



## 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 1: PRODUCT AND COMPANY IDENTIFICATION

**NAME OF PRODUCT:** EUTECROD 1800 / 1800 COIL  
**SYNONYMS:** Eutectic 1800  
**PRODUCT CODES:** 1800-05C-312G, 1800-08-2.27K, 1800-08C-227K, 1800-08C-454G, 1800-12-2.27K, 1800-16-227G, 1800-16-454G, 1800-24-2.27K, 1800-24-454G

**MANUFACTURER/  
SUPPLIER:** EUTECTIC CORPORATION  
N94 W14355 GARWIN MACE DRIVE  
MENOMONEE FALLS, WI 53051 USA

**TELEPHONE NUMBER** (262) 532-4677  
**FAX NUMBER:** (262) 255-5542  
**EUTECTIC WEBSITE:** [www.eutectic.com](http://www.eutectic.com)

**PRODUCT CLASSIFICATION:** Brazing Alloy / Rod and coil

### SECTION 2: HAZARDS IDENTIFICATION

**EMERGENCY OVERVIEW:** Odorless coated wire. Chemically stable and inert. Does not pose a fire hazard. **Non-Flammable:** Flames used for brazing can ignite combustibles. Refer to American National Standard Z49.1 for fire prevention during welding.

**HEALTH DANGER:** Toxic. Danger of serious damage to health by prolonged exposure through inhalation.

**ROUTES OF ENTRY:** Primary route of entry is the respiratory system when used. Other possible routes are eyes, ingestion, and/or skin contact.

#### POTENTIAL HEALTH EFFECTS:

**EYES:** Inert foreign body hazard only.  
**SKIN:** Prolonged contact may result in rashes/irritations due to drying of the skin and/or mechanical abrasion related to skin-to-clothing contact or skin-to-skin contact. May cause allergic skin reaction.  
**INGESTION:** No adverse health effects anticipated by this route during proper industrial handling.  
**INHALATION:** Exposure to dust may aggravate pre-existing respiratory conditions.

**ACUTE HEALTH HAZARDS:** see Section 11

**CHRONIC HEALTH HAZARDS:** see Section 11

**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.).

**WARNING:** avoid breathing welding fumes and gases; they may dangerous to your health. Always use adequate ventilation and use appropriate personal protection equipment.

#### CARCINOGENICITY

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

Brazing/welding vapours and fumes from brazing/welding may cause metal fumes fever. Symptoms can appear 4 to 12 hours after. (headache, dizziness, dryness, cough, nausea and fever).

May cause irritation by prolonged inhalation of brazing/welding fumes.

**Label elements**

**Precautionary Statements**

- P285 In case of inadequate ventilation wear respiratory protection.
- P314 Get medical advice/attention if you feel unwell.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P202 Do not handle until all safety precautions have been read and understood.
- P260 Do not breathe dust/fume/gas/mist/vapors/spray.
- P501 Dispose of contents/container to waste treatment facility in accordance with local and national regulations.

**GHS Label :** None

**CAUTION:**

Limited evidence of carcinogenic effect (welding fumes).  
May cause sensitization by skin contact  
Brazing/welding fumes and vapors may cause metal fume fever (headache, dizziness, dryness, cough, nausea, and fever) and these symptoms may appear 4-12 hours after exposure

**Additional advice on labeling**

As an article the product does not need to be labeled in accordance with EC-directives or respective national laws.

**SECTION 2 NOTES:** Before using this product, contact your doctor to determine if exposure to product or use of this product will aggravate your medical conditions.

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

**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 8. 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 #.

<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	0.01	40 – 70
Copper #	7440-50-8	0.1 (as fume)	0.2 (as fume)	15 – 40
Zinc #	7440-66-6	5 (as fume)	5 (as fume)	15 – 40
Tin	7440-31-5	2	2	3 – 7

**CAS / EINECS NUMBER / HAZARD CLASSIFICATION FOR ABOVE INGREDIENTS**

<u>INGREDIENTS</u>	<u>CAS NUMBER</u>	<u>EINECS NUMBER</u>	<u>Hazard Classification per ECD 67/548/EEC</u>
Silver #	7440-22-4	231-131-3	No
Copper #	7440-50-8	231-159-6	No
Zinc #	7440-66-6	231-175-3	No (Zn in solid article form, not powder form)
Tin	7440-31-5	231-141-8	No

**SECTION 3 NOTES:** Exposure limits are subject to change. Contact ACGIH and OSHA for current values. See Section 16 for European Council Directive 67/548/EEC R-phrases

#### **SECTION 4: FIRST AID MEASURES**

**EMERGENCY & FIRST AID PROCEDURES:** Call for medical aid. Employ first aid techniques recommended by The American Red Cross.

