

## SAFETY DATA SHEET

Revision Date 14-Feb-2020

Revision Number 3

### 1. Identification

**Product Name** (2S)-(+)-Glycidyl p-toluenesulfonate

**Cat No. :** H56000

**CAS-No** 70987-78-9

**Synonyms** No information available

**Recommended Use** Laboratory chemicals.

**Uses advised against** Food, drug, pesticide or biocidal product use.

**Details of the supplier of the safety data sheet**

**Company**

Alfa Aesar  
Thermo Fisher Scientific Chemicals, Inc.  
30 Bond Street  
Ward Hill, MA 01835-8099  
Tel: 800-343-0660  
Fax: 800-322-4757  
**Email:** tech@alfa.com  
www.alfa.com

**Emergency Telephone Number**

During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660.  
After normal business hours, call Carechem 24 at (866) 928-0789.

### 2. Hazard(s) identification

**Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

|                                   |             |
|-----------------------------------|-------------|
| Serious Eye Damage/Eye Irritation | Category 1  |
| Skin Sensitization                | Category 1  |
| Germ Cell Mutagenicity            | Category 2  |
| Carcinogenicity                   | Category 1B |

**Label Elements**

**Signal Word**

Danger

**Hazard Statements**

May cause an allergic skin reaction  
Causes serious eye damage  
Suspected of causing genetic defects  
May cause cancer

**Precautionary Statements****Prevention**

Obtain special instructions before use  
Do not handle until all safety precautions have been read and understood  
Use personal protective equipment as required  
Avoid breathing dust/fume/gas/mist/vapors/spray  
Contaminated work clothing should not be allowed out of the workplace  
Wear protective gloves

**Response**

IF exposed or concerned: Get medical attention/advice

**Skin**

IF ON SKIN: Wash with plenty of soap and water  
If skin irritation or rash occurs: Get medical advice/attention  
Wash contaminated clothing before reuse

**Eyes**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
Immediately call a POISON CENTER or doctor/physician

**Storage**

Store locked up

**Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

Toxic to aquatic life with long lasting effects

### 3. Composition/Information on Ingredients

| Component                                      | CAS-No     | Weight % |
|--|------------|----------|
| Toluene-4-sulfonate, 2,3-epoxypropyl, (2S)-(+) | 70987-78-9 | >95      |

### 4. First-aid measures

**General Advice**

Immediate medical attention is required. Show this safety data sheet to the doctor in attendance. If symptoms persist, call a physician.

**Eye Contact**

Keep eye wide open while rinsing. Call a physician immediately. Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician. If symptoms persist, call a physician.

**Skin Contact**

Consult a physician if necessary. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

**Inhalation**

Immediate medical attention is required. Remove to fresh air. If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

**Ingestion**

Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person. Drink plenty of water. Clean mouth with water and drink afterwards plenty of water. Do not induce vomiting without medical advice.

**Most important symptoms and effects**

Causes eye burns. May cause allergic skin reaction. Causes severe eye damage. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

**Notes to Physician**

Treat symptomatically

## 5. Fire-fighting measures

**Suitable Extinguishing Media** Water spray. Carbon dioxide (CO<sub>2</sub>). Dry chemical. Chemical foam.

**Unsuitable Extinguishing Media** No information available

**Flash Point** > 110 °C / > 230 °F

**Method -** No information available

**Autoignition Temperature** 346 °C / 654.8 °F

**Explosion Limits**

**Upper** No data available

**Lower** No data available

**Sensitivity to Mechanical Impact** No information available

**Sensitivity to Static Discharge** No information available

**Specific Hazards Arising from the Chemical**

Thermal decomposition can lead to release of irritating gases and vapors. In the event of fire and/or explosion do not breathe fumes. Contact with metals may evolve flammable gas.

**Hazardous Combustion Products**

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Sulfur oxides.

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**NFPA**

**Health**  
2

**Flammability**  
1

**Instability**  
0

**Physical hazards**  
N/A

## 6. Accidental release measures

**Personal Precautions** Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

**Environmental Precautions** Do not flush into surface water or sanitary sewer system.

**Methods for Containment and Clean Up** Wear self-contained breathing apparatus and protective suit. Sweep up and shovel into suitable containers for disposal. Do not let this chemical enter the environment.

