

## PFOA and Associated Salts

Synonyms: FC-26, FX-1001, PFO, FC-143, 78.03, FC-126, N-2803-3, FX-1003, FC-118, FC-1015, FC-1015-X

## Physical/Chemical Properties

| Title                                                    | Laboratory or Author | Date Completed | Type                               |
|----------------------------------------------------------|----------------------|----------------|------------------------------------|
| Water, acetone and toluene solubility estimates - FC-143 | 3M Env. Lab          | 11/17/81       | Robust summary, copy of data sheet |

## Environmental Fate and Transport

| Title                                                                                                                           | Laboratory or Author             | Completion Date  | Type                                                                        |
|---------------------------------------------------------------------------------------------------------------------------------|----------------------------------|------------------|-----------------------------------------------------------------------------|
| Ready biodegradation of FC-143 (BOD/COD/TOC)                                                                                    | 3M Env. Lab                      | 7/14/77          | Robust summary, copy of laboratory data summary                             |
| Technical Report Summary - Adsorption of FC 95 and FC 143 on Soil, and a critique from Dr. S. Boyd, Michigan State University   | 3M Env. Lab                      | 2/27/78, 5/19/93 | Robust summary, technical report, critique by S. Boyd (MSU)                 |
| Technical Report Summary - Biodegradation Studies of Fluorocarbons - III (FC-143)                                               | 3M Env. Lab                      | 7/19/78          | Robust summary, technical report                                            |
| Technical Report Summary - FC-143 Photolysis Study Using Simulated Sunlight                                                     | 3M Agrichemical Lab              | 2/2/79           | Robust summary, technical report.                                           |
| Technical Report Summary - Analysis for Fluorochemicals in Bluegill Fish, and a critique by J. W. Gillett of Cornell University | 3M Env. Lab                      | 5/1/1979, 3/8/93 | Robust summary, technical report, critique by J. Gillett (Cornell)          |
| Ready biodegradation of FC-143 (BOD/COD)                                                                                        | 3M Env. Lab                      | 6/5/80           | Robust summary, copies of data sheets.                                      |
| Calculated octanol water partition coefficient - FC-143                                                                         | 3M Env. Lab                      | 12/7/81          | Robust summary, copy of calculations                                        |
| Ready biodegradation of FX-1001 (BOD/COD)                                                                                       | 3M Env. Lab                      | 2/7/85           | Robust summary, computer-generated final report, copies of raw data sheets. |
| Ready biodegradation of FC-126 (BOD/COD)                                                                                        | Pace Analytical, Minneapolis, MN | 5/20/87          | Robust summary, computer-generated final report, copy of final report       |

## PFOA and Associated Salts

### Environmental Fate and Transport

| Title                                                                                                                     | Laboratory or Author | Completion Date | Type                                                         |
|---------------------------------------------------------------------------------------------------------------------------|----------------------|-----------------|--------------------------------------------------------------|
| Technical Report Summary - Assessment of the Bioaccumulative Properties of Ammonium Perfluorooctanate: Static (fish test) | 3M Env. Lab          | 5/31/95         | Robust summary, technical report, critique by J. Giesy (MSU) |

