

## SAFETY DATA SHEET

Revision Date 18-Feb-2020

Revision Number 3

### 1. Identification

**Product Name** Perfluoro-2,5,8-trimethyl-3,6,9-trioxadodecanoyl fluoride

**Cat No. :** L16614

**CAS-No** 27639-98-1

**Synonyms** No information available

**Recommended Use** Laboratory chemicals.

**Uses advised against** Food, drug, pesticide or biocidal product use.

**Details of the supplier of the safety data sheet**

**Company**

Alfa Aesar  
Thermo Fisher Scientific Chemicals, Inc.  
30 Bond Street  
Ward Hill, MA 01835-8099  
Tel: 800-343-0660  
Fax: 800-322-4757  
**Email:** tech@alfa.com  
www.alfa.com

**Emergency Telephone Number**

During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660.  
After normal business hours, call Carechem 24 at (866) 928-0789.

### 2. Hazard(s) identification

**Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

|                                                  |              |
|--------------------------------------------------|--------------|
| Skin Corrosion/Irritation                        | Category 1 B |
| Serious Eye Damage/Eye Irritation                | Category 1   |
| Specific target organ toxicity (single exposure) | Category 3   |
| Target Organs - Respiratory system.              |              |

**Label Elements**

**Signal Word**

Danger

**Hazard Statements**

Causes severe skin burns and eye damage  
May cause respiratory irritation



## Precautionary Statements

### Prevention

Do not breathe dust/fume/gas/mist/vapors/spray  
Wash face, hands and any exposed skin thoroughly after handling  
Wear protective gloves/protective clothing/eye protection/face protection  
Use only outdoors or in a well-ventilated area

### Response

Immediately call a POISON CENTER or doctor/physician

### Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

### Skin

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower  
Wash contaminated clothing before reuse

### Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

### Ingestion

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

### Storage

Store locked up  
Store in a well-ventilated place. Keep container tightly closed

### Disposal

Dispose of contents/container to an approved waste disposal plant

### Hazards not otherwise classified (HNOC)

None identified

## 3. Composition/Information on Ingredients

| Component                                                                                                                                      | CAS-No     | Weight % |
|------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------|
| Propanoyl fluoride,<br>2,3,3,3-tetrafluoro-2-[1,1,2,3,3,3-hexafluoro-2-[1,1,2<br>,3,3,3-hexafluoro-2-(heptafluoropropoxy)propoxy]pr<br>opoxy]- | 27639-98-1 | <=100    |

## 4. First-aid measures

### General Advice

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

### Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.

### Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Call a physician immediately.

### Inhalation

If not breathing, give artificial respiration. Remove from exposure, lie down. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory

|                                            |                                                                                                                                                                                                                                                                                                 |
|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                            | medical device. Call a physician immediately.                                                                                                                                                                                                                                                   |
| <b>Ingestion</b>                           | Do NOT induce vomiting. Clean mouth with water. Never give anything by mouth to an unconscious person. Call a physician immediately.                                                                                                                                                            |
| <b>Most important symptoms and effects</b> | Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation |
| <b>Notes to Physician</b>                  | Treat symptomatically                                                                                                                                                                                                                                                                           |

## 5. Fire-fighting measures

|                                         |                                                                                                                                                                                                                                        |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Suitable Extinguishing Media</b>     | Carbon dioxide (CO <sub>2</sub> ). Powder. Water spray. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion. CO <sub>2</sub> , dry chemical, dry sand, alcohol-resistant foam. |
| <b>Unsuitable Extinguishing Media</b>   | No information available                                                                                                                                                                                                               |
| <b>Flash Point</b>                      | No information available                                                                                                                                                                                                               |
| <b>Method -</b>                         | No information available                                                                                                                                                                                                               |
| <b>Autoignition Temperature</b>         | No information available                                                                                                                                                                                                               |
| <b>Explosion Limits</b>                 |                                                                                                                                                                                                                                        |
| <b>Upper</b>                            | No data available                                                                                                                                                                                                                      |
| <b>Lower</b>                            | No data available                                                                                                                                                                                                                      |
| <b>Sensitivity to Mechanical Impact</b> | No information available                                                                                                                                                                                                               |
| <b>Sensitivity to Static Discharge</b>  | No information available                                                                                                                                                                                                               |

### Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors. The product causes burns of eyes, skin and mucous membranes.