## 7. Handling and storage

**Handling** Do not breathe dust. Do not get in eyes, on skin, or on clothing. Do not ingest. If swallowed then seek immediate medical assistance. Handle product only in closed system or provide appropriate exhaust ventilation. Avoid contact with skin. Avoid contact with skin and eyes. Pay attention to flashback. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Ensure adequate ventilation.

**Storage** Keep refrigerated. Keep container tightly closed in a dry and well-ventilated place. Keep in a bonded area.

## 8. Exposure controls / personal protection

|                                      |   |
|--------------------------------------|---|
| <b>Exposure Guidelines</b>           | This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.   |
| <b>Engineering Measures</b>          | Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.   |
| <b>Personal Protective Equipment</b> |   |
| <b>Eye/face Protection</b>           | Tight sealing safety goggles.   |
| <b>Skin and body protection</b>      | Impervious gloves. Impervious clothing.   |
| <b>Respiratory Protection</b>        | Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.                           |
| <b>Hygiene Measures</b>              | When using do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing. Avoid contact with skin, eyes or clothing. Wash hands before breaks and immediately after handling the product. Keep away from food, drink and animal feeding stuffs. |

## 9. Physical and chemical properties

|   |                             |
|---|-----------------------------|
| <b>Physical State</b>                         | Powder Solid                |
| <b>Appearance</b>                             | White                       |
| <b>Odor</b>                                   | No information available    |
| <b>Odor Threshold</b>                         | No information available    |
| <b>pH</b>                                     | ca 3.5 saturated sol        |
| <b>Melting Point/Range</b>                    | 45 - 48 °C / 113 - 118.4 °F |
| <b>Boiling Point/Range</b>                    | No information available    |
| <b>Flash Point</b>                            | > 110 °C / > 230 °F         |
| <b>Evaporation Rate</b>                       | Not applicable              |
| <b>Flammability (solid,gas)</b>               | No information available    |
| <b>Flammability or explosive limits</b>       |                             |
| Upper   | No data available           |
| Lower   | No data available           |
| <b>Vapor Pressure</b>                         | No information available    |
| <b>Vapor Density</b>                          | Not applicable              |
| <b>Specific Gravity</b>                       | No information available    |
| <b>Solubility</b>                             | No information available    |
| <b>Partition coefficient; n-octanol/water</b> | No data available           |
| <b>Autoignition Temperature</b>               | 346 °C / 654.8 °F           |
| <b>Decomposition Temperature</b>              | No information available    |
| <b>Viscosity</b>                              | Not applicable              |
| <b>Molecular Formula</b>                      | C10 H12 O4 S                |
| <b>Molecular Weight</b>                       | 228.27                      |

## 10. Stability and reactivity

|   |  |
|---|--|
| <b>Reactive Hazard</b>                  | None known, based on information available                             |
| <b>Stability</b>                        | Moisture sensitive.  |
| <b>Conditions to Avoid</b>              | Incompatible products. Exposure to moist air or water.                 |
| <b>Incompatible Materials</b>           | Strong oxidizing agents, Strong acids, Bases                           |
| <b>Hazardous Decomposition Products</b> | Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> ), Sulfur oxides |

**Hazardous Polymerization** Hazardous polymerization does not occur.

**Hazardous Reactions** None under normal processing.

## 11. Toxicological information

### Acute Toxicity

#### Product Information Component Information

| Component                                      | LD50 Oral         | LD50 Dermal       | LC50 Inhalation |
|--|-------------------|-------------------|-----------------|
| Toluene-4-sulfonate, 2,3-epoxypropyl, (2S)-(+) | >5000 mg/kg (Rat) | >2000 mg/kg (Rat) | Not listed      |

**Toxicologically Synergistic Products** No information available

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Irritation** No information available

**Sensitization** May cause sensitization by skin contact

**Carcinogenicity** May cause cancer. The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Component                                      | CAS-No     | IARC       | NTP        | ACGIH      | OSHA       | Mexico     |
|--|------------|------------|------------|------------|------------|------------|
| Toluene-4-sulfonate, 2,3-epoxypropyl, (2S)-(+) | 70987-78-9 | Not listed | Not listed | Not listed | Not listed | Not listed |

**Mutagenic Effects** Possible risk of irreversible effects

**Reproductive Effects** No information available.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

**STOT - single exposure** None known

**STOT - repeated exposure** None known

**Aspiration hazard** No information available

**Symptoms / effects, both acute and delayed** Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

**Endocrine Disruptor Information** No information available

**Other Adverse Effects** The toxicological properties have not been fully investigated.

## 12. Ecological information

### Ecotoxicity

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment.

