



3-CHLORO-1,2-PROPANEDIOL (PROPANE-D5, 98%) (CHEMICAL PURITY 95%)

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 10/12/2010

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Version: 3.1

DLM-4633

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form	: Substance
Substance name	: 3-CHLORO-1,2-PROPANEDIOL (PROPANE-D5, 98%) (CHEMICAL PURITY 95%)
EC-No.	: 202-492-4 (Unlabeled)
CAS-No.	: 342611-01-2
Product code	: DLM-4633
Formula	: <chem>CICD2CDOHCD2OH</chem>
Synonyms	: Chlorohydrin; Monochlorohydrin; Glycerol chlorohydrin; 3-MCPD

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

1.2.1. Relevant identified uses

Main use category	: Professional use
Industrial/Professional use spec	: For professional use only

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Cambridge Isotope Laboratories, Inc.
50 Frontage Road
Andover, MA 01810
USA

USA: 1-800-322-1174 Int: 1-978-749-8000
cilsales@isotope.com www.isotope.com

Emergency telephone number

Emergency numbers:

Chemtrec: 1-800-424-9300 (24 hours)
International: 1-703-741-5970 (24 hours)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute Tox. 2 (Oral)	H300
Acute Tox. 4 (Dermal)	H312
Acute Tox. 3 (Inhalation:dust,mist)	H331
Eye Dam. 1	H318
Carc. 2	H351
Repr. 1A	H360FD

Full text of hazard classes and H-statements : see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

T+; R28
Xn; R21
T; R23
Xi; R41
Repr.Cat.1; R60
Repr.Cat.1; R61

Full text of R-phrases: see section 16

GHS-US classification

Acute Tox. 2 (Oral)	H300
Acute Tox. 4 (Dermal)	H312
Acute Tox. 3 (Inhalation)	H331
Eye Dam. 1	H318
Carc. 2	H351

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Repr. 1B

H360

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

Liver, Male reproductive system.

2.2. Label elements

Labeling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



Signal word (CLP)

: Danger

Hazard statements (CLP)

: H300 - Fatal if swallowed
H312 - Harmful in contact with skin
H318 - Causes serious eye damage
H331 - Toxic if inhaled
H351 - Suspected of causing cancer (in contact with skin, if inhaled, if swallowed)
H360FD - May damage fertility. May damage the unborn child.

Precautionary statements (CLP)

: P261 - Avoid breathing dust, fume, gas, mist, spray, vapors.
P264 - Wash Both hands thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective clothing, protective gloves.
P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor.
P302+P352 - IF ON SKIN: Wash with plenty of water.
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

GHS-US labeling

Hazard pictograms (GHS-US)



Signal word (GHS-US)

: Danger

Hazard statements (GHS-US)

: H300 - Fatal if swallowed
H312 - Harmful in contact with skin
H318 - Causes serious eye damage
H331 - Toxic if inhaled
H351 - Suspected of causing cancer (Dermal, Inhalation, oral)
H360 - (Dermal, Inhalation, oral)

Precautionary statements (GHS-US)

: P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P261 - Avoid breathing dust, fume, gas, mist, spray, vapors.
P264 - Wash Both hands thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective clothing, protective gloves.
P301+P310 - If swallowed: Immediately call a poison center or doctor
P302+P352 - If on skin: Wash with plenty of water
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P308+P313 - If exposed or concerned: Get medical advice/attention.
P310 - Immediately call a poison center or doctor
P311 - Call a poison center or doctor
P312 - Call a poison center or doctor if you feel unwell
P321 - Specific treatment (see Hazard pictograms (CLP) on this label)
P322 - Specific treatment (see supplemental first aid instruction on this label)
P330 - Rinse mouth.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.

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P405 - Store locked up.

P501 - Dispose of contents/container to Comply with applicable regulations

2.3. Other hazards

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Name	Product identifier	%	Classification according to Directive 67/548/EEC
3-CHLORO-1,2-PROPANEDIOL (PROPANE-D5, 98%) (CHEMICAL PURITY 95%)	(CAS-No.) 342611-01-2 (EC-No.) 202-492-4 (Unlabeled)	100	T+; R28 Xn; R21 T; R23 Xi; R41 Repr.Cat.1; R60 Repr.Cat.1; R61
Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
3-CHLORO-1,2-PROPANEDIOL (PROPANE-D5, 98%) (CHEMICAL PURITY 95%)	(CAS-No.) 342611-01-2 (EC-No.) 202-492-4 (Unlabeled)	100	Acute Tox. 2 (Oral), H300 Acute Tox. 4 (Dermal), H312 Acute Tox. 3 (Inhalation:dust,mist), H331 Eye Dam. 1, H318 Carc. 2, H351 Repr. 1A, H360FD

