

# SAFETY DATA SHEET

## 1. Identification

**Product identifier:** CUPRIC SULFATE

**Other means of identification**

**Product No.:** 7790, 4752, 1846, 1844, 1843, 1841, 4844, 4840

**Recommended use and restriction on use**

**Recommended use:** Not available.

**Restrictions on use:** Not known.

**Manufacturer/Importer/Supplier/Distributor Information**

**Manufacturer**

**Company Name:** Avantor Performance Materials, Inc.  
**Address:** 3477 Corporate Parkway, Suite 200  
Center Valley, PA 18034

**Telephone:** Customer Service: 855-282-6867

**Fax:**  
**Contact Person:** Environmental Health & Safety  
**e-mail:** info@avantormaterials.com

**Emergency telephone number:**

24 Hour Emergency: 908-859-2151

Chemtrec: 800-424-9300

## 2. Hazard(s) identification

**Hazard Classification**

**Health Hazards**

Acute toxicity (Oral)	Category 4
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 1
Toxic to reproduction	Category 2
Specific Target Organ Toxicity - Single Exposure	Category 3
Specific Target Organ Toxicity - Repeated Exposure	Category 2

**Environmental Hazards**

Acute hazards to the aquatic environment	Category 1
Chronic hazards to the aquatic environment	Category 1

**Label Elements**

**Hazard Symbol:**



**Signal Word:** Danger

**Hazard Statement:** Harmful if swallowed.  
Causes skin irritation.  
Causes serious eye irritation.  
Suspected of damaging fertility or the unborn child.  
Very toxic to aquatic life with long lasting effects.

**Precautionary Statement**

**Prevention:** Wash hands thoroughly after handling. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid release to the environment.

**Response:** IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. IF ON SKIN: Wash with plenty of soap and water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Collect spillage.

**Other hazards which do not result in GHS classification:** None.

**3. Composition/information on ingredients**

**Substances**

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%)*
COPPER(II) SULFATE PENTAHYDRATE		7758-99-8	98 - 100%

\* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

**4. First-aid measures**

**General information:** Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.

**Ingestion:** Rinse mouth. Get medical attention if symptoms occur.

**Inhalation:** Move to fresh air. Get medical attention if symptoms persist.

**Skin Contact:** Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing.

**Eye contact:** Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention if symptoms persist.

**Most important symptoms/effects, acute and delayed**

**Symptoms:** Harmful if swallowed. Irritating to eyes, respiratory system and skin.

**Indication of immediate medical attention and special treatment needed**

**Treatment:** Treat symptomatically. Symptoms may be delayed.

## 5. Fire-fighting measures

**General Fire Hazards:** In case of fire and/or explosion do not breathe fumes.

### Suitable (and unsuitable) extinguishing media

**Suitable extinguishing media:** Use fire-extinguishing media appropriate for surrounding materials.

**Unsuitable extinguishing media:** None known.

**Specific hazards arising from the chemical:** During fire, gases hazardous to health may be formed. Heat may cause the containers to explode.

### Special protective equipment and precautions for firefighters

**Special fire fighting procedures:** Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out.

**Special protective equipment for fire-fighters:** Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

## 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures:** Keep unauthorized personnel away. Keep upwind. Ventilate closed spaces before entering them. Avoid inhalation of dust. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

**Methods and material for containment and cleaning up:** Sweep up and place in a clearly labeled container for chemical waste. Clean surface thoroughly to remove residual contamination.

**Notification Procedures:** Inform authorities if large amounts are involved. Prevent entry into waterways, sewer, basements or confined areas.

**Environmental Precautions:** Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

## 7. Handling and storage

**Precautions for safe handling:** Avoid inhalation of dust. Do not taste or swallow. Do not eat, drink or smoke when using the product. Use only with adequate ventilation. Wash thoroughly after handling. See Section 8 of the MSDS for Personal Protective Equipment. Avoid contact with eyes. Avoid contact with skin.

**Conditions for safe storage, including any incompatibilities:** Keep container tightly closed. Store in a well-ventilated place. Store locked up.

## 8. Exposure controls/personal protection

### Control Parameters

#### Occupational Exposure Limits

None of the components have assigned exposure limits.

