

Safety Data Sheet
According to the (US) Hazard Communication Standard (29 CFR 1910.1200)

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name Copper Sulfate Pentahydrate, ACS Crystals
NCL Catalog Number C-39
Product Description Laboratory chemical
Manufacturer EMD Chemicals Inc. PO Box 70, 480 Democrat Road
 Gibbstown, NJ 08027
Supplier NCL of Wisconsin, Inc. PO Box 8, Birnamwood, WI 54414
 Telephone: 1-800-648-7836 Fax: 715-449-2454
 Email: nclabs@nclabs.com Emergency Contact: 1-800-424-9300 (Chemtrec)

SECTION 2: HAZARDS IDENTIFICATION

GHS Classification

Acute Toxicity Oral Category 3
 Aquatic Acute Category 1
 Aquatic Chronic Category 1



Signal Word Danger

Hazard Statements

H301 Toxic if swallowed.
 H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements

P264 Wash exposed skin thoroughly after handling.
 P270 Do not eat, drink or smoke when using this product.
 P273 Avoid release to the environment.
 P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor.
 P330 Rinse mouth.
 P391 Collect spillage.
 P405 Store locked up.
 P501 Dispose of contents/container to comply with local, state and federal regulations.

Other Hazards Not Contributing to the Classification None under normal conditions.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Identity Not applicable
Common Name Not applicable

Substance

Name	CAS #	Approximate %
Copper (II) Sulfate, Pentahydrate	7758-99-8	100

SECTION 4: FIRST AID MEASURES

Description of First Aid Measures

General First Aid Measures

Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention.

If Inhaled

Remove person to fresh air and keep at rest in a position comfortable for breathing. If experience respiratory symptoms: Call a POISON CENTER or doctor.

In Case of Skin Contact

Take off immediately all contaminated clothing. Wash contaminated clothing before reuse. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention.

In Case of Eye Contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a POISON CENTER or doctor if irritation persists.

If Swallowed

Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor.

Most Important Symptoms/Effects Acute and Delayed

After Inhalation

Dry/sore throat. Coughing. Metal fume fever on heating.

After Skin Contact

Tingling/irritation of the skin.

After Eye Contact

Irritation of the eye tissue.

After Ingestion

Metal taste. Irritation of the oral mucous membranes. Nausea. Vomiting. Headache. Dizziness. Feeling of weakness. Abdominal pain and diarrhea. Change in the haemogramme/blood composition. Change in the urine composition. Disturbances of consciousness.

Chronic Symptoms

On continuous or repeated contact: Red skin, itching, skin and rash/inflammation. Feeling of weakness. Loss of weight. Coughing. Possible inflammation of the respiratory tract. Risk of pneumonia. Enlargement/affection of the liver.

Indication of Immediate Medical Attention and Special Treatment Needed

Seek medical advice if you feel unwell.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Adapt extinguishing media to the environment.

Unsuitable Extinguishing Media

Do not use a heavy water stream.

Special Hazards Arising from the Chemical

No data available.

Special Protective Actions for Fire-Fighters

Wear self-contained breathing apparatus and protective clothing. Keep exposed containers cool with water spray. Dilute toxic gases with water spray.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Personal Precautions

Use personal protective equipment (see section 8). Safety glasses, gloves, gas/dust mask. Avoid dust formation. Avoid breathing dust, vapors, mist or gas. Ensure adequate ventilation and evacuate personnel to safe areas.

Environmental Precautions

Prevent entry to surface and ground waters.

Methods and Materials for Containment and Cleaning Up

Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Ensure compliance with local, state and federal regulations.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling

Remove contaminated clothing immediately. Clean contaminated clothing. Avoid contact with eyes and skin. Avoid breathing vapors. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

**Conditions for Safe Storage
Including any Incompatibilities**

Keep in original container, tightly closed and stored in a cool, dry, ventilated area. Store away from strong bases, strong acids, heat sources, reducing agents and moisture.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Not applicable

Appropriate Engineering Controls

Material should be handled or transferred in a fume hood or with equivalent ventilation. Maintain eye-wash fountain and quick-drench facilities in work area.

Individual Protection Measures

Eye/Face Protection

Avoid all unnecessary exposure.
Use chemical safety goggles and /or a full face shield where splashing is possible. Contact lenses should not be worn when working with this material. Maintain eye-wash fountain and quick-drench facilities in work area.

Skin Protection

Protective gloves and additional protection including impervious boots, apron, or coveralls, as needed in areas of unusual exposure to prevent skin contact.

Respiratory Protection

Wear appropriate mask.

Other Information

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

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State

Solid, crystalline.

Color

Blue.

Odor

Odorless

Odor Threshold

Not determined

pH

4.0 in 3.2% solution.

