9.3	9.2	8.4	7.8	7.8
	Cond.	175				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.3	7.4	7.6	7.5	7.4
	O2 ppm	9.1	9.1	8.9	8.5	8.7
	Cond.	175				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.2	7.4	7.5	7.5	7.4
	O2 ppm	9.0	9.1	8.6	8.4	8.6
	Cond.	175				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.2	7.4	7.5	7.5	7.4
	O2 ppm	9.0	9.0	9.0	8.5	8.5
	Cond.	175				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.0	7.3	7.2	7.3	7.3
	O2 ppm	9.1	8.7	8.2	7.8	7.8
	Cond.	173				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.0	7.4	7.3	7.4	7.3
	O2 ppm	9.2	9.5	9.1	8.8	8.8
	Cond.	170				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0

Polysar Limited (continued)

05900013 sampled: 01/15/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900039 sampled: 02/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900058 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

process effluent

storm water

storm water

storm water

rain gauge

intake water

Polysar Limited (continued)

storm water

OT cooling water

05890097 sampled: 11/06/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900024 sampled: 02/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

Batch

05890091 sampled: 10/30/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890115 sampled: 11/20/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890134 sampled: 12/18/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900017 sampled: 01/15/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900041 sampled: 02/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900061 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

process effluent

05890086 sampled: 10/16/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890112 sampled: 11/20/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890133 sampled: 12/18/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

Polysar Limited (continued)

05900060 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

emergency overflow

process effluent

process effluent

process effluent

combined effluent

05890087 sampled: 10/16/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890113 sampled: 11/20/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890131 sampled: 12/18/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900012 sampled: 01/15/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900040 sampled: 02/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900059 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

emergency overflow

storm water

OT cooling water

05890095 sampled: 11/06/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900022 sampled: 02/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

Polysar Limited (continued)

process effluent

combined effluent

05890081 sampled: 10/09/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890103 sampled: 11/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890123 sampled: 12/11/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900016 sampled: 01/08/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900029 sampled: 02/12/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900068 sampled: 03/26/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

combined effluent

05890085 sampled: 10/16/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890114 sampled: 11/20/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890132 sampled: 12/18/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900014 sampled: 01/15/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900038 sampled: 02/19/90 LC50: >100 %
95% fid. limits: 0.0 - 100.0 %
comments: Single Concentration Test - 100% mortality

COMPANY: Polysar Limited, Sarnia
(30007)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

The data for forty trout bioassays, conducted on process effluent, batch effluent, combined effluent and once through cooling water samples collected between October 1989 and March 1990, were provided by Polysar Limited. Twenty-two of twenty-four samples collected from the four combined effluent discharge locations (0200, 0400, 0500, 1100) were determined to have been non-acutely lethal to test fish. The other two combined effluent samples were determined to have been acutely lethal. Statistically, the percentage effluent required to kill 50 % of the test fish by the end of the four days exposure was 3.2 % (control point 0200 - March). The combined effluent sample (0500) collected in February was also lethal, causing 100 % mortality in non-diluted effluent. All the samples collected from the locations; OTCW 1400, OTCW 1600, batch 1700 and process effluent 1800 were determined to have been non-acutely lethal to test fish.

combined effluent

05890083	sampled: 10/09/89	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		
05890096	sampled: 11/06/89	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		
05890122	sampled: 12/04/89	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		
05900001	sampled: 01/01/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		
05900023	sampled: 02/05/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		
05900049	sampled: 03/05/90	LC50: 3.2 %
95% fid. limits:	0.0 -	0.0 %
comments:		

TOXICITY TEST REPORT Sample: 05900064

TEST CONDITIONS

Company : Novacor Chemicals Ltd.
Mooretown, ONT
(380105)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : Pol Lutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 03/21/90
Received : 03/21/90
Tested : 03/24/90 at: 1230

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 48:35	%
100	0	0
50	0	0
26	0	0
13	0	0
6	0	0
Control	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05900064

TEST E L A P S E D T I M E
CONC. %
00:00 48:35

100	pH 8.1 7.9 O2 ppm 8.8 8.4 Cond. 610 610 Temp(C) 20.0 20.0
50	pH 8.2 8.1 O2 ppm 8.7 8.6 Cond. 580 590 Temp(C) 20.0 20.0
26	pH 8.3 8.2 O2 ppm 8.9 8.8 Cond. 530 540 Temp(C) 20.0 20.0
13	pH 8.3 8.3 O2 ppm 9.2 9.0 Cond. 540 530 Temp(C) 20.0 20.0
6	pH 8.3 8.3 O2 ppm 9.3 9.3 Cond. 520 520 Temp(C) 20.0 20.0
Control	pH 8.3 8.3 O2 ppm 9.4 9.4 Cond. 500 510 Temp(C) 20.0 20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 059000046

TEST CONDITIONS

Company : Novacor Chemicals Ltd.
Mooretown, ONT
(380105)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 02/21/90
Received : 02/21/90
Tested : 02/22/90 at: 1050

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME	TOTAL MORTALITY
%	00:00 48:00	%
100	0	0
50	0	0
26	0	0
13	0	0
6	0	0
Control	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 059000046

TEST CONC. %	ELAPSED TIME
	00:00 48:00
100	pH 7.8 7.9 O2 ppm 8.5 8.5 Cond. 590 600 Temp(C) 20.0 20.0
50	pH 8.2 8.1 O2 ppm 8.4 8.5 Cond. 525 550 Temp(C) 20.0 20.0
26	pH 8.3 8.3 O2 ppm 8.6 8.6 Cond. 510 525 Temp(C) 20.0 20.0
13	pH 8.4 8.3 O2 ppm 8.6 8.9 Cond. 495 495 Temp(C) 20.0 20.0
6	pH 8.4 8.4 O2 ppm 8.8 8.8 Cond. 485 471 Temp(C) 20.0 20.0
Control	pH 8.5 8.3 O2 ppm 9.3 8.8 Cond. 488 462 Temp(C) 20.0 20.0

TOXICITY TEST REPORT Sample: 05900021

TEST CONDITIONSCompany : Novacor Chemicals Ltd.
Mooretown, ONT
(380105)Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Pollutech

Sampling Method : Grab

Sampled By : P. Tymstra

Date Collected : 01/24/90

Received : 01/24/90

Tested : 01/24/90 at: 1200

Type of Bioassay

: STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal

Weight(gm)

Length(mm)

: D. magna

:

:

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 48:00	%
100	0 0	0
50	0 0	0
26	0 0	0
13	0 0	0
6	0 0	0
Control	0 0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05900021

TEST CONC.	E L A P S E D T I M E
%	00:00 48:00

100	pH	7.5	7.7
	O2 ppm	7.8	8.7
	Cond.	740	740
	Temp(C)	20.0	20.0
50	pH	7.8	7.9
	O2 ppm	8.4	8.8
	Cond.	610	610
	Temp(C)	20.0	20.0
26	pH	7.9	8.0
	O2 ppm	8.8	9.0
	Cond.	580	580
	Temp(C)	20.0	20.0
13	pH	8.0	8.1
	O2 ppm	9.0	9.2
	Cond.	520	520
	Temp(C)	20.0	20.0
6	pH	8.1	8.1
	O2 ppm	9.3	9.2
	Cond.	510	510
	Temp(C)	20.0	20.0
Control	pH	8.1	8.0
	O2 ppm	9.4	9.2
	Cond.	492	496
	Temp(C)	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT

Sample: 059000002

TEST CONDITIONS

Company : Novacor Chemicals Ltd.
Hooretown, ONT
(380105)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P. Tynstra
Date Collected : 01/03/90
Received : 01/03/90
Tested : 01/03/90 at: 1530

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME	TOTAL MORTALITY
%	00:00 48:00	%
100	0	0
50	0	0
26	0	0
13	0	0
6	0	0
Control	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 059000002

TEST CONC. %
ELAPSED TIME
00:00 48:00

100	pH 7.6 7.7 O2 ppm 8.6 8.0 Cond. 720 720 Temp(C) 20.0 20.0
50	pH 8.1 8.1 O2 ppm 8.7 8.7 Cond. 600 600 Temp(C) 20.0 20.0
26	pH 8.2 8.2 O2 ppm 8.7 8.7 Cond. 560 560 Temp(C) 20.0 20.0
13	pH 8.3 8.3 O2 ppm 8.7 8.7 Cond. 550 550 Temp(C) 20.0 20.0
6	pH 8.3 8.3 O2 ppm 8.8 8.8 Cond. 490 490 Temp(C) 20.0 20.0
Control	pH 8.2 8.2 O2 ppm 9.2 9.2 Cond. 490 490 Temp(C) 20.0 20.0

TOXICITY TEST REPORT Sample: 05890109

TEST CONDITIONS

Company : Novacor Chemicals Ltd.
 : Mooretown, ONT
 : (380105)
 Region : Southwest
 Industry : Organic Chemical
 Control point : combined effluent, (100)
 Laboratory : Pollutitech
 Sampling Method : grab
 Sampled By : C. Ferguson
 Date Collected : 11/15/89
 Received : 11/15/89
 Tested : 11/15/89 at: 1245

Type of Bioassay : STATIC
 : (Daphnia magna Acute Lethality Toxicity
 : Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME	TOTAL MORTALITY
%	00:00 49:00	%
100	0	0
50	0	0
26	0	0
13	0	0
6	0	0
Control	0	0

48 Hour LC50 : Non-lethal
 95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890109

TEST CONC. % ELAPSED TIME
 00:00 49:00

100	pH 7.9 7.8 O2 ppm 8.6 9.2 Cond. 520 520 Temp(C) 20.0 20.0
50	pH 8.0 8.0 O2 ppm 9.0 9.4 Cond. 510 500 Temp(C) 20.0 20.0
26	pH 8.1 8.1 O2 ppm 9.0 9.4 Cond. 500 500 Temp(C) 20.0 20.0
13	pH 8.1 8.1 O2 ppm 9.2 9.4 Cond. 498 490 Temp(C) 20.0 20.0
6	pH 8.1 8.1 O2 ppm 9.2 9.6 Cond. 498 488 Temp(C) 20.0 20.0
Control	pH 8.1 8.2 O2 ppm 9.6 9.7 Cond. 492 474 Temp(C) 20.0 20.0

TOXICITY TEST REPORT

Sample: 05890090

TEST CONDITIONS

Company : Novacor Chemicals Ltd.
Mooretown, ONT
(380105)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 10/30/89
Received : 10/30/89
Tested : 10/30/89 at: 1600

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00 48:30		%
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890090

TEST CONC. %

E L A P S E D T I M E

00:00 48:30

100	pH 8.6	8.0
	O2 ppm 9.6	8.0
	Cond. 423	460
	Temp(C) 20.0	20.0
50	pH 8.4	8.1
	O2 ppm 9.2	8.1
	Cond. 470	460
	Temp(C) 20.0	20.0
26	pH 8.3	8.2
	O2 ppm 8.8	8.5
	Cond. 485	482
	Temp(C) 20.0	20.0
13	pH 8.2	8.2
	O2 ppm 8.8	8.7
	Cond. 495	485
	Temp(C) 20.0	20.0
6	pH 8.2	8.2
	O2 ppm 8.8	8.8
	Cond. 485	485
	Temp(C) 20.0	20.0
Control	pH 8.0	8.1
	O2 ppm 8.8	9.0
	Cond. 490	490
	Temp(C) 20.0	20.0

Novacor Chemicals Ltd. (continued)

COMPANY: Novacor Chemicals Ltd., Mooretown
(380105)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

Data for six *Daphnia magna* acute lethality toxicity tests conducted on samples of combined effluent collected between October 1989 and March 1990 were submitted by Novacor Chemicals Ltd. of Mooretown. Due to scheduling conflicts the December sample was collected on January 3, 1990. All six samples were not acutely lethal to *Daphnia*.

combined effluent

05890090 sampled: 10/30/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890109 sampled: 11/15/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900002 sampled: 01/03/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900021 sampled: 01/24/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900046 sampled: 02/21/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900064 sampled: 03/21/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

storm water

emergency overflow

storm water

MISA Trout

TOXICITY TEST REPORT Sample: 05900064

TEST CONDITIONS

Company : Novacor Chemicals Ltd.
 Region : Mooretown, ONT
 Industry : (380105)
 : Southwest
 : Organic Chemical
 Control point : combined effluent, (100)
 Laboratory : Pollutech
 Sampling Method : Grab
 Sampled By : C. Ferguson
 Date Collected : 03/21/90
 Received : 03/21/90
 Tested : 03/21/90 at: 1430

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	22:25	42:15	74:00	96:00	%	
100	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
 95% fid. limits : 0.0 - 0.0 %
 Comments :

SLOPE of Mortality Curve :
 LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900064

TEST CONC. %
 E L A P S E D T I M E
 00:00 22:25 42:15 74:00 96:00

100	pH 8.4	7.7
	O2 ppm 12.4	9.6
	Cond. 580	580
	Temp(C) 15.0	15.0
100	pH 8.4	7.7
	O2 ppm 12.4	9.4
	Cond. 580	590
	Temp(C) 15.0	15.0
Control	pH 7.4	7.7
	O2 ppm 11.5	10.0
	Cond. 155	178
	Temp(C) 15.0	15.0
Control	pH 7.4	7.8
	O2 ppm 11.6	10.0
	Cond. 155	178
	Temp(C) 15.0	15.0

TOXICITY TEST REPORT Sample: 059000046

TEST CONDITIONS

Company : Novacor Chemicals Ltd.
 : Mooretown, ONT
 : (380105)
 Region : Southwest
 Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Pollutech
 Sampling Method : Grab
 Sampled By : C. Ferguson
 Date Collected : 02/21/90
 Received : 02/21/90
 Tested : 01/22/90 at: 1130

Type of Bioassay : STATIC
 : (Protocol to determine the acute lethality
 : of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 :
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	28:10	47:10	73:10	96:00	%	
100	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 059000046

TEST CONC. %

E L A P S E D T I M E

00:00 28:10 47:10 73:10 96:00

100	pH 7.8				7.8
	O2 ppm 9.8				9.3
	Cond. 520				580
	Temp(C) 15.0				15.0
100	pH 7.8				7.8
	O2 ppm 9.9				9.4
	Cond. 510				580
	Temp(C) 15.0				15.0
Control	pH 7.5				7.7
	O2 ppm 10.4				9.1
	Cond. 162				180
	Temp(C) 15.0				15.0
Control	pH 7.5				7.8
	O2 ppm 10.6				9.1
	Cond. 162				180
	Temp(C) 15.0				15.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 05900021

TEST CONDITIONS

Company : Novacor Chemicals Ltd.
Mooretown, ONT
(380105)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P. Tymstra
Date Collected : 01/24/90
Received : 01/24/90
Tested : 01/25/90 at: 1130
Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	25:10	47:25	78:00	97:10			%
100	0	0	0	0	0			0
75	0	0	0	0	0			0
56	0	0	0	0	0			0
25	0	0	0	0	0			0
10	0	0	0	0	0			0
1	0	0	0	0	0			0
Control	0	0	0	0	0			0
Control	0	0	0	0	0			0
96 Hour LC50	: Non-lethal							
95% fid. limits	: 0.0 - 0.0 %							
Comments	:							

TOXICITY TEST PARAMETERS

Sample Number: 05900021

TEST CONC. %	E L A P S E D T I M E						
	00:00	25:10	47:25	78:00	97:10		
100	pH 7.4	8.6	7.5				
	O2 ppm 680	720					
	Cond. 15.0	15.0					
75	pH 7.4	8.8	7.5				
	O2 ppm 550	600	8.7				
	Cond. 15.0	15.0	600				
	Temp(C) 15.0		15.0				
56	pH 7.4	9.2	7.4				
	O2 ppm 442	455	8.6				
	Cond. 15.0	15.0	455				
	Temp(C) 15.0		15.0				
25	pH 7.4	9.4	7.4				
	O2 ppm 299	302	8.7				
	Cond. 15.0	15.0	302				
	Temp(C) 15.0		15.0				
10	pH 7.5	9.8	7.3				
	O2 ppm 230	234	8.8				
	Cond. 15.0	15.0	234				
	Temp(C) 15.0		15.0				
1	pH 7.6	9.8	7.3				
	O2 ppm 182	191	8.6				
	Cond. 15.0	15.0	191				
	Temp(C) 15.0		15.0				
Control	pH 7.5	9.8	7.3				
	O2 ppm 178	179	8.4				
	Cond. 15.0	15.0	179				
	Temp(C) 15.0		15.0				
Control	pH 7.6	9.8	7.3				
	O2 ppm 179	179	8.5				
	Cond. 15.0	15.0	179				
	Temp(C) 15.0		15.0				

TOXICITY TEST REPORT Sample: 059000002

TEST CONDITIONS

Company : Novacor Chemicals Ltd.
 : Mooretown, ONT
 : (380105)
 Region : Southwest
 Industry : Organic Chemical
 Control point : combined effluent, (100)
 Laboratory : Pollutech
 Sampling Method : Grab
 Sampled By : P. Tynstra
 Date Collected : 01/03/90
 Received : 01/03/90
 Tested : 01/04/90 at: 1200

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	21:00	46:30	69:00	97:00	%
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 059000002

TEST CONC. %	E L A P S E D T I M E				
%	00:00	21:00	46:30	69:00	97:00
100	pH 7.3 O2 ppm 8.3 Cond. 620 Temp(C) 15.0				7.6 8.4 650 15.0
75	pH 7.4 O2 ppm 8.6 Cond. 510 Temp(C) 15.0				7.5 8.2 520 15.0
56	pH 7.4 O2 ppm 9.5 Cond. 426 Temp(C) 15.0				7.6 8.2 435 15.0
25	pH 7.5 O2 ppm 9.9 Cond. 285 Temp(C) 15.0				7.6 8.4 300 15.0
10	pH 7.6 O2 ppm 10.2 Cond. 222 Temp(C) 15.0				7.6 8.5 238 15.0
1	pH 7.6 O2 ppm 10.3 Cond. 175 Temp(C) 15.0				7.6 8.5 185 15.0
Control	pH 7.6 O2 ppm 10.3 Cond. 166 Temp(C) 15.0				7.6 8.9 180 15.0
Control	pH 7.6 O2 ppm 10.3 Cond. 170 Temp(C) 15.0				7.6 8.2 180 15.0

MISA Trout

SLOPE of Mortality Curve : none
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 05890109

TEST CONDITIONS

Company : Novacor Chemicals Ltd.
Mooretown, ONT
(380105)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Pollutech
Sampling Method : grab
Sampled By : C. Ferguson
Date Collected : 11/15/89
Received : 11/15/89
Tested : 11/16/89 at: 1230

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	22:10	49:00	73:10	96:00			%
100	0	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890109

TEST CONC. %	E L A P S E D T I M E						
	00:00	22:10	49:00	73:10	96:00		
100	pH 7.9	7.8	7.8	7.7	7.7		
	O2 ppm 9.3	9.8	9.6	9.9	10.0		
	Cond. 484				476		
	Temp(C) 15.0	15.0	15.0	15.0	15.0		
75	pH 7.6	7.7	7.9	7.7	7.7		
	O2 ppm 9.4	9.9	9.9	10.2	9.6		
	Cond. 405				399		
	Temp(C) 15.0	15.0	15.0	15.0	15.0		
56	pH 7.4	7.7	7.8	7.7	7.7		
	O2 ppm 9.4	9.9	9.9	10.2	9.7		
	Cond. 350				350		
	Temp(C) 15.0	15.0	15.0	15.0	15.0		
25	pH 7.3	7.7	7.8	7.7	7.7		
	O2 ppm 9.6	10.0	10.0	10.1	9.7		
	Cond. 250				252		
	Temp(C) 15.0	15.0	15.0	15.0	15.0		
10	pH 7.3	7.7	7.9	7.8	7.7		
	O2 ppm 9.7	10.1	10.0	10.3	9.9		
	Cond. 202				205		
	Temp(C) 15.0	15.0	15.0	15.0	15.0		
1	pH 7.3	7.8	7.9	7.9	7.7		
	O2 ppm 9.8	10.3	10.2	10.2	10.0		
	Cond. 165				170		
	Temp(C) 15.0	15.0	15.5	15.0	15.0		
Control	pH 7.2	7.6	7.7	7.7	7.8		
	O2 ppm 9.9	10.0	9.5	9.5	9.9		
	Cond. 165				165		
	Temp(C) 15.0	15.0	15.5	15.0	15.0		
Control	pH 7.2	7.8	7.8	7.8	7.9		
	O2 ppm 9.8	10.2	9.8	10.2	10.2		
	Cond. 165				162		
	Temp(C) 15.0	15.0	15.0	15.0	15.0		

TOXICITY TEST REPORT Sample: 05890090

TEST CONDITIONS

Company : Novacor Chemicals Ltd.
Mooretown, ONT
(380105)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : Pollutech
Sampling Method : grab
Sampled By : C. Ferguson
Date Collected : 10/30/89
Received : 10/30/89
Tested : 10/31/89 at: 1400

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	19:00	44:30	68:00	96:30	%	%
100	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890090

TEST CONC. %
E L A P S E D T I M E
00:00 19:00 44:30 68:00 96:30

100	pH	8.3	7.5	7.5	7.4	7.4
	O2 ppm	9.2	7.1	6.4	6.1	6.1
	Cond.	373				370
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	7.7	7.5	7.5	7.4	7.4
	O2 ppm	9.0	7.2	7.4	7.0	7.2
	Cond.	322				320
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	7.4	7.4	7.4	7.4	7.4
	O2 ppm	8.9	7.3	7.4	7.2	7.2
	Cond.	290				290
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.2	7.4	7.4	7.4	7.4
	O2 ppm	8.8	7.2	7.0	6.6	6.8
	Cond.	220				228
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.1	7.4	7.4	7.4	7.5
	O2 ppm	8.8	7.9	7.8	7.6	7.6
	Cond.	194				200
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.1	7.4	7.4	7.4	7.5
	O2 ppm	8.7	7.9	6.6	6.6	7.2
	Cond.	170				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.0	7.3	7.5	7.5	7.5
	O2 ppm	8.5	7.4	8.7	8.7	8.4
	Cond.	170				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.0	7.2	7.4	7.4	7.5
	O2 ppm	8.6	8.4	7.9	7.9	8.4
	Cond.	170				181
	Temp(C)	15.0	15.0	15.0	15.0	15.0

COMPANY: Novacor Chemicals Ltd., Mooretown
(380105)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

The data for five trout bioassays, conducted on combined effluent discharge samples collected between October 1989 and March 1990, were provided by Novacor Chemicals Limited. All five combined effluent samples were determined to have been non-acutely lethal to test fish.

combined effluent

05890090 sampled: 10/30/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890109 sampled: 11/15/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900002 sampled: 01/03/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900021 sampled: 01/24/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900046 sampled: 02/21/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900064 sampled: 03/21/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

storm water

emergency overflow

storm water

TOXICITY TEST REPORT Sample: 06900350

TEST CONDITIONS

Company : Morbern Inc.
Cornwall, ONT
(12580007)
Region : Southeast
Industry : Organic Chemical
Control point : OTCW, (200)
Laboratory : BEAK
Sampling Method : GRAB
Sampled By : D. JULIEN
Date Collected : 03/06/90
Received : 03/07/90
Tested : 03/07/90 at: 1400

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
65	0	0	0
50	0	0	0
30	0	0	0
20	0	0	0
10	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : UNSEASONABLE WARM TEMP RESULTED IN ELEVATION

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 06900350

TEST ELAPSED TIME
CONC. % 00:00 24:00 48:00

100	pH 8.0	8.1	8.1
	O2 ppm 9.7	9.7	8.2
	Cond. 336	336	351
	Temp(C) 21.0	22.0	22.0
65	pH 8.1	8.2	8.2
	O2 ppm 9.5	7.8	7.8
	Cond. 363	376	376
	Temp(C) 21.0	22.0	22.0
50	pH 8.1	8.2	8.2
	O2 ppm 9.1	7.9	7.9
	Cond. 376	389	389
	Temp(C) 21.0	22.0	22.0
30	pH 8.2	8.2	8.2
	O2 ppm 8.6	8.3	8.3
	Cond. 392	404	404
	Temp(C) 21.0	22.0	22.0
20	pH 8.2	8.2	8.2
	O2 ppm 8.1	8.2	8.2
	Cond. 400	412	412
	Temp(C) 21.0	22.0	22.0
10	pH 8.3	8.2	8.2
	O2 ppm 8.6	7.8	7.8
	Cond. 407	416	416
	Temp(C) 21.0	22.0	22.0
Control	pH 8.3	8.2	8.2
	O2 ppm 8.1	7.0	7.0
	Cond. 412	418	418
	Temp(C) 21.0	22.0	22.0

TOXICITY TEST REPORT Sample: 06900352

TEST CONDITIONS

Company : Morbern Inc.
 : Cornwall, ONT
 : (12580007)
 Region : Southeast
 Industry : Organic Chemical
 Control point : OTCW, (100)
 Laboratory : BEAK
 : GRAB
 : D. JULIEN
 : D. JULIEN
 : 03/06/90
 : 03/07/90
 : 03/07/90 at: 1330
 : Tested

Type of Bioassay : STATIC
 : (Daphnia magna Acute Lethality Toxicity
 : Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00 24:00 48:00		%
100	0	0	0
65	0	0	0
50	0	0	0
30	0	0	0
20	0	0	0
10	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : UNSEASONABLE WARM TEMPERATURES TEMP ELEVATED

TOXICITY TEST PARAMETERS

Sample Number: 06900352

TEST CONC. % E L A P S E D T I M E
 00:00 24:00 48:00

100	pH 8.0	8.2
	O2 ppm 9.9	8.2
	Cond. 339	350
	Temp(C) 21.0	22.0 22.0
65	pH 8.1	8.2
	O2 ppm 8.5	7.9
	Cond. 367	378
	Temp(C) 21.0	22.0 22.0
50	pH 8.1	8.2
	O2 ppm 8.6	7.6
	Cond. 379	390
	Temp(C) 21.0	22.0 22.0
30	pH 8.2	8.2
	O2 ppm 8.2	7.6
	Cond. 395	405
	Temp(C) 21.0	22.0 22.0
20	pH 8.2	8.2
	O2 ppm 8.8	7.5
	Cond. 402	412
	Temp(C) 21.0	22.0 22.0
10	pH 8.2	8.2
	O2 ppm 8.6	7.5
	Cond. 411	420
	Temp(C) 21.0	22.0 22.0
Control	pH 8.3	8.2
	O2 ppm 8.1	7.0
	Cond. 412	418
	Temp(C) 21.0	22.0 22.0

COMPANY: Morbern Inc., Cornwall
(12580007)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

Morbern Inc. of Cornwall commenced the monitoring regulations on February 1 1990, and therefore have only submitted data for two Daphnia magna acute lethality toxicity tests. Both samples from once through cooling water outfalls #100 and 200 were not acutely lethal to Daphnia.

OTCW

06900352 sampled: 03/06/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: UNSEASONABLE WARM TEMPERATURES TEMP ELEVATED

OTCW

06900350 sampled: 03/06/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: UNSEASONABLE WARM TEMP RESULTED IN ELEVATION

MISA Trout

TOXICITY TEST REPORT Sample: 06900351

TEST CONDITIONS

Company : Morbern Inc.
Cornwall, ONT
(12580007)
Region : Southeast
Industry : Organic Chemical
Control point : OTCW, (200)
Laboratory : BEAK
Sampling Method : GRAB
Sampled By : D. JULIEN
Date Collected : 03/06/90
Received : 03/07/90
Tested : 03/07/90 at: 1330

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
50	0	0	0	0	0	0
30	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06900351

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00

100	pH	8.0	8.2	8.1	8.2	8.1
	O2 ppm	9.9	9.7	9.2	10.6	9.7
	Cond.	343				341
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	7.9	8.2	8.1	8.2	8.1
	O2 ppm	9.8	9.8	8.7	10.2	9.8
	Cond.	366				367
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	7.9	8.1	8.1	8.1	7.9
	O2 ppm	9.7	9.7	8.8	10.2	9.3
	Cond.	376				380
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	7.9	8.0	8.0	8.0	7.8
	O2 ppm	9.6	9.8	8.7	10.2	9.3
	Cond.	389				398
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	7.8	8.0	7.9	8.1	8.0
	O2 ppm	9.6	9.6	9.0	10.4	9.4
	Cond.	396				404
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.8	8.0	7.9	8.0	7.9
	O2 ppm	9.4	9.6	8.4	10.6	9.4
	Cond.	399				411
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	8.0	8.1	8.1	7.9	7.8
	O2 ppm	9.0	9.1	8.9	10.4	9.6
	Cond.	413				398
	Temp(C)	15.0	15.0	15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 06900349

TEST CONDITIONS

Company : Morbern Inc.
 : Cornwall, ONT
 : (12580007)
 Region : Southeast
 Industry : Organic Chemical
 Control point : OTCW, (100)
 Laboratory : BEAK
 Sampling Method : GRAB
 Sampled By : D. JULIEN
 Date Collected : 03/06/90
 Received : 03/07/90
 Tested : 03/07/90 at: 1330

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
65	0	0	0	0	0
50	0	0	0	0	0
30	0	0	0	0	0
20	0	0	0	0	0
10	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

TOXICITY TEST PARAMETERS

Sample Number: 06900349

TEST CONC. %	E L A P S E D T I M E					
	00:00	24:00	48:00	72:00	96:00	
100	pH	7.9	8.2	8.1	8.2	8.1
	O2 ppm	9.9	9.8	9.1	10.6	9.5
	Cond.	346				343
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	7.9	8.2	8.0	8.1	8.0
	O2 ppm	10.0	10.1	9.2	10.4	9.8
	Cond.	367				369
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	7.9	8.2	8.1	8.2	8.1
	O2 ppm	9.8	9.8	9.3	10.6	9.6
	Cond.	377				382
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	7.8	8.1	8.1	8.1	8.0
	O2 ppm	9.7	9.7	9.1	10.6	9.5
	Cond.	389				395
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	7.8	8.1	8.1	8.2	8.1
	O2 ppm	9.6	9.8	8.8	10.4	9.8
	Cond.	396				403
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.7	8.0	8.0	8.1	8.0
	O2 ppm	9.5	9.6	8.0	10.2	9.7
	Cond.	394				414
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	8.0	8.1	8.1	7.9	7.8
	O2 ppm	9.0	9.1	9.2	10.4	9.6
	Cond.	413				398
	Temp(C)	15.0	15.0	15.0	15.0	15.0

COMPANY: Morbern Inc., Cornwall
(12580007)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

The data for two trout bioassays, conducted on once through cooling water samples collected between October 1989 and March 1990, were provided by Morbern Incorporated. Both samples of cooling water were determined to have been non-acutely lethal to test fish. Morbern commenced monitoring on February 1, 1990.

OTCW

06900349 sampled: 03/06/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

OTCW

06900351 sampled: 03/06/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

COMPANY: Guardsman Products Ltd., Cornwall
(122470008)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

Guardsman Products Ltd. of Cornwall commenced the monitoring regulations on February 1, 1990, therefore there is no data for review at this time.

OTCW

OTCW

COMPANY: Guardsman Products Ltd., Cornwall
(122470008)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

The initiation of acute toxicity monitoring by Guardsman Products Ltd. began on February 1, 1990, therefore no data has been submitted for the period between October 1989 and March 1990.

OTCW

OTCW

TOXICITY TEST REPORT Sample: 069000032

TEST CONDITIONS

Company : GE Plastics Canada Ltd.
 : Cobourg, ONT
 : (600007)
 Region : Central
 Industry : Organic Chemical
 Control point : OT cooling water, (400)
 Laboratory : BEAK
 Sampling Method : GRAB
 Sampled By : PAUL HARTOTT
 Date Collected : 01/09/90
 Received : 01/10/90
 Tested : 01/10/90 at: 1510

Type of Bioassay : STATIC
 : (Daphnia magna Acute Lethality Toxicity
 : Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
Control	0	0	0
10	0	0	0
20	0	0	0
30	0	0	10
50	0	8	100
65	0	10	100
100	0	10	100

48 Hour LC50 : 37.0 %

95% fid. limits : 40.4 - 33.9 %

Comments : 100% MORTALITY IN 50% CONCENTRATION.

TOXICITY TEST PARAMETERS

Sample Number: 069000032

TEST CONC. % E L A P S E D T I M E
 : 00:00 24:00 48:00

Control	pH	8.1	8.2	
	O2 ppm	8.8	8.4	
	Cond.	379	377	
	Temp(C)	20.0	21.0	21.0
10	pH	8.2	8.2	
	O2 ppm	9.2	8.4	
	Cond.	385	382	
	Temp(C)	20.0	21.0	21.0
20	pH	8.2	8.2	
	O2 ppm	9.1	8.5	
	Cond.	378	381	
	Temp(C)	20.0	21.0	21.0
30	pH	8.2	8.2	
	O2 ppm	9.2	8.4	
	Cond.	374	380	
	Temp(C)	20.0	21.0	21.0
50	pH	8.1	8.1	
	O2 ppm	9.4	8.3	
	Cond.	368	377	
	Temp(C)	20.0	21.0	21.0
65	pH	8.1	8.1	
	O2 ppm	9.4	8.4	
	Cond.	363	373	
	Temp(C)	20.0	21.0	21.0
100	pH	8.0	8.1	
	O2 ppm	9.5	8.0	
	Cond.	356	368	
	Temp(C)	20.0	21.0	21.0

TOXICITY TEST REPORT Sample: 06891148

TEST CONDITIONSCompany : GE Plastics Canada Ltd.
Cobourg, ONT
(600007)Region : Central
Industry : Organic Chemical

Control point : OT cooling water, (400)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : PAUL HERRIOT
Date Collected : 11/27/89
Received : 11/28/89 at: 1730
Tested : 11/28/89Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)Test Animal : D. magna
Weight(gm) :
Length(mm) :MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00	48:00
Control	0	0	0
10	0	0	1
20	0	0	2
30	0	6	8
50	0	7	9
65	0	7	10
100	0	10	10

48 Hour LC50 : 23.4 %

95% fid. limits : 17.0 - 29.5 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 06891148

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

Control	pH	7.8	7.8	7.8
	O2 ppm	8.7	7.9	7.9
	Cond.	360	394	394
	Temp(C)	20.0	20.0	20.0
10	pH	7.8	8.0	8.0
	O2 ppm	8.7	8.4	8.4
	Cond.	367	396	396
	Temp(C)	20.0	20.0	20.0
20	pH	7.8	8.0	8.0
	O2 ppm	8.6	7.8	7.8
	Cond.	368	400	400
	Temp(C)	20.0	20.0	20.0
30	pH	7.7	8.0	8.0
	O2 ppm	9.1	7.7	7.7
	Cond.	368	402	402
	Temp(C)	20.0	20.0	20.0
50	pH	7.6	7.9	7.9
	O2 ppm	8.8	7.3	7.3
	Cond.	368	404	404
	Temp(C)	20.0	20.0	20.0
65	pH	7.5	7.8	7.8
	O2 ppm	8.8	6.9	6.9
	Cond.	368	406	406
	Temp(C)	20.0	20.0	20.0
100	pH	7.4	7.8	7.8
	O2 ppm	8.3	6.4	6.4
	Cond.	371	412	412
	Temp(C)	20.0	20.0	20.0

TOXICITY TEST REPORT Sample: 06900389

TEST CONDITIONS

Company : GE Plastics Canada Ltd.
Cobourg, ONT
(600007)
Region : Central
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : BEAK
Sampling Method : GRAB
Sampled By : P. HERRIOT
Date Collected : 03/13/90
Received : 03/14/90 at: 1420
Tested : 03/14/90

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
65	0	0	0
50	0	0	0
30	0	0	0
20	0	0	0
10	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : UNSEASONABLE WARM TEMP RESULTED IN ELEVATION

TOXICITY TEST PARAMETERS

Sample Number: 06900389

TEST CONC. %	E L A P S E D T I M E	
	00:00	24:00 48:00
100	pH 7.9 O2 ppm 7.1 Cond. 3070 Temp(C) 21.0	8.1 5.4 2830 22.0
65	pH 7.9 O2 ppm 7.1 Cond. 2190 Temp(C) 21.0	8.2 5.5 1971 22.0
50	pH 7.9 O2 ppm 7.5 Cond. 1833 Temp(C) 21.0	8.1 5.8 1663 22.0
30	pH 7.9 O2 ppm 7.3 Cond. 1773 Temp(C) 21.0	8.2 6.5 1612 22.0
20	pH 8.0 O2 ppm 7.8 Cond. 994 Temp(C) 21.0	8.2 7.2 903 22.0
10	pH 8.0 O2 ppm 7.5 Cond. 688 Temp(C) 21.0	8.1 7.4 648 22.0
Control	pH 8.1 O2 ppm 8.2 Cond. 426 Temp(C) 21.0	8.0 7.4 433 22.0

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST REPORT Sample: 06900266

TEST CONDITIONS

Company : GE Plastics Canada Ltd.
Cobourg, ONT
(600007)
Region : Central
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : BEAK
Sampling Method : GRAB
Sampled By : PAUL HERRIOT
Date Collected : 02/13/90
Received : 02/14/90
Tested : 02/14/90 at: 1700

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
65	0	0	0
50	0	0	0
30	0	0	0
20	0	0	0
10	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

TOXICITY TEST PARAMETERS

Sample Number: 06900266

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 7.9 O2 ppm 8.3 Cond. 2610 Temp(C) 21.0	7.9 8.3 2490 21.0	7.9 3.0 21.0
65	pH 7.9 O2 ppm 7.9 Cond. 1820 Temp(C) 21.0	7.9 7.9 1746 21.0	7.9 4.8 21.0
50	pH 7.9 O2 ppm 7.9 Cond. 1512 Temp(C) 21.0	7.9 7.9 1477 21.0	8.1 6.5 21.0
30	pH 8.0 O2 ppm 8.4 Cond. 1087 Temp(C) 21.0	8.0 8.4 1072 21.0	8.2 7.2 21.0
20	pH 8.0 O2 ppm 8.0 Cond. 870 Temp(C) 21.0	8.0 8.0 858 21.0	8.2 6.9 21.0
10	pH 8.1 O2 ppm 8.2 Cond. 597 Temp(C) 21.0	8.1 8.2 602 21.0	8.2 7.7 21.0
Control	pH 8.2 O2 ppm 8.4 Cond. 396 Temp(C) 21.0	8.2 8.4 397 21.0	7.9 7.4 21.0

TOXICITY TEST REPORT Sample: 06900030

TEST CONDITIONS

Company : GE Plastics Canada Ltd.
Cobourg, ONT
(600007)
Region : Central
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : BEAK
Sampling Method : GRAB
Sampled By : PAUL HARTOTT
Date Collected : 01/09/90
Received : 01/10/90
Tested : 01/10/90 at: 1515

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol, OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00	48:00
Control	0	0	0
10	0	0	0
20	0	0	0
30	0	0	0
50	0	0	0
65	0	0	0
100	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS

TOXICITY TEST PARAMETERS

Sample Number: 06900030

TEST E L A P S E D T I M E
CONC. % 00:00 24:00 48:00

Control	pH	8.1	8.2
	02 ppm	8.8	8.4
	Cond.	379	377
	Temp(C)	20.0	21.0
10	pH	8.0	8.3
	02 ppm	8.8	8.5
	Cond.	621	617
	Temp(C)	20.0	21.0
20	pH	8.0	8.2
	02 ppm	8.8	8.2
	Cond.	854	856
	Temp(C)	20.0	21.0
30	pH	7.9	8.2
	02 ppm	8.7	8.0
	Cond.	1063	1058
	Temp(C)	20.0	21.0
50	pH	7.8	8.2
	02 ppm	8.5	7.6
	Cond.	1465	1441
	Temp(C)	20.0	21.0
65	pH	7.8	8.2
	02 ppm	8.4	7.5
	Cond.	1762	1733
	Temp(C)	20.0	21.0
100	pH	7.8	8.1
	02 ppm	8.4	6.6
	Cond.	2460	2480
	Temp(C)	20.0	21.0

TOXICITY TEST REPORT Sample: 06891273

TEST CONDITIONS

Company : GE Plastics Canada Ltd.
Cobourg, ONT
(600007)
Region : Central
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : BEAK
Sampling Method : GRAB
Sampled By : PAUL HERRIOT
Date Collected : 12/12/89
Received : 12/13/89
Tested : 12/13/89 at: 1730

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol, OHE, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
Control	0	0	0
10	0	0	0
20	0	0	0
30	0	0	0
50	0	0	0
65	0	0	0
100	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 06891273

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

Control	pH	8.1	8.1	8.1
	O2 ppm	8.9	8.6	8.6
	Cond.	377	385	385
	Temp(C)	20.0	20.0	20.0
10	pH	8.0	8.1	8.1
	O2 ppm	9.0	8.6	8.6
	Cond.	612	596	596
	Temp(C)	20.0	20.0	20.0
20	pH	7.9	8.2	8.2
	O2 ppm	8.8	8.5	8.5
	Cond.	889	887	887
	Temp(C)	20.0	20.0	20.0
30	pH	7.9	8.2	8.2
	O2 ppm	8.7	8.3	8.3
	Cond.	1077	1029	1029
	Temp(C)	20.0	20.0	20.0
50	pH	7.8	8.3	8.3
	O2 ppm	8.7	7.9	7.9
	Cond.	1492	1509	1509
	Temp(C)	20.0	20.0	20.0
65	pH	7.8	8.2	8.2
	O2 ppm	8.5	7.9	7.9
	Cond.	1787	1769	1769
	Temp(C)	20.0	20.0	20.0
100	pH	7.7	8.1	8.1
	O2 ppm	8.7	7.7	7.7
	Cond.	2560	2460	2460
	Temp(C)	20.0	20.0	20.0

TOXICITY TEST REPORT Sample: 06891085

TEST CONDITIONS

Company : GE Plastics Canada Ltd.
 Cobourg, ONT
 (600007)
Region : Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : PAUL HERRIOT
Date Collected : 11/14/89
Received : 11/15/89
Tested : 11/15/89 at: 1425

Type of Bioassay : STATIC
 (Daphnia magna Acute Lethality Toxicity
 Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
Control	0	0	0
10	0	0	0
20	0	0	0
30	0	0	0
50	0	0	0
65	0	0	0
100	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 06891085

TEST CONC. %	E L A P S E D T I M E	
	00:00	24:00 48:00
Control	pH 8.2 O2 ppm 8.4 Cond. 365 Temp(C) 20.0	8.2 8.7 360 20.0
10	pH 8.1 O2 ppm 8.5 Cond. 577 Temp(C) 20.0	8.1 8.4 557 20.0
20	pH 7.9 O2 ppm 8.5 Cond. 808 Temp(C) 20.0	8.0 7.8 740 20.0
30	pH 7.8 O2 ppm 8.7 Cond. 1057 Temp(C) 20.0	8.0 7.5 971 20.0
50	pH 7.7 O2 ppm 8.6 Cond. 1414 Temp(C) 20.0	7.9 6.6 1265 20.0
65	pH 7.6 O2 ppm 8.9 Cond. 1703 Temp(C) 20.0	7.8 5.7 1619 20.0
100	pH 7.5 O2 ppm 8.7 Cond. 2160 Temp(C) 20.0	7.6 3.4 2070 20.0

TOXICITY TEST REPORT

Sample: 06890989

TEST CONDITIONS

Company : GE Plastics Canada Ltd.

Cobourg, ONT

(600007)

Region : Central

Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BEAK

Sampling Method : GRAB

Sampled By : ROB EAKINS

Date Collected : 10/10/89

Received : 10/10/89

Tested : 10/10/89 at: 1740

Type of Bioassay

: STATIC.
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal

: D. magna

Weight(gm)

Length(mm)

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:40	24:00	48:00
100	0	0	0
65	0	0	0
50	0	0	0
30	0	0	0
20	0	0	0
10	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :

LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 06890989

TEST CONC.	E L A P S E D T I M E	
%	00:40	24:00
100	6.9	7.1
	7.5	7.7
	2280	2301
	20.0	20.0
	20.0	20.0

65	pH	7.3	7.6
	O2 ppm	7.8	8.2
	Cond.	1672	1663
	Temp(C)	20.0	20.0

50	pH	7.5	7.7
	O2 ppm	8.0	8.1
	Cond.	1416	1424
	Temp(C)	20.0	20.0

30	pH	7.9	7.9
	O2 ppm	8.4	8.3
	Cond.	998	1008
	Temp(C)	20.0	20.0

20	pH	8.0	8.0
	O2 ppm	8.6	8.4
	Cond.	828	838
	Temp(C)	20.0	20.0

10	pH	8.1	8.1
	O2 ppm	8.7	8.6
	Cond.	598	598
	Temp(C)	20.0	20.0

Control	pH	8.2	8.1
	O2 ppm	8.7	8.5
	Cond.	356	374
	Temp(C)	20.0	20.0

GE Plastics Canada Ltd. (continued)

OT cooling water

06891148 sampled: 11/27/89 LC50: 23.4 %
95% fid. limits: 17.0 - 29.5 % slope: 4.5
comments:

06900032 sampled: 01/09/90 LC50: 37.0 %
95% fid. limits: 40.4 - 33.9 %
comments: 100% MORTALITY IN 50% CONCENTRATION.

intake water

COMPANY: GE Plastics Canada Ltd., Cobourg
(600007)
SECTOR: Organic Chemical
REGION: Central

SUMMARY

Data for eight *Daphnia magna* acute lethality toxicity tests conducted on samples of once through cooling water and combined effluent were submitted by G.E. Plastics Canada Ltd. of Cobourg.

The two samples of once through cooling water were toxic to *Daphnia* with LC50 values 23.4 and 37%.

The six samples of combined effluent tested by the company were not acutely lethal to *Daphnia*.

combined effluent

06890989	sampled: 10/10/89	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		
06891085	sampled: 11/14/89	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		
06891273	sampled: 12/12/89	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		
06900030	sampled: 01/09/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS	
06900266	sampled: 02/13/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	NO MORTALITY OR IMMOBILITY OBSERVED IN 48 HRS	
06900389	sampled: 03/13/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	UNSEASONABLE WARM TEMP RESULTED IN ELEVATION	

storm water

storm water

TOXICITY TEST REPORT Sample: 06900031

TEST CONDITIONS

Company : GE Plastics Canada Ltd.
Cobourg, ONT
(600007)
Region : Central
Industry : Organic Chemical
Control point : OT cooling water, (400)
Laboratory : BEAK
Sampling Method : GRAB
Sampled By : PAUL HARTOTT
Date Collected : 01/09/90
Received : 01/10/90
Tested : 01/10/90 at: 1430

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
30	0	0	0	0	0	0
50	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

TOXICITY TEST PARAMETERS

Sample Number: 06900031

TEST CONC. %		E L A P S E D T I M E				
		00:00	24:00	48:00	72:00	96:00
Control	pH	7.4	7.7	7.7	7.7	7.6
	O2 ppm	8.9	8.4	9.2	10.1	9.0
	Cond.	363				362
10	Temp(C)	15.0	15.0	15.0	15.0	15.0
	pH	7.5	7.8	7.6	7.6	7.6
	O2 ppm	9.0	9.0	9.4	9.7	9.4
20	Cond.	361				367
	Temp(C)	15.0	15.0	15.0	15.0	15.0
	pH	7.6	7.8	7.7	7.6	7.6
30	O2 ppm	9.2	9.3	9.6	9.8	9.5
	Cond.	360				366
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	7.7	7.9	7.8	7.6	7.6
	O2 ppm	9.4	9.7	9.5	9.9	9.7
	Cond.	358				362
65	Temp(C)	15.0	15.0	15.0	15.0	15.0
	pH	7.7	7.9	7.7	7.7	7.6
	O2 ppm	9.7	9.7	9.4	9.8	9.9
100	Cond.	356				360
	Temp(C)	15.0	15.0	15.0	15.0	15.0
	pH	7.8	7.9	7.8	7.7	7.8
100	O2 ppm	9.7	9.7	9.6	9.9	9.9
	Cond.	354				356
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	7.8	8.0	7.8	7.7	7.9
	O2 ppm	9.6	9.6	9.5	10.1	9.9
	Cond.	351				345
100	Temp(C)	15.0	15.0	15.0	15.0	15.0
	pH	7.8	8.0	7.8	7.7	7.9
	O2 ppm	9.6	9.6	9.5	10.1	9.9
100	Cond.	351				345
	Temp(C)	15.0	15.0	15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 06891147

TEST CONDITIONS

Company : GE Plastics Canada Ltd.
Cobourg, ONT
(600007)
Region : Central
Industry : Organic Chemical
Control point : OT cooling water, (400)
Laboratory : BEAK
Sampling Method : GRAB
Sampled By : PAUL HERRIOT
Date Collected : 11/27/89
Received : 11/28/89
Tested : 11/28/89 at: 1530

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
30	0	0	0	0	0	0
50	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve : MOVING AVERAGE
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 06891147

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00 72:00 96:00

Control	pH	7.6	7.9	7.9	7.8	7.8
	O2 ppm	8.9	9.1	9.3	9.6	9.0
	Cond.	360				361
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.4	7.7	7.8	7.7	7.7
	O2 ppm	8.9	8.3	8.6	8.9	8.7
	Cond.	377				371
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	7.4	7.8	7.9	7.8	7.8
	O2 ppm	9.3	9.3	8.9	9.2	8.7
	Cond.	377				379
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	7.4	7.8	7.9	7.7	7.7
	O2 ppm	8.8	8.7	8.4	8.9	8.9
	Cond.	379				379
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	7.9	7.8	7.8	7.7	7.7
	O2 ppm	8.8	8.3	8.2	8.8	8.7
	Cond.	386				382
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	7.4	7.7	8.0	7.7	7.7
	O2 ppm	9.1	8.7	8.8	9.1	8.7
	Cond.	390				381
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	7.4	7.7	8.0	7.8	7.8
	O2 ppm	9.1	9.1	8.5	8.5	8.8
	Cond.	399				382
	Temp(C)	15.0	15.0	15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 06900388

TEST CONDITIONS

Company : GE Plastics Canada Ltd.
Cobourg, ONT
(600007)
Region : Central
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : BEAK
Sampling Method : GRAB
Sampled By : P. HERRIOT
Date Collected : 03/13/90
Received : 03/14/90
Tested : 03/14/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	10	10	10	100
65	0	10	10	10	100
50	0	10	10	10	100
30	0	10	10	10	100
20	0	5	6	8	9
10	0	0	0	0	1
Control	0	0	0	0	0

96 Hour LC50 : 14.1 %

95% fid. limits : 10.3 - 17.2 %

Comments : 90% MORTALITY IN 20% TEST CONCENTRATION

TOXICITY TEST PARAMETERS

Sample Number: 06900388

TEST CONC. % E L A P S E D T I M E
00:00 24:00 48:00 72:00 96:00

100	pH 8.1 8.4 O2 ppm 8.0 8.2 Cond. 3070 2920 Temp(C) 15.0 15.0
65	pH 8.0 8.3 O2 ppm 8.3 9.2 Cond. 2180 2070 Temp(C) 15.0 15.0
50	pH 8.0 8.3 O2 ppm 8.7 8.4 Cond. 1609 1584 Temp(C) 15.0 15.0
30	pH 7.9 8.2 O2 ppm 8.5 8.8 Cond. 1104 1124 Temp(C) 15.0 15.0
20	pH 8.0 8.1 8.2 8.4 8.3 O2 ppm 8.9 8.7 9.3 8.5 9.5 Cond. 880 882 Temp(C) 15.0 15.0 15.0 15.0 14.0
10	pH 7.9 8.1 7.9 8.2 8.1 O2 ppm 8.6 8.3 9.2 8.2 8.4 Cond. 596 642 Temp(C) 15.0 15.0 15.0 15.0 14.0
Control	pH 8.0 8.0 7.9 7.9 8.0 O2 ppm 8.9 8.6 9.1 8.1 9.2 Cond. 369 392 Temp(C) 15.0 15.0 15.0 15.0 14.0

MISA Trout

TOXICITY TEST REPORT Sample: 06900265

TEST CONDITIONS

Company : GE Plastics Canada Ltd.
Cobourg, ONT
(600007)
Region : Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BEAK
Sampling Method : GRAB
Sampled By : PAUL HERRIOT
Date Collected : 02/13/90
Received : 02/14/90
Tested : 02/14/90 at: 1630

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	10	10	10	10	100
65	0	10	10	10	10	100
50	0	10	10	10	10	100
30	0	3	5	6	7	70
20	0	0	0	0	0	0
10	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : 28.1 %

95% fid. limits : 24.6 - 32.1 %

Comments : 70% MORTALITY IN 30% TEST CONCENTRATION

SLOPE of Mortality Curve : SPEARMAN-KARBER
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 06900265

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00 72:00 96:00

100	pH 8.0 8.2 O2 ppm 8.4 8.4 Cond. 2560 2570 Temp(C) 15.0 15.0				
65	pH 8.0 8.3 O2 ppm 9.6 9.0 Cond. 1773 1834 Temp(C) 15.0 15.0				
50	pH 7.9 8.3 O2 ppm 9.4 9.0 Cond. 1444 1448 Temp(C) 15.0 15.0				
30	pH 7.9 8.4 8.5 8.5 O2 ppm 9.5 9.1 8.9 9.7 Cond. 1044 1108 Temp(C) 15.0 15.0 15.0 15.0				
20	pH 7.8 8.4 8.5 8.2 O2 ppm 9.4 9.1 8.8 8.7 Cond. 837 892 Temp(C) 15.0 15.0 15.0 15.0				
10	pH 7.6 8.4 8.3 8.3 O2 ppm 9.2 9.2 8.6 8.8 Cond. 604 652 Temp(C) 15.0 15.0 15.0 15.0				
Control	pH 7.8 8.0 8.1 8.0 O2 ppm 9.4 9.2 9.3 8.7 Cond. 388 398 Temp(C) 15.0 15.0 15.0 15.0				

TOXICITY TEST REPORT Sample: 06900029

TEST CONDITIONS

Company : GE Plastics Canada Ltd.
Cobourg, ONT
(600007)
Region : Central
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : BEAK
Sampling Method : GRAB
Sampled By : PAUL HARTOTT
Date Collected : 01/09/90
Received : 01/10/90
Tested : 01/10/90 at: 1430

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
30	0	0	0	0	0	0
50	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	10	10	10	10	100

96 Hour LC50 : 80.6 %

95% fid. limits : 100.0 - 65.0 %

Comments : 100% MORTALITY IN FULL STRENGTH EFFLUENT.

