

# SAFETY DATA SHEET

SDS No.1021-34060

Revised Date May 30, 2014 1/4 page

## 1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : Chlordane  
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. : 1021-34060  
SDS No. : 1021-34060  
Research use only.

## 2. HAZARDS IDENTIFICATION

GHS CLASSIFICATION : Acute toxicity - oral : Category 4  
Acute toxicity – dermal : Category 3  
Skin corrosion/irritation : Category 2  
Serious eye damage/eye irritation : Category 2  
Germ cell mutagenicity : Category 2  
Carcinogenicity : Category 2  
Reproductive toxicity-effects on or via lactation : Category 2  
Reproductive toxicity-effects on or via lactation : effects on or via lactation  
Specific target organ toxicity (single exposure) : Category 1 <nervous system>  
Specific target organ toxicity (repeated exposure) : Category 1 <nervous system, liver, blood>  
Hazardous to the aquatic environment –acute hazard : Category 1  
Hazardous to the aquatic environment –chronic hazard : Category 1

HAZARDS SYMBOL :



SIGNAL WORD : Danger

HAZARD STATEMENT :

H302 Harmful if swallowed  
H311 Toxic in contact with skin  
H315 Causes skin irritation  
H319 Causes serious eye irritation  
H341 Suspected of causing genetic defects  
H351 Suspected of causing cancer  
H361 Suspected of damaging fertility or the unborn child  
H362 May cause harm to breast-fed children  
H370 Causes damage to organs<nervous system>  
H372 Causes damage to organs through prolonged or repeated exposure < nervous system, liver, blood>  
H400 Very toxic to aquatic life  
H410 Very toxic to aquatic life with long lasting effects

PRECAUTIONARY STATEMENTS :

P202 Do not handle until all safety precautions have been read and understood.  
P264 Wash hands thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.

P280	Wear protective gloves/eye protection.
P260	Do not breathing gas/mist/vapours.
P263	Avoid contact during pregnancy and while nursing.
P273	Avoid release to the environment.
P301+P312	IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.
P330	Rinse mouth.
P302+P352	IF ON SKIN: Wash with plenty of water.
P312	Call a POISON CENTER or doctor if you feel unwell.
P361+P364	Take off immediately all contaminated clothing and wash it before reuse.
P332+P313	IF skin irritation occurs: Get medical advice/attention.
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 advice/attention.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P314	Get medical attention if you feel unwell.
P391	Collect spillage.
P405	Store locked up.
P501	Dispose of contents/container in accordance with all applicable regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL IDENTITY	: Chlordane
SYNONYMS	: 1,2,4,5,6,7,8,8-Octachlor-2,3,3a,4,7,7a-hexahydro-4,7-metha-1H-indene
CHEMICAL FOMULA	: C <sub>10</sub> H <sub>6</sub> Cl <sub>8</sub>
CONTENT	: > 98 %
CAS No.	: 57-74-9
TSCA INVENTRY	: Listed
EINECS No.	: 200-349-0
EC INDEX No.	: 602-047-00-8

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. Consult a physician immediately.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA	: Carbon dioxide, dry chemical powder, foam, water spray
FIRE & EXPLOSION HAZARDS	: Toxic, irritating dust, 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 this product, dispose of contents/container in accordance with all applicable regulations and appropriate ways.
- STORAGE** : Store away from sunlight in well-ventilated place at 2 – 10°C.  
Keep container tightly closed.
- INCOMPATIBLE PRODUCTS** : Bases

**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** : 0.5mg/m<sup>3</sup>(skin)
- NIOSH REL** : 0.5mg/m<sup>3</sup>(skin)
- ACGIH** : 0.5mg/m<sup>3</sup>(skin)

