



Material Safety Data Sheet

FHT-698E

1,3-(1,1,2,2-Tetrafluoroethoxy)propane

Revised 02-November-2009

1. PRODUCT AND COMPANY IDENTIFICATION

Material Identification

Product name: FHT-698E
Chemical name: 1,3-(1,1,2,2-Tetrafluoroethoxy)propane
Chemical formula: $\text{HCF}_2\text{CF}_2\text{OCH}_2\text{CH}_2\text{CH}_2\text{OCF}_2\text{CF}_2\text{H}$
 $\text{C}_7\text{H}_8\text{F}_8\text{O}_2$

Company Identification

Distributor
Top Fluorochem Co., Ltd.
Building C2, 3rd Floor
479 Chun Dong Road
XinZhuang Industrial Park
Minhang District
Shanghai, P. R. China 201108

Manufacturer
Fuxin Hengtong Fluorine Chemicals Co., Ltd.
Fuxin Chemicals Community
West Pingan St.
Haizhou District
Fuxin City, Liaoning Province, P. R. China

Emergency Call
+86-21-54833399

2. COMPOSITION AND INFORMATION ON COMPONENTS

Material	Molecular Weight	CAS #
1,3-(1,1,2,2-Tetrafluoroethoxy)propane	276	138845-14-4

3. HAZARDS IDENTIFICATION

Emergency Overview: Irritating to eyes, respiratory system and skin.

4. FIRST AID MEASURES

Inhalation:	Remove to fresh air. If breathing is difficult give oxygen and seek medical attention.
Eye Contact:	Flush with copious amounts of water for at least 15 minutes. If irritation persists, seek medical attention.
Skin Contact:	Remove contaminated clothing. Wash affected area with soap and water. Rinse thoroughly. If irritation persists or other symptoms are observed, seek medical advice.
Ingestion:	Rinse out mouth and drink lots of water. In case of irritation or other symptoms, seek medical attention.
If the Subject is Completely Conscious:	Rinse mouth and administer fresh water.
If the Subject is Unconscious:	Not applicable.
Medical Treatment/Notes to Physician:	None.

5. FIRE FIGHTING MEASURES

Flash Point:	69 °C (closed cup)
Extinguishing Methods:	Use fire-fighting measures, which suit the environment and take into account other materials that may be involved. In general, water-based extinguishers should not be used for fires involving organic materials. Use carbon dioxide or dry powder.
Protective Equipment:	Wear self-contained breathing apparatus and protective clothing.
Hazardous Products of Combustions:	May include carbon monoxide, carbon dioxide, hydrogen fluoride (hydrofluoric acid).

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:	Wear protective equipment including rubber gloves, and eye protection. Keep unprotected persons away.
Environmental Precautions:	Take precautions to ensure product does not contaminate the ground or enter the drainage system.
Waste Collections:	Mix with vermiculite or proprietary absorbent material and transfer to sealed containers for disposal.

7. HANDLING AND STORAGE

Handling Requirements:	Chemicals should be used only by those trained in handling potentially hazardous materials.
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Rubber gloves, eye protection and protective clothing should be worn. Operations should be carried out in an efficient fume hood or equivalent system.

Storage Conditions:

Store in tightly sealed containers in a cool place. Protect from moisture.

Packaging:

Sealed HDPE-lined steel drum.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Occupational Exposure Controls:**Respiratory:**

Avoid inhalation of product. Handle in an efficient fume hood or equivalent system.

Hand and body protection:

Irritant product. Avoid skin contact. Wear rubber gloves, protective clothing and, for larger quantities, full arm, body and face protection. Wash hands thoroughly after handling.

Eye protection:

Avoid eye contact. Wear safety spectacles, goggles or, for larger quantities, a full face mask.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Liquid
Color	Clear, colorless
Boiling Point	162 °C @ 760 mm Hg
Flash Point	69 °C (closed cup)
Ozone Depletion Potential	Not determined
Global Warming Potential	Not determined
Specific Gravity (H₂O = 1):	1.4273 g/mL @ 25.8 °C
Refractive Index	1.3090 @ 25 °C
Viscosity (mpa*s)	Not determined
Ames Test	Not determined
Oxidizer	Non-oxidizing (by EC criteria)

10. STABILITY AND REACTIVITY

Materials and Substances to Avoid:

Strong bases. Strong oxidizing agents.

Hazardous Decomposition Products:

May include: carbon monoxide, carbon dioxide, hydrogen fluoride (hydrofluoric acid).

11. TOXICOLOGICAL INFORMATION

RTECS No.

Not determined.

Acute Toxicity:

LD₅₀: Not available.

Irritating to eyes, respiratory system and skin.

12. ECOLOGICAL INFORMATION

General: Take care to prevent chemicals from entering the ground, water courses or drainage systems.

13. DISPOSAL CONSIDERATIONS

Waste Treatment:

Packaging Treatment:

Operation Treatment: Disposal should be via an approved contractor and should take full account of local regulations.

14. TRANSPORT INFORMATION

Shipping Information: Not regulated as a hazardous material by DOT, IMO, or IATA.

DOT Proper Shipping Name: None. Non-hazardous for transport.

UN Number: None. Non-hazardous for transport.

IATA: Non-hazardous for air transport.

15. REGULATORY INFORMATION

Hazard Symbols: Irritant (Xi).



Note: The regulatory information given above only indicates the principal regulations specifically applicable to the product described in the safety data sheet. The user's attention is drawn to the possible existence of additional provisions which complete these regulations. Refer to all applicable national, international and local regulations or provisions.

16. OTHER INFORMATION

Legal Disclaimer: 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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