1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier
Product Name 2-(Perfluoroheptyl)ethyl alcohol
Catalog Number FC04-06
Brand Fluoryx Labs
CAS Number 647-42-7

Relevant identified uses of the Substance or mixture and uses advised against
Identified uses: Laboratory chemicals. Manufacture 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:
+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)
Flammable liquids (Category 4), H227
Skin irritation (Category 2), H315
Eye irritation (Category 2A), H319
Specific target organ toxicity - single exposure (Category 3), respiratory system, H335

GHS Label elements, including precautionary statements

Pictogram
Signal word Warning

Hazard statement(s)
H227 Combustible liquid
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

Precautionary statement(s)
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/ protective clothing/ eye protection/ face protection.

IF ON SKIN: Wash with plenty of soap and water.

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

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

Call a POISON CENTER or doctor/ physician if you feel unwell.

Specific treatment (see supplemental first aid instructions on this label).

If skin irritation occurs: Get medical advice/ attention.

If eye irritation persists: Get medical advice/ attention.

Take off contaminated clothing and wash before reuse.

In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

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

Store in a well-ventilated place. Keep cool.

Store locked up.

Dispose of contents/ container to an approved waste disposal plant.

3. COMPOSITION AND INFORMATION ON COMPONENTS

Synonyms: 3,3,4,4,5,5,6,6,7,7,8,8,8-Tridecafluoro-1-octanol
1H,1H,2H,2H-Tridecafluorooctan-1-ol

Formula: C₉H₅F₁₃O

CF₃CF₂CF₂CF₂CF₂CF₂CH₂CH₂OH

Molecular weight: 364.10

CAS number: 647-42-7

EC number: 211-477-1

Hazardous components

<table>
<thead>
<tr>
<th>Material</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-(Perfluoroethyl)ethyl alcohol</td>
<td>Flam. Liq. 4; Skin Irrit. 2; Eye Irrit. 2A; STOT SE 3; H227, H315, H319, 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

General advice

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

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. 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.

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

Indication of any immediate medical attention and special treatment needed
- no data available

5. FIRE FIGHTING MEASURES

Suitable extinguishing media
For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

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.

Further Information:
Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. 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 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). Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

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

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

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Components with workplace control parameters
Contains no substances with occupational exposure
Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

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 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
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).

Control of environmental exposure
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance
Form: Liquid, clear
Color: Colorless

Safety Data
pH: 3 - 7
Melting Point/Freezing Point: -35 °C
Boiling Point: 70 °C @ 20 mm Hg
Flash Point: 91 °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: No data available
Vapor Pressure: No data available
Vapor Density: >1 (air = 1)
Density: 1.65 @ 25 °C
Water Solubility: 0.70 to 0.72 mg/L @ 25 °C
10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
Polymerization will not occur. No other data available.

Conditions to avoid
Heat, flames, sparks.

Incompatible materials
Strong oxidizing agents.

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions - carbon oxides, 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

Teratogenicity
No data available

Animal Data:
The product has been reported as a slight skin irritant in animals. In a Bacterial Reverse Mutation Test with an Independent Repeat Assay as reported
by DuPont, the product did not cause a positive response in the presence and absence of Aroclor-induced rat liver S9. The product was negative in salmonella gene mutation and mammalian gene mutation assays. Product is not biodegradable.

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: No data available
Synergistic effects No data available

Additional Information: RTECS: Not available

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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 PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Other adverse effects No data available

13. DISPOSAL CONSIDERATIONS
Product This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Offer non-recyclable solutions to a licensed disposal company. Contact Fluoryx to return unused product.
Contaminated Packaging Dispose of as unused product.

14. TRANSPORTATION INFORMATION
DOT (US) NA-Number: 1993
Class: NONE
Packing group: III
Proper shipping name: Combustible liquid, n.o.s. (3,3,4,4,5,6,6,7,8,8,8-Tridecafluorooctan-1-ol)
Marine Pollutant: No
Poison Inhalation Hazard: No

IMDG Not dangerous goods
IATA Not dangerous goods

15. REGULATORY INFORMATION
TSCA Status Listed
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
Fire hazard, acute health hazard

Massachusetts Right To Know Components
No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components
3,3,4,4,5,5,6,6,7,7,8,8,8-Tridecafluorooctan-1-ol
CAS-No. 647-42-7
Revision Date 2009-07-17

New Jersey Right To Know Components
3,3,4,4,5,5,6,6,7,7,8,8,8-Tridecafluorooctan-1-ol
CAS-No. 647-42-7
Revision Date 2009-07-17

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 irritant |
| Flam. Liq. | Flammable liquid |
| STOT SE 3 | Specific target organ toxicity - single exposure (Category 3) |
| H227 | Combustible liquid |
| H315 | Causes skin irritation |
| H319 | Causes serious eye irritation |
| H335 | May cause respiratory irritation |
| Skin Irrit. | Skin irritation |

HMIS Classification

- Health hazard: 2
- Flammability: 2
- Physical hazards: 0

NFPA Rating

- Health hazard: 2
- Fire: 2
- Reactivity Hazard: 0

Further 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