

# SAFETY DATA SHEET

according to 1907/2006/EC, Article 3

Version no. : 2.1  
Prepared on : 30.03.2019  
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## SECTION 1: Identification of the substance/mixture and of the company/undertaking.

### 1.1 Product identifiers

**Product name** Propylene oxide  
**Product Number** PSI261  
**Brand** PureSynth research chemicals  
**CAS No.** 75-56-9

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Identified uses** : Laboratory Chemicals

### 1.3 Details of the supplier of the safety data sheet

**Company** PureSynth Research Chemicals Pvt. Ltd.  
FB-121, High Street mall, Kapurbawdi junction, Thane (W)

### 1.4 Emergency telephone number

**Worldwide Helpline No.:** 1800-120-1234-34

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008

Flammable liquids (Category 1), H224 Acute toxicity, Oral (Category 4), H302  
Acute toxicity, Inhalation (Category 3), H331 Acute toxicity, Dermal (Category 3), H311 Skin irritation (Category 2), H315  
Eye irritation (Category 2), H319  
Germ cell mutagenicity (Category 1B), H340  
Carcinogenicity (Category 1B), H350  
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335 For the full text of the H-Statements mentioned in this Section, see Section 16.

### 2.2 Label elements

#### Labelling according Regulation (EC) No 1272/2008

**Pictogram**



**Signal word** Danger

**Hazard statement(s)**  
H315 Causes skin irritation.

|                                   |                                                                                                                                                                           |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| H224                              | Extremely flammable in liquid and vapour.                                                                                                                                 |
| H319                              | Causes serious eye irritation.                                                                                                                                            |
| H335                              | May cause respiratory irritation.                                                                                                                                         |
| H340                              | May cause genetic defects.                                                                                                                                                |
| H350                              | May cause cancer.                                                                                                                                                         |
| H302                              | Harmful if swallowed.                                                                                                                                                     |
| <b>Precautionary statement(s)</b> |                                                                                                                                                                           |
| P201                              | Obtain special instructions before use                                                                                                                                    |
| P302 + P352                       | IF ON SKIN: Wash with plenty of water.                                                                                                                                    |
| P305 + P351 + P338                | 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/doctor. |
| P301 + P312 + P330                | IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.                                                                                                |
| Supplemental Hazard Statements    | none                                                                                                                                                                      |

### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## SECTION 3: Composition / information on ingredients

### 3.1 Substances

| Common names & Synonyms | Mol. formula                                                                                                                                          | CAS number    |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| 1,2-Epoxypropane        | C <sub>3</sub> H <sub>6</sub> O                                                                                                                       | 75-56-9       |
| Component               | Classification                                                                                                                                        | Concentration |
| Methyloxirane           | Flam. Liq. 1; Acute Tox. 4; Acute Tox. 3; Skin Irrit. 2; Eye Irrit. 2; Muta. 1B; Carc. 1B; STOT SE 3; H224, H302, H331, H311, H315, H319, H340, H350, | <= 100 %      |

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

## SECTION 4: First aid measures

### Description of first aid measures

|                                                                    |                                                                                                                     |
|--------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>General advice</b>                                              | Consult a physician. Show this safety data sheet to the doctor in attendance.                                       |
| <b>If inhaled</b>                                                  | If breathed in, move person into fresh air. If not breathing, give artificial respiration.                          |
| <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 as precaution.                                                                |
| <b>If swallowed</b>                                                | Never give anything by mouth to an unconscious person. Rinse mouth with water.                                      |
| <b>Most important symptoms and effects, both acute and delayed</b> | 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

#### SECTION 5: Firefighting measures

|                                                              |                                                                          |
|--------------------------------------------------------------|--------------------------------------------------------------------------|
| <b>Extinguishing media</b>                                   | Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| <b>Suitable extinguishing media</b>                          |                                                                          |
| <b>Special hazards arising from the substance or mixture</b> | Carbon oxides                                                            |
| <b>Advice for firefighters</b>                               | Wear self-contained breathing apparatus for firefighting if necessary    |
| <b>Further information</b>                                   | No data available                                                        |

