MATERIAL SAFETY DATA SHEET
REQUIRED UNDER SAFETY AND HEALTH REGULATION FOR SHIP REPAIRING

DATE UPDATED: JULY 25, 2016

## SECTION 1. - - - - - - - - - CHEMICAL IDENTIFICATION- - - - - - - - - -

**Product Name** Propylene glycol ( 1,2-Propanediol)

**Product Code(s)** PD0450

**Recommended Use** For Laboratory Use Only
Not for Human or Animal Drug Use

## SECTION 2. - - - - - - - - - - HAZARDS IDENTIFICATION - - - - - - - - -

### Emergency Overview

**WHMIS Classification**

Not Rated

**GHS Classification**
Skin corrosion/irritation (Category 3)

**GHS Label elements, including precautionary statements**

Pictogram none

Signal word Warning

Hazard statement(s)
H316 Causes mild skin irritation.

Precautionary statement(s) none

**HMIS Classification**
**Health hazard**: 1
**Flammability**: 1
**Physical hazards**: 0

**Potential Health Effects**

**Inhalation** May be harmful if inhaled. May cause respiratory tract irritation.
**Skin** May be harmful if absorbed through skin. May cause skin irritation.
**Eyes** May cause eye irritation.
**Ingestion** May be harmful if swallowed.

## SECTION 3. - - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - - -

| Chemical Name | EC No. | CAS-No | Weight % |
|---|---|---|---|
| 1,2-Propanediol | 200-338-0 | 57-55-6 | 95-100 |

## SECTION 4. - - - - - - - - - - FIRST-AID MEASURES- - - - - - - - - - -

**General advice**
Consult a physician. Show this safety data sheet to the doctor in attendance.

**If inhaled**
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact**
Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact**
Flush eyes with water as a precaution.

**If swallowed**
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

## SECTION 5. - - - - - - - - - FIRE FIGHTING MEASURES - - - - - - - - - -

**Conditions of flammability**
Not flammable or combustible.

**Suitable extinguishing media**
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special protective equipment for firefighters**
Wear self-contained breathing apparatus for firefighting if necessary.

**Hazardous combustion products**
Hazardous decomposition products formed under fire conditions. - Carbon oxides

**Explosion data - sensitivity to mechanical impact**
No data available

**Explosion data - sensitivity to static discharge**
No data available

## SECTION 6. - - - - - - - - ACCIDENTAL RELEASE MEASURES- - - - - - - - -

**Personal precautions**
Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.

**Environmental precautions**
Do not let product enter drains.

**Methods and materials for containment and cleaning up**
Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

## SECTION 7. - - - - - - - - - - HANDLING AND STORAGE- - - - - - - - - - -

**Conditions for safe storage**
Keep container tightly closed in a dry and well-ventilated place.

Hygroscopic. Light sensitive.

## SECTION 8. - - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - - -

**Control parameters**

| | |
|---|---|
| **Exposure Guidelines** | This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies. |

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|---|---|---|---|
| 1,2-Propanediol<br>57-55-6 | - | - | - |

**Appropriate engineering controls**

**Engineering Measures** Showers
Eyewash stations
Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/Face Protection** Avoid contact with eyes. Safety glasses with side-shields.

**Skin and Body Protection** Wear protective gloves/clothing.

**Respiratory Protection** If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

## SECTION 9. - - - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - - - -

### Appearance

| | |
|---|---|
| Form | liquid, clear, viscous |
| Colour | colourless |

### Safety data

| | |
|---|---|
| pH | No data available |
| Melting point/freezing point | Melting point/range: -60 °C (-76 °F) |
| Boiling point | 187 °C (369 °F) |
| Flash point | 103 °C (217 °F) - closed cup |
| Ignition temperature | 415 °C (779 °F) |
| Auto-ignition temperature | No data available |
| Lower explosion limit | 2.6 %(V) |
| Upper explosion limit | 12.5 %(V) |
| Vapour pressure | 0.11 hPa (0.08 mmHg) at 20 °C (68 °F) |
| Density | 1.036 g/mL at 25 °C (77 °F) |
| Water solubility | No data available |
| Partition coefficient: n-octanol/water | No data available |
| Relative vapour density | 2.63<br>- (Air = 1.0) |
| Odour | No data available |
| Odour Threshold | No data available |
| Evaporation rate | No data available |

