

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-203CE. (1-Octanesulfonic acid) (CAS # 2795-39-3).

Remarks: The 3M production lot number was 519. The test sample is FC-203CE. Current information indicates it is a mixture of 1.84% PFOS, 30% diethylene glycol butyl ether, 60.23% water, 2.56% Sultone foamer, 3.1% sodium octyl sulfate, 2.1% polyoxyethylene monooctylphenyl ether, 0.12% sodium lauryl sulfate, and 0.05% tolyltriazole.

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

METHOD:

Method: BOD – Standard Methods 507, COD – Standard Methods 508.
Type: Aerobic
GLP: No
Year completed: 1989
Contact time: 20 days
Inoculum: Source not given.

RESULTS

Total Organic Carbon (TOC):	216,300 mg/kg (calculated)
Chemical Oxygen Demand (COD):	740,000 mg/kg 370,000 mg/kg (duplicate)
Biochemical Oxygen Demand (BOD):	
5-Day:	46,000 mg/L
10-Day:	260,000 mg/L
20-Day:	470,000 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. The inoculum is not properly characterized. There is no characterization of the test substance purity, and analytical measurement of the test concentrations. The testing was conducted on a mixture with chemicals having varying degrees of biodegradability, leading to potential misinterpretation of the results.

REFERENCES

The studies were conducted by Pace Laboratories, Inc. of Minneapolis, MN at the request of the 3M Company, Lab Request number G1358, 1989.

OTHER

Last changed: 6/26/00

May 12, 1989

File: G1358

Mr. Wade Schell
3M Environmental Laboratory
935 Bush Avenue
Bldg. 2-3E
St. Paul, MN 55133

Dear Mr. Schell:

Enclosed is the report of laboratory analyses for samples received
03/14/89.

If you have any questions concerning this report, please feel free
to contact us.

Sincerely,

Peggy F. Gaskill for

Susan D. Max
Director, Sampling and Analytical Services

Enclosures

3M Environmental Laboratory
935 Bush Avenue
Bldg. 2-3E
St. Paul, MN 55133

May 12, 1989
PACE Project Number: 890314511

Attn: Mr. Wade Scheil

G1358

Date Sample(s) Collected: By Client
Date Sample(s) Received: 03/14/89

PACE Sample Number:

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>	<u>069490</u> <u>G1358-1</u>	<u>069500</u> <u>G1358-2</u>	<u>069510</u> <u>G1358-3</u>
<u>INORGANIC ANALYSIS</u>					
<u>INDIVIDUAL PARAMETERS</u>					
Biochemical Oxygen Demand, Carb 05 Day(1)mg/L		24000	91000	46000	-
Biochemical Oxygen Demand, Carb 10 Day(1)mg/L		24000	400000	260000	-
Biochemical Oxygen Demand, Carb 20 Day(1)mg/L		24000	680000	470000	-
Chemical Oxygen Demand(2)	mg/kg	50000	740000	390000	740000

MDL Method Detection Limit

Mr. Wade Scheil
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May 12, 1989
PACE Project Number: 890314511

PACE Sample Number:

Parameter

Units

MDL

069520

G1358-4

INORGANIC ANALYSIS

INDIVIDUAL PARAMETERS

Chemical Oxygen Demand(2)

mg/kg

50000

370000

MDL

Method Detection Limit

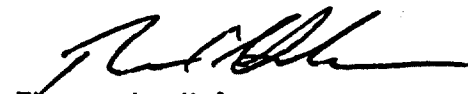
(1)

Biochemical oxygen demand was performed in accordance with standard methods #507.

(2)

Chemical oxygen demand was performed in accordance with standard methods #508.

The data contained in this report were obtained using EPA or other approved methodologies. All analyses were performed by me or under my direct supervision.


Thomas L. Halverson
Inorganic Chemistry Manager

	A	B	C	D	E	F	G
1	L/W TOC of FC-203CE						
2							
3							
4	%in Prod	Components	Emperical Formul	MW	MWof C	TOC	
5	2.56	Sultone foamer	C16 H23 F13 S2	650	192	0.0076	
6	1.84	Filmer (FC-95)	C8 F17 S03 K	522	128	0.0045	
7	3.1	Na octyl sulfate	C8 H17 O4 S Na	232	96	0.0128	
8	0.12	Na dodecyl sulfate	C12 H25 O4 S Na	288	144	0.0006	
9	0.1	Dowicide A	C12 H17 O5 Na	264	144	0.0005	
10	0.05	Tolyltriazol	C6 H6 N3 O	136	72	0.0003	
11	30	Butyl Carbitol	C8 H18 O3	162	96	0.1778	
12	2.1	Triton x-305	C74 H142 O31	1526	888	0.0122	
13	60.23	DI Water	H2 O	18	0	0	
14	100.1						
15				Product TOC=		0.2163g/g	

TOC

Calculated 10/4/88