

# SAFETY DATA SHEET

SDS No.1021-21144

Revised Date February 23, 2015 1/4 page

## 1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : Tetrachloroethylene  
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. : 1021-21144  
SDS No. : 1021-21144  
Research use only.

## 2. HAZARDS IDENTIFICATION

GHS CLASSIFICATION : Acute toxicity - inhalation - : Category 4  
Skin corrosion/irritation : Category 2  
Eye damage/irritation : Category 2B  
Carcinogenicity : Category 1  
Reproductive toxicity : Category 2  
Specific target organ toxicity (Single exposure) : Category 1 <nervous system><liver>  
<respiratory organ>  
Specific target organ toxicity (Single exposure) : Category 3 <anesthesia>  
Specific target organ toxicity (Repeated exposure) : Category 1 <nervous system><liver>  
<respiratory organ>  
: Category 2 <kidney>  
Hazardous to the aquatic environment - Acute hazard : Category 1  
Hazardous to the aquatic environment - Chronic hazard : Category 1

HAZARDS SYMBOL :



SIGNAL WORD : Danger

HAZARD STATEMENTS :

H332 Harmful if inhaled  
H315 Cause skin irritation  
H320 Cause eye irritation  
H350 May cause cancer  
H362 May cause harm to breast-fed children  
H370 Cause damage to organs  
H336 May cause drowsiness or dizziness  
H372 Cause damage to organs through prolonged or repeated exposure  
H373 May cause damage to organs through prolonged or repeated exposure  
H400 Very toxic to aquatic life  
H410 Very toxic to aquatic life with long lasting effects

PRECAUTIONARY STATEMENTS :

P264	Do not handle until all safety precautions have been read and understood.
P260	Do not breathing gas/mist/vapours.
P263	Avoid contact during pregnancy and while nursing.
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/eye protection.
P312	Call a POISON CENTER or doctor if you feel unwell.
P302+P352	IF ON SKIN: Wash with plenty of water.
P332+P313	If skin irritation occurs: Get medical attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P304+P340	IF INHALED: Remove person to fresh air and akeep comfortable.
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.
P391	Collect spillage.
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	: Tetrachloroethylene
SYNONYMS	: 1,1,2,2,-Tetrachloroehene, Perchloroethylene
CHEMICAL FOMULA	: Cl <sub>2</sub> C=CCl <sub>2</sub>
CONTENT	: > 99 %
MOLECULAR WEIGHT	: 165.83
CAS No.	: 127-18-4
TSCA INVENTORY	: Listed
EINECS No.	: 204-825-9
EC INDEX No.	: 602-028-00-4

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. Consult a physician.
INGESTION	: Rinse mouth. Never give anything by mouth to an unconscious person. Consult a physician immediately.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA	: Carbon dioxide, dry chemical powder, foam, water spray
FIRE & EXPLOSION HAZARDS	: Toxic, irritating fumes 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.

7. HANDLING AND STORAGE

- HANDLING : Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure. Handle material with suitable protection.  
 After using this product, dispose of contents/container in accordance with all applicable regulations and appropriate ways.
- STORAGE : Store away from sunlight in cool (2-10°C) place.  
 Keep container tightly closed.
- INCOMOPATIBLE PRODUCTS : Strong oxidizers, strong bases, metals

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 : Protective gloves
- EYE PROTECTION : Safety glasses(goggles)
- SKIN PROTECTION : Protective clothing
- CONTROL PARAMETERS
- OSHA : 8H TWA= 100 ppm, 670 mg/cm3; Ceiling= 200 ppm
- ACGIH : TWA= 25 ppm, 170 mg/m3; STEL= 100 ppm, 685 mg/m3

9. PHYSICAL AND CHEMICAL PROPERTIES

- APPEARANCE : Colorless – clear
- SHAPE : Liquid
- ODOR : No data available
- pH : No data available
- BOILING POINT : Approx.121°C
- MELTING POINT : -22.4°C
- FLASH POINT : No data available
- FLAMMABILITY : Lower; 6%, Upper; 15.5%
- AUTOIGNITION TEMPERATURE : No data available
- VAPOR PRESSURE : 2.5kPa
- VAPOR DENCITY : 5.8(Air=1)
- SPECIFIC GRAVITY : 1.619~1.628(20°C)
- SOLUBILITY IN
- WATER : Very slightly soluble
- Organic solvent : Miscible
- PARTITION COEFFICIENT: n-octanol/water : 2.9
- DECOMPOSITION TEMPERATURE : No data available

10. STABILITY AND REACTIVITY

- REACTIVITY : Stable under recommended storage conditions.
- CHEMICAL STABILITY : Decomposes on air, moisture, sunlight.
- CONDITION TO AVOID : Heat, sunlight, other ignition sources
- INCOMPATIBLE MATERIALS : Strong oxidizers, strong alkalis, light metals
- HAZARDOUS DECOMPOSITION PRODUCTS : CO, CO2, Hydrogen chloride, chlorine, phosgene

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11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY -inhalation-	: rat - LC50=27.8mg/L (4hr conversion 5013ppm) (EHC31,1984)、5000ppm (4hr conversion 7071ppm) (IARC vol.63,1995)
SKIN CORROSION/IRRITATION	: Rabbit: marked irritation(4hr) (CICAD No.68,2006)
EYE DAMAGE/EYE IRRITATION	: Rabbit: mild irritation ,Liquid occur only minimal irritation (CICAD No.68,2006)
GERM CELL MUTAGENICITY	: No data available
CARCINOGENICITY	: IARC (1995) : 2A, NTP(2005) : R
REPRODUCTIVE TOXICITY	: No data available
SPECIFIC TARGET ORGAN TOXICITY	
	: No data available
ASPIRATION TOXICITY	: No data available

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12. ECOLOGICAL INFORMATION

ECOTOXICITY	: Daphnia magna: EC50=0.602mg/L/48hr
BIODEGRADABILITY	: No data available
BIOACCUMULATION POTENTIAL	: No data available
MOBILITY IN SOIL	: No data available
OTHER ADVERSE EFFECTS	: Not listed in Montreal Protocol.

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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	: 1897
UN PROPER SHIPPING NAME	: Tetrachloroethylene (Perchloroethylene)
CLASS or DIVISION	: 6.1
PACKING GROUP	: III
ADR/RID	: 1897, Tetrachloroethylene. (Perchloroethylene)
DOT	: 1897, Tetrachloroethylene (Perchloroethylene)
MARINE POLLUTANT	: Not classified

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15. REGULATORY INFORMATION

US REGULATIONS	: Labeling according to US 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.