

MICROBIAL INHIBITION (DEHYDROGENASE ACTIVITY TEST)

TEST SUBSTANCE

Identity: A mixture containing perfluorooctanesulfonate, which may also be referred to as PFOS, FC-95, or as a component of FC-206 or L-3243. (1-Octanesulfonic acid) (CAS # 2795-39-3).

Remarks: The 3M production lot number was not noted. The test sample is FC-206. Current information indicates it is a mixture of 0.67% PFOS, 17.5% diethylene glycol butyl ether, 78.91% water, 1.33% Sultone foamer, 1% sodium octyl sulfate, 0.04% sodium lauryl sulfate, 0.5% polyoxyethylene monooctylphenyl ether, and 0.05% benzotriazole.

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

METHOD:

Method: Not noted.

GLP: No

Year completed: 1973-1974

Analytical monitoring: % Transmittance

Statistical methods: Results were determined by calculation of the % transmittance and comparison with the blank.

Test organism source: Not given

Contact time: Not given.

RESULTS

Nominal concentrations: Blank control, 0.01, 0.1, 0.5, 1, 5, and 10% concentration during the study conducted in 2/74. Blank control, 0.1, 0.5, and 1.0% concentration during the studies conducted in 3/73 and 3/74.

Element values: Not given.

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

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. The sample purity was not properly characterized and the study lacks analytical confirmation of the amount of fluorochemical proportion in the solution.

REFERENCES

The studies were conducted by the 3M Company, Environmental Laboratory, St. Paul, MN, Lab Request Numbers 2034, 2093, 1973-1974.

OTHER

Last changed: 6/28/00

cc: LAB REQUEST BOOK - 42-5W

File: _____

Water and Wastewater

REQUEST FOR LABORATORY WORK

Lab Request No. 2034

TO: ENVIRONMENTAL ENGINEERING LABORATORY - BUILDING 53-6N

Requestor

Lab Personnel

Name: D. Bacon Request Date 1/29/79
 Project No. 08 Prob. No. 08 Code # 4200
 Description: _____
 Sample Date: _____ Date Needed: _____
 Hold Sample For _____ Days Est. Time: _____ Hrs.

Date Rec'd. Sample: 1/30
 Analyst: Vraspir
 Y 74 B 15 P 34
 Date Completed: 2/11/79
 Hrs. Spent: 8

Sample Description

Sample Description	FC95	FC200	FC203	L3293	Se
Total Hardness, mg/l as CaCO ₃	ML				
Calcium Hardness, mg/l as CaCO ₃					
"P" Alkalinity, mg/l as CaCO ₃					
"M" Alkalinity, mg/l as CaCO ₃	Conc.	%T	%T	%T	
pH	0.01%	20	15	19	
Sulfate, mg/l as SO ₄	0.1%	17	13.5	13	
Nitrate, mg/l as NO ₃	0.5%	12.5	19	28	
Chloride, mg/l as Cl	1%	—	34	34	
Silica, mg/l as SiO ₂	5%	41.5	55	58	
Fluoride, mg/l as F	10%	68.5	95	93.5	
Ortho Phosphate, mg/l as P	Control - ML + H ₂ O + TTC	26	26	26	
Total Phosphate, mg/l as P					
Total Chromium, mg/l as Cr					
Hex. Chromium, mg/l as Cr					
Total Cyanide, mg/l as CN					
Ferrocyanide, mg/l as CN					
Iron, mg/l as Fe					
Manganese, mg/l as Mn					
Surfactant, mg/l as LAS					
Phenol, mg/l					
BOD, mg/l					
COD, mg/l (Short, Long, Dilute)					
Total Suspended Solids, mg/l	4,740				
Volatile Suspended Solids, mg/l	3,880				
Turbidity, mg/l Silica					
Total Solids, mg/l					
Total Volatile Solids, mg/l					
Conductivity, mhos					
Total Bacteria, No./100 ml					
Total Coliform, No./100 ml					
Fecal Coliform, No./100 ml					
Fecal Streptococcus, No./100 ml					
Ammonia Nitrogen, mg/l as N					
Kjeldahl Nitrogen, mg/l as N					
Oil and Grease, mg/l					

Comments: Perform TTC test in accordance with
attached test procedure. Suggest concentration are
.01%, .1%, 1%, 10%, 15%

Lab. Requist N. 2093 ←

L. yint water

Product FC 203

L 3243 (fc-206)

LABORATORY

PROB. NO.:

DATE RECEIVED SAMPLE: 2-28-74

ANALYST: JRAEP:IF

DATE COMPLETED: 3/22/74

HOURS SPENT: 15hr

Y - B - P -

DESCRIPTION:
PURPOSE OF TESTS:

Freshwater Fish
 Marine Fish
 Microorganisms
 Aquatic Plants
 Land Plants
 Birds
 Mammals

Parent Material

pH
COD mg/g
BOD mg/g
SOD, ultimate
TOC
GC
Blossay
Other

Leachate

pH
COD mg/g
BOD mg/g
BOD, ultimate
TOC
GC
Bioassay
Other

PHYSICAL & CHEMICAL PROPERTIES

Heat of Combustion cal/g (BTU/lb.)

Density

Ash

Corrosiveness

WATER POLLUTION

BOD

COD

EO

Oxygen Uptake

Biodegradability Study

OTHER

Biodegradability

Persistence

Degradation Products

Recyclability

Flammability

TTC

Group 1

Group 2

Group 3

Group 4

Group 5

13243

* See data sheets

ENVIRONMENTAL ENGR. LAB - WORK SHEET

SAMPLE DESCRIPTION

T.T.C.
Shore +Date: 3/21/79
Analyst: G.V.
Hrs.: _____

FC-203

Conc %

%T

1 ml/100 1 ml/10
1 ml/100 5 ml/10
10 ml/100 1 ml/10

0.1

36.5

0.5

40

1.0

41.5

0.1

34

0.5

40

1.0

42

0.1

36

0.5

44

1.0

46

L-3243 FC-206

Control

45

1 ml/100 - 1/10

0.1

35

2 37

1 ml/100 - 5/10

0.5

40

3 37.5

1 ml/100 - 1 ml/10

1.0

40.5

0.1

36.5

0.5

38.5

1.0

40

0.1

35

0.5

39.5

1.0

40

SS 24.2138

SS 24.2138

24.1643

24.1781

0.0495 g/g

0.0357 g/g

9900 g/g

7,140 mg/g

SS ML

7,140 mg/g

Reviewed by: _____

ENVIRONMENTAL ENGR. LAB - WORK SHEET

SAMPLE DESCRIPTION

T.T.C.

German Method

Date: 3/20/73Analyst: GLHrs.:

FC-203

Conc %

%T 480nm

1m/100 1m/10

0.1 1/10

67

1m/100 1m/10

0.5 1/10

73

10m/100 1m/10

1.0 1/10

80

2

0.1 1/10

67

0.5 1/10

74

1.0 1/10

77

3

0.1 1/10

66.5

0.5 1/10

77

1.0 1/10

80

L-3243 FC-206

1m/100 1/10

0.1 1/10

65

1m/100 5/10

0.5 1/10

71.5

10m/100 1/10

1.0 1/10

74

2

0.1 1/10

69

0.5 1/10

71

1.0 1/10

75

3

0.1 1/10

67

0.5 1/10

70.5

1.0 1/10

74.5

Blank

1/10

70

SS 24.0599

SS 24.0599

SVS - ML

24.0228

24.0328

5,420 mg/l

0.0371

0.0271

Reviewed by:

7420 mg/l

5420 mg/l