MICROBICS MICROTOX® TOXICITY TEST

TEST SUBSTANCE

Identity: A mixture containing perfluorooctanesulfonate, which may also be referred to as PFOS, FC-95, or as a component of FX-3106. (1-Octanesulfonic acid) (CAS # 2795-39-3).

Remarks: The 3M production lot number was 015G. The test sample is FX-3106, PO# S5233-004, EAI 85548, Sumitomo 3M Japan. Current information indicates it is a mixture of 2.31% PFOS, 2.6% diethylene glycol butyl ether, 83.38% water, 10% ethylene glycol, 1.36% Sultone foamer, 0.2% xanthan gum, 0.1% 2-biphenylol, sodium salt, tetrahydrate, and 0.05% benzotriazole.

The following summary applies to a mixture with incompletely characterized concentrations of impurities. Data may not accurately reflect the toxicity of the fluorochemical component of the test sample.

METHOD:

Method: Microbics Microtox® "BASIC" Procedure
Test type: Acute static
GLP: No
Year Completed: 1985
Species: *Photobacterium phosphoreum*
Analytical monitoring: pH and osmotic condition.
Exposure period: 15-minutes
Statistical methods: EC50 values calculated by statistical linear regression program, e.g., probit.
Test organism source: Microbics' Reagent.
Test conditions:
Diluent: Millipore Milli-Q™ water
Test temperature: Not noted.
Stock and test solution preparation: Not given.
Exposure vessels: 4 mL cuvettes.
Number of replicates: two
Number of concentrations: Four plus a blank control
Element basis: Percent light loss

RESULTS

Nominal concentrations: Blank control, 10, 100, 500, and 1000 mg/L

Element value: 5-minute EC_{50} = >1000 mg/L
15-minute EC_{50} = >1000 mg/L

Element values based on nominal concentrations.

Remarks: Testing was conducted on a mixture as described in the Test Substance Remarks field. The values reported apply to that mixture and not the fluorochemical proportion alone.

CONCLUSIONS

The test substance 15-minute EC_{50} for *Photobacterium phosphoreum* was determined to be >1000 mg/L.

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

DATA QUALITY

Reliability: Klimisch ranking 3. Study lacks description and records of the method followed. There is no characterization of the test substance purity, and the study lacks analytical confirmation of the amount of fluorochemical proportion in the solution.

REFERENCES

This study was conducted by the 3M Company, Environmental Laboratory, St. Paul, MN, Lab Request number C2282, 1985.

OTHER

Last changed: 6/26/00.

LR C 228

ENVIRONMENTAL LABORATORY

BECKMAN'S MICROTOX^{R} SYSTEM

MICROTOX^{R} RAW DATA

TEST SUBSTANCE: FX-3106 PO# S 5233-004, EAI 85548, Sumitomo 3M Japan (Lot 0150

TEST DATE: 10-28-85

ANALYST: SAB

SAMPLE CUVETTE	FINAL ASSAY CONCENTRATION	INITIAL READING I(0)	FINAL READINGS 5-MIN. I(5)	15-MIN. I(15)	30-MIN I(30)
B1	BLANK CONTROL	90	83	80	
C1	DUPLICATE	87	81	78	
B2	10 mg/l	89	84	81	
C2	Duplicate	83	79	75	
B3	100 mg/l	78	72	69	
C3	Duplicate	86	78	75	
B4	500 mg/l	80	66	62	
C4	Duplicate	87	71	69	
B5	1000 mg/l	80	57	55	
C5	Duplicate	81	59	57	

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BECKMAN'S MICROTOX^R SYSTEM LR C2282

MICROTOX^R DATA REDUCTION SAB 10-28-85

FX-3106 PO# S 5233-004 EAI 85548,
Sumitomo 3M Japan (Lot 015G)

BLANK RATIOS* = $\frac{\text{Final}}{\text{Initial}}$

BLANK CUVETTE	5-MIN. BLANK RATIO	5-MIN. DIFFERENCE	15-MIN. BLANK RATIO	15-MIN. DIFFERENCE	30-MIN. BLANK RATIO	30-MIN. DIFFERENCE
B1	83/90 = 0.922	0.009	80/90 = 0.889	0.008		
C1	81/87 = 0.931		78/87 = 0.897			

*The blank ratios for B1 and C1 should agree with 0.02.

MEAN BLANK RATIOS = $\frac{\text{B1 BK RATIO + C1 BK RATIO}}{2}$

5-MIN.	15-MIN.	30-MIN.
0.927	0.893	

NORMALIZED LIGHT LOSS (r EFFECT) = $\frac{\text{Mean Blank Ratio x Initial Sample Reading}}{\text{Final Sample Reading}} - 1$

SAMPLE CUVETTE	5-MIN. r	15-MIN. r	30-MIN. r
B2 10 mg/l-l	-0.018	-0.019	
C2	-0.026	-0.012	
B3 100 mg/l-l	0.004	0.009	
C3	0.022	0.024	
B4 500 mg/l-l	0.124	0.152	
C4	0.136	0.126	
B5 1000 mg/l-l	0.301	0.299	
C5	0.273	0.269	

% LIGHT LOSS (%Δ) = $\frac{r}{1+r}$ X 100

SAMPLE CUVETTE	5-MIN. %Δ	15-MIN. %Δ	30-MIN. %Δ
B2 10 mg/l-l	—	—	
C2	—	—	
B3 100 mg/l-l	0.4	0.9	
C3	2.2	2.3	
B4 500 mg/l-l	11	13	
C4	12	11	
B5 1000 mg/l-l	23	23	
C5	21	21	

EFFECTIVE CONCENTRATIONS (EC's) MG/L

EC'S	5-MIN.	15-MIN.	30-MIN.
EC_{20}	779	818	
EC_{50} (95% Confid. Limits)	1766 (857–3641)	2235 (1313–3804)	
EC_{80}	4005	6108	

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