### Hazardous Combustion Products

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Hydrogen fluoride.

### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

### NFPA

|               |                     |                    |                         |
|---------------|---------------------|--------------------|-------------------------|
| <b>Health</b> | <b>Flammability</b> | <b>Instability</b> | <b>Physical hazards</b> |
| 3             | 1                   | 0                  | -                       |

## 6. Accidental release measures

|                                  |                                                                                                                                                               |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Personal Precautions</b>      | Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. |
| <b>Environmental Precautions</b> | Should not be released into the environment. See Section 12 for additional Ecological Information.                                                            |

**Methods for Containment and Clean Up** Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

## 7. Handling and storage

|                 |                                                                                                                                                                                                                                                 |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Handling</b> | Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe the mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance. |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Storage** Corrosives area. Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. Exposure controls / personal protection

**Exposure Guidelines** This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**Engineering Measures** None under normal use conditions. Ensure that eyewash stations and safety showers are close to the workstation location.

### Personal Protective Equipment

**Eye/face Protection** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin and body protection** Wear appropriate protective gloves and clothing to prevent skin exposure.

**Respiratory Protection** No protective equipment is needed under normal use conditions.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

|                                        |                                                |
|----------------------------------------|------------------------------------------------|
| Physical State                         | Liquid                                         |
| Appearance                             | Colorless                                      |
| Odor                                   | No information available                       |
| Odor Threshold                         | No information available                       |
| pH                                     | No information available                       |
| Melting Point/Range                    | No data available                              |
| Boiling Point/Range                    | 158 - 161 °C / 316.4 - 321.8 °F                |
| Flash Point                            | No information available                       |
| Evaporation Rate                       | No information available                       |
| Flammability (solid,gas)               | Not applicable                                 |
| Flammability or explosive limits       |                                                |
| Upper                                  | No data available                              |
| Lower                                  | No data available                              |
| Vapor Pressure                         | No information available                       |
| Vapor Density                          | No information available                       |
| Specific Gravity                       | 1.8 g/cm <sup>3</sup>                          |
| Solubility                             | No information available                       |
| Partition coefficient; n-octanol/water | No data available                              |
| Autoignition Temperature               | No information available                       |
| Decomposition Temperature              | No information available                       |
| Viscosity                              | No information available                       |
| Molecular Formula                      | C <sub>12</sub> F <sub>24</sub> O <sub>4</sub> |
| Molecular Weight                       | 664.09                                         |

## 10. Stability and reactivity

**Reactive Hazard** None known, based on information available

**Stability** Moisture sensitive.

**Conditions to Avoid** Incompatible products.

**Incompatible Materials** Strong bases, Oxidizing agent

**Hazardous Decomposition Products** Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Hydrogen fluoride

**Hazardous Polymerization** Hazardous polymerization does not occur.

**Hazardous Reactions** None under normal processing.

## 11. Toxicological information

### Acute Toxicity

#### Product Information

#### Component Information

**Toxicologically Synergistic Products** No information available

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Irritation** No information available

**Sensitization** No information available

**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Component                                                                                                                                              | CAS-No     | IARC       | NTP        | ACGIH      | OSHA       | Mexico     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------|------------|------------|------------|------------|
| Propanoyl fluoride,<br>2,3,3,3-tetrafluoro-2-[1,<br>1,2,3,3,3-hexafluoro-2-<br>[1,1,2,3,3,3-hexafluoro<br>-2-(heptafluoropropoxy<br>)propoxy]propoxy]- | 27639-98-1 | Not listed | Not listed | Not listed | Not listed | Not listed |

**Mutagenic Effects** No information available

**Reproductive Effects** No information available.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

**STOT - single exposure** Respiratory system

**STOT - repeated exposure** None known

**Aspiration hazard** No information available

**Symptoms / effects, both acute and delayed** Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

**Endocrine Disruptor Information** No information available

**Other Adverse Effects** The toxicological properties have not been fully investigated.

## 12. Ecological information

### Ecotoxicity

Do not empty into drains.

