ACTIVATED SLUDGE RESPIRATION INHIBITION TEST

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: Protocol Reference EAR/WAS 5/9/84
Test type: Static acute
GLP: No
Year Completed: 1984
Analytical monitoring: Dissolved oxygen concentrations.
Test organism source: Activated sludge collected from the St Paul/Minneapolis, MN Metro Wastewater Plant on 5/10/84

Test conditions:

Dilution water: Deionized water

Test solution preparation: Placed 0.30 g test substance in a 300 mL BOD bottle with 50 mL deionized water. The mixture was mixed with a magnetic stirring bar and box for ~ 30-minutes in order to disperse sample. After mixing the sample was finely suspended in the water.
Test vessels: 300 mL BOD bottles
Number of concentrations: One
Temperature: Not recorded
Total Suspended Solids of sludge on day of testing: Not recorded. Sludge was used the day of collection.
Exposure period: 6.65 minutes
Element Basis: Respiration inhibition as determined by dissolved oxygen concentration.

RESULTS

Nominal concentrations: Two blank (deionized water) controls, one 1000mg/L test material solution.

Statistical Analyses: EC_{50} values was not determined as the oxygen depletion rate for the controls was judged to be equal to that of the deionized water. controls

Analytical Methodology: Method for the analysis of dissolved oxygen concentrations was not recorded.

Control response: Satisfactory; difference between controls was 6.9%.

CONCLUSIONS

The test substance exhibited a no inhibitory effect on respiration at a nominal test substance concentration of 1000 mg/L after 6.65 minutes of exposure. The EC_{50} (respiration inhibition) is therefore greater than 1000 mg/L.

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

DATA QUALITY

Reliability: Klimisch ranking 3. This study was not conducted using an established method. Testing was also done well above the solubility limit of the test substance. This study lacks sufficient documentation and characterization of the test substance purity, and analytical measurement of test concentrations.