#### SECTION 6: Accidental release measures

|                                                                            |                                                                                                                                                                                                                            |
|----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Personal precautions, protective equipment and emergency procedures</b> | Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8. |
| <b>Environmental precautions</b>                                           | Do not let product enter drains.                                                                                                                                                                                           |
| <b>Methods and materials for containment and cleaning up</b>               | Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.                                                                                                 |
| <b>Reference to other sections</b>                                         | For disposal see section 13.                                                                                                                                                                                               |

#### SECTION 7: Handling and storage

|                                                                     |                                                                                                                                                                                                                                       |
|---------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Precautions for safe handling</b>                                | Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection. For precautions see section 2.2.                                                                              |
| <b>Conditions for safe storage, including any incompatibilities</b> | Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Over time, pressure may increase causing containers to burst. Handle and open container with care. Heat sensitive. Cool to 0°C before opening. |
| <b>Specific end use(s)</b>                                          | Apart from the uses mentioned in section 1.2 no other specific uses are stipulated                                                                                                                                                    |

#### SECTION 8: Exposure controls / Personal protection

|                                         |                                                                                                                                                                                                                |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Control parameters</b>               | Components with workplace control parameters                                                                                                                                                                   |
| <b>Exposure controls</b>                |                                                                                                                                                                                                                |
| <b>Appropriate engineering controls</b> | Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.                                                                                     |
| <b>Personal protective equipment:</b>   |                                                                                                                                                                                                                |
| <b>Eye / face protection</b>            | 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).                                                   |
| <b>Skin protection</b>                  | 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.

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm Break through time: 480 min

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm Break through time: 480 min

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

**Body Protection**

Complete suit protecting against chemicals, 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 particle respirator type N100 (US) or type P3 (EN 143) 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**

Do not let product enter drains.

**SECTION 9: Physical and chemical properties**

|                                                       |                                   |
|-------------------------------------------------------|-----------------------------------|
| <b>Appearance</b>                                     | Form: liquid                      |
|                                                       | Colour : colourless               |
| <b>Odour</b>                                          | No data available                 |
| <b>pH - Value</b>                                     | No data available                 |
| <b>Density</b>                                        | No data available                 |
| <b>Boiling Point</b>                                  | 34 °C - lit                       |
| <b>Melting Point</b>                                  | -112°C                            |
| <b>Solubility in water</b>                            | Soluble                           |
| <b>Flash point</b>                                    | -37 °C - closed cup               |
| <b>Vapour pressure</b>                                | No data available                 |
| <b>Auto -ignition temperature</b>                     | No data available                 |
| <b>Vapour density</b>                                 | 2,01 - (Air = 1.0)                |
| <b>Flammability (solid, gas)</b>                      | No data available                 |
| <b>Evaporation rate</b>                               | No data available                 |
| <b>Partition coefficient: n- octanol / water</b>      | log Pow: 0,03                     |
| <b>Viscosity</b>                                      | 0,374 mm <sup>2</sup> /s at 20 °C |
| <b>Explosive properties</b>                           | No data available                 |
|                                                       | Upper explosion limit: 38,8 %(V)  |
| <b>Upper / lower flammability or explosive limits</b> | Lower explosion limit: 2,1 %(V)   |
| <b>Oxidizing properties</b>                           | No data available                 |

**Other safety information:** No data available

#### SECTION 10: Stability and reactivity

|                                           |                                                                                                                                     |
|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| <b>Reactivity</b>                         | No data available                                                                                                                   |
| <b>Chemical stability</b>                 | Stable under recommended storage conditions                                                                                         |
| <b>Possibility of hazardous reactions</b> | No data available                                                                                                                   |
| <b>Condition to avoid</b>                 | No data available                                                                                                                   |
| <b>Incompatible materials</b>             | Oxidizing agents, Copper, Strong acids, Strong bases, Peroxides, Bases, Amines                                                      |
|                                           | Other decomposition products - No data available                                                                                    |
| <b>Hazardous decomposition products</b>   | Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxide .In the event of fire: see section 5 |

