Material Safety Data Sheet

Copper(II) Nitrate, 2.5-Hydrate, Reagent ACS (Crystals)

MSDS# 61268

## Section 1 - Chemical Product and Company Identification

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|---|---|
| MSDS Name: | Copper(II) Nitrate, 2.5-Hydrate, Reagent ACS (Crystals) |
| Catalog Numbers: | AC405850000, AC405850025, AC405850050, AC405851000, AC405855000 |
| Synonyms: | Cupric Nitrate Hemipentahydrate; Copper Dinitrate Hemipentahydrate; Nitric Acid Copper Salt Hemiipentahydrate. |

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|---|---|
| Company Identification: | Acros Organics BVBA<br>Janssen Pharmaceuticalaan 3a<br>2440 Geel, Belgium |
| Company Identification: (USA) | Acros Organics<br>One Reagent Lane<br>Fair Lawn, NJ 07410 |
| For information in the US, call: | 800-ACROS-01 |
| For information in Europe, call: | +32 14 57 52 11 |
| Emergency Number, Europe: | +32 14 57 52 99 |
| Emergency Number US: | 201-796-7100 |
| CHEMTREC Phone Number, US: | 800-424-9300 |
| CHEMTREC Phone Number, Europe: | 703-527-3887 |

## Section 2 - Composition, Information on Ingredients

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|---|---|
| CAS#: | 19004-19-4 |
| Chemical Name: | COPPER(II) NITRATE, 2.5-HYDRATE |
| %: | 100 |
| EINECS#: | unlisted |

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Hazard Symbols: O

Risk Phrases: 8

## Section 3 - Hazards Identification

### EMERGENCY OVERVIEW

Danger! Strong oxidizer. Contact with other material may cause a fire. May cause allergic skin reaction. May cause liver and kidney damage. May cause severe eye and skin irritation with possible burns. Causes digestive and respiratory tract irritation with possible burns. Target Organs: Kidneys, liver.

Potential Health Effects

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|---|---|
| Eye: | Contact with eyes may cause severe irritation, and possible eye burns. Contact may cause ulceration of the conjunctiva and cornea. May cause conjunctivitis. May cause permanent corneal opacification. |
| 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. Methemoglobinemia is characterized by dizziness, drowsiness, headache, shortness of breath, cyanosis (bluish discoloration of skin due to deficient |

oxygenation of the blood), rapid heart rate and chocolate-brown colored blood. May cause nausea, vomiting, and diarrhea, possibly with blood.

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. May cause acute pulmonary edema, asphyxia, chemical pneumonitis, and upper airway obstruction caused by edema.

Chronic: Chronic inhalation and ingestion may cause effects similar to those of acute inhalation and ingestion. May cause liver and kidney damage. May cause methemoglobinemia, which is characterized by chocolate-brown colored blood, headache, weakness, dizziness, breath shortness, cyanosis (bluish skin due to deficient oxygenation of blood), rapid heart rate, unconsciousness and possible death. 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.

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

Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Get medical aid immediately.

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. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

Notes to Physician: For methemoglobinemia, administer oxygen alone or with Methylene Blue depending on the methemoglobin concentration in the blood.

Antidote: The use of d-Penicillamine as a chelating agent should be determined by qualified medical personnel. Methylene blue, alone or in combination with oxygen is indicated as a treatment in nitrite induced methemoglobinemia.

## 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. 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. Use water with caution and in flooding amounts.

Extinguishing Media: Use extinguishing media most appropriate for the surrounding fire. Contact professional fire-fighters immediately.

Autoignition Temperature: Not available.

Flash Point: Not available

Explosion Limits: Lower: Not available

Explosion Limits: Upper: Not available

NFPA Rating: ; instability: OX

## 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. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Remove all sources of ignition. Do not use combustible materials such as paper towels to clean up spill.

## 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. Avoid ingestion and inhalation.

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

| Chemical Name | ACGIH | NIOSH | OSHA - Final PELs |
|---|---|---|---|
| COPPER(II) NITRATE, 2.5-HYDRATE | none listed | 1 mg/m3 TWA (dust and mist, as Cu, except copper fume) (listed under Copper compounds, n.o.s.).100 mg/m3 IDLH (dust and mist, as Cu) (listed under Copper compounds, n.o.s.). | none listed |

OSHA Vacated PELs: COPPER(II) NITRATE, 2.5-HYDRATE: None listed

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

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. Wear impervious gloves.

Clothing: Wear a chemical apron. Wear appropriate clothing to prevent skin exposure.

Respirators: Wear a NIOSH/MSHA or European Standard EN 149 approved full-facepiece airline respirator in the positive pressure mode with emergency escape provisions.

## Section 9 - Physical and Chemical Properties

Physical State: Solid

Color: blue

Odor: odorless

pH: Not available

Vapor Pressure: Not available

Vapor Density: Not available

Evaporation Rate: Not available

Viscosity: Not available

Boiling Point: Not available

Freezing/Melting Point: 255 deg C ( 491.00°F)

Decomposition Temperature: Not available

Solubility in water: Soluble in water.

Specific Gravity/Density: >1.0

Molecular Formula: CuN2O6.2.5H2O

Molecular Weight: 224.5896

## Section 10 - Stability and Reactivity

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

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| Conditions to Avoid: | Incompatible materials, ignition sources, dust generation, combustible materials, reducing agents, organic matter. |
| Incompatibilities with Other Materials | Reducing agents. |
| Hazardous Decomposition Products | Oxides of nitrogen, oxides of nitrogen, copper fumes. |
| Hazardous Polymerization | Has not been reported. |

## Section 11 - Toxicological Information

RTECS#: CAS# 19004-19-4: None listed

LD50/LC50: RTECS: Not available.

Carcinogenicity: COPPER(II) NITRATE, 2.5-HYDRATE - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

## Section 12 - Ecological Information

Not available

## Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

## Section 14 - Transport Information

US DOT
Shipping Name: NITRATES, INORGANIC, N.O.S.
Hazard Class: 5.1
UN Number: UN1477
Packing Group: II
Canada TDG
Shipping Name: Not available
Hazard Class:
UN Number:
Packing Group:

## Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: O

Risk Phrases:

R 8 Contact with combustible material may cause fire.

Safety Phrases:

WGK (Water Danger/Protection)

CAS# 19004-19-4: Not available

Canada

Canadian WHMIS Classifications: C, D2B

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

CAS# 19004-19-4 is not listed on Canada's Ingredient Disclosure List.

US Federal

TSCA

CAS# 19004-19-4 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 in on the Inventory (40CFR720.3(u)(2)).

## Section 16 - Other Information

MSDS Creation Date: 5/14/1998

Revision #7 Date 7/20/2009

Reviewed
2012.08.16
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The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantibility 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.

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