

# Safety Data Sheet

## Copper (II) Nitrate, Trihydrate

**CAROLINA**<sup>®</sup>  
www.carolina.com

### Section 1

### Product Description

**Product Name:** Copper (II) Nitrate, Trihydrate  
**Recommended Use:** Science education applications  
**Synonyms:** Cupric Nitrate, Trihydrate  
**Distributor:** Carolina Biological Supply Company  
2700 York Road, Burlington, NC 27215  
1-800-227-1150  
**Chemical Information:** 800-227-1150 (8am-5pm (ET) M-F)  
**Chemtrec:** 800-424-9300 (Transportation Spill Response 24 hours)

### Section 2

### Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

**DANGER**



May intensify fire; oxidizer. Harmful if swallowed. Causes skin irritation. Causes serious eye damage. Very toxic to aquatic life.

**GHS Classification:**

Serious Eye Damage/Eye Irritation Category 1, Hazardous to the aquatic environment - Acute Category 1, Oxidizing Solid Category 2, Skin Corrosion/Irritation Category 2, Acute Toxicity - Oral Category 4

### Section 3

### Composition / Information on Ingredients

| <u>Chemical Name</u>            | <u>CAS #</u> | <u>%</u> |
|---------------------------------|--------------|----------|
| Copper (II) Nitrate, Trihydrate | 10031-43-3   | 100      |

### Section 4

### First Aid Measures

**Emergency and First Aid Procedures**

**Inhalation:** In case of accident by inhalation: remove casualty to fresh air and keep at rest.  
**Eyes:** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
**Skin Contact:** IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.  
**Ingestion:** IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

### Section 5

### Firefighting Procedures

**Extinguishing Media:** Use alcohol foam, carbon dioxide, or water spray when fighting fires involving this material.  
**Fire Fighting Methods and Protection:** Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.  
**Fire and/or Explosion Hazards:** N/A  
**Hazardous Combustion Products:** Nitrogen oxides, Copper compounds

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## Section 6

## Spill or Leak Procedures

### Steps to Take in Case Material Is Released or Spilled:

Exposure to the spilled material may be severely irritating or toxic. Follow personal protective equipment recommendations found in Section 8 of this SDS. Personal protective equipment needs must be evaluated based on information provided on this sheet and the special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred, and the expertise of employees in the area responding to the spill. Never exceed any occupational exposure limits. Ventilate the contaminated area. Isolate area. Keep unnecessary personnel away. Avoid the generation of dusts during clean-up.

### Methods for Clean-up

Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation. Contain the discharged material. Avoid runoff into storm sewers and ditches that lead to waterways. Vacuum or sweep up material and place in a disposal container. Collect spillage.

## Section 7

## Handling and Storage

### Handling:

Keep away from heat/sparks/open flames/hot surfaces. – No smoking. Keep/Store away from clothing/.../combustible materials. Take any precaution to avoid mixing with combustibles. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. Avoid contact with skin and eyes. Avoid contact with clothing. Do not breathe dust. Contact with combustible material may cause fire. Store separately and away from flammable and combustible materials. Keep container dry.

### Storage:

Keep container tightly closed in a cool, well-ventilated place. Store in a secure area suitable for oxidizing agents. Store away from flammable materials, organic solvents and combustible materials.

### Storage Code:

Yellow - Reactive. Store separate and away from incompatible material.

## Section 8

## Protection Information

| Chemical Name                   | ACGIH                                          |        | OSHA PEL |        |
|---------------------------------|------------------------------------------------|--------|----------|--------|
|                                 | (TWA)                                          | (STEL) | (TWA)    | (STEL) |
| Copper (II) Nitrate, Trihydrate | 1 mg/m <sup>3</sup> TWA (dust and mist, as Cu) | N/A    | N/A      | N/A    |

### Control Parameters

#### Engineering Measures:

Local exhaust ventilation or other engineering controls are normally required when handling or using this product to avoid overexposure.

#### Personal Protective Equipment (PPE): Respiratory Protection:

Lab coat, apron, eye wash, safety shower.  
No respiratory protection required under normal conditions of use. Follow a respiratory protection program that meets 29 CFR 1910.134 and ANSI Z88.2 requirements whenever work place conditions warrant the use of a respirator.

#### Respirator Type(s):

NIOSH approved air purifying respirator with dust/mist filter.

#### Eye Protection:

Wear chemical splash goggles when handling this product. Have an eye wash station available.

#### Skin Protection:

Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work. Where use can result in skin contact, practice good personal hygiene. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly.

