1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier
Product name 1-(Perfluorohexyl)octane
Catalog number FC12-T6Octane
Brand Fluoryx Labs
CAS number 133331-77-8

Relevant Identified Uses of the Substance or Mixture and Uses Advised Against
Identified uses Laboratory chemicals. Synthesis of substances.

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 irritation (Category 3), H316
Eye irritation (Category 3), H320
Specific target organ toxicity – single exposure (Category 3), respiratory system, H335

GHS Label Elements, Including Precautionary Statements
Pictogram GHS07: Exclamation mark

Signal Word Warning

Hazard statement(s)
H316 Causes mild skin irritation.
H320 Causes eye irritation.
H335 May cause respiratory irritation.

Precautionary statement(s)
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/eye protection/face protection.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position 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 If skin irritation occurs: Get medical advice/attention.
P337 + P313 If eye irritation persists: Get medical advice/attention.
P362 Take off contaminated clothing and wash before reuse.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
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 1,1,1,2,2,3,3,4,4,5,5,6,6-tridecafluorotetradecane
1-(Perfluoro-n-hexyl)octane

Formula C_{14}H_{17}F_{13}
CF_{3}CF_{2}CF_{2}CF_{2}CF_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{2}CH_{3} and isomers of the hydrocarbon chain

Molecular Weight 432.26 g/mol

CAS Number 133331-77-8

EC Number None

Hazardous Components

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-(Perfluoro-hexyl)octane</td>
<td>Skin Irrit. 3; Eye Irrit. 3; STOT SE 3; H316, H320, H335</td>
<td>≤100%</td>
</tr>
</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

Description of First Aid Measures

General advice Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact Wash off with soap and plenty of water. Consult a physician.

In case of eye contact Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for 15 minutes. Consult a doctor.

If swallowed Never give anything by mouth to an unconscious
Most Important Symptoms and Effects, Both Acute and Delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Indications of Any Immediate Medical Attention No data available.

5. FIREFIGHTING MEASURES

Suitable Extinguishing Media Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide

Special Hazards Arising from the Substance Hazardous decomposition products formed under fire conditions - carbon oxides and hydrogen fluoride.

Advice for Firefighters Wear self contained breathing apparatus for fire fighting.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental Precautions Do not let product enter drains.

Methods for Cleaning Up Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for Safe Handling Avoid contact with skin and eyes. Avoid formation of mist or respirable particles. Provide appropriate exhaust ventilation at places where mist or vapors are formed. Normal measures for preventive fire protection. Keep away from open flames and heated surfaces above 200 °C (392 °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.

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 Do not aerosolize or spray. Prevent leaks in high-pressure systems that could create fine mists.

Personal Protective Equipment

Eye/face 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 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.
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

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of Environmental Exposure

Do not let product enter drains.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form: Liquid, clear
Color: Colorless

Safety Data

pH: No data available
Melting point/freezing point: -5 °C
Boiling point: 161-162 °C @ 760 mm Hg
Flash point: > 80 °C (closed cup)
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: > 200 °C
Vapor pressure: No data available
Density: 1.35 g/mL @ 17 °C
Water solubility: Negligible
Partition coefficient (n-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
Viscosity: 6.68 mPa·s @ 22 °C
Oxidizing properties: No data available

10. STABILITY AND REACTIVITY

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 200 °C (392 °F).
Incompatible Materials
Avoid strong oxidizing agents and strong bases.

Hazardous Decomposition Products
Decomposition temperature > 200 °C. Hazardous decomposition products formed under fire conditions - carbon oxides and hydrogen fluoride.

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 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.
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 Inhalation – may cause respiratory irritation
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 Does not readily degrade
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
Offer non-recyclable solutions to a licensed disposal company or contact Fluoryx to return unused product.

Contaminated Packaging
Dispose of as unused product.

14. TRANSPORTATION INFORMATION

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

15. REGULATORY INFORMATION

TSCA Status Not on the inventory.
DSL Status Not listed on the Canadian NDSL list.
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 Acute health hazard
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-Statements Referred to Under Sections 2 and 3.

Eye Irrit. Eye irritation.
H316 Causes mild skin irritation.
H320 Causes eye irritation.
H335 May cause respiratory irritation.
Skin Irrit. Skin irritation.
STOT SE Specific target organ toxicity - single exposure.

HMIS Rating
Health hazard 1
Flammability 0
Physical hazards 0

NFPA Rating
Health hazard 1
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