TOXICITY TEST PARAMETERS

Sample Number: 06900029

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00

Control	pH	7.4	7.7	7.7	7.7	7.6
	02 ppm	8.9	8.4	9.2	10.1	9.0
	Cond.	363				362
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.7	7.7	7.7	7.6	7.5
	02 ppm	9.5	8.6	9.4	9.2	8.0
	Cond.	560				548
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	7.7	7.8	7.8	7.6	7.8
	02 ppm	9.8	8.6	9.3	8.9	9.0
	Cond.	775				776
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	7.7	7.7	7.8	7.5	7.6
	02 ppm	9.7	8.7	9.4	8.7	9.3
	Cond.	951				985
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	7.7	7.9	7.7	7.7	7.6
	02 ppm	9.8	8.8	9.5	8.4	9.5
	Cond.	1315				1290
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	7.8	8.0	7.8	7.8	7.7
	02 ppm	9.8	8.7	9.6	8.2	9.6
	Cond.	1624				1710
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	7.7	8.0			
	02 ppm	8.9	8.5			
	Cond.	2360	2490			
	Temp(C)	15.0	15.0			

HISA Trout

TOXICITY TEST REPORT

Sample: 06891272

TEST CONDITIONS

Company : GE Plastics Canada Ltd.
 Cobourg, ONT
 (600007)
 Region : Central
 Industry : Organic Chemical
 Control point : combined effluent, (100)
 Laboratory : BEAK
 Sampling Method : GRAB
 Sampled By : PAUL HERRIOT
 Date Collected : 12/12/89
 Received : 12/13/89
 Tested : 12/13/89 at: 1715

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
30	0	1	1	1	1	10
50	0	10	10	10	10	100
65	0	10	10	10	10	100
100	0	10	10	10	10	100

96 Hour LC50 : 37.0 %

95% fid. limits : 33.9 - 40.3 %

Comments :

SLOPE of Mortality Curve :
 LC50 Calculated By : SPEARMAN-KARBER

TOXICITY TEST PARAMETERS

Sample Number: 06891272

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
Control	pH 7.8 O2 ppm 9.5 Cond. 358 Temp(C) 15.0	7.9 7.9 8.4 8.4 9.2 9.2 15.0 15.0	7.9 7.9 8.4 8.4 9.2 9.2 15.0 15.0	8.0 8.0 8.9 8.9 9.0 9.0 15.0 15.0	8.0 8.0 9.0 9.0 9.0 9.0 15.0 15.0
10	pH 7.8 O2 ppm 9.3 Cond. 550 Temp(C) 15.0	8.1 8.1 8.2 8.2 8.7 8.7 15.0 15.0	8.1 8.1 8.7 8.7 8.9 8.9 15.0 15.0	8.1 8.1 8.9 8.9 8.7 8.7 15.0 15.0	8.1 8.1 8.7 8.7 8.7 8.7 15.0 15.0
20	pH 7.8 O2 ppm 8.9 Cond. 773 Temp(C) 15.0	8.2 8.2 8.8 8.8 8.6 8.6 15.0 15.0	8.2 8.2 8.6 8.6 8.9 8.9 15.0 15.0	8.2 8.2 8.9 8.9 8.9 8.9 15.0 15.0	8.2 8.2 8.9 8.9 8.9 8.9 15.0 15.0
30	pH 7.8 O2 ppm 9.1 Cond. 1020 Temp(C) 15.0	8.2 8.2 8.8 8.8 8.7 8.7 15.0 15.0	8.2 8.2 8.7 8.7 8.7 8.7 15.0 15.0	8.2 8.2 8.7 8.7 8.7 8.7 15.0 15.0	8.2 8.2 8.7 8.7 8.6 8.6 15.0 15.0
50	pH 7.9 O2 ppm 9.4 Cond. 1386 Temp(C) 15.0	8.4 8.4 9.3 9.3 1596 1596 15.0 15.0	8.4 8.4 9.3 9.3 1596 1596 15.0 15.0	8.4 8.4 9.3 9.3 1596 1596 15.0 15.0	8.4 8.4 9.3 9.3 1596 1596 15.0 15.0
65	pH 7.8 O2 ppm 8.8 Cond. 1643 Temp(C) 15.0	8.0 8.0 8.3 8.3 1890 1890 15.0 15.0	8.0 8.0 8.3 8.3 1890 1890 15.0 15.0	8.0 8.0 8.3 8.3 1890 1890 15.0 15.0	8.0 8.0 8.3 8.3 1890 1890 15.0 15.0
100	pH 7.8 O2 ppm 9.0 Cond. 2430 Temp(C) 15.0	8.1 8.1 8.8 8.8 2540 2540 15.0 15.0	8.1 8.1 8.8 8.8 2540 2540 15.0 15.0	8.1 8.1 8.8 8.8 2540 2540 15.0 15.0	8.1 8.1 8.8 8.8 2540 2540 15.0 15.0

TOXICITY TEST REPORT Sample: 06891084

TEST CONDITIONS

Company : GE Plastics Canada Ltd.
Cobourg, ONT
(600007)
Region : Central
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : BEAK
Sampling Method : GRAB
Sampled By : PAUL HERRIOT
Date Collected : 11/14/89
Received : 11/15/89
Tested : 11/15/89 at: 1430

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
30	0	0	0	0	0	0
50	0	3	3	4	4	40
65	0	10	10	10	10	100
100	0	10	10	10	10	100

96 Hour LC50 : 49.9 %

95% fid. limits : 43.7 - 56.9 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 06891084

TEST CONC.		E L A P S E D T I M E				
%		00:00	24:00	48:00	72:00	96:00
Control	pH	7.3	8.2	8.1	8.0	8.0
	O2 ppm	8.8	8.8	9.4	10.2	10.0
	Cond.	367				334
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.6	8.2	8.2	8.0	8.1
	O2 ppm	8.5	8.8	10.0	10.0	8.4
	Cond.	576				550
	Temp(C)	15.0	15.0	15.0	15.0	15.0
20	pH	7.6	8.3	8.2	8.0	8.2
	O2 ppm	9.3	8.7	10.4	10.0	8.9
	Cond.	816				801
	Temp(C)	15.0	15.0	15.0	15.0	15.0
30	pH	7.6	8.1	8.2	8.0	8.2
	O2 ppm	8.9	8.3	10.1	10.3	9.0
	Cond.	1013				979
	Temp(C)	15.0	15.0	15.0	15.0	15.0
50	pH	7.6	8.2	8.2	8.0	8.2
	O2 ppm	8.9	8.2	10.0	10.2	9.4
	Cond.	1431				1308
	Temp(C)	15.0	15.0	15.0	15.0	15.0
65	pH	7.6	8.2			
	O2 ppm	8.8	8.3			
	Cond.	1797				
	Temp(C)	15.0	15.0			
100	pH	7.5	7.9			
	O2 ppm	8.8	8.2			
	Cond.	2530				
	Temp(C)	15.0	15.0			

TOXICITY TEST REPORT Sample: 06890988

TEST CONDITIONS

Company : GE Plastics Canada Ltd.
 : Cobourg, ONT
 : (600007)
 Region : Central
 Industry : Organic Chemical
 Control point : combined effluent, (100)

Laboratory : BEAK
 Sampling Method : GRAB
 Sampled By : ROB EAKINS
 Date Collected : 10/10/89
 Received : 10/10/89
 Tested : 10/10/89 at: 1700

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
50	0	0	0	0	0	0
30	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
 LC50 Calculated By : MOVING AVERAGE

TOXICITY TEST PARAMETERS

Sample Number: 06890988

TEST CONC. % E L A P S E D T I M E
 00:00 24:00 48:00 72:00 96:00

100	pH 02 ppm Cond. Temp(C)	6.9 8.2 2400 15.0	7.4 9.2 9.4 15.0	7.5 9.2 9.2 15.0	7.8 9.0 2250 15.0
65	pH 02 ppm Cond. Temp(C)	7.2 8.4 1763 15.0	7.6 9.0 8.7 15.0	7.7 8.7 8.7 15.0	7.9 9.1 1724 15.0
50	pH 02 ppm Cond. Temp(C)	7.3 8.7 1442 15.0	7.8 9.0 9.0 15.0	7.9 9.0 9.7 15.0	7.9 9.2 1396 15.0
30	pH 02 ppm Cond. Temp(C)	7.4 8.9 1073 15.0	7.9 9.1 9.4 15.0	7.9 9.4 9.7 15.0	7.9 9.4 986 15.0
20	pH 02 ppm Cond. Temp(C)	7.4 9.1 849 15.0	7.7 9.0 9.2 15.0	7.8 9.2 8.9 15.0	7.9 9.3 802 15.0
10	pH 02 ppm Cond. Temp(C)	7.5 8.8 585 15.0	8.0 9.3 9.4 15.0	7.9 9.4 9.7 15.0	8.0 9.1 541 15.0
Control	pH 02 ppm Cond. Temp(C)	7.6 9.3 347 15.0	7.9 8.9 8.4 15.0	7.8 8.4 8.9 15.0	8.0 9.2 348 15.0

GE Plastics Canada Ltd. (continued)

storm water

storm water

OT cooling water

06891147 sampled: 11/27/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

06900031 sampled: 01/09/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: NO MORTALITY OR SUBLETHAL IMPAIRMENT OBSERVED

intake water

COMPANY: GE Plastics Canada Ltd., Cobourg
(600007)
SECTOR: Organic Chemical
REGION: Central

SUMMARY

The data for eight trout bioassays, conducted on combined effluent and once through cooling water samples collected between October 1989 and March 1990, were provided by GE Plastics Canada Limited. Five of the six combined effluent samples were determined to have been acutely lethal to test fish. Statistically, the percentage effluent required to kill 50 % of the test fish by the end of the four days exposure were 49.9 % (November), 37.0 % (December), 80.6 % (January), 28.1 % (February) and 14.1 % (March). The other two combined effluent samples were determined to have been non-acutely lethal. Two samples of once through cooling water were determined to have been non-acutely lethal.

combined effluent

06890988	sampled: 10/10/89	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		
06891084	sampled: 11/14/89	LC50: 49.9 %
95% fid. limits:	43.7 -	56.9 %
comments:		
06891272	sampled: 12/12/89	LC50: 37.0 %
95% fid. limits:	33.9 -	40.3 %
comments:		
06900029	sampled: 01/09/90	LC50: 80.6 %
95% fid. limits:	100.0 -	65.0 %
comments: 100% MORTALITY IN FULL STRENGTH EFFLUENT.		
06900265	sampled: 02/13/90	LC50: 28.1 %
95% fid. limits:	24.6 -	32.1 %
comments: 70% MORTALITY IN 30% TEST CONCENTRATION		
06900388	sampled: 03/13/90	LC50: 14.1 %
95% fid. limits:	10.3 -	17.2 %
comments: 90% MORTALITY IN 20% TEST CONCENTRATION		

TOXICITY TEST REPORT Sample: 05900054

TEST CONDITIONS

Company : Ethyl Canada Inc.
Corunna, ONT
(120006)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Fergusson
Date Collected : 03/13/90
Received : 03/13/90
Tested : 03/13/90 at: 1630

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	%	ELAPSED TIME	TOTAL MORTALITY
		00:00 48:00	%
100	0	0	0
50	0	0	0
26	0	1	8
13	0	4	33
6	0	2	16
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05900054

TEST CONC. %

ELAPSED TIME

00:00 48:00

100	pH 7.3 7.7 O2 ppm 10.2 9.1 Cond. 2540 2510 Temp(C) 20.0 20.0
50	pH 7.6 8.0 O2 ppm 9.5 9.0 Cond. 1520 1520 Temp(C) 20.0 20.0
26	pH 7.8 8.0 O2 ppm 9.5 9.0 Cond. 1020 1020 Temp(C) 20.0 20.0
13	pH 8.0 8.2 O2 ppm 9.4 9.0 Cond. 780 710 Temp(C) 20.0 20.0
6	pH 8.1 8.2 O2 ppm 8.4 8.9 Cond. 620 605 Temp(C) 20.0 20.0
Control	pH 8.1 8.2 O2 ppm 10.0 8.9 Cond. 500 520 Temp(C) 20.0 20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05900032

TEST CONDITIONS

Company : Ethyl Canada Inc.
Corunna, ONT
(120006)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 02/13/90
Received : 02/13/90
Tested : 02/13/90 at: 1710

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol - OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME	TOTAL MORTALITY
%	00:00 48:00	%
100	0 0	0
50	0 0	0
26	0 0	0
13	0 0	0
6	0 0	0
Control	0 0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900032

TEST CONC. % ELAPSED TIME

100	pH 7.1 7.6 O2 ppm 10.2 8.1 Cond. 2100 2180 Temp(C) 20.0 20.0
50	pH 7.7 8.0 O2 ppm 9.8 8.2 Cond. 1300 1310 Temp(C) 20.0 20.0
26	pH 8.1 8.1 O2 ppm 9.3 8.1 Cond. 920 950 Temp(C) 20.0 20.0
13	pH 8.3 8.3 O2 ppm 9.2 8.6 Cond. 710 720 Temp(C) 20.0 20.0
6	pH 8.4 8.3 O2 ppm 9.2 8.9 Cond. 595 610 Temp(C) 20.0 20.0
Control	pH 8.4 8.3 O2 ppm 9.2 9.2 Cond. 480 490 Temp(C) 20.0 20.0

TOXICITY TEST REPORT Sample: 05900018

TEST CONDITIONS

Company : Ethyl Canada Inc.
Corunna, ONT
(120006)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P. Tymstra
Date Collected : 01/16/90
Received : 01/16/90
Tested : 01/16/90 at: 1130

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	%	E L A P S E D T I M E	TOTAL MORTALITY
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Duplicate Tested

TOXICITY TEST PARAMETERS

Sample Number: 05900018

TEST CONC. % E L A P S E D T I M E
00:00 48:00

100	pH 7.8 7.9 O2 ppm 10.5 9.2 Cond. 630 690 Temp(C) 20.0 20.0
50	pH 8.1 8.1 O2 ppm 9.6 9.2 Cond. 590 600 Temp(C) 20.0 20.0
26	pH 8.2 8.1 O2 ppm 9.3 9.2 Cond. 525 530 Temp(C) 20.0 20.0
13	pH 8.2 8.1 O2 ppm 9.2 9.1 Cond. 515 510 Temp(C) 20.0 20.0
6	pH 8.2 8.1 O2 ppm 9.2 9.2 Cond. 510 505 Temp(C) 20.0 20.0
Control	pH 8.2 8.1 O2 ppm 9.2 9.3 Cond. 488 498 Temp(C) 20.0 20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05890125

TEST CONDITIONS

Company : Ethyl Canada Inc.
Corunna, ONT
(120006)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P. Tymstra
Date Collected : 12/12/89
Received : 12/12/89 at: 1430
Tested

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 48:00	%
100	0 0	0
50	0 0	0
26	0 0	0
13	0 0	0
6	0 2	16
Control	0 0	0

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890125

TEST CONC. %
E L A P S E D T I M E
00:00 48:00

100	pH 7.0 7.2 O2 ppm 9.6 9.2 Cond. 1590 1540 Temp(C) 20.0 20.0
50	pH 7.2 7.6 O2 ppm 9.6 9.1 Cond. 1030 1010 Temp(C) 20.0 20.0
26	pH 7.4 7.8 O2 ppm 9.5 9.3 Cond. 790 790 Temp(C) 20.0 20.0
13	pH 7.6 7.9 O2 ppm 9.5 9.3 Cond. 640 610 Temp(C) 20.0 20.0
6	pH 7.8 8.0 O2 ppm 9.5 9.4 Cond. 580 530 Temp(C) 20.0 20.0
Control	pH 8.0 8.0 O2 ppm 9.5 9.5 Cond. 470 480 Temp(C) 20.0 20.0

TOXICITY TEST REPORT Sample: 05890105

TEST CONDITIONS

Company : Ethyl Canada Inc.
Corunna, ONT
(120006)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : Pollutech
Sampling Method : grab
Sampled By : C. Ferguson
Date Collected : 11/14/89
Received : 11/14/89
Tested : 11/14/89 at: 1205

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME	TOTAL MORTALITY
%	00:00 48:10	%
100	0 12	100
50	0 2	16
26	0 0	0
13	0 0	0
6	0 0	0
Control	0 2	16

48 Hour LC50 : INVALID

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890105

TEST CONC. %
ELAPSED TIME
00:00 48:10

100	pH 7.7 7.9 O2 ppm 9.7 8.8 Cond. 2700 2810 Temp(C) 20.0 20.0
50	pH 7.9 8.1 O2 ppm 9.4 8.6 Cond. 1620 1640 Temp(C) 20.0 20.0
26	pH 8.0 8.1 O2 ppm 9.2 8.6 Cond. 1090 1090 Temp(C) 20.0 20.0
13	pH 8.1 8.2 O2 ppm 9.3 8.9 Cond. 790 795 Temp(C) 20.0 20.0
6	pH 8.1 8.3 O2 ppm 9.4 9.3 Cond. 605 605 Temp(C) 20.0 20.0
Control	pH 7.9 8.3 O2 ppm 9.7 9.2 Cond. 480 485 Temp(C) 20.0 20.0

TOXICITY TEST REPORT Sample: 05890084

TEST CONDITIONS

Company : Ethyl Canada Inc.
Corunna, ONT
(120006)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 10/10/89
Received : 10/10/89
Tested : 10/10/89 at: 1525

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00 48:05		%
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	2	16
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890084

TEST CONC. %

E L A P S E D T I M E

00:00 48:05

100	pH 8.9	8.1
	02 ppm 9.6	9.0
	Cond. 1140	1210
	Temp(C) 20.0	20.0
50	pH 8.5	8.0
	02 ppm 9.4	9.1
	Cond. 890	890
	Temp(C) 20.0	20.0
26	pH 8.3	8.0
	02 ppm 9.4	9.0
	Cond. 680	700
	Temp(C) 20.0	20.0
13	pH 8.2	8.0
	02 ppm 9.2	9.1
	Cond. 600	610
	Temp(C) 20.0	20.0
6	pH 8.2	8.0
	02 ppm 9.2	9.0
	Cond. 560	595
	Temp(C) 20.0	20.0
Control	pH 8.0	7.9
	02 ppm 9.6	9.2
	Cond. 500	510
	Temp(C) 20.0	20.0

Ethyl Canada Inc. (continued)

process effluent

storm water

storm water

storm water

rain gauge

intake water

COMPANY: Ethyl Canada Inc., Corunna
(120006)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

Data for six *Daphnia magna* acute lethality toxicity tests conducted on samples of combined effluent collected between October 1989 and March 1990 was submitted by Ethyl Canada Inc. of Corunna. Two of the six samples were not acutely lethal to *Daphnia*. One sample generated an unusual toxicity response in which the highest mortalities occurred in the middle concentrations of effluent.

combined effluent

05890084	sampled: 10/10/89	LC50: >100 %
	95% fid. limits: 0.0 -	0.0 %
	comments:	
05890105	sampled: 11/14/89	LC50: INVALID
	95% fid. limits: 0.0 -	0.0 % slope:
	comments:	
05890125	sampled: 12/12/89	LC50: >100 %
	95% fid. limits: 0.0 -	0.0 %
	comments:	
05900018	sampled: 01/16/90	non-lethal
	95% fid. limits: 0.0 -	0.0 %
	comments: Duplicate Tested	
05900032	sampled: 02/13/90	non-lethal
	95% fid. limits: 0.0 -	0.0 %
	comments:	
05900054	sampled: 03/13/90	LC50: >100 %
	95% fid. limits: 0.0 -	0.0 %
	comments:	

process effluent

TOXICITY TEST REPORT Sample: 05900054

TEST CONDITIONS

Company : Ethyl Canada Inc.
 : Corunna, ONT
 : (120006)
 Region : Southwest
 Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Pollutech
 Sampling Method : Grab
 Sampled By : C. Ferguson
 Date Collected : 03/13/90
 Received : 03/13/90
 Tested : 03/14/90 at: 1220

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 :
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	25:10	47:30	71:20	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05900054

TEST CONC. %	E L A P S E D T I M E				
	00:00	25:10	47:30	71:20	96:00

100	pH	7.1			7.5
	O2 ppm	10.0			9.2
	Cond.	2190			2150
	Temp(C)	15.0			15.0
100	pH	7.1			7.5
	O2 ppm	10.1			9.4
	Cond.	2180			2180
	Temp(C)	15.0			15.0
Control	pH	7.4			7.7
	O2 ppm	10.2			9.3
	Cond.	176			178
	Temp(C)	15.0			15.0
Control	pH	7.4			7.7
	O2 ppm	10.2			9.5
	Cond.	177			178
	Temp(C)	15.0			15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05900032

TEST CONDITIONS

Company : Ethyl Canada Inc.
Corunna, ONT
(120006)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 02/13/90
Received : 02/13/90
Tested : 02/14/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME					TOTAL MORTALITY
%	00:00	25:00	43:00	67:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05900032

TEST CONC. %
ELAPSED TIME
00:00 25:00 43:00 67:00 96:00

100	pH 7.0	02 ppm 9.8	Cond. 1950	Temp(C) 15.0	7.7
					9.0
					2010
					15.0
100	pH 7.0	02 ppm 9.7	Cond. 1910	Temp(C) 15.0	7.8
					9.0
					2000
					15.0
Control	pH 7.6	02 ppm 10.0	Cond. 158	Temp(C) 15.0	7.7
					9.6
					175
					15.0
Control	pH 7.6	02 ppm 10.2	Cond. 160	Temp(C) 15.0	7.7
					9.6
					175
					15.0

TOXICITY TEST REPORT Sample: 05900018

TEST CONDITIONS

Company : Ethyl Canada Inc.
Corunna, ONT
(120006)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P. Tymstra
Date Collected : 01/16/90
Received : 01/16/90
Tested : 01/16/90 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	21:00	45:30	76:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05900018

TEST CONC. %	E L A P S E D T I M E				
	00:00	21:00	45:30	76:00	96:00
100	pH 7.7 O2 ppm 12.4 Cond. 650 Temp(C) 15.0	7.6 8.5 15.0	7.8 8.8 15.0	7.7 9.2 15.0	7.6 9.4 620 15.0
100	pH 7.7 O2 ppm 12.4 Cond. 600 Temp(C) 15.0	7.6 8.8 15.0	7.8 8.9 15.0	7.7 9.0 15.0	7.6 9.6 600 15.0
Control	pH 7.7 O2 ppm 10.0 Cond. 181 Temp(C) 15.0	7.6 8.7 15.0	7.6 9.0 15.0	7.5 9.4 15.0	7.4 9.2 181 15.0
Control	pH 7.7 O2 ppm 10.0 Cond. 180 Temp(C) 15.0	7.5 8.5 15.0	7.5 8.7 15.0	7.5 9.2 15.0	7.4 9.0 182 15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05890125

TEST CONDITIONS

Company : Ethyl Canada Inc.
Corunna, ONT
(120006)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : Polluttech
Sampling Method : Grab
Sampled By : P.Tymstra
Date Collected : 12/12/89
Received : 12/12/89
Tested : 12/13/89 at: 1700

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	18:00	41:00	65:00	96:00	%
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890125

TEST CONC. %	E L A P S E D T I M E				
	00:00	18:00	41:00	65:00	96:00
100	pH 6.7 O2 ppm 10.3 Cond. 1400 Temp(C) 15.0	7.1 7.4 9.0 9.2 15.0 15.0	7.5 7.5 9.3 9.3 15.0 15.0	7.5 7.5 9.3 9.3 15.0 15.0	7.5 7.5 9.3 9.3 1460 1460 15.0 15.0
75	pH 6.9 O2 ppm 10.6 Cond. 1100 Temp(C) 15.0	7.2 7.6 9.2 9.4 15.0 15.0	7.6 7.6 9.4 9.4 15.0 15.0	7.6 7.6 9.4 9.4 1140 1140 15.0 15.0	7.6 7.6 9.3 9.3 1140 1140 15.0 15.0
56	pH 7.2 O2 ppm 11.2 Cond. 900 Temp(C) 15.0	7.4 7.7 9.4 9.5 15.0 15.0	7.7 7.7 9.5 9.4 15.0 15.0	7.7 7.7 9.4 9.4 920 920 15.0 15.0	7.7 7.7 9.4 9.4 920 920 15.0 15.0
25	pH 7.4 O2 ppm 11.5 Cond. 490 Temp(C) 15.0	7.5 7.7 9.3 9.4 15.0 15.0	7.7 7.7 9.4 9.4 15.0 15.0	7.7 7.7 9.4 9.4 540 540 15.0 15.0	7.8 7.8 9.3 9.3 540 540 15.0 15.0
10	pH 7.6 O2 ppm 11.6 Cond. 284 Temp(C) 15.0	7.6 7.8 9.6 9.5 15.0 15.0	7.8 7.8 9.5 9.4 15.0 15.0	7.7 7.7 9.4 9.4 298 298 15.0 15.0	7.9 7.9 8.9 8.9 298 298 15.0 15.0
1	pH 7.7 O2 ppm 11.5 Cond. 165 Temp(C) 15.0	7.6 7.8 9.6 9.6 15.0 15.0	7.8 7.8 9.6 9.6 15.0 15.0	7.7 7.7 9.6 9.6 188 188 15.0 15.0	8.0 8.0 9.3 9.3 188 188 15.0 15.0
Control	pH 7.7 O2 ppm 11.4 Cond. 165 Temp(C) 15.0	7.5 7.8 9.8 9.9 15.0 15.0	7.8 7.9 9.9 9.8 15.0 15.0	7.9 7.9 9.8 9.8 174 174 15.0 15.0	8.0 8.0 9.6 9.6 174 174 15.0 15.0
Control	pH 7.7 O2 ppm 11.5 Cond. 165 Temp(C) 15.0	7.5 7.9 9.8 10.0 15.0 15.0	7.9 7.9 10.0 9.6 15.0 15.0	7.9 7.9 9.6 9.6 174 174 15.0 15.0	8.0 8.0 9.6 9.6 174 174 15.0 15.0

TOXICITY TEST REPORT Sample: 05890105

TEST CONDITIONS

Company : Ethyl Canada Inc.
Corunna, ONT
(120006)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : Pollutech
Sampling Method : grab
Sampled By : C. Ferguson
Date Collected : 11/14/89
Received : 11/14/89 at: 1330
Tested : 11/14/89

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	23:10	45:10	69:10	96:00	%	%
100	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890105

TEST CONC. %	E L A P S E D T I M E					
	00:00	23:10	45:10	69:10	96:00	
100	pH	7.5	7.7	7.7	7.7	7.8
	O2 ppm	10.4	8.7	9.2	9.5	9.4
	Cond.	2650				2680
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	7.5	7.7	7.7	7.7	7.8
	O2 ppm	10.1	8.8	9.4	9.9	9.7
	Cond.	2110				2040
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	7.4	7.7	7.7	7.8	7.9
	O2 ppm	10.0	9.0	9.6	10.4	10.0
	Cond.	1190				1110
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.3	7.7	7.7	7.8	7.8
	O2 ppm	9.7	9.2	9.4	10.3	9.9
	Cond.	900				890
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.3	7.7	7.7	7.8	7.8
	O2 ppm	9.8	9.0	9.3	10.1	10.0
	Cond.	510				510
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.2	7.7	7.7	7.8	7.8
	O2 ppm	9.7	9.0	9.3	10.0	9.4
	Cond.	190				190
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.2	7.6	7.7	7.7	7.8
	O2 ppm	10.0	9.9	9.9	10.4	10.2
	Cond.	169				169
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.2	7.6	7.7	7.8	7.6
	O2 ppm	9.8	9.9	9.8	10.0	9.9
	Cond.	169				172
	Temp(C)	15.0	15.0	15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 05890084

TEST CONDITIONS

Company : Ethyl Canada Inc.
Corunna, ONT
(120006)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 10/10/89
Received : 10/10/89 at: 1200
Tested : 10/11/89

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	45:30	76:00	96:00	%
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890084

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	45:30	76:00	96:00
100	pH 9.0 O2 ppm 9.8 Cond. 1100 Temp(C) 15.0	8.2 8.8	7.7 8.2	7.6 8.6	7.5 8.5 1100 15.0
75	pH 8.7 O2 ppm 9.4 Cond. 820 Temp(C) 15.0	7.9 8.1	7.6 8.1	7.6 8.8	7.5 8.5 870 15.0
56	pH 9.1 O2 ppm 9.0 Cond. 600 Temp(C) 15.0	7.7 8.6	7.5 8.2	7.5 8.3	7.4 8.2 610 15.0
25	pH 7.4 O2 ppm 8.4 Cond. 380 Temp(C) 15.0	7.7 9.4	7.5 8.9	7.5 8.2	7.5 9.0 390 15.0
10	pH 7.2 O2 ppm 8.0 Cond. 240 Temp(C) 15.0	7.5 8.7	7.4 8.3	7.4 8.5	7.3 8.2 250 15.0
1	pH 7.1 O2 ppm 8.0 Cond. 180 Temp(C) 15.0	7.4 8.1	7.3 7.6	7.4 8.0	7.3 7.8 185 15.0
Control	pH 6.9 O2 ppm 8.0 Cond. 170 Temp(C) 15.0	7.4 9.2	7.3 8.5	7.3 8.8	7.2 9.0 175 15.0
Control	pH 6.9 O2 ppm 7.8 Cond. 170 Temp(C) 15.0	7.4 9.2	7.3 8.5	7.3 8.9	7.3 8.8 175 15.0

Ethyl Canada Inc. (continued)

storm water

storm water

rain gauge

intake water

COMPANY: Ethyl Canada Inc., Corunna
(120006)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

The data for six trout bioassays, conducted on combined effluent samples collected between October 1989 to March 1990, were provided by Ethyl Canada Incorporated. All six samples of combined effluent collected from control point 0100 were determined to have been non-acutely lethal to test fish.

combined effluent

05890084 sampled: 10/10/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890105 sampled: 11/14/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890125 sampled: 12/12/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900018 sampled: 01/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900032 sampled: 02/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900054 sampled: 03/13/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

process effluent

process effluent

storm water

TOXICITY TEST REPORT Sample: 05900051

TEST CONDITIONS

Company : Esso Chemical Canada
Sarnia, ONT
(70201)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (300)
Laboratory : Polluttech
Sampling Method : Grab
Sampled By : T. Moran
Date Collected : 03/07/90
Received : 03/07/90
Tested : 03/07/90 at: 1525

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME		TOTAL MORTALITY
%	00:00	48:05	%
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05900051

TEST CONC.	ELAPSED TIME	
%	00:00	48:05
100	pH 8.0 7.7 O2 ppm 8.8 6.5 Cond. 250 250 Temp(C) 20.0 20.0	
50	pH 8.3 8.1 O2 ppm 8.8 8.2 Cond. 388 382 Temp(C) 20.0 20.0	
26	pH 8.3 8.2 O2 ppm 9.0 8.4 Cond. 450 440 Temp(C) 20.0 20.0	
13	pH 8.4 8.3 O2 ppm 9.0 9.0 Cond. 482 470 Temp(C) 20.0 20.0	
6	pH 8.4 8.3 O2 ppm 9.0 9.2 Cond. 498 480 Temp(C) 20.0 20.0	
Control	pH 8.4 8.4 O2 ppm 9.2 9.3 Cond. 500 492 Temp(C) 20.0 20.0	

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 059000025

TEST CONDITIONS

Company : Esso Chemical Canada
Sarnia, ONT
(70201)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (300)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 02/07/90
Received : 02/07/90
Tested : 02/07/90 at: 1540

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 48:00	%
100	0 12	100
50	0 0	0
26	0 0	0
13	0 0	0
6	0 0	0
Control	0 0	0

48 Hour LC50 : 70.7 %
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 059000025

TEST CONC. %	E L A P S E D T I M E
	00:00 48:00
100	pH 8.2 7.6 O2 ppm 9.1 5.2 Cond. 302 310 Temp(C) 20.0 20.0
50	pH 8.2 7.8 O2 ppm 9.0 7.0 Cond. 418 410 Temp(C) 20.0 20.0
26	pH 8.2 8.1 O2 ppm 8.8 8.4 Cond. 464 450 Temp(C) 20.0 20.0
13	pH 8.2 8.1 O2 ppm 8.8 9.0 Cond. 490 495 Temp(C) 20.0 20.0
6	pH 8.2 8.1 O2 ppm 8.8 9.1 Cond. 498 500 Temp(C) 20.0 20.0
Control	pH 8.3 8.1 O2 ppm 8.8 9.0 Cond. 510 510 Temp(C) 20.0 20.0

TOXICITY TEST REPORT Sample: 05900011

TEST CONDITIONS

Company : Esso Chemical Canada
Sarnia, ONT
(70201)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (300)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P. Tymstra
Date Collected : 01/10/90
Received : 01/10/90
Tested : 01/10/90 at: 1600

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME	TOTAL MORTALITY
%	00:00 48:15	%
100	0	0
50	0	0
26	0	0
13	0	0
6	0	0
Control	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05900011

TEST CONC. % ELAPSED TIME
00:00 48:15

100	pH 7.9 O2 ppm 7.6 Cond. 8.0 Temp(C) 5.8 244 220 20.0 20.0
50	pH 8.1 O2 ppm 7.8 Cond. 9.0 Temp(C) 6.5 364 387 20.0 20.0
26	pH 8.2 O2 ppm 8.0 Cond. 9.0 Temp(C) 8.2 432 445 20.0 20.0
13	pH 8.3 O2 ppm 8.1 Cond. 9.0 Temp(C) 9.0 460 471 20.0 20.0
6	pH 8.3 O2 ppm 8.0 Cond. 9.0 Temp(C) 9.3 470 481 20.0 20.0
Control	pH 8.2 O2 ppm 8.2 Cond. 9.5 Temp(C) 9.7 490 480 20.0 20.0

TOXICITY TEST REPORT Sample: 05890128

TEST CONDITIONS

Company : Esso Chemical Canada
Sarnia, ONT (70201)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (300)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P. Tymstra
Date Collected : 12/13/89
Received : 12/13/89
Tested : 12/16/89 at: 1500

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol, OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00 48:30		%
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
1	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890128

TEST CONC. %
E L A P S E D T I M E
00:00 48:30

100	pH 7.8 8.1 O2 ppm 9.4 8.8 Cond. 200 205 Temp(C) 20.0 20.0
50	pH 8.0 8.3 O2 ppm 9.3 8.8 Cond. 355 350 Temp(C) 20.0 20.0
26	pH 8.1 8.4 O2 ppm 9.3 8.9 Cond. 430 420 Temp(C) 20.0 20.0
13	pH 8.1 4.0 O2 ppm 9.3 9.1 Cond. 460 460 Temp(C) 20.0 20.0
1	pH 8.1 8.4 O2 ppm 9.2 9.0 Cond. 480 475 Temp(C) 20.0 20.0
Control	pH 8.0 8.2 O2 ppm 9.3 9.4 Cond. 490 488 Temp(C) 20.0 20.0

TOXICITY TEST REPORT Sample: 05890120

TEST CONDITIONS

Company : Esso Chemical Canada
Sarnia, ONT
(70201)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (300)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 11/22/89
Received : 11/22/89 at: 1515
Tested : 11/22/89

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 48:05	%
100	0	0
50	0	0
26	0	0
13	0	0
6	0	0
Control	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890120

TEST E L A P S E D T I M E
CONC. % 00:00 48:05

100	pH 7.9 7.6 O2 ppm 8.0 7.3 Cond. 242 258 Temp(C) 20.0 20.0
50	pH 8.0 7.8 O2 ppm 8.4 8.2 Cond. 372 386 Temp(C) 20.0 20.0
26	pH 8.0 8.0 O2 ppm 8.5 8.6 Cond. 432 440 Temp(C) 20.0 20.0
13	pH 8.0 8.0 O2 ppm 8.6 8.9 Cond. 466 466 Temp(C) 20.0 20.0
6	pH 8.0 8.1 O2 ppm 8.7 9.0 Cond. 480 482 Temp(C) 20.0 20.0
Control	pH 8.1 8.1 O2 ppm 8.9 9.8 Cond. 498 505 Temp(C) 20.0 20.0

TOXICITY TEST REPORT Sample: 05890092

TEST CONDITIONS

Company : Esso Chemical Canada
Sarnia, ONT
(70201)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (300)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 10/30/89
Received : 10/30/89 at: 1620
Tested : 10/30/89
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	%	ELAPSED TIME	TOTAL MORTALITY
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890092

TEST CONC. % ELAPSED TIME
00:00 48:25

100	pH 8.0 O2 ppm 7.6 Cond. 215 Temp(C) 20.0	7.2 217 20.0
50	pH 8.1 O2 ppm 8.3 Cond. 370 Temp(C) 20.0	7.8 7.1 352 20.0
26	pH 8.1 O2 ppm 8.4 Cond. 440 Temp(C) 20.0	8.1 7.8 420 20.0
13	pH 8.1 O2 ppm 8.4 Cond. 450 Temp(C) 20.0	8.1 7.8 450 20.0
6	pH 8.1 O2 ppm 8.4 Cond. 485 Temp(C) 20.0	8.2 8.4 550 20.0
Control	pH 7.9 O2 ppm 8.8 Cond. 495 Temp(C) 20.0	8.2 9.0 490 20.0

TOXICITY TEST REPORT

Sample: 05900050

TEST CONDITIONS

Company : Esso Chemical Canada
Sarnia, ONT
(70201)
Region : Southwest
Industry : Organic Chemical
Control point : Intake water, (100)
Laboratory : Pollutech
Sampling Method : Road
Sampled By : T. Moran
Date Collected : 03/07/90
Received : 03/07/90
Tested : 03/07/90 at: 1505

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol - OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME	TOTAL MORTALITY
%	00:00 48:35	%
100	0	0
50	0	0
26	0	0
13	0	0
6	0	0
Control	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05900050

TEST CONC. %

ELAPSED TIME

00:00 48:35

100	pH 8.0	8.0	8.0
	O2 ppm 11.0	9.5	
	Cond. 208	215	
	Temp(C) 20.0	20.0	
50	pH 8.3	8.3	
	O2 ppm 9.8	9.4	
	Cond. 368	355	
	Temp(C) 20.0	20.0	
26	pH 8.3	8.3	
	O2 ppm 9.4	9.4	
	Cond. 440	430	
	Temp(C) 20.0	20.0	
13	pH 8.4	8.4	
	O2 ppm 9.4	9.4	
	Cond. 472	460	
	Temp(C) 20.0	20.0	
6	pH 8.4	8.4	
	O2 ppm 9.2	9.3	
	Cond. 490	478	
	Temp(C) 20.0	20.0	
Control	pH 8.4	8.3	
	O2 ppm 9.2	9.3	
	Cond. 500	500	
	Temp(C) 20.0	20.0	

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

Sample: 05900027

TOXICITY TEST REPORT

TOXICITY TEST PARAMETERS

TEST CONDITIONS

Company : Esso Chemical Canada
Sarnia, ONT (70201)
Region : Southwest
Industry : Organic Chemical
Control point : intake water, (100)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 02/07/90
Received : 02/07/90
Tested : 02/07/90 at: 1525

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol - OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME	TOTAL MORTALITY
%	00:00 48:00	%
100	0	0
50	0	0
26	0	0
13	0	0
6	0	0
Control	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

Sample Number: 05900027

TEST CONC. %

ELAPSED TIME
00:00 48:00

100	pH 7.9	7.9	7.9
	02 ppm 10.2	10.2	9.2
	Cond. 200	200	212
	Temp(C) 20.0	20.0	20.0
50	pH 8.1	8.1	8.1
	02 ppm 9.4	9.4	9.1
	Cond. 362	362	368
	Temp(C) 20.0	20.0	20.0
26	pH 8.2	8.2	8.1
	02 ppm 9.1	9.1	9.0
	Cond. 434	434	435
	Temp(C) 20.0	20.0	20.0
13	pH 8.2	8.2	8.1
	02 ppm 9.0	9.0	9.0
	Cond. 470	470	465
	Temp(C) 20.0	20.0	20.0
6	pH 8.2	8.2	8.1
	02 ppm 8.8	8.8	9.0
	Cond. 500	500	500
	Temp(C) 20.0	20.0	20.0
Control	pH 8.3	8.3	8.1
	02 ppm 8.8	8.8	9.1
	Cond. 510	510	500
	Temp(C) 20.0	20.0	20.0

TOXICITY TEST REPORT Sample: 059000010

TEST CONDITIONS

Company : Esso Chemical Canada
Sarnia, ONT
(70201)
Region : Southwest
Industry : Organic Chemical
Control point : intake water, (100)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P. Tynstra
Date Collected : 01/10/90
Received : 01/10/90
Tested : 01/10/90 at: 1600

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 48:00	%
100	0	0
50	0	0
26	0	0
13	0	0
6	0	0
Control	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 059000010

TEST E L A P S E D T I M E
CONC. % 00:00 48:00

100	pH 7.9	7.9
	O2 ppm 11.0	9.0
	Cond. 200	210
	Temp(C) 20.0	20.0
50	pH 8.1	8.1
	O2 ppm 9.8	9.2
	Cond. 34.8	362
	Temp(C) 20.0	20.0
26	pH 8.2	8.3
	O2 ppm 9.6	9.2
	Cond. 422	418
	Temp(C) 20.0	20.0
13	pH 8.3	8.3
	O2 ppm 9.4	9.2
	Cond. 458	465
	Temp(C) 20.0	20.0
6	pH 8.3	8.3
	O2 ppm 9.4	9.3
	Cond. 478	478
	Temp(C) 20.0	20.0
Control	pH 8.2	8.2
	O2 ppm 9.5	9.5
	Cond. 490	490
	Temp(C) 20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT

Sample: 05890129

TEST CONDITIONS

Company : Esso Chemical Canada
Sarnia, ONT
(70201)
Region : Southwest
Industry : Organic Chemical
Control point : intake water, (100)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P. Tymstra
Date Collected : 12/13/89
Received : 12/13/89
Tested : 12/13/89 at: 1645

Type of Bioassay : STATIC.
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	48:00	%
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890129

TEST CONC. %
E L A P S E D T I M E
00:00 48:00

100	pH 7.9 O2 ppm 9.3 Cond. 214 Temp(C) 20.0	7.8 7.8 6.8 235 20.0
50	pH 8.0 O2 ppm 9.3 Cond. 356 Temp(C) 20.0	8.0 8.0 7.8 370 20.0
26	pH 8.1 O2 ppm 9.3 Cond. 420 Temp(C) 20.0	8.1 8.1 8.0 435 20.0
13	pH 8.1 O2 ppm 9.4 Cond. 448 Temp(C) 20.0	8.2 8.2 8.4 470 20.0
6	pH 8.1 O2 ppm 9.4 Cond. 462 Temp(C) 20.0	8.2 8.2 8.8 485 20.0
Control	pH 8.1 O2 ppm 9.4 Cond. 488 Temp(C) 20.0	8.3 8.3 9.2 492 20.0

TOXICITY TEST REPORT Sample: 05890119

TEST CONDITIONS

Company : Esso Chemical Canada
Sarnia, ONT
(70201)
Region : Southwest
Industry : Organic Chemical
Control point : Intake water, (100)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 11/22/89
Received : 11/22/89
Tested : 11/22/89 at: 1450

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	%	ELAPSED TIME	TOTAL MORTALITY
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890119

TEST CONC. %
ELAPSED TIME
00:00 48:00

100	pH 7.9 O2 ppm 9.0 Cond. 188 Temp(C) 195 20.0	7.9 9.0 188 20.0	7.9 9.0 195 20.0
50	pH 8.0 O2 ppm 9.0 Cond. 348 Temp(C) 350 20.0	8.0 9.0 348 20.0	8.0 9.0 350 20.0
26	pH 8.0 O2 ppm 8.7 Cond. 420 Temp(C) 439 20.0	8.0 8.7 420 20.0	8.0 9.1 439 20.0
13	pH 8.1 O2 ppm 8.6 Cond. 453 Temp(C) 460 20.0	8.1 8.6 453 20.0	8.1 8.9 460 20.0
6	pH 8.1 O2 ppm 8.6 Cond. 480 Temp(C) 482 20.0	8.1 8.6 480 20.0	8.1 8.8 482 20.0
Control	pH 8.1 O2 ppm 8.9 Cond. 498 Temp(C) 510 20.0	8.1 8.9 498 20.0	8.1 8.8 510 20.0

TOXICITY TEST REPORT Sample: 05890093

TEST CONDITIONS

Company : Esso Chemical Canada
Sarnia, ONT
(70201)
Region : Southwest
Industry : Organic Chemical
Control point : intake water, (100)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 10/30/89
Received : 10/30/89
Tested : 10/30/89 at: 1630

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00 48:15		%
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890093

TEST CONC. %
E L A P S E D T I M E
00:00 48:15

100	pH 8.0 8.0 O2 ppm 9.8 8.6 Cond. 198 205 Temp(C) 20.0 20.0
50	pH 8.1 8.1 O2 ppm 9.0 8.6 Cond. 360 358 Temp(C) 20.0 20.0
26	pH 8.1 8.1 O2 ppm 9.1 8.6 Cond. 432 429 Temp(C) 20.0 20.0
13	pH 8.1 8.3 O2 ppm 9.0 8.5 Cond. 475 465 Temp(C) 20.0 20.0
6	pH 8.1 8.3 O2 ppm 9.1 8.2 Cond. 495 480 Temp(C) 20.0 20.0
Control	pH 7.9 8.3 O2 ppm 8.8 9.0 Cond. 490 490 Temp(C) 20.0 20.0

Esso Chemical Canada (continued)

process effluent

combined effluent

05890092 sampled: 10/30/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890120 sampled: 11/22/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890128 sampled: 12/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900011 sampled: 01/10/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900025 sampled: 02/07/90 LC50: 70.7 %
95% fid. limits: 0.0 - 0.0 %
comments:

05900051 sampled: 03/07/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

rain gauge

COMPANY: Esso Chemical Canada, Sarnia
(70201)
(now with Sarna Chemical Plant)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

Data for thirteen *Daphnia magna* acute lethality toxicity tests conducted on samples of intake water and combined effluent collected between October 1989 and March 1990 were submitted by Esso Chemical Canada of Sarnia. All six samples of intake water were not acutely lethal to *Daphnia*.

