



UNCHING INDUSTRY CO., LTD.

109/20 Moo 9, Setthakit 1 Rd., T. Suanluang, A.Krathumbaen, Samutsakhon 74110.

Tel: 02 - 810 - 1345 Fax: 02 - 810 - 1346

SAFETY DATA SHEET

COPPER SULPHATE PENTAHYDRATE

1. Identification of the substance/preparation and of the company/undertaking

Product name: COPPER SULPHATE PENTAHYDRATE

Manufacturer/supplier identification

Company: UNCHING INDUSTRY CO., TLD
109/20 Moo 9, Setthakit 1 Rd., T. Suanluang, A.Krathumbaen,
Samutsakhon 74110
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2. Hazards identification

GHS classification of the substance/mixture

Health hazards

Acute Toxicity (Oral)	Category 4
Serious eye damage/eye irritation	Category 1

Environmental hazards

Acute aquatic toxicity	Category 1
Chronic aquatic toxicity	Category 1

Pictogram (s)



Signal word:

Danger

Hazard statements:

H302	Harmful if swallowed.
H318	Causes serious eye damage.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statements

- P264 Wash skin thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P273 Avoid release to the environment.
- P280 Wear eye protection/ face protection.
- P301 + P312 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.
- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

3. Composition/information on ingredients

Product Name	CAS Numbers	EC Numbers	Index-No.	%Copper
COPPER SULPHATE PENTAHYDRATE	7758-99-8	231-847-6	029-023-00-4	25

Formula $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$

Molecular Weight 249.68 AMU

Synonyms Blue copper AS * Copper(II) sulfate pentahydrate * Copper(2+) sulfate pentahydrate * Cupric sulfate pentahydrate * Kupfersulfat-pentahydrat (German) * Kupfervitriol (German) * Salzburg vitriol * Sulfuric acid, copper(2+) salt, pentahydrate * Sulfuric acid copper(2+) salt (1:1), pentahydrate (8CI,9CI) * Vencedor

4. First aid measures

After inhalation: Fresh air. If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

After skin contact: In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

After eye contact: In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

After ingestion: If swallowed, wash out mouth with water provided person is conscious. Call a physician.

5. Fire-fighting measures**Extinguishing media**

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

Special risks

Specific Hazard(s): Emits toxic fumes under fire conditions.

Special risks special protective equipment for firefighters.

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

6. Accidental release measures**Personal precaution procedures to be followed in case of leak or spill.**

Evacuate area.

Procedure (s) of personal precaution (s).

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

Methods for cleaning up.

Sweep up, place in a bag and hold for waste disposal. Ventilate area and wash spill site after material pickup is complete.

7. Handling and storage**Handling****Directions for Safe Handling**

Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

Storage

Conditions of Storage: Keep tightly closed. Store under argon. Store in a cool dry place.

Special requirements

Air sensitive. Hygroscopic. Handle and store under inert gas.

8. Exposure controls/personal protection**Engineering controls**

Safety shower and eye bath. Mechanical exhaust required.

General hygiene measures

Wash thoroughly after handling.

Exposure limits – United kingdom

Source	Type	Value
OEL	LTEL	0.2 mg (Cu)/m ³ 1 mg (Cu)/m ³
Remarks: fumes		

Personal protective equipment**Respiratory Protection:** Government approved respirator.**Hand Protection:** Compatible chemical-resistant gloves.**Eye Protection:** Chemical safety goggles.

9. Physical and chemical properties

Appearance	Color: Blue Form: Crystals	
Property	Value	At Temperature or Pressure
pH	3.5 - 4.5	50 g/l
BP/BP Range	N/A	
MP/MP Range	110 °C	
Flash Point	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Oxidizing Properties	N/A	
Explosive Properties	N/A	
Explosion Limits	N/A	
SG/Density	2.284 g/cm ³	
Partition Coefficient	N/A	
Viscosity	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
Evaporation Rate	N/A	
Bulk Density	N/A	
Decomposition Temp.	N/A	
Solvent Content	N/A	
Water Content	N/A	
Surface Tension	N/A	
Conductivity	N/A	
Miscellaneous Data	N/A	
Solubility	N/A	

10. Stability and reactivity

Stability

Stable: Stable.

Conditions to Avoid: Air sensitive. Hygroscopic.

Materials to Avoid: Finely powdered metals Anhydrous copper (II) sulfate reacts violently with: hydroxylamine, magnesium.

Hazardous decomposition products

Hazardous Decomposition Products: Copper oxide, Sulfur oxides.

Hazardous polymerization

Hazardous Polymerization: Will not occur.

11. Toxicological information

Acute toxicity

LDLO	Oral	Human	1088 mg/kg
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Remarks: Behavioral:Coma.

Liver:Jaundice (or hyperbilirubinemia) hepatocellular.

Blood:Other hemolysis with or without anemia.

LD ₅₀	Oral	Rat	300 mg/kg
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LD ₅₀	Skin	Rat	> 2000 mg/kg
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LD ₅₀	Intraperitoneal	Rat	18700 ug/kg
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LD ₅₀	Intraperitoneal	Mouse	33 mg/kg
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LD ₅₀	Intraperitoneal	Mammal	7500 ug/kg
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Remarks: Behavioral:Somnolence (general depressed activity).

Gastrointestinal:Changes in structure or function of salivary glands.

Nausea or vomiting.

Sensitization

Skin: Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.

Signs and symptoms of exposure

Chronic copper poisoning is typified by hepatic cirrhosis, brain damage and demyelination, kidney defects, and copper deposition in the cornea as exemplified by humans with Wilson's disease. It has also been reported that copper poisoning has lead to hemolytic anemia and accelerates arteriosclerosis. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Route of exposure

Skin Contact: Causes skin irritation.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: Causes eye irritation.

Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.

Ingestion: Harmful if swallowed.

12. Ecological information**Ecotoxicological effects**

Test Type: LC₅₀ Fish

Time: 96 h

Value: 1 - 2.5 mg/l

Test Type: EC₅₀ Daphnia

Species: Daphnia magna

Time: 48 h

Value: 0.024 mg/l

13. Disposal considerations

Substance Disposal: Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

14. Transport information**RID/ADR**

UN#: 3077

Class: 9

PG: III

Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s

IMDG

UN#: 3077

Class: 9

PG: III

Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s

Marine Pollutant: No

Severe Marine Pollutant: No

Technical Name: Required

IATA

UN#: 3077

Class: 9

PG: III

Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s

Inhalation Packing Group I: No

Technical Name: Required

15. Regulatory information

Labelling according to EC Directives

Index Number: 029-023-00-4

Indication of danger: Xn N

Harmful. Dangerous for the environment.

R-Phrases: 22 36/38 50/53

Harmful if swallowed. Irritating to eyes and skin. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S- Phrases: 22 60 61

Do not breathe dust. This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/safety data sheets.

Country specific information

Germany

WGK: 2

Switzerland

Swiss poison class: 3

16. Other information

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