REFERENCES

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

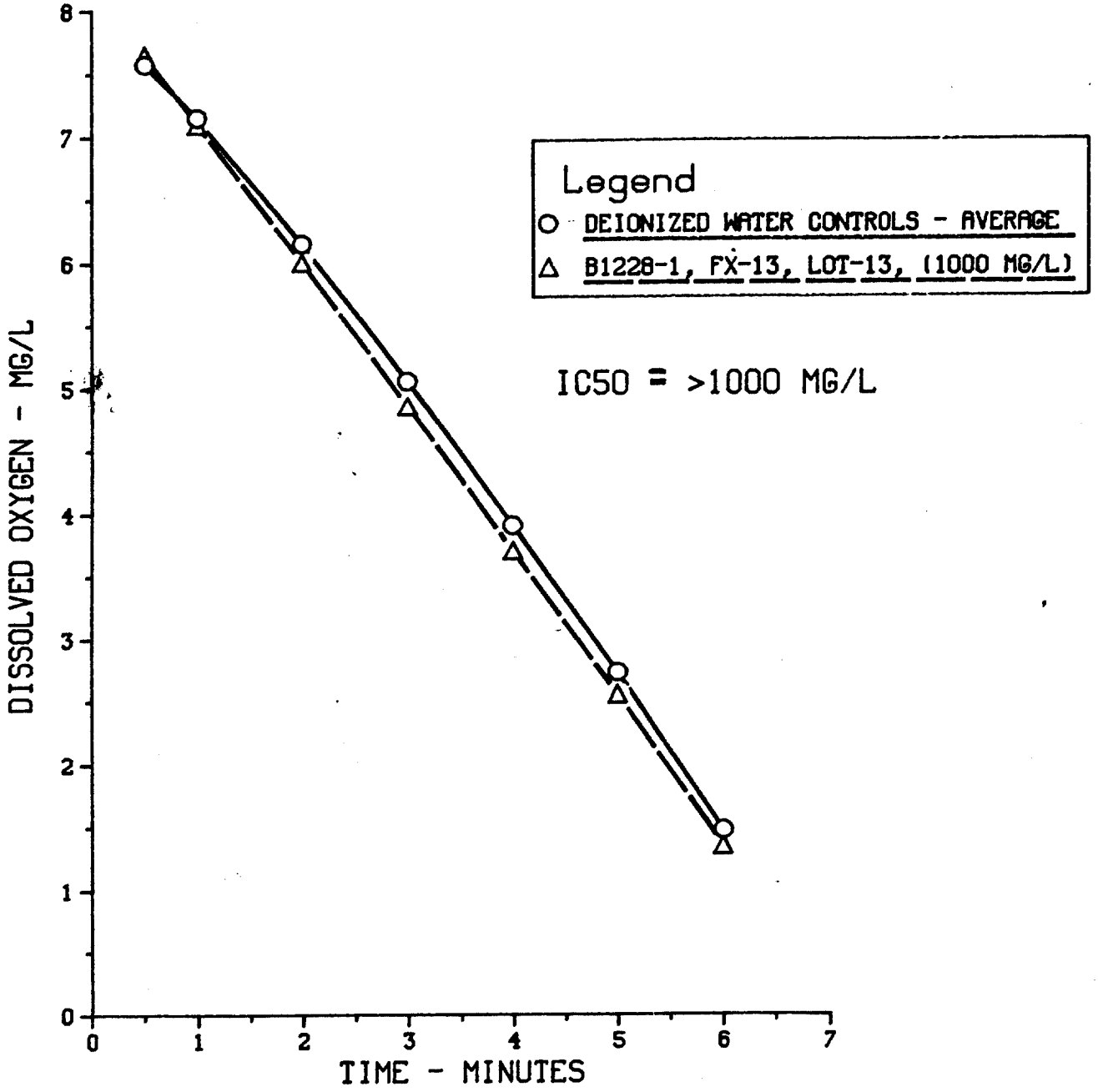
OTHER

Last changed: 5/22/00

5/10/84

3M Environmental Laboratory

Acute Toxicity of a Substance to
Activated Sludge Mixed Liquor (SLUDGE-TOX)
Protocol Reference: EAR/WAS 5/09/84, Lab Request No. B1228



W.A. Schiel
5-17-84

STOX.DAT

3M Environmental Laboratory
Acute Toxicity of a Compound (Substance) to Activated Sludge Mixed Liquor
Protocol Reference: EAR/WAS 5-09-84

Lab request no.: B1228 Date: 5/10/84 Analyst: W. A. Schaal

The activated sludge mixed liquor was collected from the St. Paul/Minneapolis Metro Wastewater Plant on 5/10/84.

Sample description: (B1228-1) FX-13, L-2514, FM-4519, LOT-13

Preparation of stock solution: _____ grams of sample were diluted to _____ ml with deionized reagent water. Date of preparation: _____.
See comments below.

TIME min.	sec.	CONCENTRATION OF TEST MATERIAL IN ACTIVATED SLUDGE MIXTURE: DI H2O CONTROL	1000 mg/l			DI H2O Control		CONTROL AVERAGE
	30	7.60	7.65			7.55		7.575
1	-	7.15	7.10			7.15		7.15
2	-	6.15	6.00			6.15		6.15
3	-	5.00	4.85			5.10		5.05
4	-	3.80	3.70			4.00		3.90
5	-	2.60	2.55			2.85		2.725
6		1.30 ~~1.50~~	1.35			1.65		1.475
7		0.50	6.65 minutes 0.30			0.55		
				WAS 5/10/84				
			6.65 minutes					
				To difference between controls = 6.9%				

COMMENTS:

Test solution preparation: 0.30 g sample was placed in a 300 ml BOD bottle with 50 ml deionized water. The mixture was ~~placed on~~ (WAS) ~~mixer~~ mixed with a magnetic stirring bar and box for ~30 minutes in order to disperse sample. After mixing the sample was finely suspended in the water.