

# SAFETY DATA SHEET

SDS No.1050-12501

Date

June 3, 2015

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## 1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : Hopcalite 8-14 mesh  
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. : 1050-12501  
SDS No. : 1050-12501  
Research use only.

## 2. HAZARDS IDENTIFICATION

GHS CLASSIFICATION : Specific target organ toxicity (Single exposure)  
: Category 1<respiratory organs>  
Specific target organ toxicity (Repeated exposure)  
: Category 1<respiratory organs>

HAZARDS SYMBOL :



SIGNAL WORD : Danger

HAZARD STATEMENT :

H370 Cause damage to organs (respiratory organs)  
H372 Cause damage to organs through prolonged or repeated exposure (respiratory organs)

PRECAUTIONARY STATEMENTS :

P260 Do not breathe fume/gas/mist/spray.  
P264 Wash hands thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P308+P311 IF exposed or concerned: Call a POISON CENTER or doctor.  
P314 Get medical attention if you feel unwell.  
P405 Store locked up.  
P501 Dispose of contents/container in accordance with all applicable regulations.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL IDENTITY : Hopcalite 8-14 mesh  
SYNONYMS : - - -  
CHEMICAL FORMULA : Mixture

CHEMICAL IDENTITY	CONTENT	CHEMICAL FORMULA	CAS No.	TSCA INVENTORY	EINECS No.	EC INDEX No.
Manganese dioxide	63%	MnO <sub>2</sub>	1313-13-9	Listed	215-202-6	025-001-00-3
Copper(II) oxide	20%	CuO	1317-38-0	Listed	215-269-1	Not established
Potassium oxide	1.5 - 3.5%	K <sub>2</sub> O	12136-45-7	Listed	235-227-6	Not established

## 4. FIRST AID MEASURES

GENERAL ADVICE : Wash off with soap and plenty of water. Consult a physician. Use personal protective equipment.  
INHALATION : Move victim to fresh air and gargle. If breathing is difficult, give oxygen. If feel unwell, 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, give plenty of water. Never give anything by mouth to an unconscious person. If feel unwell, consult a physician.

**MOST IMPORTANT SYMPTOMS AND EFFECTS**

: Effect to central respiratory organs.  
 May induce eyes, skin and nose irritation.  
 Repeated or long-term exposure causes acute and subacute, and chronic toxicity.

**5. FIRE FIGHTING MEASURES**

EXTINGUISHING MEDIA : Carbon dioxide, dry chemical powder, foam, water spray

FIRE & EXPLOSION HAZARDS : Toxic and irritating dust, fumes or smoke may be emitted.  
 Because it comes to a high temperature by the surrounding fire MnO<sub>2</sub> is decomposed to generate oxygen, cool the container of this product by such as watering cooling.

**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.  
 Comply with local disposal regulations.

METHODS FOR CLEANING UP : Do not touch spilled material without suitable protection. After material is completely wipe down, wash the spill site with soap and water and ventilate the area. Pull all wastes in a container 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 this product with appropriate protective equipment.

STORAGE : Store away from sunlight in a cool, dry place and stable temperature.  
 Keep container tightly closed.

INCOMOPATIBLE PRODUCTS : Oxidizers and acids

**8. EXPOSURE CONTROL/PERSONAL PROTECTION**

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

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

CONTROL PARAMETERS :

CHEMICAL IDENTITY	ACGIH TLV-TWA	OSHA PEL-TWA	NIOSH REL
Manganese dioxide	0.2 mg/m <sup>3</sup>	5 mg/m <sup>3</sup>	1 mg/m <sup>3</sup>
Copper(II) oxide	Not established	0.1 mg/m <sup>3</sup>	0.1 mg/m <sup>3</sup>
Potassium oxide	Not established		

**PERSONAL PROTECTION**

RESPRATORY PROTECTION : Dust respirator

HAND PROTECTION : Safety gloves

EYE PROTECTION : Safety glasses(goggles)

