



# Material Safety Data Sheet

## FC03-N Perfluoroalkyl Ethyl Iodides (Narrow Distribution)

Revised 12-August-2009

### 1. PRODUCT AND COMPANY IDENTIFICATION

#### Material Identification:

**Product name:** FC03-N  
**Chemical name:** Perfluoroalkyl Ethyl Iodides (narrow distribution);  
*1H, 1H, 2H, 2H-Perfluoroalkyl-1-iodide*  
**Chemical formula:**  $F(CF_2CF_2)_nCH_2CH_2I$ ,  $n = 2, 3, 4, \dots$ ; mostly  $n = 4$   
 $C_nH_4F_mI$ ,  $n = 6, 8, 10, 12, \dots$ ,  $m = 2n-3$

#### Company Identification:

**Distributor:** **Fluoryx, Inc.**  
1933 Davis St., Suite 293  
San Leandro, CA 94577  
USA  
**Emergency call:** +86-1346-4812437  
+1-510-329-2811

### 2. COMPOSITION AND INFORMATION ON COMPONENTS

Material	Weight Percent	EINECS #	CAS #
Perfluoroalkyl ethyl iodides (mixture of chain lengths)	> 97 %	NA	68188-12-5

### 3. HAZARDS IDENTIFICATION

#### Emergency Overview:

#### Potential Effects of Exposure:

**Inhalation:** May cause irritation of the upper respiratory passages with coughing and discomfort. Based on related products, inhalation of spray or mist may cause nasal, throat, or lung irritation. Inhalation of large amounts of respirable particles may be toxic to the lungs. Symptoms may be modest initially, followed in hours by severe shortness of breath requiring prompt medical attention.

**Carcinogenicity information:** None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

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**4. FIRST AID MEASURES**

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<b>Inhalation:</b>	If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Call a physician.
<b>Skin Contact:</b>	If contact with skin, flush skin with water. Wash contaminated clothing before reuse.
<b>Eye Contact:</b>	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.
<b>Ingestion:</b>	If swallowed, do not induce vomiting. Immediately give 2 glasses of water. Never give anything by mouth to an unconscious person. Call a physician.
<b>Note to Physicians:</b>	<p>Activated charcoal mixture may be beneficial. Suspend 50 g activated charcoal in 400 mL water and mix well. Administer 5 mL/kg, or 350 mL for an average adult.</p> <p>Because of the danger of aspiration, emesis or gastric lavage should not be employed unless the risk is justified by the presence of additional toxic substances. Activated charcoal may be given but should be used with caution since it may induce vomiting.</p> <p>Steroid therapy in mild to moderate cases does not improve outcome. Bacterial pneumonia often occurs after exposure, but prophylactic antibiotics are not indicated and should be reserved for documented bacterial pneumonia.</p>

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**5. FIRE FIGHTING MEASURES**

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<b>Flammable Properties</b>	
<b>Flash Point:</b>	> 80 °C
<b>Method:</b>	PMCC
<b>Hazardous Products of Combustion May Include:</b>	Carbon dioxide, carbon monoxide, hydrogen fluoride (hydrofluoric acid), and hydrogen iodide (hydroiodic acid). Toxic gases or particles may be formed during combustion. These products may cause severe eye, nose, and throat irritation or toxic effects.
<b>Extinguishing Media:</b>	Water spray, foam, dry chemical, and CO <sub>2</sub> .
<b>Fire Fighting Instructions:</b>	Evacuate personnel to a safe area. Wear self-contained breathing apparatus. Wear full protective equipment. Avoid breathing decomposition products.

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**6. ACCIDENTAL RELEASE MEASURES**

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<b>Personal Protection:</b>	Wear protective equipment including rubber gloves, and eye protection. Evacuate personnel to safe areas.
	NOTE: Review FIRE FIGHTING MEASURES and

HANDLING sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

**Environmental Protection:**

Take precautions to ensure product does not contaminate the ground or enter the drainage system.

**Spill Clean-Up:**

Mix with vermiculite, sawdust, sand, oil dry, or proprietary absorbent material and transfer to sealed containers for disposal.

**7. HANDLING AND STORAGE**

**Safe Handling:**

Avoid breathing vapors or mist. Avoid contact with eyes, skin, or clothing. Wash thoroughly after handling. Avoid circumstances that produce respirable particles unless suitable ventilation and respirator are used.

**Storage:**

Keep container tightly closed. Keep away from open flames and avoid heated surfaces above 200 °C (392 °F).