### Ecotoxicity Elements

| Title                                                                                                                                                                                                                                                                                                      | Laboratory or Author        | Completion Date          | Type                                          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|--------------------------|-----------------------------------------------|
| 96-hour acute static toxicity to fathead minnow - FC-143                                                                                                                                                                                                                                                   | 3M Env. Lab                 | 6/29/74                  | Robust summary, copy of data sheet            |
| 96-hour acute static toxicity to fathead minnow - FC-26                                                                                                                                                                                                                                                    | 3M Env. Lab                 | 11/10/74                 | Robust summary, copy of data sheet.           |
| 96-hour acute static toxicity to bluegill sunfish - FC-143                                                                                                                                                                                                                                                 | 3M Env. Lab                 | 4/8/78                   | Robust summary, copy of data sheet            |
| 96-hour acute static toxicity to bluegill sunfish - FC-143                                                                                                                                                                                                                                                 | 3M Env. Lab                 | 5/27/78                  | Robust summary, copy of data sheet            |
| Two reports : "The Effects of Continuous Aqueous Exposure to 78.03 on Hatchability of Eggs and Growth and survival of Fry of Fathead Minnow ( <u>Pimephales promelas</u> )" and "Summary of Histopathological Examinations of Fathead Minnow ( <u>Pimephales promelas</u> ) Exposed to 78.03 for 30 Days". | EG&G Bionomics, Wareham, MA | June 1978 and Sept. 1978 | Robust summary, copies of two final reports.  |
| Technical Report Summary - Aquatic Toxicity Testing: FC-143 (Lot-37) L.R. 5625 S                                                                                                                                                                                                                           | 3M Env. Lab                 | 5/8/80                   | Robust summary, technical report              |
| Toxicity to activated sludge - FC-143                                                                                                                                                                                                                                                                      | 3M Env. Lab                 | 6/4/80                   | Robust summary, copies of data sheets         |
| Technical Report Summary - Multi-Phase Exposure/Recovery Algal Assay Test method (FC-143)                                                                                                                                                                                                                  | 3M Env. Lab                 | 11/16/81                 | Robust summary, technical report              |
| 48-hour acute static toxicity to <i>Daphnia magna</i> - FC-143 (3 studies on diet)                                                                                                                                                                                                                         | 3M Env. Lab                 | 5/5/82, 5/6/82, 6/2/82   | Robust summary, copies of data sheets         |
| Chronic Toxicity of Fluorochemicals to <u>Daphnia magna</u> (Water Flea) - FC-143, and statistical analysis of data provided by AScl Corp., Duluth, MN                                                                                                                                                     | 3M Env. Lab                 | 8/31/1984, 8/10/98       | Robust summary, summary report, letter report |
| 96-hour acute static toxicity to fathead minnow - FX-1001                                                                                                                                                                                                                                                  | 3M Env. Lab                 | 2/2/85                   | Robust summary, copy of data sheet.           |

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## PFOA and Associated Salts

### Ecotoxicity Elements

| Title                                                                                                        | Laboratory or Author                           | Completion Date | Type                                   |
|--------------------------------------------------------------------------------------------------------------|------------------------------------------------|-----------------|----------------------------------------|
| Activated sludge respiration inhibition (OECD 209) - FC-126                                                  | 3M Env. Lab                                    | 4/20/87         | Robust summary, copy of data sheets.   |
| Microtox test - FC-126                                                                                       | 3M Env. Lab                                    | 4/29/87         | Robust summary, copy of data sheets.   |
| 48-hour acute static toxicity to <i>Daphnia magna</i> - FC-126                                               | 3M Env. Lab                                    | 4/30/87         | Robust summary, copy of data sheets.   |
| 96-hour acute static toxicity to fathead minnow - FC-126                                                     | 3M Env. Lab                                    | 5/1/87          | Robust summary, copy of data sheets.   |
| Activated sludge respiration inhibition (OECD 209) - FX-1003                                                 | 3M Env. Lab                                    | 2/16/90         | Robust summary, copies of data sheets  |
| Microtox test - FX-1003                                                                                      | 3M Env. Lab                                    | 3/7/90          | Robust summary, copies of data sheets  |
| Static Acute Toxicity of FX-1003 to the Fathead Minnow, <i>Pimephales promelas</i>                           | EnviroSystems, Hampton, New Hampshire          | 3/15/90         | Robust summary, final report, protocol |
| Static Acute Toxicity of FX-1003 to the Daphnid, <i>Daphnia magna</i>                                        | EnviroSystems, Hampton, New Hampshire          | 4/9/90          | Robust summary, final report, protocol |
| Growth and Reproduction Toxicity Test with N2803-3 and the Freshwater Alga, <i>Selenastrum capricornutum</i> | T.R. Wilbury Laboratories, Inc, Marblehead, MA | 1/24/96         | Robust summary, final report           |
| Acute Toxicity of N2803-3 to the Fathead Minnow, <i>Pimephales promelas</i>                                  | T.R. Wilbury Laboratories, Inc, Marblehead, MA | 1/24/96         | Robust summary, final report           |
| Acute Toxicity of N2803-3 to the Daphnid, <i>Daphnia magna</i>                                               | T.R. Wilbury Laboratories, Inc, Marblehead, MA | 3/7/96          | Robust summary, final report           |
| Microtox test - FC-143                                                                                       | 3M Env. Lab                                    | 4/24/96         | Robust summary, copies of data sheets  |
| Microtox test - FC-118                                                                                       | 3M Env. Lab                                    | 4/24/96         | Robust summary, copies of data sheets  |
| Microtox test - FC-1015-X                                                                                    | 3M Env. Lab                                    | 4/24/96         | Robust summary, copies of data sheets  |

