### MATERIAL SAFETY DATA SHEET

**Chemical Name:** 2-Chloro-1,3-propanediol, 98%

**EMERGENCY OVERVIEW**

**Appearance:** Colorless liquid.
**GHS Pictograms:**

#### SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th>Name:</th>
<th>2-Chloro-1,3-propanediol, 98%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS #:</td>
<td>60828-45-4</td>
</tr>
<tr>
<td>NIOSH:</td>
<td>none listed</td>
</tr>
<tr>
<td>OSHA: Final PELs</td>
<td>none listed</td>
</tr>
</tbody>
</table>

**Exposure Limits:**

- **OSHA Vacated PELs:**
  - (S)-(+)-3-Chloro-1,3-propanediol: 60828-45-4
- **NIOSH: None listed**
- **OSHA: Final PELs:**
  - None listed

**Physical State:** Clear liquid
**Color:** Yellow to yellow-orange
**Odor:** Not available
**气味:** Not available
**Vapor Pressure:** 0.04 mm Hg at 25 deg C
**Vapor Density:** Not available
**Evaporation Rate:** Not available
**Viscosity:** Not available
**Boiling Point:** Not available
**Flash Point:** Not available
**Decomposition Temperature:** Not available
**Solubility in Water:** Not available
**Density:** 1.322
**Molecular Formula:** C3H7ClO2
**Molecular Weight:** 110.5055

**Chemical Stability:**

**Stable.**

**Conditions to Avoid:**

- Incompatible with strong oxidizing agents.

**Incompatibility with Other Materials:**

- Hydrogen chloride, carbon monoxide, carbon dioxide.

**Hazardous Decomposition Products:**

- Hydrogen chloride, carbon monoxide, carbon dioxide.

**Hazardous Polymerization:**

- Will not occur.

**SECTION 11 - TOXICOLOGICAL INFORMATION**

- **RTIPEC:**
  - CAS: 60828-45-4: TY24032300
  - NIOSH: Not available
  - Carcinogenicity: Not listed by ACGIH, IARC, NIOSH, MTP, or OSHA

**Epidemiology:**

- No data available.

**SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS**

<table>
<thead>
<tr>
<th>CAS #:</th>
<th>60828-45-4</th>
<th>ACGIH: none listed</th>
</tr>
</thead>
<tbody>
<tr>
<td>NIOSH:</td>
<td>none listed</td>
<td></td>
</tr>
<tr>
<td>OSHA: Final PELs</td>
<td>none listed</td>
<td></td>
</tr>
</tbody>
</table>

**Risk Phrases:** 23/24/25 36/37/38 41

**EMERGENCY IDENTIFICATION**

**Health Hazards:**

- **Eye:** Causes eye irritation.
- **Skin:** Causes skin irritation. Toxic in contact with skin.
- **Inhalation:** May cause irritation of the digestive tract. Poison by ingestion.
- **Ingestion:** May cause irritation of the digestive tract. Poison by ingestion.

**Chronic Effects:**

- **Eye:** Causes eye irritation.
- **Skin:** Causes skin irritation. Toxic in contact with skin.
- **Inhalation:** May cause irritation of the digestive tract. Poison by ingestion.
- **Ingestion:** May cause irritation of the digestive tract. Poison by ingestion.

**MEDICAL TREATMENT:**

- Immediate flushing of eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.
- Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
- Wash mouth out with water.
- Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

**SECTION 4 - FIRST AID MEASURES**

**General Information:**

- Use water spray, dry chemical, carbon dioxide, or chemical foam.
- Autoignition Temperature: Not available
- Flash Point: Not available
- Explosive limits: Upper: Not available
- NFPA Rating: Not available

**SECTION 6 - ACCIDENTAL RELEASE MEASURES**

**General Information:**

- Use proper personal protective equipment as indicated.
Teratogenicity:
No data available.

Reproductive Effects:
No data available.

Neurotoxicity:
No data available.

Mutagenicity:
No data available.

Other Studies:
The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information.

**** SECTION 12 - ECOLOGICAL INFORMATION ****

**** SECTION 13 - DISPOSAL CONSIDERATIONS ****

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. EPA guidelines for hazardous waste classification determination are listed in 40 CFR Parts 261. Additional waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

US DOT
Shipping Name: GLYCEROL ALPHA-MONOOXYCHLORIN
Hazard Class: 8
UN Number: 2689
Packing Group: III
Canadian TCS:
No information available.

**** SECTION 14 - TRANSPORT INFORMATION ****

**** SECTION 15 - REGULATORY INFORMATION ****

US FEDERAL
TSCA
CAS# 60827-45-4 is not listed on the TSCA inventory. It is for research and development use only.

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

Chemical Test Rule
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
Chemicals are reportable under Section 313.

Clean Air Act
This material does not contain any Hazardous Air Pollutants.

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

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

STATE
(5R)-(+)-3-Chloro-1,2-propanediol is not present on state lists from CA, PA, MN, MA, FL, or NY.
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:
T: Risk Phrases
8 3/12/28 Toxic by inhalation, in contact with skin and if swallowed.
8 36/37/38 Irritating to eyes, respiratory system and skin.
8 41 Risk of serious damage to eyes.

Safety Phrases:
S 26 After contact with skin, wash immediately with plenty of water.

4.730