

**MATERIAL SAFETY DATA SHEET**

MAY BE USED TO COMPLY WITH OSHA'S HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200 AND SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) OF 1986 PUBLIC LAW 99-499. STANDARD SHOULD BE CONSULTED FOR SPECIFIC REQUIREMENTS.

**SECTION I (IDENTIFICATION)**

**MANUFACTURER/ SUPPLIERS NAME:** **EUTECTIC CORPORATION**  
N94 W14355 Garwin Mace Drive  
Menomonee Falls, WI 53051 USA

**TELEPHONE NUMBER:**  
1-800-558-8524

**PRODUCT NAME:** **EUTECROD 1810**

**PRODUCT CLASSIFICATION:** **Brazing Rod**

**SECTION II (HAZARDOUS INGREDIENTS/IDENTITY INFORMATION)**

**IMPORTANT:** This section covers the materials from which these products are manufactured. The fumes and gases produced during normal use of these products are covered in Section V. The term "Hazardous" in "Hazardous Ingredients" should not only be interpreted as a term required and defined in OSHA Hazard Communication Standard (29 CFR Part 1910.1200), but also as defined by other regulatory agencies. The chemicals or compounds subject to reporting under Title III, in Section 313, of the Superfund Amendments and Reauthorization Act (SARA) are marked by the symbol #.

**WARNING:** This product contains or produces a chemical known to the State of California to cause birth defects (or other reproductive harm) and cancer. (California Health & Safety Code 25249.5 et seq.)

| <u>INGREDIENTS</u> | <u>CAS NUMBER</u> | <u>Exposure Limit (mg/m<sup>3</sup>)</u> |                  | <u>Percent Ingredients (by Weight)</u> |
|--------------------|-------------------|--|------------------|--|
|                    |                   | <u>OSHA PEL</u>                          | <u>ACGIH-TLV</u> |  |
| Silver #           | 7440-22-4         | 0.01                                     | 0.1              | 30 – 60                                |
| Cadmium #          | 7440-43-9         | 0.005                                    | 0.002            | 10 – 30                                |
| Copper #           | 7440-50-8         | 0.1 (fume)                               | 0.2 (fume)       | 10 – 30                                |
| Zinc #             | 7440-66-0         | 5  | Not listed       | 10 – 30                                |

**Target organ statement:** N/A

**SECTION III (PHYSICAL DATA)**

**Boiling point:** Cd @ 1409 F      Ag @ 3632 F      **Specific gravity:** Cd = 8.54      Ag = 10.49  
Zn @ 1667 F      Cu @ 4703 F      Zn = 7.14      Cu = 8.94

**Appearance:** Silver-white metal with bluish cast.      **Odor:** Odorless

**SECTION IV (FIRE AND EXPLOSION DATA)**

**Flash point:** NIF      **Flammable limits in air (% by volume):** NIF  
**Extinguishing media:** water, dry chemical extinguisher, CO<sub>2</sub>      **Special fire fighting procedures:** Low pressure extinguisher.  
**Unusual fire and explosion hazards:** Use NIOSH/MSHA self contained breathing apparatus. Thermal decomposition may produce heavy brown smoke and CdO fumes - **HIGHLY TOXIC.**

**SECTION V (REACTIVITY DATA)**

**Stability considerations :** stable  
**Hazardous polymerization:** will not occur. Incompatibility: Materials to avoid: Mineral acids and/or caustic solutions. Cadmium dust reacts vigorously with oxidizing materials. Incompatible with sulfur, selenium, and tellurium.  
**Hazardous combustion or decomposition products:** ZnO fumes (zinc), CuO (copper) and CdO fumes (cadmium).

**SECTION VI (HEALTH HAZARD DATA)**

**EFFECTS OF CHRONIC (SHORT TERM) OVEREXPOSURE: PHYSIOLOGICAL EFFECTS:** Chronic inhalation of cadmium oxide dusts and fumes has caused tubular dysfunction as evidenced by protainuria. Other disorders have included pulmonary emphysema, anemia, bone demineralization, and impotency. Symptoms of over-exposure to copper fumes include irritation to the eyes, upper respiratory system, metal fume fever, chills, muscle aches, nausea, fever, dry throat, cough, lassitude (weakness, exhaustion), metallic or sweat taste, and discoloration of skin. FUMES AND GASES can be dangerous to your health. Primary route of entry is inhalation of fumes. Preexisting respiratory or allergic conditions may be aggravated in some individuals.

