

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** di-tert-butylsilyl bis(trifluoromethanesulfonate)  
**CHEMICAL FAMILY:** organosilane  
**MOLECULAR FORMULA:**  $[\text{CF}_3\text{S}(\text{O}_2)\text{O}]_2[\text{t-C}_4\text{H}_9]_2\text{Si}$   
**ALTERNATE TRADE NAME(S):** di-tert-butylsilane ditriflate  
**GENERAL USE:** For research and development use only.

**MANUFACTURER**  
FMC CORPORATION  
Lithium Division  
P.O. Box 795  
Bessemer City, NC 28016-0795  
**General Information:** (704) 868-5300

**Emergency Telephone Numbers:**  
**CHEMTREC** (800) 424-9300  
**Emergency Phone** (704) 629-5361 (Plant) Call Collect 24 Hr/Day  
**Emergency Phone** (303) 595-9048 (Medical) Call Collect

## 2. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Chemical Name</u>	<u>CAS #</u>	<u>Wt.%</u>
di-tert-butylsilyl bis(trifluoromethanesulfonate)	85272-31-7	95%

## 3. HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

**IMMEDIATE CONCERNS:** Corrosive. Forms corrosive triflic acid on contact with water or moisture.

**POTENTIAL HEALTH EFFECTS:** Corrosive to eyes (may cause blindness), skin, nose, throat and stomach.

**COMMENTS:**  
(See Section 11, Toxicological Information)

## 4. FIRST AID MEASURES

**EYES:** Immediately flush with water for at least 15 minutes, lifting the upper and lower eyelids intermittently. See a medical doctor or ophthalmologist immediately.

**SKIN:** Quickly wipe off as much as possible, then immediately flush with plenty of water while removing contaminated clothing and/or shoes. Thoroughly wash with soap and water. Obtain immediate medical attention. Contact a medical doctor if necessary.

**INGESTION:** Quickly wipe material from the mouth and rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. See a medical doctor immediately.

**INHALATION:** Remove to fresh air. If breathing discomfort occurs and persists, see a medical doctor. If breathing has stopped, give artificial respiration and see a medical doctor immediately.

### NOTES TO MEDICAL DOCTOR:

This product is corrosive to the skin, eyes and mucous membranes of the respiratory and gastrointestinal tracts. Consideration should be given to gastric lavage, with endotracheal tube in place. Treatment is controlled removal of exposure with symptomatic and supportive care.

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## 5. FIRE FIGHTING MEASURES

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<b><u>FLAMMABLE LIMITS:</u></b>	Upper: Not available Lower: Not available.
<b><u>GENERAL HAZARD:</u></b>	combustible liquid.
<b><u>EXTINGUISHING MEDIA:</u></b>	Dry chemical, CO <sub>2</sub> , water spray or regular foam.
<b><u>HAZARDOUS COMBUSTION PRODUCTS:</u></b>	Carbon monoxide, carbon dioxide, hydrogen fluoride, silicon oxide, sulfur oxides.
<b><u>FIRE FIGHTING PROCEDURES:</u></b>	Wear full protective clothing and self-contained breathing apparatus (SCBA) approved for fire fighting. This is necessary to protect against the hazards of heat, products of combustion and oxygen deficiency. Do not breathe smoke, gases or vapors generated.
<b><u>AUTOIGNITION TEMPERATURE:</u></b>	Not applicable
<b><u>PROPERTIES CONTRIBUTING TO FLAMMABILITY:</u></b>	Combustible liquid.
<b><u>FLASH POINT:</u></b>	91 °C
<b><u>SENSITIVITY TO STATIC DISCHARGE:</u></b>	Not applicable
<b><u>SENSITIVITY TO IMPACT:</u></b>	Not applicable

**COMMENTS:**  
(See Section 10, Stability and Reactivity)

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## 6. ACCIDENTAL RELEASE MEASURES

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<b><u>RELEASE NOTES:</u></b>	Remove all sources of ignition. Do not use water in the initial phases of clean up. Contain spill with absorbant. Transfer to approved transport container and clean up spillage with an absorbant. Dispose of waste according to local and Federal laws and regulations. Before cleanup measures begin, review the entire MSDS with particular attention to Section 3, Emergency Overview and Potential Health Effects; and Section 8, Recommended Personal Protective Equipment.
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## 7. HANDLING AND STORAGE

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<b><u>HANDLING:</u></b>	Use in a closed system under argon or nitrogen. Do not get in eyes, on skin or clothing. Do not breathe vapors or mist.
<b><u>STORAGE:</u></b>	Store in a cool place. Keep container closed. Keep away from sources of ignition, water, air, acids and oxidizing agents.

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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### **EXPOSURE LIMITS**

<b><u>Chemical Name</u></b>	<b><u>TWA (ACGIH)</u></b>	<b><u>STEL/Ceiling (ACGIH)</u></b>	<b><u>PEL (OSHA)</u></b>	<b><u>STEL/Ceiling (OSHA)</u></b>
None				

### **ENGINEERING CONTROLS:**

Use local exhaust ventilation to keep airborne concentrations below exposure limits.

