

RN 11869

8(e)98sas

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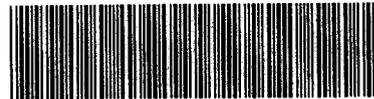
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8EHQ-1098-14305

October 22, 1998

Document Processing Center
(Attn: Section 8(e) Coordinator) Mail Code 7407
Office of Pollution Prevention and Toxic Substances
U.S. Environmental Protection Agency
401 "M" St., S.W.
Washington, D.C. 20460

Contains No CBI



8EHQ-98-14305

Dear Section 8(e)Coordinator:

This letter is to notify the Agency of ecotoxicity test data on Sulfuric acid, mono-C12-16, alkyl esters, sodium salts, which show that this substance may be of moderate concern in the environment.

This information was located while reviewing reports of toxicological studies, provided by Kao Corporation for revision of MSDSs for products consisting of the substance. The report was reviewed on October 20, 1998.

The test report is attached.

The submission of this information is part of Kao Corporation's good faith effort to comply with requirements under TSCA 8(e).

Sincerely,

Hester Kobayashi, Dr. PH
Manager, Kao Product Safety,
North America

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CAS REGISTRY NUMBER:

73296-89-6

EINECS No. 277-362-3

ECL Serial No. KE-32623

INVENTORY NAME(S):

Sulfuric acid, mono-C₁₂₋₁₆-alkyl esters, sodium salts (TSCA, DSL, EINECS, AICS)

Acide sulfurique, esters de mono-alkyles C₁₂₋₁₆, sels de sodium (French) (DSL, EINECS)

Schwefelsaure, Mono-C₁₂₋₁₆-alkylester, Natriumsalze (German) (EINECS)

Sulfuric acid monoalkyl(C=12-16) esters, sodium salts (ECL)

OTHER NAME(S):

Alkyl(C₁₂-C₁₆)alcohol sulfate sodium salt

Sulfates (Chemical Category)

FORMULA:

Unspecified

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

EMAL 10 NEEDLE (HD):
ACUTE TOXICITY TO RAINBOW TROUT
(*Oncorhynchus mykiss*)
SPL PROJECT NUMBER: 140/508

AUTHOR: P M WETTON

STUDY SPONSOR:

Kao Corporation
Tochigi Research Laboratories
2606, Akabane, Ichikaimachi
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JAPAN

ISSUED BY:

Safepfarm Laboratories Limited
P.O. Box No. 45
DERBY
DE1 2BT
U.K.

Telephone: (01332) 792896

Facsimile: (01332) 799018

QUALITY ASSURANCE REPORT

The routine inspection of short term studies at Safepharm is carried out as a continuous process designed to encompass all major phases of each study type once per month. Dates of relevant monthly inspections are given below:

Date(s) of Inspection and Reporting:

05, 07 February 1996

This report has been audited by Safepharm Quality Assurance Unit. It is considered to be an accurate account of the data generated and of the procedures followed.

Date of Report Audit:

27 March 1996



.....
J R Pateman CBiol MI Biol
For Safepharm Quality Assurance Unit

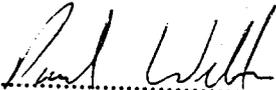
DATE: 15. APR. 1996

GLP COMPLIANCE STATEMENT

I, the undersigned, hereby declare that the objectives laid down in the protocol were achieved and as nothing occurred to adversely affect the quality or integrity of the study, I consider the data generated to be valid. This report fully and accurately reflects the procedures used and data generated.

The work described was performed in compliance with the UK Principles of Good Laboratory Practice (The United Kingdom Compliance Programme, Department of Health 1989). These Principles are in accordance with GLP standards published as OECD Environment Monograph No. 45 (OCDE/GD(92)32); and are in conformity with, and implement, the requirements of Directives 87/18/EEC and 88/320/EEC.

These international standards are acceptable to the United States Environmental Protection Agency and Food and Drug Administration, and fulfil the requirements of 40 CFR Part 160, 40 CFR Part 792 and 21 CFR Part 58 (as amended).



..... Date: 12 APR 1996

P M Wetton BSc
Study Director

The following person was also involved in the study

D Cruse HND
Study Supervisor

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SUMMARY

STUDY SPONSOR : KAO CORPORATION
STUDY TITLE : ACUTE TOXICITY TO RAINBOW TROUT
TEST MATERIAL : EMAL 10 NEEDLE (HD)

Methods

A study was performed to assess the acute toxicity of the test material, Emal 10 Needle (HD), to rainbow trout (*Oncorhynchus mykiss*). The method followed that described in the OECD Guidelines for Testing of Chemicals (1992) No. 203, "Fish, Acute Toxicity Test" referenced as Method C.1 of Commission Directive 92/69/EEC (which constitutes Annex V of Council Directive 67/548/EEC).

Procedures

Following a preliminary range-finding study, fish were exposed, in groups of 10, to an aqueous dispersion of the test material over a range of concentrations of 1.0, 1.8, 3.2, 5.6, and 10 mg/l for a period of 96 hours under semi-static test conditions. The number of mortalities and any adverse reactions to exposure in each test and control vessel were determined 3 and 6 hours after the start of exposure and then daily throughout the study until termination after 96 hours.

Results

The 96-Hour LC₅₀ based on nominal test concentrations was 3.6 mg/l with 95% confidence limits of 3.0 - 4.2 mg/l. The No Observed Effect Concentration was 1.8 mg/l.

EMAL 10 NEEDLE (HD):
ACUTE TOXICITY TO RAINBOW TROUT (*Oncorhynchus mykiss*)

1. INTRODUCTION

This report contains a description of the methods used and results obtained during a study to investigate the acute toxicity of Emal 10 Needle (HD) to rainbow trout. The method (Safeparm Laboratories Standard Method 3.OECD) followed the recommendations of the OECD Guidelines for Testing of Chemicals (1992) No. 203 "Fish, Acute Toxicity Test" referenced as Method C.1 of Commission Directive 92/69/EEC (which constitutes Annex V of Council Directive 67/548/EEC).

Rainbow trout is a freshwater fish representative of a wide variety of natural habitats, and can therefore be considered as an important non-target organism in freshwater ecosystems.

The range-finding study was conducted between 1 February 1996 and 5 February 1996 and the definitive study between 12 February 1996 and 16 February 1996.

2. TEST MATERIAL AND EXPERIMENTAL PREPARATION

2.1 Description, Identification and Storage Conditions

Sponsor's identification : Emal 10 Needle (HD)
Description : white granular solid
Lot number : 1427
Date received : 22 January 1996
Storage conditions : room temperature

Data relating to the identity, purity and stability of the test material are the responsibility of the Sponsor.

2.2 Experimental Preparation

For the purpose of the definitive study the test material was prepared by direct dispersion in water.

An amount of test material (1000 mg) was dispersed in dechlorinated tap water with the aid of ultrasonic disruption and the volume adjusted to 1 litre to give a 1000 mg/l stock solution. Aliquots of this stock solution (20, 36, 64, 112 and 200 ml) were each separately dispersed in 20 litres (final volume) of dechlorinated tap water to give the test series of 1.0, 1.8, 3.2, 5.6 and 10 mg/l respectively.

3. METHODS

3.1 Test Species

The test was carried out using juvenile rainbow trout (*Oncorhynchus mykiss*). Fish were obtained from Donnington Fish Farm, Upper Swell, Gloucestershire, UK and maintained in-house since 15 January 1996. Fish were maintained in a glass fibre tank with a "single pass" water renewal system. Fish were acclimatised to test conditions from 5 February 1996 to 12 February 1996. The lighting cycle was controlled to give a 16 hours light and 8 hours darkness cycle.

The water temperature was controlled at 14°C with a dissolved oxygen content of greater than or equal to 9.5 mg O₂/l. These parameters were recorded daily. The stock fish were fed commercial trout pellets which was discontinued 24 hours prior to the start of the definitive study. There were less than 1% mortalities in the 7 days prior to the start of the test and the fish had a mean standard length of 4.7 cm (s.d. = 0.1) and a mean weight of 1.18 g (s.d. = 0.20) at the end of the definitive study. Based on the mean weight value this gave a loading rate of 0.59 g bodyweight/litre (static volume).

The diet and diluent water are considered not to contain any contaminant that would affect the integrity and outcome of the study.

3.2 Test Water

The test water used for both the range-finding and definitive studies was the same as that used to maintain the stock fish.

Laboratory tap water dechlorinated by passage through an activated carbon filter was used with a total hardness of approximately 100 mg/l as CaCO₃. Typical water quality characteristics are given in Appendix II.

3.3 Procedure

3.3.1 Range-finding study

The test concentrations to be used in the definitive study were determined by a preliminary range-finding study.

