

MSDS 007
Revised 6/2009

MATERIAL SAFETY DATA SHEET

MWS Wire Industries
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Westlake Village, CA 91362
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Trade Name: Beryllium Copper Alloy, Alloy 10, Alloy 25, CDA 17200

Chemical Family: Copper-Beryllium-Cobalt mixture

Chemical Formula: NA

HAZARDOUS INGREDIENTS

| <u>Ingredient</u> | <u>CAS No.</u> | <u>TLV</u> | <u>PEL</u> | <u>STEL</u> |
|-------------------|----------------|-----------------|-----------------|-------------|
| Copper | 7440-50-8 | 1 (D) / 0.2 (F) | 1 (D) / 0.1 (F) | 2 |
| Beryllium | 7440-41-7 | .002 | .002 (.005*) | .01 |
| Cobalt | 7440-48-4 | .02 | .10 | |

Product composition: 97.6-98.2% Copper; 1.6-2.0% Beryllium; 0.2-0.35% Cobalt

Note: TLV - American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (mg/m³)

PEL - OSHA Permissible Exposure Level (mg/m³), 8 hour time weighted average

STEL - ACHIH Short Term Exposure Limit (mg/m³), 15 minutes maximum

* Ceiling Level (Not to be exceeded) D = Dust F = Fume NS = Not Specified

PHYSICAL DATA

Boiling Point °C: NA

Vapor Pressure: NA

Vapor Density: NA

% Volatile: NA

Evaporation Rate: NA

Solubility in H₂O: Insoluble

Specific Gravity: 8.36

Melting Temperature: 866°C

Appearance & Odor: Bright copper color. No odor.

FIRE & EXPLOSION HAZARD DATA

HMIS Flammability Rating: 0

Beryllium copper alloy is non-combustible. Use extinguishing media appropriate for the surrounding fire. Self-contained breathing apparatus must be worn if there is any risk of exposure to metal fumes or dust released during or after a fire.

HEALTH HAZARD DATA

This product poses no health hazard as shipped.

HMIS Health Hazard Rating: 2

Fine powders, granules and fumes from welding or abrasive operations are a health hazard.

Short Term Exposure: Dust and fumes irritate the eyes, nose and throat. Symptoms may include cough, metallic taste in mouth, fever, fatigue and nausea.

Long Term Exposure: Watering of the eyes, headaches, difficulty breathing, coughing, severe chest pains and may cause Chronic Beryllium Disease, a serious chronic lung disease.

Emergency First Aid Procedure:

- In case of fume inhalation, remove from exposure and consult a physician.
- In case of eye contact, flush with large amounts of water for at least fifteen minutes. Seek medical attention.
- In case of ingestion, seek immediate medical attention.

The International Agency for Research on Cancer (IARC) lists beryllium as a Group I – Known Human Carcinogen. The IARC lists cobalt as a Group 2B – Possibly Carcinogenic to Humans. The National Toxicology Program (NTP) lists beryllium as reasonably anticipated to be a human carcinogen.

REACTIVITY DATA

HMIS Reactivity Rating: 0

Stability: Stable. Beryllium copper reacts with some acids and caustic solutions to produce hydrogen gas. Hydrogen gas can be an explosion hazard. Powdered aluminum and chlorinated hydrocarbons may react with explosive violence.

Hazardous decomposition products: None under normal conditions of use.

Hazardous Polymerization: Will not occur.

SPILL, LEAK, DISPOSAL PROCEDURES

Scrap metal may have reclamation value. Where this is not practical, it may be disposed in accordance with state and federal regulations. In solid wire form, beryllium copper alloys pose no special clean up problems. If material is in powder or dust form, clean up should be conducted to minimize generation of airborne powder and dust and to avoid contamination of water. If greater than one pound of metal dust or powder is released into the environment report the spill immediately to the National Response Center at (800) 424-8802.

SARA TITLE III SECTION 313

Copper, beryllium and cobalt are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR Part 372 of the Federal Register. Additional information can be obtained from the Emergency Planning and Community Right-To-Know Information Hot Line, US EPA, at (800) 535-0202.

CALIFORNIA PROPOSITION 65 WARNING

Beryllium, cobalt metal powder and cobalt oxide are known by the State of California to cause cancer. The Safe Harbor No Significant Risk Level (NSRL) for beryllium is 0.1µg/day. Cobalt oxide and metal powder do not yet have an NSRL assigned and are on the Third Priority list for NSRL Development.

EC RoHS Directive Compliance

Beryllium copper wire complies with Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

ECHA REACH COMPLIANCE

Beryllium copper wire meets the definition of an article under REACH and does not contain SVHC listed as of the revision date of this MSDS. Also see http://www.mwswire.com/pdf_files/reach.pdf for more information on MWS Wire products and REACH.

SPECIAL PROTECTION

Wear safety glasses when risk of eye injury is present, particularly during machining, grinding, welding, powder handling, etc. Gloves and other protective equipment may be required during handling operations as appropriate to the circumstances of exposure, such as when there is a risk of metal cuts or skin abrasion.

SPECIAL PRECAUTIONS

When welding, melting, casting, grinding, sanding, polishing or otherwise abrading the surface of beryllium copper in a manner which generates finely divided particles, an exposure to metallic copper, beryllium and cobalt in excess of the occupational standard can occur. Use with adequate ventilation to meet listed exposure limits. Processes generating airborne beryllium copper alloy must be air sampled to determine exposure levels. Where exposure data indicate, medical surveillance should be conducted.

PACKAGING & LABELING REQUIREMENTS

D.O.T. Shipping Name: Not regulated

Hazard Class: NA

MWS has attempted to provide current and accurate information in this data sheet, however MWS makes no representations regarding the accuracy or completeness of the information and assumes no liability for any loss, damage or injury of any kind which may arise out of the use or reliance on the information by any person. Contact person: Ken Goss at (818) 991-8553.