



Material Safety Data Sheet

FC05-N Perfluoroalkyl Ethyl Acrylates (Narrow Distribution)

Revised 12-August-2009

1. PRODUCT AND COMPANY IDENTIFICATION

Material Identification

Product name: FC05-N (narrow distribution)
Chemical name: Perfluoroalkyl ethyl acrylates, mixture
1H, 1H, 2H, 2H-Perfluoroalkyl-1-acrylates
Chemical formula: $\text{CH}_2=\text{CHC}(\text{O})\text{OCH}_2\text{CH}_2(\text{CF}_2\text{CF}_2)_n\text{F}$, $n = 3, 4, 5, \dots$;
mostly $n = 4$
 $\text{C}_n\text{H}_7\text{F}_m\text{O}_2$; $n = 9, 11, 13, 15, \dots$; $m = 2n - 9$

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 INGREDIENTS

Components

Material	CAS Number	EINECS	TSCA Listed	Amount
Perfluoroalkylethyl acrylates	65605-70-1	NA	NA	85 – 95 %
2,6-Di- <i>tert</i> -butyl-4-methylphenol	128-37-0	204-881-4	Yes	30 ppm

3. HAZARDS IDENTIFICATION

Potential Health Effects

Skin contact: May cause irritation.
Eye contact: May cause irritation.
Inhalation of spray or mist: May cause nasal, throat, or lung irritation.
Inhalation of large amounts: 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.

4. FIRST AID MEASURES

Inhalation:	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.
Skin Contact:	Flush skin with water after contact. Wash contaminated clothing before reuse.
Eye Contact:	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.
Ingestion:	If swallowed, do not induce vomiting. Immediately give 2 glasses of water. Never give anything by mouth to an unconscious person. Call a physician.
Note to Physicians:	Activated charcoal mixture may be administered. To prepare activated charcoal mixture, suspend 50 grams activated charcoal in 400 mL water and mix thoroughly. Administer 5 mL/kg, or 350 mL for an average adult.

5. FIRE FIGHTING MEASURES

Flammable Properties

Flash point:	> 110 °C (> 230 °F)
Method:	PMCC

Hazardous Decomposition Products: Hazardous decomposition products include carbon dioxide, carbon monoxide, and hydrogen fluoride. Toxic gases or particles may be formed during combustion. These products may cause severe eye, nose, throat, and lung irritation or toxic effects.

Extinguishing Media: Water spray, foam, dry chemical, CO₂.

Fire Fighting Instructions: Evacuate personnel to a safe area. Keep personnel removed and upwind of fire. Wear self-contained breathing apparatus. Wear full protective equipment. Avoid breathing decomposition products.

6. ACCIDENTAL RELEASE MEASURES

Safeguards (Personnel)

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (Personnel) sections before proceeding with clean-up. Use appropriate personal protective equipment during clean-up.

Spill clean up: Soak up with sawdust, sand, oil dry or other absorbent material. Shovel or sweep up.

7. HANDLING AND STORAGE

Handling Requirements: Avoid breathing vapors or mist.
Avoid contact with eyes, skin, or clothing.

Wash thoroughly after handling.

Do not store or consume food, drink, or tobacco in areas where they may become contaminated with this material.

Avoid circumstances that produce respirable particles unless suitable ventilation and respirator are used.

Storage conditions:

Keep container and store in a cool place.
Keep container tightly closed.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering Controls:

Keep container tightly closed. Use only with adequate ventilation. Vent heated extruder or 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 overspray.

Personal Protective Equipment

Eye/face protection:

Wear safety glasses or cover-all chemical splash goggles.

Respirators:

Where there is potential for airborne exposures wear NIOSH approved respiratory protection.

Protective clothing:

Where there is potential for skin contact have available and wear as appropriate impervious gloves, apron, pants, and jacket.

Exposure Guidelines

PEL (OSHA):

None established.

TLV (ACGIH):

None established.

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point	100 to 220 °C (212 to 428 °F) @ 10 mm Hg Approx.
Melting Point	-1 to 25 °C
Flash Point	> 110 °C
pH	3 to 5 @ 20 °C
Density	1.6 g/mL @ 25 °C
Odor	Mild acrylic
Form	Semi-solid
Color	Pale to medium yellow
Refractive Index	$n_D^{25} = 1.3332$
Solubility in Water	Negligible

10. STABILITY AND REACTIVITY

Chemical Stability:

Stable at normal temperatures and storage conditions. Air inhibits polymerization.

Incompatible with peroxides and free radical

sources.

Decomposition:

Decomposes with heat. Hazardous decomposition products include carbon dioxide, carbon monoxide, and hydrogen fluoride. Toxic gases or particles may be formed during combustion. These products may cause severe eye, nose, throat, and lung irritation or toxic effects.

Polymerization:

Polymerization can occur. Conditions leading to polymerization are free radical sources, heat, and UV light.

11. ECOLOGICAL INFORMATION

No data available.

General:

Take care to prevent chemicals from entering the ground, water courses or drainage systems.

12. DISPOSAL CONSIDERATIONS

Disposal Operations:

Material should be disposed of in accordance with local, state and federal regulations.

Disposal of Packaging:

Dispose of as special waste in compliance with local and national regulations. Observe all federal, state and local environmental regulations.

The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

13. TRANSPORTATION INFORMATION

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

14. REGULATORY INFORMATION

U.S. Federal Regulations	TITLE III HAZARD CLASSIFICATIONS SECTIONS 311, 312
Acute :	Yes
Chronic :	No
Fire :	No
Reactivity :	No
Pressure :	No
Incompliance with TSCA Inventory requirements.	

15. OTHER INFORMATION

Personal Protection rating:

To be supplied by user depending on use conditions.

NPCA-HMIS Rating:

Health: 2

Flammability: 1

Reactivity: 1

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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