

SAFETY DATA SHEET

SECTION 1. Identification of the Substance and Manufacturer

Product: **TECHNICAL GRADE CUPROUS OXIDE**
Copper (I) Oxide

Common uses: Antifouling Paint, Industrial chemicals
Restrictions of use: None known.

Manufacturer: American Chemet Corporation www.chemet.com
145 HWY 282 / P.O. Box 1160
East Helena, MT 59635 U.S.A.
+1(406) 227-5302 (Phone) +1(406) 227-8047 (Fax)

24-Hour Emergency: 3E Company

American Chemet Corporation/ 3E Company **Global Incident Response Access Code: 334129**
American Chemet Corporation/ 3E Company **Contract Number 14862**

Americas	Europe	Asia Pacific	Middle East/Africa
1-866-519-4752 (US, Canada, Mexico) or 1-760-476-3961	1-760-476-3962	1-760-476-3960	1-760-476-3959

For country-specific phone numbers, see Section 16.

Local Contact (if Applicable):

SECTION 2. Hazard Identification

Classification System:

The classification is based on the criteria in the UN Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

GHS Label Elements



Warning

H410 - Very toxic to aquatic life with long lasting effects. *Aquatic Acute, Category 1. Aquatic Chronic, Category 1.*

H332 - Harmful if inhaled, *Acute Toxicity, Category 4.*

H319 - Causes serious eye irritation. *Category 2A.*

H302 - Harmful if swallowed. *Acute Toxicity, Oral. Category 4.*

H313 - May be harmful in contact with skin. *Acute Toxicity, Dermal. Category 5.*



GHS Precautionary Statements:

P261 - Avoid breathing dust.

P264 - Wash hands thoroughly after handling.

P270 - Do not eat, drink or smoke when using this product.

P271 - Use only outdoors or in a well-ventilated area.

P273 - Avoid release to the environment.

P280 - Wear protective gloves/protective clothing/face shield/eye protection.

P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.

P312 - Call a POISON CENTER or doctor if you feel unwell.

P330 - Rinse mouth.

P304 + P340 + P312 - IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell.

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

P337 + P313 - If eye irritation persists: Get medical advice/attention.

P391 - Collect spillage.

P501 - Dispose of contents/container in accordance with local/national/international regulations.

SECTION 3. Composition/Information of Ingredients

Ingredient	%	EC Number	CAS No.
Cuprous Oxide	95%	215-270-7	1317-39-1
Cupric Oxide	3%	215-269-1	1317-38-0

SECTION 4. First Aid Measures

Inhalation:	Remove to fresh air. Lay patient down. Cover with blanket.
Ingestion:	Give 200-300 mL water to drink. DO NOT induce vomiting.
Skin Contact:	For skin exposure, remove contaminated clothing and wash with soap and water.
Eye Contact:	If irritated, flush eyes and skin with large volumes of fresh water for 15 minutes.
Medical Notes:	If any adverse symptoms persist seek immediate medical attention.
Most important symptoms and effects, both acute and delayed.	Harmful if swallowed. Dust may have irritant effect on skin, eyes and air passages.
Indication of the immediate medical attention and special treatment needed.	Treat symptomatically as described above in this section.

SECTION 5. Fire-Fighting Measures

Extinguishing Media:	CO ₂ , ABC extinguisher, or water spray.
Special Fire Fighting Procedures:	Material is non-flammable. Use firefighting measures appropriate to surrounding materials.
Special Exposure Hazards:	Cuprous oxide is stable in dry air, but can oxidize to cupric oxide in the presence of moist air at temperatures above 100°C.
Additional Information:	Collect contaminated fire fighting water separately. It must not enter the sewer system.
Personal Protective Equipment:	Wear self-contained breathing apparatus.