Melting Point/Freezing Point

Not determined

Initial Boiling Point and Boiling Range

Not determined

Flash Point

Not determined

Evaporation Rate

Not determined

Flammability (Solid, Gas)

Not determined

Upper/Lower Flammability/Explosive Limits

Not determined

Vapor Pressure

Not determined

Vapor Density

Not determined

Relative Density

2.3 g/ml

Solubility

Soluble in water, methanol, and glycerol.

Partition Coefficient: n-octanol/water

Not determined

Auto-Ignition Temperature

Not determined

Decomposition Temperature

>110°C

Viscosity

Not determined

SECTION 10: STABILITY AND REACTIVITY

Reactivity

Reacts on exposure to water and moisture with some metals. Release of toxic and corrosive gases/vapors on burning to form metallic fumes. Reacts exothermically with some compounds to increase risk of fire. Reacts violent with strong reducers.

Chemical Stability

Not established.

Possibility of Hazardous Reactions

May react violently with reducing agents.

Conditions to Avoid

Direct sunlight and extremely high or low temperatures.

Incompatible Materials

Strong acids and strong bases.

Hazardous Decomposition Products

Thermal decomposition generates corrosive vapors. Sulfur compounds.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute Toxicity Toxic if swallowed.

Copper (II) Sulfate, Pentahydrate (7758-99-8)	
LD50 oral rat	300 mg/kg
LD50 dermal rabbit	>2000 mg/kg
Water (7732-18-5)	
LD50 oral rat	≥90000 mg/kg

Skin Corrosion/Irritation Not classified

Serious Eye Damage/Irritation Not classified

Respiratory or Skin Sensitization Not classified

Germ Cell Mutagenicity Not classified

Carcinogenicity Not classified

Reproductive Toxicity Not classified

Specific Target Organ Toxicity (Single Exposure) Not classified

Specific Target Organ Toxicity (Repeated Exposure) Not classified

Aspiration Hazard Not classified

Potential Adverse Human Health Effects and Symptoms Toxic if swallowed.

Symptoms/Injuries After Inhalation Dry/sore throat. Coughing. Metal fume fever on heating.

Symptoms/Injuries After Skin Contact Tingling/irritation of the skin.

Symptoms/Injuries After Eye Contact Irritation of the eye tissue.

Symptoms/Injuries After Ingestion Metal taste. Irritation of the oral mucous membranes. Nausea. Vomiting. Headache. Dizziness. Feeling of weakness. Abdominal pain and diarrhea. Change in the haemogramme/blood composition. Change in the urine composition. Disturbances of consciousness.

Other Information On continuous or repeated contact: Red skin, itching, skin and rash/inflammation. Feeling of weakness. Loss of weight. Coughing. Possible inflammation of the respiratory tract. Risk of pneumonia. Enlargement/affection of the liver.

SECTION 12: ECOLOGICAL INFORMATION

Ecology – Water Toxicity Very toxic to aquatic life with long lasting results. Dangerous to the environment.

Copper (II) Sulfate, Pentahydrate (7758-99-8)	
LC50 fishes 1	1.5 mg/l
EC50 Daphnia 1	0.17 mg/l
TLM fish 1	3.8 ppm

Persistence and Degradability Not established

Bioaccumulative Potential Not established

Mobility in Soil Toxic to flora.

Other Adverse Effects Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of Disposal

Disposal Recommendations Dispose of contents/containers in accordance with local, state and federal regulations. Hazardous waste shall not be mixed together with other waste.

Other Information Hazardous waste due to toxicity. Avoid release to the environment.

SECTION 14: TRANSPORT INFORMATION

UN Number	3077
UN Shipping Name	Environmentally hazardous substances, solid, n.o.s.
Transport Hazard Class(es)	9 – Miscellaneous hazardous material
Packing Group	III
Environmental Hazards	Environmentally hazardous substances.
Transport in Bulk	Not applicable
Other Precautions	Not applicable

SECTION 15: REGULATORY INFORMATION

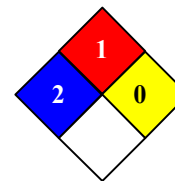
Copper (II) Sulfate, Pentahydrate (7758-99-8)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Listed on SARA Section 313 (Specific Toxic Chemical Listings)	
Reportable Quantity	10 lb

SECTION 16: OTHER INFORMATION

Revision Date: 03/25/2015

NFPA Hazards

Health Hazard	2: Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.
Fire Hazard	1: Must be preheated for ignition; flash point above 200°F (93°C).
Reactivity/Instability	0: Stable



HMIS III Rating

Health	2: Temporary or minor injury may occur.
Flammability	1: Materials that must be preheated before ignition will occur. Includes liquids, solids and semisolids having a flash point above 200°F (93°C) (e.g., Canola oil).
Physical Hazard	0: Materials that are normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosives.
Personal Protection	C

C-39	
Health	2
Flammability	1
Physical Hazard	0
Personal Protection	C

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END OF SAFETY DATA SHEET