

ACUTE TOXICITY TO FISH

TEST SUBSTANCE

Identity: N-Ethylperfluorooctanesulfonamide; may also be referred to as U1464, EtFOSA, EtPOSA, F-6309, or FX-12. (1-Octanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptafluoro-N-ethyl-, CAS # 4151-50-2)

Remarks: Material is a white solid, lot 505 (cc842-3, F6309, L-1089). Sample purity was not recorded.

The following summary is abbreviated due to the fact that this study has been superseded by a more recent test.

METHOD

Method: Not provided

Type: Acute static

GLP: No

Year completed: 1984

Species: *Pimephales promelas*

RESULTS

96-hour LC₅₀: 34 (27-44) mg/L (Probit analysis)

DATA QUALITY

Reliability: Klimisch ranking = 3. This study was tested in excess of solubility (individual weights above solubility limits) and actual concentrations were not measured. Results were based on nominal concentrations. Additionally, sample purity was not adequately characterized.

REFERENCES

This study was conducted by the 3M Company, Environmental Laboratory, 1984.

OTHER

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

Last changed: 5/16/00

ENVIRONMENTAL LABORATORY
CHEMICAL ENVIRONMENTAL EFFECTS EVALUATION
TOXICITY TEST: SUMMARY REPORT

Chemical Tested EX 12, LOT 505 (CC 842-3) Test Type: DEFINITIVE (FULL-SCALE)
FL 309, L-1089
LC50/EC50/IC50/GR50 (95% C.L.): 94HR (50) 34(24-49) / 36(25-53) mg/l

Test Species: FATHHEAD MINNOWS, (PIMEPHALES PROMELAS)

Test Date: 4-2-84 1 4-16-84 L.R. #: JB 1230

Analyst(s): [Signature]

(Exposure/Test Conditions)

Exposure Type:

Static ✓ ACUTE Static/Continuous
Orbital Shaking

Static Recirculatory Static Renewal Flow-Through

Diluent:

Aerated Well Water (Initial D.O. 9.2 mg/l; pH 8.2; Temp. 20 °C (68 °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>79</u>	<u>80</u>	
Lowest Experimental Dose 13 mg/l	<u>79</u>	<u>79</u>	
Highest Experimental Dose 79 mg/l	<u>82</u>	<u>89</u>	

pH Levels:

	<u>48-hr</u>	<u>96-hr</u>	<u>Extended Exposure</u>
Control(s)	<u>8.1</u>	<u>8.1</u>	
Lowest Experimental Dose 13 mg/l	<u>8.1</u>	<u>8.1</u>	
Highest Experimental Dose 79 mg/l	<u>8.1</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.

LR 751230

ENVIRONMENTAL LABORATORY
AQUATIC TOXICITY DATA SHEET
DEFINITIVE (FULL-SCALE TEST)

TYPE TEST 96HR ACUTE STATIC

MATERIAL TESTED FX12 LOT 505 (10342-3) F16309, L-1089

TEST ORGANISM EARTHED MINNOW

LC₅₀'s (95% CONFIDENCE LIMITS)

* PROBIT ANALYSIS

TEST RUNS	24 HOURS	48 HOURS	72 HOURS	96 HOURS	COMMENTS
RUN				34 mg/L (24-49)	
REPLICATE				36 mg/L (25-53)	
COMBINED LC ₅₀ 's				34 mg/L (24-44)	

* MOVING AVERAGE ANGLE METHOD

TEST RUNS	24 HOURS	48 HOURS	72 HOURS	96 HOURS	COMMENTS
RUN				34 mg/L (18-48)	
REPLICATE				34 mg/L (18-49)	
COMBINED LC ₅₀ 's				34 mg/L (24-43)	

**ENVIRONMENTAL LABORATORY
AQUATIC TOXICITY DATA SHEET
DEFINITIVE (FULL-SCALE TEST)**

LR JB1230

pe Test 96 HR ACUTE STATIC Material Tested EX12 (CCP42-3) Lot 505
 st Organism FATHEAD MINNOW Source BRADY, NEB Date Rec'd 3/6/84 Batch # 3-84
 g. Wt. 0.366 grams Avg. Size 3.88 cm No. Organisms per dose 10 Loading Factor 0.366 g/l
 sh Disease Treatment: NONE

st Solution Volume 10 Liters/All-Glass Tank Tank Dimensions: 30.5 cm O.D. and 30.5 cm deep
35x20 cm and 25 cm deep

ne Started 12:30 PM Date Started 4/2/84 Date Completed 4/6/84

lution Water Carbon-filtered well water (Temp. 20 °C., D.O. 9.2 ppm, pH 8.2)