In the range-finding study fish were exposed to a series of nominal test concentrations of 1.0, 10 and 100 mg/l. The test material was dispersed directly in water.

To prepare the test series an amount of test material (4.0 g) was dispersed in dechlorinated tap water with the aid of ultrasonic disruption and the volume adjusted to 1 litre to give a 4.0 g/l stock solution. Aliquots of this stock solution (5.0, 50 and 500 ml) were each separately dispersed in 20 litres (final volume) of dechlorinated tap water to give the test concentrations of 1.0, 10 and 100 mg/l respectively.

For each test concentration 3 fish were added to each 20 litre test and control vessel and maintained at 14°C with a photoperiod of 16 hours light and 8 hours darkness for a period of 96 hours under static test conditions.

The control group was maintained under identical conditions but not exposed to the test material.

Each vessel was covered to reduce evaporation. After 24, 48, 72 and 96 hours any mortalities or adverse behavioural reactions to exposure were determined by visual inspection of the test fish.

3.3.2 Definitive study

Based on the results of the range-finding study the following test concentrations were assigned to the definitive study: 1.0, 1.8, 3.2, 5.6 and 10 mg/l.

3.3.2.1 Preparation of the test material

For the purpose of the definitive study the required amount of test material was added to each test vessel using the method described in Section 2.2.

3.3.2.2 Exposure conditions

As in the range-finding study 20 litre glass exposure vessels were used for each test concentration. At the start of the study 10 fish were placed in each test vessel at random, in the prepared test solutions. The test vessels were then covered to reduce evaporation and maintained at 14°C with a photoperiod of 16 hours light and 8 hours darkness for a period of 96 hours. The test vessels were aerated via narrow bore glass tubes. The fish were not individually identified and received no food during exposure.

The control group was maintained under identical conditions but not exposed to the test material.

A semi-static test regime was employed in the study involving a daily renewal of the test preparations to ensure that the concentrations of the test material remained near nominal and to prevent the build up of nitrogenous waste products.

Any mortalities and adverse reactions to exposure were recorded at 3, 6, 24, 48, 72 and 96 hours after the start of exposure. The criteria of death was taken to be the absence of both respiratory movement and response to a physical stimulation.

3.3.2.3 Physico-chemical measurements

The water temperature, pH and dissolved oxygen concentrations were recorded daily throughout the study. The measurements at 0 hours represent those of the freshly prepared test preparations while the subsequent measurements at 24, 48, 72, and 96 hours represent those of the used or 24-hour old test preparations.

3.3.2.4 Evaluation of data

The LC₅₀ values and associated confidence limits were calculated by the moving average method of Thompson (1947).

4. **ARCHIVES**

Unless instructed otherwise by the Sponsor, all original data and the final report will be retained in the Safeparm archives for a period of ten years. After this period, the Sponsor's instructions will be sought.

5. RESULTS

5.1 Range-finding Study

Cumulative mortality data from the exposure of rainbow trout to the test material during the range-finding study are given in Table 1. There were no adverse reactions to exposure (other than death) during the range-finding study.

The results showed no mortalities at the test concentration of 1.0 mg/l. However, mortalities were observed at 10 and 100 mg/l.

Based on this information test concentrations of 1.0, 1.8, 3.2, 5.6 and 10 mg/l were selected for the definitive study.

5.2 Definitive Study

5.2.1 Mortality data

Cumulative mortality data from the exposure of rainbow trout to Emal 10 Needle (HD) during the definitive study are given in Table 2 and the relationship between percentage mortality and concentration is given in Figure 1.

Analysis of the mortality data by the moving average method of Thompson (1947) based on the nominal test concentrations gave the following results:

Time (h)	LC ₅₀ (mg/l)	95% Confidence Limits (mg/l)
3	> 10	-
6	7.5	5.6 - 10*
24	4.2	3.2 - 5.6*
48	4.2	3.2 - 5.6*
72	3.8	3.2 - 4.4
96	3.6	3.0 - 4.2

* Concentrations resulting in 0 and 100% mortalities respectively.

The results of the definitive study showed the highest test concentration resulting in 0% mortality to be 1.8 mg/l, the lowest test concentration resulting in 100% mortality to be 5.6 mg/l and the No Observed Effect Concentration (NOEC) to be 1.8 mg/l. The No Observed Effect Concentration is based upon zero mortalities and the absence of any behavioural responses to exposure at this concentration (Section

The relationship between the median lethal concentration (LC_{50}) and time is presented graphically in Figure 2.

