

UNIFIEDALLOYS

COPPER METAL – MATERIAL SAFETY DATA SHEET



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1. HAZARDOUS INGREDIENTS

Component (*)	CAS Number	% Weight	Exposure Limits (ACGIH - TLV)
Copper (Cu)	7440-50-8	99.5	1 mg/m ³ (dust) 0.2 mg/m ³ (fume)

NOTE: This product contains no other hazardous ingredients requiring disclosure under current regulations.

2. PREPARATION INFORMATION

Prepared By: **UnifiedAlloys**
 Telephone: **(780) 468-5656**
 Note: **Contact Supplier (Quality Department) for additional information**

Preparation Date: January 1, 2010

3. PRODUCT / COMPANY INFORMATION

Importer / Supplier / Distributor:

UnifiedAlloys
 8835 – 50th Avenue
 Edmonton, Alberta CANADA
 T6E 5H4
 Emergency Phone #: (780) 468-5656 (on-call service)

The conditions or methods of handling, storage, use, and disposal of the product are beyond our control and may be beyond knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage, or expense arising out of or in any way connected with the handling, storage, use, or disposal of the product.

4. PHYSICAL DATA

Physical State: Solid
Odor: N/A
Evaporation Rate: N/A
Boiling Point: 2324 degrees Celsius
Melting Point: 1083 degrees Celsius
PH: N/A
Solubility in Water: N/A
Vapor Pressure: 1 mm at 1628 degrees Celsius
Density: 8.94
Appearance: Red Ductile
Volatility: N/A
Odor Threshold: N/A
Specific Gravity: (H₂O = 1): 8.94
Freezing Point: N/A
Coefficient of water/oil distribution: Negligible

5. FIRE / EXPLOSION HAZARD

1. Conditions of flammability: Steel products (Copper Metal) does not present fire or explosion hazards under normal conditions. Fine metal particles such as those produced in grinding or sawing can burn. High concentrations of metal filings may present an explosion hazard.
2. Means of extinction: For molten metal use dry powder or sand. Do NOT use water on molten metals.
3. Flashpoint and method of determination: N/A (under normal conditions)
- 4/5. Upper and Lower flammable Limit: N/A (under normal conditions)
6. Auto-ignition temperature: N/A (under normal conditions)
7. Hazardous Combustion Products: N/A (under normal conditions)
8. Explosion Data: sensitivity to mechanical impact: N/A (under normal conditions)
9. Explosion Data: sensitivity to static discharge: N/A (under normal conditions)

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6. REACTIVITY DATA

Chemical Stability: Stable (under normal conditions of use and storage)

Conditions of Reactivity: Hydrogen Peroxide

Hazardous Decomposition Products: Does not decompose. Reaction with acids could produce noxious gasses. In contact with acids, hydrogen may evolve.

Incompatibility to Other Substances: Copper reacts violently with acetylene, ammonium nitrate, bromates, chlorates, iodates. Copper foil burns spontaneously in gaseous chlorine. Avoid contact with chlorine and oxygen difluoride, ethylene oxide, fluoride, hydrogen peroxide, hydrazine mononitrate and hydrazoic acid. Incompatible with hydrogen sulfide, lead azide, potassium peroxide.

7. TOXICOLOGICAL PROPERTIES

Effects of Acute Exposure to Material:

Short term exposure to fumes / dust may produce irritation of eyes and respiratory system. Inhalation of high concentrations of freshly formed oxide fumes of iron, manganese, and copper may cause metal fume fever characterized by a metallic taste in the mouth, dryness and irritation of the throat and influenza – like symptoms. Dermal contact of filings could cause infection / blood poisoning.

Effects of Chronic Exposure to Material:

Chronic inhalation of high concentrations of iron – oxide fumes or dust may lead to a benign pneumoconiosis (siderosis). Inhalation of high concentrations of ferric oxide may possibly enhance the risk of lung cancer development in the workers exposed to pulmonary carcinogens.

Carcinogenicity of Material:

Chromium and nickel and their compounds are listed in the 3rd Annual Report on Carcinogens as prepared by the National Toxicology Program (NTP). Exposure to high concentrations of dust and fumes can cause sensitization dermatitis, inflammation, and / or ulceration of the upper respiratory tract and possibly cancer of nasal passages and lungs. Recent epidemiological studies of workers melting and working alloys containing nickel / chromium have found no increased risk of cancer.

Irritancy of Material: N/A

Sensitization to Material: N/A

Mutagenicity of Material: N/A

Reproductive Effects: N/A

Teratogenicity of Material: N/A

Carcinogenicity of Material: N/A

8. PREVENTATIVE MEASURES

Personal Protective Equipment: Dependant upon processes being performed on material. Each operator must be addressed for suitable equipment.

Gloves: Protective gloves should be worn during welding, burning or handling operations.

Clothing: As required. Dependent on the operations and local welding codes.

Respiratory: NIOSH / MSHA approved dust and fume respirator should be used to avoid excessive inhalation of particles when exposure exceeds TLV's.

Footwear: CSA Z195-02 Steel Toed, safety shoes.

Eye: safety glasses, goggles or face shield should be worn as required by exposure.

Other: With molten metals, use full body cover clothing, including gloves, eyewear and footwear suitably treated to prevent burns.

Engineering Controls (e.g. ventilation, enclosures, specify)

Leak and Spill Procedures: Solid metal does not pose any problems. Dust spills should be cleaned up avoiding dust generation. Collect and recycle to process. Wash down with water if in contact with acids.

Waste Disposal: Recover. Follow applicable regulations. Dispose of in compliance with local regulations.

Storage Requirements: Store away from corrosive chemicals.

Special Shipping Information: N/A

9. FIRST AID MEASURES

Inhalation: Dust may irritate nose and throat. If heated, copper fumes may cause metal fume fever, a benign transient flu-like condition.

Ingestion: Rare in industry. Dust may irritate mouth and gastrointestinal tract. If a substantial amount has been ingested, remove from exposure, treat as a foreign body and induce vomiting.

Eyes: Dust acts as a foreign body. Flush eyes thoroughly with clean, lukewarm water for 15 minutes. See medical attention if condition persists.

Note: Do not induce vomiting or give liquids to an unconscious person.

Respiratory disorders may be aggravated by exposure to metallic and/or organic/inorganic coating dust or fumes. Consult a Physician.