Six of seven samples of final effluent were not acutely lethal to *Daphnia*. One sample collected in February appears to have been tested in duplicate. One test indicated the sample was toxic with a 48 h LC50 = 70.7%, while the other test was nonlethal.

intake water

05890093 sampled: 10/30/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890119 sampled: 11/22/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890129 sampled: 12/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900010 sampled: 01/10/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900027 sampled: 02/07/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900050 sampled: 03/07/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

TOXICITY TEST REPORT Sample: 05900051

TEST CONDITIONS

Company : Esso Chemical Canada
Sarnia, ONT
(70201)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (300)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : T. Moran
Date Collected : 03/07/90
Received : 03/07/90
Tested : 03/08/90 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	23:00	47:00	71:00	96:15	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05900051

TEST CONC.	E L A P S E D T I M E				
%	00:00	23:00	47:00	71:00	96:15

100	pH	7.6	7.6	7.6
	O2 ppm	8.1	8.1	8.5
	Cond.	200	200	202
	Temp(C)	15.0	15.0	15.0
100	pH	7.6	7.6	7.6
	O2 ppm	8.3	8.3	8.6
	Cond.	205	205	205
	Temp(C)	15.0	15.0	15.0
Control	pH	7.4	7.4	7.5
	O2 ppm	10.3	10.3	9.4
	Cond.	160	160	175
	Temp(C)	15.0	15.0	15.0
Control	pH	7.4	7.4	7.5
	O2 ppm	10.4	10.4	9.3
	Cond.	162	162	174
	Temp(C)	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 059000025

TEST CONDITIONS

Company : Esso Chemical Canada
Sarnia, ONT
(70201)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (300)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 02/07/90
Received : 02/07/90
Tested : 02/08/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	23:00	45:00	73:30	97:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 059000025

TEST CONC. %	E L A P S E D T I M E				
	00:00	23:00	45:00	73:30	97:00
100	pH 8.2 O2 ppm 9.4 Cond. 250 Temp(C) 15.0	7.6 9.6 9.0 15.0	7.6 7.6 8.2 15.0	7.5 8.2 8.4 15.0	7.6 7.2 255 15.0
100	pH 8.2 O2 ppm 9.4 Cond. 251 Temp(C) 15.0	7.6 9.7 8.9 15.0	7.6 7.6 8.9 15.0	7.6 8.4 8.4 15.0	7.7 8.2 255 15.0
Control	pH 7.2 O2 ppm 10.2 Cond. 166 Temp(C) 15.0	7.5 10.0 9.8 15.0	7.6 9.8 9.8 15.0	7.7 9.8 168 15.0	7.6 9.6 168 15.0
Control	pH 7.2 O2 ppm 10.2 Cond. 166 Temp(C) 15.0	7.6 10.0 9.9 15.0	7.6 9.9 9.8 15.0	7.7 9.8 170 15.0	7.6 9.6 170 15.0

TOXICITY TEST REPORT Sample: 05900011

TEST CONDITIONS

Company : Esso Chemical Canada
 : Sarnia, ONT
 : (70201)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (300)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P. Tynstra
Date Collected : 01/10/90
Received : 01/10/90
Tested : 01/11/90 at: 1030

Type of Bioassay : STATIC
 : (Protocol to determine the acute lethality
 : of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	23:10	54:00	79:10	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05900011

TEST CONC.	E L A P S E D T I M E				
%	00:00	23:10	54:00	79:10	96:00
100	pH	7.5	7.4	7.6	7.4
	O2 ppm	7.0	6.4	7.0	7.5
	Cond.	211			222
	Temp(C)	15.0	15.0	15.0	15.0
100	pH	7.5	7.4	7.6	7.7
	O2 ppm	7.2	6.5	6.9	7.8
	Cond.	212			222
	Temp(C)	15.0	15.0	15.0	15.0
Control	pH	7.5	7.5	7.7	7.4
	O2 ppm	10.2	8.0	8.2	8.2
	Cond.	168			166
	Temp(C)	15.0	15.0	15.0	15.0
Control	pH	7.4	7.4	7.6	7.4
	O2 ppm	10.2	7.8	7.8	8.0
	Cond.	169			162
	Temp(C)	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05890128

TEST CONDITIONS

Company : Esso Chemical Canada
Sarnia, ONT
(70201)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (300)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P. Tymstra
Date Collected : 12/13/89
Received : 12/13/89
Tested : 12/14/89 at: 1215

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	23:25	46:25	75:25	96:00	%	
100	0	0	0	0	0	0	
75	0	0	0	0	0	0	
56	0	0	0	0	0	0	
25	0	0	0	0	0	0	
10	0	0	0	0	0	0	
1	0	0	0	0	0	0	
Control	0	0	0	0	0	0	
Control	0	0	0	0	0	0	

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments:

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890128

TEST CONC. %	E L A P S E D T I M E					
	00:00	23:25	46:25	75:25	96:00	
100	pH 7.6 O2 ppm 9.6 Cond. 181 Temp(C) 15.0	7.7 9.1 8.4 15.0	7.6 9.1 8.4 15.0	7.8 9.4 8.9 15.0	7.8 8.9 199 15.0	7.8 8.9 199 15.0
75	pH 7.6 O2 ppm 10.6 Cond. 175 Temp(C) 15.0	7.8 9.6 8.5 15.0	7.7 8.5 8.9 15.0	7.8 8.9 8.8 15.0	7.8 8.8 190 15.0	7.8 8.8 190 15.0
56	pH 7.6 O2 ppm 11.4 Cond. 176 Temp(C) 15.0	7.8 10.0 9.2 15.0	7.7 9.2 8.8 15.0	7.9 8.8 185 15.0	7.8 8.8 185 15.0	7.8 8.8 185 15.0
25	pH 7.5 O2 ppm 11.8 Cond. 172 Temp(C) 15.0	7.8 9.9 9.1 15.0	7.8 9.1 9.4 15.0	7.8 9.4 181 15.0	7.8 9.1 181 15.0	7.8 9.1 181 15.0
10	pH 7.6 O2 ppm 12.0 Cond. 169 Temp(C) 15.0	7.8 10.2 9.0 15.0	7.8 9.0 9.1 15.0	7.8 9.1 181 15.0	7.8 9.1 181 15.0	7.8 9.1 181 15.0
1	pH 7.6 O2 ppm 12.0 Cond. 168 Temp(C) 15.0	7.8 10.3 9.2 15.0	7.8 9.2 9.1 15.0	7.9 9.1 179 15.0	7.8 9.0 179 15.0	7.8 9.0 179 15.0
Control	pH 7.7 O2 ppm 11.9 Cond. 164 Temp(C) 15.0	7.7 10.3 9.6 15.0	7.8 9.6 9.4 15.0	7.8 9.4 180 15.0	7.8 9.2 180 15.0	7.8 9.2 180 15.0
Control	pH 7.7 O2 ppm 12.0 Cond. 164 Temp(C) 15.0	7.7 10.3 9.8 15.0	7.8 9.8 9.3 15.0	7.8 9.3 180 15.0	7.8 9.3 180 15.0	7.8 9.3 180 15.0

TOXICITY TEST REPORT Sample: 05890120

TEST CONDITIONS

Company : Esso Chemical Canada
Sarnia, ONT
(70201)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (300)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 11/22/89
Received : 11/22/89
Tested : 11/22/89 at: 1545

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	21:55	48:25	72:55	96:55	%
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890120

TEST
CONC.
%

E L A P S E D T I M E

00:00 21:55 48:25 72:55 96:55

100	pH	7.8	7.7	7.6	7.6	7.6
	O2 ppm	8.6	8.5	7.5	8.9	9.4
	Cond.	221				221
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	7.6	7.6	7.7	7.7	7.6
	O2 ppm	8.9	8.4	7.4	9.0	9.4
	Cond.	211				211
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	7.4	7.6	7.7	7.6	7.5
	O2 ppm	9.1	8.2	7.0	9.0	9.6
	Cond.	200				201
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.3	7.6	7.7	7.7	7.6
	O2 ppm	9.5	9.1	8.8	9.8	9.8
	Cond.	181				188
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.3	7.7	7.7	7.7	7.6
	O2 ppm	9.6	8.9	8.9	9.9	9.8
	Cond.	175				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.3	7.7	7.7	7.7	7.6
	O2 ppm	9.8	9.1	9.1	9.8	9.5
	Cond.	170				178
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.1	7.8	7.7	7.7	7.5
	O2 ppm	10.2	10.0	9.2	10.0	9.8
	Cond.	165				168
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.2	7.7	7.7	7.7	7.5
	O2 ppm	10.2	9.8	9.1	10.1	10.0
	Cond.	170				168
	Temp(C)	15.0	15.0	15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 05890092

TEST CONDITIONS

Company : Esso Chemical Canada
Sarnia, ONT
(70201)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (300)
Laboratory : Pollutech
Sampling Method : grab
Sampled By : C. Ferguson
Date Collected : 10/30/89
Received : 10/30/89
Tested : 10/31/89 at: 1400

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	20:00	44:00	68:00	96:30
100	0	0	0	0	0
75	0	0	0	0	0
56	0	0	0	0	0
25	0	0	0	0	0
10	0	0	0	0	0
1	0	0	0	0	0
Control	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

SLOPE of Mortality Curve : none
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890092

TEST CONC.	E L A P S E D T I M E				
%	00:00	20:00	44:00	68:00	96:30

100	pH	7.6	7.4	7.4	7.3	7.5
	O2 ppm	7.8	6.6	6.2	7.8	7.8
	Cond.	186				185
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	7.3	7.3	7.5	7.3	7.5
	O2 ppm	8.3	4.8	5.1	5.2	7.8
	Cond.	183				181
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	7.2	7.4	7.5	7.5	7.5
	O2 ppm	8.3	6.6	6.6	8.3	8.2
	Cond.	180				180
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.1	7.4	7.5	7.5	7.5
	O2 ppm	8.6	7.5	7.4	8.0	8.8
	Cond.	178				179
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.1	7.4	7.5	7.5	7.5
	O2 ppm	8.8	7.8	7.1	7.4	8.0
	Cond.	174				178
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.1	7.4	7.5	7.5	7.5
	O2 ppm	8.7	8.3	8.0	8.0	9.0
	Cond.	170				178
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.0	7.2	7.3	7.3	7.4
	O2 ppm	8.8	8.2	7.6	8.2	8.6
	Cond.	176				175
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.0	7.2	7.3	7.3	7.4
	O2 ppm	8.6	7.6	7.9	7.9	8.6
	Cond.	172				171
	Temp(C)	15.0	15.0	15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 05900050

TEST CONDITIONS

Company : Esso Chemical Canada
 : Sarnia, ONT
 : (70201)
Region : Southwest
Industry : Organic Chemical

Control point : intake water, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : T. Moran
Date Collected : 03/07/90
Received : 03/07/90
Tested : 03/08/90 at: 1200

Type of Bioassay : SIATIC
 : (Protocol to determine the acute lethality
 : of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	23:00	47:00	71:00	96:15	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05900050

TEST CONC.	E L A P S E D T I M E				
%	00:00	23:00	47:00	71:00	96:15
100	pH 7.7	02 ppm 11.4	Cond. 165	Temp(C) 15.0	7.8 9.2 172 15.0
100	pH 7.7	02 ppm 11.6	Cond. 165	Temp(C) 15.0	7.8 9.3 172 15.0
Control	pH 7.4	02 ppm 10.3	Cond. 160	Temp(C) 15.0	7.5 9.4 175 15.0
Control	pH 7.4	02 ppm 10.4	Cond. 162	Temp(C) 15.0	7.5 9.3 174 15.0

MISA Trout

TOXICITY TEST REPORT Sample: 059000027

TEST CONDITIONS

Company : Esso Chemical Canada
Sarnia, ONT
(70201)
Region : Southwest
Industry : Organic Chemical
Control point : intake water, (100)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 02/07/90
Received : 02/07/90
Tested : 02/08/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	23:00	45:00	73:30	97:00	%	
100	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 059000027

TEST CONC. %	E L A P S E D T I M E					
	00:00	23:00	45:00	73:30	97:00	
100	pH 7.7 02 ppm 11.2 Cond. 168 Temp(C) 15.0	7.7 7.6 9.9 9.7 9.6 172 15.0	7.7 7.6 9.7 9.6 15.0	7.8 7.8 9.6 15.0	7.7 7.8 9.6 15.0	7.7 9.8 172 15.0
100	pH 7.7 02 ppm 11.3 Cond. 162 Temp(C) 15.0	7.7 7.6 10.0 9.9 9.6 168 15.0	7.8 7.8 9.9 9.8 15.0	7.8 7.8 9.6 15.0	7.8 9.6 168 15.0	7.8 9.7 168 15.0
Control	pH 7.2 02 ppm 10.2 Cond. 166 Temp(C) 15.0	7.2 7.5 10.0 9.9 9.6 168 15.0	7.6 7.6 9.9 9.8 15.0	7.7 7.7 9.8 15.0	7.6 9.6 168 15.0	7.6 9.6 168 15.0
Control	pH 7.2 02 ppm 10.2 Cond. 166 Temp(C) 15.0	7.2 7.6 10.0 9.9 9.6 170 15.0	7.6 7.6 9.9 9.8 15.0	7.7 7.7 9.8 15.0	7.6 9.6 170 15.0	7.6 9.6 170 15.0

TOXICITY TEST REPORT Sample: 059000010

TEST CONDITIONS

Company : Esso Chemical Canada
 : Sarnia, ONT
 : (70201)
Region : Southwest
Industry : Organic Chemical

Control point : Intake water, (100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P. Tynstra
Date Collected : 01/10/90
Received : 01/10/90
Tested : 01/11/90 at: 1030

Type of Bioassay : STATIC
 : (Protocol to determine the acute lethality
 : of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	23:10	54:00	79:10	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 059000010

TEST CONC.	E L A P S E D T I M E				
%	00:00	23:10	54:00	79:10	96:00

100	pH	7.6	7.4	7.6	7.4	7.4
	02 ppm	11.3	7.5	7.9	8.1	8.2
	Cond.	163				162
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	7.6	7.5	7.6	7.4	7.5
	02 ppm	11.4	7.6	7.7	8.0	8.0
	Cond.	164				162
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.5	7.5	7.7	7.4	7.4
	02 ppm	11.2	8.0	8.2	8.0	8.2
	Cond.	168				166
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.4	7.4	7.6	7.3	7.4
	02 ppm	10.2	7.8	7.6	8.0	8.2
	Cond.	169				162
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 05890129

TEST CONDITIONS

Company : Esso Chemical Canada
Sarnia, ONT
(70201)
Region : Southwest
Industry : Organic Chemical
Control point : intake water, (100)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P. Tymstra
Date Collected : 12/13/89
Received : 12/13/89
Tested : 12/14/89 at: 1215

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	23:25	46:25	75:25	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890129

TEST CONC. %	E L A P S E D T I M E				
	00:00	23:25	46:25	75:25	96:00
100	pH 02 ppm Cond. Temp(C)	7.7 11.8 170 15.0	7.7 9.6 15.0	7.7 9.6 15.0	7.8 8.8 180 15.0
100	pH 02 ppm Cond. Temp(C)	7.7 11.6 171 15.0	7.6 9.8 9.6	7.8 9.3 9.3	7.9 8.9 180 15.0
Control	pH 02 ppm Cond. Temp(C)	7.7 11.9 164 15.0	7.7 10.3 15.0	7.8 9.6 15.0	7.8 9.2 180 15.0
Control	pH 02 ppm Cond. Temp(C)	7.7 12.0 164 15.0	7.7 10.3 15.0	7.8 9.8 15.0	7.8 9.0 180 15.0

TOXICITY TEST REPORT Sample: 05890119

TEST CONDITIONS

Company : Esso Chemical Canada
Sarnia, ONT
(70201)
Region : Southwest
Industry : Organic Chemical
Control point : intake water, (100)
Laboratory : Pollutech
Sampling Method : grab
Sampled By : C. Ferguson
Date Collected : 11/22/89
Received : 11/22/89
Tested : 11/22/89 at: 1545

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	21:55	48:25	71:55	96:55	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890119

TEST
CONC.
%

E L A P S E D T I M E

00:00 21:55 48:25 71:55 96:55

100	pH	7.8	7.8	7.7	7.7	7.5
	O2 ppm	11.1	9.8	9.0	9.8	9.4
	Cond.	160				170
	Temp(C)	15.0	15.0	15.0	15.0	15.0
100	pH	7.8	7.8	7.7	7.7	7.5
	O2 ppm	11.1	9.6	9.5	9.7	9.4
	Cond.	161				171
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.1	7.8	7.7	7.7	7.5
	O2 ppm	10.0	10.0	9.2	10.0	9.8
	Cond.	165				168
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.2	7.7	7.7	7.7	7.5
	O2 ppm	10.2	9.8	9.1	10.1	10.0
	Cond.	170				168
	Temp(C)	15.0	15.0	15.0	15.0	15.0

SLOPE of Mortality Curve : none
 LC50 Calculated By :

TOXICITY TEST REPORT Sample: 05890093

TEST CONDITIONS

Company : Esso Chemical Canada
 Sarnia, ONT
 (70201)
 Region : Southwest
 Industry : Organic Chemical
 Control point : intake water, (100)
 Laboratory : Pollutech
 Sampling Method : grab
 Sampled By : C. Ferguson
 Date Collected : 10/30/89
 Received : 10/30/89
 Tested : 10/31/89 at: 1345

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	20:25	45:25	68:55	97:25	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
 95% fid. limits : 0.0 - 0.0 %
 Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890093

TEST CONC. %	E L A P S E D T I M E				
	00:00	20:25	45:25	68:55	97:25
100	pH 7.9	7.5	7.6	7.5	7.5
	O2 ppm 10.5	7.5	8.6	8.6	9.8
	Cond. 170				172
	Temp(C) 15.0	15.0	15.0	15.0	15.0
100	pH 7.9	7.4	7.3	7.3	7.5
	O2 ppm 10.6	7.7	6.1	6.1	6.3
	Cond. 170				175
	Temp(C) 15.0	15.0	15.0	15.0	15.0
Control	pH 7.0	7.2	7.3	7.3	7.4
	O2 ppm 8.8	7.2	7.6	8.2	8.6
	Cond. 175				175
	Temp(C) 15.0	15.0	15.0	15.0	15.0
Control	pH 7.0	7.2	7.3	7.3	7.4
	O2 ppm 8.6	7.6	7.5	7.9	8.6
	Cond. 172				171
	Temp(C) 15.0	15.0	15.0	15.0	15.0

Esso Chemical Canada (continued)

05890128 sampled: 12/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900011 sampled: 01/10/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900025 sampled: 02/07/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900051 sampled: 03/07/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

rain gauge

COMPANY: Esso Chemical Canada, Sarnia
(70201)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

The data for twelve trout bioassays, conducted on combined effluent and intake water samples collected between October 1989 and March 1990, were provided by Esso Chemical Canada. All six combined effluent (control point 0300) samples and six intake water samples were determined to have been non-acutely lethal to test fish.

intake water

05890093	sampled: 10/30/89	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		
05890119	sampled: 11/22/89	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		
05890129	sampled: 12/13/89	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		
05900010	sampled: 01/10/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		
05900027	sampled: 02/07/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		
05900050	sampled: 03/07/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		

process effluent

combined effluent

05890092	sampled: 10/30/89	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		
05890120	sampled: 11/22/89	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900250

TEST CONDITIONS

Company : Du Pont Canada Inc.
Whitby, ONT
(80408)
Region : Central
Industry : Organic Chemical
Control point : Combined Effluent, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Pickering
Date Collected : 03/27/90
Received : 03/28/90
Tested : 03/28/90 at: 1615

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	%	ELAPSED TIME	TOTAL MORTALITY
100	0	0	1
50	0	0	1
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900250

TEST CONC. %
ELAPSED TIME
00:00 24:00 48:00

100	pH 8.0	8.0	8.0
	O2 ppm 9.7	9.7	8.4
	Cond. 355	355	360
	Temp(C) 19.5	20.0	20.0
50	pH 8.0	8.0	8.1
	O2 ppm 9.4	9.4	8.4
	Cond. 330	330	331
	Temp(C) 19.5	20.0	20.0
25	pH 8.1	8.1	8.2
	O2 ppm 9.3	9.3	8.5
	Cond. 316	316	317
	Temp(C) 19.5	20.0	20.0
13	pH 8.1	8.1	8.2
	O2 ppm 9.3	9.3	8.6
	Cond. 309	309	310
	Temp(C) 19.5	20.0	20.0
6	pH 8.1	8.1	8.2
	O2 ppm 9.6	9.6	8.6
	Cond. 296	296	308
	Temp(C) 19.5	20.0	20.0
Control	pH 8.1	8.1	8.3
	O2 ppm 8.9	8.9	8.6
	Cond. 301	301	305
	Temp(C) 19.5	20.0	20.0

TOXICITY TEST REPORT Sample: 03900157

TEST CONDITIONS

Company : Du Pont Canada Inc.

Whitby, ONT
(80408)

Region : Central

Industry : Organic Chemical

Control point : Combined Effluent, (200)

Laboratory : BAR

Sampling Method : Grab

Sampled By : T. Pickering

Date Collected : 02/27/90

Received : 02/28/90

Tested : 03/01/90 at: 1010

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. ONE, 1988)

Test Animal : D. magna

Weight(gm) :

Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900157

TEST CONC.	E L A P S E D T I M E	
%	00:00	24:00 48:00

100	pH 8.1	8.2
	O2 ppm 9.2	8.4
	Cond. 380	377
	Temp(C) 20.0	20.0 20.5
50	pH 8.3	8.3
	O2 ppm 9.1	8.5
	Cond. 342	338
	Temp(C) 20.0	20.0 20.5
25	pH 8.3	8.4
	O2 ppm 9.0	8.5
	Cond. 328	325
	Temp(C) 20.0	20.0 20.5
13	pH 8.5	8.4
	O2 ppm 9.0	8.5
	Cond. 321	319
	Temp(C) 20.0	20.0 20.5
6	pH 8.5	8.4
	O2 ppm 8.9	8.6
	Cond. 314	312
	Temp(C) 20.0	20.0 20.5
Control	pH 8.5	8.4
	O2 ppm 8.8	8.6
	Cond. 300	303
	Temp(C) 20.0	20.0 20.5

COMPANY: Du Pont Canada Inc., Whitby
(80408)
SECTOR: Organic Chemical
REGION: Central

SUMMARY

Monitoring at the Du Pont Canada Inc. plant in Whitby did not commence until February 1990, therefore data for only two Daphnia magna acute lethality tests conducted on samples of combined effluent were submitted. One sample was not acutely lethal to Daphnia, and the other had an LC50 > 100%.

Storm Water

Combined Effluent

03900157 sampled: 02/27/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900250 sampled: 03/27/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

OTCW

OTCW

OTCW

OTCW

Combined Effluent

MISA Trout

TOXICITY TEST REPORT Sample: 03900250

TEST CONDITIONS

Company : Du Pont Canada Inc.
Whitby, ONT
(80408)
Region : Central
Industry : Organic Chemical
Control point : Combined Effluent, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Pickering
Date Collected : 03/27/90
Received : 03/28/90
Tested : 03/28/90 at: 1525

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
65	0	0	0	0	0
40	0	0	0	0	0
20	0	0	0	0	0
10	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900250

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00
100	pH 8.0				8.1
	O2 ppm 9.9				9.2
	Cond. 358				370
	Temp(C) 14.5	14.5	14.5	15.0	14.5
65	pH 7.9				8.2
	O2 ppm 9.4				8.9
	Cond. 420				428
	Temp(C) 14.5	14.5	14.5	15.0	14.5
40	pH 7.9				8.2
	O2 ppm 9.3				8.6
	Cond. 463				471
	Temp(C) 14.5	14.5	14.5	15.0	14.5
20	pH 7.9				8.3
	O2 ppm 8.5				8.6
	Cond. 498				503
	Temp(C) 14.5	14.5	14.5	15.0	14.5
10	pH 7.9				8.4
	O2 ppm 8.2				8.7
	Cond. 513				516
	Temp(C) 14.5	14.5	14.5	15.0	14.5
5	pH 7.9				8.5
	O2 ppm 8.3				8.8
	Cond. 524				524
	Temp(C) 14.5	14.5	14.5	15.0	14.5
Control	pH 7.9				8.4
	O2 ppm 8.8				8.0
	Cond. 533				532
	Temp(C) 14.5	14.5	14.5	15.0	14.5

TOXICITY TEST REPORT Sample: 03900157

TEST CONDITIONS

Company : Du Pont Canada Inc.
Whitby, ONT
(80408)
Region : Central
Industry : Organic Chemical
Control point : Combined Effluent, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Pickering
Date Collected : 02/27/90
Received : 02/28/90
Tested : 03/01/90 at: 1230

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900157

TEST CONC. %	E L A P S E D T I M E					
	00:00	24:00	48:00	72:00	96:00	
100	pH 8.1 O2 ppm 10.1 Cond. 385 Temp(C) 15.0	14.5	14.5	14.0	14.0	8.0 9.5 400 14.0
65	pH 8.0 O2 ppm 9.6 Cond. 444 Temp(C) 15.0	14.5	14.5	14.0	14.0	8.1 9.3 454 14.0
40	pH 8.0 O2 ppm 9.4 Cond. 484 Temp(C) 15.0	14.5	14.5	14.0	14.0	8.1 9.1 492 14.0
20	pH 8.0 O2 ppm 9.2 Cond. 516 Temp(C) 15.0	14.5	14.5	14.0	14.0	8.4 9.6 523 14.0
10	pH 8.0 O2 ppm 9.0 Cond. 533 Temp(C) 15.0	14.5	14.5	14.0	14.0	8.3 9.3 539 14.0
5	pH 7.9 O2 ppm 8.9 Cond. 544 Temp(C) 15.0	14.5	14.5	14.0	14.0	8.3 9.2 554 14.0
Control	pH 7.9 O2 ppm 8.2 Cond. 545 Temp(C) 15.0	14.5	14.5	14.0	14.0	8.4 9.4 556 14.0

COMPANY: Du Pont Canada Inc., Whitby
(80408)
SECTOR: Organic Chemical
REGION: Central

SUMMARY

The data for two trout bioassays, conducted on combined effluent samples collected between October 1989 and March 1990, were provided by Du Pont Canada Incorporated. Both samples of combined effluent were determined to have been non-acutely lethal to test fish.

Storm Water

Combined Effluent

03900157 sampled: 02/27/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: non lethal

03900250 sampled: 03/27/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: non lethal

OTCW

OTCW

OTCW

OTCW

Combined Effluent

TOXICITY TEST REPORT Sample: 03900236

TEST CONDITIONS

Company : Du Pont Canada Inc.
Maitland, ONT
(80002)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (1100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Meyer
Date Collected : 03/21/90
Received : 03/23/90 at: 1305
Tested : 03/23/90
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 24:00 48:00	%
100	0 0 0	0
50	0 0 0	0
25	0 0 0	0
13	0 0 0	0
6	0 0 0	0
Control	0 0 0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900236

TEST E L A P S E D T I M E
CONC. %
00:00 24:00 48:00

100	pH 8.0	8.0	8.0
	O2 ppm 8.8	8.0	8.0
	Cond. 447	446	446
	Temp(C) 20.0	20.0	19.5
50	pH 8.1	8.2	8.2
	O2 ppm 8.8	8.3	8.3
	Cond. 371	370	370
	Temp(C) 20.0	20.0	19.5
25	pH 8.2	8.3	8.3
	O2 ppm 8.8	8.5	8.5
	Cond. 335	334	334
	Temp(C) 20.0	20.0	19.5
13	pH 8.2	8.3	8.3
	O2 ppm 8.8	8.6	8.6
	Cond. 316	316	316
	Temp(C) 20.0	20.0	19.5
6	pH 8.2	8.4	8.4
	O2 ppm 8.9	8.6	8.6
	Cond. 306	308	308
	Temp(C) 20.0	20.0	19.5
Control	pH 8.3	8.4	8.4
	O2 ppm 8.8	8.6	8.6
	Cond. 300	294	294
	Temp(C) 20.0	20.0	19.5

TOXICITY TEST REPORT Sample: 03900144

TEST CONDITIONS

Company : Du Pont Canada Inc.
Maitland, ONT
(80002)

Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Meyer
Date Collected : 02/21/90
Received : 02/23/90
Tested : 02/23/90 at: 1500

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900144

TEST CONC. % E L A P S E D T I M E
00:00 24:00 48:00

100	pH 7.7 O2 ppm 8.1 Cond. 437 Temp(C) 20.0	20.0	20.0	19.0
50	pH 8.0 O2 ppm 8.4 Cond. 370 Temp(C) 20.0	20.0	20.0	19.0
25	pH 8.2 O2 ppm 8.5 Cond. 334 Temp(C) 20.0	20.0	20.0	19.0
13	pH 8.4 O2 ppm 8.5 Cond. 320 Temp(C) 20.0	20.0	20.0	19.0
6	pH 8.4 O2 ppm 8.6 Cond. 308 Temp(C) 20.0	20.0	20.0	19.0
Control	pH 8.5 O2 ppm 8.7 Cond. 299 Temp(C) 20.0	20.0	20.0	19.0

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900050

TEST CONC. %
ELAPSED TIME
00:00 24:00 48:00

100	pH 7.7 O2 ppm 8.0 Cond. 7.5 Temp(C) 553	20.0	20.0	19.5
50	pH 7.8 O2 ppm 8.2 Cond. 8.0 Temp(C) 425	20.0	20.0	19.5
25	pH 8.1 O2 ppm 8.3 Cond. 363 Temp(C) 20.0	20.0	20.0	19.5
13	pH 8.2 O2 ppm 8.4 Cond. 329 Temp(C) 20.0	20.0	20.0	19.5
6	pH 8.3 O2 ppm 8.5 Cond. 313 Temp(C) 20.0	20.0	20.0	19.5
Control	pH 8.3 O2 ppm 8.4 Cond. 301 Temp(C) 20.0	20.0	20.0	19.5

MISA Daphnia

TOXICITY TEST REPORT Sample: 03900050

TEST CONDITIONS

Company : Du Pont Canada Inc.
Maitland, ONT (80002)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (1100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Meyer
Date Collected : 01/17/90
Received : 01/19/90
Tested : 01/19/90 at: 1340
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME	TOTAL MORTALITY %
100	00:00 24:00 48:00	0
50	0 0 0	0
25	0 0 0	0
13	0 0 0	0
6	0 0 0	0
Control	0 0 0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

TOXICITY TEST REPORT Sample: 03890394

TEST CONDITIONS

Company : Du Pont Canada Inc.
 : Maitland, ONT
 : (80002)
 Region : Southeast
 Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : BAR
 Sampling Method : Grab
 Sampled By : T. Meyer
 Date Collected : 12/20/89
 Received : 12/22/89
 Tested : 12/22/89 at: 1500

Type of Bioassay : STATIC
 : (Daphnia magna Acute Lethality Toxicity
 : Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890394

TEST CONC. %	E L A P S E D T I M E		
	00:00	24:00	48:00
100	pH 7.6 O2 ppm 7.6 Cond. 464 Temp(C) 19.5	7.9 6.8 457 20.0	
50	pH 7.9 O2 ppm 8.6 Cond. 386 Temp(C) 19.5	8.1 7.7 382 20.0	
25	pH 8.1 O2 ppm 8.8 Cond. 347 Temp(C) 19.5	8.2 8.1 345 20.0	
13	pH 8.1 O2 ppm 9.0 Cond. 326 Temp(C) 19.5	8.2 8.4 329 20.0	
6	pH 8.2 O2 ppm 9.0 Cond. 312 Temp(C) 19.5	8.3 8.6 321 20.0	
Control	pH 8.3 O2 ppm 8.9 Cond. 307 Temp(C) 19.5	8.4 8.8 302 20.0	

TOXICITY TEST REPORT Sample: 03890276

TEST CONDITIONS

Company : Du Pont Canada Inc.
Maitland, ONT
(80002)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (1100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Pickering
Date Collected : 11/15/89
Received : 11/17/89
Tested : 11/20/89 at: 1240

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	01:00	02:00	04:00	24:00	48:00	%
Control	0	0	0	0	0	1	8
6	0	0	0	0	0	0	0
13	0	0	0	0	2	4	33
25	0	0	0	0	3	8	66
50	0	0	0	0	12	12	100
100	0	0	9	9	12	12	100

48 Hour LC50 : 17.9 %

95% fid. limits : 13.4 - 23.6 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03890276

TEST CONC. %
E L A P S E D T I M E
00:00 01:00 02:00 04:00 24:00 48:00

Control	pH	8.5					8.5					8.5
	02 ppm	7.9					9.5					9.5
	Cond.	300					301					301
	Temp(C)	19.5	19.5	19.5	20.0	20.0	19.5					19.5
6	pH	8.5					8.3					8.3
	02 ppm	8.6					8.8					8.8
	Cond.	304					307					307
	Temp(C)	19.5	19.5	19.5	20.0	20.0	19.5					19.5
13	pH	8.4					8.3					8.3
	02 ppm	8.7					8.6					8.6
	Cond.	309					315					315
	Temp(C)	19.5	19.5	19.5	20.0	20.0	19.5					19.5
25	pH	8.3					8.1					8.1
	02 ppm	8.7					8.1					8.1
	Cond.	326					330					330
	Temp(C)	19.5	19.5	19.5	20.0	20.0	19.5					19.5
50	pH	8.1					8.0					8.0
	02 ppm	8.6					8.6					8.6
	Cond.	356					363					363
	Temp(C)	19.5	19.5	19.5	20.0	20.0	19.5					19.5
100	pH	7.6					7.7					7.7
	02 ppm	8.6					6.9					6.9
	Cond.	418					425					425
	Temp(C)	19.5	19.5	19.5	20.0	20.0	19.5					19.5

TOXICITY TEST REPORT Sample: 02890266

TEST CONDITIONS

Company : Du Pont Canada Inc.
Maitland, ONT
(80002)

Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : MOE

Sampling Method : grab

Sampled By : A. Verbass

Date Collected : 11/15/89

Received : 11/16/89

Tested : 11/16/89 at: 1350

Type of Bioassay : STATIC

(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna

Weight(gm) :

Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	01:00	24:00	48:00
100	0	0	11	12
60	0	0	5	12
30	0	0	0	8
15	0	0	0	0
5	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : 41.0 %

95% fid. limits : 38.4 - 43.9 %

Comments : MISA Audit/ high oxygen demand

TOXICITY TEST PARAMETERS

Sample Number: 02890266

TEST CONC. %
E L A P S E D T I M E
00:00 01:00 24:00 48:05

100	pH	7.2	7.4
	O2 ppm	8.8	3.0
	Cond.	345	395
	Temp(C)	20.0	20.0
60	pH	7.5	7.4
	O2 ppm	8.9	3.9
	Cond.	327	361
	Temp(C)	20.0	20.0
30	pH	7.7	7.4
	O2 ppm	8.9	5.3
	Cond.	314	332
	Temp(C)	20.0	20.0
15	pH	7.9	7.6
	O2 ppm	9.0	6.6
	Cond.	306	307
	Temp(C)	20.0	20.0
5	pH	8.0	7.6
	O2 ppm	9.0	6.7
	Cond.	301	306
	Temp(C)	20.0	20.0
Control	pH	8.0	7.7
	O2 ppm	8.9	7.2
	Cond.	292	272
	Temp(C)	20.0	20.0

TOXICITY TEST REPORT Sample: 03890230

TEST CONDITIONS

Company : Du Pont Canada Inc.
Maitland, ONT
(80002)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Meyer
Date Collected : 10/18/89
Received : 10/20/89
Tested : 10/20/89 at: 1105

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	02:00	04:00	24:00	48:00
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	2	5
25	0	0	5	9	10
50	0	7	9	12	12
100	0	12	12	12	12

48 Hour LC50 : 15.1 %

95% fid. limits : 11.4 - 20.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03890230

TEST CONC. %
E L A P S E D T I M E
00:00 02:00 04:00 24:00 48:00

Control	pH	8.4	8.4	8.4	8.4	8.4
	O2 ppm	8.9	8.9	8.9	8.9	8.9
	Cond.	310	310	310	310	310
	Temp(C)	20.0	20.0	20.0	20.0	20.0
6	pH	8.3	8.3	8.3	8.3	8.3
	O2 ppm	9.1	9.1	9.1	9.1	9.1
	Cond.	320	320	320	320	320
	Temp(C)	20.0	20.0	20.0	20.0	20.0
13	pH	8.1	8.1	8.1	8.1	8.1
	O2 ppm	9.1	9.1	9.1	9.1	9.1
	Cond.	320	320	320	320	320
	Temp(C)	20.0	20.0	20.0	20.0	20.0
25	pH	7.9	7.9	7.9	7.9	7.9
	O2 ppm	9.1	9.1	9.1	9.1	9.1
	Cond.	329	329	329	329	329
	Temp(C)	20.0	20.0	20.0	20.0	20.0
50	pH	7.4	7.4	7.4	7.4	7.4
	O2 ppm	9.3	9.3	9.3	9.3	9.3
	Cond.	346	346	346	346	346
	Temp(C)	20.0	20.0	20.0	20.0	20.0
100	pH	6.7	6.7	6.7	6.7	6.7
	O2 ppm	9.8	9.8	9.8	9.8	9.8
	Cond.	381	381	381	381	381
	Temp(C)	20.0	20.0	20.0	20.0	20.0

TOXICITY TEST REPORT Sample: 03900143

TEST CONDITIONS

Company : Du Pont Canada Inc.
 : Maitland, ONT
 : (80002)
 Region : Southeast
 Industry : Organic Chemical
 Control point : intake water, (1000)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : T. Meyer
 Date Collected : 02/21/90
 Received : 02/23/90
 Tested : 02/23/90 at: 1440

Type of Bioassay : STATIC
 : (Daphnia magna Acute Lethality Toxicity
 : Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
 95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900143

TEST CONC. % E L A P S E D T I M E
 : 00:00 24:00 48:00

100	pH 8.0	8.3
	O2 ppm 9.3	8.8
	Cond. 339	338
	Temp(C) 20.0	20.0 19.0
50	pH 8.2	8.4
	O2 ppm 8.9	8.9
	Cond. 321	317
	Temp(C) 20.0	20.0 19.0
25	pH 8.4	8.4
	O2 ppm 8.7	8.9
	Cond. 313	308
	Temp(C) 20.0	20.0 19.0
13	pH 8.4	8.4
	O2 ppm 8.7	8.9
	Cond. 307	303
	Temp(C) 20.0	20.0 19.0
6	pH 8.4	8.4
	O2 ppm 8.6	9.0
	Cond. 303	298
	Temp(C) 20.0	20.0 19.0
Control	pH 8.5	8.5
	O2 ppm 8.7	8.8
	Cond. 299	303
	Temp(C) 20.0	20.0 19.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 039000051

TEST CONDITIONS

Company : Du Pont Canada Inc.-
Maitland, ONT
(800002)
Region : Southeast
Industry : Organic Chemical
Control point : intake water, (1000)
Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Meyer
Date Collected : 01/17/90
Received : 01/19/90
Tested : 01/19/90 at: 1350

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	12	100
50	0	11	91
25	0	4	33
13	0	0	0
6	0	0	0
Control	0	1	8

48 Hour LC50 : 30.7 %
95% fid. limits : 23.4 - 40.1 %
Comments : Lethal

SLOPE of Mortality Curve : 4.2
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 039000051

TEST CONC. %
ELAPSED TIME
00:00 24:00 48:00

100	pH 8.0 8.2 O2 ppm 9.0 8.5 Cond. 334 343 Temp(C) 20.0 20.0
50	pH 8.2 8.3 O2 ppm 9.0 8.6 Cond. 315 321 Temp(C) 20.0 20.0 19.5
25	pH 8.3 8.4 O2 ppm 8.9 8.6 Cond. 304 310 Temp(C) 20.0 20.0 19.5
13	pH 8.3 8.4 O2 ppm 8.9 8.6 Cond. 300 305 Temp(C) 20.0 20.0 19.5
6	pH 8.3 8.4 O2 ppm 8.9 8.4 Cond. 299 302 Temp(C) 20.0 20.0 19.5
Control	pH 8.3 8.4 O2 ppm 8.6 8.0 Cond. 301 296 Temp(C) 20.0 20.0 19.5

SLOPE of Mortality Curve : unable to calculate
LC50 Calculated By :

MISA Daphnia

TOXICITY TEST REPORT Sample: 02890265

TEST CONDITIONS

Company : Du Pont Canada Inc.
Haitland, ONT
(80002)
Region : Southeast
Industry : Organic Chemical
Control point : intake water, (1000)
Laboratory : MOE
Sampling Method : grab
Sampled By : A. Verbaas
Date Collected : 11/15/89
Received : 11/16/89
Tested : 11/16/89 at: 1254

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	01:00	24:00	48:00	%
100	0	0	12	12	100
60	0	0	12	12	100
30	0	0	0	12	100
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : 15.0 - 30.0 %

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit/immobilization within 24 hrs.

TOXICITY TEST PARAMETERS

Sample Number: 02890265

TEST CONC. %	E L A P S E D T I M E			
	00:00	01:00	24:00	48:00
100	pH 7.7 O2 ppm 9.7 Cond. 295 Temp(C) 20.0	7.7 9.7 295 20.0	8.1 8.0 305 20.0	
60	pH 7.8 O2 ppm 9.5 Cond. 297 Temp(C) 20.0	7.8 9.5 297 20.0	8.1 8.1 305 20.0	
30	pH 7.9 O2 ppm 9.3 Cond. 297 Temp(C) 20.0	7.9 9.3 297 20.0	8.1 8.1 305 20.0	
15	pH 7.9 O2 ppm 9.2 Cond. 291 Temp(C) 20.0	7.9 9.2 291 20.0	8.1 8.0 306 20.0	
5	pH 7.9 O2 ppm 9.1 Cond. 297 Temp(C) 20.0	7.9 9.1 297 20.0	7.9 7.6 305 20.0	
Control	pH 7.9 O2 ppm 9.0 Cond. 292 Temp(C) 20.0	7.9 9.0 292 20.0	8.0 7.7 288 20.0	

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03890275

TEST CONDITIONS

Company : Du Pont Canada Inc.
Maitland, ONT
(80002)
Region : Southeast
Industry : Organic Chemical
Control point : intake water, (1000)
Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Pickering
Date Collected : 11/15/89
Received : 11/17/89
Tested : 11/20/89 at: 1240

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	%
Control	0	0	0	1	8
6	0	0	0	0	0
13	0	0	1	1	8
25	0	0	0	0	0
50	0	0	0	0	0
100	0	0	0	2	16

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 >100%

TOXICITY TEST PARAMETERS

Sample Number: 03890275

TEST CONC. %
E L A P S E D T I M E
00:00 04:00 24:00 48:00

Control	pH	8.4	8.4	8.6	8.6
	02 ppm	7.9	7.9	9.2	9.2
	Cond.	300	300	338	338
	Temp(C)	20.0	20.0	20.0	19.5
6	pH	8.5	8.4	8.4	8.4
	02 ppm	8.4	8.4	9.3	9.3
	Cond.	303	303	304	304
	Temp(C)	20.0	20.0	20.0	19.5
13	pH	8.4	8.4	8.3	8.3
	02 ppm	8.2	8.2	9.4	9.4
	Cond.	306	306	302	302
	Temp(C)	20.0	20.0	20.0	19.5
25	pH	8.3	8.3	8.3	8.3
	02 ppm	8.1	8.1	9.3	9.3
	Cond.	310	310	307	307
	Temp(C)	20.0	20.0	20.0	19.5
50	pH	8.3	8.3	8.3	8.3
	02 ppm	8.6	8.6	9.2	9.2
	Cond.	320	320	316	316
	Temp(C)	20.0	20.0	20.0	19.5
100	pH	8.0	8.0	8.1	8.1
	02 ppm	9.1	9.1	9.1	9.1
	Cond.	338	338	338	338
	Temp(C)	20.0	20.0	20.0	19.5

Du Pont Canada Inc. (continued)

combined effluent

03890230 sampled: 10/18/89 LC50: 15.1 %
95% fid. limits: 11.4 - 20.0 % slope: 3.8
comments:

02890266 sampled: 11/15/89 LC50: 41.0 %
95% fid. limits: 38.4 - 43.9 %
comments: MISA Audit/ high oxygen demand

03890276 sampled: 11/15/89 LC50: 17.9 %
95% fid. limits: 13.4 - 23.6 % slope: 4.6
comments:

03890394 sampled: 12/20/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900050 sampled: 01/17/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900144 sampled: 02/21/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900236 sampled: 03/21/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

emergency overflow

rain gauge

COMPANY: Du Pont Canada Inc., Maitland
(80002)
(now with Maitland Site)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

Data for nine *Daphnia magna* acute lethality toxicity tests conducted on samples of intake water and combined effluent collected between October 1989 and March 1990 were submitted by Du Pont Canada Inc. of Maitland.

Two of three intake water samples were toxic to *Daphnia*, as was an audit sample tested in the Ministry laboratory in November.

Four of six samples of combined effluent were not acutely lethal to *Daphnia*. The samples collected at the beginning of the monitoring period in October and November were toxic to *Daphnia*. LC50s for these sample were 15.1 and 17.9% consecutively. An audit sample tested in the Ministry laboratory in November was also toxic to *Daphnia* with 48 h LC50 = 41.1%.

process effluent

process effluent

combined effluent

combined effluent

storm water

storm water

intake water

03890275 sampled: 11/15/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100%

02890265 sampled: 11/15/89 LC50: 15.0 - 30.0 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit/immobilization within 24 hrs.

03900051 sampled: 01/17/90 LC50: 30.7 %
95% fid. limits: 23.4 - 40.1 % slope: 4.2
comments: Lethal

03900143 sampled: 02/21/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

TOXICITY TEST REPORT Sample: 03900236

TEST CONDITIONS

Company : Du Pont Canada Inc.
Maitland, ONT
(80002)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (1100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Meyer
Date Collected : 03/21/90
Received : 03/23/90
Tested : 03/23/90 at: 1340
Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
100	0	0	0	0	0
Control	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single Concentration Test; Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900236

TEST
CONC.
% E L A P S E D T I M E
00:00 24:00 48:00 72:00 96:00

100	pH	8.0				8.3
	O2 ppm	10.1				9.8
	Cond.	439				461
	Temp(C)	15.0	14.5	14.5	14.0	15.0
100	pH	8.0				8.3
	O2 ppm	10.1				9.7
	Cond.	439				455
	Temp(C)	15.0	14.5	14.5	14.0	15.0
Control	pH	7.9				8.5
	O2 ppm	9.6				9.6
	Cond.	518				510
	Temp(C)	15.0	14.5	14.5	14.0	15.0
Control	pH	7.9				8.5
	O2 ppm	9.6				9.7
	Cond.	518				521
	Temp(C)	15.0	14.5	14.5	14.0	15.0

TOXICITY TEST REPORT Sample: 03900144

TEST CONDITIONS

Company : Du Pont Canada Inc.
Maitland, ONT
(80002)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (1100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Meyer
Date Collected : 02/21/90
Received : 02/23/90
Tested : 02/23/90 at: 1530

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900144

E L A P S E D T I M E			
TEST CONC. %		00:00	24:00 48:00 72:00 96:00
100	pH 7.7 O2 ppm 9.8 Cond. 445 Temp(C) 15.0	14.5	14.0 15.0
65	pH 7.8 O2 ppm 9.5 Cond. 488 Temp(C) 15.0	14.5	14.0 15.0
40	pH 7.8 O2 ppm 9.6 Cond. 509 Temp(C) 15.0	14.5	14.0 15.0
20	pH 7.9 O2 ppm 9.6 Cond. 527 Temp(C) 15.5	14.5	14.0 15.0
10	pH 7.9 O2 ppm 9.6 Cond. 534 Temp(C) 15.5	14.5	14.0 15.0
5	pH 7.9 O2 ppm 9.5 Cond. 536 Temp(C) 15.5	14.5	14.0 15.0
Control	pH 7.9 O2 ppm 9.0 Cond. 542 Temp(C) 16.0	14.5	14.0 15.0

TOXICITY TEST REPORT Sample: 03900050

TEST CONDITIONS

Company : Du Pont Canada Inc.
 : Maitland, ONT
 : (80002)
 Region : Southeast
 Industry : Organic Chemical
 Control point : combined effluent, (1100)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : T. Meyer
 Date Collected : 01/17/90
 Received : 01/19/90
 Tested : 01/20/90 at: 1500

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. ONE, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 039000050

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00
100	pH 7.8 O2 ppm 9.4 Cond. 582 Temp(C) 15.0	14.5	14.0	14.0	8.3 10.1 578 14.0
65	pH 7.8 O2 ppm 9.5 Cond. 572 Temp(C) 15.0	14.5	14.0	14.0	8.4 10.1 567 14.0
40	pH 7.8 O2 ppm 9.1 Cond. 559 Temp(C) 15.0	14.5	14.0	14.0	8.4 9.8 557 14.0
20	pH 7.9 O2 ppm 8.9 Cond. 549 Temp(C) 15.0	14.5	14.0	14.0	8.5 10.1 554 14.0
10	pH 7.9 O2 ppm 8.8 Cond. 542 Temp(C) 15.0	14.5	14.0	14.0	8.5 10.1 543 14.0
5	pH 7.9 O2 ppm 8.9 Cond. 540 Temp(C) 15.0	14.5	14.0	14.0	8.4 10.1 528 14.0
Control	pH 7.9 O2 ppm 8.7 Cond. 542 Temp(C) 15.0	14.5	14.0	14.0	8.4 10.1 537 14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890394

TEST CONDITIONS

Company : Du Pont Canada Inc.
Maitland, ONT
(80002)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (1100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Meyer
Date Collected : 12/20/89
Received : 12/22/89
Tested : 12/23/89 at: 1445

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
65	0	0	0	0	0
40	0	0	0	0	0
20	0	0	0	0	0
10	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890394

TEST CONC.	E L A P S E D T I M E			
%	00:00	24:00	48:00	72:00
100	pH 7.6 O2 ppm 8.0 Cond. 460 Temp(C) 15.0	14.0	14.0	14.5
65	pH 7.8 O2 ppm 8.2 Cond. 489 Temp(C) 15.0	14.0	14.0	14.5
40	pH 7.8 O2 ppm 8.6 Cond. 512 Temp(C) 15.0	14.0	14.0	14.5
20	pH 7.9 O2 ppm 9.0 Cond. 530 Temp(C) 15.0	14.0	14.0	14.5
10	pH 7.9 O2 ppm 9.0 Cond. 539 Temp(C) 15.0	14.0	14.0	14.5
5	pH 7.9 O2 ppm 9.0 Cond. 549 Temp(C) 15.0	14.0	14.0	14.5
Control	pH 8.0 O2 ppm 9.5 Cond. 556 Temp(C) 15.0	14.0	14.0	14.5

TOXICITY TEST REPORT Sample: 01890266

TEST CONDITIONS

Company : Du Pont Canada Inc.
Haitland, ONT
(80002)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : HDE
Sampling Method : grab
Sampled By : A. Verbaas
Date Collected : 11/15/89
Received : 11/16/89 at: 1430
Tested : 11/16/89

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. ONE, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E										TOTAL MORTALITY		
%	00:00	01:10	01:00	02:00	04:00	24:10	48:00	70:10	96:00	%			
100	0	0	0	0	0	4	7	8	9	90			
65	0	0	0	0	0	0	2	3	3	30			
40	0	0	0	0	0	0	1	1	1	10			
30	0	0	0	0	0	0	0	0	0	0			
20	0	0	0	0	0	0	0	0	0	0			
10	0	0	0	0	0	0	0	0	0	0			
Control	0	0	0	0	0	0	0	0	0	0			

96 Hour LC50 : 70.1 %

95% fid. limits : 57.5 - 88.9 %

Comments : MISA audit sample.