5.2.2 Behavioural observations

Behavioural responses to exposure (other than death) were observed at test concentrations of greater than or equal to 3.2 mg/l. These responses were loss of equilibrium, fish swimming at the bottom of the test vessels and the presence of moribund fish (see Table 3).

5.2.3 Physico-chemical measurements

The results of the physico-chemical measurements are given in Appendix I. Temperature was maintained at 14°C throughout the study, while there were no treatment related differences for oxygen concentration or pH.

6. CONCLUSION

The acute toxicity of Emal 10 Needle (HD) to the freshwater fish rainbow trout (*Oncorhynchus mykiss*) has been investigated and gave a 96-Hour LC_{50} value of 3.6 mg/l with 95% confidence limits of 3.0 - 4.2 mg/l. The No Observed Effect Concentration was 1.8 mg/l.

7. REFERENCE

Thompson, W R (1947) Use of Moving Averages and Interpolation to Estimate Median-Effective Dose *Bact. Reviews* **11**, 115 - 145.

EMAL 10 NEEDLE (HD): ACUTE TOXICITY TO RAINBOW TROUT

TABLE 1

CUMULATIVE MORTALITY DATA IN THE RANGE-FINDING STUDY

Nominal Concentration (mg/l)	Cumulative Mortality (Initial Population = 3)			
	24 hours	48 hours	72 hours	96 hours
Control	0	0	0	0
1.0	0	0	0	0
10	3	3	3	3
100	3	3	3	3

EMAL 10 NEEDLE (HD): ACUTE TOXICITY TO RAINBOW TROUT
TABLE 2
CUMULATIVE MORTALITY DATA IN THE DEFINITIVE STUDY

Nominal Concentration (mg/l)	Cumulative Mortality (Initial Population = 10)						% mortality
	3 hours	6 hours	24 hours	48 hours	72 hours	96 hours	96 hours
Control	0	0	0	0	0	0	0
1.0	0	0	0	0	0	0	0
1.8	0	0	0	0	0	0	0
3.2	0	0	0	0	2	3	30
5.6	0	0	10	10	10	10	100
10	0	10	10	10	10	10	100

EMAL 10 NEEDLE (HD): ACUTE TOXICITY TO RAINBOW TROUT

TABLE 3

BEHAVIOURAL RESPONSES TO EXPOSURE IN THE DEFINITIVE STUDY

Nominal Concentration (mg/l)	Behavioural Responses*	Time (hours)					
		3	6	24	48	72	96
Control	No abnormalities detected.						
1.0	No abnormalities detected.						
1.8	No abnormalities detected.						
3.2	Swimming at bottom.					3/8	4/7
5.6	Loss of equilibrium.		2/10	A/D			
10	Moribund.	10/10	A/D				

