

## 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 FX-3103. (1-Octanesulfonic acid) (CAS # 2795-39-3).

**Remarks:** The 3M production lot number was not noted. The test sample is FX-3103, 3%. Current information indicates it is a mixture of 0.96% PFOS, 20% diethylene glycol butyl ether, 50.56% water, 15% ethylene glycol, 4.32% sodium octyl sulfate, 6.0% polyoxyethylene monooctylphenyl ether, 2.5% propane sultone foamer, 0.5% sodium nitrate, 0.06% sodium lauryl sulfate, and 0.1% benzotriazole.

***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: Not noted.

Type: Aerobic

GLP: No

Year completed: 1985

Contact time: 20 days

Inoculum: Not given.

### RESULTS

Chemical Oxygen Demand (COD): 810,000 mg/L

Biochemical Oxygen Demand (BOD):

|         |                      |
|---------|----------------------|
| 5-Day:  | 340,000 mg/L         |
|         | 350,000 mg/L (Rerun) |
| 10-Day: | 560,000 mg/L         |
|         | 430,000 mg/L (Rerun) |
| 20-Day: | Not Analyzed         |
|         | 490,000 mg/L (Rerun) |

### CONCLUSIONS

No conclusions given.

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

## DATA QUALITY

**Reliability:** Klimisch ranking 4. Values are from a summary sheet only. Study lacks description and records of the method followed. The inoculum was not properly characterized. There is no characterization of the test substance purity, and the study lacks analytical confirmation of the amount of fluorochemical proportion in the solution.

## REFERENCES

This study was conducted by the 3M Company, Environmental Laboratory, St. Paul, MN, Lab Request number C1111, 1985.

## OTHER

Last changed: 6/2600

LAB REQUEST NO. C1111  
REQUESTOR NAME: MTE/ANW  
DEPARTMENT: 0535  
PROJECT NO: 9970012600  
DATE RECEIVED: 01/29/1985  
DESC: LIGHT WATER

CONTRACT LAB(S):  
EXP COMP DATE: 04/18/1985  
DATE COMPLETED: 04/18/1985  
PROJECT LEAD:  
PHONE NO:  
3M FAX NO: 651-778-6176

| SAMPLE | DATE       | CODE | DESCRIPTION               | RESULT       | MDL or (95% C.I.) |
|--------|------------|------|---------------------------|--------------|-------------------|
| 1      |            | 3%   | FX-3103                   |              |                   |
|        | 48-HR-EC50 |      | DAPHNIA ACUTE TEST        | COMPLETE     |                   |
|        | 96-HR-LC50 |      | FISH ACUTE TEST - 96 HOUR | COMPLETE     |                   |
|        | C-BOD-05   |      | BOD-05 (CARBONACEOUS)     | 340000 MG/L  |                   |
|        | C-BOD-10   |      | BOD-10 (CARBONACEOUS)     | 560000 MG/L  |                   |
|        | C-BOD-20   |      | BOD-20 (CARBONACEOUS)     | NOT ANALYZED |                   |
|        | COD-RFX    |      | COD (DICHROMATE REFLUX)   | 810000 MG/L  |                   |
|        | IC50-ALGAE |      | ALGAE ASSAY - IC50        | COMPLETE     |                   |
|        | MICROTOX   |      | MICROTOX - EC50           | COMPLETE     |                   |
|        | SLUDG-RESP |      | SLUDGE RESPIRATION - EC50 | COMPLETE     |                   |
| 2      |            | 6%   | FX-3104                   |              |                   |
|        | 48-HR-EC50 |      | DAPHNIA ACUTE TEST        | COMPLETE     |                   |
|        | 96-HR-LC50 |      | FISH ACUTE TEST - 96 HOUR | COMPLETE     |                   |
|        | C-BOD-05   |      | BOD-05 (CARBONACEOUS)     | 270000 MG/L  |                   |
|        | C-BOD-10   |      | BOD-10 (CARBONACEOUS)     | 450000 MG/L  |                   |
|        | C-BOD-20   |      | BOD-20 (CARBONACEOUS)     | NOT ANALYZED |                   |
|        | COD-RFX    |      | COD (DICHROMATE REFLUX)   | 570000 MG/L  |                   |
|        | IC50-ALGAE |      | ALGAE ASSAY - IC50        | COMPLETE     |                   |
|        | MICROTOX   |      | MICROTOX - EC50           | COMPLETE     |                   |
|        | SLUDG-RESP |      | SLUDGE RESPIRATION - EC50 | COMPLETE     |                   |
| 3      |            |      | RERUN #1                  |              |                   |
|        | C-BOD-05   |      | BOD-05 (CARBONACEOUS)     | 350000 MG/L  |                   |
|        | C-BOD-10   |      | BOD-10 (CARBONACEOUS)     | 430000 MG/L  |                   |
|        | C-BOD-20   |      | BOD-20 (CARBONACEOUS)     | 490000 MG/L  |                   |
| 4      |            |      | RERUN #2                  |              |                   |
|        | C-BOD-05   |      | BOD-05 (CARBONACEOUS)     | 220000 MG/L  |                   |
|        | C-BOD-10   |      | BOD-10 (CARBONACEOUS)     | 290000 MG/L  |                   |
|        | C-BOD-20   |      | BOD-20 (CARBONACEOUS)     | 340000 MG/L  |                   |