

# SAFETY DATA SHEET

## 1. Identification

**Product identifier:** CUPRIC OXIDE

**Other means of identification**

**Product No.:** 9003, 9002, 9001, 9000, 4807, 1820, 1814, 5255

**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

**Environmental Hazards**

Acute hazards to the aquatic environment Category 1

Chronic hazards to the aquatic environment Category 1

**Label Elements**

**Hazard Symbol:**



**Signal Word:** Warning

**Hazard Statement:** Harmful if swallowed.  
Very toxic to aquatic life with long lasting effects.

**Precautionary Statement**

|                                                                 |                                                                                                                                                                                      |
|-----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Prevention:</b>                                              | Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment.                                                          |
| <b>Response:</b>                                                | IF SWALLOWED: Call a POISON CENTER/doctor/ if you feel unwell. Rinse mouth. Collect spillage.                                                                                        |
| <b>Disposal:</b>                                                | 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. |
| <b>Other hazards which do not result in GHS classification:</b> | None.                                                                                                                                                                                |

### 3. Composition/information on ingredients

#### Substances

| Chemical Identity | Common name and synonyms | CAS number | Content in percent (%)* |
|-------------------|--------------------------|------------|-------------------------|
| CUPRIC OXIDE      |                          | 1317-38-0  | 99 - 100%               |

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

### 4. First-aid measures

|                             |                                                                                                                                                |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>General information:</b> | Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.                                      |
| <b>Ingestion:</b>           | Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.                                                                      |
| <b>Inhalation:</b>          | Move to fresh air. Get medical attention if symptoms persist.                                                                                  |
| <b>Skin Contact:</b>        | Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing. Wash contaminated clothing before reuse. |
| <b>Eye contact:</b>         | Flush thoroughly with water. If irritation occurs, get medical assistance.                                                                     |

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

|                  |                                                            |
|------------------|------------------------------------------------------------|
| <b>Symptoms:</b> | May cause irritation to skin, eyes, and respiratory tract. |
|------------------|------------------------------------------------------------|

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

|                   |                                                 |
|-------------------|-------------------------------------------------|
| <b>Treatment:</b> | Symptoms may be delayed. Treat symptomatically. |
|-------------------|-------------------------------------------------|

### 5. Fire-fighting measures

|                              |                                 |
|------------------------------|---------------------------------|
| <b>General Fire Hazards:</b> | The product is non-combustible. |
|------------------------------|---------------------------------|

#### Suitable (and unsuitable) extinguishing media

|                                      |                                                                     |
|--------------------------------------|---------------------------------------------------------------------|
| <b>Suitable extinguishing media:</b> | Use fire-extinguishing media appropriate for surrounding materials. |
|--------------------------------------|---------------------------------------------------------------------|

|                                        |             |
|----------------------------------------|-------------|
| <b>Unsuitable extinguishing media:</b> | None known. |
|----------------------------------------|-------------|

|                                                    |                                                       |
|----------------------------------------------------|-------------------------------------------------------|
| <b>Specific hazards arising from the chemical:</b> | During fire, gases hazardous to health may be formed. |
|----------------------------------------------------|-------------------------------------------------------|

## Special protective equipment and precautions for firefighters

|                                                        |                                                                                                                                                                                                    |
|--------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Special fire fighting procedures:</b>               | 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. |
| <b>Special protective equipment for fire-fighters:</b> | 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

|                                                                             |                                                                                                                                                              |
|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Personal precautions, protective equipment and emergency procedures:</b> | Keep unauthorized personnel away. Use personal protective equipment. See Section 8 of the MSDS for Personal Protective Equipment.                            |
| <b>Methods and material for containment and cleaning up:</b>                | Sweep up and place in a clearly labeled container for chemical waste. Clean surface thoroughly to remove residual contamination.                             |
| <b>Notification Procedures:</b>                                             | Prevent entry into waterways, sewer, basements or confined areas. Stop leak if you can do so without risk. Inform authorities if large amounts are involved. |
| <b>Environmental Precautions:</b>                                           | Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.                                         |