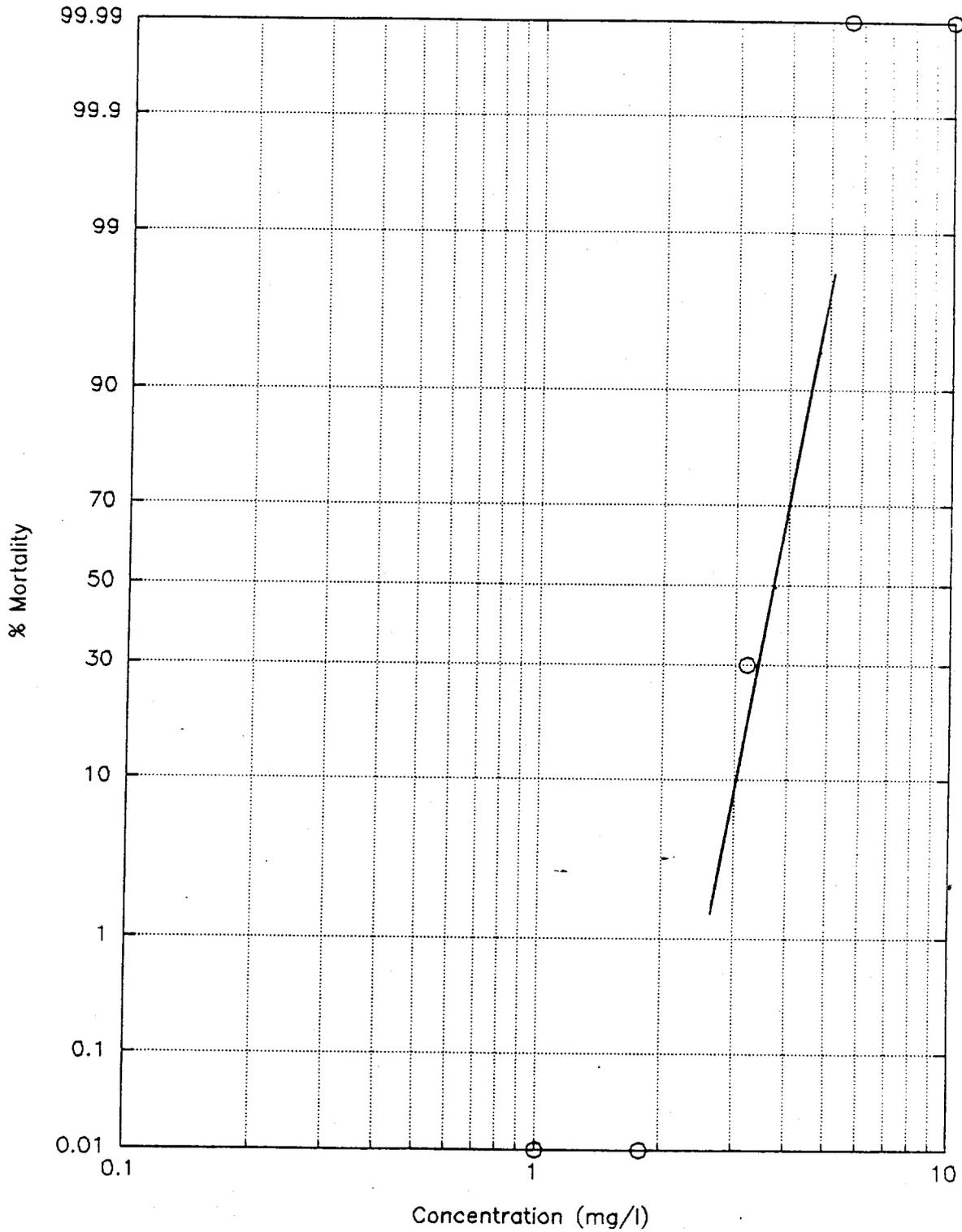
* Unless stated no adverse reactions were observed.

