

FC23-PSEPVE

Perfluoro(4-methyl-3,6-dioxaoct-7-ene)sulfonyl Fluoride

Revised 19-October-2021

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

| | |
|----------------|---|
| Product name | Perfluoro(4-methyl-3,6-dioxaoct-7-ene)sulfonyl fluoride |
| Catalog number | FC23-PSEPVE |
| Brand | Fluoryx Labs |
| CAS number | 16090-14-5 |

Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

| | |
|-----------------|--|
| Identified uses | Laboratory chemicals. Analytical standard. |
|-----------------|--|

Details of the Supplier of the Safety Data Sheet

| | |
|---------|---|
| Company | Fluoryx Labs 3650 Research Way, #22 Carson City, NV 89706 USA +1 (510) 329-9149 (Telephone) +1 (510) 686-8799 (Fax) www.fluoryx.com |
|---------|---|

Emergency Call (ChemTel)

| |
|----------------------------------|
| +01-813-248-0585 (International) |
| +1-800-255-3924 (USA) |

2. HAZARDS IDENTIFICATION

Classification of the Substance or Mixture

GHS classification in accordance with 29 CFR 1910 (OSHA HCS)
 Skin Irrit.2
 Eye Irrit. 2A
 STOT SE 3

GHS Label Elements, Including Precautionary Statements

Pictogram:



Signal Word:

Warning

Hazard statements

H315- Causes skin irritation
 H319 - Causes serious eye irritation
 H335 - May cause respiratory irritation

Precautionary statements

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
 P304+P340 - 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
 P312 - Call a POISON CENTER or doctor/physician if you feel unwell
 P332+P313 - P337+P313 - P362+P364 - If skin irritation occurs: Get medical advice/attention
 If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash it before reuse
 P403+P233 - Store in a well-ventilated place. Keep container tightly closed
 P501 - Dispose of contents/container to an approved waste disposal plant

Hazards Not Otherwise Classified (HNOC) or Not Covered by GHS

None

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Synonyms

PSEPVE;
 Perfluoro(4-methyl-3,6-dioxaoct-7-ene)-sulfonyl fluoride;
 1,1,2,2-tetrafluoro-2-[1,1,1,2,3,3-hexafluoro-3-(1,2,2-trifluoroethenoxy)propan-2-yl]oxyethanesulfonyl fluoride;
 1,1,2,2-Tetrafluoro-2-((1,1,1,2,3,3-hexafluoro-3-((1,2,2-trifluorovinyl)oxy)propan-2-yl)oxy)ethane-1-sulfonyl fluoride;
 Ethanesulfonyl fluoride, 2-(1-(difluoro((trifluoroethenyl)oxy)methyl)-1,2,2,2-tetrafluoroethoxy)-1,1,2,2-tetrafluoro-;
 Perfluoro-4-methyl-3,6-dioxaoct-7-enesulfonyl fluoride

Formula C₇F₁₄O₄S
Molecular Weight 446.12 g/mol
CAS Number 16090-14-5
EC Number 240-249-4

Hazardous Components

| Component | Classification | Concentration |
|---|---|---------------|
| Perfluoro(4-methyl-3,6-dioxaoct-7-ene)sulfonyl fluoride | Skin irritation (Category 2); Eye irritation (Category 2A); Specific target organ toxicity (single exposure) (Category 3) | ≤100% |

4. FOR THE FULL TEXT OF THE H-STATEMENTS MENTIONED IN THIS SECTION, SEE SECTION 16.FIRST AID MEASURES

Description of First Aid Measures

General advice In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Move the affected personnel away from the contaminated area.

If inhaled Remove person to fresh air and keep comfortable for breathing. If not breathing, give artificial respiration. Get immediate medical advice/attention.

In case of skin contact Wash with plenty of soap and water. Remove contaminated clothing and shoes. In case of skin contact, wearing rubber gloves rub 2.5% calcium gluconate gel continuously into the affected area for 1.5 hours or until further medical care is available. Get immediate medical advice/attention.

| | |
|-------------------------------|---|
| In case of eye contact | Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention. |
| If swallowed | Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth out with water. Get immediate medical advice/attention. |

Most Important Symptoms and Effects, Both Acute and Delayed

Symptoms/injuries : The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

Symptoms/injuries after inhalation : Material is destructive to tissue of the mucuous membranes and upper respiratory tract. Cough, shortness of breath, headache, nausea.

Indications of Any Immediate Medical Attention Treat symptomatically. Absorption of excessive F- can result in acute systemic fluorosis with hypocalcemia, interference with various metabolic functions and organ damage (heart, liver, kidneys).

