

## FC13-BTFE

## Bis(2,2,2-trifluoroethyl) Ether

Revised 02-June-2022

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**1. PRODUCT AND COMPANY IDENTIFICATION**


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<b>Product Name</b>	Bis(2,2,2-trifluoroethyl) ether
<b>Catalog Number</b>	FC13-BTFE
<b>CAS Number</b>	333-36-8
<b>Relevant identified uses of the substance or mixture and uses advised against</b>	Identified uses: Laboratory chemicals, Synthesis of substances
<b>Supplier</b>	<b>Fluoryx Labs</b> 3650 Research Way, #22 Carson City, NV 89706 USA
<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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**Classification of the substance or mixture**

<b>GHS Classification</b>	Flammable liquids (Category 2), H225 Skin irritation (Category 2), H315 Eye irritation (Category 2A), H319 Specific target organ toxicity – single exposure (Category 3), Respiratory system, H335
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For the full text of the H-Statements mentioned in the Section, see Section 16

**GHS Label elements, including precautionary statements**

Pictogram	
Signal word	
	Danger
<b>Hazard statement(s)</b>	
H225	Highly flammable liquid and vapor
H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation
<b>Precautionary statement(s)</b>	
P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.

P241	Use explosion-proof electrical/ ventilating/ lighting equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P261	Avoid breathing dust/ fume/ gas/ mist/ vapours/ 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.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P312	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
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.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed. P403 + P235 Store in a well-ventilated place. Keep cool.
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**

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

**3. COMPOSITION AND INFORMATION ON INGREDIENTS**

<b>Synonyms</b>	Flurothyl; 2,2,2-Trifluoroethyl ether
<b>Chemical formula</b>	C <sub>4</sub> H <sub>4</sub> F <sub>6</sub> O
<b>Molecular weight</b>	182.06 g/mol
<b>CAS number</b>	333-36-8

Component	Classification	Concentration
Bis(2,2,2-trifluoroethyl) ether	Flam. Liq. 2; Skin Irrit. 2; Eye Irrit. 2A; STOT SE 3; H225, H315, H319, H335	≤ 100%

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

**4. FIRST AID MEASURES**

<b>General advice</b>	Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
<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 plenty of water. Consult a physician.
<b>In case of eye contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes. Consult a physician
<b>If swallowed</b>	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. FIREFIGHTING MEASURES**

<b>Suitable extinguishing media</b>	Dry powder. Dry sand.
<b>Unsuitable extinguishing media</b>	Do NOT use water jet.
<b>Special hazards arising from the substance or mixture</b>	Carbon oxides, Hydrogen fluoride
<b>Advice for firefighters</b>	Wear self-contained breathing apparatus for firefighting if necessary.
<b>Further information</b>	Use water spray to cool unopened containers.

**6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions, protective equipment and emergency procedures**

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. For personal protection see section 8.

**Environmental precautions** Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

**Methods for cleaning up** Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

**Reference to other sections** For disposal see section 13.

**7. HANDLING AND STORAGE**

**Precautions for Safe Handling** Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build-up of electrostatic charge. For precautions see section 2.2.

**Conditions for Safe Storage** 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. Storage class (TRGS 510): 3: Flammable liquids

**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**

**Control parameters**

**Components with workplace control parameters** Contains no substances with occupational exposure limit values.

**Exposure controls**

**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** Face shield and safety glasses 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, Flame retardant antistatic protective 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 AXBEK (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 No data available

Melting Point/Freezing Point No data available

Boiling Point 62-63 °C @ 760 mm Hg

Flash Point	1 °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
Density	1.404 g/mL @ 25 °C
Water Solubility	No data available
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
Refractive index	No data available
Viscosity	No data available

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## 10. STABILITY AND REACTIVITY

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<b>Reactivity</b>	No data available
<b>Chemical stability</b>	Stable under recommended storage conditions.
<b>Possibility of hazardous reactions</b>	Vapors may form explosive mixture with air.
<b>Conditions to avoid</b>	Heat, flames and sparks.
<b>Incompatible materials</b>	Strong oxidizing agents
<b>Hazardous decomposition products</b>	Hazardous decomposition products formed under fire conditions. - Carbon oxides, Hydrogen fluoride Other decomposition products - No data available In the event of fire: see section 5

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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>	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.  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 on OSHA's list of regulated carcinogens  
 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.

<b>Reproductive toxicity</b>	No data available
<b>Specific target organ toxicity (Globally Harmonized System)</b>	
<b>Single exposure</b>	May cause respiratory irritation.
<b>Repeated exposure</b>	No data available
<b>Aspiration hazard</b>	No data available
<b>Additional Information</b>	RTECS: KN3675000
	Convulsions
	To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
	Stomach - Irregularities - Based on Human Evidence

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## 12. ECOLOGICAL INFORMATION

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<b>Toxicity</b>	No data available
<b>Persistence and Degradability</b>	No data available
<b>Bioaccumulative Potential</b>	No data available
<b>Mobility in Soil</b>	No data available
<b>PBT and vPvB Assessment</b>	No data available
<b>Other adverse effects</b>	No data available

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## 13. DISPOSAL CONSIDERATIONS

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<b>Product</b>	Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Contact a licensed professional waste disposal service to dispose of this material. Contact Fluoryx Labs to return unused product.
<b>Contaminated packaging</b>	Dispose of as unused product.

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## 14. TRANSPORTATION INFORMATION

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<b>DOT (US)</b>	UN number: 3271 Class: 3 Packing group: II Proper shipping name: Ethers, n.o.s. Reportable Quantity (RQ): Poison Inhalation Hazard: No
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**IMDG**

UN number: 3271  
 Class: 3  
 Packing group: II  
 EMS-No: F-E, S-D  
 Proper shipping name: ETHERS, N.O.S. (Bis(2,2,2-trifluoroethyl) ether)

**IATA**

UN number: 3271  
 Class: 3  
 Packing group: II  
 Proper shipping name: Ethers, n.o.s. (Bis(2,2,2-trifluoroethyl) ether)

**15. REGULATORY INFORMATION**

**TSCA Status**

Not 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**

No SARA hazards.

**Massachusetts Right To Know Components**

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

**Pennsylvania Right To Know Components**

Bis(2,2,2-trifluoroethyl) ether CAS-No. 333-36-8  
 Revision Date:

**New Jersey Right To Know Components**

Bis(2,2,2-trifluoroethyl) ether CAS-No. 333-36-8  
 Revision Date:

**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**

**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