SECTION 6. Accidental Release Measures

Personal Precautions:	Spilled material may produce dust hazard if not handled correctly. Wear appropriate personal protective equipment: coveralls, gloves & eye protection.
Environmental Precautions:	Do not allow to enter drains or watercourses. If the product enters drains or sewers, immediately inform the local water company. Where there is contamination of streams, rivers or lakes, contact local agency with responsibility for the environment.
Methods for Clean Up:	Contain spillages and clean up with vacuum or conventional tools and attempt to minimize dusting. Place in a suitable container for recycling or disposal in accordance with local and national waste regulations.

SECTION 7. Handling and Storage

Handling:	Only use in a well-ventilated area and prevent the creation of dusts. If concentrations exceed the occupational exposure limits, use suitable respiratory protection.
Storage:	Store in a cool, dry, well-ventilated place. Keep away from food and drink.
Common uses:	Antifouling Paint, Industrial chemicals

SECTION 8. Exposure Controls/Personal Protection

Occupational Exposure Standards:	Copper as dusts & mist : OSHA PEL & ACGIH TLV 1 mg/m ³ 8-hour TWA
Occupational Exposure Controls:	All personal protective equipment, including respiratory equipment, used to control exposure to hazardous substances must be selected to meet the requirements of national personal protective equipment regulations.
Personal Protection:	
Ventilation:	To keep below the U.S.A. OSHA and EU exposure limits, use general dilution type ventilation.
Respiratory Protection:	Cartridge type particulate filter respirator or dust-mask conforming to U.S.A. NIOSH. Refer to Respiratory Protective Devices approved by NIOSH under 42 CFR 84 and the appropriate European standard.
	
Hand Protection:	Wear if skin contact is probable.
	
Eye Protection:	Safety glasses or goggles.
Skin Protection:	Long sleeve shirt(s) if contact is probable.
Environmental Protection:	Do not allow to enter drains or watercourses.

SECTION 9. Physical and Chemical Properties

Appearance	Powder.
Colour	Red, Brown or Purple.
Odour	Odourless.
Odour Threshold (ppm)	Not applicable.
pH (Value)	Not applicable. (inorganic solid).
Melting Point (°C) /freezing pt	1235°C .
Boiling point/boiling range (°C):	Not applicable. (solid that melts >300 °C)
Flash Point (°C)	Not applicable. (inorganic solid).

Evaporation rate	Not applicable. (inorganic solid).
Flammability (solid, gas)	Non-flammable.
Flammable Limits (Upper) (%v/v)	Not applicable.
Vapour Pressure (Pascal)	Not applicable. (inorganic solid Melting Point (1235°C)).
Vapour Density (Air=1)	Not applicable. (inorganic solid).
Relative Density	5.87 g/cm ³ at 20°C
Solubility (Water)	28.6 g/l at 20°C (pH 4) 0.000639 g/l at 20°C (pH 6.5-6.6) 0.000539 g/l at 20°C (pH 9.7-9.8)
Specific Gravity (Water = 1)	6.0
Partition Coefficient (n-Octanol/water)	Not applicable. (inorganic solid).
Auto Ignition Temperature (°C)	None
Decomposition Temperature (°C)	>300°C at 101.72 kPa
Viscosity (mPa.s)	Not applicable (inorganic solid)
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.
Percent Volatile by volume (%)	0%

SECTION 10. Stability and Reactivity

Reactivity	Thermally stable.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	Will not occur.
Conditions to avoid	Keep at a temperature not exceeding (°C): 100 (in moist conditions) Avoid dust generation.
Incompatible Materials	May react violently with: Acids, Bases.
Hazardous Decomposition Product(s)	Copper fumes will be released if heated above its melting point (1235 °C).

