



MATERIAL SAFETY DATA SHEET  
Copper(II) nitrate, trihydrate

### Section 1 - Chemical Product and Company Identification

<b>MSDS Name:</b>	Copper(II) nitrate, trihydrate
<b>Catalog Numbers:</b>	C/8080/50, C/8080/53
<b>Synonyms:</b>	Cupric nitrate trihydrate.
<b>Company Identification:</b>	Fisher Scientific UK Bishop Meadow Road, Loughborough Leics. LE11 5RG
<b>For information in Europe, call:</b>	(01509) 231166
<b>Emergency Number, Europe:</b>	01509 231166

### Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name:	%	EINECS#	Hazard Symbols:	Risk Phrases:
10031-43-3	Copper(II) nitrate, trihydrate	95+	unlisted		

Text for R-phrases: see Section 16

**Hazard Symbols:** XN O N



**Risk Phrases:** 22 36/38 50/53 8

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

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

#### Potential Health Effects

- Eye:** Causes eye irritation.
- Skin:** Causes skin irritation. May be harmful if absorbed through the skin.
- Ingestion:** Harmful if swallowed. May cause irritation of the digestive tract.
- Inhalation:** May cause respiratory tract irritation. May be harmful if inhaled.
- Chronic:** Laboratory experiments have resulted in mutagenic effects. Exposure to high concentrations may cause central nervous system depression. Animal studies have reported the development of tumors.

### 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.
- Skin:** Get medical aid. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
- Ingestion:** Do not induce vomiting. Get medical aid immediately. Call a poison control center.

**Inhalation:** Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Get medical aid. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

**Notes to Physician:**

### Section 5 - Fire Fighting Measures

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Strong oxidizer. Contact with other material may cause fire.

**Extinguishing Media:** Use water spray, dry chemical, carbon dioxide, or chemical foam.

### 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. Wear a self contained breathing apparatus and appropriate personal protection. (See Exposure Controls, Personal Protection section). Avoid generating dusty conditions. Provide ventilation. Do not use combustible materials such as paper towels to clean up spill. Keep combustibles (wood, paper, oil, etc.,) away from spilled material. Do not let this chemical enter the environment.

### Section 7 - Handling and Storage

**Handling:** Minimize dust generation and accumulation. Do not get in eyes, on skin, or on clothing. Do not ingest or inhale. Use only in a chemical fume hood. Keep from contact with clothing and other combustible materials.

**Storage:** Do not store near combustible materials. Store in a cool, dry place. Store in a tightly closed container.

### Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:**

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use only under a chemical fume hood.

**Exposure Limits**

CAS# 3251-23-8:

CAS# 10031-43-3:

**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 protective gloves to prevent skin exposure.

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

**Respirators:** A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

### Section 9 - Physical and Chemical Properties

**Physical State:** Crystals

**Color:** blue  
**Odor:** characteristic odor  
**pH:** 4.0 (2M aq.sol.).  
**Vapor Pressure:** Not available  
**Viscosity:** Not available  
**Boiling Point:** Not available  
**Freezing/Melting Point:** 114 deg C ( 237.20°F)  
**Autoignition Temperature:** Not applicable  
**Flash Point:** Not applicable.  
**Explosion Limits: Lower:** Not available  
**Explosion Limits: Upper:** Not available  
**Decomposition Temperature:**  
**Solubility in water:** Soluble  
**Specific Gravity/Density:** Not available.  
**Molecular Formula:** CuN2O6.3H2O  
**Molecular Weight:** 241.6

### Section 10 - Stability and Reactivity

**Chemical Stability:** Moisture sensitive. Heat sensitive  
**Conditions to Avoid:** Incompatible materials, dust generation, excess heat, exposure to moist air or water.  
**Incompatibilities with Other Materials** Strong oxidizing agents, ammonia, anhydrides, amides, cyanides (e.g. potassium cyanide, sodium cyanide).  
**Hazardous Decomposition Products** Carbon monoxide, carbon dioxide.  
**Hazardous Polymerization** Has not been reported.

### Section 11 - Toxicological Information

**RTECS#:** CAS# 3251-23-8: QU7400000  
CAS# 10031-43-3: GL7875000  
**LD50/LC50:** RTECS:  
**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;  
. RTECS:  
**CAS# 10031-43-3:** Oral, rat: LD50 = 940 mg/kg;  
. **Carcinogenicity:** Copper(II) nitrate - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.  
Copper(II) nitrate, trihydrate - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.  
**Other:** See actual entry in RTECS for complete information.

### Section 12 - Ecological Information

**Other:** Do not empty into drains.

### Section 13 - Disposal Considerations

Products considered hazardous for supply are classified as Special Waste and the disposal of such chemicals is covered by regulations which may vary according to location. Contact a specialist disposal company or the local authority or advice. Empty containers must be decontaminated before returning for

recycling.

## Section 14 - Transport Information

	<b>IATA</b>	<b>IMO</b>	<b>RID/ADR</b>
<b>Shipping Name:</b>	NITRATES, INORGANIC, N.O.S.	NITRATES, INORGANIC, N.O.S.	NITRATES, INORGANIC, N.O.S.
<b>Hazard Class:</b>	5.1	5.1	5.1
<b>UN Number:</b>	1477	1477	1477
<b>Packing Group:</b>	II	II	II

USA RQ: CAS# 3251-23-8: 100 lb final RQ; 45.4 kg final RQ

## Section 15 - Regulatory Information

### European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: XN O N

Risk Phrases:

R 22 Harmful if swallowed.

R 36/38 Irritating to eyes and skin.

R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R 8 Contact with combustible material may cause fire.

Safety Phrases:

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 37/39 Wear suitable gloves and eye/face protection.

S 60 This material and its container must be disposed of as hazardous waste.

S 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

WGK (Water Danger/Protection)

CAS# 3251-23-8: Not available

CAS# 10031-43-3: 2

Canada

CAS# 3251-23-8 is listed on Canada's DSL List

### US Federal

TSCA

CAS# 3251-23-8 is listed on the TSCA Inventory.

CAS# 10031-43-3 is not on the TSCA Inventory because it is a hydrate. It is considered to be listed if the CAS number for the anhydrous form is on the Inventory (40CFR720.3(u)(2)).

## Section 16 - Other Information

### Text for R-phrases from Section 2

**MSDS Creation Date:** 5/07/1998

**Revision #6 Date** 4/02/2008

**Revisions were made in Sections:** 2, 3, 4, 5, 6, 7, 8, 9, 10, 11

*The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company*

*has been advised of the possibility of such damages.*

---