Full text of R- and H- phrases: see section 16

Name	Product identifier	%	GHS-US classification
3-CHLORO-1,2-PROPANEDIOL (PROPANE-D5, 98%) (CHEMICAL PURITY 95%) (Main constituent)	(CAS-No.) 342611-01-2	100	Acute Tox. 2 (Oral), H300 Acute Tox. 4 (Dermal), H312 Acute Tox. 3 (Inhalation), H331 Eye Dam. 1, H318 Carc. 2, H351 Repr. 1B, H360

Full text of H-phrases: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
First-aid measures after inhalation	: If breathed in, move person to fresh air. If not breathing, give artificial respiration. Consult a physician.
First-aid measures after skin contact	: Wash off with soap and plenty of water. Consult a physician.
First-aid measures after eye contact	: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
First-aid measures after ingestion	: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects	: Suspected of causing cancer. May damage fertility or the unborn child.
Symptoms/effects after inhalation	: Toxic if inhaled.
Symptoms/effects after skin contact	: Harmful in contact with skin.
Symptoms/effects after eye contact	: Causes serious eye damage.
Symptoms/effects after ingestion	: Fatal if swallowed.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

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

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5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Not flammable or combustible.

6.1.1. For non-emergency personnel

Emergency procedures : Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3. Methods and material for containment and cleaning up

For containment : Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Normal measures for preventive fire protection.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store refrigerated (-5°C to 5°C). Protect from light.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment : Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus.



Materials for protective clothing : Wear suitable protective clothing and gloves.

Hand protection : Wear suitable protective clothing and gloves.

Eye protection : Wear safety glasses with side shields (or goggles) and a face shield.

Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Respiratory protection : When appropriate, use NIOSH/CEN approved respirator.

Environmental exposure controls : Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Appearance : Clear, Viscous liquid

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Molecular mass	: 115.57 g/mol (Labeled)
Color	: Light yellow
Odor	: No data available
Odor threshold	: No data available
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: 213 °C (415 °F) - lit
Flash point	: 113 °C (235 °F) - closed cup
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: 0.05 hPa (0.04 mmHg) at 25 °C (77 °F)
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Specific gravity / density	: 1.322 g/cm ³ at 25 °C (77 °F)
Solubility	: No data available
Log Pow	: -0.53
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosion limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable if stored under recommended conditions.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

Avoid moisture.

10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

Products formed under fire conditions. - Carbon oxides, Hydrogen chloride gas.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Fatal if swallowed. Dermal: Harmful in contact with skin. Inhalation:dust,mist: Toxic if inhaled.

3-CHLORO-1,2-PROPANEDIOL (PROPANE-D5, 98%) (CHEMICAL PURITY 95%) (342611-01-2)	
LD50 oral rat	26 mg/kg
LD50 dermal rabbit	1056 mg/kg
ATE CLP (oral)	26.000 mg/kg body weight
ATE CLP (dermal)	1056.000 mg/kg body weight
ATE CLP (dust, mist)	0.500 mg/l/4h

Skin corrosion/irritation : Not classified

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Serious eye damage/irritation	: Causes serious eye damage. Eyes - Rabbit - Severe eye irritation
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Suspected of causing cancer (in contact with skin, if inhaled, if swallowed).
Reproductive toxicity	: Presumed human reproductive toxicant. May cause reproductive disorders.
Specific target organ toxicity – single exposure	: Not classified
Specific target organ toxicity – repeated exposure	: Not classified
Aspiration hazard	: Not classified
Potential Adverse human health effects and symptoms	: To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
IARC group	: 2B
Symptoms/effects after inhalation	: Toxic if inhaled.
Symptoms/effects after skin contact	: Harmful in contact with skin.
Symptoms/effects after eye contact	: Causes serious eye damage.
Symptoms/effects after ingestion	: Fatal if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

No additional information available

12.2. Persistence and degradability

3-CHLORO-1,2-PROPANEDIOL (PROPANE-D5, 98%) (CHEMICAL PURITY 95%) (342611-01-2)	
Persistence and degradability	Biodegradability: Result: - Not readily biodegradable.
Biochemical oxygen demand (BOD)	980 g O ₂ /g substance
Chemical oxygen demand (COD)	10 g O ₂ /g substance
BOD (% of ThOD)	68 % ThOD

12.3. Bioaccumulative potential

3-CHLORO-1,2-PROPANEDIOL (PROPANE-D5, 98%) (CHEMICAL PURITY 95%) (342611-01-2)	
Log Pow	-0.53
Bioaccumulative potential	Does not bioaccumulate.

