



## MATERIAL SAFETY DATA SHEET

### SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product/Chemical Name:** Propylene glycol

**Synonyms:**

1,2-Dihydroxypropane; Methylethylene glycol; Monopropylene glycol;  
1,2-Propylene glycol; 1,2-Propanediol; 2-Hydroxypropanol.

**Chemical Formula:** C<sub>3</sub>H<sub>8</sub>O<sub>2</sub>

**Structure Formula:** CH<sub>3</sub>—CH—CH<sub>2</sub>  
                  |      |  
                 OH  OH

**General Use:** It can be used to produce unsaturated polyester resin. It is also the stuff which is used to produce assistant such as plasticizing agent, dehydrant, surface active agent, solidification agent, refrigerant, moisturizer, bondant.

**Company:** Shandong Shida Shenghua Chemical Group Co., Ltd.

**Address:** No. 565, Beier Road, Dongying City, Shandong Province, China

**For information, call:** 0086 546 8395148

**For Emergency, call:** 0086 546 8395056

### SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS

CAS #	Chemical Name	%	EINECS #
57-55-6	Propylene glycol	≥ 99.0	200-338-0

**Hazard Symbols:** None Listed.

**Risk Phrases:** None Listed.

### SECTION 3 - HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW

**Appearance:** colorless viscous liquid liquid. Caution! Hygroscopic. May cause eye, skin, and respiratory tract irritation.

**Target Organs:** Central nervous system.

#### POTENTIAL HEALTH EFFECTS

**Eye:** May cause slight transient injury.

**Skin:** May be absorbed through damaged or abraded skin in harmful amounts. Allergic reactions have been reported. A single prolonged skin exposure is not likely to result in the material being absorbed in harmful amounts. Prolonged contact is essentially non-irritating to skin. Repeated exposures may cause problems. Propylene glycol causes allergic contact dermatitis in up to 12.5% of tested individuals.

**Ingestion:** May cause gastrointestinal irritation with nausea, vomiting and diarrhea. Low hazard for usual



industrial handling. May cause hemoglobinuric nephrosis. May cause changes in surface EEG.

**Inhalation:** Low hazard for usual industrial handling. May cause respiratory tract irritation. Inhalation of a mist of this material may cause respiratory tract irritation. Material has a low vapor pressure, so exposure to vapor is not likely.

**Chronic:** Exposure to large doses may cause central nervous system depression. Chronic ingestion may cause lactic acidosis and possible seizures. Exposures to propylene glycol having no adverse effects on the mother should have no effect on the fetus. Birth defects are unlikely. In animal studies, propylene glycol has been shown not to interfere with reproduction.

## 3BSECTION 4 - FIRST AID MEASURES

**Eyes:** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid.

**Skin:** In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical aid if irritation develops and persists. Wash clothing before reuse.

**Ingestion:** If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.

**Inhalation:** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

**Notes to Physician:** Persons with impaired kidney function may be more susceptible to the effects of this substance. Treat symptomatically and supportively.

## 4BSECTION 5 - FIRE FIGHTING MEASURES

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

**Extinguishing Media:** Use water spray, dry chemical, carbon dioxide, or alcohol-resistant foam.

**Autoignition Temperature:** 371 °C

**Flash Point:** 99 °C

**Explosion Limits, lower:** 3.6 vol %

**Explosion Limits, upper:** 12.6 vol %

**NFPA Rating:** (estimated) Health: 0; Flammability: 1; Instability: 0

## 5BSECTION 6 - ACCIDENTAL RELEASE MEASURES

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation.

## 6BSECTION 7 - HANDLING AND STORAGE

**Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation.



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**Storage:** Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Store protected from moisture.

## 7B SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

**Engineering Controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

### EXPOSURE LIMITS

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Propylene glycol	none listed	none listed	none listed

### **OSHA Vacated PELs:**

**Propylene glycol:** No OSHA Vacated PELs are listed for this chemical.

### PERSONAL PROTECTIVE EQUIPMENT

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

## 8B SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Liquid

**Color:** colorless viscous liquid

**pH:** Not available.

**Vapor Pressure:** 0.08 mm Hg (20°C)

**Vapor Density:** 2.62 (air=1)

**Evaporation Rate:** Not available.

**Viscosity:** 0.581 cps (20°C)

**Boiling Point:** 187°C

**Freezing/Melting Point:** -60 °C

**Solubility in water:** Soluble.

**Specific Gravity/Density:** 1.0360 g/cm<sup>3</sup>

**Molecular Formula:** C<sub>3</sub>H<sub>8</sub>O<sub>2</sub>

**Molecular Weight:** 76.09

## 9B SECTION 10 - STABILITY AND REACTIVITY

**Chemical Stability:** Stable under normal temperatures and pressures. Hygroscopic: absorbs moisture or water from the air.