**EYES:** Flush with a large amount of fresh water for at least 15 minutes. Get medical attention.

**SKIN:** Wash affected area with soap and water to remove dust or particles. If rash develops, see a physician. Get medical attention for irritations that persist.

**INGESTION:** Seek medical attention.

**INHALATION:** Remove to fresh air. If breathing is difficult administer oxygen. If breathing has stopped, begin artificial respiration and obtain medical assistance immediately.

**GENERAL:** Move to fresh air and call for medical aid.

#### **SECTION 4 NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:**

When the brazing alloy is consumed, fume and gas decomposition products generated are different in percent and form from the ingredients listed in Section 3. Fume and decomposition products, not the ingredients in the rod, are important. Decomposition products include those originating from the volatilization, reaction, or oxidation of materials in Section 3, plus those from the base metal, etc., as noted above. These components are virtually always present as complex oxides and not as metals (Characterization of Arc Welding Fume: American Welding Society). Reasonably expected fume constituents of the fume could include complex oxides of copper, silver, and zinc

#### **SECTION 5: FIRE FIGHTING MEASURES**

**Non-Flammable:** Welding flames and sparks can ignite combustibles. Refer to American National Standard Z49.1 for fire prevention during welding. These products as shipped are non-hazardous, nonflammable, non-explosive, and non-reactive.

**FLAMMABLE LIMITS IN AIR (% by volume): UPPER: N/A LOWER:N/A**

**FLASH POINT:** N/A

**AUTOIGNITION TEMPERATURE:** N/A

#### **NFPA HAZARD CLASSIFICATION:**

Health: 1                      Flammability: 0                      Reactivity: 0                      Other:

#### **RATING UNDER NATIONAL FIRE PROTECTION 704:**

Health: 1                      Flammability: 0                      Reactivity: 0                      Protection:

**EXTINGUISHING MEDIA:** Use the extinguishing media recommended for the burning material and fire situation.

**SPECIAL FIRE FIGHTING PROCEDURES:** Wear self-contained breathing apparatus as fume or vapors may be harmful.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** None

**HAZARDOUS DECOMPOSITION PRODUCTS:** Reasonably expected fume constituents of the fume could include complex oxides of copper, silver, and zinc

**SECTION 5 NOTES:** None

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**ACCIDENTAL RELEASE MEASURES:** Solid objects may be picked up and placed in a container. Wear protective clothing and make sure that the solid objects are at room temperature before handling.

**PERSONAL PRECAUTIONS:** Gloves should be worn when handling to prevent cuts.

**ENVIRONMENTAL PRECAUTIONS:** Do not flush residue into waterways.

**SECTION 6 NOTES:** None

## SECTION 7: HANDLING AND STORAGE

**HANDLING:** Handle with care to avoid cuts and to keep the wire from piercing the skin. Wear gloves when handling welding consumables. Avoid exposure to dust and do not ingest. Some individuals can develop and allergic reaction to certain materials. Keep all warning labels and identification labels on the product.

**STORAGE:** Keep material sealed and dry before use and do not remove product identification label or warning label. After using, keep remaining product sealed and dry and do not remove product identification label or warning label.

**SECTION 7 NOTES:** None

## SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION



**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 the following:

**FLAMES and SPARKS** can injure eyes and burn skin. Wear correct hand, eye, head, and body protection.

**ENGINEERING CONTROLS:** Proper ventilation must be maintained.

**VENTILATION:** Use enough ventilation, local exhaust at the spray area, or both, to keep the fumes and gases below the TLV's in the workers breathing and the general area. Train the worker to keep his head out of the fumes. Monitor fume levels and do not exceed permissible exposure limits or values.

**RESPIRATORY PROTECTION:** Use respirable fume respirator or air supplied respirator when brazing in a confined space or where local exhaust or ventilation does not keep exposure below the TLV's.