| Component                                      | Freshwater Algae | Freshwater Fish                    | Microtox   | Water Flea         |
|--|------------------|------------------------------------|------------|--------------------|
| Toluene-4-sulfonate, 2,3-epoxypropyl, (2S)-(+) | Not listed       | LC50: 4.2 mg/L/96h (Rainbow Trout) | Not listed | EC50: 2.0 mg/L/48h |

**Persistence and Degradability** Persistence is unlikely

**Bioaccumulation/ Accumulation** No information available.

**Mobility** Will likely be mobile in the environment due to its water solubility.

| Component                                      | log Pow |
|--|---------|
| Toluene-4-sulfonate, 2,3-epoxypropyl, (2S)-(+) | 1.45    |

### 13. Disposal considerations

**Waste Disposal Methods** Should not be released into the environment.

### 14. Transport information

#### DOT

UN-No UN3077  
 Proper Shipping Name Environmentally hazardous substances, solid, n.o.s.  
 Technical Name Toluene-4-sulfonate, 2,3-epoxypropyl, (2S)-(+)  
 Hazard Class 9  
 Packing Group III

#### TDG

UN-No UN3077  
 Proper Shipping Name Environmentally hazardous substances, solid, n.o.s.  
 Hazard Class 9  
 Packing Group III

#### IATA

UN-No UN3077  
 Proper Shipping Name Environmentally hazardous substances, solid, n.o.s.  
 Hazard Class 9  
 Packing Group III

#### IMDG/IMO

UN-No UN3077  
 Proper Shipping Name Environmentally hazardous substances, solid, n.o.s.  
 Hazard Class 9  
 Packing Group III

### 15. Regulatory information

#### United States of America Inventory

| Component                                      | CAS-No     | TSCA | TSCA Inventory notification - Active/Inactive | TSCA - EPA Regulatory Flags |
|--|------------|------|---|-----------------------------|
| Toluene-4-sulfonate, 2,3-epoxypropyl, (2S)-(+) | 70987-78-9 | -    | -   | -                           |

#### Legend:

**TSCA** - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

**TSCA 12(b)** - Notices of Export Not applicable

#### International Inventories

Canada (DSL/NDL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Australia (AICS), China (IECSC), Korea (ECL).

| Component                                      | CAS-No     | DSL | NDL | EINECS | PICCS | ENCS | AICS | IECSC | KECL |
|--|------------|-----|-----|--------|-------|------|------|-------|------|
| Toluene-4-sulfonate, 2,3-epoxypropyl, (2S)-(+) | 70987-78-9 | -   | -   | -      | X     | -    | -    | -     | -    |

#### U.S. Federal Regulations

**SARA 313** Not applicable

**SARA 311/312 Hazard Categories** See section 2 for more information

|   |   |
|---|---|
| <b>CWA (Clean Water Act)</b>                                | Not applicable  |
| <b>Clean Air Act</b>  | Not applicable  |
| <b>OSHA - Occupational Safety and Health Administration</b> | Not applicable  |
| <b>CERCLA</b>   | Not applicable  |
| <b>California Proposition 65</b>                            | This product does not contain any Proposition 65 chemicals. |
| <b>U.S. State Right-to-Know Regulations</b>                 | Not applicable  |
| <b>U.S. Department of Transportation</b>                    |   |
| Reportable Quantity (RQ):                                   | N   |
| DOT Marine Pollutant  | N   |
| DOT Severe Marine Pollutant                                 | N   |
| <b>U.S. Department of Homeland Security</b>                 | This product does not contain any DHS chemicals.            |
| <b><u>Other International Regulations</u></b>               |   |
| <b>Mexico - Grade</b>                                       | Slight risk, Grade 1  |

## 16. Other information

|                         |   |
|-------------------------|---|
| <b>Prepared By</b>      | Health, Safety and Environmental Department<br>Email: tech@alfa.com<br>www.alfa.com |
| <b>Revision Date</b>    | 14-Feb-2020   |
| <b>Print Date</b>       | 14-Feb-2020   |
| <b>Revision Summary</b> | SDS authoring systems update, replaces ChemGes SDS No. 70987-78-9.                  |

### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of SDS**