

FC13-54-11mec-f

1H,1H,2'H-Perfluorodipropyl Ether

Revised 17-October-2023

1. PRODUCT AND COMPANY IDENTIFICATION

Material Identification

Catalog number: FC13-54-11mec-f
Chemical name: 1H,1H,2'H-Perfluorodipropyl ether
CAS number: 1000-28-8

Use of the Substance

Laboratory chemicals
 Manufacture of substances
 Scientific research and development

Company Identification

Distributor: Fluoryx Labs
 3650 Research Way, #22
 Carson City, NV 89706
 USA

Emergency call (VelocityEHS): +01-813-248-0585 (International)
 +1-800-255-3924 (USA)

2. HAZARDS IDENTIFICATION

Emergency Overview:

GHS Classification Specific Target Organ Toxicity - Single Exposure (Narcotic Effects) Category 3
 Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3
 Skin Corrosion/Irritation Category 2,
 Serious Eye Damage/Eye Irritation Category 2

GHS Label elements, including precautionary statements

Pictogram
Signal word



Warning

Hazard statement(s)

H336 May cause drowsiness or dizziness
 H335 May cause respiratory irritation
 H315 Causes skin irritation
 H319 Causes serious eye irritation

Precautionary statement(s)

P261 Avoid breathing fumes, mist, spray, vapors
 P264 Wash skin thoroughly after handling
 P271 Use only outdoors or in a well-ventilated area

P280	Wear protective gloves/protective clothing/eye protection/face protection P302+P352 - If on skin: Wash with plenty of soap and water
P302+P352 P304+P340	IF ON SKIN: Wash with plenty of water. If inhaled: Remove person to fresh air and keep comfortable for breathing P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312	Call a POISON CENTER or doctor/physician if you feel unwell
P332+P313 P337+P313	If skin irritation occurs: Get medical advice/attention If eye irritation persists: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P405 P403+P233	Store locked up. Store in a well-ventilated place. Keep container tightly closed.

3. COMPOSITION AND INFORMATION ON COMPONENTS

Synonyms	HFE-13-54-11mec-f; 1,1,1,2,3,3-hexafluoro-3-(2,2,3,3,3-pentafluoropropoxy)propane
Chemical Formula:	C ₆ H ₃ F ₁₁ O
Molecular Weight	300.00 g/mol

Material	CAS #	%	Classification (GHS-US)
1H,1H,2'H-Perfluorodipropyl ether	1000-28-8	≤100%	Specific Target Organ Toxicity - Single Exposure (Narcotic Effects) Category 3, Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3 , Skin Corrosion/Irritation Category 2, Serious Eye Damage/Eye Irritation Category 2; H336, H335, H315, H319

Full text of abbreviations: see section 16

4. FIRST AID MEASURES

If Inhaled	If fumes, aerosols or combustion products are inhaled remove from contaminated area. Other measures are usually unnecessary.
In Case of Eye Contact	If this product comes in contact with the eyes: Wash out immediately with fresh running water. Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. Seek medical attention without delay; if pain persists or recurs seek medical attention. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
In Case of Skin Contact	If skin or hair contact occurs: Flush skin and hair with running water (and soap if available). Seek medical attention in event of irritation.

If Swallowed Immediately give a glass of water. First aid is not generally required. If in doubt, contact a Poison Information Center or a doctor.

5. FIRE FIGHTING MEASURES

Extinguishing Media: There is no restriction on the type of extinguisher which may be used. Use extinguishing media suitable for surrounding area.

Special protective equipment for firefighters: Wear self-contained breathing apparatus and protective clothing.

Hazardous Combustion Products: Carbon oxides, 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.

Fire Fighting Instructions: Evacuate personnel to a safe area. Wear self-contained breathing apparatus. Avoid breathing decomposition products.

Further Information: Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Vapors can accumulate in low areas.

Environmental precautions Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods for cleaning up Absorb into dry earth, sand, or other suitable absorbant material. Transfer to a closable, labeled salvage container for disposal by an appropriate method.