## 7. Handling and storage

|                                                                      |                                                                                                                                                             |
|----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Precautions for safe handling:</b>                                | Use personal protective equipment as required. Avoid contact with eyes, skin, and clothing. Avoid inhalation of dust. Wash hands thoroughly after handling. |
| <b>Conditions for safe storage, including any incompatibilities:</b> | Keep containers tightly closed. Store in cool, dry place. Store in a well-ventilated place. Store away from incompatible materials.                         |

## 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

|                             |                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>General information:</b> | 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. |
| <b>Eye/face protection:</b> | Use tight fitting goggles if dust is generated.                                                                                                                                                                                                                                                                                                                                               |
| <b>Skin Protection</b>      |                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Hand Protection:</b>     | Wear protective gloves.                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Other:</b>               | Wear suitable protective clothing.                                                                                                                                                                                                                                                                                                                                                            |

|                                |                                                                                                                                                                                                                                                                  |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Respiratory Protection:</b> | In case of inadequate ventilation use suitable respirator.                                                                                                                                                                                                       |
| <b>Hygiene measures:</b>       | 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. Provide eyewash station and safety shower. |

## 9. Physical and chemical properties

### Appearance

|                                                              |                         |
|--------------------------------------------------------------|-------------------------|
| <b>Physical state:</b>                                       | Solid                   |
| <b>Form:</b>                                                 | Powder. Wire. Granules  |
| <b>Color:</b>                                                | Black to brownish black |
| <b>Odor:</b>                                                 | Odorless                |
| <b>Odor threshold:</b>                                       | No data available.      |
| <b>pH:</b>                                                   | No data available.      |
| <b>Melting point/freezing point:</b>                         | 1,326 °C                |
| <b>Initial boiling point and boiling range:</b>              | No data available.      |
| <b>Flash Point:</b>                                          | Not applicable          |
| <b>Evaporation rate:</b>                                     | Not applicable          |
| <b>Flammability (solid, gas):</b>                            | No data available.      |
| <b>Upper/lower limit on flammability or explosive limits</b> |                         |
| <b>Flammability limit - upper (%):</b>                       | No data available.      |
| <b>Flammability limit - lower (%):</b>                       | No data available.      |
| <b>Explosive limit - upper (%):</b>                          | No data available.      |
| <b>Explosive limit - lower (%):</b>                          | No data available.      |
| <b>Vapor pressure:</b>                                       | No data available.      |
| <b>Vapor density:</b>                                        | No data available.      |
| <b>Relative density:</b>                                     | 6.32 (20 °C)            |
| <b>Solubility(ies)</b>                                       |                         |
| <b>Solubility in water:</b>                                  | Insoluble in water      |
| <b>Solubility (other):</b>                                   | 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

|                          |                   |
|--------------------------|-------------------|
| <b>Molecular weight:</b> | 79.55 g/mol (CuO) |
|--------------------------|-------------------|

## 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>                | Contact with incompatible materials.                        |
| <b>Incompatible Materials:</b>             | Reducing agents. Aluminum. Alkali metals. Powdered metals.  |

**Hazardous Decomposition  
Products:**

Toxic metal fumes may form when heated to decomposition.

**11. Toxicological information****Information on likely routes of exposure**

|                      |                                                 |
|----------------------|-------------------------------------------------|
| <b>Ingestion:</b>    | Harmful if swallowed.                           |
| <b>Inhalation:</b>   | May cause irritation to the respiratory system. |
| <b>Skin Contact:</b> | May cause irritation.                           |
| <b>Eye contact:</b>  | May cause temporary eye irritation.             |

**Information on toxicological effects****Acute toxicity (list all possible routes of exposure)**

**Oral**  
**Product:** LD 50 (Rat): 470 mg/kg

**Dermal**  
**Product:** No data available.

**Inhalation**  
**Product:** No data available.

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

**Skin Corrosion/Irritation**  
**Product:** May cause skin irritation.

**Serious Eye Damage/Eye Irritation**  
**Product:** May irritate eyes.

**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:** No components toxic to reproduction

**Specific Target Organ Toxicity - Single Exposure**

**Product:** None known.

**Specific Target Organ Toxicity - Repeated Exposure**

**Product:** None known.

**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):**

CUPRIC OXIDE LC 50 (Striped bass (*Morone saxatilis*), 48 h): 0.31 mg/l Mortality  
LC 50 (Western mosquitofish (*Gambusia affinis*), 96 h): > 56,000 mg/l Mortality