Investigator [Signature] LC₅₀ (95% Confidence Limits)

all Signature) PRECISE ANALYSIS 34 (24-49) mg/l
AVG. AVERAGE ANGLE 34 (18-48) mg/l

Tank No.	Initial Conc. mg/l	Total Amount Added * mg	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
I	Control		0	8.2	7.5	0	8.1	7.1	0	8.1	7.0	0	8.1	7.0
1	13	130	0	8.1	7.4	0	8.1	7.0	1	8.1	6.8	1	8.0	6.8
2	20	200	0	8.1	7.4	1	8.0	7.0	2	8.0	6.7	3	8.0	6.7
3	32	320	1	8.0	7.3	3	8.0	6.8	3	8.0	6.5	5	7.9	6.5
4	50	500	2	8.0	7.0	4	8.0	6.4	5	8.0	6.2	10	7.9	6.2
5	79	790	7	8.1	7.4	8	8.1	7.4	9	8.1	7.5	9	8.0	7.8

Test Temp. °C 21°C 21°C 22°C 22°C
 Initials & Date 3/4/3/84 3/4/4/84 3/4/5/84 3/4/6/84
 Comments: INDIVIDUAL WEIGHTS, LENGTH, CLY, STAILING, MORTALITY

Secondary Effects (other than Mortality):

EC₅₀

Tank No.	Symptoms or Reactions	Total Number Affected			
		24-Hr.	48-Hr.	72-Hr.	96-Hr.
Control	I	NONE	NONE	NONE	NONE
1		NONE	NONE	NONE	NONE
2		1	1	1	1
3	SURFACING	2	2	2	2
4		3	3	3	2
5		3	2	1	1

**ENVIRONMENTAL LABORATORY
AQUATIC TOXICITY DATA SHEET
DEFINITIVE (FULL-SCALE TEST)**

Type Test 96 HR. ACUTE STATIC Material Tested EX12 (C842-3) Lot 505
 Test Organism FATHEAD MINNOW Source FRANK, NEB Date Rec'd 3/6/84 Batch # 3-E4
 Wt. 0.366 grams Avg. Size 3.88 cm No. Organisms per dose 10 Loading Factor 0.366 g/l
 Fish Disease Treatment: NONE

Test Solution Volume 10 Liters/All-Glass Tank Tank Dimensions: 30.5cm O.D. and 30.5cm deep
35x20 cm and 25 cm deep

Time Started 12:30pm Date Started 4/2/84 Date Completed 4/6/84

Dilution Water Carbon-filtered well water (Temp. 20 °C., D.O. 9.2 ppm, pH 8.2)

Investigator [Signature] LC₅₀ (95% Confidence Limits) TRIBUT ANALYSIS 36 (25-53) mg/l
MOVING AVERAGE RANGE 34 (18-79) mg/l

Full Signature) [Signature]

Tank No.	Initial 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
II	Control	4 mg	0	8.2	1.4	0	8.1	1.0	0	8.1	1.0	0	8.1	1.0
1A	13	130	0	8.1	1.6	0	8.1	1.0	0	8.1	1.0	1	8.1	1.0
2A	20	200	0	8.1	1.5	0	8.0	1.0	0	8.0	1.0	2	7.9	1.0
3A	32	320	2	8.0	1.3	4	8.0	1.0	4	8.0	1.0	5	7.9	1.0
4A	50	500	3	8.0	1.0	7	8.0	1.0	7	8.0	1.0	7	7.9	1.0
5A	79	790	5	8.1	1.4	8	8.1	1.2	8	8.1	1.4	8	8.1	1.4

Test Temp. °C 21°C 21°C 22°C 22°C
 Initials & Date 4/3/84 4/5/84 4/5/84 4/6/84

Comments: INDIVIDUAL DEFICITS, WHITE CRYSTALLINE MATERIAL

Secondary Effects (other than Mortality): EC50

Tank No.	Symptoms or Reactions	Total Number Affected			
		24-Hr.	48-Hr.	72-Hr.	96-Hr.
Control	II	NONE	NONE	NONE	NONE
1A		NONE	1	1	1
2A		NONE	1	2	2
3A	STRENGTH	2	2	2	3
4A		3	3	3	3
5A		3	2	2	2