TOXICITY TEST PARAMETERS

Sample Number: 01890266

TEST CONC. % E L A P S E D T I M E

TEST CONC. %	00:00 01:10 01:00 02:00 04:00 24:10 48:00 70:10 96:00									
100	pH	6.2	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
	O2 ppm	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1
	Cond.	300	275	275	275	275	275	275	275	275
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
65	pH	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4
	O2 ppm	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2
	Cond.	265	255	255	255	255	255	255	255	255
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
40	pH	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
	O2 ppm	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4
	Cond.	250	250	250	250	250	250	250	250	250
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
30	pH	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
	O2 ppm	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
	Cond.	240	240	240	240	240	240	240	240	240
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
20	pH	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
	O2 ppm	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
	Cond.	235	235	235	235	235	235	235	235	235
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
10	pH	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
	O2 ppm	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
	Cond.	230	230	230	230	230	230	230	230	230
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Control	pH	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6
	O2 ppm	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
	Cond.	260	260	260	260	260	260	260	260	260
	Temp(C)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890276

TEST CONDITIONS

Company : Du Pont Canada Inc.
 : Maitland, ONT
 (80002)
 Region : Southeast
 Industry : Organic Chemical
 Control point : combined effluent, (1100)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : T. Pickering
 Date Collected : 11/15/89
 Received : 11/17/89
 Tested : 11/18/89 at: 1030

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
40	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	0	4	5	5	50

96 Hour LC50 : >100%
 95% fid. limits : 0.0 - 0.0 %
 Comments :

SLOPE of Mortality Curve :
 LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890276

TEST CONC. %
 E L A P S E D T I M E
 00:00 04:00 24:00 48:00 72:00 96:00

Control	pH 7.9					8.6
	O2 ppm 8.4					11.0
	Cond. 558					561
	Temp(C) 14.0	15.0	14.0	15.0	14.0	14.0
10	pH 7.9					8.6
	O2 ppm 9.4					11.0
	Cond. 549					515
	Temp(C) 14.0	15.0	14.0	15.0	14.0	14.0
20	pH 7.9					8.5
	O2 ppm 9.4					10.8
	Cond. 536					530
	Temp(C) 14.0	15.0	14.0	15.0	14.0	14.0
40	pH 7.8					8.5
	O2 ppm 9.5					11.0
	Cond. 510					500
	Temp(C) 14.0	15.0	14.0	15.0	14.0	14.0
65	pH 7.7					8.3
	O2 ppm 9.7					10.4
	Cond. 477					506
	Temp(C) 14.0	15.0	14.0	15.0	14.0	14.0
100	pH 7.5					8.1
	O2 ppm 10.0					8.6
	Cond. 430					442
	Temp(C) 14.0	15.0	14.0	15.0	14.0	14.0

TOXICITY TEST REPORT Sample: 03890230

TEST CONDITIONS

Company : Du Pont Canada Inc.
 : Maitland, ONT
 : (80002)
 Region : Southeast
 Industry : Organic Chemical
 Control point : combined effluent, (1100)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : T. Meyer
 Date Collected : 10/18/89
 Received : 10/20/89
 Tested : 10/20/89 at: 1430

Type of Bioassay : STATIC
 : (Protocol to determine the acute lethality
 : of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	2	3	5	5	50

96 Hour LC50 : >100X

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03890230

TEST
CONC.
%

E L A P S E D T I M E

00:00 04:00 24:00 48:00 72:00 96:00

Control	pH	7.7					8.4
	02 ppm	8.4					8.9
	Cond.	573					565
	Temp(C)	14.0	14.5	15.0	15.0	15.5	15.5
10	pH	7.6					8.5
	02 ppm	8.6					8.9
	Cond.	554					550
	Temp(C)	14.0	14.5	15.0	15.0	15.5	15.5
20	pH	7.6					8.3
	02 ppm	8.9					8.8
	Cond.	540					536
	Temp(C)	14.0	14.5	15.0	15.0	15.5	15.5
40	pH	7.5					8.3
	02 ppm	9.0					8.9
	Cond.	509					507
	Temp(C)	14.0	14.5	15.0	15.0	15.5	15.5
65	pH	7.3					8.2
	02 ppm	9.2					8.9
	Cond.	456					461
	Temp(C)	14.0	14.5	15.0	15.0	15.5	15.5
100	pH	6.8					7.8
	02 ppm	9.3					8.3
	Cond.	394					394
	Temp(C)	14.0	14.5	15.0	15.0	15.5	15.5

MISA Trout

TOXICITY TEST REPORT Sample: 03900143

TEST CONDITIONS

Company : Du Pont Canada Inc.
 Haitland, ONT
 (80002)
 Region : Southeast
 Industry : Organic Chemical
 Control point : intake water, (1000)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : T. Meyer
 Date Collected : 02/21/90
 Received : 02/23/90
 Tested : 02/23/90 at: 1600

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	10
65	0	0	0	0	0
40	0	0	0	0	0
20	0	0	0	0	0
10	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

SLOPE of Mortality Curve :
 LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900143

TEST CONC. %
 E L A P S E D T I M E
 00:00 24:00 48:00 72:00 96:00

100	pH 7.9	8.2
	O2 ppm 10.2	9.7
	Cond. 352	352
	Temp(C) 15.0	14.5 14.0 14.5
65	pH 7.9	8.3
	O2 ppm 10.0	9.5
	Cond. 426	419
	Temp(C) 15.0	14.5 14.0 14.5
40	pH 7.9	8.4
	O2 ppm 9.9	9.5
	Cond. 471	468
	Temp(C) 15.0	14.5 14.0 14.5
20	pH 7.9	8.4
	O2 ppm 9.7	9.5
	Cond. 510	505
	Temp(C) 15.5	14.5 14.0 14.5
10	pH 7.9	8.5
	O2 ppm 9.5	9.8
	Cond. 528	512
	Temp(C) 16.0	14.5 14.0 14.5
5	pH 7.9	8.5
	O2 ppm 9.4	9.6
	Cond. 537	519
	Temp(C) 16.0	14.5 14.0 14.5
Control	pH 7.9	8.5
	O2 ppm 8.9	9.3
	Cond. 548	540
	Temp(C) 16.0	14.5 14.0 14.5

TOXICITY TEST REPORT Sample: 03900051

TEST CONDITIONS

Company : Du Pont Canada Inc.
Maitland, ONT
(80002)
Region : Southeast
Industry : Organic Chemical

Control point : intake water, (1000)

Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Meyer
Date Collected : 01/17/90
Received : 01/19/90
Tested : 01/20/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non Lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900051

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.1 O2 ppm 10.4 Cond. 362 Temp(C) 15.5	14.5	14.0	14.0	8.2 9.3 363 14.0
65	pH 8.0 O2 ppm 10.3 Cond. 411 Temp(C) 15.5	14.5	14.0	14.0	8.4 9.3 415 14.0
40	pH 8.0 O2 ppm 9.7 Cond. 458 Temp(C) 15.0	14.5	14.0	14.0	8.5 9.6 463 14.0
20	pH 7.9 O2 ppm 9.4 Cond. 497 Temp(C) 15.0	14.5	14.0	14.0	8.5 9.5 499 14.0
10	pH 7.9 O2 ppm 9.3 Cond. 520 Temp(C) 15.0	14.5	14.0	14.0	8.5 9.4 520 14.0
5	pH 7.9 O2 ppm 9.1 Cond. 527 Temp(C) 15.0	14.5	14.0	14.0	8.5 9.2 524 14.0
Control	pH 7.9 O2 ppm 9.0 Cond. 541 Temp(C) 15.0	14.5	14.0	14.0	8.5 9.2 531 14.0

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03890275

TOXICITY TEST PARAMETERS

TEST CONDITIONS

Company : Du Pont Canada Inc. •
Maitland, ONT
(80002)
Region : Southeast
Industry : Organic Chemical
Control point : intake water, (1000)
Laboratory : BAR
Sampling Method : Grab
Sampled By : T. Pickering
Date Collected : 11/15/89
Received : 11/17/89
Tested : 11/18/89 at: 1030

Type of Bioassay

: STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal

Weight(gm) : Rainbow trout
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%		%
Control		0
10		0
20		0
40		0
65		0
100		0

96 Hour LC50 : Non-Lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

Sample Number: 03890275

TEST
CONC.
%
E L A P S E D
T I M E

Control error
10 error
20 error
40 error
65 error
100 error

Du Pont Canada Inc. (continued)

combined effluent

03890230 sampled: 10/18/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

03890276 sampled: 11/15/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

01890266 sampled: 11/15/89 LC50: 70.1 %
95% fid. limits: 57.5 - 88.9 %
comments: MISA audit sample.

03890394 sampled: 12/20/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900050 sampled: 01/17/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900144 sampled: 02/21/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900236 sampled: 03/21/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; Non lethal

emergency overflow

rain gauge

COMPANY: Du Pont Canada Inc., Maitland
(80002)
(now with Maitland Site)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

The data for nine trout bioassays, conducted on combined effluent and intake water samples collected between October 1989 and March 1990, were provided by Du Pont Canada Incorporated. Two of the combined effluent samples were determined to have been acutely lethal to test fish. Both sample 96 hour LC50s were >100 %. The Ministry audit sample, collected in November, 96 hour LC50 was 70.1 %. The remaining four combined effluent samples were determined to have been non-acutely lethal to test fish. Two of the intake water samples were determined to have been non-acutely lethal while the third, collected in February, had a 96 hour LC50 >100 %.

process effluent

process effluent

combined effluent

combined effluent

storm water

storm water

intake water

03890275 sampled: 11/15/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900051 sampled: 01/17/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non Lethal

03900143 sampled: 02/21/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

TOXICITY TEST REPORT Sample: 03900235

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Dickson
Date Collected : 03/20/90
Received : 03/23/90
Tested : 03/23/90 at: 1205

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	4	4	33
50	0	0	0	0
25	0	1	1	8
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : >100X
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900235

TEST CONC. % E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.2	7.9
	O2 ppm 9.2	7.7
	Cond. 348	349
	Temp(C) 20.0	20.0
50	pH 8.2	8.1
	O2 ppm 9.0	8.1
	Cond. 323	323
	Temp(C) 20.0	20.0
25	pH 8.3	8.3
	O2 ppm 9.0	8.4
	Cond. 311	310
	Temp(C) 20.0	20.0
13	pH 8.2	8.3
	O2 ppm 8.9	8.5
	Cond. 305	305
	Temp(C) 20.0	20.0
6	pH 8.2	8.3
	O2 ppm 8.9	8.6
	Cond. 302	301
	Temp(C) 20.0	20.0
Control	pH 8.3	8.4
	O2 ppm 8.8	8.6
	Cond. 300	293
	Temp(C) 20.0	20.0

TOXICITY TEST REPORT Sample: 02900023

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT (80101)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (1100)
Laboratory : MOE
Sampling Method : Grab
Sampled By : A. verbaas
Date Collected : 02/26/90
Received : 02/28/90
Tested : 02/28/90 at: 1340
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	01:00	24:00	48:00	%
100	0	0	0	0	0
60	0	0	0	0	0
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 02900023

TEST CONC. %	E L A P S E D T I M E			
	00:00	01:00	24:00	48:00
100	pH 8.9 O2 ppm 10.0 Cond. 347 Temp(C) 20.0	7.7 4.0 346 20.0	20.0	20.0
60	pH 8.7 O2 ppm 9.6 Cond. 341 Temp(C) 20.0	7.6 5.1 345 20.0	20.0	20.0
30	pH 8.4 O2 ppm 9.4 Cond. 332 Temp(C) 20.0	7.7 6.2 337 20.0	20.0	20.0
15	pH 8.2 O2 ppm 9.3 Cond. 329 Temp(C) 20.0	7.8 7.1 334 20.0	20.0	20.0
5	pH 7.9 O2 ppm 9.2 Cond. 326 Temp(C) 20.0	7.9 7.9 332 20.0	20.0	20.0
Control	pH 7.5 O2 ppm 9.3 Cond. 326 Temp(C) 20.0	8.0 8.3 327 20.0	20.0	20.0

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By : Geometric Mean

TOXICITY TEST REPORT Sample: 03900145

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (1100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Dickson
Date Collected : 02/20/90
Received : 02/23/90
Tested : 02/23/90 at: 1520

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	12	100
50	0	12	100
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : 35.3 %

95% fid. limits : 25.0 - 50.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03900145

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 11.1 10.4 O2 ppm 9.3 8.9 Cond. 872 780 Temp(C) 20.0 20.0
50	pH 10.1 9.8 O2 ppm 9.0 8.8 Cond. 492 478 Temp(C) 20.0 20.0
25	pH 9.5 9.0 O2 ppm 8.8 8.7 Cond. 376 355 Temp(C) 20.0 20.0
13	pH 9.2 8.7 O2 ppm 8.6 8.8 Cond. 341 325 Temp(C) 20.0 20.0
6	pH 8.9 8.6 O2 ppm 8.6 8.8 Cond. 323 313 Temp(C) 20.0 20.0
Control	pH 8.5 8.5 O2 ppm 8.7 8.9 Cond. 299 302 Temp(C) 20.0 20.0

TOXICITY TEST REPORT Sample: 03900047

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (1100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Dickson
Date Collected : 01/16/90
Received : 01/19/90
Tested : 01/19/90 at: 1130

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900047

TEST CONC. % E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.0 O2 ppm 8.8 Cond. 340 Temp(C) 20.0	20.0	20.0	19.5
50	pH 8.1 O2 ppm 8.8 Cond. 319 Temp(C) 20.0	8.2 8.2 324 19.5		
25	pH 8.2 O2 ppm 8.7 Cond. 308 Temp(C) 20.0	8.3 8.4 312 19.5		
13	pH 8.2 O2 ppm 8.6 Cond. 304 Temp(C) 20.0	8.4 8.6 307 19.5		
6	pH 8.2 O2 ppm 8.6 Cond. 302 Temp(C) 20.0	8.4 8.7 303 19.5		
Control	pH 8.3 O2 ppm 8.6 Cond. 301 Temp(C) 20.0	8.4 8.5 297 19.5		

TOXICITY TEST REPORT Sample: 03890393

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (1100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Dickson
Date Collected : 12/19/89
Received : 12/22/89
Tested : 12/23/89 at: 1215
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME		TOTAL MORTALITY
%	00:00	24:00	48:00
100	0	0	12
50	0	0	12
25	0	0	11
13	0	0	9
6	0	0	4
Control	0	0	1
			8

48 Hour LC50 : 8.0 %

95% fid. limits : 5.3 - 12.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03890393

TEST CONC. %

ELAPSED TIME

00:00 24:00 48:00

100	pH 8.2	7.8
	O2 ppm 10.6	6.8
	Cond. 348	343
	Temp(C) 20.0	19.5
50	pH 8.3	8.1
	O2 ppm 9.6	7.7
	Cond. 322	323
	Temp(C) 20.0	19.5
25	pH 8.3	8.3
	O2 ppm 9.2	8.2
	Cond. 311	313
	Temp(C) 20.0	19.5
13	pH 8.3	8.4
	O2 ppm 9.0	8.3
	Cond. 306	308
	Temp(C) 20.0	19.5
6	pH 8.4	8.4
	O2 ppm 8.8	8.4
	Cond. 302	305
	Temp(C) 20.0	19.5
Control	pH 8.4	8.4
	O2 ppm 9.0	8.3
	Cond. 301	296
	Temp(C) 20.0	19.5

TOXICITY TEST REPORT Sample: 03890278

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (1100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Dickson
Date Collected : 11/14/89
Received : 11/17/89
Tested : 11/19/89 at: 1500

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	04:00	24:00	48:00
Control	0	0	0	0
6	0	0	0	0
13	0	0	0	0
25	0	0	0	1
50	0	0	0	8
100	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890278

TEST CONC. % E L A P S E D T I M E
00:00 04:00 24:00 48:00

Control	pH	8.5			8.4
	O ₂ ppm	9.0			9.6
	Cond.	296			295
	Temp(C)	19.0	19.0	19.5	20.0
6	pH	8.5			8.4
	O ₂ ppm	8.7			9.3
	Cond.	294			297
	Temp(C)	19.0	19.0	19.5	20.0
13	pH	8.5			8.4
	O ₂ ppm	8.8			9.2
	Cond.	303			301
	Temp(C)	19.0	19.0	19.5	20.0
25	pH	8.4			8.4
	O ₂ ppm	8.9			9.2
	Cond.	311			308
	Temp(C)	19.0	19.0	19.5	20.0
50	pH	8.4			8.3
	O ₂ ppm	9.0			9.2
	Cond.	326			324
	Temp(C)	19.0	19.0	19.5	20.0
100	pH	8.1			8.2
	O ₂ ppm	9.3			9.1
	Cond.	358			354
	Temp(C)	19.0	19.0	19.5	20.0

TOXICITY TEST REPORT Sample: 03890229

TEST CONDITIONS

Company : Du Pont Canada Inc.
 Kingston, ONT
 (80101)
 Region : Southeast
 Industry : Organic Chemical
 Control point : combined effluent, (1100)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : D. Dickson
 Date Collected : 10/17/89
 Received : 10/20/89
 Tested : 10/20/89 at: 1030
 Type of Bioassay : STATIC
 (Daphnia magna Acute Lethality Toxicity
 Test Protocol. OME, 1988)
 Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	02:00	04:00	24:00	48:00
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	1	8
25	0	0	0	10	100
50	0	0	0	12	100
100	0	9	12	12	100

48 Hour LC50 : 16.2 %

95% fid. limits : 12.1 - 21.6 %

Comments :

SLOPE of Mortality Curve : 5.4
 LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03890229

TEST CONC. E L A P S E D T I M E
 % 00:00 02:00 04:00 24:00 48:00

Control	pH	8.4	8.4	8.4	8.4
	O2 ppm	8.9	8.9	8.9	8.9
	Cond.	310	310	297	297
	Temp(C)	20.0	20.0	20.0	19.5
6	pH	8.4	8.4	8.4	8.4
	O2 ppm	9.1	9.1	8.9	8.9
	Cond.	312	312	307	307
	Temp(C)	20.0	20.0	20.0	19.5
13	pH	8.3	8.3	8.4	8.4
	O2 ppm	9.1	9.1	9.0	9.0
	Cond.	313	313	308	308
	Temp(C)	20.0	20.0	20.0	19.5
25	pH	8.3	8.3	8.4	8.4
	O2 ppm	9.2	9.2	9.0	9.0
	Cond.	315	315	310	310
	Temp(C)	20.0	20.0	20.0	19.5
50	pH	8.3	8.3	8.3	8.3
	O2 ppm	9.4	9.4	9.6	9.6
	Cond.	321	321	321	321
	Temp(C)	20.0	20.0	20.0	19.5
100	pH	8.2	8.2	8.2	8.2
	O2 ppm	10.2	10.2	10.2	10.2
	Cond.	335	335	335	335
	Temp(C)	20.0	20.0	20.0	20.0

TOXICITY TEST REPORT Sample: 03900234

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (700)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Dickson
Date Collected : 03/20/90
Received : 03/23/90
Tested : 03/23/90 at: 1150

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	4	50
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900234

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.3 O2 ppm 9.2 Cond. 351 Temp(C) 20.0	20.0	20.0	8.0 7.7 348 19.5
50	pH 8.2 O2 ppm 8.9 Cond. 322 Temp(C) 20.0	20.0	20.0	8.2 8.1 318 19.5
25	pH 8.2 O2 ppm 8.8 Cond. 313 Temp(C) 20.0	20.0	20.0	8.3 8.2 309 19.5
13	pH 8.3 O2 ppm 8.8 Cond. 307 Temp(C) 20.0	20.0	20.0	8.3 8.3 303 19.5
6	pH 8.3 O2 ppm 8.8 Cond. 304 Temp(C) 20.0	20.0	20.0	8.4 8.3 301 19.5
Control	pH 8.3 O2 ppm 8.8 Cond. 300 Temp(C) 20.0	20.0	20.0	8.4 8.3 297 19.5

HISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By : Spearman-Kärber alpha = 0

TOXICITY TEST REPORT Sample: 029000021

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (700)
Laboratory : MOE
Sampling Method : Grab
Sampled By : A. Verbaas
Date Collected : 02/26/90
Received : 02/28/90
Tested : 02/28/90 at: 1200

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME		TOTAL MORTALITY
%	00:00 01:00 24:00 48:00	%	%
100	0 0 6 12	100	100
60	0 0 0 2	16	16
30	0 0 0 0	0	0
15	0 0 0 0	0	0
5	0 0 0 0	0	0
Control	0 0 0 0	0	0

48 Hour LC50 : 70.0 %
95% fid. limits : 61.5 - 79.6 %
Comments : HISA Audit/high biological oxygen demand

TOXICITY TEST PARAMETERS

Sample Number: 029000021

TEST CONC. %	ELAPSED TIME	
	00:00 01:00 24:00 48:00	
100	pH 9.3 O2 ppm 10.5 Cond. 378 Temp(C) 20.0	8.3 1.1 381 20.0
60	pH 9.0 O2 ppm 10.0 Cond. 354 Temp(C) 20.0	7.4 2.4 356 20.0
30	pH 8.7 O2 ppm 9.6 Cond. 340 Temp(C) 20.0	7.5 5.3 323 20.0
15	pH 8.4 O2 ppm 9.4 Cond. 333 Temp(C) 20.0	7.7 6.7 337 20.0
5	pH 8.0 O2 ppm 9.3 Cond. 328 Temp(C) 20.0	7.8 7.9 329 20.0
Control	pH 7.8 O2 ppm 9.3 Cond. 320 Temp(C) 20.0	7.6 8.5 320 20.0

TOXICITY TEST REPORT Sample: 03900146

TEST CONDITIONS

Company : Du Pont Canada Inc.
 : Kingston, ONT
 : (80101)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Dickson
Date Collected : 02/20/90
Received : 02/23/90
Tested : 02/23/90 at: 1450

Type of Bioassay : STATIC
 : (Daphnia magna Acute Lethality Toxicity
 : Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	12	12	100
50	0	11	11	91
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : 39.3 %
95% fid. limits : 29.9 - 51.4 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03900146

TEST CONC. % E L A P S E D T I M E
 00:00 24:00 48:00

100	pH 10.2 9.8 O2 ppm 9.3 8.8 Cond. 429 424 Temp(C) 20.0 20.0
50	pH 9.5 8.9 O2 ppm 8.9 8.8 Cond. 347 334 Temp(C) 20.0 20.0 19.0
25	pH 9.1 8.7 O2 ppm 8.8 8.9 Cond. 322 315 Temp(C) 20.0 20.0 19.0
13	pH 8.8 8.6 O2 ppm 8.8 8.9 Cond. 312 309 Temp(C) 20.0 20.0 19.0
6	pH 8.6 8.5 O2 ppm 8.8 8.8 Cond. 303 303 Temp(C) 20.0 20.0 19.0
Control	pH 8.5 8.5 O2 ppm 8.7 8.8 Cond. 299 292 Temp(C) 20.0 20.0 19.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 039000048

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (700)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Dickson
Date Collected : 01/16/90
Received : 01/19/90
Tested : 01/19/90 at: 1210

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	%	ELAPSED TIME	TOTAL MORTALITY
100	0	0	0
50	0	0	8
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 > 100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 039000048

TEST CONC. %
ELAPSED TIME
00:00 24:00 48:00

100	pH 8.0 O2 ppm 9.0 Cond. 359 Temp(C) 20.0	8.1 7.8 363 19.5
50	pH 8.2 O2 ppm 8.9 Cond. 328 Temp(C) 20.0	8.2 8.1 331 19.5
25	pH 8.2 O2 ppm 8.9 Cond. 314 Temp(C) 20.0	8.3 8.3 318 19.5
13	pH 8.2 O2 ppm 8.8 Cond. 306 Temp(C) 20.0	8.4 8.4 309 19.5
6	pH 8.2 O2 ppm 8.7 Cond. 302 Temp(C) 20.0	8.4 8.5 306 19.5
Control	pH 8.3 O2 ppm 8.6 Cond. 301 Temp(C) 20.0	8.4 8.5 299 19.5

TOXICITY TEST REPORT Sample: 03890392

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (700)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Dickson
Date Collected : 12/19/89
Received : 12/22/89
Tested : 12/22/89 at: 1555

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. ONE, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 24:00 48:00	%
100	0 12 12	100
50	0 12 12	100
25	0 12 12	100
13	0 1 6	50
6	0 0 0	0
Control	0 0 0	0

48 Hour LC50 : 12.7 %

95% fid. limits : 10.0 - 16.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03890392

E L A P S E D T I M E
TEST CONC. % 00:00 24:00 48:00

100	pH 8.1 7.9 O2 ppm 10.4 7.6 Cond. 350 342 Temp(C) 19.5 20.0
50	pH 8.2 8.2 O2 ppm 9.6 7.9 Cond. 331 324 Temp(C) 19.5 20.0
25	pH 8.2 8.3 O2 ppm 9.2 8.2 Cond. 320 316 Temp(C) 19.5 20.0
13	pH 8.2 8.3 O2 ppm 9.1 8.6 Cond. 315 318 Temp(C) 19.5 20.0
6	pH 8.3 8.3 O2 ppm 9.0 8.3 Cond. 310 315 Temp(C) 19.5 20.0
Control	pH 8.3 8.3 O2 ppm 8.9 8.8 Cond. 307 317 Temp(C) 19.5 20.0

TOXICITY TEST REPORT Sample: 03890277

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (700)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Dickson
Date Collected : 11/14/89
Received : 11/17/89
Tested : 11/19/89 at: 1210

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. ONE, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	%
Control	0	0	1	1	8
6	0	0	0	0	0
13	0	0	1	1	8
25	0	0	0	0	0
50	0	0	1	1	8
100	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890277

TEST CONC. %
E L A P S E D T I M E
00:00 04:00 24:00 48:00

Control	pH	8.5	8.5	8.4
	O2 ppm	9.0	9.0	9.9
	Cond.	296	301	301
	Temp(C)	19.0	19.0	19.5
6	pH	8.5	8.3	8.3
	O2 ppm	9.0	9.5	9.5
	Cond.	301	300	300
	Temp(C)	19.0	19.0	19.5
13	pH	8.5	8.3	8.3
	O2 ppm	9.0	9.4	9.4
	Cond.	306	305	305
	Temp(C)	19.0	19.0	19.5
25	pH	8.4	8.3	8.3
	O2 ppm	9.0	9.3	9.3
	Cond.	313	311	311
	Temp(C)	19.0	19.0	19.5
50	pH	8.3	8.2	8.2
	O2 ppm	8.9	9.1	9.1
	Cond.	328	325	325
	Temp(C)	19.0	19.0	19.5
100	pH	8.2	8.2	8.2
	O2 ppm	8.9	9.0	9.0
	Cond.	360	355	355
	Temp(C)	19.0	19.0	19.5

TOXICITY TEST REPORT Sample: 03890228

TEST CONDITIONS

Company : Du Pont Canada Inc.
 : Kingston, ONT
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Dickson
Date Collected : 10/17/89
Received : 10/20/89
Tested : 10/20/89 at: 1040

Type of Bioassay : STATIC
 : (Daphnia magna Acute Lethality Toxicity
 : Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	02:00	04:00	24:00	48:00	%
Control	0	0	0	0	1	8
6	0	0	0	0	0	0
13	0	0	0	3	3	25
25	0	0	0	7	8	66
50	0	0	0	12	12	100
100	0	10	11	12	12	100

48 Hour LC50 : 18.9 %

95% fid. limits : 14.3 - 24.7 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03890228

TEST CONC.	E L A P S E D T I M E				
%	00:00	02:00	04:00	24:00	48:00

Control	pH	8.4				8.4
	O2 ppm	8.9				8.9
	Cond.	310				294
	Temp(C)	20.0	20.0	20.0	19.5	19.0
6	pH	8.3				8.4
	O2 ppm	8.9				8.9
	Cond.	318				308
	Temp(C)	20.0	20.0	20.0	19.5	19.0
13	pH	8.3				8.4
	O2 ppm	8.9				9.0
	Cond.	318				311
	Temp(C)	20.0	20.0	20.0	19.5	19.0
25	pH	8.2				8.3
	O2 ppm	9.0				9.0
	Cond.	322				314
	Temp(C)	20.0	20.0	20.0	19.5	19.0
50	pH	8.0				8.2
	O2 ppm	9.3				9.9
	Cond.	332				329
	Temp(C)	20.0	20.0	20.0	19.5	
100	pH	7.6				7.9
	O2 ppm	10.2				10.1
	Cond.	352				353
	Temp(C)	20.0	20.0	20.0	19.5	

Du Pont Canada Inc. (continued)

Du Pont Canada Inc. (continued)

02900021 sampled: 02/26/90 LC50: 70.0 %
95% fid. limits: 61.5 - 79.6 %
comments: MISA Audit/high biological oxygen demand

03900234 sampled: 03/20/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

waste site

process effluent

combined effluent

03890229 sampled: 10/17/89 LC50: 16.2 %
95% fid. limits: 12.1 - 21.6 % slope: 5.4
comments:

03890278 sampled: 11/14/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03890393 sampled: 12/19/89 LC50: 8.0 %
95% fid. limits: 5.3 - 12.0 % slope: 2.5
comments:

03900047 sampled: 01/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900145 sampled: 02/20/90 LC50: 35.3 %
95% fid. limits: 25.0 - 50.0 %
comments:

02900023 sampled: 02/26/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900235 sampled: 03/20/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

rain gauge

intake water

COMPANY: Du Pont Canada Inc., Kingston
(80101)
(now with Kingston Site)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

Data for twelve *Daphnia magna* acute lethality toxicity tests were conducted on samples of combined effluent collected between October 1989 and March 1990 were submitted by DuPont Canada Inc. of Kingston. Toxicity was variable for both outfalls.

All six samples from combined effluent #700 were lethal to *Daphnia*. Toxicity ranged from a sample in which only one animal died, to a sample collected in December with an LC50 = 12.7%.

Two of six samples from combined effluent pipe #1100 were not acutely lethal to *Daphnia*. Toxicity in the remaining 4 samples ranged from the November sample in which only one animal died in the test, to a sample collected in December which generated an LC50 = 8.0%.

Audit tests were conducted in the Ministry laboratory on samples collected in February from both outfalls. The sample from combined effluent #700 was toxic to *Daphnia* with a 48 h LC50 of 70.0%. The sample from combined effluent #1100 was nonlethal.

process effluent

combined effluent

03890228 sampled: 10/17/89 LC50: 18.9 %
95% fid. limits: 14.3 - 24.7 % slope: 5.1
comments:

03890277 sampled: 11/14/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03890392 sampled: 12/19/89 LC50: 12.7 %
95% fid. limits: 10.0 - 16.0 % slope: 5.6
comments:

03900048 sampled: 01/16/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 > 100

03900146 sampled: 02/20/90 LC50: 39.3 %
95% fid. limits: 29.9 - 51.4 % slope: 5.8
comments:

MISA Trout

TOXICITY TEST REPORT Sample: 03900235

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (1100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Dickson
Date Collected : 03/20/90
Received : 03/23/90
Tested : 03/23/90 at: 1340
Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
65	0	0	0	0	0
40	0	0	0	0	0
20	0	0	0	0	0
10	0	0	0	0	0
5	0	0	0	1	10
Control	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50>100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900235

TEST CONC.	E L A P S E D T I M E			
%	00:00	24:00	48:00	72:00 96:00
100	pH 8.2 O2 ppm 10.5 Cond. 349 Temp(C) 15.0	14.5	14.5	14.0 15.0
65	pH 8.1 O2 ppm 10.1 Cond. 411 Temp(C) 15.0	14.5	14.5	14.0 15.0
40	pH 8.0 O2 ppm 9.9 Cond. 459 Temp(C) 15.0	14.5	14.5	14.0 15.0
20	pH 7.9 O2 ppm 9.7 Cond. 495 Temp(C) 15.0	14.5	14.5	14.0 15.0
10	pH 7.9 O2 ppm 9.5 Cond. 510 Temp(C) 15.0	14.5	14.5	14.0 15.0
5	pH 7.9 O2 ppm 9.4 Cond. 530 Temp(C) 15.0	14.5	14.5	14.0 15.0
Control	pH 8.0 O2 ppm 9.4 Cond. 540 Temp(C) 15.0	14.5	14.5	14.0 15.0

TOXICITY TEST REPORT Sample: 01900023

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (1100)
Laboratory : HOE
Sampling Method : Grab
Sampled By : A. Verbaas
Date Collected : 02/26/90
Received : 02/28/90
Tested : 03/01/90 at: 1300

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	00:30	01:00	02:00	21:00	46:00	71:00	96:00
100	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0
30	0	0	0	0	0	1	1	10
20	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 01900023

TEST CONC. %	E L A P S E D T I M E						
	00:00	00:30	01:00	02:00	21:00	46:00	71:00
100	pH 8.6 O2 ppm 10.1 Cond. 270 Temp(C) 15.0	8.9 10.6 295 15.0	7.6 9.9 285 15.0	7.7 10.0 285 15.0	7.7 10.0 285 15.0	7.7 10.1 285 15.0	7.7 10.8 290 15.0
65	pH 8.6 O2 ppm 10.1 Cond. 285 Temp(C) 15.0	8.6 10.6 285 15.0	7.6 10.1 280 15.0	7.6 10.0 280 15.0	7.6 10.0 280 15.0	7.7 10.2 285 15.0	7.6 10.8 285 15.0
40	pH 8.3 O2 ppm 10.5 Cond. 280 Temp(C) 15.0	8.3 10.5 280 15.0	7.5 10.0 270 15.0	7.5 9.8 275 15.0	7.5 10.0 275 15.0	7.5 10.0 275 15.0	7.5 10.6 280 15.0
30	pH 8.1 O2 ppm 10.5 Cond. 275 Temp(C) 15.0	8.1 10.5 275 15.0	7.4 9.8 270 15.0	7.3 9.7 275 15.0	7.3 9.7 275 15.0	7.4 9.8 275 15.0	7.4 10.5 275 15.0
20	pH 7.8 O2 ppm 10.5 Cond. 275 Temp(C) 15.0	7.8 10.5 275 15.0	7.6 10.3 265 15.0	7.6 10.2 270 15.0	7.6 10.3 270 15.0	7.6 10.3 270 15.0	7.5 11.0 270 15.0
10	pH 7.5 O2 ppm 10.4 Cond. 270 Temp(C) 15.0	7.5 10.4 270 15.0	7.5 10.2 265 15.0	7.5 10.2 265 15.0	7.5 10.2 265 15.0	7.5 10.3 265 15.0	7.5 10.8 275 15.0
Control	pH 7.3 O2 ppm 10.3 Cond. 250 Temp(C) 15.0	7.3 10.3 250 15.0	7.3 10.1 265 15.0	7.1 10.1 265 15.0	7.1 10.1 265 15.0	7.2 10.2 260 15.0	7.5 10.7 270 15.0

MISA Trout

TOXICITY TEST REPORT

Sample: 03900145

TEST CONDITIONS

Company : Du Pont Canada Inc.

Region : Kingston, ONT (80101)

Industry : Southeast

Control point : combined effluent, (1100)

Laboratory : BAR

Sampling Method : Grab

Sampled By : D. Dickson

Date Collected : 02/20/90

Received : 02/23/90

Tested : 02/23/90 at: 1600

Type of Bioassay : STATIC

(Protocol to determine the acute lethality of liquid effluents to fish. ONE, 1983).

Test Animal : Rainbow trout

Weight(gm) :

Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00	%	%
100	0	10	10	10	10	10	100	100
65	0	0	0	6	7	8	80	80
40	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0

96 Hour LC50 : 56.8 %

95% fid. limits : 47.6 - 67.7 %

Comments :

SLOPE of Mortality Curve : 8.4

LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03900145

TEST CONC. %		E L A P S E D T I M E						
		00:00	04:00	24:00	48:00	72:00	96:00	
100	pH	11.2	11.2					
	O2 ppm	10.2	10.2					
	Cond.	877	877					
65	Temp(C)	15.0	14.5					
	pH	10.0	9.8					
	O2 ppm	10.2	9.8					
40	Cond.	611	604					
	Temp(C)	15.0	14.5	14.0	14.0	14.0	14.5	
20	pH	9.5	8.2					
	O2 ppm	10.0	8.9					
	Cond.	590	548					
10	Temp(C)	15.0	14.5	14.0	14.0	14.0	14.5	
	pH	8.8	8.2					
	O2 ppm	9.7	9.3					
5	Cond.	547	539					
	Temp(C)	15.0	14.5	14.0	14.0	14.0	14.5	
Control	pH	8.4	8.4					
	O2 ppm	9.5	9.7					
	Cond.	553	532					
Control	Temp(C)	15.0	14.5	14.0	14.0	14.0	14.5	
	pH	7.8	8.4					
	O2 ppm	9.1	9.5					
Control	Cond.	548	540					
	Temp(C)	15.0	14.5	14.0	14.0	14.0	14.5	

TOXICITY TEST REPORT Sample: 03900047

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)

Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Dickson
Date Collected : 01/16/90
Received : 01/19/90
Tested : 01/19/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900047

TEST
CONC.
%
00:00 24:00 48:00 72:00 96:00

100	pH 8.0	02 ppm 9.6	Cond. 338	Temp(C) 16.0	14.0	14.0	14.0	14.0	8.1 9.1 359
65	pH 7.9	02 ppm 9.1	Cond. 410	Temp(C) 16.0	14.0	14.0	14.0	14.0	8.3 9.3 421
40	pH 7.9	02 ppm 8.8	Cond. 464	Temp(C) 16.0	14.0	14.0	14.0	14.0	8.4 9.3 473
20	pH 7.9	02 ppm 8.6	Cond. 504	Temp(C) 16.0	14.0	14.0	14.0	14.0	8.5 9.3 504
10	pH 7.9	02 ppm 8.5	Cond. 526	Temp(C) 16.0	14.0	14.0	14.0	14.0	8.5 8.9 516
5	pH 7.9	02 ppm 8.4	Cond. 530	Temp(C) 16.0	14.0	14.0	14.0	14.0	8.5 9.2 516
Control	pH 7.9	02 ppm 8.1	Cond. 534	Temp(C) 16.0	14.0	14.0	14.0	14.0	8.5 8.1 524

MISA Trout

SLOPE of Mortality Curve : 6.1
LC50 Calculated By : Probit

TOXICITY TEST REPORT Sample: 03890393

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingsston, ONT
(80101)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (1100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Dickson
Date Collected : 12/19/89
Received : 12/22/89
Tested : 12/23/89 at: 1430
Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00			%
100	0	10	10	10	10			100
65	0	8	10	10	10			100
40	0	0	3	3	3			30
20	0	0	0	0	0			0
10	0	0	0	0	0			0
5	0	0	0	0	0			0
Control	0	0	0	0	0			0

96 Hour LC50 : 42.7 %

95% fid. limits : 33.9 - 53.7 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03890393

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00 72:00 96:00

100	pH 8.1	8.5			
	O2 ppm 10.5	9.6			
	Cond. 348	349			
	Temp(C) 15.0	14.0			
65	pH 7.9	8.4			
	O2 ppm 9.6	9.5			
	Cond. 423	430			
	Temp(C) 15.0	14.0	14.0		
40	pH 7.8				8.4
	O2 ppm 9.1				9.3
	Cond. 473				478
	Temp(C) 15.0	14.0	14.0	14.0	14.0
20	pH 7.8				8.5
	O2 ppm 9.0				9.4
	Cond. 513				512
	Temp(C) 15.0	14.0	14.0	14.0	14.0
10	pH 7.8				8.4
	O2 ppm 8.9				9.4
	Cond. 531				531
	Temp(C) 15.0	14.0	14.0	14.0	14.0
5	pH 7.8				8.4
	O2 ppm 8.8				9.2
	Cond. 539				543
	Temp(C) 15.0	14.0	14.0	14.0	14.0
Control	pH 7.8				8.4
	O2 ppm 8.9				9.3
	Cond. 550				558
	Temp(C) 15.0	14.0	14.0	14.0	14.0

TOXICITY TEST REPORT Sample: 03890278

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)

Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Dickson
Date Collected : 11/14/89
Received : 11/17/89
Tested : 11/18/89 at: 1030

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	1	10
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890278

TEST CONC.		E L A P S E D T I M E					
%		00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.9					8.6
	O2 ppm	8.4					10.9
	Cond.	560					548
	Temp(C)	14.0	15.0	14.0	15.0	14.0	14.0
10	pH	7.9					8.6
	O2 ppm	9.3					10.0
	Cond.	543					536
	Temp(C)	14.0	15.0	14.0	15.0	14.0	14.0
20	pH	7.9					8.6
	O2 ppm	9.4					9.8
	Cond.	520					518
	Temp(C)	14.0	15.0	14.0	15.0	14.0	14.0
40	pH	7.9					8.5
	O2 ppm	9.6					9.7
	Cond.	482					480
	Temp(C)	14.0	15.0	14.0	15.0	14.0	14.0
65	pH	8.0					8.2
	O2 ppm	9.8					9.1
	Cond.	434					440
	Temp(C)	14.0	15.0	14.0	15.0	14.0	14.0
100	pH	8.1					8.1
	O2 ppm	10.2					9.6
	Cond.	360					376
	Temp(C)	14.0	15.0	14.0	15.0	14.0	14.0

TOXICITY TEST REPORT Sample: 03890229

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (1100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Dickson
Date Collected : 10/17/89
Received : 10/20/89 at: 1400
Tested : 10/20/89
Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
40	0	0	0	0	0	0
65	0	0	6	7	10	100
100	0	0	10	10	10	100

96 Hour LC50 : 51.0 %

95% fid. limits : 40.0 - 65.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03890229

TEST CONC. %
E L A P S E D T I M E
00:00 04:00 24:00 48:00 72:00 96:00

Control	pH	7.8					8.4
	O2 ppm	8.5					9.1
	Cond.	573					565
	Temp(C)	14.0	14.5	15.0	15.0	15.5	15.0
10	pH	7.8					8.4
	O2 ppm	8.5					9.1
	Cond.	547					538
	Temp(C)	14.0	14.5	15.0	15.0	15.5	15.0
20	pH	7.8					8.4
	O2 ppm	8.6					9.0
	Cond.	523					525
	Temp(C)	14.0	14.5	15.0	15.0	15.5	15.0
40	pH	7.8					8.4
	O2 ppm	9.0					9.1
	Cond.	475					484
	Temp(C)	14.0	14.5	15.0	15.0	15.5	15.0
65	pH	7.9					8.2
	O2 ppm	9.2					9.2
	Cond.	420					428
	Temp(C)	14.0	14.5	15.0	15.0		
100	pH	8.2					8.2
	O2 ppm	9.9					9.4
	Cond.	350					352
	Temp(C)	14.0	14.5	15.0			

TOXICITY TEST REPORT Sample: 03900234

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (700)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Dickson
Date Collected : 03/20/90
Received : 03/23/90
Tested : 03/23/90 at: 1345
Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
65	0	0	0	0	0
40	0	0	0	0	0
20	0	0	0	0	0
10	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900234

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00
100	pH 8.3 O2 ppm 10.5 Cond. 340 Temp(C) 15.0	14.5	14.5	14.0
65	pH 8.1 O2 ppm 9.8 Cond. 411 Temp(C) 15.0	14.5	14.5	14.0
40	pH 8.0 O2 ppm 9.7 Cond. 473 Temp(C) 15.0	14.5	14.5	14.0
20	pH 7.9 O2 ppm 9.2 Cond. 506 Temp(C) 15.0	14.5	14.5	14.0
10	pH 7.9 O2 ppm 8.9 Cond. 526 Temp(C) 15.0	14.5	14.5	14.0
5	pH 7.9 O2 ppm 8.7 Cond. 533 Temp(C) 15.0	14.5	14.5	14.0
Control	pH 7.9 O2 ppm 8.5 Cond. 541 Temp(C) 15.0	14.5	14.5	14.0

MISA Trout

TOXICITY TEST REPORT

Sample: 03900146

TEST CONDITIONS

Company : Du Pont Canada Inc.
 Kingston, ONT
 Region : Southeast
 Industry : Organic Chemical
 Control point : combined effluent, (700)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : D. Dickson
 Date Collected : 02/20/90
 Received : 02/23/90
 Tested : 02/23/90 at: 1600

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	18:30	24:00	48:00	72:00	96:00	%
100	0	7	7	8	8	8	80
65	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0

96 Hour LC50 : 86.4 %
 95% fid. limits : 76.1 - 98.1 %
 Comments :

SLOPE of Mortality Curve : 13.3
 LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03900146

TEST CONC. %	E L A P S E D T I M E				
	00:00	18:30	24:00	48:00	72:00 96:00
100	pH 10.2 O2 ppm 9.7 Cond. 10.1 Temp(C) 447 438	10.0 16.0	14.5	14.0	14.0 15.0
65	pH 9.1 O2 ppm 9.9 Cond. 475 Temp(C) 16.0	14.5	14.5	14.0	14.0 15.0
40	pH 8.7 O2 ppm 9.0 Cond. 483 Temp(C) 15.0	14.5	14.5	14.0	14.0 15.0
20	pH 8.4 O2 ppm 8.6 Cond. 519 Temp(C) 15.0	14.5	14.5	14.0	14.0 15.0
10	pH 8.1 O2 ppm 8.4 Cond. 534 Temp(C) 15.0	14.5	14.5	14.0	14.0 15.0
5	pH 8.0 O2 ppm 8.2 Cond. 536 Temp(C) 15.0	14.5	14.5	14.0	14.0 15.0
Control	pH 7.9 O2 ppm 8.1 Cond. 542 Temp(C) 15.0	14.5	14.5	14.0	14.0 15.0

TOXICITY TEST REPORT Sample: 03900048

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)

Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory

Sampling Method : BAR

Sampled By : D. Dickson

Date Collected : 01/16/90

Received : 01/19/90

Tested : 01/19/90 at: 1500

Type of Bioassay

: STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal

: Rainbow trout

Weight(gm)

Length(mm)

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900048

TEST CONC. %		E L A P S E D T I M E				
		00:00	24:00	48:00	72:00	96:00
100	pH	8.0				8.1
	O2 ppm	10.3				9.1
	Cond.	370				380
65	Temp(C)	14.5	14.0	14.0	14.0	14.0
	pH	7.9				8.3
	O2 ppm	9.9				9.3
40	Cond.	380				443
	Temp(C)	14.5	14.0	14.0	14.0	14.0
	pH	7.9				8.4
20	O2 ppm	9.4				9.4
	Cond.	395				482
	Temp(C)	14.5	14.0	14.0	14.0	14.0
10	pH	7.9				8.5
	O2 ppm	9.3				9.3
	Cond.	517				512
5	Temp(C)	14.5	14.0	14.0	14.0	14.0
	pH	7.9				8.5
	O2 ppm	9.1				9.1
Control	Cond.	533				528
	Temp(C)	14.5	14.0	14.0	14.0	14.0
	pH	7.9				8.5
	O2 ppm	8.7				9.6
	Cond.	546				509
	Temp(C)	14.5	14.0	14.0	14.0	14.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890392

TEST CONDITIONS

Company : Du Pont Canada Inc.

