

Revision number: 2 Revision date: 10/06/2014

1. IDENTIFICATION

Product name: Product code: 3-Chloro-1-propanol C0270

Product use: Restrictions on use:

Company: TCI America 9211 N. Harborgate Street Portland, OR 97203 U.S.A. Telephone: +1-800-423-8616 / +1-503-283-1681 Fax: +1-888-520-1075 / +1-503-283-1987 e-mail: sales-US@TCIchemicals.com www.TCIchemicals.com

2. HAZARD(S) IDENTIFICATION

OSHA Haz Com: CFR 1910.1200:

Skin Corrosion/Irritation [Category 2] Eye Damage/Irritation [Category 2A] Flammable Liquids [Category 4]

Signal word:

Warning!

Hazard Statement(s):

Causes serious eye irritation Causes skin irritation Combustible liquid

Pictogram(s) or Symbol(s):



Precautionary Statement(s): [Prevention]

[Response]

[Storage] [Disposal] Wash hands and face thoroughly after handling. Wear protective gloves. Wear eye and face protection.
Keep away from heat, sparks, open flames or other hot surfaces. - No smoking. Wear protective gloves, eye protection and face protection.
If on skin: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice or attention. In case of fire: Use dry chemical, CO2, water spray or alcohol-resistant foam to extinguish.
Store in well-ventilated place. Keep cool.
Dispose of contents and container in accordance with US EPA guidelines for the classification and determination of hazardous waste listed in 40 CFR 261.3. (See Section 13)

Hazards not otherwise classified: [HNOC] May be harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

For laboratory research purposes.

Not for drug or household use.

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SAFETY DATA SHEET

Emergency telephone number: Chemical Emergencies: TCI America (8:00am - 5:00pm) PST +1-503-286-7624 Transportation Emergencies: Chemtrec 24-Hour +1-800-424-9300 (U.S.A.) +1-703-527-3887 (International) **Responsible department:** TCI America Environmental Health Safety and Security +1- 503-286-7624

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| 3. COMPOSITION/INFORMATION | N ON INGREDIENTS |
|--|--|
| Substance/Mixture: | Substance |
| Components: | 3-Chloro-1-propanol |
| Percent: | >98.0%(GC) |
| CAS Number: | 627-30-5 |
| Molecular Weight: | 94.54 |
| Chemical Formula: | C ₃ H ₇ CIO |
| Synonyms: | Trimethylene Chlorohydrin |
| 4. FIRST-AID MEASURES | |
| Inhalation: | Call emergency medical service. Move victim to fresh air. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Keep victim warm and quiet. Treat symptomatically and supportively. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. |
| Skin contact: | Call a poison center or doctor if you feel unwell. Remove and wash contaminated clothing before re-use. In case of contact with substance, immediately flush skin with running water for at least 20 minutes. Treat symptomatically and supportively. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. |
| Eye contact: | IMMEDIATELY flush eyes with running water for at least 15 minutes, keeping eyelids open. Contact with material may irritate or burn eyes. Call emergency medical service. Move victim to fresh air. Check for and remove any contact lenses. Keep victim warm and quiet. Treat symptomatically and supportively. Effects of exposure to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. |
| Ingestion: | Do not induce vomiting with out medical advice. If swallowed, seek medical advice immediately and show the container or label. Do not use mouth-to-mouth method if victim ingested the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Loosen tight clothing such as a collar, tie, belt or waistband. If a person vomits place them in the recovery position so that vomit will not reenter the mouth and throat. Rinse mouth. Keep victim warm and quiet. Treat symptomatically and supportively. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. |
| Symptoms/effects: | |
| Acute: Delayed: | Redness. No data available |
| Immediate medical attention: | If breathing has stopped, perform artificial respiration. Use first aid treatment according to the nature of the injury. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. |
| 5. FIRE-FIGHTING MEASURES | |
| Suitable extinguishing media: | Dry chemical, CO_2 , water spray, or alcohol-resistant foam. Consult with local fire authorities before attempting large scale fire fighting operations. |
| Specific hazards arising from the ch | emical |
| Hazardous combustion products: Other specific hazards: | These products include: Carbon oxides Halogenated compounds WARNING: Highly toxic HCl gas is produced during combustion. |
| have a very low flash point: Use of wate explosion hazard. Containers may expl | ight streams. Dike fire-control water for later disposal; do not scatter the material. CAUTION: All these products er spray when fighting fire may be inefficient. Do not use straight streams. Runoff to sewer may create fire or ode when heated. Move containers from fire area if you can do it without risk. |
| | -righters: breathing apparatus (SCBA). Structural fire fighters' protective clothing provides limited protection in fire situations tuations. Wear chemical protective clothing which is specifically recommended by the manufacturer. It may |
| 6. ACCIDENTAL RELEASE MEA | SURES |
| Personal precautions: | Avoid contact with skin, eyes, and clothing. Keep people away from and upwind of spill/leak. Use spark- proof tools and explosion-proof equipment. Remove all sources of ignition. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing (Section 8). Warn unnecessary personnel to move away. Stop leak if you can do it without risk. Ensure adequate ventilation. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. |