**9. PHYSICAL AND CHEMICAL PROPERTIES**

- APPEARANCE** : White
- SHAPE** : Solid
- ODOR** : Irritating odor
- pH** : No data available
- BOILING POINT** : 175°C(1mmHg)
- MELTING POINT** : 106°C
- FLASH POINT** : 56°C(CC)
- FLAMMABILITY** : lower:0.7% upper:5%
- AUTOIGNITION TEMPERATURE** : No data available
- VAPOR PRESSURE** : No data available
- VAPOR DENSITY** : 14(Air=1)
- DENSITY** : 1.60g/cm<sup>3</sup>(25°C)
- SOLUBILITY IN**
- WATER** : slightly insoluble
- Organic solvent** : very soluble
- DECOMPOSITION TEMPERATURE** : No data available

**10. STABILITY AND REACTIVITY**

- REACTIVITY** : Stable under recommended storage conditions.
- CHEMICAL STABILITY** : Very toxic and corrosive gases are emitted by heating. Reacts with oxidizers, acids, bases.
- CONDITION TO AVOID** : Heat, contact with incompatible materials.
- INCOMPATIBLE MATERIALS** : Bases
- HAZARDOUS DECOMPOSITION PRODUCTS** : CO, CO<sub>2</sub>, Hydrogen chloride, Chlorine, Phosgene

**11. TOXICOLOGICAL INFORMATION**

- ACUTE TOXICITY (oral)** : Rat LD<sub>50</sub>= 83 ~ 590 mg/kg (ATSDR(1994),EHC 34(1984),IARC vol.79 (2001),JMPR 180(1970),ACGIH(2001))
- ACUTE TOXICITY (dermal)** : Rat LD<sub>50</sub>= 205~590-840mg/kg  
Rabbit LD<sub>50</sub>= 205~1100-1200 mg/kg (EHC 34(1984), ACGIH(2001))
- SKIN CORROSION/IRRITATION** : Human: contact with skin may cause skin irritation.(ASTDR(1994), EHC 34(1984))
- EYE DAMAGE/EYE IRRITATION** : Human: Industry worker, eye, skin, mucosa irritation.(ATSDR(1994), EHC 34(1984))

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GERM CELL MUTAGENICITY	: Mouse: Positive (EHC 34(1984),IARC 79(2001),ATSDR(1994))
CARCINOGENICITY	: Classified at, IARC: 2B(2001), ACGIH: A3(1996)
REPRODUCTIVE TOXICITY	: Rat: increasing the loss rate of baby, neurobehavioral consequences.(EHC 34(1984),ATSDR (1994)),IRIS(2002))
SPECIFIC TARGET ORGAN TOXICITY-single exposure	: Human: appear nervous symptoms after inhalation.(IARC79(2001), EHC 34 (1984),PIMs(2000))
SPECIFIC TARGET ORGAN TOXICITY-repeated exposure	: Rat, mouse, human: appear nervous symptoms, liver damage, hematological damage. (IARC 79(2001),EHC 34(1984)),IRIS(1997))
ASPIRATION TOXICITY	: No data available

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**12. ECOLOGICAL INFORMATION**

ECOTOXICITY	: Crustacea (shrimp pink): LC50=0.4µg/L/96hr (EHC 34,1984)
BIODEGRADABILITY	: BOD: 0%, BCF=13,900-27,900(3µg/L), 13,000-26,100(0.3µg/L)
BIOACCUMULATION POTENTIAL	: log Pow=6.16
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	: UN 2761
UN PROPER SHIPPING NAME	: Organochlorine pesticides, solid, toxic. (Chlordane)
CLASS or DIVISION	: Toxic (Class 6.1)
PACKING GROUP	: III

**DOT**

IDENTIFICATION NUMBER	: UN 2761
PROPER SHIPPING NAME	: Organochlorine pesticides, solid, toxic. (Chlordane)
HAZARD CLASS	: Toxic (Class 6.1)
MARINE POLLUTANT	: Yes

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**15. REGULATORY INFORMATION**

US REGULATIONS	: Labeling according to US regulations; 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.