Kingston, ONT
(80101)

Region : Southeast

Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR

Sampling Method : Grab

Sampled By : D. Dickson

Date Collected : 12/19/89

Received : 12/22/89

Tested : 12/23/89 at: 1415

Type of Bioassay

: STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout

Weight(gm) :

Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	7	10	10	10	100
65	0	0	4	4	4	40
40	0	0	0	1	1	10
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : 64.3 %

95% fid. limits : 48.6 - 84.9 %

Comments :

SLOPE of Mortality Curve : 4.3
LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03890392

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00

100	pH	8.0	8.2		
	02 ppm	10.8	9.8		
	Cond.	350	346		
	Temp(C)	15.0	14.0	14.0	14.5
65	pH	7.9			8.3
	02 ppm	10.4			9.8
	Cond.	421			423
	Temp(C)	15.0	14.0	14.0	14.5
40	pH	7.8			8.5
	02 ppm	9.8			9.9
	Cond.	472			468
	Temp(C)	15.0	14.0	14.0	14.5
20	pH	7.8			8.5
	02 ppm	9.6			9.6
	Cond.	510			507
	Temp(C)	15.0	14.0	14.0	14.5
10	pH	7.8			8.5
	02 ppm	9.4			9.6
	Cond.	531			528
	Temp(C)	15.0	14.0	14.0	14.5
5	pH	7.8			8.5
	02 ppm	9.3			9.5
	Cond.	543			549
	Temp(C)	15.0	14.0	14.0	14.5
Control	pH	7.9			8.5
	02 ppm	9.3			9.8
	Cond.	552			553
	Temp(C)	15.0	14.0	14.0	14.5

TOXICITY TEST REPORT Sample: 03890277

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)

Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (700)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Dickson
Date Collected : 11/14/89
Received : 11/17/89
Tested : 11/18/89 at: 1030

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00 96:00	%
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
40	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890277

TEST : E L A P S E D T I M E
CONC. % 00:00 04:00 24:00 48:00 72:00 96:00

Control	pH	7.9					8.6
	O2 ppm	8.8					11.0
	Cond.	560					541
	Temp(C)	14.0	15.0	14.0	15.0	14.0	14.0
10	pH	7.9					8.5
	O2 ppm	9.1					10.8
	Cond.	538					529
	Temp(C)	14.0	15.0	14.0	15.0	14.0	14.0
20	pH	7.9					8.6
	O2 ppm	9.2					10.9
	Cond.	521					510
	Temp(C)	14.0	15.0	14.0	15.0	14.0	14.0
40	pH	8.0					8.5
	O2 ppm	9.4					10.9
	Cond.	482					477
	Temp(C)	14.0	15.0	14.0	15.0	14.0	14.0
65	pH	8.0					8.4
	O2 ppm	9.7					10.9
	Cond.	432					429
	Temp(C)	14.0	15.0	14.0	15.0	14.0	14.0
100	pH	8.3					8.2
	O2 ppm	10.0					11.0
	Cond.	348					360
	Temp(C)	14.0	15.0	14.0	15.0	14.0	14.0

TOXICITY TEST REPORT Sample: 03890228

TEST CONDITIONS

Company : Du Pont Canada Inc.
Kingston, ONT
(80101)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (700)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Dickson
Date Collected : 10/17/89
Received : 10/20/89 at: 1400
Tested : 10/20/89
Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00 96:00	%
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
40	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	0	4	10	10	100

96 Hour LC50 : 81.0 %

95% fid. limits : 65.0 - 100.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03890228

TEST
CONC.
%

E L A P S E D T I M E

00:00 04:00 24:00 48:00 72:00 96:00

Control	pH	7.7					8.4
	O2 ppm	8.7					9.2
	Cond.	573					547
	Temp(C)	14.0	14.5	14.0	15.0	15.5	15.5
10	pH	7.7					8.4
	O2 ppm	8.7					9.2
	Cond.	551					542
	Temp(C)	14.0	14.5	14.0	15.0	15.5	15.5
20	pH	7.7					8.4
	O2 ppm	8.8					9.1
	Cond.	530					526
	Temp(C)	14.0	14.5	14.0	15.0	15.5	15.5
40	pH	7.7					8.3
	O2 ppm	8.9					9.1
	Cond.	485					489
	Temp(C)	14.0	14.5	14.0	15.0	15.5	15.5
65	pH	7.6					8.2
	O2 ppm	9.3					9.1
	Cond.	445					439
	Temp(C)	14.0	14.5	14.0	15.0	15.5	15.5
100	pH	7.6					7.6
	O2 ppm	9.9					8.8
	Cond.	366					368
	Temp(C)	14.0	14.5	14.0	15.0	15.0	15.0

Du Pont Canada Inc. (continued)

03900234 sampled: 03/20/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

waste site

process effluent

combined effluent

03890229 sampled: 10/17/89 LC50: 51.0 %
95% fid. limits: 40.0 - 65.0 %
comments:

03890278 sampled: 11/14/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03890393 sampled: 12/19/89 LC50: 42.7 %
95% fid. limits: 33.9 - 53.7 % slope: 6.1
comments:

03900047 sampled: 01/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900145 sampled: 02/20/90 LC50: 56.8 %
95% fid. limits: 47.6 - 67.7 % slope: 8.4
comments:

01900023 sampled: 02/26/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03900235 sampled: 03/20/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50>100

rain gauge

intake water

COMPANY: Du Pont Canada Inc., Kingston
(80101)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

The data for twelve trout bioassays, conducted on combined effluent samples collected between October 1989 and March 1990, were provided by Du Pont Canada Incorporated. Three of the six samples collected from combined effluent (control point 0700) were determined to have been acutely lethal to test fish. Statistically, the percentage effluent to kill 50 % of the test fish by the end of four days exposure, for each sample, were 81.0 % (October), 64.3 % (December), and 86.4 % (February). The other three samples were determined to have been non-acutely lethal. Three of the six samples collected from the combined effluent (control point 1100) were determined to have been acutely lethal to test fish. Statistically, the percentage effluent to kill 50 % of the test fish by the end of four days exposure, for each sample, were 51.0 % (October), 42.7 % (December) and 56.8 % (February). One sample 96 hour LC50 was > 100 % and the other two samples were determined to have been non-acutely lethal. An audit sample collected from combined effluent (control point 1100) was tested by O.M.E. laboratory and its 96 hour LC50 was > 100 %.

process effluent

combined effluent

03890228 sampled: 10/17/89 LC50: 81.0 %
95% fid. limits: 65.0 - 100.0 %
comments:

03890277 sampled: 11/14/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03890392 sampled: 12/19/89 LC50: 64.3 %
95% fid. limits: 48.6 - 84.9 % slope: 4.3
comments:

03900048 sampled: 01/16/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900146 sampled: 02/20/90 LC50: 86.4 %
95% fid. limits: 76.1 - 98.1 % slope: 13.3
comments:

TOXICITY TEST REPORT Sample: 02900017

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (400)
Laboratory : MOE
Sampling Method : Grab
Sampled By : D. Hamilton
Date Collected : 02/20/90
Received : 02/20/90
Tested : 02/20/90 at: 1502
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol, OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	01:00	24:00	48:00	%
100	0	0	1	1	8
60	0	0	2	5	41
30	0	0	1	4	33
15	0	0	2	4	33
5	0	0	0	0	0
Control	0	1	1	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 -- 0.0 %

Comments : MISA Audit/bell-shaped lethality curve

SLOPE of Mortality Curve : None
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 02900017

TEST CONC.	E L A P S E D T I M E			
%	00:00	01:00	24:00	48:00
100	pH 7.7 O2 ppm 9.2 Cond. 291 Temp(C) 20.0	7.7 9.2 291 20.0	7.9 8.2 295 20.0	7.9 8.2 295 20.0
60	pH 7.8 O2 ppm 9.3 Cond. 303 Temp(C) 20.0	7.8 9.3 303 20.0	8.0 8.3 304 20.0	8.0 8.3 304 20.0
30	pH 7.9 O2 ppm 9.3 Cond. 310 Temp(C) 20.0	7.9 9.3 310 20.0	8.0 8.3 310 20.0	8.0 8.3 310 20.0
15	pH 7.9 O2 ppm 9.3 Cond. 312 Temp(C) 20.0	7.9 9.3 312 20.0	8.0 8.2 314 20.0	8.0 8.2 314 20.0
5	pH 7.9 O2 ppm 9.3 Cond. 314 Temp(C) 20.0	7.9 9.3 314 20.0	7.9 8.3 314 20.0	7.9 8.3 314 20.0
Control	pH 7.9 O2 ppm 9.2 Cond. 305 Temp(C) 20.0	7.9 9.2 305 20.0	7.8 8.3 307 20.0	7.8 8.3 307 20.0

TOXICITY TEST REPORT

Sample: 05900055

TEST CONDITIONS

Company : Du Pont Canada Inc.

Region : Corunna, ONT

Industry : Southwest

Control point : Organic Chemical

Laboratory : combined effluent, (200)

Sampling Method : Pollutech

Sampled By : Grab

Date Collected : C. Ferguson

Received : 03/14/90

Tested : 03/14/90 at: 1240

Type of Bioassay

: STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal

Weight(gm) : D. magna

Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME	TOTAL MORTALITY
%	00:00 48:00	%
100	0 0	0
50	0 0	0
26	0 0	0
13	0 0	0
6	0 0	0
Control	0 0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05900055

TEST CONC.	ELAPSED TIME
%	00:00 48:00

100	pH 8.0	8.0	8.0
	O2 ppm 9.0	9.0	8.3
	Cond. 280	280	290
	Temp(C) 20.0	20.0	20.0
50	pH 8.2	8.1	8.1
	O2 ppm 8.8	8.4	8.4
	Cond. 420	418	418
	Temp(C) 20.0	20.0	20.0
26	pH 8.3	8.2	8.2
	O2 ppm 8.8	8.8	8.8
	Cond. 470	465	465
	Temp(C) 20.0	20.0	20.0
13	pH 8.3	8.3	8.3
	O2 ppm 8.8	9.0	9.0
	Cond. 500	490	490
	Temp(C) 20.0	20.0	20.0
6	pH 8.3	8.3	8.3
	O2 ppm 8.8	9.2	9.2
	Cond. 520	500	500
	Temp(C) 20.0	20.0	20.0
Control	pH 8.4	8.3	8.3
	O2 ppm 8.8	9.2	9.2
	Cond. 520	510	510
	Temp(C) 20.0	20.0	20.0

TOXICITY TEST REPORT Sample: 02900016

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (200)
Laboratory : MOE
Sampling Method : Grab
Sampled By : D. Hamilton
Date Collected : 02/20/90
Received : 02/20/90
Tested : 02/20/90 at: 1410

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME				TOTAL MORTALITY
%	00:00	01:00	24:00	48:00	%
100	0	0	1	1	8
60	0	0	1	0	0
30	0	0	0	0	0
15	0	0	0	0	0
5	0	1	1	1	8
Control	0	0	0	0	0

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 02900016

TEST CONC. %	E L A P S E D T I M E		
	00:00	01:00	24:00 48:00
100	pH 7.6 O2 ppm 9.4 Cond. 327 Temp(C) 20.0	7.9 8.0 330 20.0	7.9 8.0 330 20.0
60	pH 7.8 O2 ppm 9.4 Cond. 325 Temp(C) 20.0	7.9 8.1 325 20.0	7.9 8.1 325 20.0
30	pH 7.8 O2 ppm 9.3 Cond. 320 Temp(C) 20.0	7.8 8.2 319 20.0	8.0 8.2 319 20.0
15	pH 7.9 O2 ppm 9.4 Cond. 318 Temp(C) 20.0	7.9 8.3 320 20.0	8.0 8.3 320 20.0
5	pH 7.8 O2 ppm 9.3 Cond. 316 Temp(C) 20.0	7.8 8.3 321 20.0	8.0 8.3 321 20.0
Control	pH 7.8 O2 ppm 9.2 Cond. 305 Temp(C) 20.0	7.8 8.3 309 20.0	8.0 8.3 309 20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05890126

TEST CONDITIONS

Company : Du Pont Canada Inc.
Corunna, ONT
(80309)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (200)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P. Tymstra
Date Collected : 12/13/89
Received : 12/13/89
Tested : 12/13/89 at: 1440

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME	TOTAL MORTALITY
%	00:00 48:30	%
100	0	0
50	0	0
26	0	8
13	0	0
6	0	0
Control	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890126

TEST CONC. %
ELAPSED TIME
00:00 48:30

100	pH 8.0 02 ppm 8.0 Cond. 9.0 Temp(C) 8.6 270 285 20.0 20.0
50	pH 8.1 02 ppm 9.0 Cond. 8.9 384 402 20.0 20.0
26	pH 8.1 02 ppm 9.0 Cond. 438 450 20.0 20.0
13	pH 8.1 02 ppm 9.0 Cond. 460 470 20.0 20.0
6	pH 8.1 02 ppm 9.0 Cond. 470 482 20.0 20.0
Control	pH 8.1 02 ppm 9.4 Cond. 488 495 20.0 20.0

TOXICITY TEST REPORT Sample: 05900017

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : Batch, (1700)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P. Tymstra
Date Collected : 01/15/90
Received : 01/15/90
Tested : 01/16/90 at: 1200
Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	21:00	45:30	76:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05900017

TEST CONC. %	E L A P S E D T I M E				
	00:00	21:00	45:30	76:00	96:00
100	pH 9.0 O2 ppm 8.7 Cond. 4010 Temp(C) 15.0	8.6 8.2 8.9 15.0	8.5 8.9 9.0 15.0	8.3 9.0 9.4 15.0	8.0 9.2 3920 15.0
100	pH 9.0 O2 ppm 8.5 Cond. 4190 Temp(C) 15.0	8.6 8.2 9.0 15.0	8.6 9.0 9.0 15.0	8.3 9.0 9.2 15.0	8.0 8.9 3900 15.0
Control	pH 7.7 O2 ppm 10.0 Cond. 181 Temp(C) 15.0	7.6 8.7 9.0 15.0	7.6 9.0 9.4 15.0	7.5 9.4 181 15.0	7.4 9.2 181 15.0
Control	pH 7.7 O2 ppm 10.0 Cond. 180 Temp(C) 15.0	7.5 8.5 8.7 15.0	7.5 8.7 9.2 15.0	7.5 9.2 182 15.0	7.4 9.6 182 15.0

TOXICITY TEST REPORT Sample: 05900041

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : Batch, (1700)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 02/19/90
Received : 02/19/90
Tested : 02/21/90 at: 1900

Type of Bioassay

: STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. ONE, 1983).

Test Animal
Weight(gm)
Length(mm)

: Rainbow trout
:
:

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	16:00	44:50	63:30	96:00	%	
100	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05900041

TEST CONC.	E L A P S E D T I M E					
%	00:00	16:00	44:50	63:30	96:00	
100	pH	7.2				8.0
	O2 ppm	8.0				10.1
	Cond.	4080				4090
	Temp(C)	15.0				15.0
100	pH	7.1				7.9
	O2 ppm	8.2				9.6
	Cond.	1060				4090
	Temp(C)	15.0				15.0
Control	pH	7.5				7.4
	O2 ppm	10.4				10.2
	Cond.	170				188
	Temp(C)	15.0				15.0
Control	pH	7.6				7.4
	O2 ppm	10.3				10.2
	Cond.	169				188
	Temp(C)	15.0				15.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 059000061

TEST CONDITIONS

Company : Polysar Limited
 Sarnia, ONT
 (30007)
Region : Southwest
Industry : Organic Chemical

Control point : Batch, (1700)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 03/19/90
Received : 03/19/90
Tested : 03/21/90 at: 1330

Type of Bioassay : STATIC
 (protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	23:25	43:15	75:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 059000061

TEST CONC. %	E L A P S E D T I M E				
	00:00	23:25	43:15	75:00	96:00
100	pH	8.0			8.5
	O2 ppm	10.0			9.8
	Cond.	4190			4180
100	Temp(C)	15.0			15.0
	pH	8.0			8.4
	O2 ppm	10.2			9.7
Control	Cond.	4190			4160
	Temp(C)	15.0			15.0
Control	pH	7.5			7.7
	O2 ppm	12.1			9.8
	Cond.	166			189
Control	Temp(C)	15.0			15.0
	pH	7.6			7.8
	O2 ppm	11.7			9.8
	Cond.	168			182
	Temp(C)	15.0			15.0

TOXICITY TEST REPORT Sample: 05890086

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : process effluent, (1800)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 10/16/89
Received : 10/16/89
Tested : 10/17/89 at: 1135
Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	22:05	47:05	70:05	97:05
100	0	0	0	0	0
75	0	0	0	0	0
56	0	0	0	0	0
25	0	0	0	0	0
10	0	0	0	0	0
1	0	0	0	0	0
Control	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890086

TEST CONC.	E L A P S E D T I M E				
%	00:00	22:05	47:05	70:05	97:05
100	pH 6.5	7.4	7.4	7.5	7.4
	O2 ppm 7.6	8.6	8.5	9.1	9.5
	Cond. 1890				1720
	Temp(C) 15.0	15.0	15.0	15.0	15.0
75	pH 6.6	7.3	7.4	7.4	7.3
	O2 ppm 8.4	8.4	8.5	9.1	9.5
	Cond. 1450				1390
	Temp(C) 15.0	15.0	15.0	15.0	15.0
56	pH 6.7	7.4	7.4	7.4	7.4
	O2 ppm 8.4	8.8	8.8	9.3	9.4
	Cond. 1100				1080
	Temp(C) 15.0	15.0	15.0	15.0	15.0
25	pH 6.8	7.3	7.4	7.4	7.4
	O2 ppm 8.4	8.3	8.4	8.8	9.4
	Cond. 590				600
	Temp(C) 15.0	15.0	15.0	15.0	15.0
10	pH 6.9	7.1	7.4	7.4	7.3
	O2 ppm 8.3	7.2	8.8	8.9	9.4
	Cond. 360				362
	Temp(C) 15.0	15.0	15.0	15.0	15.0
1	pH 7.0	7.3	7.4	7.4	7.4
	O2 ppm 8.4	8.5	8.5	8.7	9.2
	Cond. 185				191
	Temp(C) 15.0	15.0	15.0	15.0	15.0
Control	pH 6.9	7.3	7.3	7.4	7.4
	O2 ppm 8.6	8.2	8.1	8.5	8.9
	Cond. 167				172
	Temp(C) 15.0	15.0	15.0	15.0	15.0
Control	pH 6.9	7.1	7.2	7.2	7.4
	O2 ppm 8.8	7.7	8.2	8.5	9.0
	Cond. 170				174
	Temp(C) 15.0	15.0	15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 05890112

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : process effluent, (1800)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 11/20/89
Received : 11/20/89
Tested : 11/21/89 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	23:40	51:00	76:30	96:00	%
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890112

TEST CONC. %	E L A P S E D T I M E				
	00:00	23:40	51:00	76:30	96:00

100	pH 7.0	7.8	8.0	8.2	8.1
	O2 ppm 8.2	10.1	9.6	10.0	10.1
	Cond. 2170				2100
	Temp(C) 15.0	15.0	15.0	15.0	15.0
75	pH 7.0	7.9	7.9	8.2	8.1
	O2 ppm 8.6	9.9	9.6	10.1	9.9
	Cond. 1720				1650
	Temp(C) 15.0	15.0	15.0	15.0	15.0
56	pH 7.1	7.9	7.9	8.1	8.0
	O2 ppm 9.0	10.0	9.6	10.0	10.0
	Cond. 1310				1300
	Temp(C) 15.0	15.0	15.0	15.0	15.0
25	pH 7.1	7.8	7.8	8.1	8.0
	O2 ppm 9.4	9.9	9.5	9.9	9.9
	Cond. 650				710
	Temp(C) 15.0	15.0	15.0	15.0	15.0
10	pH 7.1	7.7	7.6	7.9	7.8
	O2 ppm 9.8	9.9	9.4	9.5	9.7
	Cond. 411				405
	Temp(C) 15.0	15.0	15.0	15.0	15.0
1	pH 7.1	7.7	7.6	7.8	7.7
	O2 ppm 10.0	9.8	9.4	10.1	10.2
	Cond. 195				192
	Temp(C) 15.0	15.0	15.0	15.0	15.0
Control	pH 7.2	7.5	7.7	7.7	7.7
	O2 ppm 9.7	10.4	9.8	10.2	10.2
	Cond. 170				170
	Temp(C) 15.0	15.0	15.0	15.0	15.0
Control	pH 7.1	7.6	7.9	7.8	7.7
	O2 ppm 9.9	10.3	9.8	10.4	10.4
	Cond. 171				171
	Temp(C) 15.0	15.0	15.0	15.0	15.0

TOXICITY TEST REPORT Sample: 05890133

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : process effluent, (1800)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 12/18/89
Received : 12/18/89 at: 1500
Tested : 12/18/89
Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	19:30	43:30	72:30	96:00	%	%
100	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890133

TEST CONC. %

E L A P S E D T I M E

00:00 19:30 43:30 72:30 96:00

100	pH	6.7	7.5	7.9	7.8	7.9
	O2 ppm	8.2	8.2	9.2	8.1	9.4
	Cond.	2080				2120
	Temp(C)	15.0	15.0	15.0	15.0	15.0
75	pH	6.9	7.6	8.0	7.9	8.0
	O2 ppm	8.8	8.7	9.8	9.4	9.5
	Cond.	1600				1650
	Temp(C)	15.0	15.0	15.0	15.0	15.0
56	pH	7.0	7.6	8.0	7.8	7.8
	O2 ppm	9.1	9.6	9.6	9.6	9.3
	Cond.	1305				1310
	Temp(C)	15.0	15.0	15.0	15.0	15.0
25	pH	7.3	7.6	8.0	7.8	7.8
	O2 ppm	9.8	8.8	9.6	9.2	9.3
	Cond.	710				780
	Temp(C)	15.0	15.0	15.0	15.0	15.0
10	pH	7.5	7.6	8.0	7.7	7.8
	O2 ppm	10.2	9.0	9.4	9.2	9.2
	Cond.	408				418
	Temp(C)	15.0	15.0	15.0	15.0	15.0
1	pH	7.8	7.6	7.9	7.8	7.8
	O2 ppm	10.4	9.6	9.3	9.2	9.4
	Cond.	195				205
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.7	7.6	7.8	7.6	7.8
	O2 ppm	10.5	10.0	9.3	9.2	9.8
	Cond.	170				176
	Temp(C)	15.0	15.0	15.0	15.0	15.0
Control	pH	7.7	7.6	7.8	7.7	7.8
	O2 ppm	10.4	9.9	9.4	9.4	9.6
	Cond.	170				176
	Temp(C)	15.0	15.0	15.0	15.0	15.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 05900013

TOXICITY TEST PARAMETERS

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT (30007)
Region : Southwest
Industry : Organic Chemical
Control point : process effluent, (1800)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P. Tymstra
Date Collected : 01/15/90
Received : 01/15/90
Tested : 01/16/90 at: 1200
Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME						TOTAL MORTALITY
%	00:00	21:00	45:30	76:00	96:00	%	%
100	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %

Comments :

Sample Number: 05900013

TEST CONC.	ELAPSED TIME					
%	00:00	21:00	45:30	76:00	96:00	
100	pH 7.0	02 ppm 8.3	Cond. 1870	Temp(C) 15.0	7.9	9.5
75	pH 7.1	02 ppm 8.8	Cond. 1480	Temp(C) 15.0	7.7	9.5
56	pH 7.2	02 ppm 9.2	Cond. 1120	Temp(C) 15.0	7.7	9.5
25	pH 7.3	02 ppm 9.8	Cond. 650	Temp(C) 15.0	7.5	9.6
10	pH 7.5	02 ppm 9.9	Cond. 350	Temp(C) 15.0	7.5	9.6
1	pH 7.7	02 ppm 10.1	Cond. 193	Temp(C) 15.0	7.5	9.4
Control	pH 7.7	02 ppm 10.0	Cond. 181	Temp(C) 15.0	7.4	9.2
Control	pH 7.7	02 ppm 10.0	Cond. 180	Temp(C) 15.0	7.4	9.6

TOXICITY TEST REPORT

Sample: 05900039

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : process effluent, (1800)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 02/19/90
Received : 02/19/90
Tested : 02/21/90 at: 1900
Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	16:00	44:50	63:30	96:00	%	
100	0	0	0	0	0	0	
75	0	0	0	0	0	0	
56	0	0	0	0	0	0	
25	0	0	0	0	0	0	
10	0	0	0	0	0	0	
1	0	0	0	0	0	0	
Control	0	0	0	0	0	0	
Control	0	0	0	0	0	0	

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05900039

TEST CONC.	E L A P S E D T I M E					
%	00:00	16:00	44:50	63:30	96:00	
100	pH 7.2	02 ppm 8.9	Cond. 2130	Temp(C) 15.0	7.9	9.5
75	pH 7.3	02 ppm 9.2	Cond. 1690	Temp(C) 15.0	7.7	9.5
56	pH 7.3	02 ppm 9.6	Cond. 880	Temp(C) 15.0	7.7	9.5
25	pH 7.4	02 ppm 9.9	Cond. 760	Temp(C) 15.0	7.5	9.6
10	pH 7.5	02 ppm 10.2	Cond. 382	Temp(C) 15.0	7.5	9.6
1	pH 7.5	02 ppm 10.0	Cond. 191	Temp(C) 15.0	7.5	9.4
Control	pH 7.5	02 ppm 10.4	Cond. 170	Temp(C) 15.0	7.4	9.2
Control	pH 7.6	02 ppm 10.3	Cond. 169	Temp(C) 15.0	7.4	9.6

TOXICITY TEST REPORT Sample: 059000058

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : process effluent, (1800)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 03/19/90
Received : 03/19/90
Tested : 03/20/90 at: 1330
Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	23:25	43:15	75:00	96:00	%
100	0	0	0	0	0	0
75	0	0	0	0	0	0
56	0	0	0	0	0	0
25	0	0	0	0	0	0
10	0	0	0	0	0	0
1	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal.

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 059000058

TEST CONC. %	E L A P S E D T I M E			
	00:00	23:25	43:15	75:00 96:00

100	pH	7.0	7.7
	O2 ppm	9.2	9.7
	Cond.	1700	1710
	Temp(C)	15.0	15.0
75	pH	7.1	7.7
	O2 ppm	9.7	9.6
	Cond.	1380	1390
	Temp(C)	15.0	15.0
56	pH	7.3	7.6
	O2 ppm	10.4	9.6
	Cond.	1110	1090
	Temp(C)	15.0	15.0
25	pH	7.4	7.6
	O2 ppm	11.0	9.8
	Cond.	610	650
	Temp(C)	15.0	15.0
10	pH	7.5	7.5
	O2 ppm	11.3	9.6
	Cond.	329	342
	Temp(C)	15.0	15.0
1	pH	7.5	7.4
	O2 ppm	11.4	8.8
	Cond.	180	220
	Temp(C)	15.0	15.0
Control	pH	7.5	7.7
	O2 ppm	12.1	9.8
	Cond.	166	189
	Temp(C)	15.0	15.0
Control	pH	7.6	7.8
	O2 ppm	11.7	9.8
	Cond.	168	182
	Temp(C)	15.0	15.0

COMPANY: Polysar Limited, 'Sarnia
(30007)
SECTOR: Organic Chemical
REGION: Southwest

SUMMARY

Data for forty *Daphnia magna* acute lethality toxicity tests conducted on samples of effluent collected between October 1989 and March 1990 were submitted by Polysar Limited of Sarnia. The samples generally had little or no acute toxicity to *Daphnia* for all eight outfalls being examined. The exceptions were three samples of combined effluent from outfalls #200, 500 and 1100 collected in February or March. These samples were acutely toxic to *Daphnia* with LC50s ranging from 2.6 to 59.7%.

The four samples from once through cooling water outfalls #1400 and 1600 were not acutely lethal to *Daphnia*.

The six samples from Batch effluent #1700 were not acutely lethal to *Daphnia*. Three of six samples of process effluent #1800 were nonlethal, and three samples had only one or two neonates die during the duration of the test.

Four samples from combined effluent #200 were not acutely lethal to *Daphnia*, and one sample had a 48 h LC50 > 100%. One sample collected in March was very toxic to *Daphnia* with an 48 h LC50 = 2.6%. Similarly, three samples from combined effluent #1100 were nonlethal, two samples had LC50s > 100% and the March sample was acutely toxic to *Daphnia* with an LC50 = 59.7%. Four samples from combined effluent #500 were nonlethal, and one sample had an LC50 > 100%. The toxic sample in this case was collected in February and had a 48 h LC50 = 6%. There was no change in pH, or conductivity in any of the toxic samples to give a clue as to the cause of their toxicity. Such deviations from the normal effluent quality may have been caused by a system failure, or by routine pipe cleaning maintenance. Five samples from combined effluent #400 were nonlethal and one sample had two mortalities in the 100% effluent only.

combined effluent

05890083 sampled: 10/09/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890096 sampled: 11/06/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890122 sampled: 12/04/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

Polysar Limited (continued)

05900001 sampled: 01/01/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Control Mortality <10%

05900023 sampled: 02/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900049 sampled: 03/05/90 LC50: 2.6 %
95% fid. limits: 1.9 - 3.5 %
comments:

process effluent

combined effluent

05890081 sampled: 10/09/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890103 sampled: 11/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890123 sampled: 12/11/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

05900016 sampled: 01/08/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Duplicate also tested

05900029 sampled: 02/12/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900068 sampled: 03/26/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

combined effluent

05890085 sampled: 10/16/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

05890114 sampled: 11/20/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

Polysar Limited (continued)

05890132 sampled: 12/18/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900014 sampled: 01/15/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900038 sampled: 02/19/90 LC50: 0.0 - 6.0 %
95% fid. limits: 0.0 - 0.0 %
comments:

05900060 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

emergency overflow

process effluent

process effluent

process effluent

combined effluent

05890087 sampled: 10/16/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890113 sampled: 11/20/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890131 sampled: 12/18/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

05900012 sampled: 01/15/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900040 sampled: 02/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900059 sampled: 03/19/90 LC50: 59.7 %
95% fid. limits: 50.5 - 70.7 %
comments:

Polysar Limited (continued)

emergency overflow

storm water

OT cooling water

05890095 sampled: 11/06/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900022 sampled: 02/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

storm water

OT cooling water

05890097 sampled: 11/06/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

05900024 sampled: 02/05/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

Batch

05890091 sampled: 10/30/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890115 sampled: 11/20/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05890134 sampled: 12/18/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900017 sampled: 01/15/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900041 sampled: 02/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900061 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

Polysar Limited (continued)

process effluent

05890086 sampled: 10/16/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

05890112 sampled: 11/20/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

05890133 sampled: 12/18/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

05900013 sampled: 01/15/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Duplicate Tested

05900039 sampled: 02/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

05900058 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

process effluent

storm water

storm water

storm water

rain gauge

intake water

TOXICITY TEST REPORT Sample: 05890083

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (200)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : T. Moran
Date Collected : 10/09/89
Received : 10/09/89
Tested : 10/10/89 at: 1500
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	%	ELAPSED TIME	TOTAL MORTALITY
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890083

TEST CONC. %
ELAPSED TIME
00:00 48:20

100	pH 7.9	7.8
	O2 ppm 9.6	9.0
	Cond. 188	200
	Temp(C) 20.0	20.0
50	pH 8.0	8.0
	O2 ppm 9.2	8.9
	Cond. 362	390
	Temp(C) 20.0	20.0
26	pH 8.1	8.0
	O2 ppm 9.2	8.2
	Cond. 440	460
	Temp(C) 20.0	20.0
13	pH 8.1	8.0
	O2 ppm 9.2	9.0
	Cond. 480	495
	Temp(C) 20.0	20.0
6	pH 8.0	8.0
	O2 ppm 9.2	9.0
	Cond. 482	500
	Temp(C) 20.0	20.0
Control	pH 8.0	8.0
	O2 ppm 9.6	9.4
	Cond. 500	505
	Temp(C) 20.0	20.0

TOXICITY TEST REPORT Sample: 058900096

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT (30007)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (200)
Laboratory : Pollutech
Sampling Method : grab
Sampled By : C. Ferguson
Date Collected : 11/06/89
Received : 11/06/89
Tested : 11/08/89 at: 1150

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 48:35	%
100	0	0
50	0	0
26	0	0
13	0	0
6	0	0
Control	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 058900096

TEST CONC. %
E L A P S E D T I M E
00:00 48:35

100	pH 7.7 8.0 O2 ppm 9.2 8.5 Cond. 198 201 Temp(C) 20.0 20.0
50	pH 7.9 8.1 O2 ppm 9.1 8.6 Cond. 349 349 Temp(C) 20.0 20.0
26	pH 8.0 8.2 O2 ppm 9.2 8.7 Cond. 420 411 Temp(C) 20.0 20.0
13	pH 8.1 8.2 O2 ppm 9.3 8.7 Cond. 452 445 Temp(C) 20.0 20.0
6	pH 8.1 8.2 O2 ppm 9.3 8.9 Cond. 470 471 Temp(C) 20.0 20.0
Control	pH 8.0 8.1 O2 ppm 9.4 9.3 Cond. 465 463 Temp(C) 20.0 20.0

TOXICITY TEST REPORT Sample: 05890122

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (200)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P. Tymstra
Date Collected : 12/04/89
Received : 12/04/89
Tested : 12/07/89 at: 1000

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol - OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME		TOTAL MORTALITY
%	00:00	48:00	%
100	0	1	8
50	0	2	16
26	0	0	0
13	0	1	8
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890122

TEST CONC. %	ELAPSED TIME	
	00:00	48:00
100	pH 7.7 O2 ppm 8.8 Cond. 202 Temp(C) 210 20.0	7.9 9.2 210 20.0
50	pH 8.0 O2 ppm 8.8 Cond. 349 Temp(C) 20.0	8.1 8.9 350 20.0
26	pH 8.0 O2 ppm 8.8 Cond. 418 Temp(C) 20.0	8.1 9.0 418 20.0
13	pH 8.1 O2 ppm 9.0 Cond. 452 Temp(C) 20.0	8.1 9.2 452 20.0
6	pH 8.1 O2 ppm 9.2 Cond. 482 Temp(C) 20.0	8.1 9.2 480 20.0
Control	pH 8.2 O2 ppm 9.2 Cond. 490 Temp(C) 20.0	8.1 9.2 495 20.0

TOXICITY TEST REPORT Sample: 05900001

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (200)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : T.Moran
Date Collected : 01/01/90
Received : 01/01/90
Tested : 01/02/90 at: 1215

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00 48:00		%
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	1	8

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Control Mortality <10%

TOXICITY TEST PARAMETERS

Sample Number: 059000001

TEST CONC.	E L A P S E D T I M E	
%	00:00 48:00	

100	pH	7.8	8.0
	O ₂ ppm	9.8	9.4
	Cond.	208	223
	Temp(C)	20.0	20.0
50	pH	8.3	8.1
	O ₂ ppm	9.6	9.3
	Cond.	352	360
	Temp(C)	20.0	20.0
26	pH	8.4	8.2
	O ₂ ppm	9.5	9.3
	Cond.	420	424
	Temp(C)	20.0	20.0
13	pH	8.4	8.3
	O ₂ ppm	9.6	9.3
	Cond.	450	455
	Temp(C)	20.0	20.0
6	pH	8.4	8.3
	O ₂ ppm	9.4	9.2
	Cond.	469	470
	Temp(C)	20.0	20.0
Control	pH	8.3	8.1
	O ₂ ppm	9.3	9.2
	Cond.	480	480
	Temp(C)	20.0	20.0

TOXICITY TEST REPORT Sample: 05900023

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (200)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 02/05/90
Received : 02/05/90
Tested : 02/05/90 at: 1550

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME	TOTAL MORTALITY
%	00:00 48:50	%
100	0	0
50	0	0
26	0	0
13	0	0
6	0	0
Control	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05900023

TEST CONC. % ELAPSED TIME
00:00 48:50

100	pH 7.9 7.8 O2 ppm 10.1 9.0 Cond. 200 210 Temp(C) 20.0 20.0
50	pH 8.1 8.0 O2 ppm 9.2 8.8 Cond. 358 360 Temp(C) 20.0 20.0
26	pH 8.2 8.1 O2 ppm 9.1 8.8 Cond. 430 428 Temp(C) 20.0 20.0
13	pH 8.2 8.1 O2 ppm 9.1 8.7 Cond. 466 460 Temp(C) 20.0 20.0
6	pH 8.2 8.1 O2 ppm 9.2 8.8 Cond. 484 480 Temp(C) 20.0 20.0
Control	pH 8.2 8.1 O2 ppm 9.4 8.9 Cond. 500 500 Temp(C) 20.0 20.0

TOXICITY TEST REPORT Sample: 059000049

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (200)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 03/05/90
Received : 03/05/90
Tested : 03/05/90 at: 1450

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 48:00	%
100	0 12	100
50	0 12	100
26	0 12	100
13	0 12	100
6	0 12	100
2	0 4	33
1	0 0	0
1	0 0	0
Control	0 0	0

48 Hour LC50 : 2.6 %
95% fid. limits : 1.9 - 3.5 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 059000049

TEST CONC. %
E L A P S E D T I M E
00:00 48:00

100	pH 8.2 O2 ppm 7.8 Cond. 212 Temp(C) 20.0	8.2 8.2 7.8 9.0 212 224 20.0 20.0
50	pH 8.3 O2 ppm 8.4 Cond. 360 Temp(C) 20.0	8.3 8.4 8.4 9.0 360 374 20.0 20.0
26	pH 8.4 O2 ppm 8.6 Cond. 428 Temp(C) 20.0	8.4 8.4 8.6 9.0 428 436 20.0 20.0
13	pH 8.4 O2 ppm 8.7 Cond. 460 Temp(C) 20.0	8.4 8.4 8.7 9.1 460 478 20.0 20.0
6	pH 8.4 O2 ppm 8.8 Cond. 480 Temp(C) 20.0	8.4 8.4 8.8 9.2 480 490 20.0 20.0
2	pH 8.3 O2 ppm 8.6 Cond. 510 Temp(C) 20.0	8.3 8.5 8.6 9.1 510 470 20.0 20.0
1	pH 8.3 O2 ppm 8.8 Cond. 510 Temp(C) 20.0	8.3 8.5 8.8 9.2 510 480 20.0 20.0
0	pH 8.3 O2 ppm 9.0 Cond. 498 Temp(C) 20.0	8.3 8.5 9.0 9.2 498 480 20.0 20.0
Control	pH 8.3 O2 ppm 9.2 Cond. 510 Temp(C) 20.0	8.3 8.5 9.2 9.4 510 480 20.0 20.0

TOXICITY TEST REPORT Sample: 05890081

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (400)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : T. Moran
Date Collected : 10/09/89
Received : 10/09/89
Tested : 10/10/89 at: 1415

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 48:00	%
100	0	0
50	0	0
26	0	0
13	0	0
6	0	0
Control	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890081

TEST CONC. %
E L A P S E D T I M E
00:00 48:00

100	pH 7.8 O2 ppm 9.5 Cond. 234 Temp(C) 20.0	7.8 7.8 9.5 9.0 234 258 20.0 20.0
50	pH 7.9 O2 ppm 9.4 Cond. 380 Temp(C) 20.0	7.9 7.9 9.4 8.9 380 400 20.0 20.0
26	pH 8.0 O2 ppm 9.3 Cond. 440 Temp(C) 20.0	8.0 8.0 9.3 9.0 440 462 20.0 20.0
13	pH 8.0 O2 ppm 9.4 Cond. 470 Temp(C) 20.0	8.0 8.0 9.4 9.4 470 490 20.0 20.0
6	pH 8.0 O2 ppm 9.4 Cond. 498 Temp(C) 20.0	8.0 8.0 9.4 9.2 498 502 20.0 20.0
Control	pH 8.0 O2 ppm 9.6 Cond. 500 Temp(C) 20.0	8.0 7.9 9.6 9.3 500 510 20.0 20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 05890103

TEST CONDITIONS

Company : Polysar Limited
 : Sarnia, ONT
 : (30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (400)

Laboratory : Pollutech
Sampling Method : grab
Sampled By : C. Ferguson
Date Collected : 11/13/89
Received : 11/13/89
Tested : 11/13/89 at: 1145

Type of Bioassay : STATIC
 : (Daphnia magna Acute Lethality Toxicity
 : Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 49:25	%
100	0	0
50	0	0
26	0	0
13	0	0
6	0	0
Control	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

SLOPE of Mortality Curve : none
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890103

TEST CONC. %
E L A P S E D T I M E
00:00 49:25

100	pH 7.8 O2 ppm 9.8 Cond. 212 Temp(C) 20.0	7.8 9.8 212 20.0	7.8 8.8 232 20.0
50	pH 8.0 O2 ppm 9.6 Cond. 350 Temp(C) 20.0	8.0 9.6 350 20.0	7.9 8.9 370 20.0
26	pH 8.0 O2 ppm 9.6 Cond. 418 Temp(C) 20.0	8.0 9.6 418 20.0	8.0 8.9 440 20.0
13	pH 8.1 O2 ppm 9.5 Cond. 450 Temp(C) 20.0	8.1 9.5 450 20.0	8.0 8.9 478 20.0
6	pH 8.0 O2 ppm 9.5 Cond. 468 Temp(C) 20.0	8.0 9.5 468 20.0	8.0 9.0 492 20.0
Control	pH 8.1 O2 ppm 9.4 Cond. 478 Temp(C) 20.0	8.1 9.4 478 20.0	8.0 9.1 500 20.0

TOXICITY TEST REPORT Sample: 05890123

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (400)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P. Tymstra
Date Collected : 12/11/89
Received : 12/11/89
Tested : 12/12/89 at: 1200

Type of Bioassay : **STATIC**
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00 48:00		%
100	0	2	16
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890123

TEST
CONC.
%

E L A P S E D T I M E

00:00 48:00

100	pH 02 ppm Cond. Temp(C)	7.9 9.5 205 20.0	7.7 9.2 215 20.0
50	pH 02 ppm Cond. Temp(C)	8.2 9.2 350 20.0	7.9 9.5 365 20.0
26	pH 02 ppm Cond. Temp(C)	8.3 9.3 420 20.0	8.0 9.4 430 20.0
13	pH 02 ppm Cond. Temp(C)	8.3 9.3 450 20.0	8.0 9.3 465 20.0
6	pH 02 ppm Cond. Temp(C)	8.4 9.4 452 20.0	7.9 9.0 480 20.0
Control	pH 02 ppm Cond. Temp(C)	8.2 9.6 205 20.0	7.9 9.5 485 20.0

SLOPE of Mortality Curve :
LC50 Calculated By :

MISA Daphnia

TOXICITY TEST REPORT Sample: 05900016

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (400)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P. Tymstra
Date Collected : 01/08/90
Received : 01/08/90
Tested : 01/08/90 at: 1245

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME	TOTAL MORTALITY
%	00:00 49:10	%
100	0	0
50	0	0
26	0	0
13	0	0
6	0	0
Control	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Duplicate also tested

TOXICITY TEST PARAMETERS

Sample Number: 05900016

TEST CONC. %
ELAPSED TIME
00:00 49:10

100	pH 7.8 8.0 O2 ppm 9.5 8.8 Cond. 188 222 Temp(C) 20.0 20.0
50	pH 8.0 8.1 O2 ppm 9.2 8.9 Cond. 360 370 Temp(C) 20.0 20.0
26	pH 8.1 8.2 O2 ppm 9.2 9.0 Cond. 412 438 Temp(C) 20.0 20.0
13	pH 8.1 8.2 O2 ppm 9.1 9.0 Cond. 420 470 Temp(C) 20.0 20.0
6	pH 8.1 8.1 O2 ppm 9.2 8.8 Cond. 470 486 Temp(C) 20.0 20.0
Control	pH 8.1 8.1 O2 ppm 9.2 9.2 Cond. 488 488 Temp(C) 20.0 20.0

TOXICITY TEST REPORT Sample: 059000029

TOXICITY TEST PARAMETERS

TEST CONDITIONS

Company : Polysar Limited

Region : Sarnia, ONT
(30007)Industry : Southwest
: Organic Chemical

Control point : combined effluent, (400)

Laboratory : Pollutech

Sampling Method : Grab

Sampled By : C. Ferguson

Date Collected : 02/12/90

Received : 02/12/90

Tested : 02/12/90 at: 1400

Type of Bioassay

: STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol - ONE, 1988)

Test Animal

: D. magna

Weight(gm) :

Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 49:00	%
100	0 0	0
50	0 0	0
26	0 0	0
13	0 0	0
6	0 0	0
Control	0 0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

Sample Number: 059000029

TEST CONC. %
E L A P S E D T I M E
00:00 49:00

100	pH 7.9 8.0 O2 ppm 9.4 8.4 Cond. 225 232 Temp(C) 20.0 20.0
50	pH 8.1 8.2 O2 ppm 9.1 8.5 Cond. 365 370 Temp(C) 20.0 20.0
26	pH 8.2 8.3 O2 ppm 9.0 8.6 Cond. 432 432 Temp(C) 20.0 20.0
13	pH 8.2 8.4 O2 ppm 9.1 8.7 Cond. 468 468 Temp(C) 20.0 20.0
6	pH 8.2 8.4 O2 ppm 9.2 8.7 Cond. 485 488 Temp(C) 20.0 20.0
Control	pH 8.2 8.4 O2 ppm 9.2 9.0 Cond. 490 500 Temp(C) 20.0 20.0

TOXICITY TEST REPORT Sample: 059000068

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (400)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 03/26/90
Received : 03/26/90
Tested : 03/27/90 at: 1110

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00 48:20		%
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 059000068

TEST CONC. %
E L A P S E D T I M E
00:00 48:20

100	pH 7.8 7.9 O2 ppm 9.4 9.2 Cond. 212 218 Temp(C) 20.0 20.0
50	pH 8.1 8.1 O2 ppm 9.3 9.2 Cond. 360 370 Temp(C) 20.0 20.0
26	pH 8.1 8.1 O2 ppm 9.2 9.2 Cond. 430 440 Temp(C) 20.0 20.0
13	pH 8.2 8.1 O2 ppm 9.3 9.2 Cond. 460 468 Temp(C) 20.0 20.0
6	pH 8.2 8.1 O2 ppm 9.3 9.2 Cond. 480 490 Temp(C) 20.0 20.0
Control	pH 8.2 8.1 O2 ppm 9.4 9.2 Cond. 490 498 Temp(C) 20.0 20.0

TOXICITY TEST REPORT Sample: 05890085

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (500)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 10/16/89
Received : 10/16/89
Tested : 10/16/89 at: 1440
Type of Bioassay : STATAC
(Daphnia magna Acute Lethality Toxicity
Test Protocol - OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00 48:10		%
100	0	2	16
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890085

TEST CONC. %

E L A P S E D T I M E

00:00 48:10

100	pH	8.3	8.0
	O2 ppm	9.0	9.4
	Cond.	200	215
	Temp(C)	20.0	20.0
50	pH	8.0	8.0
	O2 ppm	8.7	9.4
	Cond.	350	360
	Temp(C)	20.0	20.0
26	pH	7.9	8.1
	O2 ppm	8.6	9.3
	Cond.	415	440
	Temp(C)	20.0	20.0
13	pH	7.9	8.1
	O2 ppm	8.7	9.4
	Cond.	450	470
	Temp(C)	20.0	20.0
6	pH	7.7	8.1
	O2 ppm	8.6	9.4
	Cond.	475	490
	Temp(C)	20.0	20.0
Control	pH	7.7	8.0
	O2 ppm	8.8	9.2
	Cond.	490	490
	Temp(C)	20.0	20.0

TOXICITY TEST REPORT Sample: 05890114

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (500)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 11/20/89
Received : 11/20/89
Tested : 11/20/89 at: 1135
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME	TOTAL MORTALITY
%	00:00 48:10	%
100	0	0
50	0	0
26	0	0
13	0	0
6	0	0
Control	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890114

TEST CONC. %
ELAPSED TIME
00:00 48:10

100	pH 8.1 8.1 O2 ppm 10.3 8.7 Cond. 198 206 Temp(C) 20.0 20.0
50	pH 8.2 8.2 O2 ppm 9.8 8.7 Cond. 350 358 Temp(C) 20.0 20.0
26	pH 8.2 8.2 O2 ppm 9.6 8.7 Cond. 420 426 Temp(C) 20.0 20.0
13	pH 8.2 8.2 O2 ppm 9.4 8.8 Cond. 456 462 Temp(C) 20.0 20.0
6	pH 8.1 8.2 O2 ppm 9.4 8.8 Cond. 470 480 Temp(C) 20.0 20.0
Control	pH 8.1 8.2 O2 ppm 9.6 9.0 Cond. 490 490 Temp(C) 20.0 20.0

TOXICITY TEST REPORT Sample: 05890132

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (500)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 12/18/89
Received : 12/18/89
Tested : 12/19/89 at: 1200

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol: OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 48:00	%
100	0 0	0
50	0 0	0
26	0 0	0
13	0 0	0
6	0 0	0
Control	0 0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890132

TEST CONC. %
E L A P S E D T I M E
00:00 48:00

100	pH 8.3 8.2 O2 ppm 10.4 8.8 Cond. 202 229 Temp(C) 20.0 20.0
50	pH 8.3 8.3 O2 ppm 9.6 8.6 Cond. 352 372 Temp(C) 20.0 20.0
26	pH 8.4 8.3 O2 ppm 9.4 8.8 Cond. 420 438 Temp(C) 20.0 20.0
13	pH 8.4 8.3 O2 ppm 9.3 8.9 Cond. 454 472 Temp(C) 20.0 20.0
6	pH 8.4 8.3 O2 ppm 9.2 8.9 Cond. 464 470 Temp(C) 20.0 20.0
Control	pH 8.4 8.3 O2 ppm 9.4 9.2 Cond. 480 490 Temp(C) 20.0 20.0

TOXICITY TEST REPORT Sample: 05900014

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (500)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P.Tymstra
Date Collected : 01/15/90
Received : 01/15/90
Tested : 01/15/90 at: 1330

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00 48:00		%
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05900014
TEST CONC. %
E L A P S E D T I M E
00:00 48:00

100	pH 02 ppm Cond. Temp(C)	8.2 10.1 206 20.0	7.9 9.2 210 20.0
50	pH 02 ppm Cond. Temp(C)	8.2 9.1 330 20.0	8.2 9.2 362 20.0
26	pH 02 ppm Cond. Temp(C)	8.2 8.9 434 20.0	8.2 9.1 429 20.0
13	pH 02 ppm Cond. Temp(C)	8.2 8.8 470 20.0	8.2 9.2 462 20.0
6	pH 02 ppm Cond. Temp(C)	8.2 9.0 490 20.0	8.2 9.2 492 20.0
Control	pH 02 ppm Cond. Temp(C)	8.2 9.0 500 20.0	8.2 9.1 495 20.0

TOXICITY TEST REPORT Sample: 059000038

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (500)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 02/19/90
Received : 02/19/90
Tested : 02/19/90 at: 1205

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	%	ELAPSED TIME	TOTAL MORTALITY
100	0	12	100
50	0	12	100
26	0	12	100
13	0	12	100
6	0	12	100
Control	0	0	0

48 Hour LC50 : 0.0 - 6.0 %

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 059000038

TEST CONC. %
ELAPSED TIME
00:00 48:00

100	pH 8.4 O2 ppm 10.2 Cond. 214 Temp(C) 20.0	8.4 8.2 10.2 9.3 214 222 20.0 20.0
50	pH 8.4 O2 ppm 9.4 Cond. 360 Temp(C) 20.0	8.3 8.3 9.4 9.4 360 360 20.0 20.0
26	pH 8.4 O2 ppm 9.2 Cond. 428 Temp(C) 20.0	8.4 8.4 9.2 9.1 428 420 20.0 20.0
13	pH 8.6 O2 ppm 9.2 Cond. 460 Temp(C) 20.0	8.4 8.4 9.2 9.2 460 452 20.0 20.0
6	pH 8.4 O2 ppm 9.2 Cond. 478 Temp(C) 20.0	8.4 8.4 9.2 9.1 478 469 20.0 20.0
Control	pH 8.4 O2 ppm 9.4 Cond. 4990 Temp(C) 20.0	8.3 8.3 9.4 9.2 4990 492 20.0 20.0

