



**INDIUM CORPORATION OF AMERICA®\EUROPE®\ASIA-PACIFIC®  
INDIUM CORPORATION (SUZHOU)®**

**SAFETY DATA SHEET**

**1. PRODUCT AND COMPANY IDENTIFICATION**

**Product Identifier:** COPPER SULPHATE (GREEN)

**SDS Number:** SDS-HG4065

**Revised Date:** 15 MARCH 2015

**Product Use:** Industrial Use - Copper sulfate solution

**MANUFACTURER:**

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## 2. HAZARDS IDENTIFICATION

### PRIMARY ROUTES OF ENTRY:

XEye

XInhalation

XSkin

XIngestion

NTP

### Carcinogen listed in

IARC

OSHA

XNot Listed

### GHS



Signal Word: Danger

### Hazard statement(s):

H314 Causes severe skin burns and eye damage

H318 Causes serious eye damage

H335 May cause respiratory irritation

H410 Very toxic to aquatic life with long lasting effects

### Precautionary statement(s):

P233 Keep container tightly closed

P261 Avoid breathing dust/fume/gas/mist/vapors/spray

P270 Do not eat, drink or smoke when using this product

P273 Avoid release to the environment

P280 Wear protective gloves/protective clothing/eye protection/face protection

P362 Take off contaminated clothing and wash before reuse

P301 + P314 IF SWALLOWED: Get Medical advice/attention if you feel unwell

P302 + P352 IF ON SKIN: Wash with plenty of soap and water

P304 + 341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing

P305 + 351 IF IN EYES: Rinse continuously with water for several minutes (15 mins)

### Classification:

Skin corrosion –Category 1B

Serious eye damage-Category 1

Specific target organ toxicity-single exposure-Category 3, respiratory system

Acute aquatic toxicity-Category 1

Chronic aquatic toxicity-Category 1

### POTENTIAL HEALTH EFFECTS:

**Eye Contact:** Vapors may be irritating, liquid may damage eye tissue or cause burns.

**Ingestion:** May result in gastric disturbances such as nausea and vomiting.

**Inhalation:** May cause throat irritation or burns.

**Skin Contact:** May cause irritation or burns.

**Chronic:** Not established. Copper sulfate target organ effect: liver, kidney, blood.

**NOTE:** **The Indium Corporation does not recommend, manufacture, market or endorse any of its products for human consumption.**

**3. COMPOSITION / INFORMATION ON INGREDIENTS**

Components	% wt	CAS Registry #/EINECS#	PEL mg/m <sup>3</sup>	TLV-TWA mg/m <sup>3</sup>	TLV-STEL mg/m <sup>3</sup>
<b>COPPER SULFATE</b>	15-20	7758-98-7/231-847-6			
	( as copper)	(US)	0.2 (fume)	1(dust)	-
		(EU)	-	0.2(fume)	2
		(Canada)	-	1(dust)	2
		(Singapore)	0.2 (fume)	1(dust)	-
		(Mexico)	0.2(fume)	1(dust)	2
<b>HYDROCHLORIC ACID</b>	25-35	47647-01-0/231-595-7			
		(US)	7	7.5	-
		(EU)	-	2	8(gas/mist)
		(Singapore)			7.5
		(Mexico)	-	-	7
		(China)	-	7.5	-
<b>SOLVENT(water)</b>	45-60	7732-18-5	N.E.	N.E.	N.E.

Symbol: X<sub>n</sub>C

Risk Phrases: R22, R36/37/38, R50/53

N.E. = Not established

**4. FIRST AID MEASURES**

- Eye Contact:** Hold eyelids apart and flush eyes with plenty of tepid water for at least 15 minutes. Seek medical attention if irritation persists.
- Ingestion:** If patient is conscious, ONLY induce vomiting as directed by trained personnel. NEVER give anything by mouth to an unconscious person. Seek medical attention immediately.
- Inhalation:** Remove to fresh air. If not breathing, give artificial respiration or oxygen by trained personnel. Seek immediate medical attention.
- Skin Contact:** Remove contaminated clothing. Wash affected area with soap and water. Wash clothing before reuse. If irritation persists, obtain medical attention.

**5. FIRE FIGHTING MEASURES**

Flash Point: N/A

Method:

Auto-ignition Temperature: NA

<b>Flammable Limits:</b>	NA
<b>Extinguishing Media:</b>	Water. Use extinguishers appropriate for the surrounding fire conditions.
<b>Special Fire Fighting Procedures:</b>	Standard fire fighting equipment when fighting fire with toxic corrosive fumes.

## 6. ACCIDENTAL RELEASE MEASURES

**Spill or Leak Procedures:** DO NOT allow material to enter sewer system or waterway. Wear personal protective equipment, such as gloves and depending on the quantity a respirator with acid vapor cartridges may be required. Clean up by absorption or neutralization. Keep unnecessary personnel away. Put clean-up materials in a properly labeled plastic/poly drum. Dispose of following all Federal, State and Local regulations. In the EU refer to the Special Waste Regulations.

## 7. HANDLING AND STORAGE

<b>Handling Precautions:</b>	Keep containers tightly closed when not in use. Use care to avoid spills. Wear personal protective equipment.
<b>Storage Precautions:</b>	Store product in tightly capped original containers in a cool, dry area. Refer to product label for specific storage temperature requirements. Rotate stock to ensure use before expiration date on the label.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering Controls:** Face velocity >2.1 cubic feet/minute in confined areas. Exhaust ventilation is recommended to keep exposure limits as low as possible. Use ventilation.

