

ACTIVATED SLUDGE RESPIRATION INHIBITION TEST

TEST SUBSTANCE

Identity: A mixture containing perfluorooctanesulfonate, which may also be referred to as PFOS, FC-95, or as a component of FC-783. (1-Octanesulfonic acid) (CAS # 2795-39-3).

Remarks: The 3M production lot was not noted. The test sample is FC-783 (cc784-1). Current information indicates it is a mixture of 1.0% PFOS, 2.0% Sultone foamer, 2.3% sodium octyl sulfate, 1.6% polyoxyethylene monooctylphenol ether, 0.1% sodium lauryl sulfate, 25.0% diethylene glycol monobutyl ether, 0.05% tolytriazole, and 67.95% water.

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: Not given.

Test type: Static acute

GLP: No

Year Completed: 1979

Analytical monitoring: Dissolved oxygen concentrations.

Statistical methods: Results were determined by graphic interpolation.

Test organism source: Activated sludge mixed liquor collected from the Metro Wastewater Treatment Plant, St. Paul, MN

Test condition:

Dilution water: Deionized water.

Synthetic sewage: Not given.

Reference and test solution preparation: Not given.

Test vessels: Not given.

Number of concentrations: one plus 4 blank controls.

Temperature: Not given.

Total suspended solids and pH on day of testing: Not given.

Element Basis: Respiration inhibition as determined by oxygen consumption.

Remarks: Study terminated at 7 minutes, since there was no indication of toxicity at the highest sample concentration.

RESULTS

Nominal concentrations: Blank controls and 1000 mg/L

Element values: No acute inhibitory effect on activated sludge respiration rate at 1000 mg/L with a contact time of 7 minutes.

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 FC-783 exhibited no inhibitory effect at 1000 mg/L over a 7 minute exposure.

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

DATA QUALITY

Reliability: Klimisch ranking 3. Study lacks description and records of the method followed. The inoculum is not properly characterized. Sample purity was not properly characterized 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 4896S, 1979.

OTHER

Last changed: 6/26/00

ACUTE TOXICITY OF A COMPOUND TO ACTIVATED SLUDGE MIXED LIQUOR

CR# 48965

TIME	(6,000)	#1	(.6)	(600)	(6)	#2	(60)
	1,000	D.I.	0.1	100	1.0	D.I.	10.
15	8.0	8.2					
30	7.7	7.9					
45	7.4	7.6					
0	7.15	7.35					
15	6.85	7.05					
30	6.6	6.8					
	6.0	6.25					
	4.85	5.1					
	3.7	3.95					
	2.6	2.8					
	1.45	1.7					
	.4	0.5					

Because there was not ~~and~~ any indication of toxicity at the highest sample concentration, the test was terminated at this point.

1st
Sludge Dilution #1

COMPOUND FC 783

ANALYST W.G. Schil

DATE 5-30-79

ENVIRONMENTAL LABORATORY SUMMARY SHEET

Lab Request No. 4896 S

ACUTE Toxicity of a Compound to Activated
Sludge Mixed Liquor

RESPONSE: EC = 783

ANALYST: W.A. Schip

DATE: 6-04-79

DISSOLVED OXYGEN CONCENTRATION - mg/l

TIME - minutes