**Appropriate Engineering Controls** No data available.

**Individual protection measures, such as personal protective equipment**

- General information:** Good general ventilation (typically 10 air changes per hour) should be used. 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. An eye wash and safety shower must be available in the immediate work area.
- Eye/face protection:** Use tight fitting goggles if dust is generated.
- Skin Protection**
- Hand Protection:** Use suitable protective gloves if risk of skin contact.
- Other:** Wear suitable protective clothing.
- Respiratory Protection:** If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Air-purifying respirator with a high efficiency particulate filter.
- Hygiene measures:** Provide eyewash station and safety shower. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

**9. Physical and chemical properties**

**Appearance**

- Physical state:** Solid
- Form:** Crystalline Powder.
- Color:** Blue
- Odor:** Odorless
- Odor threshold:** No data available.
- pH:** 4.0 (0.2 molar aqueous solution)
- Melting point/freezing point:** 110 °C
- Initial boiling point and boiling range:** > 150 °C
- Flash Point:** Not applicable
- Evaporation rate:** No data available.
- Flammability (solid, gas):** No data available.
- Upper/lower limit on flammability or explosive limits**
- Flammability limit - upper (%):** No data available.
- Flammability limit - lower (%):** No data available.
- Explosive limit - upper (%):** No data available.
- Explosive limit - lower (%):** No data available.
- Vapor pressure:** < 0.01 kPa (25 °C)
- Vapor density:** No data available.
- Relative density:** 2.28 (15.6 °C)
- Solubility(ies)**
- Solubility in water:** 0.316 g/l (0 °C)  
2.033 g/l (100 °C)
- Solubility (other):** No data available.

<b>Partition coefficient (n-octanol/water):</b>	No data available.
<b>Auto-ignition temperature:</b>	No data available.
<b>Decomposition temperature:</b>	No data available.
<b>Viscosity:</b>	No data available.

**Other information**

**Molecular weight:** 249.69 g/mol (Cu.H2O4S.5H2O)

**10. Stability and reactivity**

<b>Reactivity:</b>	No dangerous reaction known under conditions of normal use.
<b>Chemical Stability:</b>	Material is stable under normal conditions.
<b>Possibility of Hazardous Reactions:</b>	Hazardous polymerization does not occur.
<b>Conditions to Avoid:</b>	Avoid dust formation. Excessive heat.
<b>Incompatible Materials:</b>	Strong oxidizing agents. Magnesium.
<b>Hazardous Decomposition Products:</b>	Sulfur dioxide gas may be liberated from the product. oxides of copper

**11. Toxicological information**

**Information on likely routes of exposure**

<b>Ingestion:</b>	Harmful if swallowed.
<b>Inhalation:</b>	Harmful if inhaled.
<b>Skin Contact:</b>	Causes skin irritation.
<b>Eye contact:</b>	Causes serious eye damage.

**Information on toxicological effects**

**Acute toxicity (list all possible routes of exposure)**

**Oral Product:** LD 50 (Rat): 960 mg/kg

**Dermal Product:** No data available.

**Inhalation Product:** No data available.

**Repeated Dose Toxicity Product:** No data available.

**Skin Corrosion/Irritation Product:** Causes skin irritation.

**Serious Eye Damage/Eye Irritation Product:** Causes serious eye damage.

**Respiratory or Skin Sensitization Product:** Not a skin sensitizer.

**Carcinogenicity Product:** This substance has no evidence of carcinogenic properties.

**IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:**

No carcinogenic components identified

**US. National Toxicology Program (NTP) Report on Carcinogens:**

No carcinogenic components identified

**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):**

No carcinogenic components identified

**Germ Cell Mutagenicity**

**In vitro**

**Product:** No mutagenic components identified

**In vivo**

**Product:** No mutagenic components identified

**Reproductive Toxicity**

**Product:** Suspected of damaging fertility or the unborn child.

**Specific Target Organ Toxicity - Single Exposure**

**Product:** Respiratory tract irritation.

**Specific Target Organ Toxicity - Repeated Exposure**

**Product:** Liver, Blood, Kidney

**Aspiration Hazard**

**Product:** Not classified

**Other Effects:** None known.

**12. Ecological information**

**Ecotoxicity:**

**Acute hazards to the aquatic environment:**

**Fish**

**Product:** No data available.

**Specified substance(s):**

COPPER(II) SULFATE LC 50 (Bluegill (*Lepomis macrochirus*), 96 h): 0.66 - 1.15 mg/l Mortality  
PENTAHYDRATE

**Aquatic Invertebrates**

**Product:** No data available.

**Specified substance(s):**

COPPER(II) SULFATE LC 50 (Fairy shrimp (*Streptocephalus proboscideus*), 24 h): 0.06 mg/l  
PENTAHYDRATE Mortality