A/D = All fish dead

EMAL 10 NEEDLE (HD): ACUTE TOXICITY TO RAINBOW TROUT

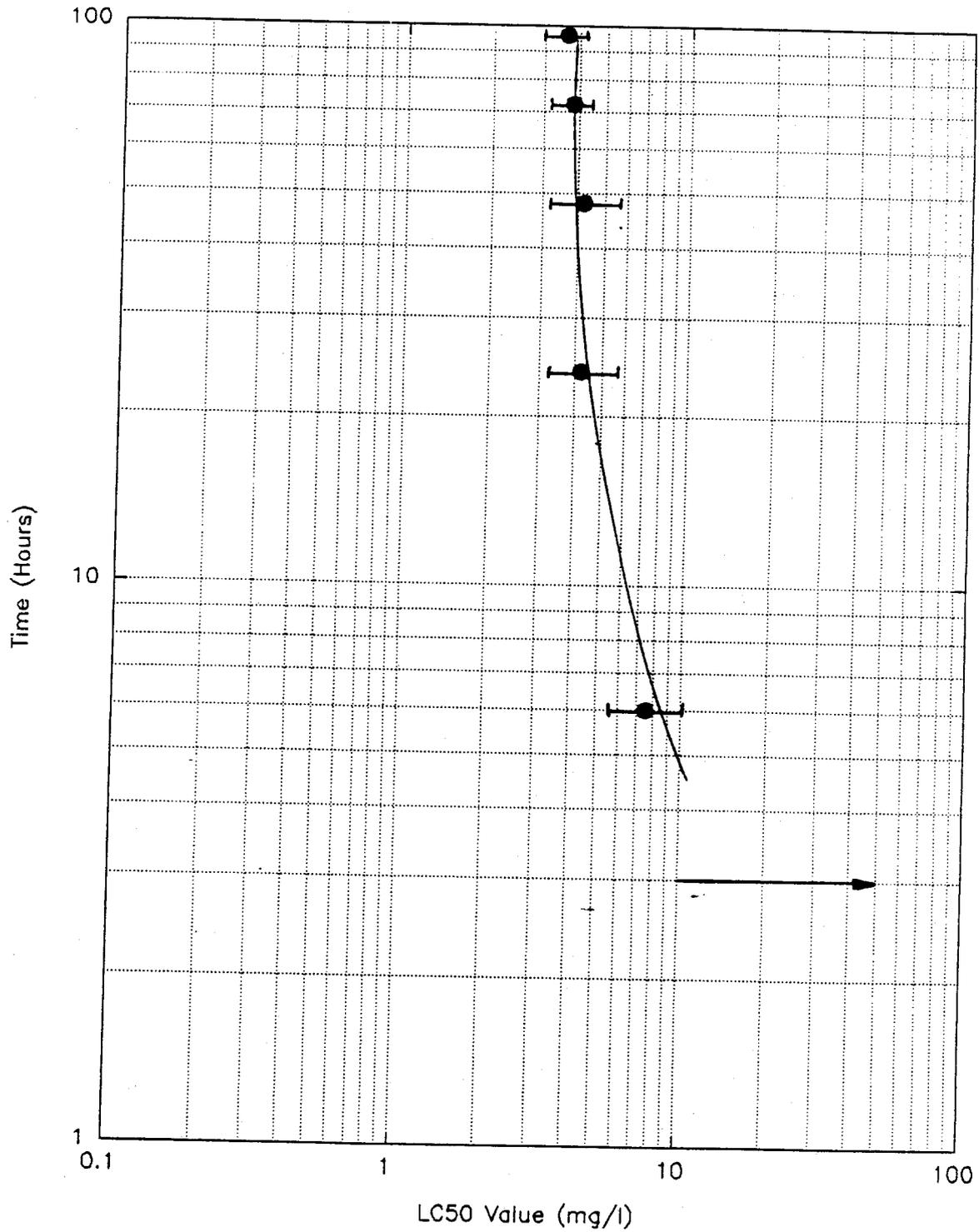
FIGURE 1

CONCENTRATION-MORTALITY CURVE



EMAL 10 NEEDLE (HD): ACUTE TOXICITY TO RAINBOW TROUT

FIGURE 2
TOXICITY CURVE



APPENDICES

EMAL 10 NEEDLE (HD): ACUTE TOXICITY TO RAINBOW TROUT
 APPENDIX I
 PHYSICO-CHEMICAL MEASUREMENTS

Nominal Concentration (mg/l)	Time (hours)											
	0 hours				24 hours				48 hours			
	pH	mg O ₂ /l	T°C	T°C	pH	mg O ₂ /l	T°C	T°C	pH	mg O ₂ /l	T°C	T°C
Control	7.4	10.1	14.0	14.0	7.6	9.6	14.0	14.0	7.7	9.7	14.0	14.0
1.0	7.6	10.0	14.0	14.0	7.7	9.6	14.0	14.0	7.7	9.7	14.0	14.0
1.8	7.6	10.1	14.0	14.0	7.8	9.5	14.0	14.0	7.7	9.6	14.0	14.0
3.2	7.6	9.9	14.0	14.0	7.7	9.4	14.0	14.0	7.7	9.6	14.0	14.0
5.6	7.6	10.0	14.0	14.0	7.8	9.7	14.0	14.0		A/D		
10	7.6	10.0	14.0	14.0	7.8	9.7	14.0	14.0		A/D		

A/D = All fish dead

EMAL 10 NEEDLE (HD): ACUTE TOXICITY TO RAINBOW TROUT

APPENDIX I (continued)

PHYSICO-CHEMICAL MEASUREMENTS

Nominal Concentration (mg/l)	Time (hours)					
	72 hours			96 hours		
	pH	mg O ₂ /l	T·C	pH	mg O ₂ /l	T·C
Control	7.6	9.6	14.0	7.5	9.9	14.0
1.0	7.8	9.8	14.0	7.7	9.9	14.0
1.8	7.7	9.7	14.0	7.6	10.1	14.0
3.2	7.7	10.0	14.0	7.7	10.0	14.0
5.6		A/D				
10		A/D				