#### Gloves:

Nitrile

## Section 9

## Physical Data

**Formula:** Cu(NO<sub>3</sub>)<sub>2</sub> \* 3H<sub>2</sub>O  
**Molecular Weight:** 241.6 g/mol  
**Appearance:** Blue Solid  
**Odor:** No data available  
**Odor Threshold:** No data available

**Vapor Pressure:** N/A  
**Evaporation Rate (BuAc=1):** N/A  
**Vapor Density (Air=1):** N/A  
**Specific Gravity:** 2.32  
**Solubility in Water:** Soluble

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pH: 4.0 for 0.2M soln.  
Melting Point: 255 - 256 C  
Boiling Point: No data available  
Flash Point: No data available  
Flammable Limits in Air: N/A

Log Pow (calculated): No data available  
Autoignition Temperature: No data available  
Decomposition Temperature: No data available  
Viscosity: No data available  
Percent Volatile by Volume: N/A

## Section 10

## Reactivity Data

Reactivity: No data available  
Chemical Stability: Stable under normal conditions.  
Conditions to Avoid: Elevated temperatures Exposure to moisture  
Incompatible Materials: Metals (powdered), Strong reducing agents, Organics,  
Hazardous Decomposition Products: Copper compounds, Nitrogen oxides  
Hazardous Polymerization: Will not occur

## Section 11

## Toxicity Data

Routes of Entry: Inhalation, Ingestion, and Skin contact.  
Symptoms (Acute): Hepatolenticular Degeneration (Wilson's Disease), Liver disorders  
Delayed Effects: No data available

### Acute Toxicity:

| Chemical Name                   | CAS Number | Oral LD50               | Dermal LD50    | Inhalation LC50 |
|---------------------------------|------------|-------------------------|----------------|-----------------|
| Copper (II) Nitrate, Trihydrate | 10031-43-3 | Oral LD50 Rat 940 mg/kg | Not determined | Not determined  |

### Carcinogenicity:

| Chemical Name                   | CAS Number | IARC   | NTP        | OSHA       |
|---------------------------------|------------|--------|------------|------------|
| Copper (II) Nitrate, Trihydrate | 10031-43-3 | Listed | Not listed | Not listed |

### Chronic Effects:

Mutagenicity: No evidence of a mutagenic effect.  
Teratogenicity: No evidence of a teratogenic effect (birth defect).  
Sensitization: No evidence of a sensitization effect.  
Reproductive: No evidence of negative reproductive effects.  
Target Organ Effects:  
Acute: See Section 2  
Chronic: Not listed as a carcinogen by IARC, NTP or OSHA.

## Section 12

## Ecological Data

Overview: Moderate ecological hazard. This product may be dangerous to plants and/or wildlife. Highly/very toxic to fish and other water organisms.  
Mobility: No data  
Persistence: No data  
Bioaccumulation: No data  
Degradability: No data  
Other Adverse Effects: No data

| Chemical Name | CAS Number | Eco Toxicity |
|---------------|------------|--------------|
| N/A           |            |              |

## Section 13

## Disposal Information

Disposal Methods: Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.  
Waste Disposal Code(s): Not Determined

# Safety Data Sheet

## Section 14

## Transport Information

**Ground - DOT Proper Shipping Name:**

UN1477

NITRATES, INORGANIC N.O.S (Cupric Nitrate, n-hydrate)

Division 5.1

P.G. II

**Air - IATA Proper Shipping Name:**

UN number: 1477 Class: 5.1 Packing group: II Proper shipping name: Nitrates, inorganic, n.o.s.

## Section 15

## Regulatory Information

**TSCA Status:**

A component (or components) of this product is not listed on the TSCA Inventory of Existing Chemical Substances. Product is for research and development use only.

**Chemical Name****CAS  
Number****§ 313 Name****§ 304 RQ****CERCLA RQ****§ 302 TPQ****CAA 112(2)  
TQ**

No data available

**California Prop 65:**

No California Proposition 65 ingredients

## Section 16

## Additional Information

**Revised: 02/21/2025****Replaces: 06/10/2024****Printed: 02-24-2025**

The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

**Glossary**

|        |                                                                       |      |                                               |
|--------|-----------------------------------------------------------------------|------|-----------------------------------------------|
| ACGIH  | American Conference of Governmental Industrial Hygienists             | NTP  | National Toxicology Program                   |
| CAS    | Chemical Abstract Service Number                                      | OSHA | Occupational Safety and Health Administration |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act | PEL  | Permissible Exposure Limit                    |
| DOT    | U.S. Department of Transportation                                     | ppm  | Parts per million                             |
| IARC   | International Agency for Research on Cancer                           | RCRA | Resource Conservation and Recovery Act        |
| N/A    | Not Available                                                         | SARA | Superfund Amendments and Reauthorization Act  |
|        |                                                                       | TLV  | Threshold Limit Value                         |
|        |                                                                       | TSCA | Toxic Substances Control Act                  |
|        |                                                                       | IDLH | Immediately dangerous to life and health      |