

ACTIVATED SLUDGE RESPIRATION INHIBITION

TEST SUBSTANCE

Identity: A mixture containing perfluorooctanesulfonate, which may also be referred to as PFOS, FC-95, or as a component of FC-185F. (1-Octanesulfonic acid) (CAS # 2795-39-3)

Remarks: The 3M production lot number was 1-2303. The test sample is FC-185F, cc 817-19. Current information indicates it is a mixture of 4% PFOS, 36% diethylene glycol butyl ether, 29.29% water, 14% ethylene glycol, 8% Sultone foamer, 8.35% sodium octyl sulfate, 0.3% sodium lauryl sulfate, and 0.06% tolyltriazole.

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:

Methods: Protocol Reference EAR, 11/8/79.

Test type: Aerobic.

GLP: No

Year completed: 1982

Analytical monitoring: Dissolved oxygen concentrations

Test organism source: Activated sludge mixed liquor from the St. Paul/Minneapolis, Minnesota Metro Wastewater Plant

Test conditions:

Dilution water: Deionized water.

Reference and test solution preparation: A primary stock solution was prepared by diluting 0.60 g into 100 mL deionized water.

Test Vessels: Not given.

Number of concentrations: 1 plus blank control

Temperature: Not given.

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

Element basis: Respiration inhibition as determined by oxygen consumption.

RESULTS

Nominal concentrations: Bk control, 1000 mg/L

Element values: No Inhibition of activated sludge respiration rate at 1000 mg/L with a contact time of 3 minutes.

Element values based on nominal concentration.

Remarks: Testing was conducted on the 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 material exhibited no inhibitory effects at 1000 mg/L over a 3 minute exposure period.

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

DATA QUALITY

Reliability: Klimisch ranking = 3. Testing lacks record of methodology used. The method was not an agency-approved method. There is a lack of characterization of the test sample. Test solutions were not analyzed for PFOS concentration.

REFERENCES

This study was conducted by the 3M Company, Environmental Laboratory, St. Paul, MN, Lab Request number 7544.

OTHER

Last changed: 6/26/00

DIETZGEN CORPORATION
MADE IN U.S.A.

NO. 340-10 DIETZGEN GRAPH PAPER
10 X 10 PER INCH

DISSOLVED OXYGEN CONCENTRATION - mg/l

9

8

7

6

5

4

3

2

1

0

ENVIRONMENTAL LABORATORY SUMMARY SHEET
TEST: Acute Toxicity of a Compound to Activated Sludge
Mixed Liquor.