**8. EXPOSURE CONTROLS AND PERSONAL PROTECTION**

**Exposure Limit Values:**

None listed

**Authorized Limit Values:**

None listed

**Exposure Controls:**

Follow the protective measures given in Section 7. Keep container tightly closed. Vent dryer fumes outside work area. Do not aerosolize. In spray applications, use airless type pressure spray equipment at less than 60 psi and exhaust ducts, drip pans, or other design features to minimize worker exposure to mists and over spray. Respect local, state, and national regulations for aqueous emissions.

**Occupational Exposure Controls**

**Ventilation:**

Use only with adequate ventilation.

**Eye/face protection:**

Wear safety glasses or coverall chemical splash goggles. Wear NIOSH approved respiratory protection.

**Hand protection:**

Wear impervious gloves. Wash hands thoroughly after handling.

**Skin and body protection:**

Wear lightweight protective clothing. Avoid contact with skin and eyes. Wash hands immediately after handling the product.

**Exposure Limits**

**PEL (OSHA):**

None established.

**TLV (ACGIH):**

None established.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Boiling Point</b>	130 – 270 °C @ 760 mm Hg (approximate)
<b>Melting Point</b>	48 – 53 °C
<b>Molecular Weight</b>	~ 630 (average)
<b>pH</b>	Acidic
<b>Form</b>	Solid, waxy
<b>Color</b>	Pale white to light pink. Darkens on exposure to light
<b>Flash Point</b>	> 80 °C
<b>Specific Gravity</b>	1.8 @ 40 °C
<b>Refractive Index</b>	No data
<b>Thickening Point</b>	30 to 50 °C
<b>Solubility in Water</b>	Negligible

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## 10. STABILITY AND REACTIVITY

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<b>Chemical Stability:</b>	Stable
<b>Incompatibility with Other Materials:</b>	None (reasonably foreseeable)
<b>Hazardous Decomposition Products:</b>	Carbon dioxide, carbon monoxide, hydrogen fluoride (hydrofluoric acid), and hydrogen iodide (hydroiodic acid). Toxic gases or particles may be formed during combustion. These products may cause severe eye, nose, and throat irritation or toxic effects.
<b>Conditions to Avoid:</b>	Not determined.
<b>Materials to Avoid:</b>	Not determined.
<b>Hazardous Reactions:</b>	Polymerization will not occur.

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## 11. TOXICOLOGICAL INFORMATION

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### Animal Data

<b>Inhalation ALC:</b>	6 mg/L in rats
<b>Oral LD50:</b>	> 17,000 mg/kg in rats

NOTE: The product is not a skin irritant, is untested for eye irritancy, and is not a skin sensitizer in animals. A single inhalation exposure produced labored respiration, weight loss, salivation, and prostration. A single ingestion exposure produced labored respiration, weight loss and prostration. No animal test reports are available to define carcinogenic, mutagenic, developmental, or reproductive effects.

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## 12. ECOLOGICAL EFFECT

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<b>Ecological:</b>	No data available.
<b>General</b>	Prevent chemicals from entering the ground, water courses, or drainage system.

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## 13. DISPOSAL CONSIDERATIONS

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<b>Waste Treatment:</b>	Storage, transportation, and disposal must be in accordance with applicable federal, state/provincial, and local regulations.
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## 14. TRANSPORTATION INFORMATION

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<b>Mode</b>	DOT/IMDG/IATA
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<b>UN Number</b>	None. Non-hazardous for transport.
<b>Class (Subsidiary)</b>	None. Non-hazardous for transport.
<b>Proper Shipping Name</b>	None. Non-hazardous for transport.
<b>Hazard Label (Subsidiary)</b>	None. Non-hazardous for transport.
<b>Packing Group</b>	None. Non-hazardous for transport.
<b>Shipping Hazard Label</b>	None. Non-hazardous for transport.

**15. REGULATORY INFORMATION**

**U.S. Federal Regulations**

**TSCA Inventory Status:** Reported/Included.

**TITLE III HAZARD CLASSIFICATIONS SECTIONS 311, 312**

<b>Acute</b>	Yes
<b>Chronic</b>	No
<b>Fire</b>	No
<b>Reactivity</b>	No
<b>Pressure</b>	No

**16. OTHER INFORMATION**

**NPCA-HMIS Rating**

<b>Health:</b>	2
<b>Flammability:</b>	0
<b>Reactivity:</b>	0

NOTE: Personal Protection rating to be supplied by user depending on use conditions.

**Legal Disclaimer:**

For R&D use only. Not for drug, household, or other uses. The previous information is based upon our current knowledge and experience of our product and is not exhaustive. It applies to the product as defined by the specifications. In case of combinations or mixtures, one must confirm that no new hazards are likely to exist. In any case, the user is not exempt from observing all legal, administrative and regulatory procedures relating to the product, personal hygiene, and integrity of the work environment. Unless noted to the contrary, the technical information applies only to pure product.

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End of MSDS