



LTS Research Laboratories, Inc.
Safety Data Sheet
Copper Nitrate Hydrate

1. Product and Company Identification

Trade Name:	Copper Nitrate Hydrate
Chemical Formula:	$\text{Cu}(\text{NO}_3)_2 \cdot x\text{H}_2\text{O}$
Recommended Use:	Scientific research and development
Manufacturer/Supplier:	LTS Research Laboratories, Inc.
Street:	37 Ramland Road
City:	Orangeburg
State:	New York
Zip Code:	10962
Country:	USA
Tel #:	855-587-2436 / 855-lts-chem
24-Hour Emergency Contact:	800-424-9300 (US & Canada) +1-703-527-3887 (International)



2. Hazards Identification

Signal Word:

Danger



Hazard Statements:

H272: May intensify fire; oxidizer
H302: Harmful if swallowed
H315: Causes skin irritation
H318: Causes serious eye damage
H335: May cause respiratory irritation
H410: Very toxic to aquatic life with long lasting effects

Precautionary Statements:

P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking
P220: Keep/Store away from clothing/combustible materials
P221: Take any precaution to avoid mixing with combustibles
P260: Do not breathe dust/fume/gas/mist/vapours/spray
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 protective gloves/protective clothing/eye protection/face protection
P301+P312+P330: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.
P302+P352: IF ON SKIN: Wash with soap and water
P305+P351+P338+P310: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing. Call a POISON CENTER/doctor
P332+P313: If skin irritation occurs: Get medical advice/attention.
P362: Take off contaminated clothing and wash before reuse
P370+P378: In case of fire: Use dry sand, dry chemical or alcohol resistant foam for extinction
P391: Collect spillage
P501: Dispose of contents/container in accordance with local/regional/national/international regulations

HMIS Health Ratings (0-4):

Health:	3
Flammability:	0
Physical:	2

3. Composition

Material Family: Metal Nitrate
Additional Names: Copper (II) nitrate hydrate

Copper nitrate ($\text{Cu}(\text{NO}_3)_2 \cdot x\text{H}_2\text{O}$):
Percentage: 100 wt%
CAS #: 13778-31-9
EC #: 604-036-3

4. First Aid Procedures

General Treatment:	Seek medical attention if symptoms persist.
Special Treatment:	None
Important Symptoms:	Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation.
Inhalation:	Seek immediate medical attention. Remove victim to fresh air. Supply oxygen if breathing is difficult.
Ingestion:	Seek immediate medical attention. Give one to two glasses of water. Never induce vomiting or give anything by mouth to an unconscious person.
Skin:	Seek immediate medical attention. Wash affected area with mild soap and water. Remove any contaminated clothing.
Eyes:	Seek immediate medical attention. Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

5. Firefighting Measures

Flammability:	Non-flammable, except as powder
Extinguishing Media:	Dry sand, dry extinguishing powder
Spec. Fire Fighting Procedure:	Use full-face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. See section 10 for decomposition products. Use water spray to cool unopened containers.

6. Accidental Release Measures

If Material Is Released/Spilled:	Wear appropriate respiratory and protective equipment specified in special protection information. Isolate spill area and provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for disposal. Take care not to raise dust.
Environmental Precautions:	Isolate runoff to prevent environmental pollution.

7. Handling and Storage

Handling Conditions:	Wash thoroughly after handling.
Storage Conditions:	Store in a cool dry place in a tightly sealed container. Store apart from materials and conditions listed in section 10. The recommended storage temperature is 2-8 °C. Heat sensitive. Moisture sensitive.
Work/Hygienic Maintenance:	Do not use tobacco or food in work area. Wash thoroughly before eating and smoking. Do not blow dust off clothing or skin with compressed air.
Ventilation:	Provide sufficient ventilation to maintain concentration at or below threshold limit.

8. Exposure Controls and Personal Protection

Permissible Exposure Limits:	N/A
Threshold Limit Value:	N/A
Special Equipment:	None
Respiratory Protection:	Use a recommended dust respirator or mask. Only use equipment tested and approved under appropriate government standards.
Protective Gloves:	Rubber gloves
Eye Protection:	Safety glasses or goggles
Body Protection:	Protective work clothing. Wear close-toed shoes and long sleeves/pants.

9. Physical and Chemical Characteristics

Color	Blue
Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Odor:	Odorless
Water Solubility:	N/A
Boiling Point:	N/A
Melting Point:	114.5 °C
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	2.32 g/cc
Molecular weight:	187.56 g/mol (anhydrous)

10. Reactivity

Stability:	Hygroscopic, oxidizer; contact with combustible/organic material may cause fire.
Reacts With:	Oxidizing agents, reducing agents, organic materials, powdered metals
Incompatible Conditions:	Heat, moisture
Hazardous Decomposition Products:	Metal oxide fume, nitrogen oxides (NO _x), copper oxides

11. Toxicological Information

Potential Health Effects:	
Eyes:	Causes serious eye damage
Skin:	Causes skin irritation
Ingestion:	Harmful if swallowed
Inhalation:	May cause respiratory irritation
Chronic:	N/A
Signs & Symptoms:	Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation.
Aggravated Medical Conditions:	N/A
Median Lethal Dose:	794 mg/kg for rat by mouth
Carcinogen:	IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

12. Ecological Information

Aquatic Toxicity:	Very toxic to aquatic life with long lasting effects
Persistent Bioaccumulation Toxicity:	N/A
Very Persistent, Very Bioaccumulative:	N/A
Notes:	N/A

13. Disposal Considerations

Dispose of in accordance with local, state, national, and international regulations.

14. Transportation Data

Hazardous: Hazardous for transportation.



Hazard Class:	5.1 Oxidizers
Secondary Hazard Class:	8 Corrosive Materials
Packing Group:	II
UN Number:	UN3085
Proper Shipping Name:	Oxidizing solid, corrosive, n.o.s (Copper Nitrate Hydrate)

15. Regulatory Information

Sec 302 Extremely Hazardous:	No
Sec 304 Reportable Quantities:	N/A
Sec 313 Toxic Chemicals:	Yes

16. Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.

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