### Personal protection:

<b>Eyes:</b>	Chemical safety glasses/goggles. Face shield for splash hazards.
<b>Respirator:</b>	An authority approved or compliant marked air-purifying respirator with a acid vapor chemical cartridge is recommended where airborne concentrations are expected to be elevated.
<b>Skin:</b>	Compatible chemical resistant gloves for handling acids.
<b>Other:</b>	Lab coat, eyewash fountain/shower unit in work area. Avoid the use of contact lenses.
<b>Work/Hygienic Practices:</b>	Maintain good housekeeping. Clean up spills immediately. Good personal hygiene is essential. Avoid eating, smoking or drinking in the work area. Wash hands thoroughly with soap and water immediately upon leaving the work area.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Green	<b>Boiling Point:</b>	212°F
<b>Odor:</b>	Sharp pungent	<b>Melting Point:</b>	N/A
<b>Specific Gravity:</b>	1.160 @60F	<b>pH:</b>	0.68 Corrosive
<b>Vapor Pressure:</b>	ND	<b>Solubility in Water:</b>	Soluble
<b>Vapor Density:</b>	ND	<b>Evaporation Rate:</b>	<1

**Volatile by Volume:** 80%

## 10. STABILITY AND REACTIVITY

**General:** Stable.

**Conditions to Avoid:** Direct heat, open flames.

**Incompatible Materials:** Strong oxidizing agents

**Hazardous Decomposition / Combustion:** Hydrogen bromide

**Hazardous Polymerization:** Will not occur.

## 11. TOXICOLOGICAL INFORMATION

**Carcinogenicity:** NTP: No  
OSHA: No  
IARC: No

**LD50:** Not established.

**LC50:** Not established.

Copper sulphate:  
LD50 Oral Rat rat – 300 mg/kg  
LD50 Intraperitoneal – rat – 20mg/kg  
LD50 Subcutaneous – rat – 43 mg/kg  
Genotoxicity in vitro – rat – liver DNA damage

### Signs and Symptoms of Exposure

Copper poisoning (systemic) may include: capillary damage, headache, cold sweat, weak pulse and kidney and liver damage. Chronic copper poisoning is typified by hepatic cirrhosis, brain damage and kidneys defects and copper deposition in the cornea as exemplified by humans with Wilson's disease. To the best of our knowledge the chemical, physical and toxicological properties of copper have not been thoroughly investigated.

## 12. ECOLOGICAL INFORMATION

Product not tested.

Copper sulfate: toxicity to fish – mortality LC50 – other fish – 1.0-2.5 mg/l – 96h

Copper sulfate: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

## 13. DISPOSAL CONSIDERATION

**Waste Disposal Method:** Dispose of in accordance with all Federal, State and Local environmental regulations. In Europe follow the Special Waste Regulations.

## 14. TRANSPORT INFORMATION

Transport in accordance with applicable regulations and requirements.

UN3264, Corrosive Liquid, acidic, inorganic, N.O.S., 8, PGIII (hydrochloric acid, copper sulfate)



North American Emergency Guide Book – Guide # 154

Reportable quantity Copper Sulfate: 10 lbs. If shipping amounts exceed this RQ must be added to in front of the name.

Note product contains approx 20% copper sulfate. Calculate shipping quantity to determine proper name.

### IMDG:

RQ, UN3264, Corrosive Liquid, acidic, inorganic, N.O.S., 8, PGIII (hydrochloric acid, copper sulfate) (Marine Pollutant) (Copper Sulfate)

Copper Sulfate is listed as a Severe Marine Pollutant. Follow applicable shipping rules and markings.



## 15. REGULATORY INFORMATION

The information in this Safety Data Sheet meets the requirements of the United States Occupational Safety and Health Act and regulations promulgated hereunder (29 CFR 1910.1200 ET. SEQ.).

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulation (CPR).



Canadian WHMIS: Class E Corrosive

This product has been classified in accordance with the guidelines set by the Dept of Industrial Health of the Republic of Singapore.

This product has been classified in accordance with Mexican regulations NOM-0180STPS-2000 and NOM-010-STPS-1999.

This product has been classified using the Chinese Occupational Exposure Limit for Hazardous Agents in the Workplace, GBZ2-2002.

SARA 313 Listing - 40 CFR 372.65: Copper CAS#7440-50-8

All ingredients are listed on the EPA TSCA Inventory.  
 Superfund Reportable Quantity (RQ): 10lbs Copper Sulfate (CuSO<sub>4</sub>)

EC Classification, Packaging and Labeling Requirements:

Symbol and Hazard Classification of Product



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**Risk Phrases:**

- R36/37/38 Irritating to eyes, respiratory system and skin  
 R22 May be harmful if swallowed  
 R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

**Safety Phrases:**

- S20/21 When using do not eat, drink or smoke  
 S23 Do not breathe fumes  
 S24/25 Avoid contact with skin and eyes  
 S27 Take off immediately all contaminated clothing  
 S28 After contact with skin wash immediately with plenty of soap and water  
 S36/37/39 Wear suitable protective clothing, gloves and eye/face protection  
 S7 Keep container tightly closed

## 16. OTHER INFORMATION

**HMIS Hazard Rating:**

<b>Health:</b>	2
<b>Fire:</b>	1
<b>Reactivity:</b>	0

**Revised Date:** 15 MARCH 2015

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