**Conditions to Avoid:** Excess heat, moist air.



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**Incompatibilities with Other Materials:** Strong oxidizing agents.

**Hazardous Decomposition Products:** Carbon monoxide, carbon dioxide, aldehydes.

**Hazardous Polymerization:** Will not occur.

## 10BSECTION 11 - TOXICOLOGICAL INFORMATION

### RTECS#:

CAS# 57-55-6: TY2000000

### LD50/LC50:

CAS# 57-55-6: Draize test, rabbit, eye: 100 mg Mild; Draize test, rabbit, eye: 500 mg/24H Mild; Oral, mouse: LD50 = 22 gm/kg; Oral, rabbit: LD50 = 18500 mg/kg; Oral, rat: LD50 = 20 gm/kg; Skin, rabbit: LD50 = 20800 mg/kg.

### Carcinogenicity:

#### Propylene glycol -

Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

### Epidemiology:

No information available.

### Teratogenicity:

An expert panel convened by the NTP's Center for the Evaluation of Risks to Human Reproduction concluded 2/13/03 that developmental and reproductive risks stemming from exposure to the chemicals propylene glycol and ethylene glycol are negligible.

### Reproductive Effects:

When propylene glycol was given at 30 percent in the diet, it affected reproduction in rates in rats. It has generally not affected fertility or reproduction, except at very high doses where effects could be attributed to nutritional deficiency.

### Neurotoxicity:

No information available.

### Mutagenicity:

DNA Inhibition: Subcutaneous, mouse = 8000 mg/kg.; Cytogenetic Analysis: Subcutaneous, mouse = 8000 mg/kg.; Cytogenetic Analysis: Hamster, Fibroblast = 32 gm/L.

### Other Studies:

**Standard Draize Test: Administration into the eye (rabbit) = 100 mg (Mild). Standard Draize Test: Administration into the eye (rabbit) = 500 mg/24H (Mild). Standard Draize Test: Administration onto the skin (human) = 500 mg/7days (Mild). Standard Draize Test: Administration onto the skin (human) = 104 mg/3 days-Intermittent (Moderate).**

## 11BSECTION 12 - ECOLOGICAL INFORMATION

### Ecotoxicity:

**Water flea Daphnia:** EC50 > 10000 mg/L; 48 Hr; Unspecified Bacteria:

**Phytobacterium phosphoreum:** EC50 = 710 mg/L; 30 min; Microtox

**test Fish:** Goldfish: LC50 > 5000 mg/L; 24 Hr; Unspecified Fish: Guppy:

LC50 > 1000 mg/L; 48 Hr; Unspecified If released to water, 1,2-propanediol is expected to degrade relatively



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rapidly via biodegradation. If released to soil, relatively rapid biodegradation should also occur. Significant leaching in soil can be predicted.

## SECTION 13 - DISPOSAL CONSIDERATIONS

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P-Series:** None listed.

**RCRA U-Series:** None listed.

## SECTION 14 - TRANSPORT INFORMATION

### US DOT

No information available

### Canadian TDG

No information available.

### IMO

Not dangerous

## SECTION 15 - REGULATORY INFORMATION

### US FEDERAL

#### TSCA

CAS# 57-55-6 is listed on the TSCA inventory.

#### Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

#### Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

#### Section 12b

None of the chemicals are listed under TSCA Section 12b.

#### TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

### SARA

#### CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

#### SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

#### Section 313

No chemicals are reportable under Section 313.

#### Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.



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## **Clean Water Act:**

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

## **OSHA:**

None of the chemicals in this product are considered highly hazardous by OSHA.

## **STATE**

Propylene glycol can be found on the following state right to know lists: Pennsylvania, Minnesota.

California No Significant Risk Level: None of the chemicals in this product are listed.

## **European/International Regulations**

### **European Labeling in Accordance with EC Directives**

Hazard Symbols: Not available.

Risk Phrases:

Safety Phrases:

S 24/25 Avoid contact with skin and eyes.

### **WGK (Water Danger/Protection)**

CAS# 57-55-6: 0

### **United Kingdom Occupational Exposure Limits**

CAS# 57-55-6: OES-United Kingdom, TWA 150 ppm TWA (vapor and particulates); 474 mg/m<sup>3</sup> TWA (vapor and particulates); 10

### **United Kingdom Maximum Exposure Limits**

#### **Canada**

CAS# 57-55-6 is listed on Canada's DSL List.

This product has a WHMIS classification of Not controlled..

CAS# 57-55-6 is listed on Canada's Ingredient Disclosure List.

## **Exposure Limits**

## **13B SECTION 16 - ADDITIONAL INFORMATION**

**MSDS Creation Date:** 06/20/2003, **Revision #3 Date:** 17/06/2013

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if the company has been advised of the possibility of such damages.