7. HANDLING AND STORAGE

Precautions for safe handling Avoid all personal contact, including inhalation. Wear protective clothing when risk of exposure occurs.
 Use in a well-ventilated area.
 Avoid contact with moisture.
 Avoid contact with incompatible materials.
 When handling, DO NOT eat, drink or smoke.
 Keep containers securely sealed when not in use.
 Avoid physical damage to containers.
 Always wash hands with soap and water after handling.
 Work clothes should be laundered separately.
 Launder contaminated clothing before re-use.
 Use good occupational work practice.
 Observe manufacturer's storage and handling recommendations contained within this SDS.
 Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

Conditions for safe storage Keep container tightly closed in a dry and well-ventilated place.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Occupational Exposure Banding

Ingredient Occupational Exposure Band Rating 1H,1H,2'H-Perfluorodipropyl ether

Occupational Exposure Band Limit: $E \leq 0.1$ ppm

Notes: Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection

Impervious clothing, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	Liquid, clear
Color	Colorless

Safety Data

pH	No data available
Melting Point/Freezing Point	No data available
Boiling Point	87.5 °C @ 760 mm Hg
Flash Point	No data available
Ignition Temperature	No data available
Auto-ignition Temperature	No data available
Lower Explosion Limit	No data available
Upper Explosion Limit	No data available
Thermal Decomposition Temperature	No data available
Vapor Pressure	No data available
Density	1.5844 @ 20 °C
Water Solubility	Negligible
Partition Coefficient (<i>n</i> -octanol/water)	No data available
Relative Vapor Density (Air = 1)	> 1
Odor	No data available
Odor Threshold	No data available
Evaporation Rate	No data available
Refractive index	1.2751
Viscosity	No data available

10. STABILITY AND REACTIVITY

Chemical Stability:	Stable at normal temperatures and storage conditions.
Possibility of Hazardous Reactions:	No data available
Conditions to Avoid:	Flames and extremes of temperature.
Materials to Avoid:	Strong oxidizing agents. Strong acids and bases.
Hazardous Decomposition Products:	May evolve carbon dioxide, carbon monoxide, hydrogen fluoride, and fluorophosgene.
Hazardous Polymerization:	Will not occur.
Other Information:	The vapor is heavier than air and disperses at ground level and displaces oxygen.

11. TOXICOLOGICAL INFORMATION

Acute toxicity	
Oral LD50	No data available
Inhalation LC50	No data available
Dermal LD50	No data available
Other information on acute toxicity	No data available
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2, Serious Eye Damage/Eye Irritation

Respiratory or skin sensitization	No data available
Germ cell mutagenicity	No data available
Carcinogenicity	
IARC:	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH:	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP:	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA:	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
Reproductive toxicity	No data available
Teratogenicity	No data available
Specific target organ toxicity - single exposure (Globally Harmonized System)	Inhalation - May cause respiratory irritation.
Specific target organ toxicity - repeated exposure (Globally Harmonized System)	No data available
Aspiration hazard	No data available
Signs and Symptoms of Exposure	Narcotic effects. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
Synergistic effects	No data available
Additional Information RTECS	Not available

12. ECOLOGICAL INFORMATION

Toxicity	No data available
Persistence and Degradability	No data available
Bioaccumulative Potential	No data available
Mobility in Soil	No data available
PBT and vPvB Assessment	No data available
Other Adverse Effects	No data available

13. DISPOSAL CONSIDERATIONS

Product	This material may be burned in a chemical incinerator equipped with an afterburner and HF scrubber. Offer non-recyclable solutions to a licensed disposal company. Offer unused product to Fluoryx. Contact a licensed professional waste disposal service to dispose of this material.
Contaminated Packaging	Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)	Not dangerous goods
IMDG	Not dangerous goods
IATA	Not dangerous goods

15. REGULATORY INFORMATION

OSHA Hazards	None
SARA 302 Components	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA 313 Components	This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.
SARA 311/312 Hazards	None
Massachusetts Right To Know Components	No components are subject to the Massachusetts Right to Know Act.
Pennsylvania Right To Know Components	No components are subject to the Pennsylvania Right to Know Act.
New Jersey Right To Know Components	No components are subject to the New Jersey Right to Know Act.
California Prop. 65 Components	This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.
National Regulations (US) TSCA Inventory 8(b):	Not listed.
Canadian DSL	Not listed.

16. OTHER INFORMATION

HMIS Classification	
Health hazard :	3
Flammability :	0
Physical hazards :	0
NFPA Rating	
Health hazard :	2
Fire :	0
Reactivity hazard :	0
Other information:	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 SDS