

# SAFETY DATA SHEET

SDS No.1021-31311

Date

April 26, 2017

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## 1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : Ethylene chlorohydrin  
NAME OF MANUFACTURER : GL Sciences Inc.  
ADDRESS : 22-1 Nishishinjuku 6-chome Shinjuku-ku Tokyo 163-1130, Japan  
CHARGE SECTION : International Sales Section  
TELEPHONE No. : +81-3-5323-6620  
FACSIMILE No. : +81-3-5323-6621  
PRODUCT No. : 1021-31311  
SDS No. : 1021-31311  
Research use only.

## 2. HAZARDS IDENTIFICATION

GHS CLASSIFICATION : Flammable liquid : Category 3  
Acute toxicity - oral - : Category 3  
Acute toxicity - dermal - : Category 2  
Acute toxicity - inhalation - : Category 1  
Serious eye damage/eye irritation : Category 2  
Germ cell mutagenicity : Category 2  
Carcinogenicity : Category 1  
Reproductive toxicity : Category 2  
Specific target organ toxicity (Single exposure) : Category 1(Central nervous system, blood, kidneys, liver, respiratory system)  
Specific target organ toxicity (Single exposure) : Category 3(anesthesia)  
Specific target organ toxicity (Repeated exposure) : Category 1(Blood system)  
Specific target organ toxicity (Repeated exposure) : Category 2(Liver, kidneys)  
Hazardous to the aquatic environment - Acute hazard : Category 2  
Hazardous to the aquatic environment - Chronic hazard : Category 2

HAZARD SYMBOL :



SIGNAL WORD : Danger

HAZARD STATEMENTS :

H226 Flammable liquid and vapour  
H301 Toxic if swallowed  
H310 Fatal in contact with skin  
H330 Fatal if inhaled  
H319 Cause serious eye irritation  
H341 Suspected of causing genetic defects  
H350 May cause cancer  
H361 Suspected of damaging fertility or the unborn child  
H370 Cause damage to organs <Central nervous system, blood, kidneys, liver, respiratory system>  
H336 May cause drowsiness or dizziness  
H372 Cause damage to organs through prolonged or repeated exposure <Blood system>  
H373 May cause damage to organs through prolonged or repeated exposure <Liver, kidneys>

H401	Toxic to aquatic life
H411	Toxic to aquatic life with long lasting effects
PRECAUTIONARY STATEMENTS :	
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat/sparks/open flames/hot surfaces. –No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting/equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P260	Do not breathe fume/gas/mist/vapours.
P262	Do not get in eyes, on skin, or on clothing.
P264	Wash 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.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	[In case of inadequate ventilation] wear respiratory protection.
P303+P361+ P352	IF ON SKIN: Take off immediately all contaminated clothing. Wash skin with plenty of water.
P370+P378	In case of fire: Use appropriate media such as chemical powder or carbon dioxide to extinguish.
P361+P364	Take off immediately all contaminated cloth and wash it before reuse.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor.
P330	Rinse mouth.
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.
P337+P313	If eye irritation persists: Get medical attention.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P310	Immediately call a POISON CENTER or doctor.
P314	Get medical attention if you feel unwell.
P391	Collect spillage.
P403+ P233+P235	Store in a well-ventilated place. Keep container tightly closed. Keep cool.
P405	Store locked up.
P501	Dispose of contents/container in accordance with all applicable regulations.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL IDENTITY	: Substance
CHEMICAL NAME	: Ethylene chlorohydrin
SYNONYMS	: 2-Chloroethanol
CONTENT	: >=99 %
CHEMICAL FORMULA	: ClC <sub>2</sub> H <sub>4</sub> OH
CAS No.	: 107-07-3
TSCA INVENTORY	: Listed
EINECS No.	: 203-459-7
EC INDEX No.	: 603-028-00-7