SAMPLE DESCRIPT.: FC-185F (CC 817-19) LOT. 1-2303

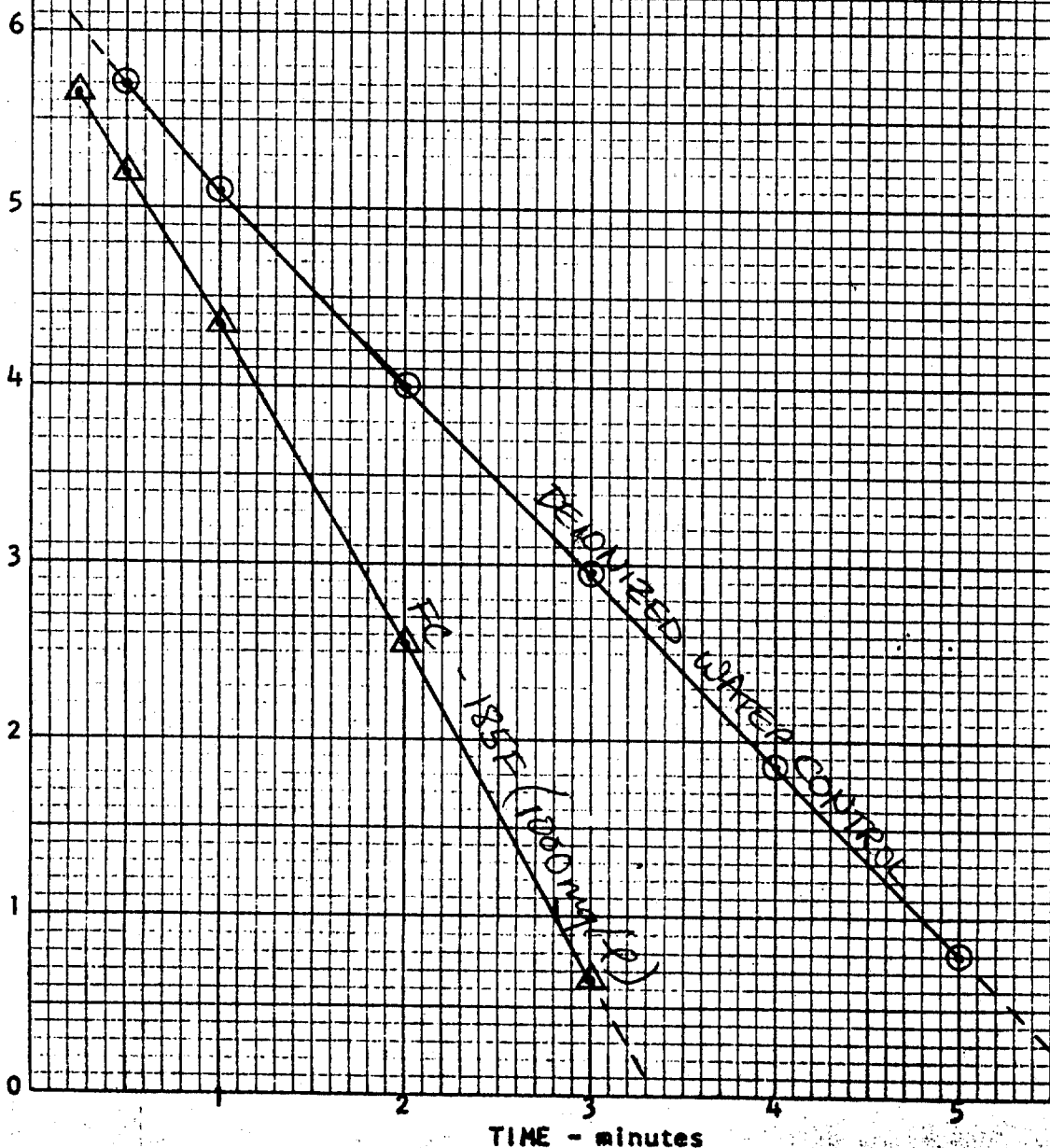
ANALYST: WADE A. SCHEIL

DATE ANALYZED: 1-28-82

LAB REQ. NO.: 7544

TIME - minutes

000133



3M Environmental Laboratory
Acute Toxicity of a Compound (Substance) to Activated Sludge Mixed Liquor ?
Protocol Reference: EAR 11/8/79

Lab request no.: 7544-1 Date: 1-28-82 Analyst: W.A. Scher

The activated sludge mixed liquor was collected from the St. Paul/Minneapolis Metro Wastewater Plant on 1-28-82.

Sample description: FC-185F (CC 817-19) Lot 1-2303

Preparation of stock solution: 0.60 grams of sample were diluted to 100 ml with deionized reagent water. Date of preparation: 1-28-82.

TIME		CONCENTRATION OF TEST MATERIAL IN ACTIVATED SLUDGE MIXTURE					
min.	sec.	DI H ₂ O	1000	100	10	DI H ₂ O	0.10
		CONTROL	mg/l	mg/l	mg/l	Control	mg/l
	15	-	5.65				
	30	5.70	5.20				
1	-	5.10	4.35				
2	-	4.00	2.55				
3	-	2.95 3.95	0.65 1.65	WAS 1/28/82			
4	-	1.85 2.85	0.65 1.65				
5		0.80					

COMMENTS:

000134