A/D = All fish dead

EMAL 10 NEEDLE (HD): ACUTE TOXICITY TO RAINBOW TROUT

APPENDIX II

TYPICAL WATER QUALITY CHARACTERISTICS

WATER SUPPLY ZONE DERBY 9A								
REPORTING PERIOD: 01/01/1995 TO 30/06/1995								
PARAMETER AND QUALIFIERS	NO. OF SAMPLES TAKEN IN PERIOD	SAMPLES GREATER THAN PCV		CONCENTRATION OR VALUE				
		NUMBER	PERCENT	MINIMUM	MAXIMUM	MEAN	PCV	UNITS
TOTAL COLIFORMS	38	0	0.00	0	0	0	0.0	100 ML
FAECAL COLIFORMS	38	0	0.00	0	0	0	0.0	100 ML
PLATE COUNT (AT 21°C)	28	0	0.00	0	3	0	NONE	ML
PLATE COUNT (AT 37°C)	28	0	0.00	0	1	0	NONE	ML
FREE CHLORINE	39	0	0.00	0.04	0.36	0.17	NONE	MG/L
TOTAL CHLORINE	39	0	0.00	0.08	0.44	0.22	NONE	MG/L
COLOUR	3	0	0.00	1	4	2	20	HAZEN
TURBIDITY	3	0	0.00	<0.3	0.3	<0.3	4	F.T.U.
TEMPERATURE	38	0	0.00	6.8	18	11	25	DEG C
pH	3	0	0.00	7.3	7.4	7.4	5.5-9.50	
CONDUCTIVITY	38	0	0.00	296	523	382	1500	MICSM
QUALITATIVE TASTE	3	0	0.00	0	0	0	3	
QUANTITATIVE TASTE	38	—	—	—	—	—	—	
QUALITATIVE ODOUR	3	0	0.00	0	0	0	3	
QUANTITATIVE ODOUR	38	—	—	—	—	—	—	
AMMONIUM	3	0	0.00	<0.05	<0.05	<0.05	0.5	MG/L
NITRITE	3	0	0.00	<0.01	<0.01	<0.01	0.1	MG/L
NITRATE	3	0	0.00	8.4	8.6	8.5	50	MG/L
CHLORIDE	1	0	0.00	23	23	23	400	MG/L
SULPHATE	1	0	0.00	46	46	46	250	MG/L
FLUORIDE	1	0	0.00	280	280	280	1500	µG/L
PHOSPHORUS	1	0	0.00	<30	<30	<30	2200	µG/L
ALKALINITY	1	0	0.00	80	80	80	NONE	MG/L
TOTAL HARDNESS	1	0	0.00	136	136	136	NONE	MG/L
CALCIUM	1	0	0.00	43	43	43	250	MG/L
MAGNESIUM	1	0	0.00	7	7	7	50	MG/L
SODIUM	1	0	0.00	13	13	13	150	MG/L
POTASSIUM	1	0	0.00	1.2	1.2	1.2	12	MG/L
IRON	5	0	0.00	40	70	54	200	µG/L
MANGANESE	5	0	0.00	<5	7	<5	50	µG/L
ALUMINIUM	3	0	0.00	<20	<20	<20	200	µG/L
COPPER	1	0	0.00	50	50	50	3000	µG/L
ZINC	1	0	0.00	70	70	70	5000	µG/L
LEAD	6	0	0.00	3	10	5	50	µG/L
CADMIUM	1	0	0.00	<0.5	<0.5	<0.5	5	µG/L
SILVER	1	0	0.00	0.2	0.2	0.2	10	µG/L
BORON	1	0	0.00	<50	<50	<50	2000	µG/L
BARIUM	1	0	0.00	40	40	40	1000	µG/L
ARSENIC	1	0	0.00	<1	<1	<1	50	µG/L
CHROMIUM	1	0	0.00	<5	<5	<5	50	µG/L
NICKEL	1	0	0.00	2	2	2	50	µG/L

PCV - Prescribed Concentration or Value

EMAL 10 NEEDLE (HD): ACUTE TOXICITY TO RAINBOW TROUT
 APPENDIX II
 TYPICAL WATER QUALITY CHARACTERISTICS (continued)