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste)	: Waste materials should be disposed of under conditions which meet Federal, State, and local environmental control regulations.
Product/Packaging disposal recommendations	: Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.
Ecology - waste materials	: Dispose of as unused product.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No.(DOT)	: 2689
DOT NA no.	UN2689

14.2. UN proper shipping name

Proper Shipping Name (DOT)	: Glycerol alpha-monochlorohydrin
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Class (DOT) : 6.1 - Class 6.1 - Poisonous materials 49 CFR 173.132
Hazard labels (DOT) : 6.1 - Poison



Packing group (DOT) : III - Minor Danger
DOT Special Provisions (49 CFR 172.102) : IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672).
T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3)
TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / 1 + a (tr - tf)$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.
DOT Packaging Exceptions (49 CFR 173.xxx) : 153
DOT Packaging Non Bulk (49 CFR 173.xxx) : 203
DOT Packaging Bulk (49 CFR 173.xxx) : 241
Marine pollutant : No

14.3. Additional information

Other information : No supplementary information available.

Overland transport

Packing group (ADR) : III
Class (ADR) : 6.1 - Toxic substances
Hazard identification number (Kemler No.) : 60
Classification code (ADR) : T1
Hazard labels (ADR) : 6.1 - Toxic substances



Orange plates : 


Tunnel restriction code (ADR) : E
Limited quantities (ADR) : 5l
EAC : 2X
Excepted quantities (ADR) : E1

Transport by sea

DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
MFAG-No : 153

Air transport

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 60 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 220 L
Civil Aeronautics Law : Toxic and infectious substances/Toxic substances

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14.4. Environmental hazards

Other information : No supplementary information available.

14.5. Special precautions for user

14.6. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

3-CHLORO-1,2-PROPANEDIOL (PROPANE-D5, 98%) (CHEMICAL PURITY 95%) (342611-01-2)	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313

15.2. International regulations

CANADA

3-CHLORO-1,2-PROPANEDIOL (PROPANE-D5, 98%) (CHEMICAL PURITY 95%) (342611-01-2)
Listed on the Canadian DSL (Domestic Substances List)

15.2.1. National regulations

No additional information available

15.3. US State regulations

3-CHLORO-1,2-PROPANEDIOL (PROPANE-D5, 98%) (CHEMICAL PURITY 95%)(342611-01-2)	
U.S. - California - Proposition 65 - Carcinogens List	Yes
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No
State or local regulations	U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List

SECTION 16: Other information

Other information : This product is not radioactive. The data given for this product are those of the corresponding unlabeled compound, unless specifically indicated otherwise. Health and safety data for labeled compounds are generally not available, but are assumed to be similar or identical to the corresponding unlabeled compound.

Full text of R-, H- and EUH-phrases:

Acute Tox. 2 (Oral)	Acute toxicity (oral) Category 2
Acute Tox. 3 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 3
Acute Tox. 4 (Dermal)	Acute toxicity (dermal) Category 4
Carc. 2	Carcinogenicity Category 2
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Repr. 1A	Reproductive toxicity Category 1A
H300	Fatal if swallowed
H312	Harmful in contact with skin
H318	Causes serious eye damage
H331	Toxic if inhaled
H351	Suspected of causing cancer
H360FD	May damage fertility. May damage the unborn child.
R21	Harmful in contact with skin

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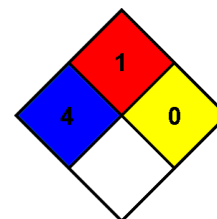
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R23	Toxic by inhalation
R28	Very toxic if swallowed
R41	Risk of serious damage to eyes
R60	May impair fertility
R61	May cause harm to the unborn child
T	Toxic
T+	Very toxic
Xi	Irritant
Xn	Harmful

- NFPA health hazard : 4 - Materials that, under emergency conditions, can be lethal.
- NFPA fire hazard : 1 - Materials that must be preheated before ignition can occur.
- NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



Hazard Rating

- Health : 4 Severe Hazard - Life-threatening, major or permanent damage may result from single or repeated overexposures
- Flammability : 1 Slight Hazard
- Physical : 0 Minimal Hazard

CIL Substance SDS

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product