SECTION 11. Toxicological Information

Acute Toxicity	
Oral	LD50 1340 m/kg bw (male and female) (rat). Classified as Harmful if swallowed.
Dermal	LD50 >2000 mg/kg bw (male and female) (rat). Classified as Maybe harmful in contact with skin.
Inhalation	LC50 (4 hour(s)) > 1.27 mg/L < 5 mg/L (male and female) (rat). Classified as Harmful if inhaled.
Primary Eye	Corneal involvement or irritation clearing in 8 to 12 days (Rabbits). Classified as Causes serious eye irritation.
Dermal Irritation	Based upon the available data, the classification criteria are not met.
Skin Sensitization	Based upon the available data, the classification criteria are not met.
Mutagenicity, Carcinogenicity, Reproductive Toxicity	Based upon the available data, the classification criteria are not met.

SECTION 12. Ecological Information

Toxic to fish and other aquatic organisms.
Prevent from entering drains, sewers, and surface water.

SECTION 13. Disposal Considerations

PACKAGING:	Dispose of in accordance with procedures applying to the disposal of the product.
PRODUCT:	Dispose of surplus and contaminated materials (including sawdust) at an approved landfill or in accordance with other national or regional provisions.

SECTION 14. Transportation Information

US DOT:	Not Regulated. Class 9 materials do not require placarding for U.S.A. ground transport (49 CFR 172.504(f)(9)). <i>Exceptions</i> , except when all or part of the transportation is by vessel, the requirements specific to marine pollutants do not apply to non-bulk packagings transported by motor vehicle, rail car, or aircraft (49 CFR 171.4(c)). Permissive labelling is allowed by U.S.A. DOT (49 CFR 172.401(c)).
Proper Shipping Name:	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Copper (I) Oxide), Class 9, PG III, MARINE POLLUTANT

. Land transport ADR/RID (cross-border) Excluding U.S.A. Ground Transport



- **ADR/RID class:** 9 (M7) Miscellaneous dangerous substances and articles
- **Danger code (Kemler):** 90
- **UN Number:** 3077
- **Packaging group:** III
- **Hazard label:** 9
- **Proper shipping name:** 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Copper (I) Oxide)
- **Tunnel Restriction Code:** E

. Maritime transport IMDG:



- **IMDG Class:** 9
- **UN Number:** 3077
- **Hazard Label:** 9
- **Packaging group:** III
- **Marine pollutant:** yes
- **Proper shipping name:** 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Copper (I) Oxide)
- **EmS Code:** F-A, S-F

. Air transport ICAO-TI and IATA-DGR:



- **ICAO/IATA Class:** 9
- **UN/ID Number:** 3077
- **Hazard Label:** 9
- **Packaging group:** III
- **Proper shipping name:** 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Copper (I) Oxide)

SECTION 15. Regulatory Information

International Inventories (Listed)

EC inventory (EU)
United States (TSCA)
Canada (DSL/NDSL)
AICS (Australia)
NZIoC (New Zealand)
Japan (ENCS)
ECL (Korea)
Philippines (PICCS)
China (IECSC)

U.S. EPA EPCRA Section 313 Reportable Product – (contains copper)

U.S. EPA Reportable Quantity: 5,000 lbs. (2,270 kg)

REACH Registration Number for American Chemet Corporation's Cuprous Oxide: 01-2119513794-36-0002

FIFRA Regulations: (If a registered product.)

EPA Registration No. 26883-7 or 26883-10

The following is the hazard information as required on the pesticide label: **WARNING Causes substantial but temporary eye injury. Harmful if swallowed, inhaled or absorbed through skin.**

This pesticide is toxic to fish and aquatic invertebrates.

SECTION 16. Other Information

Keep out of reach of children. Read and follow all label instructions. This information is based on our present knowledge. However, this is not a guarantee of specific product features. It is the user's responsibility to satisfy themselves as to the suitability and completeness of this information for their own particular use.

Country Specific 24-Hour Emergency Phone Numbers: 3E Company

Country	Number	Languages
Australia	+ 61 1 800 686 951	English
China	+86 4001 2001 74	Chinese
New Zealand	+64 800 451719	English
United Kingdom	+44 8 08 189 0979	English
Korea	080-880-0455	Korean

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