Personal protective equipment:

proof tools and explosion-proof equipment. Remove all sources of ignition. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing (Section 8). Warn unnecessary personnel to move away. Stop leak if you can do it without risk. Ensure adequate ventilation Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Wear eye protection (splash goggles) and face protection (full length face shield). Lab coat. Vapor respirator. Be sure to use a MSHA/NIOSH approved respirator or equivalent. Wear protective gloves (nitrile).

6. ACCIDENTAL RELEASE MEASURES

Emergency procedures:

Isolate area until gas has dispersed. In case of a spill and/or a leak, always shut off any sources of ignition, ventilate the area, and excercise caution. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Warn personnel to move away. Prevent entry into sewers, basements or confined areas; dike if needed.

Methods and materials for containment and cleaning up:

ELIMINATE all ignition sources (no smoking, flares, sparks, or flames in immediate area). All equipment used when handling the product must be grounded. Stop leak if without risk. Ventilate the area. Absorb with an inert material and put the spilled material in an appropriate waste disposal container. Use clean non-sparking tools to collect absorbed material. **Environmental precautions:**

Prevent further leakage or spillage if safe to do so. Water runoff can cause environmental damage. Prevent entry into sewers, basements or confined areas; dike if needed.

| 7. HANDLING AND STORAGE | |
|--------------------------------|---|
| Precautions for safe handling: | Do NOT breath gas, fumes, vapor, or spray. Avoid contact with skin and eyes. Keep away from heat and sources of ignition. Use explosion-proof equipment. Use only non-sparking hand tool when handling this product. Ground all equipment containing material. Take measures to prevent build up of electrostatic charge. Good general ventilation should be sufficient to control airborne levels. Keep container dry. Handle and open container with care. Wear suitable protective clothing, gloves and eye/face protection. When using do not eat, drink, or smoke. Keep away from sources of ignition. |
| Conditions for safe storage: | Keep only in the original container in a cool well-ventilated place. Keep away from sources of ignition. Store and use away from heat, sparks, open flame, or any other ignition source. Keep away from incompatibles. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Avoid prolonged storage periods. |
| Storage incompatibilities: | Combustible substances, Store away from oxidizing agents |

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limits:

No data available

Appropriate engineering controls:

Good general ventilation should be sufficient to control airborne levels. Ventilation is normally required when handling or using this product. Eyewash fountains should be provided in areas where there is any possibility that workers could be exposed to the substance. Follow safe industrial engineering/laboratory practices when handling any chemical.

Personal protective equipment

Respiratory protection:Vapor respirator. Be sure to use a MSHA/NIOSH approved respirator or equivalent.Hand protection:Wear protective gloves.Eye protection:Splash goggles.Skin and body protection:Lab coat.

