BIODEGRADATION (BOD/COD)

TEST SUBSTANCE

Identity: A mixture containing perfluorooctanesulfonate, which may also be referred to as PFOS, FC-95, or as a component of FC-206A. (1-Octanesulfonic acid) (CAS # 2795-39-3).

Remarks: The 3M production lot number was not noted. The test sample is FC-206A. Current information indicates it is a mixture of 0.92% PFOS, 18.75% diethylene glycol butyl ether, 75.44% water, 1.83% Hydroxy foamer, 1.75% sodium octyl sulfate, 1.2% poloxyethylene monooctylphenyl ether, 0.06% sodium lauryl sulfate, 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: Standard Methods, 14th Edition
Type: Aerobic
GLP: No
Year completed: 1978
Contact time: 20 days
Inoculum: Source not given.

RESULTS

Total Organic Carbon (TOC):	114,000 mg/L 120,000 mg/L (duplicate)
Chemical Oxygen Demand (COD):	451,000 mg/L 453,000 mg/L (duplicate)
Biochemical Oxygen Demand (BOD):	
5-Day:	200,000 mg/L
10-Day:	330,000 mg/L
15-Day:	370,000 mg/L
20-Day:	330,000 mg/L

CONCLUSIONS

No conclusions given.

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. There is no characterization of the test substance purity and the study lacks analytical confirmation of the fluorochemical proportion in the solution.

REFERENCES

The studies were conducted by the 3M Company, Environmental Laboratory, St. Paul, MN, Lab Request number 4462, 1978.

OTHER

Last changed: 6/26/00

Form 10620-5-PWO
cc: LAB REQUEST BOOK – 42-5W

3M Action 200

PRODUCT ECOLOGICAL ASSESSMENT REQUEST FOR LABORATORY WORK

Ref: ENVIR. ASSESS. INQ. #_____
Comm. Chem DIVISION
PRODUCT: FC-206A

LAB REQUEST NO. 4462

REQUESTER

Name: A.N. Walter Phone No. 5379
Request Date: 9/27/78
Project No.: 9970012600 Prob. No. _____
Code No.: _____
Sample Date: 9/27/78 Date Needed: ASAP
Description: BOD, COD, Aquatic Toxicity
Purpose of Tests: _____

1 PT. OF SAMPLE

LABORATORY ARD 11/10/78

Date Received Sample: 9-27-78
Analyst: WAS, MTE
Date Completed: 11-10-78
Hours Spent: 7WAR – 10 M MTE, T=17
Y _____ B _____ P _____
Please Call Requester If Delays Are Encountered.

		#1	DUPLICATES
PHYSICAL & CHEMICAL PROPERTIES			
Heat of Combustion Cal/G (BTU/Lb.)			
Density			
Ash			
Other			
WATER POLLUTION			
pH			
COD	✓	451,000	453,000
BOD_5	✓	* SEE ATTACHED DATA SHEET	
BOD, Ultimate	✓	* " "	" "
TOC	✓	114,000	120,000
GC			
Oxygen Uptake			
Dehydrogenase Activity (TTC)			
Other			
BIOASSAY			
Specify Organism and Method: 96 hr LC_{50} Aquatic Toxicity Bluegills	✓	1.3 g/liter	
LEACHATE FROM LEACHING TEST			
pH			
COD			
BOD_5			
BOD, Ultimate			
TOC			
GC			
Bioassay			
Other			
OTHER			
Bioaccumulation			
Persistence			
Degradation Products			

001589

White - Return to Requester Canary - Environmental Engrg. Office File Pink - Environmental Engrg. Lab Goldenrod - Return to Requester

ENVIRONMENTAL LABORATORY DATA SHEET

ANALYSIS FORM 1038

FC - 206A
ULTIMATE BOD

ENV. LAB REQ. NO. 4462

		BOD_3			BOD_5			BOD_{10}			BOD_{14}			BOD_{20}	
		A	B	C	D	E	F	G	H	J	K	L	M	N	P
		D.O. DEPLETION	BOD VALUE		DO DEPLETION	BOD VALUE		D.O. DEPLETION	BOD VALUE		D.O DEPLETION	BOD VALUE		D.O. DEPLETION	BOD VALUE
1	SAMPLE CONCENTRA-														
2	TION IN BOD														
3	BOTTLES - (ml/l)														
4															
5	-														
6	0.0033	0.15	45,000		0.9	270,000		1.1	330,000		1.3	390,000		1.15	350,000
7	0.0067	0.3	45,000		1.7	260,000		2.1	320,000		2.4	360,000		2.3	350,000
8	0.013	0.5	38,000		2.75	210,000		4.5	340,000		5.0	380,000		4.05	300,000
9	0.027	09	34,000		4.8	180,000		>8	-		-	-		-	-
10	0.053	1.8	34,000		8.1	150,000		-	-		-	-		-	-
11															
12	BOD VALUES CALCULATED		<38,000			200,000			330,000			370,000			330,000
13	ACCORDING TO STANDARD														
14	METHODS - 14 EDITION														
15															
16															
17															
18					* ALL RESULTS EXPRESSED IN mg/l										
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DATE

ENG.

SHEET

FILE