



**WATER SPECIALIST SUPPLY CO.,LTD.**

Call : 034-440-851-3, 095-367-5790

Sales : 089-695-8181, 083-705-1000, 089-160-6121

## MATERIAL SAFETY DATA SHEET

### COPPER SULPHATE

#### PRODUCT: COPPER SULPHATE

#### SECTION 01: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**WATER SPECIALIST SUPPLY CO.,LTD.**

78/7 Moo4 Khae Rai, Krathum Baen, Samut Sakhon 74110

Call (+66) 34-440-851 to 3 , (+66) 95-367-5790

Fax (+66) 34-440-851 to 3 ext.105

Email : Water\_wss@hotmail.com

PREPARED BY..... Water Specialist Supply CO.,LTD  
PREPARATION DATE..... 21/July/16  
PRODUCT NAME.....COPPER SULPHATE PENTAHYDRATE  
CHEMICAL FORMULA..... $CuSO_4 \cdot 5H_2O$  .  
MOLECULAR WEIGHT.....249.58.  
CHEMICAL FAMILY..... INORGANIC SALT .  
EMERGENCY PHONE NO..... (+66)34-440-851 to 3 or (+66)95-367-5790

#### SECTION 02 : COMPOSITION/INFORMATION ON INGREDIENT

Content Ingredients %	Hazardous	C.A.S.#
Copper sulphate 100%	YES	7758-99-8

## SECTION 03: HAZARDS IDENTIFICATION

### Potential Health Effects

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#### Inhalation:

causes irritation to respiratory tract, symptoms may include coughing, sore throat, and shortness of breath. May result in ulceration and perforation of respiratory tract. When heated, this compound may give off copper fume, which can cause symptoms similar to common cold, including chills of head.

#### Ingestion :

May cause burning pain in the mouth, esophagus, and stomach, Hemorrhagic gastritis, nausea, vomiting, abdominal pain, metallic taste and diarrhea may occur. If vomiting does not occur immediately systemic copper poisoning may occur. Symptoms may include capillary damage, headache, cold sweat, weak pulse, kidney and liver damage, central nervous followed by depression, jaundice, convulsion, blood effects, paralysis and coma. Death may occur from shock or renal failure. Fatalities have occurred as a result of ingesting gram quantities of copper sulphate.

#### Skin Contact :

May cause irritation, itching, redness, Contact with extensively burned skin may cause poisoning.

#### Eye Contact :

Dust may cause irritation. Contact may cause conjunctivitis, ulceration, or clouding of the cornea.

#### Chronic Exposure :

Prolonged or repeated skin exposure may cause dermatitis. Prolonged or repeated exposure to dust of copper salt may cause discoloration of the skin or hair, blood and liver damage, ulceration and perforation of septum, runny nose, metallic taste, and atrophic changes and irritation of the mucous membranes.

#### Aggravation of Pre-existing Condition :

Persons with pre-existing skin disorders, impaired liver, kidney, or pulmonary function, glucose 6-phosphate-dehydrogenase deficiency, or pre-existing Wilson's disease may be more susceptible to the effects of the effects of this material.

## SECTION 04 : FIRST AID MEASURES

### INSTRUCTIONS:

#### **Inhalation:**

Remove to fresh air .If not breathing, give artificial respiration.If breathing is difficult,give oxygen.call a physician.

#### **Eye contact:**

Hold eyelids open and flush with water, until no evidence of chemical remains (at least 15 - 20 minutes). Get medical attention.

#### **Ingestion :**

Give large amount of milk,egg white,gelatin solution,or if they are not available,large quantities of water .Induce vomiting immediately as directed by medical personnel.Never give anything by mouth to an unconscious person.call a physician immediately.

#### **Skin Contact**

In case of contact,wipe off excess material from skin then immediately flush skin with plenty of water for least 15 minutes,lifting lower and upper eyelids occasionally. Get medical attention immediately.

## SECTION 05 :FIRE FIGHTING MEASURES

#### **Fire:**

Not considered to be a fire hazard.

#### **Explosive :**

Not considered to be an explosion hazard

#### **Fire Extinguishing Media:**

Use any means suitable for extinguishing surrounding fire.Water spray may be used to keep fire exposed containers cool.

#### **Special information :**

In the event of a fire,wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.When heated above 110C(230F)material will melt.Avoid using a direct water stream on molten material as it may causes splattering.

## SECTION 06 : ACCIDENTAL RELEASE MEASURES

Ventilate area of leak or spill. Keep unnecessary and unprotected people away from area of spill. Wear appropriate personal protective equipment as specified in Section 08. Spill: Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust.

## SECTION 07 : HANDLING AND STORAGE

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (dust, solid); observe all warnings and precautions listed for the product.

## SECTION 08 : EXPOSE CONTROL/PERSONAL PROTECTION

### **Airborne Exposure Limits:**

-OSHA permissible Exposure Limit(PEL): 1mg/m<sup>3</sup>(TWA) for copper dust & mist as Cu

-ACGIH Threshold Limit Value(TLV): 1mg/m<sup>3</sup>(TWA) for copper dust & mists as Cu

### **Ventilation System :**

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.