SLOPE of Mortality Curve :
LC50 Calculated By :

MISA Daphnia

TOXICITY TEST PARAMETERS

TOXICITY TEST REPORT Sample: 05900060

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (500)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 03/19/90
Received : 03/19/90 at: 1450
Tested

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME	TOTAL MORTALITY
%	00:00 48:00	%
100	0	0
50	0	0
26	0	0
13	0	0
6	0	0
Control	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

Sample Number: 05900060

TEST CONC. % ELAPSED TIME

00:00 48:00

100	pH 8.3 8.1 O2 ppm 10.4 9.2 Cond. 200 206 Temp(C) 20.0 20.0
50	pH 8.4 8.2 O2 ppm 9.4 9.0 Cond. 360 360 Temp(C) 20.0 20.0
26	pH 8.4 8.2 O2 ppm 9.2 8.9 Cond. 430 430 Temp(C) 20.0 20.0
13	pH 8.4 8.3 O2 ppm 9.2 8.9 Cond. 460 462 Temp(C) 20.0 20.0
6	pH 8.4 8.3 O2 ppm 9.2 8.9 Cond. 470 482 Temp(C) 20.0 20.0
Control	pH 8.4 8.2 O2 ppm 9.2 8.9 Cond. 510 499 Temp(C) 20.0 20.0

TOXICITY TEST REPORT Sample: 05890087

TEST CONDITIONS

Company : Polyser Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (1100)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 10/16/89
Received : 10/16/89
Tested : 10/16/89 at: 1450
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol, OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	%	ELAPSED TIME	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890087
TEST CONC. %
ELAPSED TIME
00:00 48:55

100	pH 7.1 7.8 O2 ppm 9.2 8.5 Cond. 220 224 Temp(C) 20.0 20.0
50	pH 8.0 7.9 O2 ppm 8.8 8.9 Cond. 380 375 Temp(C) 20.0 20.0
25	pH 8.0 8.0 O2 ppm 9.4 9.0 Cond. 440 440 Temp(C) 20.0 20.0
13	pH 8.0 8.0 O2 ppm 8.4 9.2 Cond. 460 475 Temp(C) 20.0 20.0
6	pH 8.0 8.0 O2 ppm 8.4 9.1 Cond. 480 495 Temp(C) 20.0 20.0
Control	pH 7.8 8.0 O2 ppm 8.8 9.1 Cond. 490 495 Temp(C) 20.0 20.0

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 05890113

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (1100)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 11/20/89
Received : 11/20/89
Tested : 11/20/89 at: 1150
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	%	ELAPSED TIME	TOTAL MORTALITY
100	0	00:00 48:05	0
50	0		0
26	0		0
13	0		0
6	0		0
Control	0		0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890113

TEST CONC. %
ELAPSED TIME
00:00 48:05

100	pH 7.9 8.0 O2 ppm 10.4 8.7 Cond. 274 282 Temp(C) 20.0 20.0
50	pH 8.1 8.1 O2 ppm 9.8 8.7 Cond. 386 390 Temp(C) 20.0 20.0
26	pH 8.1 8.2 O2 ppm 9.6 8.7 Cond. 434 436 Temp(C) 20.0 20.0
13	pH 8.1 8.2 O2 ppm 9.6 8.8 Cond. 460 462 Temp(C) 20.0 20.0
6	pH 8.1 8.2 O2 ppm 9.5 8.8 Cond. 472 472 Temp(C) 20.0 20.0
Control	pH 8.1 8.3 O2 ppm 9.6 9.1 Cond. 490 490 Temp(C) 20.0 20.0

TOXICITY TEST REPORT Sample: 05890131

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (1100)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 12/18/89
Received : 12/18/89
Tested : 12/18/89 at: 1215

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME	TOTAL MORTALITY
%	00:00 48:15	%
100	0	8
50	0	0
26	0	0
13	0	0
6	0	0
Control	0	0

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890131

TEST CONC. %
ELAPSED TIME
00:00 48:15

100	pH 8.1 O2 ppm 9.0 Cond. 218 Temp(C) 20.0	8.1 9.0 234 20.0
50	pH 8.2 O2 ppm 9.6 Cond. 360 Temp(C) 20.0	8.2 9.6 380 20.0
26	pH 8.4 O2 ppm 9.4 Cond. 420 Temp(C) 20.0	8.3 8.9 440 20.0
13	pH 8.4 O2 ppm 9.2 Cond. 452 Temp(C) 20.0	8.3 8.9 474 20.0
6	pH 8.4 O2 ppm 9.2 Cond. 470 Temp(C) 20.0	8.4 8.9 498 20.0
Control	pH 8.4 O2 ppm 9.4 Cond. 480 Temp(C) 20.0	8.4 8.9 500 20.0

TOXICITY TEST REPORT Sample: 05900012

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : combined effluent, (1100)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P. Tynstra
Date Collected : 01/15/90
Received : 01/15/90
Tested : 01/15/90 at: 1345

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00 48:00		%
100	0	0	0
50	0	0	0
26	0	0	0
13	0	1	8
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05900012

TEST CONC. %

E L A P S E D T I M E

00:00 48:00

100	pH 7.8	7.8	7.8
	O2 ppm 10.0	9.0	9.0
	Cond. 266	272	272
	Temp(C) 20.0	20.0	20.0
50	pH 8.1	7.9	7.9
	O2 ppm 9.1	9.1	9.1
	Cond. 390	385	385
	Temp(C) 20.0	20.0	20.0
26	pH 8.2	8.2	8.2
	O2 ppm 8.9	9.1	9.1
	Cond. 450	440	440
	Temp(C) 20.0	20.0	20.0
13	pH 8.2	8.3	8.3
	O2 ppm 8.8	9.2	9.2
	Cond. 478	470	470
	Temp(C) 20.0	20.0	20.0
6	pH 8.2	8.2	8.2
	O2 ppm 8.8	9.2	9.2
	Cond. 490	482	482
	Temp(C) 20.0	20.0	20.0
Control	pH 8.2	8.3	8.3
	O2 ppm 9.0	9.2	9.2
	Cond. 500	495	495
	Temp(C) 20.0	20.0	20.0

TOXICITY TEST REPORT Sample: 059000040

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (1100)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 02/19/90
Received : 02/19/90
Tested : 02/20/90 at: 1230

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol, OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 48:00	%
100	0	0
50	0	0
26	0	0
13	0	0
6	0	0
Control	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 059000040

TEST CONC. % E L A P S E D T I M E
00:00 48:00

100	pH 8.0 8.1 O2 ppm 10.3 9.3 Cond. 312 300 Temp(C) 20.0 20.0
50	pH 8.2 8.3 O2 ppm 9.4 9.2 Cond. 410 400 Temp(C) 20.0 20.0
26	pH 8.3 8.3 O2 ppm 9.2 9.2 Cond. 450 440 Temp(C) 20.0 20.0
13	pH 8.4 8.3 O2 ppm 9.1 9.2 Cond. 472 460 Temp(C) 20.0 20.0
6	pH 8.4 8.4 O2 ppm 9.1 9.2 Cond. 480 470 Temp(C) 20.0 20.0
Control	pH 8.4 8.4 O2 ppm 9.4 9.2 Cond. 490 490 Temp(C) 20.0 20.0

TOXICITY TEST REPORT Sample: 05900059

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : combined effluent, (1100)
Laboratory : Polutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 03/19/90
Received : 03/19/90
Tested : 03/19/90 at: 1545

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00 48:00		%
100	0	12	100
50	0	3	25
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : 59.7 %
95% fid. limits : 50.5 - 70.7 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05900059

TEST CONC. %

E L A P S E D T I M E

00:00 48:00

100	pH 8.1 7.3 O2 ppm 10.6 8.8 Cond. 280 290 Temp(C) 20.0 20.0
50	pH 8.3 8.1 O2 ppm 9.6 8.8 Cond. 398 398 Temp(C) 20.0 20.0
26	pH 8.3 8.2 O2 ppm 9.4 8.8 Cond. 448 446 Temp(C) 20.0 20.0
13	pH 8.4 8.3 O2 ppm 9.4 8.9 Cond. 474 470 Temp(C) 20.0 20.0
6	pH 8.4 8.3 O2 ppm 9.4 8.9 Cond. 488 470 Temp(C) 20.0 20.0
Control	pH 8.4 8.3 O2 ppm 9.4 9.0 Cond. 510 500 Temp(C) 20.0 20.0

TOXICITY TEST REPORT Sample: 058900095

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : OF cooling water, (1400)
Laboratory : Pollutech
Sampling Method : grab
Sampled By : C. Ferguson
Date Collected : 11/06/89
Received : 11/06/89
Tested : 11/07/89 at: 1625
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	%	ELAPSED TIME	TOTAL MORTALITY %
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 058900095

TEST CONC. %
ELAPSED TIME
00:00 48:05

TEST CONC. %	pH	O2 ppm	Cond.	Temp(C)
100	7.9	8.0	9.3	8.7
	195	196	20.0	20.0
50	7.8	8.0	9.3	8.5
	299	312	20.0	20.0
26	7.8	8.0	9.2	8.6
	350	360	20.0	20.0
13	7.8	8.0	9.3	8.6
	360	380	20.0	20.0
6	7.7	8.0	9.3	8.6
	395	388	20.0	20.0
Control	7.7	8.0	9.4	8.6
	400	400	20.0	20.0

TOXICITY TEST REPORT Sample: 059000022

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : OT cooling water, (1400)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 02/05/90
Received : 02/05/90
Tested : 02/06/90 at: 1000

Type of Bioassay : **STATIC**
(Daphnia magna Acute Lethality Toxicity
Test Protocol. ONE, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 48:00	%
100	0 0	0
50	0 0	0
26	0 0	0
13	0 0	0
6	0 0	0
Control	0 0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 059000022

TEST E L A P S E D T I M E
CONC. % 00:00 48:00

100	pH 7.7 7.9 O2 ppm 9.6 8.4 Cond. 195 218 Temp(C) 20.0 20.0
50	pH 8.0 8.2 O2 ppm 9.4 8.6 Cond. 348 402 Temp(C) 20.0 20.0
26	pH 8.1 8.2 O2 ppm 9.4 8.6 Cond. 420 452 Temp(C) 20.0 20.0
13	pH 8.2 8.2 O2 ppm 9.4 8.6 Cond. 448 470 Temp(C) 20.0 20.0
6	pH 8.2 8.2 O2 ppm 9.3 8.7 Cond. 472 470 Temp(C) 20.0 20.0
Control	pH 8.1 8.2 O2 ppm 9.4 8.8 Cond. 492 520 Temp(C) 20.0 20.0

TOXICITY TEST REPORT Sample: 05890097

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : OT cooling water, (1600)
Laboratory : Pollutech
Sampling Method : grab
Sampled By : C. Ferguson
Date Collected : 11/06/89
Received : 11/06/89
Tested : 11/08/89 at: 1210
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol - OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME	TOTAL MORTALITY
%	00:00 48:30	%
100	0	0
50	0	0
26	0	0
13	0	0
6	0 1	8
Control	0	0

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890097

TEST CONC. % ELAPSED TIME
00:00 48:30

100	pH 7.8 7.9 O2 ppm 9.3 8.8 Cond. 192 192 Temp(C) 20.0 20.0
50	pH 7.9 8.0 O2 ppm 9.2 8.9 Cond. 349 345 Temp(C) 20.0 20.0
26	pH 8.0 8.1 O2 ppm 9.2 9.0 Cond. 412 420 Temp(C) 20.0 20.0
13	pH 8.0 8.1 O2 ppm 9.1 9.2 Cond. 450 452 Temp(C) 20.0 20.0
6	pH 8.0 8.1 O2 ppm 9.2 9.2 Cond. 462 472 Temp(C) 20.0 20.0
Control	pH 8.0 8.1 O2 ppm 9.4 9.3 Cond. 465 480 Temp(C) 20.0 20.0

TOXICITY TEST REPORT Sample: 05900024

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : OT cooling water, (1600)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 02/05/90
Received : 02/05/90
Tested : 02/07/90 at: 1020

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	%	ELAPSED TIME	TOTAL MORTALITY %
100	0	00:00 48:10	0
50	0		0
26	0		0
13	0		0
6	0		0
Control	0		0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05900024

TEST CONC. %
ELAPSED TIME
00:00 48:10

100	pH 7.9 O2 ppm 8.6 Cond. 230 Temp(C) 20.0	7.9 8.6 230 20.0	7.9 9.0 230 20.0
50	pH 8.1 O2 ppm 8.7 Cond. 380 Temp(C) 20.0	8.1 8.7 380 20.0	8.0 9.2 370 20.0
26	pH 8.1 O2 ppm 8.8 Cond. 450 Temp(C) 20.0	8.1 8.8 450 20.0	8.1 9.3 430 20.0
13	pH 8.1 O2 ppm 8.8 Cond. 482 Temp(C) 20.0	8.1 8.8 482 20.0	8.1 9.2 460 20.0
6	pH 8.1 O2 ppm 8.8 Cond. 500 Temp(C) 20.0	8.1 8.8 500 20.0	8.1 9.2 490 20.0
Control	pH 8.2 O2 ppm 8.8 Cond. 520 Temp(C) 20.0	8.2 8.8 520 20.0	8.1 9.2 510 20.0

TOXICITY TEST REPORT Sample: 058900091

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)

Region : Southwest
Industry : Organic Chemical

Control point : Batch, (1700)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 10/30/89
Received : 10/30/89
Tested : 10/30/89 at: 1610

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 48:20	%
100	0	0
50	0	0
26	0	0
13	0	0
6	0	0
Control	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 058900091

TEST CONC. %
E L A P S E D T I M E
00:00 48:20

100	pH 7.5 7.8 O2 ppm 8.4 6.8 Cond. 3510 3310 Temp(C) 20.0 20.0
50	pH 7.6 8.0 O2 ppm 8.4 7.5 Cond. 2070 2000 Temp(C) 20.0 20.0
26	pH 7.8 7.9 O2 ppm 8.8 7.9 Cond. 1320 1280 Temp(C) 20.0 20.0
13	pH 8.0 8.2 O2 ppm 8.6 8.2 Cond. 910 880 Temp(C) 20.0 20.0
6	pH 8.1 8.2 O2 ppm 8.7 8.4 Cond. 700 550 Temp(C) 20.0 20.0
Control	pH 7.9 8.2 O2 ppm 8.8 9.0 Cond. 498 490 Temp(C) 20.0 20.0

TOXICITY TEST REPORT Sample: 05890115

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : Batch, (1700)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C.Ferguson
Date Collected : 11/20/89
Received : 11/20/89
Tested : 11/21/89 at: 1455

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00 49:15		%
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890115

TEST CONC. % E L A P S E D T I M E
00:00 49:15

100	pH 7.0	7.5
	O2 ppm 9.2	8.5
	Cond. 3820	4010
	Temp(C) 20.0	20.0
50	pH 7.4	7.8
	O2 ppm 9.5	8.6
	Cond. 2280	2310
	Temp(C) 20.0	20.0
26	pH 7.7	7.9
	O2 ppm 9.6	9.0
	Cond. 1420	1460
	Temp(C) 20.0	20.0
13	pH 7.4	8.0
	O2 ppm 9.8	9.0
	Cond. 980	990
	Temp(C) 20.0	20.0
6	pH 8.0	8.2
	O2 ppm 9.8	8.8
	Cond. 700	730
	Temp(C) 20.0	20.0
Control	pH 8.1	8.1
	O2 ppm 9.8	9.0
	Cond. 500	495
	Temp(C) 20.0	20.0

TOXICITY TEST REPORT Sample: 05890134

TEST CONDITIONS

Company : Polysar Limited

Region : Sarnia, ONT
(30007)Industry : Southwest
Organic Chemical

Control point : Batch, (1700)

Laboratory : Pollutec

Sampling Method : Grab

Sampled By : C. Ferguson

Date Collected : 12/18/89

Received : 12/18/89

Tested : 12/18/89 at: 1600

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. ONE, 1988)

Test Animal : D. magna

Weight(gm) :

Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 48:00	%
100	0 0	0
50	0 0	0
26	0 0	0
13	0 0	0
6	0 0	0
Control	0 0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890134

TEST CONC. % E L A P S E D T I M E
00:00 48:00

100	pH 6.9 7.5 O2 ppm 8.1 7.7 Cond. 3900 4020 Temp(C) 20.0 20.0
50	pH 7.5 7.9 O2 ppm 8.7 8.3 Cond. 2220 2300 Temp(C) 20.0 20.0
26	pH 7.9 8.1 O2 ppm 8.8 8.6 Cond. 1400 1440 Temp(C) 20.0 20.0
13	pH 8.2 8.2 O2 ppm 9.0 8.9 Cond. 960 1000 Temp(C) 20.0 20.0
6	pH 8.3 8.3 O2 ppm 9.1 9.0 Cond. 700 700 Temp(C) 20.0 20.0
Control	pH 8.2 8.2 O2 ppm 9.3 9.3 Cond. 490 490 Temp(C) 20.0 20.0

TOXICITY TEST REPORT Sample: 05900017

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : Batch, (1700)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P. Tymstra
Date Collected : 01/15/90
Received : 01/15/90
Tested : 01/16/90 at: 1510

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 48:20	%
100	0	0
50	0	0
26	0	0
13	0	0
6	0	0
Control	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05900017

TEST
CONC.
%

E L A P S E D T I M E

00:00 48:20

100	pH 9.0 8.6 O2 ppm 8.7 8.6 Cond. 4200 4410 Temp(C) 20.0 20.0
50	pH 8.7 8.5 O2 ppm 8.9 8.7 Cond. 2490 2498 Temp(C) 20.0 20.0
26	pH 8.5 8.4 O2 ppm 9.2 9.0 Cond. 1520 1580 Temp(C) 20.0 20.0
13	pH 8.4 8.2 O2 ppm 9.2 9.2 Cond. 1020 1050 Temp(C) 20.0 20.0
6	pH 8.3 8.3 O2 ppm 9.2 9.3 Cond. 700 725 Temp(C) 20.0 20.0
Control	pH 8.2 8.2 O2 ppm 9.2 9.2 Cond. 492 500 Temp(C) 20.0 20.0

TOXICITY TEST REPORT Sample: 05900041

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical

Control point : Batch, (1700)

Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 02/19/90
Received : 02/19/90
Tested : 02/19/90 at: 1220

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME	TOTAL MORTALITY
%	00:00 48:00	%
100	0	0
50	0	0
26	0	0
13	0	0
6	0	0
Control	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05900041

TEST CONC. %
ELAPSED TIME
00:00 48:00

100	pH 7.4 7.7 O2 ppm 8.4 7.0 Cond. 4560 4500 Temp(C) 20.0 20.0
50	pH 7.7 7.9 O2 ppm 8.8 7.9 Cond. 2600 2520 Temp(C) 20.0 20.0
26	pH 8.0 8.2 O2 ppm 8.9 8.2 Cond. 1620 1540 Temp(C) 20.0 20.0
13	pH 8.2 8.3 O2 ppm 9.0 8.8 Cond. 1080 1020 Temp(C) 20.0 20.0
6	pH 8.3 8.3 O2 ppm 9.0 9.0 Cond. 780 740 Temp(C) 20.0 20.0
Control	pH 8.4 8.4 O2 ppm 9.4 9.2 Cond. 490 484 Temp(C) 20.0 20.0

TOXICITY TEST REPORT Sample: 05900061

TEST CONDITIONSCompany : Polysar Limited
Sarnia, ONT
(30007)Region : Southwest
Industry : Organic Chemical

Control point : Batch, (1700)

Laboratory : Pollutech

Sampling Method : Grab

Sampled By : C. Ferguson

Date Collected : 03/19/90

Received : 03/19/90

Tested : 03/19/90 at: 1500

Type of Bioassay :

: STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna

Weight(gm) :

Length(mm) :

MORTALITY DATA

TEST CONC.	%	E L A P S E D T I M E	TOTAL MORTALITY %
100	0	00:00 48:20	0
50	0		0
26	0		0
13	0		0
6	0		0
Control	0		0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05900061

TEST CONC. %	E L A P S E D T I M E
	00:00 48:20

100	pH 8.2 8.2	02 ppm 8.4 8.0	Cond. 4620 4580	Temp(C) 20.0 20.0
50	pH 8.3 8.2	02 ppm 8.8 8.4	Cond. 2620 2580	Temp(C) 20.0 20.0
26	pH 8.4 8.2	02 ppm 8.9 8.6	Cond. 1600 1580	Temp(C) 20.0 20.0
13	pH 8.4 8.3	02 ppm 9.0 8.8	Cond. 1080 1060	Temp(C) 20.0 20.0
6	pH 8.4 8.3	02 ppm 9.0 8.9	Cond. 780 760	Temp(C) 20.0 20.0
Control	pH 8.4 8.3	02 ppm 9.2 9.0	Cond. 510 500	Temp(C) 20.0 20.0

TOXICITY TEST REPORT Sample: 05890086

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : process effluent, (1800)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 10/16/89
Received : 10/16/89
Tested : 10/16/89 at: 1545
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00 49:35		%
100	0	0	0
50	0	1	8
26	0	0	0
13	0	0	0
6	0	1	8
Control	0	0	0

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890086

TEST CONC. %
E L A P S E D T I M E
00:00 49:35

100	pH 6.6 7.5 O2 ppm 6.8 9.4 Cond. 1800 1900 Temp(C) 20.0 20.0
50	pH 7.1 7.8 O2 ppm 7.0 9.3 Cond. 1090 1230 Temp(C) 20.0 20.0
26	pH 7.5 7.9 O2 ppm 8.3 9.2 Cond. 890 900 Temp(C) 20.0 20.0
13	pH 7.7 8.0 O2 ppm 8.4 9.3 Cond. 690 700 Temp(C) 20.0 20.0
6	pH 7.8 8.1 O2 ppm 8.6 9.4 Cond. 590 590 Temp(C) 20.0 20.0
Control	pH 7.8 7.8 O2 ppm 8.8 9.3 Cond. 490 485 Temp(C) 20.0 20.0

TOXICITY TEST REPORT Sample: 05890112

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : process effluent, (1800)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 11/20/89
Received : 11/20/89
Tested : 11/20/89 at: 1215

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. ONE, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 48:00	%
100	0	0
50	0	0
26	0	0
13	0	0
6	0	8
Control	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890112

TEST
CONC.
%
E L A P S E D
T I M E
00:00 48:00

100	pH 7.2 O2 ppm 8.0 Cond. 2400 Temp(C) 20.0	7.2 7.2 8.0 8.0 2400 2340 20.0 20.0
50	pH 7.5 O2 ppm 9.0 Cond. 1440 Temp(C) 20.0	7.9 7.9 8.6 8.6 1440 1460 20.0 20.0
26	pH 7.7 O2 ppm 9.3 Cond. 980 Temp(C) 20.0	8.1 8.1 8.8 8.8 1000 1000 20.0 20.0
13	pH 7.9 O2 ppm 9.5 Cond. 720 Temp(C) 20.0	8.1 8.1 8.8 8.8 740 740 20.0 20.0
6	pH 8.0 O2 ppm 9.5 Cond. 600 Temp(C) 20.0	8.1 8.1 9.2 9.2 600 600 20.0 20.0
Control	pH 8.1 O2 ppm 9.6 Cond. 490 Temp(C) 20.0	8.1 8.1 9.2 9.2 490 490 20.0 20.0

TOXICITY TEST REPORT Sample: 05890133

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : process effluent, (1800)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 12/18/89
Received : 12/18/89
Tested : 12/18/89 at: 1200
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	%	ELAPSED TIME	TOTAL MORTALITY
100	0	0	0
50	0	0	0
26	0	1	8
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05890133

TEST CONC. %	ELAPSED TIME
100	00:00 48:00

TEST CONC. %	pH	O2 ppm	Cond.	Temp(C)
100	7.1	7.7	8.4	8.8
	2400	2480	20.0	20.0
50	7.6	8.1	8.9	9.0
	1460	1480	20.0	20.0
26	9.9	8.2	9.1	9.0
	1000	1020	20.0	20.0
13	8.1	8.3	9.1	9.0
	760	780	20.0	20.0
6	8.3	8.3	9.2	9.0
	600	620	20.0	20.0
Control	8.4	8.4	9.4	9.4
	480	510	20.0	20.0

TOXICITY TEST REPORT Sample: 059000013

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : process effluent, (1800)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : P. Tymstra
Date Collected : 01/15/90
Received : 01/15/90
Tested : 01/15/90 at: 1405
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	%	ELAPSED TIME	TOTAL MORTALITY
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Duplicate Tested

TOXICITY TEST PARAMETERS

Sample Number: 059000013

TEST CONC. %
ELAPSED TIME
00:00 48:35

100	pH 7.3	8.0
	02 ppm 7.6	8.5
	Cond. 2020	1995
	Temp(C) 20.0	20.0
50	pH 7.6	8.6
	02 ppm 8.2	8.1
	Cond. 1260	1220
	Temp(C) 20.0	20.0
26	pH 7.8	8.1
	02 ppm 8.4	8.8
	Cond. 900	895
	Temp(C) 20.0	20.0
13	pH 8.0	8.1
	02 ppm 8.6	9.0
	Cond. 720	470
	Temp(C) 20.0	20.0
6	pH 8.1	8.2
	02 ppm 8.8	9.2
	Cond. 600	600
	Temp(C) 20.0	20.0
Control	pH 8.2	8.2
	02 ppm 9.0	9.1
	Cond. 500	495
	Temp(C) 20.0	20.0

TOXICITY TEST REPORT Sample: 05900039

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : process effluent, (1800)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 02/19/90
Received : 02/19/90
Tested : 02/19/90 at: 1230

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME	TOTAL MORTALITY
%	00:00 48:00	%
100	0	0
50	0	0
26	0	0
13	0	0
6	0	0
Control	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05900039

TEST CONC. %
ELAPSED TIME
00:00 48:00

100	pH 7.3 7.7 O2 ppm 8.4 8.8 Cond. 2460 2300 Temp(C) 20.0 20.0
50	pH 7.7 8.0 O2 ppm 8.8 9.1 Cond. 1500 1400 Temp(C) 20.0 20.0
26	pH 8.0 8.2 O2 ppm 9.0 9.2 Cond. 1020 990 Temp(C) 20.0 20.0
13	pH 8.2 8.3 O2 ppm 9.0 9.1 Cond. 780 710 Temp(C) 20.0 20.0
6	pH 8.3 8.3 O2 ppm 9.0 9.2 Cond. 620 600 Temp(C) 20.0 20.0
Control	pH 8.4 8.4 O2 ppm 9.4 9.2 Cond. 490 488 Temp(C) 20.0 20.0

TOXICITY TEST REPORT Sample: 05900058

TEST CONDITIONS

Company : Polysar Limited
Sarnia, ONT
(30007)
Region : Southwest
Industry : Organic Chemical
Control point : process effluent, (1800)
Laboratory : Pollutech
Sampling Method : Grab
Sampled By : C. Ferguson
Date Collected : 03/19/90
Received : 03/19/90
Tested : 03/19/90 at: 1440

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME		TOTAL MORTALITY
%	00:00 49:10		%
100	0	0	0
50	0	0	0
26	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments :

TOXICITY TEST PARAMETERS

Sample Number: 05900058

TEST CONC. %
ELAPSED TIME
00:00 49:10

100	pH 7.2 O2 ppm 7.5 Cond. 8.0 Temp(C) 8.8 2000 1920 20.0 20.0
50	pH 7.6 O2 ppm 7.9 Cond. 8.6 Temp(C) 8.9 1240 1200 20.0 20.0
26	pH 7.9 O2 ppm 8.1 Cond. 8.8 Temp(C) 9.0 900 860 20.0 20.0
13	pH 8.2 O2 ppm 8.2 Cond. 9.0 Temp(C) 9.1 700 700 20.0 20.0
6	pH 8.3 O2 ppm 8.2 Cond. 9.2 Temp(C) 9.1 600 600 20.0 20.0
Control	pH 8.4 O2 ppm 8.3 Cond. 9.2 Temp(C) 9.2 510 500 20.0 20.0

COMPANY: Rohm & Haas Canada Inc., Scarborough
(580001)
SECTOR: Organic Chemical
REGION: Central

SUMMARY

The initiation of acute toxicity monitoring by Rohm & Haas Canada Incorporated was delayed therefore no data has been submitted for the period between October 1989 and March 1990.

COMPANY: Rohm & Haas Canada Inc., Scarborough
(580001)
SECTOR: Organic Chemical
REGION: Central

SUMMARY

The toxicity monitoring for Rohm and Haas Canada Inc. of Scarborough has been delayed, therefore no data has been submitted for the period October 1989 to March 1990.

COMPANY: Rohm and Haas Canada Inc., Morrisburg
(580100)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

The data for six trout bioassays, conducted on combined effluent samples collected between October 1989 and March 1990, were provided by Rohm and Haas Canada Incorporated. All six combined effluent samples were determined to have been non-acutely lethal to test fish.

combined effluent

03890233	sampled: 10/25/89	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:		
03890295	sampled: 11/21/89	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non lethal	
03890391	sampled: 12/19/89	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non-lethal	
03900079	sampled: 01/23/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non-lethal	
03900160	sampled: 02/27/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Non-lethal	
03900227	sampled: 03/20/90	non-lethal
95% fid. limits:	0.0 -	0.0 %
comments:	Single Concentration Test; Non-lethal	

process effluent

storm water

rain gauge

intake water

Rohm and Haas Canada Inc. (continued)

TOXICITY TEST REPORT Sample: 03890233

TEST CONDITIONSCompany : Rohm and Haas Canada Inc.
Morrisburg, ONT
(580100)Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Ward
Date Collected : 10/25/89
Received : 10/26/89
Tested : 10/26/89 at: 1300Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
40	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890233

TEST E L A P S E D T I M E
CONC. %
00:00 04:00 24:00 48:00 72:00 96:00

Control	pH	7.7	7.9	7.8	7.8	7.8
	O2 ppm	8.1				
	Cond.	573				564
	Temp(C)	15.0	15.0	15.0	15.5	16.0
10	pH	7.8				8.3
	O2 ppm	8.3				8.8
	Cond.	556				545
	Temp(C)	15.0	15.0	15.0	15.5	16.0
20	pH	7.8				8.0
	O2 ppm	8.3				8.1
	Cond.	537				527
	Temp(C)	15.0	15.0	15.0	15.5	16.0
40	pH	7.8				8.1
	O2 ppm	8.6				8.5
	Cond.	500				489
	Temp(C)	15.0	15.0	15.0	15.5	16.0
65	pH	7.8				7.8
	O2 ppm	8.6				7.8
	Cond.	452				445
	Temp(C)	15.0	15.0	15.0	15.5	16.0
100	pH	7.8				7.8
	O2 ppm	8.9				8.4
	Cond.	386				373
	Temp(C)	15.0	15.0	15.0	15.5	16.0

TOXICITY TEST REPORT Sample: 03890295

TEST CONDITIONSCompany : Rohm and Haas Canada Inc.
Morrisburg, ONT
(580100)Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Ward
Date Collected : 11/21/89
Received : 11/23/89
Tested : 11/23/89 at: 1600Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00 96:00	%
Control	0	0	0	0	0	0
10	0	0	0	0	0	0
20	0	0	0	0	0	0
40	0	0	0	0	0	0
65	0	0	0	0	0	0
100	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890295

TEST CONC. %	E L A P S E D T I M E				
	00:00	04:00	24:00	48:00	72:00 96:00

Control	pH	7.9				8.5
	O2 ppm	8.9				9.7
	Cond.	563				555
	Temp(C)	14.5	14.5	14.5	14.5	14.0
10	pH	7.9				8.5
	O2 ppm	8.9				9.7
	Cond.	563				559
	Temp(C)	14.5	14.5	14.5	14.5	14.0
20	pH	7.9				8.4
	O2 ppm	8.9				9.6
	Cond.	556				549
	Temp(C)	14.5	14.5	14.5	14.5	14.0
40	pH	7.9				8.4
	O2 ppm	8.9				9.6
	Cond.	542				539
	Temp(C)	14.5	14.5	14.5	14.5	14.0
65	pH	7.8				7.7
	O2 ppm	9.0				7.8
	Cond.	504				510
	Temp(C)	14.5	14.5	14.5	14.5	14.0
100	pH	7.7				8.0
	O2 ppm	9.1				9.2
	Cond.	474				475
	Temp(C)	14.5	14.5	14.5	14.5	14.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03890391

TEST CONDITIONS

Company : Rohm and Haas Canada Inc.
Morrisburg, ONT
(580100)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Ward
Date Collected : 12/19/89
Received : 12/21/89
Tested : 12/22/89 at: 1000

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890391

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00
100	pH 8.0 O2 ppm 9.3 Cond. 357 Temp(C) 15.0	14.0	14.0	14.0	8.1 8.8 360 14.5
65	pH 7.9 O2 ppm 9.2 Cond. 427 Temp(C) 15.0	14.0	14.0	14.0	8.3 8.8 429 14.5
40	pH 7.9 O2 ppm 9.1 Cond. 479 Temp(C) 15.0	14.0	14.0	14.0	8.0 7.5 480 14.5
20	pH 7.9 O2 ppm 9.0 Cond. 517 Temp(C) 15.0	14.0	14.0	14.0	8.5 8.6 515 14.5
10	pH 7.9 O2 ppm 8.9 Cond. 536 Temp(C) 15.0	14.0	14.0	14.0	8.5 8.7 529 14.5
5	pH 7.9 O2 ppm 8.9 Cond. 546 Temp(C) 15.0	14.0	14.0	14.0	8.5 9.0 523 14.5
Control	pH 7.9 O2 ppm 8.9 Cond. 550 Temp(C) 15.0	14.0	14.0	14.0	8.5 9.0 533 14.5

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900079

TEST CONDITIONS

Company : Rohm and Haas Canada Inc.
Morrisburg, ONT
(580100)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Ward
Date Collected : 01/23/90
Received : 01/25/90
Tested : 01/27/90 at: 1700

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900079

TEST
CONC.
% E L A P S E D T I M E
00:00 24:00 48:00 72:00 96:00

100	pH	7.9				8.0
	O2 ppm	9.0				10.1
	Cond.	403				413
	Temp(C)	15.0	14.5	14.0	15.0	14.5
Control	pH	7.8				8.4
	O2 ppm	8.1				9.7
	Cond.	548				548
	Temp(C)	15.0	14.5	14.0	15.0	14.5

TOXICITY TEST REPORT Sample: 03900160

TEST CONDITIONS

Company : Rohm and Haas Canada Inc.
Morrisburg, ONT
(580100)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Ward
Date Collected : 02/27/90
Received : 03/01/90
Tested : 03/02/90 at: 1400

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
100	0	0	0	0	0
Control	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900160

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00
100	pH 7.6 O2 ppm 8.4 Cond. 399 Temp(C) 15.0	14.5	14.0	14.0 14.5
100	pH 7.6 O2 ppm 8.4 Cond. 399 Temp(C) 15.0	14.5	14.0	14.0 14.5
Control	pH 7.9 O2 ppm 8.1 Cond. 544 Temp(C) 15.0	14.5	14.0	14.0 14.5
Control	pH 7.9 O2 ppm 8.1 Cond. 544 Temp(C) 15.0	14.5	14.0	14.0 14.5

TOXICITY TEST REPORT Sample: 03900227

TEST CONDITIONSCompany : Rohm and Haas Canada Inc.
Morrisburg, ONT
(580100)Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Ward
Date Collected : 03/20/90
Received : 03/22/90
Tested : 03/22/90 at: 1435Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	1	10

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test; Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900227

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH	8.1			8.3
	O2 ppm	8.2			9.8
	Cond.	447			452
100	Temp(C)	15.0	14.0	14.5	15.0
	pH	8.1			8.3
	O2 ppm	8.2			9.8
Control	Cond.	447			452
	Temp(C)	15.0	14.0	14.5	15.0
Control	pH	7.9			8.5
	O2 ppm	7.9			9.6
	Cond.	549			528
Control	Temp(C)	15.0	14.0	14.5	15.0
	pH	7.9			8.5
	O2 ppm	7.9			9.6
Control	Cond.	549			528
	Temp(C)	15.0	14.0	14.5	15.0

COMPANY: Rohm and Haas Canada Inc., Morrisburg
(580100)
SECTOR: Organic Chemical
REGION: Southeast

SUMMARY

Data for six *Daphnia magna* acute lethality toxicity tests conducted on samples of Combined effluent collected between October 1989 and March 1990 were submitted by Rohm and Haas Canada Inc. of Morrisburg.

Four samples were not acutely lethal to *Daphnia*, and two samples had 48 h LC50s > 100%. One toxic sample induced an unusual toxic response in which the greatest number of mortalities occurred in the middle concentrations of effluent.

combined effluent

03890233 sampled: 10/25/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03890295 sampled: 11/21/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 > 100

03890391 sampled: 12/19/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900079 sampled: 01/23/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900160 sampled: 02/27/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900227 sampled: 03/20/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

process effluent

storm water

Rohm and Haas Canada Inc. (continued)

rain gauge

intake water

Sample: 03890233

TOXICITY TEST REPORT

TEST CONDITIONS

Company : Rohm and Haas Canada Inc.
Morrisburg, ONT
(580100)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Ward
Date Collected : 10/25/89
Received : 10/26/89
Tested : 10/26/89 at: 1230

Type of Bioassay : STATIC.
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	%
Control	0	0	0	0	0
6	0	0	1	2	16
13	0	0	1	2	16
25	0	0	1	2	16
50	0	0	0	0	0
100	0	0	0	1	8

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03890233

TEST E L A P S E D T I M E
CONC. % 00:00 04:00 24:00 48:00

Control	pH	7.5	7.5	7.9
	O2 ppm	7.8	8.9	8.9
	Cond.	303	301	301
	Temp(C)	20.0	20.0	20.0
6	pH	7.5	7.9	7.9
	O2 ppm	8.0	8.6	8.6
	Cond.	305	308	308
	Temp(C)	20.0	20.0	20.0
13	pH	7.6	7.9	7.9
	O2 ppm	8.1	8.4	8.4
	Cond.	312	316	316
	Temp(C)	20.0	20.0	20.0
25	pH	7.6	7.7	7.7
	O2 ppm	8.1	7.8	7.8
	Cond.	323	324	324
	Temp(C)	20.0	20.0	20.0
50	pH	7.6	7.4	7.4
	O2 ppm	8.2	6.4	6.4
	Cond.	343	344	344
	Temp(C)	20.0	20.0	20.0
100	pH	7.7	7.1	7.1
	O2 ppm	8.5	5.2	5.2
	Cond.	387	382	382
	Temp(C)	20.0	20.0	20.0

TOXICITY TEST REPORT Sample: 03890295

TEST CONDITIONS

Company : Rohm and Haas Canada Inc.
Morrisburg, ONT
(580100)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Ward
Date Collected : 11/21/89
Received : 11/23/89
Tested : 11/24/89 at: 1040

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	%
100	0	0	1	1	8
50	0	0	0	0	0
25	0	0	0	0	0
13	0	0	0	0	0
6	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 > 100

TOXICITY TEST PARAMETERS

Sample Number: 03890295

TEST CONC. % E L A P S E D T I M E
00:00 04:00 24:00 48:00

100	pH 7.3	7.3	7.0
	O2 ppm 6.1	4.67	4.3
	Cond. 467		449
	Temp(C) 20.0	20.0	20.0
50	pH 7.6	7.4	7.4
	O2 ppm 7.5	4.6	4.6
	Cond. 389	381	
	Temp(C) 20.0	20.0	20.0
25	pH 8.0	7.5	7.5
	O2 ppm 8.1	5.9	5.9
	Cond. 350	346	
	Temp(C) 20.0	20.0	20.0
13	pH 8.1	7.7	7.7
	O2 ppm 8.4	7.4	7.4
	Cond. 339	330	
	Temp(C) 20.0	20.0	20.0
6	pH 8.3	8.1	8.1
	O2 ppm 8.6	8.6	8.6
	Cond. 319	320	
	Temp(C) 20.0	20.0	20.0
Control	pH 8.5	8.4	8.4
	O2 ppm 9.0	9.9	9.9
	Cond. 301	316	
	Temp(C) 20.0	20.0	20.0

MISA Daphnia

TOXICITY TEST REPORT Sample: 03890391

TEST CONDITIONS

Company : Rohm and Haas Canada Inc.
Morrisburg, ONT
(580100)
Region : Southeast
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Ward
Date Collected : 12/19/89
Received : 12/21/89 at: 1550
Tested : 12/21/89

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol, OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890391

TEST CONC. % E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.2 O2 ppm 9.4 Cond. 350 Temp(C) 20.0	7.7 7.0 356 20.0
50	pH 8.2 O2 ppm 9.3 Cond. 327 Temp(C) 20.0	8.0 8.0 331 20.0
25	pH 8.3 O2 ppm 9.1 Cond. 313 Temp(C) 20.0	8.2 8.3 318 20.0
13	pH 8.3 O2 ppm 9.1 Cond. 308 Temp(C) 20.0	8.2 8.5 312 20.0
6	pH 8.4 O2 ppm 9.1 Cond. 306 Temp(C) 20.0	8.3 8.6 311 20.0
Control	pH 8.4 O2 ppm 9.6 Cond. 308 Temp(C) 20.0	8.3 8.0 302 20.0

TOXICITY TEST REPORT Sample: 039000079

TEST CONDITIONS

Company : Rohm and Haas Canada Inc.
 : Morrisburg, ONT
 : (580100)
 Region : Southeast
 Industry : Organic Chemical
 Control point : combined effluent, (100)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : L. Ward
 Date Collected : 01/23/90
 Received : 01/25/90
 Tested : 01/26/90 at: 1225

Type of Bioassay : STATIC
 : (Daphnia magna Acute Lethality Toxicity
 : Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 24:00 48:00	%
100	0 0 0	0
50	0 0 0	0
25	0 0 0	0
13	0 0 0	0
6	0 0 0	0
Control	0 0 0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 039000079

TEST CONC. % E L A P S E D T I M E
 00:00 24:00 48:00

100	pH 7.5 O2 ppm 7.3 Cond. 397 Temp(C) 20.0	7.8 6.6 402 20.5
50	pH 8.0 O2 ppm 8.2 Cond. 341 Temp(C) 20.0	8.1 7.4 349 20.5
25	pH 8.3 O2 ppm 8.5 Cond. 318 Temp(C) 20.0	8.3 7.9 324 20.5
13	pH 8.3 O2 ppm 8.7 Cond. 310 Temp(C) 20.0	8.4 8.1 311 20.5
6	pH 8.4 O2 ppm 8.6 Cond. 296 Temp(C) 20.0	8.5 8.1 303 20.5
Control	pH 8.5 O2 ppm 8.8 Cond. 292 Temp(C) 20.0	8.5 8.2 294 20.5

TOXICITY TEST REPORT Sample: 03900160

TEST CONDITIONSCompany : Rohm and Haas Canada Inc.
Morrisburg, ONT
(580100)Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Ward
Date Collected : 02/27/90
Received : 03/01/90
Tested : 03/02/90 at: 935Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)Test Animal : D. magna
Weight(gm) :
Length(mm) :MORTALITY DATA

TEST CONC.	%	ELAPSED	TIME	TOTAL MORTALITY	%
100	0	0	0		0
50	0	0	0		0
25	0	0	0		0
13	0	0	0		0
6	0	0	0		0
Control	0	0	0		0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900160

TEST
CONC.
%
ELAPSED
TIME
00:00 24:00 48:00

100	pH 7.6 O2 ppm 7.7 Cond. 383 Temp(C) 20.0	7.6 7.7 383 20.0	20.5 20.5 381 20.5	7.2 5.1 381 20.5
50	pH 8.0 O2 ppm 7.8 Cond. 344 Temp(C) 20.0	8.0 7.8 344 20.0	20.5 20.5 345 20.5	7.6 7.0 345 20.5
25	pH 8.3 O2 ppm 7.8 Cond. 326 Temp(C) 20.0	8.3 7.8 326 20.0	20.5 20.5 328 20.5	8.0 8.0 328 20.5
13	pH 8.4 O2 ppm 7.8 Cond. 314 Temp(C) 20.0	8.4 7.8 314 20.0	20.5 20.5 318 20.5	8.2 8.4 318 20.5
6	pH 8.4 O2 ppm 7.8 Cond. 303 Temp(C) 20.0	8.4 7.8 303 20.0	20.5 20.5 312 20.5	8.4 8.5 312 20.5
Control	pH 8.5 O2 ppm 8.1 Cond. 303 Temp(C) 20.0	8.5 8.1 303 20.0	20.5 20.5 305 20.5	8.4 8.7 305 20.5

TOXICITY TEST REPORT Sample: 03900227

TEST CONDITIONS

Company : Rohm and Haas Canada Inc.
 : Morrisburg, ONT
 : (580100)
Region : Southeast
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : BAR
Sampling Method : Grab
Sampled By : L. Ward
Date Collected : 03/20/90
Received : 03/22/90
Tested : 03/23/90 at: 1450

Type of Bioassay : STATIC
 : (Daphnia magna Acute Lethality Toxicity
 : Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900227

TEST CONC. % E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.1 O2 ppm 9.2 Cond. 447 Temp(C) 20.0	8.0 8.5 445 19.5
50	pH 8.2 O2 ppm 8.9 Cond. 366 Temp(C) 20.0	8.1 8.7 371 19.5
25	pH 8.2 O2 ppm 8.8 Cond. 334 Temp(C) 20.0	8.3 8.5 335 19.5
13	pH 8.2 O2 ppm 8.8 Cond. 316 Temp(C) 20.0	8.4 8.4 317 19.5
6	pH 8.2 O2 ppm 8.8 Cond. 306 Temp(C) 20.0	8.4 8.4 305 19.5
Control	pH 8.3 O2 ppm 8.8 Cond. 300 Temp(C) 20.0	8.4 8.6 294 19.5

COMPANY: Stepan Canada Inc., Longford Mills
(140004)
SECTOR: Organic Chemical
REGION: Central

SUMMARY

The data for six trout bioassays, conducted on combined effluent samples collected between October 1989 and March 1990, were provided by Stepan Canada Incorporated. All six combined effluent samples were determined to have been non-acutely lethal to test fish.

combined effluent

08890441 sampled: 10/18/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

08890473 sampled: 11/15/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

08890492 sampled: 12/13/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

08900031 sampled: 01/17/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

08900111 sampled: 02/20/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

08900221 sampled: 03/21/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

process effluent

emergency overflow

rain gauge

intake water

Stepan Canada Inc. (continued)

TOXICITY TEST REPORT

Sample: 08890441

TEST CONDITIONS

Company : Stepan Canada Inc.
Longford Mills, ONT
(140004)
Region : Central
Industry : Organic Chemical
Control point : combined effluent, (100)

Laboratory : Integrated
Sampling Method : 24 HR. COMPOSITE
Sampled By : B. FREE
Date Collected : 10/18/89
Received : 10/19/89
Tested : 10/20/89 at: 1330

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	01:00	02:00	04:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 08890441

TEST CONC. %	E L A P S E D T I M E						
	00:00	01:00	02:00	04:00	24:00	48:00	72:00
100	pH 7.4 O2 ppm 7.6 Cond. 357 Temp(C) 15.0						7.3 9.4 530 15.0
65	pH 7.5 O2 ppm 8.1 Cond. 313 Temp(C) 15.0						7.4 9.4 452 15.0
40	pH 7.5 O2 ppm 7.5 Cond. 282 Temp(C) 15.0						7.4 9.4 396 15.0
30	pH 7.6 O2 ppm 8.2 Cond. 270 Temp(C) 15.0						7.3 9.5 374 15.0
20	pH 7.5 O2 ppm 8.1 Cond. 257 Temp(C) 15.0						7.5 9.6 351 15.0
10	pH 7.8 O2 ppm 8.2 Cond. 245 Temp(C) 15.0						7.6 9.6 329 15.0
Control	pH 7.6 O2 ppm 7.2 Cond. 340 Temp(C) 15.0						7.7 10.0 509 15.0

TOXICITY TEST REPORT Sample: 08890473

TEST CONDITIONS

Company : Stepan Canada Inc.
Longford Mills, ONT
(140004)
Region : Central
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : INTEGRATED
Sampling Method : 24 HR COMPOSITE
Sampled By : W. JOHNSTON
Date Collected : 11/15/89
Received : 11/17/89 at: 1230
Tested : 11/17/89
Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).
Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY	
%	00:00	01:00	02:05	04:00	24:00	49:15	72:00	96:00	%
100	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 08890473

TEST CONC. %	E L A P S E D T I M E						
	00:00	01:00	02:05	04:00	24:00	49:15	72:00 96:00
100	pH 7.1 O2 ppm 9.6 Cond. 2240 Temp(C) 8.0						7.8 9.1 2250 15.0
65	pH 7.2 O2 ppm 8.8 Cond. 1350 Temp(C) 10.0				15.0		8.1 8.7 1470 15.0
40	pH 7.1 O2 ppm 8.2 Cond. 990 Temp(C) 11.0				15.0		8.2 9.1 1160 15.0
30	pH 7.1 O2 ppm 7.8 Cond. 930 Temp(C) 11.0				15.0		8.3 8.4 960 15.0
10	pH 6.9 O2 ppm 7.6 Cond. 860 Temp(C) 11.0				15.0		8.4 7.5 870 15.0
Control	pH 7.2 O2 ppm 7.3 Cond. 550 Temp(C) 12.0				15.0		8.4 8.2 720 15.0

TOXICITY TEST REPORT Sample: 08890492

TEST CONDITIONS

Company : Stepan Canada Inc.
Longford Mills, ONT
(140004)
Region : Central
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : Integrated
Sampling Method : 24 hr composite
Sampled By : W. JOHNSTON
Date Collected : 12/13/89
Received : 12/14/89
Tested : 12/15/89 at: 1200

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E										TOTAL MORTALITY	
%	00:00	01:00	02:02	04:00	23:55	48:30	71:50	96:10	%			
100	0	0	0	0	0	0	0	0	0	0		
65	0	0	0	0	0	0	0	0	0	0		
40	0	0	0	0	0	0	0	0	0	0		
30	0	0	0	0	0	0	0	0	0	0		
10	0	0	0	0	0	0	0	0	0	0		
Control	0	0	0	0	0	0	0	0	0	0		

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 08890492

TEST CONC. %	E L A P S E D T I M E									
	00:00	01:00	02:02	04:00	23:55	48:30	71:50	96:10		
100	pH 7.8 O2 ppm 7.3 Cond. 600 Temp(C) 14.0								8.0 7.4 650 15.0	
65	pH 7.8 O2 ppm 7.2 Cond. 600 Temp(C) 14.0								8.2 7.3 650 15.0	
40	pH 7.8 O2 ppm 7.1 Cond. 650 Temp(C) 14.0								8.3 7.4 700 15.0	
30	pH 7.6 O2 ppm 7.1 Cond. 680 Temp(C) 14.0								8.3 7.6 700 15.0	
10	pH 7.6 O2 ppm 7.2 Cond. 660 Temp(C) 14.0								8.5 7.6 720 15.0	
Control	pH 7.7 O2 ppm 7.2 Cond. 680 Temp(C) 14.0								8.7 7.6 700 15.0	

TOXICITY TEST REPORT Sample: 08900031

TEST CONDITIONS

Company : Stepan Canada Inc.
Longford Mills, ONT
(140004)
Region : Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Integrated
Sampling Method : 24 hr composite
Sampled By : W Johnston
Date Collected : 01/17/90
Received : 01/18/90
Tested : 01/18/90 at: 1145

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	01:10	02:35	04:25	25:55	48:55	72:55	97:55
100	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 08900031

E L A P S E D T I M E

TEST CONC. % 00:00 01:10 02:35 04:25 25:55 48:55 72:55 97:55

100	pH	8.1						8.2
	O2 ppm	7.0						7.6
	Cond.	610						620
	Temp(C)	14.0						13.5
65	pH	8.0						8.4
	O2 ppm	7.3						7.6
	Cond.	655						650
	Temp(C)	14.0						13.5
40	pH	8.0						8.5
	O2 ppm	7.4						7.6
	Cond.	700						690
	Temp(C)	14.0						13.5
30	pH	8.0						8.5
	O2 ppm	7.6						7.6
	Cond.	715						700
	Temp(C)	14.0						13.5
10	pH	8.0						8.6
	O2 ppm	7.6						7.6
	Cond.	760						720
	Temp(C)	14.0						13.5
5	pH	8.0						8.6
	O2 ppm	7.6						7.6
	Cond.	760						720
	Temp(C)	14.0						13.5
Control	pH	7.9						8.6
	O2 ppm	7.7						7.7
	Cond.	760						745
	Temp(C)	14.0						13.5

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 08900111

TEST CONDITIONS

Company : Stepan Canada Inc.
Longford Mills, ONT
(140004)
Region : Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : integrated
Sampling Method : 24 hr composite
Sampled By : W Johnston
Date Collected : 02/20/90
Received : 02/23/90
Tested : 02/23/90 at: 1500

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY	
%	00:00	01:00	02:00	03:55	24:00	46:47	70:45	94:50	%
100	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 08900111

TEST CONC. %	E L A P S E D T I M E						
	00:00	01:00	02:00	03:55	24:00	46:47	70:45 94:50
100	pH 7.8 O2 ppm 8.3 Cond. 425 Temp(C) 15.0						8.0 8.0 495 16.0
65	pH 7.7 O2 ppm 8.1 Cond. 500 Temp(C) 15.0						8.3 8.1 560 16.0
40	pH 7.7 O2 ppm 7.7 Cond. 600 Temp(C) 15.0						8.3 8.1 650 16.0
30	pH 7.7 O2 ppm 7.6 Cond. 650 Temp(C) 15.0						8.4 8.1 700 16.0
10	pH 7.7 O2 ppm 7.5 Cond. 700 Temp(C) 15.0						8.3 8.0 750 16.0
5	pH 7.6 O2 ppm 7.4 Cond. 750 Temp(C) 15.0						8.4 8.1 745 16.0
Control	pH 7.5 O2 ppm 7.8 Cond. 750 Temp(C) 15.0						8.2 8.2 790 16.0

TOXICITY TEST REPORT Sample: 08900221

TEST CONDITIONS

Company : Stepan Canada Inc.
Longford Mills, ONT
(140004)
Region : Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Integrated
Sampling Method : grab
Sampled By : J. R. Teeple
Date Collected : 03/21/90
Received : 03/22/90
Tested : 03/23/90 at: 930

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E								TOTAL MORTALITY	
%	00:00	01:00	02:15	05:10	29:10	53:10	74:10	98:25	%	%
100	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 08900221

TEST CONC. %	E L A P S E D T I M E							
	00:00	01:00	02:15	05:10	29:10	53:10	74:10	98:25
100	pH 8.4 O2 ppm 8.7 Cond. 500 Temp(C) 14.0							8.4 8.7 480 15.0
65	pH 8.1 O2 ppm 8.6 Cond. 650 Temp(C) 14.0							8.4 8.7 640 15.0
40	pH 8.0 O2 ppm 8.6 Cond. 750 Temp(C) 14.0							8.4 8.7 750 15.0
30	pH 7.9 O2 ppm 8.7 Cond. 800 Temp(C) 14.0							8.4 8.7 790 15.0
10	pH 7.9 O2 ppm 8.7 Cond. 850 Temp(C) 14.0							8.4 8.8 805 15.0
5	pH 7.9 O2 ppm 9.0 Cond. 850 Temp(C) 14.0							8.5 8.9 805 15.0
Control	pH 7.7 O2 ppm 8.6 Cond. 850 Temp(C) 14.0							8.3 9.2 690 15.0

COMPANY: Stepan Canada Inc., Longford Mills
(140004)
SECTOR: Organic Chemical
REGION: Central

SUMMARY

Data for six *Daphnia magna* acute lethality toxicity tests conducted on samples of combined effluent collected between October 1989 and March 1990 were submitted by Stepan Canada Inc. of Longford Mills.

