SAFETY DATA SHEET

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1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : 1,3-Dichlorobenzene
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. : 1021-21003 SDS No. : 1021-21003

Research use only.

2. HAZARDS IDENTIFICATION

GHS CLASSIFICATION : Flammable liquid : Category 4

Acute toxicity - oral : Category 4
Acute toxicity - inhalation : Category 3
Skin corrosion/irritation : Category 2
Serious eye damage/eye irritation : Category 2A

Specific target organ toxicity (single exposure)

: Category 1 <liver>

Specific target organ toxicity (repeated exposure)

: Category 1 < liver>

Hazardous to the aquatic environment –acute hazard

: Category 2

Hazardous to the aquatic environment -chronic hazard

: Category 2

HAZARDS SYMBOL







SIGNAL WORD : Danger

HAZARD STATEMENT :

H227 Combustible liquid
H302 Hrmful if swallowed
H331 Toxic if inhaled
H315 Cause skin irritation
H319 Cause serious eye irritaion

H370 Causes damage to the organs < liver, kidney>

H372 Causes damage to organs <nervous system, liver, respiratory organs, blood

system > through prolonged or repeated exposure

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, hot surface, sparks, open flames and other ignition

sources. No smoking.

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.

P273 Avoid release to the environment.

P370+P378 In case of fire: Use appropriate medias to extinguish.

P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.

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P330	Rinse mouth.
P304+P340	IF INHALED: Remove person to fresh air and akeep comfortable.
P302+P352	IF ON SKIN: wash with plenty water.
P332+P313	If skin irritation occurs: Get medical attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
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+P311	IF exposed or concerned: Call a POISON CENTER or doctor.
P314	Get medical attention if you feel unwell.
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 :	1,3-Dichlorobenzene
SYNONYMS :	o-Dichlorobenzene
CHEMICAL FOMULA :	C6H4Cl2
CONTENT :	> 99 %
MOLECULAR WEIGHT :	147.0
CAS No. :	541-73-1
TSCA INVENTRY :	Listed
EINECS No. :	208-792-1
EC INDEX No. :	602-067-00-7
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. Consult a physician immediately.
5. FIRE FIGHTING MEASURES	
	Carbon dioxide, dry chemical powder, foam, water spray Combustible. Toxic, irritating fumes or smoke may be emitted. Above 66°C explosive vapour/air mixtures may be formed.
SPECIAL PROTECTIVE EQUIPMENT	
:	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.
7. HANDLING AND STORAGE	
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

After this product, dispose of contents/container in accordance with all applicable regulations and appropriate ways.

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STORAGE : Store away from sunlight in well-ventilated dry place at 2 - 10°C.

Keep container tightly closed.

INCOMOPATIBLE PRODUCTS : Strong oxidizers and acids, aluminum, chlorides

8. EXPOSURE CONTROL/PERSONAL PROTECTION

ENGINEERING MEASURES : Use exhaust ventilation to keep airborne concentrations below exposure limits.

Use only with adequate ventilation.

VENTILATION : Local Exhaust ; Necessary, Mechanical(General) ; Recommended

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

OSHA : Not established
NIOSH REL : Not established
ACGIH : Not established

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE : Clear SHAPE : Liquid

ODOR : Aromatic odor pH : No data available

BOILING POINT : 173°C

MELTING POINT : -24.76°C

FLASH POINT : 62°C

FLAMMABILITY : lower: 1.8% upper: 7.8%

AUTOIGNITION TEMPERATURE : No data available VAPOR PRESSURE : 0.286kPa(25°C) VAPOR DENCITY : 5.1(air=1)

DENCITY : No data available SPECIFIC GRAVITY : 1.291g/cm³

SOLUBILITY IN

NATED ...

WATER : slightly soluble

Organic solvent : soluble PARTITION COEFFICIENT: n-octanol/water

: 3.72 DECOMPOSITION TEMPERATURE

: No data available

10. STABILITY AND REACTIVITY

REACTIVITY : Decomposes on burning.

CHEMICAL STABILITY : Reacts with strong oxidants. Reacts violently with aluminium.

CONDITION TO AVOID : Heat, contact with incompatible materials.

INCOMPATIBILE MATERIALS : Strong oxidizers and acids, aluminum, chlorides

HAZARDOUS DECOMPOSITION PRODUCTS

: CO, CO2, Hydrogen chloride, Hydrogen bromide

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY (oral) : Rat LD50= 580mg/L(Ministry of the environment initial environment risk

assessment of chemicals, vol.6,2008)

ACUTE TOXICITY (inhalation) : Rat LC50> 10.8mg/L((Ministry of the environment initial environment risk

assessment of chemicals, vol.6,2008)

SKIN CORROSION/IRRITATION : rabbit – marked irritation (DFGOT vol.1,1991)

EYE DAMAGE/EYE IRRITATION : rabbit – mild to marked (DFGOT vol.1(1991), IUCLID(2000),BUA No.8(1987)).

GERM CELL MUTAGENICITY : Not classified

CARCINOGENICITY : Classified at IARC: 3(1999).

REPRODUCTIVE TOXICITY : Lack of data

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SPECIFIC TARGET ORGAN TOXICITY-single exposure

: Mouse: damage to liver(IARC vol.73,1999).

SPECIFIC TARGET ORGAN TOXICITY-repeated exposure

: Rat: damage to liver (BUA No.133,1994).

ASPIRATION TOXICITY : No data available

12. ECOLOGICAL INFORMATION

ECOTOXICITY : Crustacea: EC50=1.2mg/L/48hr

BIODEGRADABILITY : BOD=0%

BIOACCUMULATION POTENTIAL : No data available MOBILITY IN SOIL : No data 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 2810

UN PROPER SHIPPING NAME : Toxic, liquid, organic, N.O.S. (1,3-Dichlorobenzene)

CLASS or DIVISION : Toxic and infectious substances (Class 6.1)

PACKING GROUP : III

DOT

IDENTIFICATION NUMBER : UN 2810

PROPER SHIPPING NAME : Toxic, liquid, organic, N.O.S. (1,3-Dichlorobenzene)

HAZARD CLASS : Toxic and infectious substances (Class 6.1)

MARINE POLLUTANT : Yes

15. REGULATORY INFORMATION

US REGULATIONS : Labeling according to US regulations; See section 2 EU REGURATIONS : 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.