

## FC13-F8DG

**1,1,2,2-Tetrafluoro-1-{2-[2-(1,1,2,2-tetrafluoroethoxy)ethoxy]ethoxy}ethane**

Revised 29-March-2023

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**1. PRODUCT AND COMPANY IDENTIFICATION**


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<b>Product Name</b>	1,1,2,2-Tetrafluoro-1-{2-[2-(1,1,2,2-tetrafluoroethoxy)ethoxy]ethoxy}ethane
<b>Catalog Number</b>	FC13-F8DG
<b>CAS Number</b>	None
<b>Supplier</b>	<b>Fluoryx Labs</b> 3650 Research Way, #22 Carson City, NV 89706 USA
<b>Uses</b>	Heat transfer agent; cooling agent; battery electrolyte; solvent; laboratory chemical
<b>Emergency call (VelocityEHS):</b>	+01-813-248-0585 (International) +1-800-255-3924 (USA)

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**2. HAZARDS INFORMATION**


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**Emergency Overview**

<b>OSHA Hazards</b>	No known OSHA hazards
<b>GHS Classification</b>	Eye irritation, H320; May cause respiratory irritation, H335
<b>GHS Label elements, including precautionary statements</b>	
Pictogram	
Signal word	Warning
<b>Hazard statement(s)</b>	H320: Causes eye irritation. H335: May cause respiratory irritation
<b>Precautionary statement(s)</b>	P264: Wash hands thoroughly after handling. 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. P337 + P313: If eye irritation persists: Get medical advice/attention.

**Hazards not otherwise classified (HNOC) or not covered by GHS**

Inhalation of decomposition products from overheating may cause lung irritation or shortness of breath.

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### 3. COMPOSITION AND INFORMATION ON INGREDIENTS

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<b>Synonyms</b>	None
<b>Chemical formula</b>	HCF <sub>2</sub> CF <sub>2</sub> OCH <sub>2</sub> CH <sub>2</sub> OCH <sub>2</sub> CH <sub>2</sub> OCF <sub>2</sub> CF <sub>2</sub> H C <sub>8</sub> H <sub>10</sub> F <sub>8</sub> O <sub>3</sub>
<b>Molecular weight</b>	306.15 g/mol
<b>CAS number</b>	None
<b>EC number</b>	None
<b>TSCA status</b>	Not listed

#### Components

Material	Classification	Concentration
1,1,2,2-Tetrafluoro-1-{2-[2-(1,1,2,2-tetrafluoroethoxy)ethoxy]ethoxy}ethane	H320, H335	≤ 100%

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### 4. FIRST AID MEASURES

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<b>If inhaled</b>	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
<b>In case of skin contact</b>	Wash off with soap and water.
<b>In case of eye contact</b>	Flush eyes with water for 15 minutes. Consult a physician
<b>If swallowed</b>	Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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### 5. FIREFIGHTING MEASURES

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<b>Suitable extinguishing media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment, such as: carbon dioxide, dry chemical powder, water. Do not use water with a full water jet.
<b>Special protective equipment for firefighters</b>	Wear self-contained breathing apparatus for fire fighting.
<b>Hazardous combustion products</b>	Hazardous decomposition products formed under fire conditions - carbon oxides, hydrogen fluoride.

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### 6. ACCIDENTAL RELEASE MEASURES

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<b>Personal precautions</b>	Wear personal protective equipment. Avoid contact with the skin and the eyes. Ensure adequate ventilation. Avoid inhalation of vapor, mist, dust, or gas.
<b>Environmental precautions</b>	Do not let product enter drains.
<b>Methods for cleaning up</b>	Mix with sand or vermiculite. Transfer to a closable, labeled salvage container for disposal by an appropriate method

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### 7. HANDLING AND STORAGE

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**Precautions for Safe Handling**

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Normal measures for preventive fire protection.

**Conditions for Safe Storage**

Keep container tightly closed in a dry and well-ventilated place.

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**8. EXPOSURE CONTROLS AND PERSONAL PROTECTION**


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Contains no substances with occupational exposure limit values.

**Personal protective equipment****Respiratory protection**

Respiratory protection not required. For nuisance exposures use type OV/AG (US) or type ABEK (EU EN 14387) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Hand 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.

**Eye protection**

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin and 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.

**Hygiene measures**

General industrial hygiene practice.

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**9. PHYSICAL AND CHEMICAL PROPERTIES**


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**Appearance**

Form	Liquid
Color	Colorless, clear

**Safety Data**

pH	No data available
Melting Point/Freezing Point	No data available
Boiling Point	198°C
Flash Point	No data available
Ignition Temperature	No data available
Auto-ignition Temperature	No data available
Lower Explosion Limit	No data available
Upper Explosion Limit	No data available
Latent Heat of Evaporation	No data available
Vapor Pressure	No data available
Density	1.39 g/mL
Water Solubility	No data available
KB Value	No data available
Relative Vapor Density (Air = 1)	> 1

Odor	None
Odor Threshold	No data available
Surface Tension	No data available
Refractive index	No data available
Viscosity	No data available

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## 10. STABILITY AND REACTIVITY

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<b>Storage stability</b>	Stable under recommended storage conditions.
<b>Possibility of hazardous reactions</b>	Polymerization will not occur.
<b>Conditions to avoid</b>	Keep away from open flames and heated surfaces above 300 °C.
<b>Materials to avoid</b>	Strong oxidizing agents. Strong acids.
<b>Hazardous decomposition products</b>	Hazardous decomposition products formed under fire conditions - carbon oxides, hydrogen fluoride, carbonyl fluoride.

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## 11. TOXICOLOGICAL INFORMATION

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<b>Acute toxicity</b>	
Oral LD50	No data available
Inhalation LC50	No data available
Dermal LD50	No data available
Other information on acute toxicity	No data available
<b>Skin corrosion/irritation</b>	No data available
<b>Serious eye damage/eye irritation</b>	No data available
<b>Respiratory or skin sensitization</b>	No data available.
<b>Germ cell mutagenicity</b>	No data available
<b>Carcinogenicity</b>	<p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p>
<b>Reproductive toxicity</b>	No data available
<b>Specific target organ toxicity (Globally Harmonized System)</b>	
Single exposure	No data available
Repeated exposure	No data available
<b>Aspiration Hazard</b>	No data available
<b>Potential Health Effects</b>	
Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.

**Skin**  
**Eyes**  
**Ingestion**

May be irritating.  
Causes eye irritation.  
May be harmful if swallowed.

**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**

No data available

**12. ECOLOGICAL INFORMATION****Toxicity**

No data available

**Persistence and Degradability**

No data available

**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. Contact Fluoryx Labs 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****OSHA Hazards**

No known OSHA hazards.

**TSCA Status**

Not listed.

**DSL Status**

This product does not contain components 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**

No SARA hazards.

**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.

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**16. OTHER INFORMATION**

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**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 MSDS