Four of the six samples were not acutely lethal to *Daphnia*. The remaining two samples induced an unusual toxic response in which the greatest number of mortalities occurred in the middle concentrations of effluent.

combined effluent

08890443 sampled: 10/18/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

08890471 sampled: 11/15/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

08890491 sampled: 12/13/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

08900032 sampled: 01/17/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments:

08900112 sampled: 02/20/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

08900222 sampled: 03/21/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

process effluent

emergency overflow

Stepan Canada Inc. (continued)

rain gauge

intake water

TOXICITY TEST REPORT Sample: 08890443

TEST CONDITIONS

Company : Stepan Canada Inc.
Longford Mills, ONT
(140004)
Region : Central
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : Integrated
Sampling Method : 24 HR. COMPOSITE
Sampled By : B. FREE
Date Collected : 10/18/89
Received : 10/19/89
Tested : 10/20/89 at: 1430
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	01:00	02:00	04:00	24:00 48:00	%
100	0	0	0	0	1	8
50	0	0	0	0	0	0
25	0	0	0	0	0	0
15	0	0	0	0	1	8
5	0	0	0	0	2	16
Control	0	0	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 08890443

TEST CONC.	E L A P S E D T I M E				
%	00:00	01:00	02:00	04:00	24:00 48:00

100	pH 6.9 O2 ppm 8.3 Cond. 350 Temp(C) 20.0	8.0 5.7 310 20.0
50	pH 7.0 O2 ppm 8.5 Cond. 314 Temp(C) 20.0	7.9 5.5 307 20.0
25	pH 7.0 O2 ppm 8.0 Cond. 296 Temp(C) 20.0	7.9 5.5 318 20.0
15	pH 7.0 O2 ppm 8.8 Cond. 288 Temp(C) 20.0	7.8 4.8 319 20.0
5	pH 7.0 O2 ppm 8.6 Cond. 281 Temp(C) 20.0	7.8 4.7 328 20.0
Control	pH 7.0 O2 ppm 8.1 Cond. 340 Temp(C) 20.0	8.1 5.1 333 20.0

TOXICITY TEST REPORT Sample: 08890471

TEST CONDITIONS

Company : Stepan Canada Inc.
Longford Mills, ONT
(140004)
Region : Central
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : Integrated
Sampling Method : 24 HR. COMPOSITE
Sampled By : W. JOHNSTON
Date Collected : 11/15/89
Received : 11/17/89
Tested : 11/17/89 at: 1445
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	01:00	02:00	04:00	24:00 48:00	%
100	0	0	0	0	0	0
50	0	0	0	0	0	0
25	0	0	0	0	0	0
15	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 08890471

TEST CONC. %

E L A P S E D T I M E

00:00 01:00 02:00 04:00 24:00 48:00

100	pH 7.5	02 ppm 9.7	Cond. 1900	Temp(C) 19.0	8.0	9.2	1990	19.0
50	pH 7.6	02 ppm 9.7	Cond. 1061	Temp(C) 19.0	8.2	9.5	1172	19.0
25	pH 7.6	02 ppm 9.7	Cond. 590	Temp(C) 19.0	8.2	9.7	820	19.0
15	pH 7.6	02 ppm 9.7	Cond. 484	Temp(C) 19.0	8.3	9.7	589	19.0
5	pH 7.6	02 ppm 9.8	Cond. 319	Temp(C) 19.0	8.3	9.8	422	19.0
Control	pH 7.6	02 ppm 9.7	Cond. 280	Temp(C) 19.0	8.4	9.8	290	19.0

TOXICITY TEST REPORT Sample: 08890491

TEST CONDITIONS

Company : Stepan Canada Inc.
Longford Mills, ONT
(140004)
Region : Central
Industry : Organic Chemical

Control point : combined effluent, (100)

Laboratory : Integrated
Sampling Method : 24 hr composite
Sampled By : W. JOHNSTON
Date Collected : 12/13/89
Received : 12/14/89
Tested : 12/15/89 at: 1200

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	01:00	02:00	04:00	24:00	47:45	%
100	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0
5	0	0	0	2	2	2	16
Control	0	0	0	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 08890491

TEST CONC. %	E L A P S E D T I M E				
	00:00	01:00	02:00	04:00	24:00 47:45

100	pH	7.8	7.6	7.6	7.6
	O2 ppm	7.6	450	525	525
	Cond.	450	20.0	20.0	20.0
	Temp(C)	20.0			
50	pH	7.9	7.6	7.7	7.7
	O2 ppm	7.6	340	450	450
	Cond.	340	20.0	20.0	20.0
	Temp(C)	20.0			
25	pH	7.8	7.6	7.7	7.7
	O2 ppm	7.6	320	360	360
	Cond.	320	20.0	20.0	20.0
	Temp(C)	20.0			
15	pH	7.8	7.4	8.0	8.0
	O2 ppm	7.4	320	360	360
	Cond.	320	20.0	20.0	20.0
	Temp(C)	20.0			
5	pH	7.8	7.6	8.2	8.2
	O2 ppm	7.6	290	400	400
	Cond.	290	20.0	20.0	20.0
	Temp(C)	20.0			
Control	pH	7.7	7.2	7.7	7.7
	O2 ppm	7.2	290	425	425
	Cond.	290	20.0	20.0	20.0
	Temp(C)	20.0			

TOXICITY TEST REPORT Sample: 08900032

TEST CONDITIONS

Company : Stepan Canada Inc.
Longford Mills, ONT
(140004)
Region : Central
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : integrated
Sampling Method : 24hr composite
Sampled By : W. Johnston
Date Collected : 01/17/90
Received : 01/18/90
Tested : 01/18/90 at: 1315
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	01:15	03:25	04:15	24:25	48:15	%	
100	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0
5	0	0	0	0	1	1	8	8
Control	0	0	0	0	1	1		

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 08900032

TEST CONC. % E L A P S E D T I M E
00:00 01:15 03:25 04:15 24:25 48:15

100	pH	8.3	8.2
	O2 ppm	6.4	5.2
	Cond.	590	560
	Temp(C)	20.0	20.0
50	pH	8.4	8.3
	O2 ppm	6.4	5.2
	Cond.	540	520
	Temp(C)	20.0	20.0
25	pH	8.5	8.4
	O2 ppm	7.4	6.1
	Cond.	540	510
	Temp(C)	20.0	20.0
15	pH	8.5	8.5
	O2 ppm	7.3	6.0
	Cond.	540	510
	Temp(C)	20.0	20.0
5	pH	8.5	8.5
	O2 ppm	7.4	6.0
	Cond.	540	510
	Temp(C)	20.0	20.0
Control	pH	8.5	8.6
	O2 ppm	7.4	6.0
	Cond.	540	510
	Temp(C)	20.0	20.0

HISA Daphnia

TOXICITY TEST REPORT Sample: 08900112

TEST CONDITIONS

Company : Stepan Canada Inc.
Longford Mills, ONT
(140004)
Region : Central
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : Integrated
Sampling Method : 24 hr composite
Sampled By : W Johnston
Date Collected : 02/20/90
Received : 02/23/90
Tested : 02/23/90 at: 1500

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	01:00	02:10	04:10	24:40	47:40	%	
100	0	0	0	0	0	0	0	
50	0	0	0	0	0	0	0	
25	0	0	0	0	0	0	0	
15	0	0	0	0	0	0	0	
5	0	0	0	0	0	0	0	
Control	0	0	0	0	0	0	0	

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %

Comments :

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 08900112

TEST CONC. % E L A P S E D T I M E
00:00 01:00 02:10 04:10 24:40 47:40

100	pH 7.9 O2 ppm 7.7 Cond. 450 Temp(C) 21.0	7.8 6.6 460 20.0
50	pH 8.1 O2 ppm 7.2 Cond. 390 Temp(C) 21.0	7.9 6.8 430 20.0
25	pH 8.1 O2 ppm 7.2 Cond. 390 Temp(C) 21.0	7.9 6.9 390 20.0
15	pH 8.2 O2 ppm 7.0 Cond. 380 Temp(C) 21.0	7.9 6.9 390 20.0
5	pH 8.2 O2 ppm 7.1 Cond. 360 Temp(C) 21.0	7.9 6.7 380 20.0
Control	pH 8.2 O2 ppm 6.9 Cond. 325 Temp(C) 21.0	7.8 7.8 365 20.0

TOXICITY TEST REPORT Sample: 08900222

TEST CONDITIONS

Company : Stepan Canada Inc.
Longford Mills, ONT
(140004)
Region : Central
Industry : Organic Chemical
Control point : combined effluent, (100)
Laboratory : Integrated
Sampling Method : grab
Sampled By : R. Teeple
Date Collected : 03/21/90
Received : 03/22/90
Tested : 03/23/90 at: 1150

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol, DME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	01:00	02:00	04:00	27:05 50:55	%
100	0	0	0	0	0	0
50	0	0	0	0	0	0
25	0	0	0	0	0	0
15	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 08900222

TEST
CONC.
% E L A P S E D T I M E
00:00 01:00 02:00 04:00 27:05 50:55

100	pH 02 ppm Cond. Temp(C)	8.4 8.6 475 20.0	8.3 7.4 550 20.0
50	pH 02 ppm Cond. Temp(C)	8.3 8.6 525 20.0	8.3 7.3 575 20.0
25	pH 02 ppm Cond. Temp(C)	8.3 8.6 550 20.0	8.3 7.4 600 20.0
15	pH 02 ppm Cond. Temp(C)	8.3 8.7 600 20.0	8.3 7.3 640 20.0
5	pH 02 ppm Cond. Temp(C)	8.4 8.6 600 20.0	8.3 7.2 640 20.0
Control	pH 02 ppm Cond. Temp(C)	8.5 8.7 700 20.0	8.3 7.4 625 20.0

COMPANY: Uniroyal Chemical Ltd., Elmira
(680108)
SECTOR: Organic Chemical
REGION: West Central

SUMMARY

The data for twenty-two trout bioassays, conducted on combined effluent and once through cooling water samples collected between October 1989 and March 1990, were provided by Uniroyal Chemical Limited. Three of six samples collected from combined effluent 0600 had 96 hour LC50s of > 100 %. The other three samples were determined to have been non-acutely lethal. One of six samples collected from combined effluent 0800 had a 96 hour LC50 of > 100 %. The other five samples were non-acutely lethal. Two of six samples collected from the combined effluent 0900 had 96 hour LC50s of > 100 %. The other four samples were non-acutely lethal. One of the four cooling water samples had a 96 hour LC50 of > 100 %, while the remaining were non-acutely lethal. All Ministry audit testing of samples collected from the four locations were determined to have been non-acutely lethal to test fish.

OT cooling water

OT cooling water

01890284 sampled: 12/06/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA audit sample.

03890374 sampled: 12/18/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900035 sampled: 01/15/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900129 sampled: 02/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900218 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

Uniroyal Chemical Ltd. (continued)

OT cooling water

combined effluent

rain gauge

combined effluent

03890217 sampled: 10/16/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03890286 sampled: 11/20/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 > 100

01890281 sampled: 12/06/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA audit sample.

03890375 sampled: 12/18/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900036 sampled: 01/15/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900130 sampled: 02/19/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test--Lethal

03900217 sampled: 03/19/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50>100

combined effluent

combined effluent

03890218 sampled: 10/16/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03890287 sampled: 11/20/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 > 100

01890282 sampled: 12/06/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA audit sample.

Uniroyal Chemical Ltd. (continued)

03890376 sampled: 12/18/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900037 sampled: 01/15/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900127 sampled: 02/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; Non-lethal

03900219 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Single Concentration Test; Non lethal

combined effluent

03890219 sampled: 10/16/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03890288 sampled: 11/20/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 > 100

01890283 sampled: 12/06/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA audit sample.

03890377 sampled: 12/18/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900038 sampled: 01/15/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

03900128 sampled: 02/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non-lethal

03900220 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

Uniroyal Chemical Ltd. (continued)

intake water

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 01890284

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical
Control point : OF cooling water, (200)

Laboratory : MOE
Sampling Method : grab
Sampled By : M. Smithson
Date Collected : 12/06/89
Received : 12/07/89
Tested : 12/08/89 at: 1220

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E										TOTAL MORTALITY
%	00:00	00:30	01:00	02:00	04:00	28:00	49:00	72:20	96:00	%	
100	0	0	0	0	0	0	0	0	0	0	
65	0	0	0	0	0	0	0	0	0	0	
40	0	0	0	0	0	0	0	0	0	0	
30	0	0	0	0	0	0	0	0	0	0	
20	0	0	0	0	0	0	0	0	0	0	
10	0	0	0	0	0	0	0	0	0	0	
Control	0	0	0	0	0	0	0	0	0	0	

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA audit sample.

TOXICITY TEST PARAMETERS

Sample Number: 01890284

TEST CONC.		E L A P S E D T I M E									
%		00:00	00:30	01:00	02:00	04:00	28:00	49:00	72:20	96:00	%
100	pH	7.5									
	02 ppm Cond.	8.2									
	Temp(C)	980									
65	pH	14.0									
	02 ppm Cond.	7.8									
	Temp(C)	9.8									
40	pH	9.8									
	02 ppm Cond.	9.8									
	Temp(C)	660									
30	pH	14.0									
	02 ppm Cond.	7.9									
	Temp(C)	9.8									
20	pH	14.0									
	02 ppm Cond.	7.7									
	Temp(C)	9.7									
10	pH	5.4									
	02 ppm Cond.	14.0									
	Temp(C)	7.7									
Control	pH	7.7									
	02 ppm Cond.	7.7									
	Temp(C)	9.5									

TOXICITY TEST REPORT Sample: 03890374

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical
Control point : OT cooling water, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman/MS
Date Collected : 12/18/89
Received : 12/19/89
Tested : 12/20/89 at: 900

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	2	3	4	40
65	0	0	0	0	1	10
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03890374

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 7.9 O2 ppm 8.5 Cond. 1024 Temp(C) 15.0	14.0	14.0	14.0	8.3 9.1 1017 14.0
65	pH 7.8 O2 ppm 8.1 Cond. 874 Temp(C) 15.0	14.0	14.0	14.0	8.2 8.8 880 14.0
40	pH 7.8 O2 ppm 8.1 Cond. 744 Temp(C) 15.0	14.0	14.0	14.0	8.3 9.5 746 14.0
20	pH 7.8 O2 ppm 8.0 Cond. 649 Temp(C) 15.0	14.0	14.0	14.0	8.3 9.6 654 14.0
10	pH 7.8 O2 ppm 8.0 Cond. 602 Temp(C) 15.0	14.0	14.0	14.0	8.5 9.5 582 14.0
5	pH 7.8 O2 ppm 8.0 Cond. 577 Temp(C) 15.0	14.0	14.0	14.0	8.5 9.8 581 14.0
Control	pH 7.8 O2 ppm 8.1 Cond. 555 Temp(C) 15.0	14.0	14.0	14.0	8.5 9.9 556 14.0

TOXICITY TEST REPORT Sample: 039000035

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical
Control point : OT cooling water, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman
Date Collected : 01/15/90
Received : 01/16/90
Tested : 01/17/90 at: 1800

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 039000035

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH	7.8			7.9
	O2 ppm	9.6			8.9
	Cond.	2700			2260
	Temp(C)	15.0	15.0	14.0	14.0
65	pH	7.8			8.2
	O2 ppm	9.6			8.9
	Cond.	5320			1530
	Temp(C)	15.0	15.0	14.0	14.0
40	pH	7.9			8.2
	O2 ppm	9.5			9.2
	Cond.	1006			1000
	Temp(C)	15.0	15.0	14.0	14.0
20	pH	7.9			8.2
	O2 ppm	9.2			8.9
	Cond.	5490			5490
	Temp(C)	15.0	15.0	14.0	14.0
10	pH	7.9			8.2
	O2 ppm	9.0			8.5
	Cond.	3220			3230
	Temp(C)	15.0	15.0	14.0	14.0
5	pH	8.0			8.2
	O2 ppm	9.0			8.5
	Cond.	1787			1788
	Temp(C)	15.0	15.0	14.0	14.0
Control	pH	7.9			8.4
	O2 ppm	9.0			8.7
	Cond.	557			562
	Temp(C)	15.0	15.0	14.0	14.0

HISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900129

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680106)
Region : West Central
Industry : Organic Chemical
Control point : OT cooling water, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman
Date Collected : 02/19/90
Received : 02/20/90
Tested : 02/21/90 at: 1100

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900129

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 8.0 O2 ppm 10.2 Cond. 1211 Temp(C) 15.0	14.0	14.5	14.0	8.4 10.2 1180 14.0
65	pH 8.0 O2 ppm 9.8 Cond. 982 Temp(C) 15.0	14.0	14.5	14.0	8.2 10.0 946 14.0
40	pH 8.0 O2 ppm 9.6 Cond. 816 Temp(C) 15.0	14.0	14.5	14.0	8.4 10.2 763 14.0
20	pH 7.9 O2 ppm 9.4 Cond. 683 Temp(C) 15.0	14.0	14.5	14.0	8.4 10.2 655 14.0
10	pH 7.9 O2 ppm 9.2 Cond. 606 Temp(C) 15.0	14.0	14.5	14.0	8.5 10.2 579 14.0
5	pH 7.9 O2 ppm 9.1 Cond. 579 Temp(C) 15.0	14.0	14.5	14.0	8.4 10.0 568 14.0
Control	pH 7.9 O2 ppm 8.9 Cond. 546 Temp(C) 15.0	14.0	14.5	14.0	8.5 10.2 520 14.0

TOXICITY TEST REPORT Sample: 03900218

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.

: Elmira, ONT

(680108)

Region : West Central

Industry : Organic Chemical

Control point : Of cooling water, (200)

Laboratory : BAR

Sampling Method : Grab

Sampled By : D. Hallman

Date Collected : 03/19/90

Received : 03/20/90

Tested : 03/21/90 at: 1135

Type of Bioassay

: STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal

Weight(gm)

Length(mm)

: Rainbow trout

:

:

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900218

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00

100	pH	7.8			7.9
	O2 ppm	9.8			9.9
	Cond.	1045			1021
	Temp(C)	15.0	14.5	14.5	14.5
65	pH	7.9			8.4
	O2 ppm	9.3			9.9
	Cond.	886			855
	Temp(C)	15.0	14.5	14.5	14.5
40	pH	7.9			8.4
	O2 ppm	9.2			9.7
	Cond.	761			737
	Temp(C)	15.0	14.5	14.5	14.5
20	pH	7.9			8.4
	O2 ppm	8.8			9.7
	Cond.	656			652
	Temp(C)	15.0	14.5	14.5	14.5
10	pH	7.9			8.4
	O2 ppm	8.7			9.6
	Cond.	602			599
	Temp(C)	15.0	14.5	14.5	14.5
5	pH	7.9			8.4
	O2 ppm	8.6			9.6
	Cond.	576			567
	Temp(C)	15.0	14.5	14.5	14.5
Control	pH	7.9			8.4
	O2 ppm	8.5			9.4
	Cond.	549			547
	Temp(C)	15.0	14.5	14.5	14.5

TOXICITY TEST REPORT Sample: 03890217

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
 : Elmira, ONT
 : (680108)
 Region : West Central
 Industry : Organic Chemical
 Control point : combined effluent, (600)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : B. Miller
 Date Collected : 10/16/89
 Received : 10/17/89
 Tested : 10/18/89 at: 1130
 Type of Bioassay : STATIC
 : (Protocol to determine the acute lethality
 : of liquid effluents to fish. OME, 1983).
 Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890217

TEST CONC. %	E L A P S E D T I M E					
	00:00	04:00	24:00	48:00	72:00	96:00

Control	pH	7.8				
	O2 ppm	8.7				8.5
	Cond.	571				9.3
	Temp(C)	15.0	15.0	14.0	14.5	554
10	pH	7.8				15.0
	O2 ppm	8.9				8.5
	Cond.	616				9.4
	Temp(C)	15.0	15.0	14.0	14.5	602
20	pH	7.8				15.0
	O2 ppm	8.9				8.4
	Cond.	659				9.2
	Temp(C)	15.0	15.0	14.0	14.5	648
40	pH	7.8				15.0
	O2 ppm	9.1				8.4
	Cond.	743				9.2
	Temp(C)	15.0	15.0	14.0	14.5	729
65	pH	7.8				15.0
	O2 ppm	9.4				8.5
	Cond.	846				9.3
	Temp(C)	15.0	15.0	14.0	14.5	829
100	pH	7.9				15.0
	O2 ppm	9.9				8.5
	Cond.	984				9.6
	Temp(C)	15.0	15.0	14.0	14.5	967
						15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890286

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
 : Elmira, ONT
 : (680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Miller
Date Collected : 11/20/89
Received : 11/21/89
Tested : 11/23/89 at: 1330

Type of Bioassay : STATIC
 : (Protocol to determine the acute lethality
 : of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	1	10
10	0	0	0	0	0	1	10
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 > 100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890286

TEST CONC. %	E L A P S E D T I M E					
	00:00	04:00	24:00	48:00	72:00	96:00
Control	pH	7.9				8.5
	O2 ppm	9.4				9.5
	Cond. Temp(C)	560				569
10	pH	14.5	14.5	14.5	14.5	14.5
	O2 ppm	7.8				8.7
	Cond. Temp(C)	9.1				9.6
20	pH	612				607
	O2 ppm	14.5	14.5	14.5	14.5	14.5
	Cond. Temp(C)	14.5				14.5
40	pH	7.9				8.6
	O2 ppm	9.2				9.6
	Cond. Temp(C)	664				657
65	pH	14.5	14.5	14.5	14.5	14.5
	O2 ppm	8.0				8.7
	Cond. Temp(C)	9.3				9.6
100	pH	753				755
	O2 ppm	14.5	14.5	14.5	14.5	14.5
	Cond. Temp(C)	14.5				14.5

TOXICITY TEST REPORT Sample: 01890281

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
(680108)
Region : West Central
Industry : Organic Chemical
Control point : combined effluent, (600)

Laboratory : MOE
Sampling Method : grab
Sampled By : M. Smithson
Date Collected : 12/06/89
Received : 12/07/89
Tested : 12/08/89 at: 1220

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E										TOTAL MORTALITY	
%	00:00	00:30	01:00	02:00	04:00	07:20	27:20	48:30	69:20	96:00	%	
100	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA audit sample.

TOXICITY TEST PARAMETERS

Sample Number: 01890281

TEST E L A P S E D T I M E

CONC. %	00:00 00:30 01:00 02:00 04:00 07:20 27:20 48:30 69:20 96:00									
100	pH	7.5	8.0	8.2	8.0	8.1	8.1	8.1	8.1	8.1
	O2 ppm	9.2	9.9	10.8	10.1	9.6	9.6	9.6	9.6	9.6
	Cond.	720	720	700	720	700	720	700	720	720
	Temp(C)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
65	pH	7.7	7.7	7.9	7.8	7.9	7.9	7.9	7.9	7.9
	O2 ppm	9.4	9.4	10.6	9.9	8.9	8.9	8.9	8.9	8.9
	Cond.	580	580	540	580	580	580	580	580	580
	Temp(C)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
40	pH	7.9	7.9	7.9	7.8	7.5	7.5	7.5	7.5	7.5
	O2 ppm	9.9	9.9	10.9	10.0	9.5	9.5	9.5	9.5	9.5
	Cond.	455	455	450	455	460	460	460	460	460
	Temp(C)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
30	pH	7.9	7.9	7.8	7.7	7.9	7.9	7.9	7.9	7.9
	O2 ppm	9.9	9.9	10.9	9.9	9.5	9.5	9.5	9.5	9.5
	Cond.	400	400	405	405	410	410	410	410	410
	Temp(C)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
20	pH	7.9	7.9	7.5	7.3	7.4	7.4	7.4	7.4	7.4
	O2 ppm	9.9	9.9	9.7	8.8	8.6	8.6	8.6	8.6	8.6
	Cond.	355	355	355	365	360	360	360	360	360
	Temp(C)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
10	pH	7.9	7.9	7.8	7.7	7.7	7.7	7.7	7.7	7.7
	O2 ppm	9.9	9.9	10.5	9.9	9.6	9.6	9.6	9.6	9.6
	Cond.	310	310	300	320	310	310	310	310	310
	Temp(C)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
Control	pH	7.8	7.8	7.8	7.4	7.2	7.2	7.2	7.2	7.2
	O2 ppm	9.8	9.8	10.9	9.8	9.5	9.5	9.5	9.5	9.5
	Cond.	255	255	255	260	260	260	260	260	260
	Temp(C)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0

TOXICITY TEST REPORT Sample: 03890375

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical
Control point : combined effluent, (600)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman/MS
Date Collected : 12/18/89
Received : 12/19/89
Tested : 12/20/89 at: 900

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00
100	0	0	0	0	0
65	0	0	0	0	0
40	0	0	0	0	0
20	0	0	0	0	0
10	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890375

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00
100	pH 7.9 O2 ppm 9.2 Cond. 1056 Temp(C) 15.0	14.0	14.0	14.0 8.4 10.0 1028 14.0
65	pH 7.8 O2 ppm 8.8 Cond. 879 Temp(C) 15.0	14.0	14.0	14.0 8.4 10.2 850 14.0
40	pH 7.8 O2 ppm 8.3 Cond. 757 Temp(C) 15.0	14.0	14.0	14.0 8.3 9.9 738 14.0
20	pH 7.8 O2 ppm 8.0 Cond. 657 Temp(C) 15.0	14.0	14.0	14.0 8.5 10.2 657 14.0
10	pH 7.8 O2 ppm 8.1 Cond. 610 Temp(C) 15.0	14.0	14.0	14.0 8.5 10.2 578 14.0
5	pH 7.8 O2 ppm 8.0 Cond. 588 Temp(C) 15.0	14.0	14.0	14.0 8.5 10.1 580 14.0
Control	pH 7.8 O2 ppm 8.0 Cond. 556 Temp(C) 15.0	14.0	14.0	14.0 8.5 10.2 546 14.0

TOXICITY TEST REPORT Sample: 03900036

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
 : Elmira, ONT
 : (680108)
 Region : West Central
 Industry : Organic Chemical
 Control point : combined effluent, (600)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : D. Hallman
 Date Collected : 01/15/90
 Received : 01/16/90
 Tested : 01/17/90 at: 1200
 Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. ONE, 1983).
 Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
Control	0	0	0	0	2	10

96 Hour LC50 : Non-lethal
 95% fid. limits : 0.0 - 0.0 %
 Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900036

TEST E L A P S E D T I M E
 CONC. %
 00:00 24:00 48:00 72:00 96:00

100	pH	7.8				8.3
	O2 ppm	9.7				9.0
	Cond.	1035				1024
	Temp(C)	15.0	15.0	15.0	14.0	14.5
Control	pH	7.9				8.4
	O2 ppm	8.7				8.7
	Cond.	560				575
	Temp(C)	15.0	15.0	15.0	14.0	14.5

TOXICITY TEST REPORT Sample: 03900130

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
 Elmira, ONT
 (680108)
 Region : West Central
 Industry : Organic Chemical
 Control point : combined effluent, (600)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : D. Hallman
 Date Collected : 02/19/90
 Received : 02/20/90
 Tested : 02/21/90 at: 1130

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY	%
%	00:00	24:00	48:00	72:00	96:00	
100	0	4	6	8	8	80
100	0	6	8	10	10	100
65	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test--Lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900130

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00

100	pH	8.1	8.4	8.3	
	O2 ppm	8.4	786	9.8	
	Cond.	14.0	14.5	791	
	Temp(C)	8.1	8.2	14.5	14.0
100	pH	8.1	8.2		
	O2 ppm	8.4	9.6		
	Cond.	786	789		
	Temp(C)	14.0	14.5	14.5	
65	pH	8.0			8.2
	O2 ppm	8.3			8.9
	Cond.	698			701
	Temp(C)	14.0	14.5	14.5	14.0
Control	pH	7.9			8.5
	O2 ppm	8.7			10.1
	Cond.	544			528
	Temp(C)	14.0	14.5	14.5	14.0
Control	pH	7.9			8.5
	O2 ppm	8.7			10.1
	Cond.	544			532
	Temp(C)	14.0	14.5	14.5	14.0

MISA Trout

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900217

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical
Control point : combined effluent, (600)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/21/90 at: 1135

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	2	2	20
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50>100

TOXICITY TEST PARAMETERS

Sample Number: 03900217

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00
100	pH 7.9 O2 ppm 9.1 Cond. 840 Temp(C) 15.0	14.5	14.5	14.5	8.3 9.7 949 14.5
65	pH 7.9 O2 ppm 8.7 Cond. 746 Temp(C) 15.0	14.5	14.5	14.5	8.3 9.7 810 14.5
40	pH 7.9 O2 ppm 8.5 Cond. 648 Temp(C) 15.0	14.5	14.5	14.5	8.3 9.7 681 14.5
20	pH 7.9 O2 ppm 8.1 Cond. 603 Temp(C) 15.0	14.5	14.5	14.5	8.4 9.5 625 14.5
10	pH 7.9 O2 ppm 8.0 Cond. 591 Temp(C) 15.0	14.5	14.5	14.5	8.4 8.8 589 14.5
5	pH 7.9 O2 ppm 8.0 Cond. 567 Temp(C) 15.0	14.5	14.5	14.5	8.5 9.7 562 14.5
Control	pH 7.8 O2 ppm 8.1 Cond. 544 Temp(C) 15.0	14.5	14.5	14.5	8.4 9.7 540 14.5

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03890218

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical
Control point : combined effluent, (800)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Miller
Date Collected : 10/16/89
Received : 10/17/89
Tested : 10/18/89 at: 1130

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00	%	%
Control	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890218

TEST
CONC.
%

E L A P S E D T I M E

00:00 04:00 24:00 48:00 72:00 96:00

Control	pH	7.8					8.4
	O2 ppm	8.8					9.3
	Cond.	572					560
	Temp(C)	15.0	15.0	14.0	14.5	14.5	15.0
10	pH	7.8					8.4
	O2 ppm	8.9					9.2
	Cond.	634					619
	Temp(C)	15.0	15.0	14.0	14.5	14.5	15.0
20	pH	7.8					8.3
	O2 ppm	8.8					9.1
	Cond.	693					680
	Temp(C)	15.0	15.0	14.0	14.5	14.5	15.0
40	pH	7.8					8.4
	O2 ppm	8.9					9.2
	Cond.	800					791
	Temp(C)	15.0	15.0	14.0	14.5	14.5	15.0
65	pH	7.8					8.4
	O2 ppm	9.1					9.2
	Cond.	941					932
	Temp(C)	15.0	15.0	14.0	14.5	14.5	15.0
100	pH	7.9					8.3
	O2 ppm	9.5					9.2
	Cond.	1134					1126
	Temp(C)	15.0	15.0	14.0	14.5	14.5	15.0

MISA Trout

TOXICITY TEST REPORT Sample: 03890287

TEST CONDITIONS

Company : Uniroval Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical
Control point : combined effluent, (800)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Miller
Date Collected : 11/20/89
Received : 11/21/89
Tested : 11/23/89 at: 1330

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	1	10
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : LC50 > 100

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890287

TEST CONC. %
E L A P S E D T I M E
00:00 04:00 24:00 48:00 72:00 96:00

Control	pH	7.8					8.5
	O2 ppm	9.2					9.6
	Cond.	567					570
	Temp(C)	14.0	14.5	14.5	14.5	14.5	14.5
10	pH	7.9					8.4
	O2 ppm	9.1					9.2
	Cond.	654					655
	Temp(C)	14.0	14.5	14.5	14.5	14.5	14.5
20	pH	7.9					8.6
	O2 ppm	9.2					9.5
	Cond.	742					741
	Temp(C)	14.0	14.5	14.5	14.5	14.5	14.5
40	pH	8.0					8.7
	O2 ppm	9.5					9.6
	Cond.	922					921
	Temp(C)	14.0	14.5	14.5	14.5	14.5	14.5
65	pH	8.0					8.5
	O2 ppm	9.4					9.4
	Cond.	1142					1149
	Temp(C)	14.0	14.5	14.5	14.5	14.5	14.5
100	pH	8.1					8.4
	O2 ppm	9.6					9.4
	Cond.	1452					1458
	Temp(C)	14.0	14.5	14.5	14.5	14.5	14.5

TOXICITY TEST REPORT Sample: 01890282

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
 : Elmira, ONT
 : (680108)
 Region : West Central
 Industry : Organic Chemical
 Control point : combined effluent, (800)
 Laboratory : MOE
 Sampling Method : grab
 Sampled By : M. Smithson
 Date Collected : 12/06/89
 Received : 12/07/89
 Tested : 12/08/89 at: 1220

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E										TOTAL MORTALITY	
%	00:00	00:30	01:00	02:00	04:00	08:00	28:00	49:20	69:00	96:00	%	%
100	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA audit sample.

TOXICITY TEST PARAMETERS

Sample Number: 01890282

TEST E L A P S E D T I M E

CONC. % 00:00 00:30 01:00 02:00 04:00 28:00 49:20 69:00 96:00

100	pH	7.2	7.7	7.8	7.7	7.7	7.9	7.9	7.9	7.9
	O2 ppm	7.9	9.7	10.2	9.8	9.8	8.6	8.6	8.6	10.
	Cond.	1000	1000	980	1000	1000	1000	1000	1000	100
	Temp(C)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.
65	pH	7.8	7.8	7.9	7.9	7.9	7.9	7.9	7.9	7.
	O2 ppm	9.6	9.6	10.7	9.7	9.7	9.1	9.1	9.1	10.
	Cond.	720	720	700	760	740	740	740	740	72
	Temp(C)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.
40	pH	7.9	7.9	8.0	7.9	7.9	7.9	7.9	7.9	8.
	O2 ppm	9.8	9.8	10.9	9.8	9.8	9.8	9.8	9.8	10.
	Cond.	560	560	560	580	580	580	580	580	58
	Temp(C)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.
30	pH	7.7	7.7	7.9	7.6	7.9	7.6	7.6	7.7	7.
	O2 ppm	9.3	9.3	10.3	9.4	9.4	9.4	9.4	9.0	10.
	Cond.	460	460	480	500	500	495	495	495	49
	Temp(C)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.
20	pH	7.8	7.8	7.9	7.6	7.9	7.6	7.6	7.8	7.
	O2 ppm	9.8	9.8	10.6	10.2	10.2	9.5	9.5	9.5	10.
	Cond.	400	400	390	415	415	410	410	410	41
	Temp(C)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.
10	pH	7.8	7.8	7.9	7.8	7.9	7.8	7.9	7.9	7.
	O2 ppm	9.8	9.8	10.5	10.0	10.0	9.6	9.6	9.6	10.
	Cond.	325	325	340	350	350	340	340	340	35
	Temp(C)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.
Control	pH	7.6	7.6	7.7	7.6	7.7	7.6	7.7	7.7	7.
	O2 ppm	9.7	9.7	10.9	9.8	9.8	9.5	9.5	9.5	10.
	Cond.	250	250	250	265	265	260	260	260	26
	Temp(C)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.

TOXICITY TEST REPORT Sample: 03890376

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical
Control point : combined effluent, (800)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman/MS
Date Collected : 12/18/89
Received : 12/19/89
Tested : 12/20/89 at: 900

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890376

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00
100	pH 8.0 O2 ppm 9.2 Cond. 1255 Temp(C) 15.0	14.0	14.0	14.0 8.5 10.1 1251 14.0
65	pH 7.9 O2 ppm 8.6 Cond. 1019 Temp(C) 15.0	14.0	14.0	14.0 8.5 10.1 1010 14.0
40	pH 7.9 O2 ppm 7.9 Cond. 832 Temp(C) 15.0	14.0	14.0	14.0 8.5 9.9 828 14.0
20	pH 7.8 O2 ppm 7.7 Cond. 704 Temp(C) 15.0	14.0	14.0	14.0 8.9 10.0 693 14.0
10	pH 7.8 O2 ppm 7.5 Cond. 626 Temp(C) 15.0	14.0	14.0	14.0 8.5 10.2 619 14.0
5	pH 7.8 O2 ppm 7.3 Cond. 588 Temp(C) 15.0	14.0	14.0	14.0 8.5 10.0 586 14.0
Control	pH 7.8 O2 ppm 7.5 Cond. 558 Temp(C) 15.0	14.0	14.0	14.0 8.5 10.0 557 14.0

TOXICITY TEST REPORT Sample: 03900037

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
 Elmira, ONT
 (680108)
 Region : West Central
 Industry : Organic Chemical
 Control point : combined effluent, (800)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : D. Hallman
 Date Collected : 01/15/90
 Received : 01/16/90
 Tested : 01/17/90 at: 1200

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
 95% fid. limits : 0.0 - 0.0 %
 Comments : Non-lethal

SLOPE of Mortality Curve :
 LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03900037

TEST CONC. %	E L A P S E D T I M E				
	00:00	24:00	48:00	72:00	96:00
100	pH 7.9				8.3
	O2 ppm 9.0				9.0
	Cond. 1547				1563
	Temp(C) 15.0	15.0	15.0	14.0	14.5
Control	pH 7.9				8.5
	O2 ppm 8.7				9.2
	Cond. 560				562
	Temp(C) 15.0	15.0	15.0	14.0	14.5

TOXICITY TEST REPORT Sample: 03900127

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
 : Elmira, ONT
 : (680108)
 Region : West Central
 Industry : Organic Chemical
 Control point : combined effluent, (800)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : D. Hallman
 Date Collected : 02/19/90
 Received : 02/20/90
 Tested : 02/21/90 at: 1130

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. ONE, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Single Concentration Test; Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900127

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00
100	pH 7.9 O2 ppm 9.8 Cond. 1190 Temp(C) 14.0	14.0	14.5	14.5	8.4 9.9 1186 14.0
100	pH 7.9 O2 ppm 9.8 Cond. 1190 Temp(C) 14.0	14.0	14.5	14.5	8.3 9.8 1196 14.0
Control	pH 7.9 O2 ppm 8.7 Cond. 541 Temp(C) 14.0	14.0	14.5	14.5	8.4 9.8 529 14.0
Control	pH 7.9 O2 ppm 8.7 Cond. 541 Temp(C) 14.0	14.0	14.5	14.5	8.5 10.0 527 14.0

TOXICITY TEST REPORT Sample: 03900219

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical
Control point : combined effluent, (800)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/21/90 at: 1140

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. ONE, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
100	0	0	0	0	0	0
Control	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Single Concentration Test; Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900219

TEST CONC. % E L A P S E D T I M E
00:00 24:00 48:00 72:00 96:00

100	pH 7.9	7.9	7.9	8.3
	O2 ppm 9.9	9.9	9.9	9.7
	Cond. 1354	1354	1354	1356
	Temp(C) 15.0	14.5	14.5	14.5
100	pH 7.9	7.9	7.9	8.3
	O2 ppm 9.9	9.9	9.9	9.5
	Cond. 1354	1354	1354	1356
	Temp(C) 15.0	14.5	14.5	14.5
Control	pH 7.9	7.9	7.9	8.4
	O2 ppm 9.1	9.1	9.1	9.7
	Cond. 551	551	551	546
	Temp(C) 15.0	14.5	14.5	14.5
Control	pH 7.9	7.9	7.9	8.4
	O2 ppm 9.1	9.1	9.1	9.6
	Cond. 551	551	551	546
	Temp(C) 15.0	14.5	14.5	14.5

TOXICITY TEST REPORT Sample: 03890219

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical
Control point : combined effluent, (900)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Miller
Date Collected : 10/16/89
Received : 10/17/89
Tested : 10/18/89 at: 1130

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E						TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00	%
Control	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890219

TEST E L A P S E D T I M E
CONC. 00:00 04:00 24:00 48:00 72:00 96:00
%

Control	pH	7.8					8.5
	O2 ppm	8.6					9.4
	Cond.	572					553
	Temp(C)	15.0	15.0	14.0	14.5	14.5	15.0
10	pH	7.8					8.4
	O2 ppm	8.4					9.2
	Cond.	606					595
	Temp(C)	15.0	15.0	14.0	14.5	14.5	15.0
20	pH	7.8					8.4
	O2 ppm	8.5					9.2
	Cond.	642					630
	Temp(C)	15.0	15.0	14.0	14.5	14.5	15.0
40	pH	8.0					8.4
	O2 ppm	8.7					9.4
	Cond.	709					698
	Temp(C)	15.0	15.0	14.0	14.5	14.5	15.0
65	pH	8.3					8.4
	O2 ppm	8.8					9.3
	Cond.	793					788
	Temp(C)	15.0	15.0	14.0	14.5	14.5	15.0
100	pH	8.6					8.1
	O2 ppm	8.9					7.6
	Cond.	901					913
	Temp(C)	15.0	15.0	14.0	14.5	14.5	15.0

TOXICITY TEST REPORT Sample: 03890288

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (900)

Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Miller
Date Collected : 11/20/89
Received : 11/21/89
Tested : 11/23/89 at: 1330

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Height(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E							TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	72:00	96:00	%	%
Control	0	0	0	0	0	1	10	10
10	0	0	0	0	0	1	10	10
20	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0

96 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 > 100

TOXICITY TEST PARAMETERS

Sample Number: 03890288

TEST CONC. % E L A P S E D T I M E
00:00 04:00 24:00 48:00 72:00 96:00

Control	pH 7.8 O2 ppm 9.2 Cond. 562 Temp(C) 14.5	7.8 9.2 562 14.5	14.5	14.5	14.5	14.5	14.5	8.5 9.8 533 14.0
10	pH 7.9 O2 ppm 9.1 Cond. 629 Temp(C) 14.5	7.9 9.1 629 14.5	14.5	14.5	14.5	14.5	14.5	8.5 9.3 636 14.0
20	pH 7.9 O2 ppm 9.1 Cond. 703 Temp(C) 14.5	7.9 9.1 703 14.5	14.5	14.5	14.5	14.5	14.5	8.5 9.3 705 14.0
40	pH 8.0 O2 ppm 9.0 Cond. 848 Temp(C) 14.5	8.0 9.0 848 14.5	14.5	14.5	14.5	14.5	14.5	8.4 9.6 835 14.0
65	pH 8.0 O2 ppm 9.0 Cond. 1021 Temp(C) 14.5	8.0 9.0 1021 14.5	14.5	14.5	14.5	14.5	14.5	8.4 9.5 1011 14.0
100	pH 8.2 O2 ppm 9.1 Cond. 1254 Temp(C) 14.5	8.2 9.1 1254 14.5	14.5	14.5	14.5	14.5	14.5	8.3 9.4 1252 14.0

TOXICITY TEST REPORT Sample: 01890283

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
 Region : Elmira, ONT
 Industry : (680108)
 : West Central
 : Organic Chemical
 Control point : combined effluent, (900)
 Laboratory : MOE
 Sampling Method : grab
 Sampled By : M. Smithson
 Date Collected : 12/06/89
 Received : 12/07/89
 Tested : 12/08/89 at: 1220

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E								TOTAL MORTALITY	
%	00:00	00:30	01:00	02:00	04:00	08:00	28:00	49:20	71:00	96:00 %
100	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0
Control	0	0	0	0	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
 95% fid. limits : 0.0 - 0.0 %
 Comments : MISA audit sample.