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## PFOA and Associated Salts

### Ecotoxicity Elements

| Title                                                                                                        | Laboratory or Author                           | Completion Date | Type                                  |
|--------------------------------------------------------------------------------------------------------------|------------------------------------------------|-----------------|---------------------------------------|
| Activated Sludge Respiration Inhibition Test - FC-1015-X                                                     | 3M Env. Lab                                    | 4/25/96         | Robust summary, copies of data sheets |
| Acute Toxicity of FC-1015 to the Fathead Minnow, <i>Pimephales promelas</i>                                  | T.R. Wilbury Laboratories, Inc, Marblehead, MA | 5/15/96         | Robust summary, final report          |
| Growth and Reproduction Toxicity Test with FC-1015 and the Freshwater Alga, <i>Selenastrum capricornutum</i> | T.R. Wilbury Laboratories, Inc, Marblehead, MA | 5/15/96         | Robust summary, final report          |
| Acute Toxicity of FC-1015 to the Daphnd, <i>Daphnia magna</i>                                                | T.R. Wilbury Laboratories, Inc, Marblehead, MA | 5/15/96         | Robust summary, final report          |
|                                                                                                              |                                                |                 |                                       |
|                                                                                                              |                                                |                 |                                       |
| <b>Summary Reports</b>                                                                                       |                                                |                 |                                       |
| Title                                                                                                        | Laboratory or Author                           | Completion Date | Type                                  |
| Technical Report Summary - Final Comprehensive Report: FC 143                                                | 3M Env. Lab                                    | 3/23/79         | Robust summary, technical report      |

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## WATER SOLUBILITY

### TEST SUBSTANCE

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**Identity:** Perfluorooctanoic acid, ammonium salt; may also be referred to as PFOA ammonium salt, Ammonium perfluorooctanoate, FC-116, FC-126, FC-169, or FC-143. (Octanoic acid, pentadecafluoro-, ammonium salt, CAS # 3825-26-1)

**Remarks:** The 3M production lot number was 37.  
The test sample is FC-143. It's purity was not sufficiently characterized, though current information indicates it is a mixture of 96.5 - 100% test substance and 0 - 3.5% C<sub>6</sub>, C<sub>7</sub>, and C<sub>9</sub> perfluoro analogue compounds.

### METHOD

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**Method:** Not noted

**GLP (Y/N):** No

**Year (study performed):** 1981

**Remarks field:** Test was done in deionized water, toluene, and acetone.

### RESULTS

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| Solvent  | Concentration    | Description of Solubility |
|----------|------------------|---------------------------|
| Toluene  | 1 gram / 100 mL  | Nil                       |
| Acetone  | 1 gram / 100 mL  | Complete                  |
| DI Water | 1 gram / 100 mL  | Complete                  |
| Acetone  | 10 gram / 100 mL | Complete                  |
| DI Water | 10 gram / 100 mL | Complete                  |
| Acetone  | 10 gram / 10 mL  | Complete                  |
| DI Water | 10 gram / 10 mL  | Complete                  |

**Remarks:** No information is available on the test conditions.

### DATA QUALITY

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**Reliability:** Klimisch ranking = 4. The method followed is not available. This study lacks sufficient documentation, characterization of the test substance purity and analytical measurement of test concentrations.

### REFERENCES

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This study was conducted by the 3M Company, Environmental Laboratory, St Paul, MN, 1981.

**OTHER**

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

**Last changed:** 5/24/00

Same in TDF  
FC-143

File: Page No. \_\_\_\_\_

## ENVIRONMENTAL ENGR. LAB - WORK SHEET

## SAMPLE DESCRIPTION

FC 143 LOT 37  
SOLUBILITY

Date: 11/17/81

Analyst: \_\_\_\_\_

Hrs.: \_\_\_\_\_

SOLUBILITY

IN TOLUENE 1 gram/100 ml

NIL

IN ACETONE 1 gram/100 ml

COMPLETE

IN DI WATER 1 gram/100 ml

COMPLETE

IN ACETONE 10 gram/100 ml (100/1000)

COMPLETE

IN DI WATER 10 gram/100 ml (100/1000)

COMPLETE

IN ACETONE 10 grams/10 ml (1000/1000)

COMPLETE

IN D.I. WATER 10 grams/10 ml (1000/1000)