WATER SUPPLY ZONE DERBY 9A								
REPORTING PERIOD: 01/01/1995 TO 30/06/1995								
PARAMETER AND QUALIFIERS	NO. OF SAMPLES TAKEN IN PERIOD	SAMPLES GREATER THAN PCV		CONCENTRATION OR VALUE				
		NUMBER	PERCENT	MINIMUM	MAXIMUM	MEAN	PCV	UNITS
MERCURY	1	0	0.00	<0.1	<0.1	<0.1	1	µG/L
ANTIMONY	1	0	0.00	<1	<1	<1	10	µG/L
SELENIUM	1	0	0.00	<1	<1	<1	10	µG/L
CYANIDE	1	0	0.00	<5	<5	<5	50	µG/L
OXIDIZABILITY	1	0	0.00	0.9	0.9	0.9	5	MG/L
T.O.C	1	0	0.00	1	1	1	5	MG/L
SURFACTANTS	1	0	0.00	<50	<50	<50	200	µG/L
TRIHALOMETHANES	2	0	0.00	35	54	45	100	µG/L
TETRACHLOROMETHANE	1	0	0.00	<0.3	<0.3	<0.3	3	µG/L
TRICHLOROETHENE	1	0	0.00	<3	<3	<3	30	µG/L
TETRACHLOROETHENE	1	0	0.00	<1	<1	<1	10	µG/L
P.A.H. (TOTAL)	2	0	0.00	0.017	0.035	0.026	0.2	µG/L
BENZA(PYRENE	2	0	0.00	<1	<1	<1	10	NG/L
TOTAL PESTICIDES	3	0	0.00	<0.01	0.2	<0.08	0.5	µG/L
ATRAZINE	2	0	0.00	<0.01	<0.01	<0.01	0.1	µG/L
CLOPYRALID	2	0	0.00	<0.03	<0.03	<0.03	0.1	µG/L
2,4-D	2	0	0.00	<0.01	<0.01	<0.01	0.1	µG/L
2,4-DB	2	0	0.00	<0.01	0.01	<0.01	0.1	µG/L
DICAMBA	2	0	0.00	<0.01	<0.01	<0.01	0.1	µG/L
DICHLORPROP	2	0	0.00	<0.01	<0.01	<0.01	0.1	µG/L
EPTC	2	0	0.00	<0.01	<0.01	<0.01	0.1	µG/L
FENPROPIMORPH	2	0	0.00	<0.01	<0.01	<0.01	0.1	µG/L
FLUROXYPYR	2	0	0.00	<0.02	<0.02	<0.02	0.1	µG/L
MCPA	2	1	50.00	<0.01	0.12	<0.07	0.1	µG/L
MCPB	2	0	0.00	<0.02	<0.02	<0.02	0.1	µG/L
MECOPROP (TOTAL)	2	0	0.00	<0.01	0.06	<0.04	0.1	µG/L
PROMETRYN	2	0	0.00	<0.01	<0.01	<0.01	0.1	µG/L
PROPAZINE	2	0	0.00	<0.01	<0.01	<0.01	0.1	µG/L
SIMAZINE	2	0	0.00	<0.01	<0.01	<0.01	0.1	µG/L
2,3,6,-TBA	2	0	0.00	<0.01	<0.01	<0.01	0.1	µG/L
2,4,5,-TCPA	2	0	0.00	<0.01	<0.01	<0.01	0.1	µG/L
TERBUTRYN	2	0	0.00	<0.01	<0.01	<0.01	0.1	µG/L
TRIFLAZINE	2	0	0.00	<0.01	<0.01	<0.01	0.1	µG/L

PCV = Prescribed Concentration or Value

APPENDIX III



THE DEPARTMENT OF HEALTH OF THE GOVERNMENT
OF THE UNITED KINGDOM

GOOD LABORATORY PRACTICE

STATEMENT OF COMPLIANCE
IN ACCORDANCE WITH DIRECTIVE 88/320 EEC

LABORATORY

SafePharm Laboratories Ltd.
P.O. Box No. 45
Derby DE1 2BT

TEST TYPE

Analytical Chemistry
Environmental Tox.
Environmental Fate
Mutagenicity
Phys/Chem. tests
Toxicology

DATE OF INSPECTION

22 January 1996

A general inspection for compliance with the Principles of Good-Laboratory Practice was carried out at the above laboratory as part of the UK GLP Compliance Programme.

At the time of the inspection no deviations were found of sufficient magnitude to affect the validity of non-clinical studies performed at these facilities.

27/2/96

D.F. Moore
Director

UK GLP Monitoring Authority

ENTRY FORM

CAPNUM	LTR	DATE	CBI	CASNO	CONCERN	AI	SOLUBILITY
14305	a	1098		73296896	MODERA	NS	NS

CHEMNAME

Sulfuric acid, mono-C12-16, alkyl esters, sodium salts, semi-static

PHYSTATE

solid

ORGANISM	DURATION	ENDPOINT	CODE	TOXVALUE	UNITS
Rainbow trout, <i>O. mykiss</i>	96h	LC50		3.6	mg/l

MELTINGPT

NS

COMMENTS

NOEC=1.8mg/l
nominal