**4. FIRST AID MEASURES**

GENERAL ADVICE	: Consult a physician. Show this safety data sheet to the doctor in attendance.
INHALATION	: Move victim to fresh air. If breathing is difficult, give oxygen. If irritation persists, consult a physician.
SKIN CONTACT	: Remove contaminated clothes and shoes, rinse skin with plenty of water or shower. Use soap to help assure removal. Consult a physician immediately.
EYE CONTACT	: Flush eyes well with flooding large amounts of running water for at least 15 minutes. Assure adequate flushing by separating the eyelids with sterile fingers. If possible, remove any contact lenses. Consult a physician immediately.
INGESTION	: Rinse mouth, give plenty of water. Never give anything by mouth to an unconscious person. Consult a physician immediately.
Most important symptoms/effects, acute and delayed	: Symptoms may include cough, headache, throat pain, vomiting, retching, skin absorption, redness of eyes, pain, severe burn injury.

**5. FIRE FIGHTING MEASURES**

EXTINGUISHING MEDIA	: Water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
FIRE & EXPLOSION HAZARDS	: Toxic, irritating, dust/fume/smoke may be emitted. Carbon monoxide may be formed.
SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS	: Firemen should wear normal protective equipment(full bunker gear) and positive-pressure self-contained breathing apparatus.

**6. ACCIDENTAL RELEASE MEASURES**

PERSONAL PRECAUTIONS	: Remove ignition sources and ventilate the area. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid raising dust and avoid contact with skin and eyes.
ENVIRONMENTAL PRECAUTIONS	: Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.
METHODS FOR CLEAN UP	: Do not touch spilled material without suitable protection. Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

**7. HANDLING AND STORAGE**

HANDLING	: Keep away from ignition sources and ventilate the area — No smoking. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid contact with eyes, skin, and clothing. Avoid inhalation of vapour or mist. Avoid prolonged or repeated exposure. Handle this product with suitable protection.
STORAGE	: Store away from sunlight, heat and all ignition sources in well-ventilated dry place. Keep container tightly closed. Keep cool(2 ~ 10°C).
INCOMPATIBLE PRODUCTS	: Strong oxidizers, acids

**8. EXPOSURE CONTROL/PERSONAL PROTECTION**

ENGINEERING MEASURES	: Use exhaust ventilation to keep airborne concentrations below exposure limits. Use adequate ventilation.
VENTILATION	: Local Exhaust ; Necessary, Mechanical(General) ; Necessary
PERSONAL PROTECTION	
Respiratory protection	: Use respirators approved under appropriate government standards and follow all regulations.
HAND PROTECTION	: Chemical resistant gloves
EYE PROTECTION	: Safety glasses(goggles)
SKIN PROTECTION	: Protective clothing
CONTROL PARAMETERS	
ACGIH	: 1 ppm
OSHA	: 5 ppm
NIOSH	: C 1 ppm

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9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	: Colorless, clear liquid
ODOR	: Characteristic odor
pH	: No data available
BOILING POINT	: 129 °C - lit.
MELTING POINT	: -89 °C -lit.
FLASH POINT	: 55 °C - closed cup
EXPLOSIVE LIMITS	: 5% (lower), 16 % (upper)
VAPOR PRESSURE	: 7 hPa (at 20°C)
VAPOR DENSITY	: 2.78 (Air = 1.0)
SPECIFIC GRAVITY	: 1.201 g/cm <sup>3</sup> (at 25°C)
SOLUBILITY IN(Ethanol)	
Water	: Completely miscible
Organic solvent	: No data available
PARTITION COEFFICIENT ; n-octanol/water	
	: log Pow: -0.059
AUTOIGNITION TEMPERATURE	: 425 °C
DECOMPOSITION TEMPERATURE	
	: No data available

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10. STABILITY AND REACTIVITY

REACTIVITY	: Stable under recommended storage conditions.
CHEMICAL STABILITY	: Reacts with strong oxidizers.
CONDITION TO AVOID	: Sunlight, heat, open flames, high temperature, sparks, static electrical charge, other ignition sources, moisture
INCOMPATIBLE MATERIALS	: Oxidizers and strong acids
HAZARDOUS DECOMPOSITION PRODUCTS	
	: Carbon oxides, Hydrogen chloride gas may be formed.