COMPLETE

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Ref MTE Notebook  
50012

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Date 11/17/81

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Reviewed by: \_\_\_\_\_

## PFOA and Associated Salts

Synonyms: FC-26, FX-1001, PFO, FC-143, 78.03, FC-126, N-2803-3, FX-1003, FC-118, FC-1015, FC-1015-X

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| Water, acetone and toluene solubility estimates - FC-143 | 3M Env. Lab          | 11/17/81       | Robust summary, copy of data sheet |

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| Ready biodegradation of FC-143 (BOD/COD)                                                                                        | 3M Env. Lab                      | 6/5/80           | Robust summary, copies of data sheets.                                      |
| Calculated octanol water partition coefficient - FC-143                                                                         | 3M Env. Lab                      | 12/7/81          | Robust summary, copy of calculations                                        |
| Ready biodegradation of FX-1001 (BOD/COD)                                                                                       | 3M Env. Lab                      | 2/7/85           | Robust summary, computer-generated final report, copies of raw data sheets. |
| Ready biodegradation of FC-126 (BOD/COD)                                                                                        | Pace Analytical, Minneapolis, MN | 5/20/87          | Robust summary, computer-generated final report, copy of final report       |

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## PFOA and Associated Salts

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| Technical Report Summary - Assessment of the Bioaccumulative Properties of Ammonium Perfluorooctanate: Static (fish test) | 3M Env. Lab          | 5/31/95         | Robust summary, technical report, critique by J. Giesy (MSU) |

### Ecotoxicity Elements

| Title                                                                                                                                                                                                                                                                                                      | Laboratory or Author        | Completion Date          | Type                                          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|--------------------------|-----------------------------------------------|
| 96-hour acute static toxicity to fathead minnow - FC-143                                                                                                                                                                                                                                                   | 3M Env. Lab                 | 6/29/74                  | Robust summary, copy of data sheet            |
| 96-hour acute static toxicity to fathead minnow - FC-26                                                                                                                                                                                                                                                    | 3M Env. Lab                 | 11/10/74                 | Robust summary, copy of data sheet.           |
| 96-hour acute static toxicity to bluegill sunfish - FC-143                                                                                                                                                                                                                                                 | 3M Env. Lab                 | 4/8/78                   | Robust summary, copy of data sheet            |
| 96-hour acute static toxicity to bluegill sunfish - FC-143                                                                                                                                                                                                                                                 | 3M Env. Lab                 | 5/27/78                  | Robust summary, copy of data sheet            |
| Two reports : "The Effects of Continuous Aqueous Exposure to 78.03 on Hatchability of Eggs and Growth and survival of Fry of Fathead Minnow ( <u>Pimephales promelas</u> )" and "Summary of Histopathological Examinations of Fathead Minnow ( <u>Pimephales promelas</u> ) Exposed to 78.03 for 30 Days". | EG&G Bionomics, Wareham, MA | June 1978 and Sept. 1978 | Robust summary, copies of two final reports.  |
| Technical Report Summary - Aquatic Toxicity Testing: FC-143 (Lot-37) L.R. 5625 S                                                                                                                                                                                                                           | 3M Env. Lab                 | 5/8/80                   | Robust summary, technical report              |
| Toxicity to activated sludge - FC-143                                                                                                                                                                                                                                                                      | 3M Env. Lab                 | 6/4/80                   | Robust summary, copies of data sheets         |
| Technical Report Summary - Multi-Phase Exposure/Recovery Algal Assay Test method (FC-143)                                                                                                                                                                                                                  | 3M Env. Lab                 | 11/16/81                 | Robust summary, technical report              |
| 48-hour acute static toxicity to <i>Daphnia magna</i> - FC-143 (3 studies on diet)                                                                                                                                                                                                                         | 3M Env. Lab                 | 5/5/82, 5/6/82, 6/2/82   | Robust summary, copies of data sheets         |
| Chronic Toxicity of Fluorochemicals to <u>Daphnia magna</u> (Water Flea) - FC-143, and statistical analysis of data provided by AScl Corp., Duluth, MN                                                                                                                                                     | 3M Env. Lab                 | 8/31/1984, 8/10/98       | Robust summary, summary report, letter report |
| 96-hour acute static toxicity to fathead minnow - FX-1001                                                                                                                                                                                                                                                  | 3M Env. Lab                 | 2/2/85                   | Robust summary, copy of data sheet.           |

