

ACUTE TOXICITY TO FISH

TEST SUBSTANCE

Identity: [2-(N-Ethylperfluorooctanesulfonamido) ethyl acrylate; may also be referred to as B1228, D-1, EtFOSEA, or FX-13. (2-Propenoic acid, 2-[ethyl[heptadecafluorooctyl)sulfonyl]amino]ethyl ester, CAS # 423-82-5)

Remarks: Material is an amber solid. Sample purity and not recorded. 3M lot number 13.

METHOD

Method: Not given

Type: Static acute range-finder

GLP: No

Year completed: 1984

Species: *Pimphales promelas*

Supplier: Brady, Neb.

Analytical monitoring: Nominal concentrations only. Temperature, pH and dissolved oxygen recorded.

Exposure period: 96-hours

Statistical methods: LC₅₀ could not be calculated as there was insufficient toxicity at concentrations above the water solubility.

Test fish age: Not given

Length and weight::

Length: 3.79 cm

Weight: 0.359 g

Loading: 0.6 g/L

Test conditions:

Dilution water: Carbon-filtered well water

Dilution water chemistry during the study:

DO: 6.5 – 9.3 mg/L

pH: 7.9-8.2

Test temp. range: 21-22°C

Stock and test solution preparation: Test solutions prepared by mass addition of test substance to 3L of dilution water.

Concentrations dosing rate: Once

Stability of the test chemical solutions: Not recorded

Exposure vessels: Wide mouth one gallon glass jars

Exposure volume: 3 liters

Number of replicates: one

Number of fish per replicate: five

Number of concentrations: Four plus a negative control

RESULTS

Nominal loading concentrations: Bk control, 10, 100, 500, 1000 mg/L

Element value: 96-hour LC₅₀ > 1000 mg/L

Percent Mortality

Nominal Test Concentration, mg/L	24-Hours	48-Hours	72-Hours	96-Hours
Negative Control	0	0	0	0
10	0	0	0	0
100	0	0	0	0
500	0	0	0	0
1000	0	20	20	20

Remarks: All values reported are for nominal concentrations. No measurement of test concentrations was conducted.

CONCLUSIONS

The Et FOSEA 96-hour LC₅₀ for fathead minnow was determined to be > 1000 mg/L

DATA QUALITY

Reliability: Klimisch ranking 2. This study, while conducted using the methodology acceptable at the time, lacks analytical data for determination of the test substance concentration in the test solutions and determination of the sample purity. Testing was also done well above the solubility limit of the test substance.

REFERENCES

This study was conducted by the 3M Company, Environmental Laboratory, Lab Request number B1228, 4/1/84

OTHER

Submitter: 3M Company, Environmental Laboratory, P.O. Box 33331, St. Paul, Minnesota, 55133

Last changed: 5/22/00

ENVIRONMENTAL LABORATORY
CHEMICAL ENVIRONMENTAL EFFECTS EVALUATION
TOXICITY TEST: SUMMARY REPORT

Chemical Tested EX 13 (C8511-26) LOT 13 Test Type: RANGE FINDER (EXPLORATORY)
FM 4519

LC50 EC50/IC50/GR50 (95% C.L.): Blank LC50 GREATER THAN 1000 mg/l

Test Species: FATHEAD MINNOW (PIMEPHALES PROMELAS)

Test Date: 3-28-84 / 4-1-84 L.R. #: FB 1228-1

Analyst(s): [Signature]

(Exposure/Test Conditions)

Exposure Type:

Static V ACUTE

Static/Continuous
Orbital Shaking

Static Recirculatory _____ Static Renewal _____ Flow-Through _____

Diluent:

Aerated Well Water (Initial D.O. 9.3 mg/l; pH 8.2; Temp. 21 °C (70 °F))

Water Hardness: 240 ppm. Hardness Classification: HARD

Dissolved Oxygen & Saturation:

	<u>48-hr</u>	<u>96-hr</u>	<u>Extended Exposure</u>
Control(s)	<u>80</u>	<u>79</u>	_____
Lowest Experimental Dose 10 mg/l	<u>75</u>	<u>76</u>	_____
Highest Experimental Dose 1000 mg/l	<u>73</u>	<u>75</u>	_____

pH Levels:

	<u>48-hr</u>	<u>96-hr</u>	<u>Extended Exposure</u>
Control(s)	<u>8.1</u>	<u>8.0</u>	_____
Lowest Experimental Dose 10 mg/l	<u>8.1</u>	<u>7.9</u>	_____
Highest Experimental Dose 1000 mg/l	<u>8.2</u>	<u>8.1</u>	_____

Test Temperature °C (°F):

<u>48-hr</u>	<u>96-hr</u>	<u>Extended Exposure</u>
<u>21 °C (70)</u>	<u>22 °C (72)</u>	<u>°C ()</u>

Photoperiod: Sixteen hours light with a 15-30 minute transition period.

ENVIRONMENTAL LABORATORY
AQUATIC TOXICITY DATA SHEET
EXPLORATORY (RANGE-FINDING TEST)

LR 51228

Type Test Acute Static Material Tested EX 13 (CC 8311-26) Lot 13, FM 4519
Test Organism FATHLEEN MINNOW Source BRADY, N.E.B. Date Rec'd. 3/16/84 Batch No. 3-84
Avg. Wt. 0.359 grams Avg. Size 3.79 CM No. Organisms per dose 5

Test Solution Volume 3 Liters/All-Glass Tank Tank Dimensions: WIDE-MOUTH 1 GALLON GLASS JAR

Time Started 12:15pm Date Started 3/28/84 Date Completed 4/1/84

Dilution Water Carbon-filtered well water (Temp. 21 °C., D.O. 9.3 ppm, pH 8.2)

Investigator [Signature] LC₅₀ (95% Confidence Limits) >1000mg/l
(Full Signature)

Tank No.	Init. Conc. mg/l	Total Amount Added	24 Hours			48 Hours			72 Hours			96 Hours		
			Total No. Dead	pH	D.O. ppm	Total No. Dead	pH	D.O. ppm	Total No. Dead	pH	D.O. ppm	Total No. Dead	pH	D.O. ppm
-	Control	* 49	0	8.2	7.1	0	8.1	7.0	0	8.1	6.9	0	8.0	6.8
-	10	30	0	8.0	6.5	0	8.0	6.6	0	7.9	6.6	0	7.9	6.6
2	100	300	0	8.1	6.5	0	8.1	6.5	0	8.0	6.4	0	8.0	6.1
3	500	1500	0	8.1	6.7	0	8.1	6.5	0	8.0	6.5	0	8.0	6.3
4	1000	3000	0	8.1	6.7	1	8.1	6.4	1	8.0	6.5	1	8.0	6.4

Test Temp. °C. 21°C 21°C 21°C 22°C

Initials & Date [Signature] 3/29/84 [Signature] 3/30/84 [Signature] 3/31/84 [Signature] 4/1/84

Comments: * INDIVIDUAL WEIGHTS. LIGHT AMBER SOLID MATERIAL.

Effects other than Mortality

EC₅₀

Tank No.	Symptoms or Reactions	Total No. Affected			
		24-Hr.	48 Hr.	72-Hr.	96-Hr.
Control	I				
1		None	None	None	None
2					
3					
4					

Comments: