

# SAFETY DATA SHEET

SDS No.1021-21140

Revised Date May 7, 2014

1/5 page

## 1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : 1,1-Dichloroethylene  
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. : 1021-21140  
SDS No. : 1021-21140  
Research use only.

## 2. HAZARDS IDENTIFICATION

GHS CLASSIFICATION : Flammable liquids : Category 1  
Acute toxicity - oral : Category 4  
Acute toxicity - inhalation : Category 3  
Reproductive toxicity : Category 2  
Specific target organ toxicity (single exposure) : Category 1 <liver, kidney, respiratory organ>  
Specific target organ toxicity (single exposure) : Category 3 <anesthesia>  
Specific target organ toxicity (repeated exposure) : Category 1 <liver>  
Specific target organ toxicity (repeated exposure) : Category 2 <kidney>  
Aspiration hazard : Category 2  
Hazardous to the aquatic environment –acute hazard : Category 3

HAZARDS SYMBOL :



SIGNAL WORD : Danger

HAZARD STATEMENT :

H224 Extremely flammable liquid and vapour  
H302 Harmful if swallowed  
H331 Toxic if inhaled  
H361 Suspected of damaging fertility or the unborn child.  
H370 Cause damage to organs <liver, kidney, respiratory tract>  
H336 May cause drowsiness or dizziness.  
H372 Cause damage to organs <liver> through prolonged or repeated exposure.  
H373 May cause damage to organs <kidney> through prolonged or repeated exposure.  
H305 May be harmful if swallowed and enters airway.  
H402 Harmful to aquatic life

PRECAUTIONARY STATEMENTS :

P202 Do not handle until all safety precautions have been read and understood.  
P210 Keep away from heat, hot surface, sparks, open flames and other ignition sources. No smoking.  
P233 Keep container tightly closed.  
P240 Ground and bond container and receiving equipment.  
P241 Use explosion-proof equipments.  
P242 Use non-sparking tools.

P243	Take action to prevent static discharges.
P280	Wear protective gloves/eye protection.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P260	Do not breathing gas/mist/vapours.
P271	Use only outdoors or in a well-ventilated area.
P314	Get medical attention if you feel unwell.
P273	Avoid release to the environment.
P303+P361+P353	IF ON SKIN: Take off immediately all contaminated clothing. Rinse skin with water.
P370+P378	In case of fire: Use appropriate medias to extinguish.
P301+P312	IF SWALLOWED: Call a POISON CENTER if you feel unwell.
P330	Rinse mouth.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P311	Call POISON CENTER.
P308+P313	IF exposed or concerned: Get medical attention.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER.
P331	Do NOT induce vomiting.
P403+P235	Store in a well-ventilated place. Keep cool.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container in accordance with all applicable regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL IDENTITY	: 1,1-Dichloroethylene
SYNONYMS	: Vinylidene chloride; 1,1-dichloroethene
CHEMICAL FOMULA	: CCl <sub>2</sub> =CH <sub>2</sub>
CONTENT	: > 99 %
MOLECULAR WEIGHT	: 96.94
CAS No.	: 75-35-4
TSCA INVENTRY	: Listed
EINECS No.	: 200-864-0
EC INDEX No.	: 602-025-00-8

4. FIRST AID MEASURES

GENERAL ADVICE	: Wash off immediately with soap and plenty of water. In the case of respirable dust and/or fumes, use self-contained breathing apparatus and dust impervious protective suit. Use personal protective equipment.
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. If irritation persists, consult a physician.
EYE CONTACT	: Remove any contact lenses at once. 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 irritation persists, consult a physician.
INGESTION	: Rinse mouth. Never give anything by mouth to an unconscious person. Do not induce vomiting. Consult a physician immediately.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA	: Carbon dioxide, dry chemical powder, foam, water spray
FIRE & EXPLOSION HAZARDS	: Flammable liquid. Hazardous toxic, irritating, dust or smoke may be emitted.
SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS	: Fireman 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.
ENVIROMENTAL PRECATIONS	: Prevent spills from entering sewers, watercourses or low areas.

METHODS FOR CLEAN UP	: Do not touch spilled material without suitable protection. After material is completely picked up, wash the spill site with soap and water and ventilate the area. Pull all wastes in a plastic bag for disposal and seal it tightly. Remove, clean, or dispose contaminated clothing.
<b>7. HANDLING AND STORAGE</b>	
HANDLING	: Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure. Handle material with suitable protection. After this product, dispose of contents/container in accordance with all applicable regulations and appropriate ways.
STORAGE	: Store away from sunlight in well-ventilated dry place at room temperature. Keep container tightly closed.
INCOMOPATIBLE PRODUCTS	: Strong oxidizers and acids
<b>8. EXPOSURE CONTROL/PERSONAL PROTECTION</b>	
ENGINEERING MEASURES	: Use exhaust ventilation to keep airborne concentrations below exposure limits. Use only with adequate ventilation.
VENTILATION	: Local Exhaust ; Necessary, Mechanical(General) ; Recommended
<b>PERSONAL PROTECTION</b>	
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
<b>CONTROL PARAMETERS</b>	
OSHA	: (Final limit) TWA=1ppm, 4mg/m <sup>3</sup>
NIOSH REL	: Not established
ACGIH	: TWA=5ppm, 20mg/ m <sup>3</sup> STEL=20ppm, 79mg/ m <sup>3</sup>
<b>9. PHYSICAL AND CHEMICAL PROPERTIES</b>	
APPEARANCE	: White
SHAPE	: Liquid
ODOR	: Characteristic odor
pH	: Not available
BOILING POINT	: 32°C
MELTING POINT	: -122°C
FLASH POINT	: -25°C
FLAMMABILITY	: lower: 5.6% , upper: 16%
AUTOIGNITION TEMPERATURE	: 570 °C
VAPOR PRESSURE	: 66.5 kPa (20°C)
VAPOR DENCITY	: Not available
DENCITY	: 3.3
SPECIFIC GRAVITY	: 1.2
<b>SOLUBILITY IN</b>	
WATER	: 0.25g/100mL (25°C)
Organic solvent	: soluble
DECOMPOSITION TEMPERATURE	: Not available
<b>10. STABILITY AND REACTIVITY</b>	
REACTIVITY	: The substance can readily form explosive peroxides. The substance will polymerize readily due to heating or under the influence of oxygen, sunlight, copper or aluminium, with fire or explosion hazard. May explode on heating or on contact with flames. The substance decomposes on burning producing toxic phosgene.
CHEMICAL STABILITY	: React violently with oxidants. React violently with chlorosulfonic acid, nitric acid, fuming sulfuric acid.
CONDITION TO AVOID	: Sunlight, air, heat, ignition sources, inhaled to ozone, contact with incompatible materials.
INCOMPATIBILE MATERIALS	: Strong oxidizers and acids, metals-Fe, Cu, copper alloy, Al, aluminium alloy), peroxides, chlorsulfonic acid.

**HAZARDOUS DECOMPOSITION PRODUCTS**

: CO, CO<sub>2</sub>, explosive vapour mixture, hydrogen chloride, phosgene, formaldehyde.

**11. TOXICOLOGICAL INFORMATION**

- ACUTE TOXICITY (oral) : rat LD<sub>50</sub>= 1,500 mg/kg (calculated value)(CICAD 51,2003)  
 ACUTE TOXICITY (inhalation) : rat LC<sub>50</sub>= 2,300 ppm(4hr, calculated value)(CICAD 51(2003), etc...)  
 SKIN CORROSION/IRRITATION : lack of data  
 EYE DAMAGE/EYE IRRITATION : lack of data  
 GERM CELL MUTAGENICITY : Administration changes mutagenesis examination, somatic cell in vivo mutagenesis examination –Negative (CICAD 51(2003), EHC 100(1990), NTP DB(2006))  
 CARCINOGENICITY : Classified at EPA: C(2002), ACGIH: Group A4(2001), IARC: 3(1999)  
 REPRODUCTIVE TOXICITY : In an amount of medicine for usage that the general toxicity is seen in a mother animal, influence is seen in the next generation. (CERI·NITE hazard data sheet No.48(2005), CICAD 51(2003))
- SPECIFIC TARGET ORGAN TOXICITY-single exposure**  
 : Human; The central nervous system depression or the excitement symptom is shown. When it is serious, it gets an unconsciousness. It becomes an irritation by the exposure for a few minutes. (CERI,NITE Hazard Data Sheet No.48,2005)  
 Animal; Damage in biliary canaliculus, Damage in proximal tubule, Centriobular sphaclation of hepatic cell, Obstructive edema in lungs.(CERI,NITE Hazard Data SheetNo.48,2005)
- SPECIFIC TARGET ORGAN TOXICITY-repeated exposure**  
 : Human: liver problems  
 Animal: hepatocyte swelling with the fatty degeneration of slight small leaf intermediateness, slight kidney regressiveness denaturation, abscess, nephritis, fatty degeneration of the liver and a nest-shaped necrosis. (CERI·NITE hazard data sheet No.48,2005)
- ASPIRATION TOXICITY** : Swallowing the liquid may cause aspiration into the lungs with the risk of causing the pneumonitis, Exposure at high levels could cause lowering of consciousness. (ICSC,2000)

**ADDITIONAL INFORMATION**

- NTP : Not listed  
 IARC : Not classifiable as to Carcinogenicity to Human (Group 3)  
 OSHA : Not listed  
 ACGIH : Not Classifiable as a Human Carcinogen (A4)

**12. ECOLOGICAL INFORMATION**

- ECOTOXICITY : Crustacean (daphnids): EC<sub>50</sub>=11.6mg/L/48hr (CERI·NITE hazard data sheet, 2005)  
 BIODEGRADABILITY : Easy to strip from environmental water. (CICAD,2003)  
 BIOACCUMULATION POTENTIAL : BCF=6.4 (Existing chemical substances safety inspection data)  
 MOBILITY IN SOIL : Not available  
 OTHER ADVERSE EFFECTS : Not listed in Montreal Protocol list.

**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).

## 14. TRANSPORT INFORMATION

## IATA

UN NUMBER : UN 1303  
UN PROPER SHIPPING NAME : Vinylidene chloride, stabilized  
CLASS or DIVISION : Flammable liquid (Class 3)  
PACKING GROUP : PG I

## DOT

IDENTIFICATION NUMBER : UN 1303  
PROPER SHIPPING NAME : Vinylidene chloride, stabilized  
HAZARD CLASS : Flammable liquid (Class 3)  
MARINE POLLUTANT : Yes

---

## 15. REGULATORY INFORMATION

## US REGULATIONS :

EPA : EPCRA TPQ = Not listed  
CERCLA RQ = 100lb  
EPCRA SECTION 313 de minimis concentration is 1.0%  
C (Possible human carcinogen)

OSHA : TQ = Not listed

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

---

## 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.