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11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY	: oral - rat; LD50=71 mg/kg (ACGIH, 2001) dermal - rabbit; LD50=67 mg/kg (IUCLID, 2000) inhalation; LC50=0.3 mg/L (RTECS, 2000), 7.5 ppm death (ACGIH, 2001)
SKIN CORROSION/IRRITATION	: Not irritating (PATTY 5th, 2005)
EYE DAMAGE/EYE IRRITATION	: Irritating (IUCLID, 2000)
SENSITIZATION	: This is not classified.
GERM CELL MUTAGENICITY	: in vivo; positive, in vitro; positive (PATTY 5th, 2005)
CARCINOGENICITY	: A4 (ACGIH), but there is an epidemiological data of carcinogenicity to human (PATTY 5th, 2005).
REPRODUCTIVE TOXICITY	: Effect to animal baby, suspect to human reproductive toxicity (DFGOT vol.5, 1993).
SPECIFIC TARGET ORGAN TOXICITY - single exposure -	
	: Effect to human - central nervous system, heart blood system, kidneys, liver and lungs. Sever irritating to respiratory tract (DFGOT vol.5, 1993)
SPECIFIC TARGET ORGAN TOXICITY - repeated exposure -	
	: Effect to blood system, liver and kidneys (RTECS, 2004).
ASPIRATION HAZARD	: No data available

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12. ECOLOGICAL INFORMATION

Hazardous to the aquatic environment - Acute hazard	
(Algae)	: Desmodesmus subspicatus (Scenedesmus subspicatus) 5.6 mg/L, 72h
Hazardous to the aquatic environment - Chronic hazard	
	: This is classified in Category 2.
BIODEGRADABILITY	: No data available
BIOACCUMULATIVE POTENTIAL	: log Kow = 0.03
MOBILITY IN SOIL	: No data available
OTHER ADVERSE EFFECTS	: Not listed in Montreal Protocol list.

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13. DISPOSAL INFORMATION

Dispose in a hazardous-waste site in accordance with all applicable regulations. Any disposal practice must be in compliance with country, local, state, and federal laws and regulations (contact country, local or state environment agency for specific rules).

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## 14. TRANSPORT INFORMATION

## IATA

UN NUMBER	: 1135
UN PROPER SHIPPING NAME	: Ethylene chlorohydrin
CLASS	: 6.1 (3), Poison inhalation hazard (flammable liquid)
PACKING GROUP	: -
Passenger Aircraft	: Not permitted for transport
Cargo Aircraft	: Not permitted for transport
ADR/RID	: 1135, ETHYLENE CHLOROHYDRIN, PG I
DOT	: 1135, ETHYLENE CHLOROHYDRIN, PG I
MARINE POLLUTANT	: Not classified

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## 15. REGULATORY INFORMATION

US REGULATIONS	: Labeling according to EC Directives; See section 2
EU REGULATIONS	: Labeling according to EC Directives; See section 2

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## 16. OTHER INFORMATION

## NOTICE:

The information contained in the SDS description is applicable exclusively to the chemical substance identified herein and for its intended use as an analytical reference standard or reagent and to the unit quantity intended for that purpose. The information does not relate to, and may not be appropriate for, any application or larger quantity of the substance described. Our products are intended for the use by individuals possessing sufficient technical skill and qualification on use the material potential hazardous chemical. Accordingly, no representation or warranty, express or implied, with respect to merchantability and fitness for a particular purpose is made with respect to the information contained herein.

## Attention:

This product in terms of chemical identity and the unit amount provide is intended for use in chemical analysis and not for human consumption, nor any other purpose.