**Chronic hazards to the aquatic environment:**

**Fish**

**Product:** No data available.

**Aquatic Invertebrates**

**Product:** No data available.

**Toxicity to Aquatic Plants**

**Product:** No data available.

**Persistence and Degradability**

**Biodegradation**

**Product:** There are no data on the degradability of this product.

**BOD/COD Ratio**

**Product:** No data available.

**Bioaccumulative Potential**

**Bioconcentration Factor (BCF)**

**Product:** No data available on bioaccumulation.

**Partition Coefficient n-octanol / water (log Kow)**

**Product:** No data available.

**Mobility in Soil:** The product is water soluble and may spread in water systems.

**Other Adverse Effects:** Very toxic to aquatic life with long lasting effects.

**13. Disposal considerations**

**Disposal instructions:** Discharge, treatment, or disposal may be subject to national, state, or local laws. Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

**Contaminated Packaging:** Since emptied containers retain product residue, follow label warnings even after container is emptied.

**14. Transport information**

**DOT**

UN Number:	UN 3288
UN Proper Shipping Name:	Toxic solid, inorganic, n.o.s.(CUPRIC SULFATE)
Transport Hazard Class(es)	
Class(es):	6.1
Label(s):	6.1
Packing Group:	III
Marine Pollutant:	Yes

**IMDG**

UN Number:	UN 3288
UN Proper Shipping Name:	TOXIC SOLID, INORGANIC, N.O.S.(CUPRIC SULFATE)
Transport Hazard Class(es)	
Class(es):	6.1
Label(s):	6.1
EmS No.:	F-A, S-A
Packing Group:	III
Marine Pollutant:	Yes

**IATA**

UN Number: UN 3288  
 Proper Shipping Name: Toxic solid, inorganic, n.o.s.(CUPRIC SULFATE)  
 Transport Hazard Class(es):  
   Class(es): 6.1  
   Label(s): 6.1  
 Marine Pollutant: No  
 Packing Group: III

**15. Regulatory information**

**US Federal Regulations**

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)  
 US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

None present or none present in regulated quantities.

**CERCLA Hazardous Substance List (40 CFR 302.4):**

COPPER(II) SULFATE Reportable quantity: 10 lbs.  
 PENTAHYDRATE

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Hazard categories**

Acute (Immediate)  Chronic (Delayed)  Fire  Reactive  Pressure Generating

**SARA 302 Extremely Hazardous Substance**

None present or none present in regulated quantities.

**SARA 304 Emergency Release Notification**

Chemical Identity	RQ
COPPER(II) SULFATE	10 lbs.
PENTAHYDRATE	

**SARA 311/312 Hazardous Chemical**

Chemical Identity	Threshold Planning Quantity
COPPER(II) SULFATE	500 lbs
PENTAHYDRATE	

**SARA 313 (TRI Reporting)**

Chemical Identity	Reporting threshold for other users	Reporting threshold for manufacturing and processing
COPPER(II) SULFATE	10000 lbs	25000 lbs.
PENTAHYDRATE		

**Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)**

COPPER(II) SULFATE Reportable quantity: 10 lbs.  
 PENTAHYDRATE

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):**

None present or none present in regulated quantities.

**US State Regulations**

**US. California Proposition 65**

No ingredient regulated by CA Prop 65 present.

**US. New Jersey Worker and Community Right-to-Know Act**

COPPER(II) SULFATE Listed  
PENTAHYDRATE

**US. Massachusetts RTK - Substance List**

COPPER(II) SULFATE Listed  
PENTAHYDRATE

**US. Pennsylvania RTK - Hazardous Substances**

COPPER(II) SULFATE Listed  
PENTAHYDRATE

**US. Rhode Island RTK**

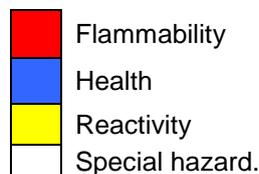
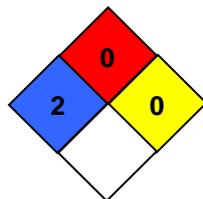
No ingredient regulated by RI Right-to-Know Law present.

**Inventory Status:**

Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
EINECS, ELINCS or NLP:	On or in compliance with the inventory
Japan (ENCS) List:	On or in compliance with the inventory
China Inv. Existing Chemical Substances:	On or in compliance with the inventory
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Canada NDSL Inventory:	Not in compliance with the inventory.
Philippines PICCS:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Japan ISHL Listing:	On or in compliance with the inventory
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.

**16. Other information, including date of preparation or last revision**

**NFPA Hazard ID**



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

**Issue Date:** 10-23-2014  
**Revision Date:** No data available.  
**Version #:** 1.0  
**Further Information:** No data available.

**Disclaimer:**

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