

FC12-E6

1-(Perfluorohexyl)ethane

Revised 21-November-2016

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product name	1-(Perfluorohexyl)ethane
Catalog number	FC12-E6
Brand	Fluoryx Labs
CAS number	80793-17-5

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

Identified uses	Laboratory chemicals. Synthesis of substances.
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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
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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 2), H315
 Eye irritation (Category 2A), H319
 Specific target organ toxicity - single exposure - Anesthetic (Category 3), H336
 Specific target organ toxicity – repeated exposure – Liver (Category 2), H373

GHS Label Elements, Including Precautionary Statements

Pictogram



Signal Word

Warning

Hazard statement(s)

H315	Causes skin irritation.
H320	Causes eye irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness
H373	May cause damage to organs through prolonged or

repeated exposure

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.
P285:	In case of inadequate ventilation wear respiratory 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	1H,1H,1H,1H,2H,2H-Tridecafluorohexane 1,1,1,2,2,3,3,4,4,5,5,6,6-Tridecafluorooctane 1,1,1,2,2,3,3,4,4,5,5,6,6-Tridecafluoro-octane AC 6000 HFC 76-13sf
Formula	CH ₃ CH ₂ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ CF ₃ C ₈ H ₅ F ₁₃
Molecular Weight	348.10 g/mol
CAS Number	80793-17-5
EC Number	None

Hazardous Components

Component	Classification	Concentration
1-(Perfluorohexyl)ethane	Skin Irrit. 2; Eye Irrit. 2A; STOT SE 3; STOT RE 3; H315, H320, H335, H336, H373	≤100%

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,

In case of skin contact	give artificial respiration. Consult a physician. 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 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

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 with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

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

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	-81 °C
Boiling point	112 °C @ 760 mm Hg
Flash point	> 100 °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	1.55 g/mL @ 25 °C
Water solubility	Negligible
Partition coefficient (<i>n</i> -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	1.083 mPa•s @ 25 °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	Rat: > 2 g/kgbw (OECD423)
Inhalation LC50	Rat: > 10,000 ppm (OECD403)
Dermal LD50	No data available
Other information on acute toxicity	No data available
Skin Corrosion/Irritation	Rabbit skin irritation test (OECD404): No irritation
Serious Eye Damage/Eye Irritation	Rabbit eye irritation test (OECD405): No irritation
Respiratory or Skin Sensitization	Rat skin sensitization study (OECD429): Not sensitizing
Germ Cell Mutagenicity	Negative Ames test. Chromosomal aberration test in vitro (OECD473): negative
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. May have anesthetic effect.
Repeated exposure	Repeated oral dose toxicity study 28: NOEL 8mg/kg/day. Hepatocellular hypertrophy and increased relative liver weight at 200mg/kg, decrease in cholinesterase was observed at 40mg/kg.
Aspiration Hazard	No data available
Signs and Symptoms of Exposure	May cause drowsiness and/or dizziness. 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: Not available. No data available

12. ECOLOGICAL INFORMATION

Toxicity	Fish acute toxicity test (OECD203) 96 hr LC50 > 100 mg/L (Himedaka). Algae inhibition test (OECD201) 72 hr EC50 > 100 mg/L, NOEC ≥ 100 mg/L. Daphnia immobilization test (OECD202) 48 hr EC50 > 100 mg/L.
Persistence and Degradability	Persistent, without structural change
Bioaccumulative Potential	Concentration test – first concentration ratio 2,600 1 µg/L. Second concentration ratio 2,400 0.1 µg/L Elimination half life – first concentration sun 1.0, second concentration sun 0.99
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.
Skin Irrit.	Skin irritation.
STOT SE	Specific target organ toxicity - single exposure.
STOT RE	Specific target organ toxicity –repeated exposure.
H315	Causes skin irritation.
H320	Causes eye irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H373	May cause damage to organs through prolonged or repeated exposure

HMIS Rating

Health hazard	2
Flammability	0
Physical hazards	0

NFPA Rating

Health hazard	2
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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any liability in connection with this information or its use. This information is for use by technically skilled persons at their own discretion and risk and does not relate to the use of this product in combination with any other substance or any other process. This is not a license under any patent or other proprietary right. The user alone must finally determine suitability of any information or material for any contemplated use, the manner of use and whether any patents are infringed. This information gives typical properties only and is not to be used for specification purposes.

End of SDS