**Aquatic Invertebrates**

**Product:** No data available.

**Specified substance(s):**

CUPRIC OXIDE EC 50 (Water flea (*Daphnia magna*), 48 h): 0.011 - 0.039 mg/l Intoxication

**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:** No data available.

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

## 13. Disposal considerations

|                                |                                                                                                         |
|--------------------------------|---------------------------------------------------------------------------------------------------------|
| <b>Disposal instructions:</b>  | Discharge, treatment, or disposal may be subject to national, state, or local laws.                     |
| <b>Contaminated Packaging:</b> | Since emptied containers retain product residue, follow label warnings even after container is emptied. |

## 14. Transport information

### DOT

|                            |                                                                  |
|----------------------------|------------------------------------------------------------------|
| UN Number:                 | UN 3077                                                          |
| UN Proper Shipping Name:   | Environmentally hazardous substance, solid, n.o.s.(CUPRIC OXIDE) |
| Transport Hazard Class(es) |                                                                  |
| Class(es):                 | 9                                                                |
| Label(s):                  | 9                                                                |
| Packing Group:             | III                                                              |
| Marine Pollutant:          | No                                                               |

### IMDG

|                            |                                                                  |
|----------------------------|------------------------------------------------------------------|
| UN Number:                 | UN 3077                                                          |
| UN Proper Shipping Name:   | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(CUPRIC OXIDE) |
| Transport Hazard Class(es) |                                                                  |
| Class(es):                 | 9                                                                |
| Label(s):                  | 9                                                                |
| EmS No.:                   | F-A, S-F                                                         |
| Packing Group:             | III                                                              |
| Marine Pollutant:          | No                                                               |

### IATA

|                             |                                                                  |
|-----------------------------|------------------------------------------------------------------|
| UN Number:                  | UN 3077                                                          |
| Proper Shipping Name:       | Environmentally hazardous substance, solid, n.o.s.(CUPRIC OXIDE) |
| Transport Hazard Class(es): |                                                                  |
| Class(es):                  | 9                                                                |
| Label(s):                   | 9                                                                |
| 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):

None present or none present in regulated quantities.

#### 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 |
|-------------------|----|
| CUPRIC OXIDE      |    |

**SARA 311/312 Hazardous Chemical**

| Chemical Identity | Threshold Planning Quantity |
|-------------------|-----------------------------|
| CUPRIC OXIDE      | 500 lbs                     |

**SARA 313 (TRI Reporting)**

| Chemical Identity | Reporting threshold for other users | Reporting threshold for manufacturing and processing |
|-------------------|-------------------------------------|------------------------------------------------------|
| CUPRIC OXIDE      | 10000 lbs                           | 25000 lbs.                                           |

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

None present or none present in regulated quantities.

**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**

|              |        |
|--------------|--------|
| CUPRIC OXIDE | Listed |
|--------------|--------|

**US. Massachusetts RTK - Substance List**

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

**US. Pennsylvania RTK - Hazardous Substances**

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

**US. Rhode Island RTK**

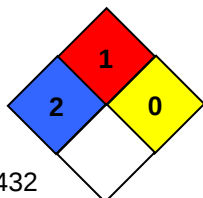
No ingredient regulated by RI Right-to-Know Law present.

**Inventory Status:**

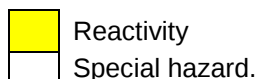
|                                          |                                        |
|------------------------------------------|----------------------------------------|
| Australia AICS:                          | On or in compliance with the inventory |
| Canada DSL Inventory List:               | 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**



|                                                                                                                          |              |
|--------------------------------------------------------------------------------------------------------------------------|--------------|
| <span style="display: inline-block; width: 15px; height: 15px; background-color: red; border: 1px solid black;"></span>  | Flammability |
| <span style="display: inline-block; width: 15px; height: 15px; background-color: blue; border: 1px solid black;"></span> | Health       |



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

**Issue Date:** 11-25-2014

**Revision Date:** No data available.

**Version #:** 1.0

**Further Information:** No data available.

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