**Persistence and Degradability** No information available

**Bioaccumulation/ Accumulation** No information available.

**Mobility** No information available.

### 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

### 14. Transport information

#### DOT

**UN-No** UN3265  
**Proper Shipping Name** Corrosive liquid, acidic, organic, n.o.s.  
**Technical Name** (Perfluoro-2,5,8-trimethyl-3,6,9-trioxadodecanoyl fluoride)  
**Hazard Class** 8  
**Packing Group** II

#### TDG

**UN-No** UN3265  
**Proper Shipping Name** Corrosive liquid, acidic, organic, n.o.s.  
**Hazard Class** 8  
**Packing Group** II

#### IATA

**UN-No** UN3265  
**Proper Shipping Name** Corrosive liquid, acidic, organic, n.o.s.  
**Hazard Class** 8  
**Packing Group** II

#### IMDG/IMO

**UN-No** UN3265  
**Proper Shipping Name** Corrosive liquid, acidic, organic, n.o.s.  
**Hazard Class** 8  
**Packing Group** II

### 15. Regulatory information

#### United States of America Inventory

| Component                                                                                                                           | CAS-No     | TSCA | TSCA Inventory notification - Active/Inactive | TSCA - EPA Regulatory Flags |
|-------------------------------------------------------------------------------------------------------------------------------------|------------|------|-----------------------------------------------|-----------------------------|
| Propanoyl fluoride, 2,3,3,3-tetrafluoro-2-[1,1,2,3,3,3-hexafluoro-2-[1,1,2,3,3,3-hexafluoro-2-(heptafluoropropoxy)propoxy]propoxy]- | 27639-98-1 | X    | INACTIVE                                      | -                           |

#### Legend:

**TSCA** - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

**TSCA 12(b)** - Notices of Export Not applicable

#### International Inventories

Canada (DSL/NDL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Australia (AICS), China (IECSC), Korea (ECL).

| Component                                                                                                                           | CAS-No     | DSL | NDL | EINECS | PICCS | ENCS | AICS | IECSC | KECL |
|-------------------------------------------------------------------------------------------------------------------------------------|------------|-----|-----|--------|-------|------|------|-------|------|
| Propanoyl fluoride, 2,3,3,3-tetrafluoro-2-[1,1,2,3,3,3-hexafluoro-2-[1,1,2,3,3,3-hexafluoro-2-(heptafluoropropoxy)propoxy]propoxy]- | 27639-98-1 | -   | X   | -      | -     | -    | -    | -     | -    |

### U.S. Federal Regulations

|                                                             |                                                             |
|-------------------------------------------------------------|-------------------------------------------------------------|
| <b>SARA 313</b>                                             | Not applicable                                              |
| <b>SARA 311/312 Hazard Categories</b>                       | See section 2 for more information                          |
| <b>CWA (Clean Water Act)</b>                                | Not applicable                                              |
| <b>Clean Air Act</b>                                        | Not applicable                                              |
| <b>OSHA - Occupational Safety and Health Administration</b> | Not applicable                                              |
| <b>CERCLA</b>                                               | Not applicable                                              |
| <b>California Proposition 65</b>                            | This product does not contain any Proposition 65 chemicals. |
| <b>U.S. State Right-to-Know Regulations</b>                 | Not applicable                                              |
| <b>U.S. Department of Transportation</b>                    |                                                             |
| Reportable Quantity (RQ):                                   | N                                                           |
| DOT Marine Pollutant                                        | N                                                           |
| DOT Severe Marine Pollutant                                 | N                                                           |
| <b>U.S. Department of Homeland Security</b>                 | This product does not contain any DHS chemicals.            |

### Other International Regulations

|                       |                          |
|-----------------------|--------------------------|
| <b>Mexico - Grade</b> | No information available |
|-----------------------|--------------------------|

## 16. Other information

|                         |                                                                                     |
|-------------------------|-------------------------------------------------------------------------------------|
| <b>Prepared By</b>      | Health, Safety and Environmental Department<br>Email: tech@alfa.com<br>www.alfa.com |
| <b>Revision Date</b>    | 18-Feb-2020                                                                         |
| <b>Print Date</b>       | 18-Feb-2020                                                                         |
| <b>Revision Summary</b> | SDS authoring systems update, replaces ChemGes SDS No. 27639-98-1.                  |

### **Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of SDS**