9. PHYSICAL AND CHEMICAL PROPERTIES

| Physical state (20°C): Form: Color: Odor: Odor threshold: | Liquid Clear Colorless - Very pale yellow No data available No data available | | |
|--|---|--|--|
| Melting point/freezing point: Boiling point/range: Decomposition temperature: Relative density: Kinematic Viscosity: | No data available 160°C (320°F) No data available 1.14 No data available | pH: Vapor pressure: Vapor density: Dynamic Viscosity: | No data available No data available No data available No data available |
| Partition coefficient: n-octanol/water (log P _{ow}) | No data available | Evaporation rate: (Butyl Acetate = 1) | No data available |
| Flash point: Flammability (solid, gas): | 82°C (180°F) No data available | Autoignition temper Flammability or exp Lower: Upper: | |

Solubility(ies):

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10. STABILITY AND REACTIVITY

| Reactivity: Chemical Stability: Possibility of Hazardous Reactions: Conditions to avoid: Incompatible materials: Hazardous Decomposition Products: | Not Available. Moisture sensitive. Light sensitive. In use, may form flammable/explosive vapor-air mixture. Exposure to light. Exposure to moisture. Moisture sensitive. Strong acids, Strong bases, Strong oxidizing agents No data available | |
|---|---|--|
| 11. TOXICOLOGICAL INFORMATION | I | |
| RTECS Number: UA8930000 | | |
| Acute Toxicity: orl-rat LD50:2300 mg/kg | | |
| Skin corrosion/irritation: No data available | | |
| Serious eye damage/irritation: No data available | | |
| Respiratory or skin sensitization: No data available | | |
| Germ cell mutagenicity: mmo-sat 33 ug/plate (-S9) | | |
| Carcinogenicity: | | |
| No data available | | |
| IARC: No data available | NTP: No data available OSHA: No data available | |
| Reproductive toxicity: No data available | | |
| Pourtes of Exposure | Inhelation Eve contact Ingestion Skin contact | |

Routes of Exposure: Symptoms related to exposure:

Inhalation, Eye contact, Ingestion, Skin contact.

Skin contact may result in inflammation; characterized by itching, scaling, reddening, or occasionally blistering. Skin contact may result in redness, pain or dry skin. Eye contact may result in redness or pain. Overexposure may result in serious illness or death.

Potential Health Effects:

Skin and eye contact may result in irritation. May be harmful if inhaled or ingested. Overexposure may result in serious illness or death. Target organ(s): No data available

12. ECOLOGICAL INFORMATION

| Ecotoxicity Fish: Crustacea: Algae: | No data available No data available No data available |
|--|---|
| Persistence and degradability: | No data available |
| Bioaccumulative potential (BCF): | No data available |
| Mobillity in soil: | No data available |
| Partition coefficient: | No data available |
| n-octanol/water (log Pow) | |
| Soil adsorption (Koc): | No data available |
| Henry's Law: | No data available |
| constant (PaM ³ /mol) | |

