



Qualikems

# Qualikems Lifesciences Pvt. Ltd.

(Formerly known as Qualikems fine chem Pvt Ltd)

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Material Safety Data Sheet

Copper(II) nitrate, trihydrate, p.a.

## Section 1 - Chemical Product and Company Identification

**MSDS Name:** Copper(II) nitrate, trihydrate, p.a.

**Synonyms:** Cupric nitrate trihydrate.

## Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
10031-43-3	Copper(II) nitrate trihydrate	>99	unlisted

## Section 3 - Hazards Identification

### EMERGENCY OVERVIEW

Appearance: blue solid.

**Danger!** Strong oxidizer. Contact with other material may cause a fire. May be harmful if swallowed. Causes severe respiratory tract irritation. May cause severe eye and skin irritation with possible burns. Causes severe digestive tract irritation with pain, nausea, vomiting and diarrhea. May corrode the digestive tract with hemorrhaging and possible shock. May cause liver and kidney damage. May cause dermatitis.

**Target Organs:** Kidneys, liver.

#### Potential Health Effects

**Eye:** Contact with eyes may cause severe irritation, and possible eye burns. Contact may cause ulceration of the conjunctiva and cornea.

**Skin:** May cause severe irritation and possible burns. May cause dermatitis. May cause skin discoloration.

**Ingestion:** May cause severe gastrointestinal tract irritation with nausea, vomiting and possible burns. May cause liver and kidney damage. May cause hemorrhaging of the digestive tract.

**Inhalation:** May cause methemoglobinemia, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), convulsions, tachycardia, dyspnea (labored breathing), and death. May cause ulceration and perforation of the nasal septum if inhaled in excessive quantities. May cause severe irritation of the upper respiratory tract with pain, burns, and inflammation.

**Chronic:** Chronic inhalation and ingestion may cause effects similar to those of acute inhalation and ingestion. May cause liver and kidney damage. Individuals with Wilson's

disease are unable to metabolize copper. Thus, copper accumulates in various tissues and may result in liver, kidney, and brain damage.

#### Section 4 - First Aid Measures

**Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

**Skin:** Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

**Ingestion:** Call a poison control center. If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.

**Inhalation:** Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

**Notes to Physician:** Treat symptomatically.

**Antidote:** The use of d-Penicillamine as a chelating agent should be determined by qualified medical personnel.

#### Section 5 - Fire Fighting Measures

**General Information:** Strong oxidizer. Contact with other material may cause fire. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Wear appropriate protective clothing to prevent contact with skin and eyes. Wear a self-contained breathing apparatus (SCBA) to prevent contact with thermal decomposition products.

**Extinguishing Media:** Use extinguishing media most appropriate for the surrounding fire.

**Flash Point:** Not applicable.

**Autoignition Temperature:** Not applicable.

**Explosion Limits, Lower:** Not available.

**Upper:** Not available.

#### Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation.

#### Section 7 - Handling and Storage

**Handling:** Wash thoroughly after handling. Use with adequate ventilation. Minimize dust generation and accumulation. Contents may develop pressure upon prolonged storage. Keep away from heat, sparks and flame. Avoid contact with clothing and other combustible materials. Do not get on skin or in eyes. Do not ingest or inhale.

**Storage:** Keep away from heat, sparks, and flame. Do not store near combustible materials. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

#### Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Local exhaust ventilation may be necessary to control any air contaminants to within their TLVs during the use of this product. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

### Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Copper(II) nitrate trihydrate	none listed	1 mg/m <sup>3</sup> TWA (as Cu except Copper fume) (listed under Copper compounds, n.o.s.).	none listed
Cupric nitrate	none listed	none listed	none listed

**OSHA Vacated PELs:** Copper(II) nitrate trihydrate: No OSHA Vacated PELs are listed for this chemical. Cupric nitrate: No OSHA Vacated PELs are listed for this chemical.

### Personal Protective Equipment

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

## Section 9 - Physical and Chemical Properties

**Physical State:** Solid

**Appearance:** blue

**Odor:** odorless

**pH:** 4.0 for 0.2M soln.

**Vapor Pressure:** Not applicable.

**Vapor Density:** 8.33

**Evaporation Rate:** Not applicable.

**Viscosity:** Not available.

**Boiling Point:** Not applicable.

**Freezing/Melting Point:** 114 deg C

**Decomposition Temperature:** Not available.

**Solubility:** Soluble in water.

**Specific Gravity/Density:** 2.05

**Molecular Formula:** Cu(NO<sub>3</sub>)<sub>2</sub>·3H<sub>2</sub>O

**Molecular Weight:** 241.60

## Section 10 - Stability and Reactivity

**Chemical Stability:** Stable under normal temperatures and pressures. Stable at room temperature in closed containers under normal storage and handling conditions.

**Conditions to Avoid:** Incompatible materials, combustible materials, reducing agents, strong oxidants, organic matter.

**Incompatibilities with Other Materials:** Reducing agents, combustible materials, potassium ferrocyanide, ether, tin. Ignites paper spontaneously in the presence of moisture.

**Hazardous Decomposition Products:** Oxides of nitrogen, irritating and toxic fumes and gases, copper fumes.

**Hazardous Polymerization:** Has not been reported.

## Section 11 - Toxicological Information

**RTECS#:****CAS#** 10031-43-3: GL7875000**CAS#** 3251-23-8: QU7400000**LD50/LC50:****CAS#** 10031-43-3:

Oral, rat: LD50 = 940 mg/kg;.

**CAS#** 3251-23-8:

Draize test, rabbit, eye: 100 mg Severe;

Draize test, rabbit, skin: 500 mg Severe;

Oral, mouse: LD50 = 430 mg/kg;

Oral, rat: LD50 = 794 mg/kg;

Oral, rat: LD50 = 940 mg/kg;.

**Carcinogenicity:****CAS#** 10031-43-3: Not listed by ACGIH, IARC, NTP, or CA Prop 65.**CAS#** 3251-23-8: Not listed by ACGIH, IARC, NTP, or CA Prop 65.**Epidemiology:** No information available.**Teratogenicity:** No information available.

## Section 12 - Ecological Information

No information available.

## Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

## Section 14 - Transport Information

	US DOT	Canada TDG
<b>Shipping Name:</b>	NITRATES, INORGANIC, N.O.S.	NITRATES INORGANIC NOS (COPPER NITRATE TRIHYDRATE)
<b>Hazard Class:</b>	5.1	5.1
<b>UN Number:</b>	UN1477	UN1477
<b>Packing Group:</b>	II	II

## Section 15 - Regulatory Information

**Hazard Symbols:**

XN O

**Risk Phrases:**

R 22 Harmful if swallowed.

R 36/38 Irritating to eyes and skin.

R 8 Contact with combustible material may cause fire.

**Safety Phrases:**

S 17 Keep away from combustible material.

S 24/25 Avoid contact with skin and eyes.

**WGK (Water Danger/Protection)**

CAS# 10031-43-3: 2

CAS# 3251-23-8: No information available.

Section 16 - Additional Information

**MSDS Creation Date:** 5/07/1999

**Revision #5 Date:** 03/18/2005

**Revision #6 Date:** 03/17/2008

**Revision #7 Date:** 03/16/2013

**Revision #8 Date:** 03/15/2018

**Revision #9 Date:** 03/14/2023

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