**COPPER:** Individuals with Wilson's Disease are at increased risk of COPPER poisoning. Acute (short-term) exposure may cause respiratory tract irritation, fever, muscle ache, chills, weakness, cough, and a metallic taste. **INHALATION** may cause respiratory tract and mucous membrane irritation. Symptoms include nasal discharge and nosebleeds, coughing, sore throat and labored breathing. Severe exposure may cause bronchospasm and pulmonary edema. Absorption may cause systemic poisoning similar to that which occurs with ingestion. Inhalations of fumes may cause a flu-like illness called 'metal fume fever'. Typically metal fume fever begins four to twelve hours after sufficient exposure to freshly formed fumes. First symptoms are a metallic taste, dryness, and irritation of the throat. Cough and shortness of breath may occur along with a headache, fatigue, nausea, vomiting, diarrhea, and painful spasms of the limbs. Copper poisoning can result in hemolytic anemia and kidney, liver, and spleen damage.

**EFFECTS OF ACUTE (LONG TERM) OVEREXPOSURE:** Cadmium, copper and zinc fumes produce **METAL FUME FEVER** which may result in severe tracheobronchitis, pneumonitis, pulmonary edema (throat dryness, cough, headache, vomiting, chest pains, and chills). Suspected acute inhalation exposure to Cd must be treated for pulmonary edema by a physician. Delay until onset of pulmonary involvement may result in death. Cadmium is transported via blood and stored in liver and kidneys. Can cause kidney damage. Excessive inhalation of zinc fumes may produce symptoms known as **ZINC SHAKES**; an acute self limiting condition without recognized complications. Symptoms usually disappear within 24 hours. Symptomatic treatment such as bed rest, possibly aspirin or aspirin-free pain reliever to afford relief from fever and chills. Severe and prolonged overexposure to zinc oxide may cause pulmonary edema and pneumonia. **COPPER** may damage the liver, kidney, spleen, pancreas, and brain. Copper poisoning can result in hemolytic anemia and kidney, liver, and spleen damage. Ingestion of large amounts may be fatal.

**AVOID DIRECT INHALATION OF FUMES DURING HEATING. AVOID INHALATION OR INGESTION OF DUST. DO NOT ALLOW DUST TO ACCUMULATE. MONITOR FUME LEVELS!**

**Read and understand the manufacturer's instructions and precautionary label on this product.**

See American National Standard Z49.1, Safety in Welding and Cutting, published by the "American Welding Society," 550 N.W. LeJeune Road, Miami, FL 33126 and OSHA Publication 2206 (29CFR 1910), U.S. Government Printing Office, Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954 for more detail on safe use of product.

#### **EMERGENCY AND FIRST AID PROCEDURES:**

**Swallowing:** Call a physician at once or your poison control center. Advise of Section II immediately. Drink large quantities of water - induce vomiting.

**Skin:** Promptly flush with water to remove all residue. If rash develops, consult a physician.

**Inhalation:** Terminate exposure and remove to fresh air. Call a physician immediately and advise of chemical composition (Section II).

**Eyes:** Flush with water for at least 15 minutes to remove all residue. Get medical help immediately.

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#### **CARCINOGENICITY**

**CADMIUM** - Cadmium is listed as being carcinogenic to humans on **IARC** and **NTP** lists, and is listed by **NIOSH** as being a potential occupational carcinogen (with no further categorization).

**WELDING FUMES** (not otherwise specified) are considered to be carcinogenic defined with no further categorization by **NIOSH** and **IARC**.

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#### **SECTION VII (STORAGE, HANDLING AND SPECIAL PRECAUTIONS)**

**Respiratory protection:** Use a NIOSH approved self contained breathing apparatus where dust, fumes or smoke exist that exceed exposure limit values. **MONITOR FUME LEVELS. DO NOT BREATHE FUMES!**

**Ventilation:** Maintain air flow away from the user to remove all fumes and vapors, so that the TLV is never exceeded. Adhere to environmental regulations for exhausts.

**Protective gloves:** Recommended.

**Eye protection:** Safety goggles for protection against dust/splash.

**Other protective equipment:** Full protective equipment normally used when used so as to prevent any contact.

Precautions to be taken in handling and storage: store at ambient conditions. Avoid wet or moist conditions. Wash thoroughly after handling to remove all residue.

**Other precautions:** Do NOT breathe fumes. Professionally wash contaminated clothing before re-use. Food and drink should not be consumed or tobacco products used, nor cosmetics applied in area where metal exposures are possible.

**Waste:** Dispose of any waste residues in closed containers. Be cognizant of potential FEDERAL, STATE, LOCAL, and OSHA regulations regarding cadmium. Vacuuming is strongly recommended for accumulated dust. Metal is recyclable. Conform to applicable regulations.

**SUPPLEMENTAL INFORMATION**

IARC: International Agency for the Research on Cancer

ACGIH: American Conference of Governmental Industrial Hygienists

NIOSH: National Institute for Occupational Safety and Health

NTP: National Toxicology Program

PEL: Permissible Exposure Limit

OSHA: U.S. Occupational Safety and Health Administration

TLV: Threshold Limit Value

CAS: Chemical Abstracts Service Registry Number

Exposure limits are subject to change. Contact ACGIH, OSHA, NIOSH, and IARC for current values.

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