| | CONSIDERATIONS | | | |
|---|--|--|---|---------------------------------|
| Disposal of produ | iner: | rules and regulati chemical incinera assistance but do regulatory compli Waste are listed i water ways, or the Dispose of as uni | ons. You may be able to disso tor equipped with an afterburn es not replace these laws, nor ance according to the law. US n 40 CFR Parts 261. The prod e soil. used product. Do not re-use er | |
| Other considerati | ons: | Observe all feder | al, state and local regulations v | hen disposing of the substance. |
| 14. TRANSPOR | T INFORMATION | | | |
| DOT (US) | | | | |
| UN number: UN2849 | Proper Shipping N 3-Chloropropanol-1 | ame: | Class or Division: 6.1 Toxic material. | Packing Group: III |
| I ATA UN number: UN2849 | Proper Shipping N 3-Chloropropanol-1 | lame: | Class or Division: 6.1 Toxic material. | Packing Group: III |
| I MDG UN number: UN2849 | Proper Shipping N 3-Chloropropanol-1 | lame: | Class or Division: 6.1 Toxic material. | Packing Group: III |
| | | | | |
| 15. REGULATO | RY INFORMATION Control Act (TSCA 8b.) the EPA Toxic Substar | | CA) inventory. | |
| 15. REGULATO Toxic Substance This product is ON US Federal Regul | Control Act (TSCA 8b.) the EPA Toxic Substar <u>ations</u> us substance and Rep | : nces Control Act (TS | CA) inventory. | |
| 15. REGULATO Toxic Substance This product is ON US Federal Regul CERCLA Hazardo SARA 313: SARA 302: | Control Act (TSCA 8b.) the EPA Toxic Substar ations us substance and Rep |): nces Control Act (TSi portable Quantity: Not Listed | CA) inventory. | |
| Toxic Substance This product is ON US Federal Regul CERCLA Hazardo SARA 313: | Control Act (TSCA 8b.) the EPA Toxic Substar ations us substance and Rep |): nces Control Act (TSi portable Quantity: Not Listed | CA) inventory. | |
| 15. REGULATO Toxic Substance of This product is ON US Federal Regul CERCLA Hazardo SARA 313: SARA 302: State Regulations State Regulations State Right-to-Kno Massachu: New Jerse Pennsylva | Control Act (TSCA 8b.) the EPA Toxic Substar ations us substance and Rep |): nces Control Act (TSi portable Quantity: Not Listed | CA) inventory. | |
| 15. REGULATO Toxic Substance This product is ON US Federal Regul CERCLA Hazardo SARA 313: SARA 302: State Regulations State Right-to-Kno Massachu: New Jerse Pennsylva California Propos | Control Act (TSCA 8b.) the EPA Toxic Substar ations us substance and Rep substance and Rep setts y nia ition 65: |): nces Control Act (TSr portable Quantity: Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed | | |
| 15. REGULATO Toxic Substance of This product is ON US Federal Regul CERCLA Hazardo SARA 313: SARA 302: State Regulations State Right-to-Kno Massachu: New Jerse Pennsylva California Propos Other Information NFPA Rating: | Control Act (TSCA 8b.) the EPA Toxic Substar ations us substance and Rep b b b b c c c c c c c c c c c c c c c |): nces Control Act (TSr portable Quantity: Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed | HMIS Classification: | 2 |
| 15. REGULATO Toxic Substance This product is ON US Federal Regul CERCLA Hazardo SARA 313: SARA 302: State Regulations State Right-to-Kno Massachu: New Jerse Pennsylva California Propos | Control Act (TSCA 8b.) the EPA Toxic Substar ations us substance and Rep substance and Rep setts y nia ition 65: |): nces Control Act (TSr portable Quantity: Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed | | 2 |
| 15. REGULATO Toxic Substance This product is ON US Federal Regul CERCLA Hazardo SARA 313: SARA 302: State Regulations State Right-to-Kno Massachu: New Jerse Pennsylva California Propos Other Information NFPA Rating: Health: Flammability: | Control Act (TSCA 8b.) the EPA Toxic Substan ations us substance and Rep substance and Rep setts y nia ition 65: |): nces Control Act (TSr portable Quantity: Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed | HMIS Classification: Health: Flammability: | 2 |

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16. OTHER INFORMATION

TCI chemicals are for research purposes only and are NOT intended for use as drugs, food additives, households, or pesticides. The information herein is believed to be correct, but does not claim to be all inclusive and should be used only as a guide. Neither the above named supplier nor any of its affiliates or subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All chemical reagents must be handled with the recognition that their chemical, physiological, toxicological, and hazardous properties have not been fully investigated or determined. All chemical reagents should be handled only by individuals who are familiar with their potential hazards and who have been fully trained in proper safety, laboratory, and chemical handling procedures. Although certain hazards are described herein, we can not guarantee that these are the only hazards which exist. Our SDS are based only on data available at the time of shipping and are subject to change without notice as new information is obtained. Avoid long storage periods since the product is subject to degradation with age and may become more dangerous or hazardous. It is the responsibility of the user to request updated SDS for products that are stored for extended periods. Disposal of unused product must be undertaken by qualified personnel who are knowledgeable in all applicable regulations and follow all pertinent safety precautions including the use of appropriate protective equipment (e.g. protective gogles, protective clothing, breathing equipment, face mask, fume hood). For proper handling and disposal, always comply with federal, state and local regulations.