SDS

Safety Data Sheet

1. IDENTIFICATION

Product Identifier: **Cupric Nitrate, Hemipentahydrate**

Product Code(s): C1046, C2027

Synonyms: Copper(II) nitrate, hemipentahydrate

Recommended Use: For manufacturing, industrial, and laboratory use only.

Uses Advised Against: Not for food, drug, or household use.

Supplier:
Rocky Mountain Reagents, Inc.
4621 Technology Drive, Golden, CO 80403
Phone: (303) 762-0800 Fax: (303) 762-1240

Emergency Phone Number: (800) 255-3924 (VelocityEHS)

2. HAZARDS IDENTIFICATION

Hazard Classifications:

Oxidizing solids:	Category 2
Skin corrosion/irritation:	Category 1B
Serious eye damage/irritation:	Category 1

Signal Word: DANGER

Hazard Statements:
May intensify fire; oxidizer.
Causes severe skin burns and eye damage.
Causes serious eye damage.

Pictograms:

Precautionary Statements:

Prevention:
Keep away from heat.
Keep/Store away from clothing/combustible materials.
Take any precaution to avoid mixing with combustibles.
Wear protective gloves/protective clothing/eye protection/face protection.
Do not breathe dusts or mists.

Wash thoroughly after handling.

Response: In case of fire: Use water spray or dry powder to extinguish.
If swallowed: Rinse mouth. Do NOT induce vomiting.
If on skin (or hair): take off immediately all contaminated clothing. Rinse skin with water/shower.
Wash contaminated clothing before reuse.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
Immediately call a poison center/doctor.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage: Store locked up.

Disposal: Dispose of contents and container in accordance with local, regional, national, and international regulations.

Hazards Not Otherwise Classified: Very toxic to aquatic life.
Very toxic to aquatic life with long lasting effects.

Toxicity Statement: Not applicable.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Component	Common Name / Synonyms	CAS#	Chemical Formula	% by Weight
Cupric Nitrate, Hemipentahydrate	Copper(II) nitrate, hemipentahydrate	19004-19-4	$Cu(NO_3)_2 \cdot 2.5H_2O$	≥ 95.0

Trade Secret Statement: Not applicable.

4. FIRST AID MEASURES

First Aid Procedures:

Inhalation: Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. WARNING! It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious, or corrosive. 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. Call a physician if symptoms occur.

Ingestion: Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, keep head low so that vomit does not enter lungs. Rinse mouth. Never give anything by mouth to an unconscious person. Immediately call a poison center or doctor.

Skin Contact: If on clothing: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes. Wash skin with plenty of water for at least 15 minutes. Wash clothing before reuse. Immediately call a poison center or doctor. Chemical burns must be treated by a physician.

Eye Contact: Immediately flush eyes with gentle but large stream of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Remove contact lenses, if present and easy to do so. Continue rinsing. Immediately call a poison center or doctor.

General Advice:	Poison information centers in each state can provide additional assistance for scheduled poisons. Ensure that medical personnel and those providing first aid are aware of the material(s) involved and take precautions to protect themselves.
Symptoms and Effects:	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
Immediate Medical Care/ Special Treatment:	Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to the affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

5. FIREFIGHTING MEASURES

Suitable Extinguishing Media:	Water spray, dry powder, alcohol resistant foam, carbon dioxide.
Unsuitable Extinguishing Media:	Do not use a solid (straight) water stream, as it may scatter and spread fire.
Hazardous Combustion Products:	Nitrogen oxides, copper oxides.
Specific Hazards:	Greatly increases the burning rate of combustible materials. Containers may explode when heated. During fire, gases hazardous to health may be formed.
Special Protective Equipment/ Precautions for Firefighters:	As in any fire, wear MSHA/NIOSH-approved (or equivalent), self-contained, positive-pressure or pressure-demand breathing apparatus and full protective gear. In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Use water spray to cool unopened containers. Cool containers exposed to flames with water until well after the fire is out.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions and Protective Equipment:	Isolate hazard area and keep unnecessary and unprotected personnel away from the area of the leak or spill. Keep away from clothing and other combustible materials. Wear appropriate personal protective equipment (see Section 8). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid contact with eyes, skin, and clothing. Local authorities should be advised if significant spillages cannot be contained.
Emergency Procedures:	In case of chemical emergency, or if unsure how to address an accidental release, consult a professional (see Section 1).
Methods for Containment:	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Ventilate the contaminated area. Minimize dust generation and accumulation. Prevent entry into waterways, sewer, basements, or confined areas. Product should not be released to the environment. Stop the flow of material if this is without risk. Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses, or onto the ground.

Methods for Cleanup: Large spills: Wet down with water and dike for later disposal. Shovel the material into waste container. Following product recovery, flush area with water. Small spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. Clean surface thoroughly to remove residual contamination. Never return spills to original containers for reuse. Clean up in accordance with all applicable regulations.

7. HANDLING AND STORAGE

Handling: Wear personal protective equipment (see Section 8). Use only in well-ventilated areas. Provide sufficient air exchange and/or exhaust in work areas. Avoid contact with skin, eyes, and clothing. Do not ingest. When using, do not eat, drink, or smoke. Keep away from incompatible materials (see Section 10). Minimize dust generation and accumulation. Avoid prolonged exposure. Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly after handling. Avoid release to the environment. Containers of this material may be hazardous when empty, as they retain product residues. Observe all warnings and precautions listed for this product.