5. FIREFIGHTING MEASURES

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| Suitable Extinguishing Media | Alcohol resistant foam. Carbon dioxide. Dry powder. Water spray. Use extinguishing media appropriate for surrounding fire. |
| Special Hazards Arising from the Substance | Hazardous decomposition products formed under fire conditions - carbon oxides, hydrogen fluoride, acid fluorides, and sulfur oxides. |
| Advice for Firefighters | Wear gas tight chemically protective clothing in combination with self contained breathing apparatus. For further information refer to section 8: "Exposure controls/personal protection". |
| Further Information | No data available. |

6. ACCIDENTAL RELEASE MEASURES

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|------------------------------------|---|
| General Measures | Evacuate unnecessary personnel. Ensure adequate air ventilation. Do not breathe gas, fumes, vapor or spray. Gas/vapor heavier than air. May accumulate in confined spaces, particularly at or below ground level. |
| Personal Precautions | Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. For personal protection see section 8. |
| Environmental Precautions | Do not let product enter drains. |
| Methods for Cleaning Up | Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal. |
| Reference to other sections | For disposal see section 13. |

7. HANDLING AND STORAGE

| | |
|--------------------------------------|---|
| Precautions for Safe Handling | Do not handle until all safety precautions have been read and understood. Ensure good ventilation of the work station. Do not breathe fumes, mist, spray, vapors. Wear personal protective equipment. Avoid contact with skin and eyes. Keep away from open flames and heated surfaces above 180 °C (356 °F). |
|--------------------------------------|---|

Conditions for Safe Storage

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Moisture sensitive. Keep contents under inert gas.

Specific End Use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Components with Workplace Control Parameters

Contains no substances with occupational exposure limit values.

Engineering Controls

Ensure good ventilation of the work station. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Personal Protective Equipment**Eye/face protection**

Chemical goggles or safety glasses. Face shield. 29 CFR 1910.133: Eye and Face Protection.

Skin 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.

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.

Respiratory protection

In case of inadequate ventilation wear respiratory protection. 29 CFR 1910.134: Respiratory Protection.

Control of Environmental Exposure

Do not let product enter drains.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form

Clear liquid

Color

Colorless

Safety Data

pH

No data available

Melting point/freezing point

No data available

Boiling point

135 °C at 760 mm Hg

Flash point

Not flammable

Ignition temperature

No data available

Auto-ignition temperature

No data available

Lower explosion limit

Not an explosion hazard

Upper explosion limit

Not an explosion hazard

Thermal decomposition temperature

No data available

Vapor pressure

1.5 mm Hg (@ 37.8 °C)

Density

1.7 g/mL

| | |
|--|-------------------|
| Water solubility | Insoluble |
| Partition coefficient (<i>n</i> -octanol/water) | No data available |
| Relative vapor density (air = 1) | No data available |
| Odor | No data available |
| Odor threshold | No data available |
| Evaporation rate | No data available |
| Oxidizing properties | Non-oxidizing |

10. STABILITY AND REACTIVITY

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|---|---|
| Reactivity | No data available |
| Chemical Stability | Stable in sealed containers. |
| Possibility of Hazardous Reactions | No data available. |
| Conditions to Avoid | Keep away from open flames and heated surfaces above 180 °C (356 °F). |
| Incompatible Materials | Acids. Glass. Strong bases. Strong oxidizing agents. Water. |
| Hazardous Decomposition Products | Decomposition temperature 180 - 200 °C. Hazardous decomposition products formed under fire conditions - carbon oxides, sodium oxides, acid fluorides, and hydrogen fluoride. |

11. TOXICOLOGICAL INFORMATION

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|--|---|
| 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 | Causes skin irritation |
| Serious Eye Damage/Eye Irritation | Causes serious eye irritation |
| Respiratory or Skin Sensitization | May cause respiratory irritation |
| 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 |
| Specific Target Organ Toxicity (Globally Harmonized System) | |
| Single exposure | No data available |

| | |
|---------------------------------------|---|
| Repeated exposure | No data available |
| Aspiration Hazard | No data available |
| Signs and Symptoms of Exposure | 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: none |

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

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| Product | Offer non-recyclable solutions to a licensed disposal company or contact Fluoryx to return unused product. Remove to an authorized incinerator equipped with an afterburner and a flue gas scrubber. |
| Contaminated Packaging | Dispose of as unused product. |

14. TRANSPORTATION INFORMATION

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

15. REGULATORY INFORMATION

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|---|---|
| TSCA Status | Listed on the inventory. |
| DSL Status | This substance is on the NDSL. |
| IECSC | Listed on the Inventory of Existing Chemical Substances Produced or Imported in China |
| ISHL | Listed on the Japanese Industrial Safety and Health Law |
| 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 | No SARA hazards. |
| 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.

16. OTHER INFORMATION

Full text of H-phrases:

- Eye Irrit. 2A Serious eye damage/eye irritation Category 2A
- Skin Irrit. 2 Skin corrosion/irritation Category 2
- STOT SE 3 Specific target organ toxicity (single exposure) Category 3
- H315 Causes skin irritation
- H319 Causes serious eye irritation
- H335 May cause respiratory irritation

HMS Rating

- Health hazard 2
- Flammability 0
- Physical hazards 0

NFPA Rating

- Health hazard 3
- Fire 0
- Reactivity hazard 0

Further Information

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