1-Octanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro- (cas 1763-23-1) MSDS

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifiers

Product name: Heptadecafluorooctanesulfonic acid solution

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Laboratory chemicals, Manufacture of substances

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]
Flammable liquids (Category 2)
Acute toxicity, Oral (Category 3)
Acute toxicity, Inhalation (Category 3)
Acute toxicity, Dermal (Category 3)
Specific target organ toxicity - single exposure (Category 1)

Classification according to EU Directives 67/548/EEC or 1999/45/EC
Highly flammable. Toxic by inhalation, in contact with skin and if swallowed. Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008 [CLP]

Pictogram

Signal word Danger

Hazard statement(s)

H225 Highly flammable liquid and vapour.
H301 Toxic if swallowed.
H311 Toxic in contact with skin.
H331 Toxic if inhaled.
H370 Causes damage to organs.

Precautionary statement(s)

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P280 Wear protective gloves/ protective clothing.
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
P311 Call a POISON CENTER or doctor/ physician.

Supplemental Hazard Statements none


Hazard symbol(s)

R-phrase(s)

R11 Highly flammable.
R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
R39/23/24/25 Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

S-phrase(s)
S7 Keep container tightly closed.
S16 Keep away from sources of ignition - No smoking.
S36/37 Wear suitable protective clothing and gloves.
S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

2.3 Other hazards - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Synonyms: Perfluorooctanesulfonic acid

Formula: C8HF17O3SC8HF17O3S

Component | Classification | Concentration
--- | --- | ---
methanol | Flam. Liq. 2; Acute Tox. 3; STOT SE 1; H225, H301, H311, H331, H370; F, T, R11 - R23/24/25 - R39/24/25 | >= 99,9 %

Heptadecafluorooctane-1-sulphonic acid

CAS-No. | EC-No. | Classification | Concentration
--- | --- | --- | ---
1763-23-1 | 200-659-6 | Carc. 2; Repr. 1B; STOT RE 1; Acute Tox. 4; Lact.; Aquatic Chronic 2; H302, H332, H351, H360, H362, H372, H411; T, N, Carc.Cat.3, Repr.Cat.2, R61 - R20/22 - R40 - R48/25 - R64 - R51/53 | <= 0.02 %

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed
Methyl alcohol may be fatal or cause blindness if swallowed. Cannot be made non-poisonous. Effects due to ingestion may include: Nausea, Headache, Vomiting, Gastrointestinal disturbance, Dizziness, Weakness, Confusion, Drowsiness, Unconsciousness. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

4.3 Indication of any immediate medical attention and special treatment needed
No data available

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture
Carbon oxides
5.3 Advice for firefighters
Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further information
Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

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

6.3 Methods and materials for containment and cleaning up
Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

6.4 Reference to other sections
For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

7.2 Conditions for safe storage, including any incompatibilities
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.

Recommended storage temperature: 2 - 8 °C

7.3 Specific end uses
No data available

8. EXPOSURE CONTROLS/PERSOANL PROTECTION

8.1 Control parameters

8.2 Exposure controls
Appropriate engineering controls
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Personal protective equipment

Eye/face protection
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

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.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Body Protection
Complete suit protecting against chemicals, Flame retardant antistatic protective 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
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).

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a) Appearance
   Form: liquid

b) Odour
   no data available

c) Odour Threshold
   no data available

d) pH
   no data available

e) Melting point/freezing point
   no data available

f) Initial boiling point and boiling range
   no data available

g) Flash point
   11 °C - closed cup

h) Evaporation rate
   no data available

i) Flammability (solid, gas)
   no data available

j) Upper/lower flammability explosive limits
   Upper explosion limit: 36 %(V)
   Lower explosion limit: 6 %(V)

k) Vapour pressure
   no data available

l) Vapour density
   no data available

m) Relative density
   no data available

n) Water solubility
   no data available

o) Partition coefficient: n-octanol/water
   no data available

p) Autoignition temperature
   no data available

q) Decomposition temperature
   no data available

r) Viscosity
   no data available

s) Explosive properties
   no data available

t) Oxidizing properties
   no data available

9.2 Other safety information
   no data available

10. STABILITY AND REACTIVITY

10.1 Reactivity
   no data available

10.2 Chemical stability
   no data available

10.3 Possibility of hazardous reactions
   no data available

10.4 Conditions to avoid
   Heat, flames and sparks. Extremes of temperature and direct sunlight.

10.5 Incompatible materials
   acids, Acid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals

10.6 Hazardous decomposition products
   Other decomposition products - no data available
11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