Storage: Store locked up. Store in a cool, dry, ventilated area. Store in a segregated and approved area away from incompatible materials (see Section 10). Store in original container. Keep containers tightly closed and upright. Keep away from food, drink, and animal foodstuffs. Keep out of the reach of children. Comply with all national, state, and local codes pertaining to the storage, handling, dispensing, and disposal of this product.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits: ACGIH: TWA: 1 mg/m^3

Engineering Controls: Ensure adequate ventilation. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Personal Protective Measures:

Eye/Face Protection: Wear safety glasses with side shields or safety goggles. Wear a face shield. Maintain approved eye wash station and accessible rinse facilities in work area.

Skin Protection: Wear appropriate chemical resistant clothing (with long sleeves) and appropriate chemical resistant gloves.

Respiratory Protection: An air-purifying, NIOSH-approved respirator with appropriate cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Use a positive-pressure, air-supplied respirator if there is any potential for an uncontrolled release, if exposure levels are unknown, or if any other circumstances exist where air-purifying respirators may not provide adequate protection.

Specific Requirements for Personal Protective Equipment: Ensure that glove material is compatible with this product. This information is available from glove manufacturers.

9. PHYSICAL AND CHEMICAL PROPERTIES

Unless otherwise indicated, all properties are given at 25 °C and standard pressure.

Appearance: Blue crystals.

Odor: Slight nitric acid odor.

Odor Threshold:	No information found.
Formula Weight:	232.6
pH:	No information found.
Melting/Freezing Point:	118 °C
Boiling Point/Range:	Not applicable.
Decomposition Temperature:	No information found.
Flash Point:	Not applicable.
Auto-ignition Temperature:	No information found.
Flammability:	Not applicable.
Flammability/Explosive Limits:	Not applicable.
Solubility:	No information found.
Vapor Pressure:	No information found.
Vapor Density:	No information found.
Specific Gravity:	No information found.
Evaporation Rate:	No information found.
Viscosity:	No information found.
Partition Coefficient (n-octanol/water):	No information found.

10. STABILITY AND REACTIVITY

Reactivity Data:	Greatly increases the burning rate of combustible materials.
Chemical Stability:	Stable under normal conditions.
Conditions to Avoid:	Contact with incompatible materials, heat, dust formation.
Incompatible Materials:	Combustible material, reducing agents, easily oxidizable materials.
Hazardous Decomposition Products:	No information found.
Possibility of Hazardous Reactions:	May react vigorously, violently, or explosively if exposed to extreme thermal conditions or to the incompatible materials listed above.
Hazardous Polymerization:	Will not occur.

11. TOXICOLOGICAL INFORMATION

Routes of Exposure:	Inhalation, ingestion, skin contact, eye contact.
Acute Effects:	May cause irritation to the respiratory system. Causes severe skin burns. Causes serious eye damage. Causes digestive tract burns.
Chronic Effects:	Permanent eye damage including blindness could result. Prolonged inhalation may be harmful.
Toxicological Data:	No information found.

Symptoms of Exposure: Burning pain and severe corrosive skin damage. Stinging, tearing, redness, and swelling of eyes and blurred vision.

Carcinogenic Effects: This product is not considered to cause cancer by IARC, ACGIH, NTP, or OSHA. Has demonstrated some limited carcinogenic effects in animal testing.

12. ECOLOGICAL INFORMATION

Ecotoxicological Data: EC_{50} Water Flea (Daphnia magna): 0.037 mg/L, 48 h
LC_{50} Fish: 0.0475 mg/L, 96 h

Persistence and Degradability: No information found.

Environmental Effects: Very toxic to aquatic life with long lasting effects. Avoid release to the environment.

13. DISPOSAL INFORMATION

Disposal Instructions: All wastes must be handled in accordance with local, state, and federal regulations. Minimize exposure to product waste (see Section 8). Do not dispose unused waste down drains or into sewers.

Contaminated Packaging: Because emptied containers retain product residue, follow label warnings even after container is emptied. Offer rinsed packaging material to local recycling facilities.

Waste Codes: D001: Ignitable Waste

14. TRANSPORT INFORMATION

DOT:

UN Number: UN3085

Proper Shipping Name: Oxidizing solid, corrosive, n.o.s. (cupric nitrate)

Hazard Class: 5.1

Packing Group: II

ERG Number: 140

Environmental Hazard Regulations: Classified as a marine pollutant by IMDG.

Other Transport Precautions: DOT Reportable Quantity: 100 lb

15. REGULATORY INFORMATION

U.S. Federal Regulations:

OSHA: This product is considered a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Inventory: All components of this product are on the U.S. TSCA Inventory.

U.S. EPCRA (SARA Title III):

Section 302: No information found.

Sections 311/312:

Hazard Category	List (Yes/No)
Section 311 – Hazardous Chemical	Yes
Immediate Hazard	Yes
Delayed Hazard	No
Fire Hazard	Yes
Pressure Hazard	No
Reactivity Hazard	No

Section 313: Cupric nitrate, hemipentahydrate

CERCLA Reportable Quantities: Cupric nitrate: 100 lb

International Inventories:

Country or Region	Inventory Name	On Inventory (Yes/No)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes

*A "Yes" indicates that the listed components of this product comply with the inventory requirements administered by the governing country or region.

16. OTHER INFORMATION

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Reason for Revision: Update of precautionary statements in Section 2 over 04/23/2024 version.