Copper (II) Nitrate

Section 1: Product and Company Identification

Synonyms/General Names: Cupric Nitrate
Product Use: For educational use only
Manufacturer: Columbus Chemical Industries, Inc., Columbus, WI 53925.

24 Hour Emergency Information Telephone Numbers
CHEMTREC (USA): 800-424-9300
CANUTEC (Canada): 613-424-6666
ScholAR Chemistry; 5100 W. Henrietta Rd, Rochester, NY 14586; (866) 260-0501; www.Scholarchemistry.com

Section 2: Hazards Identification

Blue crystals; slight odor.

WARNING! Strong oxidizing agent and moderately toxic by ingestion
Target organs: Liver, Kidney, Central Nervous System

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Section 3: Composition / Information on Ingredients

Cupric Nitrate, Trihydrate (10031-43-3), 100%

Section 4: First Aid Measures

Always seek professional medical attention after first aid measures are provided.

Eyes: Immediately flush eyes with excess water for 15 minutes, lifting lower and upper eyelids occasionally.
Skin: Immediately flush skin with excess water for 15 minutes while removing contaminated clothing.
Ingestion: Call Poison Control immediately. Rinse mouth with cold water. Give victim 1-2 cups of water or milk to drink. Induce vomiting immediately.
Inhalation: Remove to fresh air. If not breathing, give artificial respiration.

Section 5: Fire Fighting Measures

Strong Oxidizer. When heated to decomposition, emits acrid fumes of NOx and carbon oxides.

Protective equipment and precautions for firefighters: Use foam or dry chemical to extinguish fire.
Firefighters should wear full fire fighting turn-out gear and respiratory protection (SCBA). Cool container with water spray. Material is not sensitive to mechanical impact or static discharge.

Section 6: Accidental Release Measures

Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Sweep up spill and place in sealed bag or container for disposal. Wash spill area after pickup is complete. See Section 13 for disposal information.

Section 7: Handling and Storage

Handling: Use with adequate ventilation and do not breathe dust or vapor. Avoid contact with skin, eyes, or clothing. Wash hands thoroughly after handling.
Storage: Store in Oxidizer Storage Area [Yellow Storage] with other oxidizers and away from any combustible materials. Store in a cool, dry, well-ventilated, locked store room away from incompatible materials.

Section 8: Exposure Controls / Personal Protection

Use ventilation to keep airborne concentrations below exposure limits. Have approved eyewash facility, safety shower, and fire extinguishers readily available. Wear chemical splash goggles and chemical resistant clothing such as gloves and aprons. Wash hands thoroughly after handling material and before eating or drinking. Use NIOSH-approved respirator with a dust cartridge.
Exposure guidelines: Copper (II) Nitrate, Trihydrate: OSHA PEL: Not Available, ACGIH: TLV: 0.02 mg/m³ (Cu), STEL: Not Available.
Material Safety Data Sheet

MSDS # 220.00  Copper (II) Nitrate  Scholar Chemistry

Section 9: Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molecular formula</td>
<td>Cu(NO$_3$)$_2$·3H$_2$O</td>
</tr>
<tr>
<td>Molecular weight</td>
<td>241.60 g/mol</td>
</tr>
<tr>
<td>Specific Gravity (air=1)</td>
<td>2.32 g/mL @ 20°C</td>
</tr>
<tr>
<td>Vapor Density (air=1)</td>
<td>8.05 g/cm$^3$/g</td>
</tr>
<tr>
<td>Melting Point</td>
<td>114°C</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>Decomposes at 170 °C</td>
</tr>
<tr>
<td>Vapor Pressure (20°C)</td>
<td>N/A</td>
</tr>
<tr>
<td>Flash Point</td>
<td>N/A</td>
</tr>
<tr>
<td>Autoignition Temp.</td>
<td>N/A</td>
</tr>
<tr>
<td>Appearance</td>
<td>Blue crystals</td>
</tr>
<tr>
<td>Odor</td>
<td>Slight odor</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>N/A</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble in water</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>N/A</td>
</tr>
<tr>
<td>Partition Coefficient</td>
<td>N/A</td>
</tr>
<tr>
<td>pH</td>
<td>N/A</td>
</tr>
<tr>
<td>LEL</td>
<td>N/A</td>
</tr>
<tr>
<td>UEL</td>
<td>N/A</td>
</tr>
</tbody>
</table>

N/A = Not available or applicable

Section 10: Stability and Reactivity

Avoid heat and ignition sources.
Stability: Stable under normal conditions of use and storage.
Incompatibility: Strong oxidizing agents
Shelf life: Poor shelf life, store in cool, dry environment.

Section 11: Toxicology Information

Chronic Effects: No information found.
Sensitization: none expected

Copper (II) Nitrate, Trihydrate: LD$_50$ [oral, rat]: 940 mg/kg; LC$_50$ [rat]: N/A; LD$_50$ Dermal [rabbit]: N/A
Material has not been found to be a carcinogen nor produce genetic, reproductive, or developmental effects.

Section 12: Ecological Information

Ecotoxicity (aquatic and terrestrial): Marine pollutant. Contains a heavy metal – Toxic to terrestrial and aquatic plants and animals. Do not release to the environment

Section 13: Disposal Considerations

Check with all applicable local, regional, and national laws and regulations. Local regulations may be more stringent than regional or national regulations. Use a licensed chemical waste disposal firm for proper disposal.

Section 14: Transport Information

DOT Shipping Name: Oxidizing Solid, Toxic. n.o.s., (Copper Nitrate).
DOT Hazard Class: 5.1, (6.1) pg II.
Identification Number: UN3087.
Canada TDG: Oxidizing Solid, Toxic. n.o.s., (Copper Nitrate).
Hazard Class: 5.1 (6.1), pg I, II, III.
UN Number: UN3087.

Section 15: Regulatory Information

EINECS: Not listed.
TSCA: All components are listed or are exempt.
WHMIS Canada: C, D2B: Oxidizing material, Toxic material.
California Proposition 65: Not listed

The product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Section 16: Other Information

Current Issue Date: December 20, 2011
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