SKIN PROTECTION : Protective clothing

**9. PHYSICAL AND CHEMICAL PROPERTIES**

APPEARANCE : Black, Granular solid

ODOR : Odorless

pH : No data available

BOILING POINT : No data available

MELTING POINT : 800 °C

FLASH POINT : No data available

EXPLOSIVE LIMITS : No data available

VAPOR PRESSURE : No data available

DENSITY : Bulk density: approx. 0.73 mg/L

SPECIFIC GRAVITY : No data available

**SOLUBILITY IN**

Water : Insoluble  
 Organic solvent : Insoluble  
 : MnO<sub>2</sub> dissolves in hydrochloric acid and it generates chlorine.  
 Although MnO<sub>2</sub> does not dissolve in nitric acid and sulfuric acid at low temperature, it dissolves under co-existing hydrogen peroxide and oxalic acid.  
 CuO dissolves in dilute acid, potassium cyanide solution and ammonium chloride solution.

**PARTITION COEFFICIENT ; n-octanol/water**

: No data available

**AUTOIGNITION TEMPERATURE** : No data available**DECOMPOSITION TEMPERATURE**

: No data available

**10. STABILITY AND REACTIVITY****REACTIVITY** : Stable under usual using and storage condition.**CHEMICAL STABILITY** : Stable under usual using and storage condition.MnO<sub>2</sub> decomposes to Mn<sub>2</sub>O<sub>3</sub> at 535 °C.MnO<sub>2</sub> may react with such as H<sub>2</sub>S, AlClO<sub>4</sub>, Na<sub>2</sub>O<sub>2</sub>, H<sub>2</sub>SO<sub>5</sub> and H<sub>2</sub>O<sub>2</sub>.CuO may react with such as NH<sub>4</sub>NO<sub>3</sub>, Ti, Al, Mg, Na, NH<sub>2</sub>NH<sub>2</sub>, H<sub>2</sub>S.**CONDITION TO AVOID** : Sunlight, heat, high temperature**INCOMPATIBLE MATERIALS** : Oxidizers, acids**HAZARDOUS DECOMPOSITION PRODUCTS**: Mn<sub>2</sub>O<sub>3</sub>, O<sub>2</sub>**11. TOXICOLOGICAL INFORMATION****ACUTE TOXICITY** : LD50=11,710 mg/kg (CERI hazard data sheet 2001-60, 2002)**SKIN CORROSION/IRRITATION** : Lack of data**EYE DAMAGE/EYE IRRITATION** : Lack of data**RESPIRATORY OR SKIN SENSITIZATION**

: Lack of data

**GERM CELL MUTAGENICITY** : No data available**CARCINOGENICITY** : No data available**REPRODUCTIVE TOXICITY** : No data available**SPECIFIC TARGET ORGAN TOXICITY - single exposure -**: Rapid exposure of Manganese dust, especially MnO<sub>2</sub> and Mn<sub>3</sub>O<sub>4</sub>, is cause of inflammatory response and induces lung dysfunction with time.

By toxicity to the lung, the infectivity to such as bronchitis are increased and manganese pneumonia is developed.(CICAD 12,1999)

**SPECIFIC TARGET ORGAN TOXICITY - repeated exposure -**

: There are many "Human cases" and "animal findings". (EHC 17(1981), CICAD 12(1999), ATSDR(2000))

**ASPIRATION HAZARD** : No data available**12. ECOLOGICAL INFORMATION****Hazardous to the aquatic environment**

: No data available

**BIODEGRADABILITY** : No data available**BIOACCUMULATION POTENTIAL** : No data available**MOBILITY IN SOIL** : No data available**OTHER ADVERSE EFFECTS** : All components are not listed in Montreal Protocol.**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** : Not dangerous goods**ADR/RID** : Not dangerous goods**DOT** : Not dangerous goods**MARINE POLLUTANT** : No

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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.