## SECTION 10. - - - - - - - - -STABILITY AND REACTIVITY - - - - - - - - -

**Chemical stability**
Stable under recommended storage conditions.

**Possibility of hazardous reactions**
No data available

**Conditions to avoid**
Exposure to moisture

**Materials to avoid**
Acid chlorides, Acid anhydrides, Oxidizing agents, Chloroformates, Reducing agents

**Hazardous decomposition products**
Hazardous decomposition products formed under fire conditions. - Carbon oxides
Other decomposition products - No data available

## SECTION 11. - - - - - - - - - TOXICOLOGICAL INFORMATION - - - - - - - -

**Acute toxicity**

**Oral LD50**
LD50 Oral - Rat - 20,000 mg/kg

**Inhalation LC50**
No data available

**Dermal LD50**
LD50 Dermal - Rabbit - 20,800 mg/kg

**Other information on acute toxicity**
LD50 Intramuscular - Rat - 14 g/kg

LD50 Intravenous - Dog - 26 g/kg

LD50 Intraperitoneal - Rat - 6,660 mg/kg

LD50 Subcutaneous - Rat - 22,500 mg/kg

LD50 Intravenous - Rat - 6,423 mg/kg

LD50 Intraperitoneal - Mouse - 9,718 mg/kg

Remarks: Lungs, Thorax, or Respiration:Chronic pulmonary edema. Kidney, Ureter, Bladder:Changes in both tubules and glomeruli. Blood:Changes in spleen.

LD50 Subcutaneous - Mouse - 17,370 mg/kg

Remarks: Behavioral:Change in motor activity (specific assay). Behavioral:Muscle contraction or spasticity. Cyanosis

LD50 Intravenous - Mouse - 6,630 mg/kg

LD50 Intravenous - Rabbit - 6,500 mg/kg

**Skin corrosion/irritation**
Skin - Human - Mild skin irritation - 7 d

**Serious eye damage/eye irritation**
Eyes - Rabbit - Mild eye irritation

**Respiratory or skin sensitisation**
No data available

**Germ cell mutagenicity**
No data available

**Carcinogenicity**

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.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

**Reproductive toxicity**
No data available

**Teratogenicity**
No data available

**Specific target organ toxicity - single exposure (Globally Harmonized System)**
No data available

**Specific target organ toxicity - repeated exposure (Globally Harmonized System)**
No data available

**Aspiration hazard**
No data available

**Potential health effects**

| | |
|---|---|
| **Inhalation** | May be harmful if inhaled. May cause respiratory tract irritation. |
| **Ingestion** | May be harmful if swallowed. |
| **Skin** | May be harmful if absorbed through skin. May cause skin irritation. |
| **Eyes** | May cause eye irritation. |

**Signs and Symptoms of Exposure**
Gastrointestinal disturbance, Nausea, Headache, Vomiting, Central nervous system depression, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Synergistic effects**
No data available

**Additional Information**
RTECS: TY2000000

## SECTION 12. - - - - - - - - - ECOLOGICAL INFORMATION - - - - - - - - - -

**Toxicity**

| | |
|---|---|
| Toxicity to fish | mortality NOEC - Pimephales promelas (fathead minnow) - 52,930 mg/l - 96 h |
| Toxicity to daphnia and other aquatic invertebrates | mortality NOEC - Daphnia (water flea) - 13,020 mg/l - 48 h |
| | EC50 - Daphnia magna (Water flea) - > 10,000 mg/l - 48 h |

**Persistence and degradability**
No data available

**Bioaccumulative potential**
No data available

**Mobility in soil**
No data available

**PBT and vPvB assessment**
No data available

**Other adverse effects**
No data available

## SECTION 13. - - - - - - - - - DISPOSAL CONSIDERATIONS - - - - - - - - -

**Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

**Contaminated packaging**

Dispose of as unused product.

## SECTION 14. - - - - - - - - - - TRANSPORT INFORMATION - - - - - - - - -

**DOT (US)**

Not dangerous goods

**IMDG**

Not dangerous goods

**IATA**

Not dangerous goods

## SECTION 15. - - - - - - - - - REGULATORY INFORMATION - - - - - - - - - -

**WHMIS Classification**

Not Rated

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

## SECTION 16. - - - - - - - - - - OTHER INFORMATION- - - - - - - - - - - -

| | |
|---|---|
| **Issuing Date** | 13-Aug-2009 |
| **Revision Date** | 25-Jul-2016 |
| **Revision Note** | No information available. |
| **Recommended Restrictions** | No information available |

**Disclaimer**

The information provided on this MSDS 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.

**End of MSDS**