### **PERSONAL PROTECTIVE EQUIPMENT**

**Eyes And Face:** Chemical splash goggles with a face shield.

<u>Respiratory:</u>	When engineering controls are not adequate, wear a NIOSH/MSHA respirator approved for protection against organic vapors and mists.
<u>Protective Clothing:</u>	Rubber gloves
<u>Work Hygienic Practices:</u>	Quick-drench eyewash and safety shower.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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<u>ODOR:</u>	not available.
<u>APPEARANCE:</u>	Clear liquid, deep yellow
<u>pH:</u>	Decomposes on contact with water to form trific acid.
<u>PERCENT VOLATILE:</u>	100
<u>VAPOR PRESSURE:</u>	Not available
<u>VAPOR DENSITY:</u>	Not available
<u>BOILING POINT:</u>	263 °C
<u>MELTING POINT:</u>	Not available
<u>SOLUBILITY IN WATER:</u>	Decomposes on contact with water.
<u>EVAPORATION RATE(Butyl Acetate = 1):</u>	Not available
<u>SPECIFIC GRAVITY:</u>	1.36 g/cm <sup>3</sup>
<u>MOLECULAR WEIGHT:</u>	440.46
<u>COEFF. OIL/WATER:</u>	Not applicable (reacts with water)
<u>ODOR THRESHOLD:</u>	Not available
<u>FLAMMABLE LIMITS:</u>	Not available
<u>FLASH POINT:</u>	91 °C
<u>AUTOIGNITION TEMPERATURE:</u>	Not applicable
<u>EXPLOSIVE PROPERTIES:</u>	Not explosive
<u>OXIDIZING PROPERTIES:</u>	Not an oxidizer

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## 10. STABILITY AND REACTIVITY

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<u>CONDITIONS TO AVOID:</u>	None
<u>STABILITY:</u>	Stable under normal storage and temperature conditions.
<u>POLYMERIZATION:</u>	Will not occur
<u>HAZARDOUS DECOMPOSITION</u>	None
<u>PRODUCTS:</u>	
<u>INCOMPATIBLE MATERIALS:</u>	Water, acids, oxidizing agents.

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## 11. TOXICOLOGICAL INFORMATION

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<u>Eye Contact:</u>	No data available for the product. Corrosive.
<u>Skin Contact:</u>	No data available for the product. Corrosive.
<u>Skin Absorption:</u>	No data available for the product. Corrosive.
<u>Ingestion:</u>	No data available for the product. Corrosive.
<u>Inhalation:</u>	No data available for the product. Corrosive.

### Acute Effects From Overexposure:

This product is corrosive to eyes (may cause blindness), skin and the upper respiratory tract. Harmful if swallowed, inhaled, or absorbed through skin.

**Chronic Effects From Overexposure:**

No data available for the product.

**Sensitization:**

No

**Carcinogenicity:**

EH40: Not listed.

IARC: Not listed.

NTP: Not listed.

OSHA: Not considered a carcinogen under OSHA.

ACGIH: Not listed

**Mutagenicity:**

No

**Reproductive Toxicity:**

No

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## 12. ECOLOGICAL INFORMATION

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**Ecotoxicological Information:**

No data available for product.

**Chemical Fate Information:**

Environmental toxicity testing of the product has not been carried out. Di-tert-butylsilane ditriflate reacts with water for form triflic acid.

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## 13. DISPOSAL CONSIDERATIONS

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**DISPOSAL METHOD:**

Dispose of waste according to local and Federal laws and regulations.

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## 14. TRANSPORT INFORMATION

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**PROPER SHIPPING NAME:**

Corrosive liquid, N. O. S. (di-tert-butylsilyl bis(trifluoromethane sulfonate))

**CLASSIFICATION:**

Corrosive, 8

**LABELS:**

Corrosive

**UN NUMBER:**

UN1760

**PACKING GROUP:**

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**CUSTOM TARIFF NO:**

2930.90.9065

**MARINE POLLUTANT:**

No

**PIH:**

Not designated Poison Inhalation Hazard by US DOT.

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## 15. REGULATORY INFORMATION

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**UNITED STATES**

**SECTION 311 HAZARD CATEGORY (40 CFR 370):**

Immediate (acute) health hazard, fire hazard.

**SECTION 313 REPORTABLE INGREDIENTS (40 CFR 372):**

This product does not contain a toxic chemical subject to the reporting requirements of Section 313 of Emergency Planning and Community Right-To-Know Act of 1986.

**SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355):**

Not listed

**CERCLA HAZARDOUS SUBSTANCE (40 CFR 302.4):**

Not listed

**TSCA SEC 12B EXPORT NOTIFICATION:**

This product is not subject to TSCA 12 (b) Export Notification Requirements.

**TSCA INVENTORY STATUS (40 CFR 710):**

This product is for research and development purposes only, and not for commercial use. Di-tert-butylsilane ditriflate is not listed on the TSCA Inventory.

**CANADA**  
**WHMIS:**

Product Identification No.: 1760  
Hazard Classification: Class E (Corrosive)  
Ingredient Disclosure List: not listed.

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## **16. OTHER INFORMATION**

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**REVISION SUMMARY:** Revision # 1: Section 14 revised.

**NFPA RATING**

**HEALTH:** 3  
**FLAMMABILITY:** 1  
**REACTIVITY:** 0  
**SPECIAL:** None

This MSDS has been prepared to meet U. S. OSHA Hazard Communication Standard, 29 CFR 1910.1200 and Canada's Workplace Hazardous Materials Information System (WHMIS) requirements.  
type 7b

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