TOXICITY TEST PARAMETERS

Sample Number: 01890283

TEST E L A P S E D T I M E

		00:00 00:30 01:00 02:00 04:00 28:00 49:20 71:00 96:00									
CONC. %											
100	pH	8.0	8.1	7.7	7.5	7.7	7.7	7.7	7.7	7.7	
	O2 ppm	7.0	9.3	9.3	7.8	8.3	8.3	8.3	8.3	8.3	
	Cond.	640	620	620	660	640	640	640	66	66	
	Temp(C)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	
65	pH	8.1	8.1	7.8	7.7	7.9	7.9	7.9	7.9	7.9	
	O2 ppm	9.7	9.7	10.5	9.1	9.3	10.3	10.3	10.3	10.3	
	Cond.	500	500	520	540	520	52	52	52	52	
	Temp(C)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	
40	pH	8.0	8.0	7.6	7.4	7.6	7.6	7.6	7.6	7.6	
	O2 ppm	9.8	9.8	9.6	7.6	7.9	7.9	7.9	7.9	7.9	
	Cond.	415	415	430	440	435	43	43	43	43	
	Temp(C)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	
30	pH	7.9	7.9	8.0	7.8	8.0	8.0	8.0	8.0	8.0	
	O2 ppm	9.8	9.8	10.9	9.7	9.5	10.3	10.3	10.3	10.3	
	Cond.	385	385	390	400	395	39	39	39	39	
	Temp(C)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	
20	pH	7.9	7.9	7.6	7.4	7.6	7.6	7.6	7.6	7.6	
	O2 ppm	9.8	9.8	10.2	8.8	9.0	10.3	10.3	10.3	10.3	
	Cond.	330	330	340	350	345	35	35	35	35	
	Temp(C)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	
10	pH	7.9	7.9	7.8	7.7	7.9	7.9	7.9	7.9	7.9	
	O2 ppm	9.9	9.9	10.8	9.6	9.5	10.3	10.3	10.3	10.3	
	Cond.	280	280	300	310	300	30	30	30	30	
	Temp(C)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	
Control	pH	7.9	7.9	7.7	7.5	7.4	7.4	7.4	7.4	7.4	
	O2 ppm	9.8	9.8	10.3	9.0	8.6	8.6	8.6	8.6	8.6	
	Cond.	245	245	260	270	270	26	26	26	26	
	Temp(C)	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	

MISA Trout

TOXICITY TEST REPORT Sample: 03890377

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira ONT
(680108)
Region : West Central
Industry : Organic Chemical
Control point : combined effluent, (900)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman/MS
Date Collected : 12/18/89
Received : 12/19/89
Tested : 12/20/89 at: 900

Type of Bioassay : STATIC
(Protocol to determine the acute lethality of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 03890377

TEST CONC.	E L A P S E D T I M E				
%	00:00	24:00	48:00	72:00	96:00
100	pH 8.3 O2 ppm 8.7 Cond. 594 Temp(C) 15.0				8.3 9.8 598 14.0
65	pH 8.1 O2 ppm 8.3 Cond. 588 Temp(C) 15.0				8.4 9.6 593 14.0
40	pH 8.1 O2 ppm 8.2 Cond. 568 Temp(C) 15.0				8.4 9.8 578 14.0
20	pH 7.8 O2 ppm 7.9 Cond. 565 Temp(C) 15.0				8.5 9.5 572 14.0
10	pH 7.8 O2 ppm 7.9 Cond. 560 Temp(C) 15.0				8.4 9.3 570 14.0
5	pH 7.8 O2 ppm 7.9 Cond. 558 Temp(C) 15.0				8.5 9.5 567 14.0
Control	pH 7.8 O2 ppm 7.4 Cond. 557 Temp(C) 15.0				8.5 9.5 559 14.0

TOXICITY TEST REPORT Sample: 03900038

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
 Elmira, ONT
 (680108)
 Region : West Central
 Industry : Organic Chemical
 Control point : combined effluent, (900)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : D. Hallman
 Date Collected : 01/15/90
 Received : 01/16/90
 Tested : 01/17/90 at: 1200

Type of Bioassay : STATIC
 (Protocol to determine the acute lethality
 of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	1	6	30
Control	0	0	0	0	0	0

96 Hour LC50 : >100%
 95% fid. limits : 0.0 - 0.0 %
 Comments : LC50 >100

TOXICITY TEST PARAMETERS

Sample Number: 03900038

TEST CONC. %	E L A P S E D T I M E			
	00:00	24:00	48:00	72:00 96:00

100	pH	8.5			8.1
	O2 ppm	8.6			9.1
	Cond.	395			408
	Temp(C)	15.0	15.0	14.0	14.5
Control	pH	7.8			8.5
	O2 ppm	8.7			9.2
	Cond.	560			576
	Temp(C)	15.0	15.0	14.0	14.5

TOXICITY TEST REPORT Sample: 03900128

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical
Control point : combined effluent, (900)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman
Date Collected : 02/19/90
Received : 02/20/90
Tested : 02/21/90 at: 1130

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. OME, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non-lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900128

TEST E L A P S E D T I M E
CONC. % 00:00 24:00 48:00 72:00 96:00

100	pH 8.3	8.3			8.3
	O2 ppm 10.3	10.3			9.9
	Cond. 2330	2330			2310
	Temp(C) 15.0	14.0	14.5	14.0	14.0
65	pH 8.1	8.1			8.3
	O2 ppm 9.8	9.8			10.0
	Cond. 1725	1725			1715
	Temp(C) 15.0	14.0	14.5	14.0	14.0
40	pH 8.0	8.0			8.5
	O2 ppm 9.4	9.4			10.2
	Cond. 1279	1279			1277
	Temp(C) 15.0	14.0	14.5	14.0	14.0
20	pH 8.0	8.0			8.5
	O2 ppm 9.0	9.0			10.2
	Cond. 918	918			915
	Temp(C) 15.0	14.0	14.5	14.0	14.0
10	pH 7.9	7.9			8.4
	O2 ppm 8.7	8.7			9.8
	Cond. 730	730			724
	Temp(C) 15.0	14.0	14.5	14.0	14.0
5	pH 7.9	7.9			8.5
	O2 ppm 8.4	8.4			10.1
	Cond. 634	634			639
	Temp(C) 15.0	14.0	14.5	14.0	14.0
Control	pH 7.9	7.9			8.4
	O2 ppm 7.7	7.7			10.1
	Cond. 543	543			523
	Temp(C) 15.0	14.0	14.5	14.0	14.0

TOXICITY TEST REPORT Sample: 03900220

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (900)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/21/90 at: 1215

Type of Bioassay : STATIC
(Protocol to determine the acute lethality
of liquid effluents to fish. ONE, 1983).

Test Animal : Rainbow trout
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E					TOTAL MORTALITY
%	00:00	24:00	48:00	72:00	96:00	%
100	0	0	0	0	0	0
65	0	0	0	0	0	0
40	0	0	0	0	0	0
20	0	0	0	0	0	0
10	0	0	0	0	0	0
5	0	0	0	0	0	0
Control	0	0	0	0	0	0

96 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900220

TEST E L A P S E D T I M E
CONC. % 00:00 24:00 48:00 72:00 96:00

100	pH 8.1	8.3			
	O2 ppm 9.9	9.9			
	Cond. 1796	1922			
	Temp(C) 15.0	14.5	14.5	14.5	14.5
65	pH 8.0	8.4			
	O2 ppm 9.6	9.9			
	Cond. 1373	1387			
	Temp(C) 15.0	14.5	14.5	14.5	14.5
40	pH 7.9	8.4			
	O2 ppm 9.4	9.8			
	Cond. 1058	1068			
	Temp(C) 15.0	14.5	14.5	14.5	14.5
20	pH 7.9	8.4			
	O2 ppm 9.5	9.9			
	Cond. 802	818			
	Temp(C) 15.0	14.5	14.5	14.5	14.5
10	pH 7.9	8.3			
	O2 ppm 9.6	9.6			
	Cond. 676	686			
	Temp(C) 15.0	14.5	14.5	14.5	14.5
5	pH 7.9	8.5			
	O2 ppm 9.5	9.9			
	Cond. 614	619			
	Temp(C) 15.0	14.5	14.5	14.5	14.5
Control	pH 7.9	8.5			
	O2 ppm 9.6	9.8			
	Cond. 552	549			
	Temp(C) 15.0	14.5	14.5	14.5	14.5

COMPANY: Uniroyal Chemical Ltd., Elmira
(680108)
SECTOR: Organic Chemical
REGION: West Central

SUMMARY

Data for 24 *Daphnia magna* acute lethality toxicity tests conducted on samples of effluent collected between October 1989 and March 1990 were submitted by Uniroyal Chemical Ltd. of Elmira.

One sample of once through cooling water was toxic to *Daphnia* with a 48 h LC50 = 33.2%. The remaining three samples submitted by the company had only one neonate die in the 100% concentration in each test. An audit sample collected in December was tested in the Ministry laboratory and was found to be not acutely lethal to *Daphnia*.

Samples from combined effluent #600 were all toxic to *Daphnia*. Two samples had LC50s > 100%, and the remaining four samples had LC50s between 35.6 and 65.5%. The Ministry audit sample conducted in December had an LC50 between 60 and 100%.

Three of six samples from combined effluent #900 were nonlethal and the remaining three samples had LC50s > 100%. The Ministry audit sample collected in December was not acutely lethal to *Daphnia*.

Three of six samples from combined effluent #800 were not acutely lethal to *Daphnia* and two samples had LC50s > 100%. The sample collected in November had a 48 h LC50 = 66.3%. The Ministry audit sample collected in December was nonlethal.

OT cooling water

OT cooling water

02890284 sampled: 12/06/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03890374 sampled: 12/18/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: Lethal; LC50>100

03900035 sampled: 01/15/90 LC50: 33.2 %
95% fid. limits: 23.0 - 47.8 % slope: 2.7
comments:

03900129 sampled: 02/19/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100

Uniroyal Chemical Ltd. (continued)

03900218 sampled: 03/19/90 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 > 100

OT cooling water

combined effluent

rain gauge

combined effluent

03890217 sampled: 10/16/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100%

03890286 sampled: 11/20/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100%

02890281 sampled: 12/06/89 LC50: 60.0 - 100.0 %
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03890375 sampled: 12/18/89 LC50: 35.6 %
95% fid. limits: 27.0 - 46.9 % slope: 4.7
comments: Lethal

03900036 sampled: 01/15/90 LC50: 65.5 %
95% fid. limits: 50.3 - 85.1 % slope: 5.5
comments:

03900130 sampled: 02/19/90 LC50: 37.4 %
95% fid. limits: 29.1 - 48.2 % slope: 6.0
comments: Lethal

03900217 sampled: 03/19/90 LC50: 58.4 %
95% fid. limits: 46.2 - 73.8 % slope: 5.7
comments: Lethal

combined effluent

combined effluent

03890218 sampled: 10/16/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100%

03890287 sampled: 11/20/89 LC50: 66.3 %
95% fid. limits: 45.0 - 97.4 % slope: 3.2
comments:

Uniroyal Chemical Ltd. (continued)

02890282 sampled: 12/06/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03890376 sampled: 12/18/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: Lethal; LC50 > 100%

03900037 sampled: 01/15/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments:

03900127 sampled: 02/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900219 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

combined effluent

03890219 sampled: 10/16/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50 >100%

03890288 sampled: 11/20/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: LC50>100

02890283 sampled: 12/06/89 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: MISA Audit

03890377 sampled: 12/18/89 LC50: >100 %
95% fid. limits: 0.0 - 0.0 %
comments: Lethal; LC50 > 100%

03900038 sampled: 01/15/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900128 sampled: 02/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: Non lethal

03900220 sampled: 03/19/90 non-lethal
95% fid. limits: 0.0 - 0.0 %
comments: non lethal

Uniroyal Chemical Ltd. (continued)

intake water

TOXICITY TEST REPORT Sample: 02890284

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical
Control point : OT cooling water, (200)
Laboratory : MOE
Sampling Method : grab
Sampled By : Smithson&Perkon
Date Collected : 12/06/89
Received : 12/07/89
Tested : 12/07/89 at: 1405

Type of Bioassay : STATIC,
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	01:00 24:00 49:35	%
100	0	0	0
60	0	0	0
30	0	0	0
15	0	0	0
5	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 02890284

TEST CONC. %
E L A P S E D T I M E
00:00 01:00 24:00 49:35

100	pH 7.9 O2 ppm 8.5 Cond. 1145 Temp(C) 20.0	20.0	20.0	20.0	8.0 7.5 1122 20.0
60	pH 8.0 O2 ppm 8.7 Cond. 822 Temp(C) 20.0	20.0	20.0	20.0	8.1 7.9 842 20.0
30	pH 8.0 O2 ppm 8.9 Cond. 573 Temp(C) 20.0	20.0	20.0	20.0	8.0 7.7 590 20.0
15	pH 8.1 O2 ppm 9.0 Cond. 444 Temp(C) 20.0	20.0	20.0	20.0	8.0 8.1 457 20.0
5	pH 8.1 O2 ppm 9.0 Cond. 347 Temp(C) 20.0	20.0	20.0	20.0	7.9 8.2 362 20.0
Control	pH 8.1 O2 ppm 9.0 Cond. 293 Temp(C) 20.0	20.0	20.0	20.0	7.9 8.0 313 20.0

TOXICITY TEST REPORT Sample: 03890374

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical
Control point : OT cooling water, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman/MS
Date Collected : 12/18/89
Received : 12/19/89
Tested : 12/20/89 at: 1500

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. ONE, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	1	8
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%
95% fid. limits : 0.0 - 0.0 %
Comments : Lethal; LC50>100

TOXICITY TEST PARAMETERS

Sample Number: 03890374

TEST CONC. %
ELAPSED TIME
00:00 24:00 48:00

100	pH 7.8	8.2
	O2 ppm 8.2	7.7
	Cond. 1018	1008
	Temp(C) 19.0	19.5
50	pH 8.0	8.3
	O2 ppm 8.4	7.8
	Cond. 673	675
	Temp(C) 19.0	19.5
25	pH 8.1	8.3
	O2 ppm 8.5	7.8
	Cond. 492	496
	Temp(C) 19.0	19.5
13	pH 8.1	8.3
	O2 ppm 8.5	7.8
	Cond. 403	405
	Temp(C) 19.0	19.5
6	pH 8.3	8.3
	O2 ppm 8.5	7.9
	Cond. 348	352
	Temp(C) 19.0	19.5
Control	pH 8.3	8.2
	O2 ppm 8.5	8.4
	Cond. 302	304
	Temp(C) 19.0	19.5

TOXICITY TEST REPORT Sample: 03900035

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
 : Elmira, ONT
 : (680108)
Region : West Central
Industry : Organic Chemical

Control point : OT cooling water, (200)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman
Date Collected : 01/15/90
 Received : 01/16/90
 Tested : 01/17/90 at: 1115

Type of Bioassay : STATIC
 : (Daphnia magna Acute Lethality Toxicity
 : Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	%
100	0	12	12	12	100
50	0	0	7	9	75
25	0	0	0	2	16
13	0	0	1	1	8
6	0	0	1	1	8
Control	0	0	0	0	0

48 Hour LC50 : 33.2 %
95% fid. limits : 23.0 - 47.8 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03900035

TEST CONC. %	E L A P S E D T I M E			
	00:00	04:00	24:00	48:00
100	pH 7.8 O2 ppm 9.1 Cond. 2700 Temp(C) 20.0	7.8 9.1 2700 20.0	7.8 9.1 2270 20.0	
50	pH 7.9 O2 ppm 9.0 Cond. 1720 Temp(C) 20.0	7.9 9.0 1720 20.0	8.2 8.8 1830 20.0	
25	pH 8.1 O2 ppm 8.8 Cond. 6140 Temp(C) 20.0	8.1 8.8 6140 20.0	8.3 8.8 6230 20.0	
13	pH 8.2 O2 ppm 8.8 Cond. 3500 Temp(C) 20.0	8.2 8.8 3500 20.0	8.3 8.9 3500 20.0	
6	pH 8.3 O2 ppm 8.8 Cond. 1813 Temp(C) 20.0	8.3 8.8 1813 20.0	8.3 8.9 1820 20.0	
Control	pH 8.4 O2 ppm 8.8 Cond. 296 Temp(C) 20.0	8.4 8.8 296 20.0	8.3 8.5 301 20.0	

TOXICITY TEST REPORT Sample: 03900129

TOXICITY TEST PARAMETERS

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical
Control point : OT cooling water, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman
Date Collected : 02/19/90
Received : 02/20/90
Tested : 02/21/90 at: 1015

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00	48:00
100	0	1	1
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100

Sample Number: 03900129

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.1 O2 ppm 9.0 Cond. 1183 Temp.(C) 19.5	8.1 9.0 1183 20.0	8.1 8.5 1153 20.0
50	pH 8.2 O2 ppm 8.8 Cond. 766 Temp.(C) 19.5	8.2 8.8 766 20.0	8.4 8.5 760 20.0
25	pH 8.4 O2 ppm 8.7 Cond. 548 Temp.(C) 19.5	8.4 8.7 548 20.0	8.4 8.6 547 20.0
13	pH 8.5 O2 ppm 8.6 Cond. 434 Temp.(C) 19.5	8.5 8.6 434 20.0	8.4 8.6 433 20.0
6	pH 8.6 O2 ppm 8.6 Cond. 366 Temp.(C) 19.5	8.6 8.6 366 20.0	8.4 8.5 365 20.0
Control	pH 8.6 O2 ppm 8.6 Cond. 307 Temp.(C) 19.5	8.6 8.6 307 20.0	8.4 8.5 310 20.0

TOXICITY TEST REPORT Sample: 03900218

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical
Control point : OT cooling water, (200)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/21/90 at: 1215

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	%	ELAPSED TIME	TOTAL MORTALITY %
100	0	1	8
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 > 100

TOXICITY TEST PARAMETERS

Sample Number: 03900218

TEST CONC. % ELAPSED TIME
00:00 24:00 48:00

100	pH 8.0	8.2
	O2 ppm 9.2	8.7
	Cond. 1016	999
	Temp(C) 20.5	20.0 20.5
50	pH 8.1	8.3
	O2 ppm 8.9	8.6
	Cond. 677	669
	Temp(C) 20.5	20.0 20.5
25	pH 8.1	8.3
	O2 ppm 8.9	8.6
	Cond. 496	494
	Temp(C) 20.5	20.0 20.5
13	pH 8.2	8.3
	O2 ppm 8.7	8.5
	Cond. 405	411
	Temp(C) 20.5	20.0 20.5
6	pH 8.2	8.3
	O2 ppm 8.8	8.5
	Cond. 352	359
	Temp(C) 20.5	20.0 20.5
Control	pH 8.3	8.2
	O2 ppm 8.5	8.6
	Cond. 302	305
	Temp(C) 20.5	20.0 20.5

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03890217

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical
Control point : combined effluent, (600)

Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Miller
Date Collected : 10/16/89
Received : 10/17/89
Tested : 10/18/89 at: 1430

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	%
Control	0	0	1	1	8
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	1	8
50	0	0	0	0	0
100	0	0	3	4	33

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100%

TOXICITY TEST PARAMETERS

Sample Number: 03890217

TEST CONC. %
E L A P S E D T I M E
00:00 04:00 24:00 48:00

Control	pH	8.4	8.7	8.3	10.1
	O2 ppm	296		301	
	Cond.	20.5	20.0	19.5	20.0
	Temp(C)				
6	pH	8.4	8.8	8.4	8.6
	O2 ppm	343		346	
	Cond.	20.5	20.0	19.5	20.0
	Temp(C)				
13	pH	8.2	8.7	8.4	8.8
	O2 ppm	397		390	
	Cond.	20.5	20.0	19.5	20.0
	Temp(C)				
25	pH	8.2	8.7	8.3	8.9
	O2 ppm	475		466	
	Cond.	20.5	20.0	19.5	20.0
	Temp(C)				
50	pH	8.0	8.7	8.3	9.0
	O2 ppm	658		640	
	Cond.	20.5	20.0	19.5	20.0
	Temp(C)				
100	pH	7.8	9.0	8.2	9.3
	O2 ppm	983		957	
	Cond.	20.5	20.0	19.5	20.0
	Temp(C)				

TOXICITY TEST REPORT Sample: 03890286

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical
Control point : combined effluent, (600)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Miller
Date Collected : 11/20/89
Received : 11/21/89
Tested : 11/22/89 at: 1130
Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)
Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	%
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	0	0	0
100	0	0	0	2	16

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100%

TOXICITY TEST PARAMETERS

Sample Number: 03890286

TEST CONC. %

E L A P S E D T I M E

00:00 04:00 24:00 48:00

Control	pH	8.5	8.3	8.3	8.3
	O2 ppm	9.1	9.3	9.3	9.3
	Cond.	293	312	312	312
	Temp(C)	19.5	19.5	20.0	20.0
6	pH	8.4	8.4	8.4	8.4
	O2 ppm	9.1	9.1	8.5	8.5
	Cond.	354	354	353	353
	Temp(C)	19.5	19.5	20.0	20.0
13	pH	8.3	8.3	8.4	8.4
	O2 ppm	9.0	9.0	8.8	8.8
	Cond.	403	403	412	412
	Temp(C)	19.5	19.5	20.0	20.0
25	pH	8.2	8.2	8.4	8.4
	O2 ppm	9.0	9.0	8.9	8.9
	Cond.	501	501	509	509
	Temp(C)	19.5	19.5	20.0	20.0
50	pH	8.1	8.1	8.4	8.4
	O2 ppm	9.0	9.0	9.0	9.0
	Cond.	682	682	691	691
	Temp(C)	19.5	19.5	20.0	20.0
100	pH	7.9	7.9	8.3	8.3
	O2 ppm	9.1	9.1	9.1	9.1
	Cond.	1020	1020	1035	1035
	Temp(C)	19.5	19.5	20.0	20.0

TOXICITY TEST REPORT Sample: 02890281

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
 : Elmira, ONT
 : (680108)
 Region : West Central
 Industry : Organic Chemical

Control point : combined effluent, (600)

Laboratory : MOE
 Sampling Method : grab
 Sampled By : B. Trach
 Date Collected : 12/06/89
 Received : 12/07/89
 Tested : 12/07/89 at: 1346

Type of Bioassay : STATIC
 : (Daphnia magna Acute Lethality Toxicity
 : Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	01:39	24:39	49:08	%
100	0	0	10	11	91
60	0	0	0	0	0
30	0	0	0	0	0
15	0	0	0	0	0
5	0	0	0	0	0
Control	0	0	0	0	0

48 Hour LC50 : 60.0 - 100.0 %

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 02890281

TEST CONC. %	E L A P S E D T I M E			
	00:00	01:39	24:39	49:08

100	pH	7.5			8.0
	O2 ppm	8.9			8.1
	Cond.	835			865
	Temp(C)	20.0	20.0	20.0	20.0
60	pH	7.7			8.0
	O2 ppm	9.0			8.4
	Cond.	641			673
	Temp(C)	20.0	20.0	20.0	20.0
30	pH	7.8			7.9
	O2 ppm	9.1			8.2
	Cond.	495			492
	Temp(C)	20.0	20.0	20.0	20.0
15	pH	7.9			7.8
	O2 ppm	9.1			8.2
	Cond.	405			410
	Temp(C)	20.0	20.0	20.0	20.0
5	pH	8.0			7.7
	O2 ppm	9.2			8.2
	Cond.	339			350
	Temp(C)	20.0	20.0	20.0	20.0
Control	pH	8.0			7.3
	O2 ppm	9.0			8.1
	Cond.	281			317
	Temp(C)	20.0	20.0	20.0	20.0

TOXICITY TEST REPORT Sample: 03890375

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical
Control point : combined effluent, (600)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman/MS
Date Collected : 12/18/89
Received : 12/19/89
Tested : 12/20/89 at: 1510

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	12	12	100
50	0	10	11	91
25	0	1	1	8
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : 35.6 %

95% fid. limits : 27.0 - 46.9 %

Comments : Lethal

TOXICITY TEST PARAMETERS

Sample Number: 03890375

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.0 8.3 O2 ppm 9.0 9.5 Cond. 1025 1035 Temp(C) 19.0 19.5
50	pH 8.1 8.4 O2 ppm 8.6 8.2 Cond. 682 687 Temp(C) 19.0 19.5
25	pH 8.2 8.4 O2 ppm 8.6 8.3 Cond. 495 501 Temp(C) 19.0 19.5
13	pH 8.2 8.3 O2 ppm 8.7 8.2 Cond. 401 408 Temp(C) 19.0 19.5
6	pH 8.3 8.4 O2 ppm 8.6 8.1 Cond. 348 356 Temp(C) 19.0 19.5
Control	pH 8.3 8.4 O2 ppm 8.5 8.4 Cond. 302 304 Temp(C) 19.0 19.5

TOXICITY TEST REPORT Sample: 03900036

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical
Control point : combined effluent, (600)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman
Date Collected : 01/15/90
Received : 01/16/90
Tested : 01/17/90 at: 1140

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	11	91
50	0	0	8
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : 65.5 %

95% fid. limits : 50.3 - 85.1 %

Comments :

TOXICITY TEST PARAMETERS

Sample Number: 03900036
TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 7.9	8.2	8.7
	O2 ppm 9.2	10.3	10.7
	Cond. 20.0	19.0	20.0
50	pH 8.1	8.3	8.3
	O2 ppm 8.9	8.7	8.7
	Cond. 687	679	679
	Temp(C) 20.0	19.0	20.0
25	pH 8.2	8.4	8.4
	O2 ppm 8.7	8.7	8.7
	Cond. 505	498	498
	Temp(C) 20.0	19.0	20.0
13	pH 8.3	8.4	8.4
	O2 ppm 8.7	8.7	8.7
	Cond. 408	406	406
	Temp(C) 20.0	19.0	20.0
6	pH 8.3	8.4	8.4
	O2 ppm 8.8	8.6	8.6
	Cond. 356	352	352
	Temp(C) 20.0	19.0	20.0
Control	pH 8.4	8.3	8.3
	O2 ppm 8.8	8.3	8.3
	Cond. 296	293	293
	Temp(C) 20.0	19.0	20.0

TOXICITY TEST REPORT Sample: 03900130

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
 Elmira, ONT
 (680108)
 Region : West Central
 Industry : Organic Chemical
 Control point : combined effluent, (600)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : D. Hallman
 Date Collected : 02/19/90
 Received : 02/20/90
 Tested : 02/21/90 at: 1040

Type of Bioassay : STATIC
 (Daphnia magna Acute Lethality Toxicity
 Test Protocol. ONE, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 24:00 48:00	%
100	0 6 12	100
50	0 5 9	75
25	0 0 2	16
13	0 0 0	0
6	0 0 0	0
Control	0 0 0	0

48 Hour LC50 : 37.4 %
 95% fid. limits : 29.1 - 48.2 %
 Comments : Lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900130

TEST CONC. % E L A P S E D T I M E
 00:00 24:00 48:00

100	pH 8.1	8.3
	O2 ppm 8.6	8.3
	Cond. 760	760
	Temp(C) 19.5	20.0
50	pH 8.3	8.3
	O2 ppm 8.5	8.4
	Cond. 543	542
	Temp(C) 19.5	20.0
25	pH 8.4	8.4
	O2 ppm 8.5	8.5
	Cond. 427	426
	Temp(C) 19.5	20.0
13	pH 8.5	8.4
	O2 ppm 8.5	8.6
	Cond. 374	374
	Temp(C) 19.5	20.0
6	pH 8.5	8.4
	O2 ppm 8.6	8.6
	Cond. 341	338
	Temp(C) 19.5	20.0
Control	pH 8.6	8.4
	O2 ppm 8.6	8.6
	Cond. 307	309
	Temp(C) 19.5	20.0

TOXICITY TEST REPORT Sample: 03900217

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical
Control point : combined effluent, (600)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/21/90 at: 1210

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00 24:00 48:00		%
100	0	11	12
50	0	2	3
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : 58.4 %

95% fid. limits : 46.2 - 73.8 %

Comments : Lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900217

TEST CONC. %

E L A P S E D T I M E

00:00 24:00 48:00

100	pH 7.9	8.0
	O2 ppm 9.1	8.5
	Cond. 971	938
	Temp(C) 20.5	20.0 20.5
50	pH 8.0	8.3
	O2 ppm 8.9	8.5
	Cond. 654	647
	Temp(C) 20.5	20.0 20.5
25	pH 8.1	8.3
	O2 ppm 8.8	8.4
	Cond. 487	483
	Temp(C) 20.5	20.0 20.5
13	pH 8.2	8.3
	O2 ppm 8.8	8.5
	Cond. 400	398
	Temp(C) 20.5	20.0 20.5
6	pH 8.2	8.3
	O2 ppm 8.7	8.4
	Cond. 355	351
	Temp(C) 20.5	20.0 20.5
Control	pH 8.3	8.2
	O2 ppm 8.5	8.6
	Cond. 302	306
	Temp(C) 20.5	20.0 20.5

TOXICITY TEST REPORT Sample: 05890218

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
 Elmira, ONT
 (680108)
 Region : West Central
 Industry : Organic Chemical
 Control point : combined effluent, (800)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : B. Miller
 Date Collected : 10/16/89
 Received : 10/17/89
 Tested : 10/18/89 at: 1445
 Type of Bioassay : STATIC
 (Daphnia magna Acute Lethality Toxicity
 Test Protocol - OME, 1988)
 Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	%
Control	0	0	1	1	8
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	2	2	16
100	0	0	0	0	0

48 Hour LC50 : >100%
 95% fid. limits : 0.0 - 0.0 %
 Comments : LC50 >100%

SLOPE of Mortality Curve :
 LC50 Calculated By :

TOXICITY TEST PARAMETERS

Sample Number: 05890218

TEST CONC. %
 E L A P S E D T I M E
 00:00 04:00 24:00 48:00

Control	pH	8.4	8.3		
	O2 ppm	8.7	10.2		
	Cond.	296	302		
	Temp(C)	20.5	20.0	19.5	20.0
6	pH	8.3	8.4		
	O2 ppm	8.6	9.0		
	Cond.	355	355		
	Temp(C)	20.5	20.0	19.5	20.0
13	pH	8.3	8.4		
	O2 ppm	8.5	9.1		
	Cond.	415	404		
	Temp(C)	20.5	20.0	19.5	20.0
25	pH	8.2	8.3		
	O2 ppm	8.5	9.1		
	Cond.	513	499		
	Temp(C)	20.5	20.0	19.5	20.0
50	pH	8.0	8.3		
	O2 ppm	8.6	9.0		
	Cond.	719	700		
	Temp(C)	20.5	20.0	19.5	20.0
100	pH	7.9	8.2		
	O2 ppm	8.7	8.9		
	Cond.	1116	1077		
	Temp(C)	20.5	20.0	19.5	20.0

SLOPE of Mortality Curve : 3.2
 LC50 Calculated By : Probit

TOXICITY TEST PARAMETERS

Sample Number: 03890287

TEST CONC. % ELAPSED TIME
 00:00 01:00 02:00 04:00 24:00 48:00

Control	pH 8.5						8.4
	O2 ppm 9.1						9.2
	Cond. 293						304
	Temp(C) 19.5	19.5	19.5	19.5	20.0	20.0	
6	pH 8.5						8.4
	O2 ppm 8.9						9.0
	Cond. 369						375
	Temp(C) 19.5	19.5	19.5	19.5	20.0	20.0	
13	pH 8.4						8.4
	O2 ppm 8.9						9.0
	Cond. 452						456
	Temp(C) 19.5	19.5	19.5	19.5	20.0	20.0	
25	pH 8.3						8.4
	O2 ppm 9.0						8.9
	Cond. 592						595
	Temp(C) 19.5	19.5	19.5	19.5	20.0	20.0	
50	pH 8.2						8.4
	O2 ppm 9.3						8.8
	Cond. 879						873
	Temp(C) 19.5	19.5	19.5	19.5	20.0	20.0	
100	pH 8.1						8.4
	O2 ppm 9.8						8.7
	Cond. 1415						1301
	Temp(C) 19.5	19.5	19.5	19.5	20.0	20.0	

HISA Daphnia

TOXICITY TEST REPORT Sample: 03890287

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
 : Elmira, ONT
 : (680108)
 Region : West Central
 Industry : Organic Chemical
 Control point : combined effluent, (800)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : B. Miller
 Date Collected : 11/20/89
 Received : 11/21/89
 Tested : 11/22/89 at: 1130

Type of Bioassay : STATIC
 : (Daphnia magna Acute Lethality Toxicity
 : Test Protocol. OHE, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME						TOTAL MORTALITY
%	00:00	01:00	02:00	04:00	24:00	48:00	%
Control	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0
25	0	0	0	0	0	1	8
50	0	0	0	0	0	0	0
100	0	0	1	1	6	10	83

48 Hour LC50 : 66.3 %

95% fid. limits : 45.0 - 97.4 %

Comments :

TOXICITY TEST REPORT Sample: 02890282

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
 Elmira, ONT
 Region : West Central
 Industry : Organic Chemical

Control point : combined effluent, (800)

Laboratory : MOE
 Sampling Method : grab
 Sampled By : Perkon&Smithson
 Date Collected : 12/06/89
 Received : 12/07/89
 Tested : 12/07/89 at: 1357

Type of Bioassay : STATIC
 (Daphnia magna Acute Lethality Toxicity
 Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	00:43 24:00 49:28	%
100	0	0 0 0	0
60	0	0 0 0	0
30	0	0 0 0	0
15	0	0 0 0	0
5	0	0 0 0	0
Control	0	0 0 0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 02890282

TEST CONC. %

E L A P S E D T I M E

00:00 00:43 24:00 49:28

100	pH 7.8	8.1
	O2 ppm 8.2	8.0
	Cond. 1197	1216
	Temp(C) 20.0	20.0
60	pH 7.9	8.0
	O2 ppm 8.6	7.9
	Cond. 831	867
	Temp(C) 20.0	20.0
30	pH 8.0	7.9
	O2 ppm 8.9	8.0
	Cond. 584	601
	Temp(C) 20.0	20.0
15	pH 8.0	7.9
	O2 ppm 9.0	8.3
	Cond. 442	454
	Temp(C) 20.0	20.0
5	pH 8.1	7.8
	O2 ppm 9.1	8.1
	Cond. 357	365
	Temp(C) 20.0	20.0
Control	pH 8.1	7.9
	O2 ppm 9.1	8.3
	Cond. 294	318
	Temp(C) 20.0	20.0

TOXICITY TEST REPORT Sample: 03890376

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical
Control point : combined effluent, (800)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman/MS
Date Collected : 12/18/89
Received : 12/19/89
Tested : 12/20/89 at: 1520

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	1	8
50	0	0	0
25	0	0	8
13	0	0	0
6	0	0	8
Control	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : Lethal; LC50 > 100%

TOXICITY TEST PARAMETERS

Sample Number: 03890376

TEST
CONC.
%

E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.0	8.4	8.4
	O2 ppm 8.8	8.4	8.4
	Cond. 1236	1241	1241
	Temp(C) 19.0	19.5	19.0
50	pH 8.1	8.4	8.4
	O2 ppm 8.6	8.4	8.4
	Cond. 783	785	785
	Temp(C) 19.0	19.5	19.0
25	pH 8.2	8.4	8.4
	O2 ppm 8.6	8.5	8.5
	Cond. 547	552	552
	Temp(C) 19.0	19.5	19.0
13	pH 8.1	8.4	8.4
	O2 ppm 8.5	8.6	8.6
	Cond. 432	434	434
	Temp(C) 19.0	19.5	19.0
6	pH 8.3	8.4	8.4
	O2 ppm 8.5	8.8	8.8
	Cond. 359	366	366
	Temp(C) 19.0	19.5	19.0
Control	pH 8.3	8.4	8.4
	O2 ppm 8.5	8.8	8.8
	Cond. 302	306	306
	Temp(C) 19.0	19.5	19.0

TOXICITY TEST REPORT Sample: 039000037

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
 : Elmira, ONT
 : (680108)
 Region : West Central
 Industry : Organic Chemical
 Control point : combined effluent, (800)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : D. Hallman
 Date Collected : 01/15/90
 Received : 01/16/90
 Tested : 01/17/90 at: 1400

Type of Bioassay : STATIC
 : (Daphnia magna Acute Lethality Toxicity
 : Test Protocol. ONE, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00	48:00
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal
 95% fid. limits : 0.0 - 0.0 %
 Comments :

TOXICITY TEST PARAMETERS

Sample Number: 039000037

TEST CONC. %

E L A P S E D T I M E

00:00 24:00 48:00

100	pH	7.9	8.2
	O2 ppm	9.2	8.4
	Cond.	1515	1497
	Temp(C)	20.0	19.0
50	pH	8.1	8.3
	O2 ppm	8.9	8.5
	Cond.	939	911
	Temp(C)	20.0	19.0
25	pH	8.2	8.3
	O2 ppm	8.8	8.5
	Cond.	628	609
	Temp(C)	20.0	19.0
13	pH	8.2	8.3
	O2 ppm	8.7	8.5
	Cond.	472	460
	Temp(C)	20.0	19.0
6	pH	8.3	8.3
	O2 ppm	8.7	8.5
	Cond.	381	374
	Temp(C)	20.0	19.0
Control	pH	8.4	8.3
	O2 ppm	8.8	8.5
	Cond.	296	293
	Temp(C)	20.0	19.0

TOXICITY TEST REPORT Sample: 03900127

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
 : Elmira, ONT
 : (680108)
Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (800)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman
Date Collected : 02/19/90
Received : 02/20/90
Tested : 02/21/90 at: 950

Type of Bioassay : STATIC
 : (Daphnia magna Acute Lethality Toxicity
 : Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00	48:00
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900127

TEST CONC. %

E L A P S E D T I M E

00:00 24:00 48:00

100	pH 8.0	8.3
	O2 ppm 8.8	8.4
	Cond. 1166	1153
	Temp(C) 19.5	20.0
50	pH 8.2	8.3
	O2 ppm 8.8	8.5
	Cond. 761	754
	Temp(C) 19.5	20.0
25	pH 8.4	8.4
	O2 ppm 8.7	8.6
	Cond. 535	533
	Temp(C) 19.5	20.0
13	pH 8.5	8.4
	O2 ppm 8.6	8.5
	Cond. 427	426
	Temp(C) 19.5	20.0
6	pH 8.6	8.4
	O2 ppm 8.6	8.4
	Cond. 365	365
	Temp(C) 19.5	20.0
Control	pH 8.6	8.4
	O2 ppm 8.6	8.3
	Cond. 307	310
	Temp(C) 19.5	20.0

TOXICITY TEST REPORT Sample: 03900219

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
 : Elmira, ONT
 : (680108)
 Region : West Central
 Industry : Organic Chemical

Control point : combined effluent, (800)

Laboratory : BAR
 Sampling Method : Grab
 Sampled By : D. Hallman
 Date Collected : 03/19/90
 Received : 03/20/90
 Tested : 03/21/90 at: 1315

Type of Bioassay : STATIC
 : (Daphnia magna Acute Lethality Toxicity
 : Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00 48:00	%
100	0	0	0
50	0	0	0
25	0	0	0
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900219

TEST
CONC.
%

E L A P S E D T I M E

00:00 24:00 48:00

100	pH 8.0	8.2
	O2 ppm 9.3	8.6
	Cond. 1321	1316
	Temp(C) 20.5	20.0
50	pH 8.1	8.3
	O2 ppm 9.0	8.6
	Cond. 819	817
	Temp(C) 20.5	20.0
25	pH 8.2	8.3
	O2 ppm 8.8	8.7
	Cond. 566	568
	Temp(C) 20.5	20.0
13	pH 8.2	8.3
	O2 ppm 8.7	8.7
	Cond. 437	443
	Temp(C) 20.5	20.0
6	pH 8.2	8.3
	O2 ppm 8.8	8.7
	Cond. 365	369
	Temp(C) 20.5	20.0
Control	pH 8.3	8.2
	O2 ppm 8.5	8.7
	Cond. 302	304
	Temp(C) 20.5	20.0

TOXICITY TEST REPORT Sample: 03890219

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical
Control point : combined effluent, (900)
Laboratory : BAR
Sampling Method : Grab
Sampled By : B. Miller
Date Collected : 10/16/89
Received : 10/17/89
Tested : 10/18/89 at: 1515

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	%
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	1	2	16
25	0	0	0	2	16
50	0	0	0	0	0
100	0	0	1	1	8

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50 >100%

TOXICITY TEST PARAMETERS

Sample Number: 03890219

TEST CONC. %
E L A P S E D T I M E
00:00 04:00 24:00 48:00

Control	pH	8.4	8.3
	O2 ppm	8.7	10.2
	Cond.	296	300
	Temp(C)	20.5	20.0
6	pH	8.4	8.4
	O2 ppm	8.5	9.4
	Cond.	333	347
	Temp(C)	20.5	20.0
13	pH	8.4	8.3
	O2 ppm	8.4	9.4
	Cond.	380	381
	Temp(C)	20.5	20.0
25	pH	8.5	8.3
	O2 ppm	8.3	9.1
	Cond.	450	450
	Temp(C)	20.5	20.0
50	pH	8.5	8.3
	O2 ppm	7.9	8.6
	Cond.	598	602
	Temp(C)	20.5	20.0
100	pH	8.5	8.3
	O2 ppm	7.1	7.5
	Cond.	873	887
	Temp(C)	20.5	20.0

TOXICITY TEST REPORT Sample: 03890288

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
 Elmira, ONT
 (680108)
 Region : West Central
 Industry : Organic Chemical
 Control point : combined effluent, (900)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : B. Miller
 Date Collected : 11/20/89
 Received : 11/21/89
 Tested : 11/22/89 at: 1150

Type of Bioassay : STATIC
 (Daphnia magna Acute Lethality Toxicity
 Test Protocol. OME, 1988)

Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E				TOTAL MORTALITY
%	00:00	04:00	24:00	48:00	%
Control	0	0	0	0	0
6	0	0	0	0	0
13	0	0	0	0	0
25	0	0	0	0	0
50	0	0	0	1	8
100	0	0	0	0	0

48 Hour LC50 : >100%

95% fid. limits : 0.0 - 0.0 %

Comments : LC50>100

TOXICITY TEST PARAMETERS

Sample Number: 03890288

TEST CONC. %	E L A P S E D T I M E			
	00:00	04:00	24:00	48:00
Control	pH 8.5 O ₂ ppm 9.1 Cond. 293 Temp(C) 19.5			8.4 9.3 310
6	pH 8.4 O ₂ ppm 8.8 Cond. 362 Temp(C) 19.5		19.5 20.0	8.4 8.3 364
13	pH 8.4 O ₂ ppm 8.9 Cond. 423 Temp(C) 19.5		19.5 20.0	8.4 8.5 435
25	pH 8.4 O ₂ ppm 8.8 Cond. 545 Temp(C) 19.5		19.5 20.0	8.4 8.7 561
50	pH 8.3 O ₂ ppm 8.5 Cond. 790 Temp(C) 19.0		19.5 20.0	8.4 8.8 803
100	pH 8.2 O ₂ ppm 8.0 Cond. 1242 Temp(C) 19.5		19.5 20.0	8.2 8.5 1220

TOXICITY TEST REPORT Sample: 02890283

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical
Control point : combined effluent, (900)
Laboratory : MOE
Sampling Method : grab
Sampled By : Smithson&Perkon
Date Collected : 12/06/89
Received : 12/07/89
Tested : 12/07/89 at: 1532

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol: OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 01:38 24:00 47:38	%
100	0 0 0 0	0
60	0 0 0 0	0
30	0 0 0 0	0
15	0 0 0 0	0
5	0 0 0 0	0
Control	0 0 0 0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : MISA Audit

TOXICITY TEST PARAMETERS

Sample Number: 02890283

TEST CONC. %	E L A P S E D T I M E	00:00	01:38	24:00	47:38
100	pH 8.2 O2 ppm 7.3 Cond. 776 Temp(C) 20.0	20.0	20.0	20.0	20.0
60	pH 8.2 O2 ppm 8.3 Cond. 578 Temp(C) 20.0	20.0	20.0	20.0	20.0
30	pH 8.2 O2 ppm 8.6 Cond. 446 Temp(C) 20.0	20.0	20.0	20.0	20.0
15	pH 8.2 O2 ppm 8.9 Cond. 375 Temp(C) 20.0	20.0	20.0	20.0	20.0
5	pH 8.2 O2 ppm 9.1 Cond. 330 Temp(C) 20.0	20.0	20.0	20.0	20.0
Control	pH 8.1 O2 ppm 9.1 Cond. 299 Temp(C) 20.0	20.0	20.0	20.0	20.0

TOXICITY TEST REPORT Sample: 03890377

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
 Elmira, ONT
 (680108)
 Region : West Central
 Industry : Organic Chemical
 Control point : combined effluent, (900)
 Laboratory : BAR
 Sampling Method : Grab
 Sampled By : D. Hallman/MS
 Date Collected : 12/18/89
 Received : 12/19/89
 Tested : 12/20/89 at: 1525
 Type of Bioassay : STATIC
 (Daphnia magna Acute Lethality Toxicity
 Test Protocol. OME, 1988)
 Test Animal : D. magna
 Weight(gm) :
 Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E		TOTAL MORTALITY
%	00:00	24:00	48:00
100	0	0	0
50	0	0	0
25	0	1	8
13	0	0	0
6	0	0	0
Control	0	0	0

48 Hour LC50 : >100%

95% fid. Limits : 0.0 - 0.0 %

Comments : Lethal; LC50 > 100%

TOXICITY TEST PARAMETERS

Sample Number: 03890377

TEST CONC.	E L A P S E D T I M E	
%	00:00	24:00
100	8.4	8.3
	8.3	8.4
	570	578
	19.0	19.5
50	8.4	8.3
	8.3	8.5
	438	442
	19.0	19.5
25	8.4	8.3
	8.5	8.6
	371	374
	19.0	19.5
13	8.3	8.3
	8.5	8.6
	338	340
	19.0	19.5
6	8.3	8.3
	8.5	8.6
	318	320
	19.0	19.5
Control	8.3	8.3
	8.5	8.7
	302	308
	19.0	19.5

MISA Daphnia

SLOPE of Mortality Curve :
LC50 Calculated By :

TOXICITY TEST REPORT Sample: 03900038

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira ONT
(680108)
Region : West Central
Industry : Organic Chemical
Control point : combined effluent, (900)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman
Date Collected : 01/15/90
Received : 01/16/90
Tested : 01/17/90 at: 1410

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	E L A P S E D T I M E	TOTAL MORTALITY
%	00:00 24:00 48:00	%
100	0 0 0	0
50	0 0 0	0
25	0 0 0	0
13	0 0 0	0
6	0 0 0	0
Control	0 0 0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900038

TEST CONC. %
E L A P S E D T I M E
00:00 24:00 48:00

100	pH 8.5 O2 ppm 8.6 Cond. 387 Temp(C) 20.0	19.0 20.0	8.0 8.2 394
50	pH 8.4 O2 ppm 8.7 Cond. 347 Temp(C) 20.0	19.0 20.0	8.2 8.5 346
25	pH 8.4 O2 ppm 8.6 Cond. 326 Temp(C) 20.0	19.0 20.0	8.3 8.6 322
13	pH 8.3 O2 ppm 8.7 Cond. 316 Temp(C) 20.0	19.0 20.0	8.3 8.6 311
6	pH 8.4 O2 ppm 8.7 Cond. 310 Temp(C) 20.0	19.0 20.0	8.3 8.6 304
Control	pH 8.4 O2 ppm 8.8 Cond. 296 Temp(C) 20.0	19.0 20.0	8.3 8.6 292

TOXICITY TEST REPORT Sample: 03900128

TEST CONDITIONSCompany : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)Region : West Central
Industry : Organic Chemical

Control point : combined effluent, (900)

Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman
Date Collected : 02/19/90
Received : 02/20/90
Tested : 02/21/90 at: 1000Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)Test Animal : D. magna
Weight(gm) :
Length(mm) :MORTALITY DATA

TEST CONC.	E L A P S E D T I M E			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal

95% fid. limits : 0.0 - 0.0 %

Comments : Non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900128

TEST CONC.	E L A P S E D T I M E		
%	00:00	24:00	48:00

100	pH 8.3	8.3	8.3
	O2 ppm 9.1		8.3
	Cond. 2270		2260
	Temp(C) 19.5	20.0	20.0
50	pH 8.4	8.3	8.3
	O2 ppm 9.0		8.4
	Cond. 1332		1325
	Temp(C) 19.5	20.0	20.0
25	pH 8.5	8.3	8.3
	O2 ppm 8.7		8.5
	Cond. 815		814
	Temp(C) 19.5	20.0	20.0
13	pH 9.6	8.4	8.4
	O2 ppm 8.6		8.6
	Cond. 583		579
	Temp(C) 19.5	20.0	20.0
6	pH 8.6	8.4	8.4
	O2 ppm 8.5		8.6
	Cond. 439		435
	Temp(C) 19.5	20.0	20.0
Control	pH 8.6	8.4	8.4
	O2 ppm 8.6		8.4
	Cond. 307		310
	Temp(C) 19.5	20.0	20.0

TOXICITY TEST REPORT Sample: 03900220

TEST CONDITIONS

Company : Uniroyal Chemical Ltd.
Elmira, ONT
(680108)
Region : West Central
Industry : Organic Chemical
Control point : combined effluent, (900)
Laboratory : BAR
Sampling Method : Grab
Sampled By : D. Hallman
Date Collected : 03/19/90
Received : 03/20/90
Tested : 03/21/90 at: 1325

Type of Bioassay : STATIC
(Daphnia magna Acute Lethality Toxicity
Test Protocol. OME, 1988)

Test Animal : D. magna
Weight(gm) :
Length(mm) :

MORTALITY DATA

TEST CONC.	ELAPSED TIME			TOTAL MORTALITY
%	00:00	24:00	48:00	%
100	0	0	0	0
50	0	0	0	0
25	0	0	0	0
13	0	0	0	0
6	0	0	0	0
Control	0	0	0	0

48 Hour LC50 : Non-lethal
95% fid. limits : 0.0 - 0.0 %
Comments : non lethal

TOXICITY TEST PARAMETERS

Sample Number: 03900220

TEST CONC. %
ELAPSED TIME
00:00 24:00 48:00

100	pH 8.1	8.2	8.2
	O2 ppm 9.2	8.7	8.7
	Cond. 1735	1721	1721
	Temp(C) 20.5	20.0	20.0
50	pH 8.2	8.3	8.3
	O2 ppm 8.9	8.7	8.7
	Cond. 1036	1034	1034
	Temp(C) 20.5	20.0	20.0
25	pH 8.2	8.3	8.3
	O2 ppm 8.9	8.7	8.7
	Cond. 680	681	681
	Temp(C) 20.5	20.0	20.0
13	pH 8.2	8.3	8.3
	O2 ppm 8.8	8.7	8.7
	Cond. 494	503	503
	Temp(C) 20.5	20.0	20.0
6	pH 8.2	8.3	8.3
	O2 ppm 8.8	8.7	8.7
	Cond. 392	406	406
	Temp(C) 20.5	20.0	20.0
Control	pH 8.3	8.3	8.3
	O2 ppm 8.5	8.6	8.6
	Cond. 302	304	304
	Temp(C) 20.5	20.0	20.0