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## PFOA and Associated Salts

### Ecotoxicity Elements

| Title                                                                                                        | Laboratory or Author                           | Completion Date | Type                                   |
|--------------------------------------------------------------------------------------------------------------|------------------------------------------------|-----------------|----------------------------------------|
| Activated sludge respiration inhibition (OECD 209) - FC-126                                                  | 3M Env. Lab                                    | 4/20/87         | Robust summary, copy of data sheets.   |
| Microtox test - FC-126                                                                                       | 3M Env. Lab                                    | 4/29/87         | Robust summary, copy of data sheets.   |
| 48-hour acute static toxicity to <i>Daphnia magna</i> - FC-126                                               | 3M Env. Lab                                    | 4/30/87         | Robust summary, copy of data sheets.   |
| 96-hour acute static toxicity to fathead minnow - FC-126                                                     | 3M Env. Lab                                    | 5/1/87          | Robust summary, copy of data sheets.   |
| Activated sludge respiration inhibition (OECD 209) - FX-1003                                                 | 3M Env. Lab                                    | 2/16/90         | Robust summary, copies of data sheets  |
| Microtox test - FX-1003                                                                                      | 3M Env. Lab                                    | 3/7/90          | Robust summary, copies of data sheets  |
| Static Acute Toxicity of FX-1003 to the Fathead Minnow, <i>Pimephales promelas</i>                           | EnviroSystems, Hampton, New Hampshire          | 3/15/90         | Robust summary, final report, protocol |
| Static Acute Toxicity of FX-1003 to the Daphnid, <i>Daphnia magna</i>                                        | EnviroSystems, Hampton, New Hampshire          | 4/9/90          | Robust summary, final report, protocol |
| Growth and Reproduction Toxicity Test with N2803-3 and the Freshwater Alga, <i>Selenastrum capricornutum</i> | T.R. Wilbury Laboratories, Inc, Marblehead, MA | 1/24/96         | Robust summary, final report           |
| Acute Toxicity of N2803-3 to the Fathead Minnow, <i>Pimephales promelas</i>                                  | T.R. Wilbury Laboratories, Inc, Marblehead, MA | 1/24/96         | Robust summary, final report           |
| Acute Toxicity of N2803-3 to the Daphnid, <i>Daphnia magna</i>                                               | T.R. Wilbury Laboratories, Inc, Marblehead, MA | 3/7/96          | Robust summary, final report           |
| Microtox test - FC-143                                                                                       | 3M Env. Lab                                    | 4/24/96         | Robust summary, copies of data sheets  |
| Microtox test - FC-118                                                                                       | 3M Env. Lab                                    | 4/24/96         | Robust summary, copies of data sheets  |
| Microtox test - FC-1015-X                                                                                    | 3M Env. Lab                                    | 4/24/96         | Robust summary, copies of data sheets  |

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## PFOA and Associated Salts

### Ecotoxicity Elements

| Title                                                                                                        | Laboratory or Author                           | Completion Date | Type                                  |
|--------------------------------------------------------------------------------------------------------------|------------------------------------------------|-----------------|---------------------------------------|
| Activated Sludge Respiration Inhibition Test - FC-1015-X                                                     | 3M Env. Lab                                    | 4/25/96         | Robust summary, copies of data sheets |
| Acute Toxicity of FC-1015 to the Fathead Minnow, <i>Pimephales promelas</i>                                  | T.R. Wilbury Laboratories, Inc, Marblehead, MA | 5/15/96         | Robust summary, final report          |
| Growth and Reproduction Toxicity Test with FC-1015 and the Freshwater Alga, <i>Selenastrum capricornutum</i> | T.R. Wilbury Laboratories, Inc, Marblehead, MA | 5/15/96         | Robust summary, final report          |
| Acute Toxicity of FC-1015 to the Daphnid, <i>Daphnia magna</i>                                               | T.R. Wilbury Laboratories, Inc, Marblehead, MA | 5/15/96         | Robust summary, final report          |
|                                                                                                              |                                                |                 |                                       |
|                                                                                                              |                                                |                 |                                       |
| <b>Summary Reports</b>                                                                                       |                                                |                 |                                       |
| Title                                                                                                        | Laboratory or Author                           | Completion Date | Type                                  |
| Technical Report Summary - Final Comprehensive Report: FC 143                                                | 3M Env. Lab                                    | 3/23/79         | Robust summary, technical report      |

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