### **Personal Respirators(NIOSH Approved) :**

If the exposure limits is exceeded and engineering controls are not feasible, a half face piece particulate respirator(NIOSH type N95 or better filters) may be worn for up ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is the lowest. A full-face piece particulate respirator(NIOSH type N100 filters) may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency, or respirator supplier, whichever is the lowest. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a full-facepiece positive-pressure, air-supplied respirator.

WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

**Skin protection :**

Wear protective gloves and clean body-covering clothing.

**Eye protection :**

Use chemical safety goggles, Maintain eye wash fountain and quick-drench facilities in work area.

## SECTION 09 : PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state :</b>	Blue crystals.
<b>Odour :</b>	Odourless
<b>Vapor Pressure (mm Hg) :</b>	7.3mm Hg@ 25(C).
<b>Vapor density (AIR=1) :</b>	N.AV
<b>Evaporation Rate :</b>	N.AV.
<b>Boiling Point :</b>	150 C
<b>Melting point(C) :</b>	110C.
<b>PH :</b>	N.AV
<b>Density/Specific Gravity :</b>	2.284@15.6C
<b>Solubility :</b>	Soluble
<b>% Volatiles by the volume@21C(70F):</b>	0

## SECTION 10:STABILITY AND REACTIVITY

### Stability:

Stable under ordinary conditions of use and storage.Hygroscopic.

### Hazardous Decomposition Product :

Burning may produce sulfur oxides.

### Hazardous Polymerization :

Will not occur.

### Incompatibilities :

Substance will ignite hydroxylamine.Solutions are acidic and can react with magnesium to evolve flammable hydrogen gas.May react with acetylene to form dangerous acetylides.

### Conditions to Avoid :

Moisture and incompatibles.

## SECTION 11 : TOXICOLOGICAL INFORMATION

### Toxicological Data :

Oral rat LD 50:300 mg/kg.Investigated as a tumorigen, mutagen and reproductive effector.

### Reproductive Toxicity :

Has caused mutagenic and teratogenic effects on laboratory animals.

Ingredient Category	Known	Anticipated	IARC
Copper Sulphate(7758-99-8)	No	No	None

## SECTION 12 : ECOLOGICAL CONSIDERATION

### Environmental Fate :

When released into the soil, this material is not expected to biodegrade. When released into the soil, this material may leach into groundwater.

When released into water, this material is not expected to biodegrade. When released into water, this material is not expected to evaporate significantly.

This material is expected to significantly bioaccumulate. This material has an experimentally-determined bioconcentration factor (BCF) of greater than 100. Bioaccumulation data for copper.

### Environmental Toxicity :

Toxicity data for copper. This material is expected to be very toxic to aquatic life. The LC50/96-hour values for fish are less than 1 mg/l. The IC50/72-hour values for algae are less than 1 mg/l.

Toxic to fish and plants. Fish toxicity critical concentration is 235 mg/l and plant toxicity is 25 mg/l.

## SECTION 13 : DISPOSAL CONSIDERATION

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

## SECTION 14 : TRANSPORT INFORMATION

**Proper Shipping Name :** RQ, ENVIRONMENTALLY HAZARDOUS  
SUBSTANCE, SOLID, N.O.S (COPPER SULPHATE)

**Hazard Class:** 9

**UN/NA :** UN3077

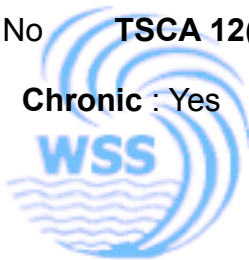
**Packing Group :** III

## SECTION 15 :REGULATORY INFORMATION

**Chemical Weapons Convention:** No **TSCA 12(b):** No **CDTA:**No

**SARA 311/312 :** Acute : Yes **Chronic :** Yes **Fire:** No **Pressure:** No

**Reactivity :** No (Pure/Solid)



**Australian Hazchen Code :**None allocated.

Poison Schedules: S5

### **WHMIS :**

This MSDS has been prepared according to the hazard criteria of the controlled Products Regulations(CPR) and the MSDS contains all the information required by the CPR.

## SECTION 16 :OTHER INFORMATION

### **Label Precautions:**

Avoid contact with eyes ,Skin and clothing.

Wash thoroughly after handling.

Keep container closed.

Avoid breathing dust.

Use only with adequate ventilation.

### **Label First Aid :**

If swallowed, induce vomiting immediately as directed by medical personnel.Never give anything by mouth to an unconscious person.Call a physician immediately.In case of contact,wipe off excess material from skin then immediately flush eyes or skin with plenty of water at least 15 minutes.Remove contaminated clothing and shoes.Wash clothing before reuse.Call a physician.if inhale,remove format fresh air.if not breathing,give artificial respiration.If not breathing is difficult,give oxygen.Call a physician.

### **Disclaimer :**

**Water Specialist Supply(WSS THAILAND) CO.,Ltd provide information contained here in good faith but make no representation as to its comprehensiveness or accuracy.This document is intended only as a guide to the appropriate precautionary handing of the material by a properly trained person using this product.Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose.**