**Acute toxicity**
no data available

**Skin corrosion/irritation**
no data available

**Serious eye damage/eye irritation**
no data available

**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.

**Reproductive toxicity**
no data available

**Specific target organ toxicity - single exposure**
no data available

**Specific target organ toxicity - repeated exposure**
no data available

**Aspiration hazard**
no data available

**Potential health effects**

<table>
<thead>
<tr>
<th>Mode of Exposure</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>Toxic if inhaled. Causes respiratory tract irritation.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Toxic if swallowed.</td>
</tr>
<tr>
<td>Skin</td>
<td>Toxic if absorbed through skin. Causes skin irritation.</td>
</tr>
<tr>
<td>Eyes</td>
<td>Causes serious eye irritation.</td>
</tr>
</tbody>
</table>

**Signs and Symptoms of Exposure**
Methyl alcohol may be fatal or cause blindness if swallowed. Cannot be made non-poisonous. Effects due to ingestion may include: Nausea, Headache, Vomiting, Gastrointestinal disturbance, Dizziness, Weakness, Confusion, Drowsiness, Unconsciousness. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Additional Information**
RTECS: Not available

12. ECOLOGICAL INFORMATION

12.1 Toxicity
no data available

12.2 Persistence and degradability
no data available

12.3 Bioaccumulative potential
no data available

12.4 Mobility in soil
no data available

12.5 Results of PBT and vPvB assessment
no data available

12.6 Other adverse effects
no data available

13. DISPOSAL CONSIDERATIONS
13.1 Waste treatment methods

Product
Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

14.1 UN number
ADR/RID: 1230  IMDG: 1230  IATA: 1230

14.2 UN proper shipping name
ADR/RID: METHANOL, SOLUTION  IMDG: METHANOL, SOLUTION  IATA: Methanol, SOLUTION

14.3 Transport hazard class(es)
ADR/RID: 3 (6.1)  IMDG: 3 (6.1)  IATA: 3

14.4 Packaging group
ADR/RID: II  IMDG: II  IATA: II

14.5 Environmental hazards
ADR/RID: no  IMDG Marine pollutant: no  IATA: no

14.6 Special precautions for user
no data available

15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
no data available

15.2 Chemical Safety Assessment
no data available

16. OTHER INFORMATION

Text of H-code(s) and R-phrase(s) mentioned in Section 3

<p>| Acute Tox. | Acute toxicity |
| Aquatic Chronic | Chronic aquatic toxicity |
| Carc. | Carcinogenicity |
| Flam. Liq. | Flammable liquids |
| H225 | Highly flammable liquid and vapour. |
| H301 | Toxic if swallowed. |
| H302 | Harmful if swallowed. |
| H311 | Toxic in contact with skin. |
| H331 | Toxic if inhaled. |
| H332 | Harmful if inhaled. |
| H351 | Suspected of causing cancer. |
| H360 | May damage fertility or the unborn child. |
| H362 | May cause harm to breast-fed children. |
| H370 | Causes damage to organs. |
| H372 | Causes damage to organs through prolonged or repeated exposure. |
| H411 | Toxic to aquatic life with long lasting effects. |
| Lact. | Effects on or via lactation |
| Reptr. | Reproductive toxicity |
| STOT RE | Specific target organ toxicity - repeated exposure |
| STOT SE | Specific target organ toxicity - single exposure |
| F | Highly flammable |
| N | Dangerous for the environment |
| R11 | Highly flammable. |
| R20/22 | Harmful by inhalation and if swallowed. |</p>
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>R23/24/25</td>
<td>Toxic by inhalation, in contact with skin and if swallowed.</td>
</tr>
<tr>
<td>R39/23/24/25</td>
<td>Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.</td>
</tr>
<tr>
<td>R40</td>
<td>Limited evidence of a carcinogenic effect.</td>
</tr>
<tr>
<td>R48/25</td>
<td>Toxic: danger of serious damage to health by prolonged exposure if swallowed.</td>
</tr>
<tr>
<td>R51/53</td>
<td>Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.</td>
</tr>
<tr>
<td>T</td>
<td>Toxic</td>
</tr>
<tr>
<td>R61</td>
<td>May cause harm to the unborn child.</td>
</tr>
<tr>
<td>R64</td>
<td>May cause harm to breastfed babies.</td>
</tr>
<tr>
<td>Repr.Cat.2</td>
<td>Toxic to Reproduction Category 2</td>
</tr>
</tbody>
</table>

**Further information**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information this document is based on the resent state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Guidechem shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.