#### SECTION 11: Toxicological information

|                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Acute toxicity</b>                                     | LD50 Oral - Rat - male and female - 382 - 587 mg/kg (OECD Test Guideline 401)<br>LC50 Inhalation - Rat - male and female - 4 h - 9,95 mg/l (OECD Test Guideline 403)<br>LD50 Dermal - Rabbit - 950 mg/kg Remarks: (ECHA)                                                                                                                                                                                         |
| <b>Skin corrosion/irritation</b>                          | Skin - Rabbit<br>Result: Severe skin irritation (Draize Test)<br>Remarks: (RTECS)                                                                                                                                                                                                                                                                                                                                |
| <b>Serious eye damage/eye irritation</b>                  | Eyes - Rabbit<br>Result: Severe irritations (Draize Test)<br>Remarks: (RTECS)                                                                                                                                                                                                                                                                                                                                    |
| <b>Respiratory or skin sensitization</b>                  | (Regulation (EC) No 1272/2008, Annex VI)<br>adjuvant test - Guinea pig Result: negative<br>Remarks: (ECHA)                                                                                                                                                                                                                                                                                                       |
| <b>Germ cell mutagenicity</b>                             | cause genetic defects. Ames test<br>Escherichia coli/Salmonella typhimurium Result: positive<br>In vitro mammalian cell gene mutation test Mouse lymphoma test Result: positive<br>Mutagenicity (mammal cell test): chromosome aberration. Result: positive<br>OECD Test Guideline 474<br>Rat - male - Red blood cells (erythrocytes) Result: negative<br>OECD Test Guideline 475 Rat - male<br>Result: negative |
| <b>Carcinogenicity</b>                                    | Presumed to have carcinogenic potential for humans<br>IARC: 2B - Group 2B: Possibly carcinogenic to humans (Methyloxirane)                                                                                                                                                                                                                                                                                       |
| <b>Reproductive toxicity</b>                              | No data available                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Specific target organ toxicity - single exposure</b>   | Inhalation - May cause respiratory irritation. - Respiratory system                                                                                                                                                                                                                                                                                                                                              |
| <b>Specific target organ toxicity - repeated exposure</b> | No data available                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Aspiration hazard</b>                                  | RTECS: Not available<br>Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., Cough, Shortness of breath, Headache, Nausea                                                                                                                                                                                                                           |
| <b>Additional Information</b>                             | To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.                                                                                                                                                                                                                                                                                        |

## SECTION 12: Ecological information

|                                                     |                                                                                                  |
|-----------------------------------------------------|--------------------------------------------------------------------------------------------------|
| <b>Toxicity</b>                                     |                                                                                                  |
| Toxicity to fish                                    | static test LC50 - Oncorhynchus mykiss (rainbow trout) - 52 mg/l - 96 h                          |
| Toxicity to daphnia and other aquatic invertebrates | static test EC50 - Daphnia magna (Water flea) - 350 mg/l - 48 h (US-EPA)                         |
| Toxicity to algae                                   | static test ErC50 - Pseudokirchneriella subcapitata (green algae) - 240 mg/l - 96 h              |
| Toxicity to bacteria                                | EC10 - Bacteria - 10 mg/l - 17 h                                                                 |
| <b>Persistence and degradability</b>                | aerobic - Exposure time 28 d<br>Result: 96 % - Readily biodegradable. (OECD Test Guideline 301C) |
| <b>Bioaccumulative potential</b>                    | Due to the distribution coefficient n-octanol/water, accumulation in organisms is not expected.  |
| <b>Mobility in soil</b>                             | No data available                                                                                |

**Results of PBT and vPvB assessment**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**Other adverse effects**

Stability in water

- 15,7 yr, Remarks: reaction with hydroxyl radicals(calculated)

**SECTION 13: Disposal considerations**

**Waste treatment methods**

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

**Products**

**Contaminated packaging**

Dispose of as unused product.

**SECTION 14: Transport information**

|                  | UN no. | UN proper shipping name | Hazard Class(es) | Packaging group | Marine Pollutant |
|------------------|--------|-------------------------|------------------|-----------------|------------------|
| <b>ADR / RID</b> | 1280   | Propylene oxide         | 3                | I               | No               |
| <b>IMDG</b>      | 1280   | Propylene oxide         | 3                | I               | No               |
| <b>IATA</b>      | 1280   | Propylene oxide         | 3                | I               | No               |

**SECTION 15: Regulatory information**

**Safety, health and environmental regulations/legislation specific for the substance or mixture**

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

**Chemical safety assessment**

For this product a chemical safety assessment was not carried out.

**SECTION 16: Other information**

The information in this SDS is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. The user must be determined suitability of this information for his application.