**EYE PROTECTION:** Wear safety glasses with side shields, face shield, and/or goggles to protect against airborne dust.

**PROTECTIVE CLOTHING:** Wear gloves when using or prolonged contact with skin or repeated contact with skin is likely. Wear hand and body protection to prevent injury. See ANSI Z49.1 for further information.

**SKIN PROTECTION:** Individuals having sensitive skin may find it beneficial to use a barrier cream or moisturizer when excessive or prolonged contact with skin is likely.

**WORK HYGIENIC PRACTICES:** Do not eat or consume beverages in the work area.

**EXPOSURE GUIDELINES:** Use industrial hygiene monitoring equipment to ensure that exposure does not exceed applicable national exposure limits.

**OTHER PROTECTIVE EQUIPMENT:** Full protective equipment normally used in soldering / brazing operation so as to prevent any contact. Review operations to avoid contact with hazardous gas, liquid, or solid. See also:

29CFR 1910.132 - 29 CFR 1910.140 Personal Protective Equipment  
29 CFR 1910.251 - 29 CFR 1910.257 Welding, Cutting and Brazing

**EFFECTS OF OVEREXPOSURE** - brazing may create one or more of the following health hazards:

**FUMES AND GASES** can be dangerous to your health.

**PRIMARY ROUTES OF ENTRY** are the respiratory system. Other possible routes are eyes and/or skin contact.

**PREEXISTING** respiratory or allergic conditions may be aggravated in some individuals (i.e. asthma, emphysema).

Brazing fumes cannot be classified simply. The composition and quantity of both are dependent upon the metal being brazed, the process, procedure, and the product used. Other conditions which also influence the composition and quantity of the fumes and gases to which workers may be exposed include: coatings on the metal being brazed (such as paint, plating, or galvanizing), the volume of the work area, the quality and the amount of ventilation, position of the worker's head with respect to the fume plume, as well as the presence of contaminants in the atmosphere (such as chlorinated hydrocarbon vapors from cleaning and degreasing activities).

When the material is consumed, fume and gas decomposition products generated are different in percent and form from the ingredients listed in Section 3. Fume and decomposition products, not the ingredients in the product, are important. Decomposition products include those originating from the volatilization, reaction, or oxidation of materials in Section 3, plus those from the base metal and coating, etc., as noted above. These components are virtually always present as complex oxides and not as metals (Characterization of Arc Welding Fume: American Welding Society). Reasonably expected fume constituents of the fume could include: complex oxides of copper, silver, and zinc. The table below lists fumes that may be generated:

<u>SUBSTANCE</u>	<u>CAS NUMBER</u>	<u>Exposure Limit (mg/m<sup>3</sup>)</u>	
		<u>OSHA PEL</u>	<u>ACGIH-TLV</u>
Copper # (as Cu)	7440-50-8	0.1 (as fume)	0.2 (as fume)
Silver #	7440-22-4	0.01	0.1
Zinc Oxide fume #	1314-13-2	5	Not listed

Gaseous reaction products may include carbon monoxide and carbon dioxide. Monitor fume levels. One recommended way to determine the composition and quantity of fumes and gas to which workers are exposed is to take an air sample inside the welder's helmet if worn, or in the worker's breathing zone (see ANSI/AWS F1.1, F1.2, F1.3, F1.4, and F1.5, available from the "American Welding Society," 550 N.W. LeJeune Road, Miami, FL 33126).

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

**APPEARANCE:** Solid flux cored wire. No odor.

**ACTIVE TEMPERATURE RANGE:** 1145 °F – 1300 °F (620 °C – 710 °C)

**SECTION 9 NOTES:** None

## SECTION 10: STABILITY AND REACTIVITY

**GENERAL:** These items are only intended for normal welding / brazing purposes.

**STABILITY:** Stable under normal conditions.

**HAZARDOUS POLYMERIZATION:** Will not occur

**REACTIVITY:** Contact with chemical substances like acids or strong bases could cause generation of gas.

**HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:**

Gaseous reaction products may include carbon monoxide and carbon dioxide. Reasonably expected fume constituents of the fume could include complex oxides of copper, silver, and zinc.

Refer to applicable national exposure limits for the fume compounds. The employer should contact an occupational health professional for doing fume monitoring to determine fumes emitted and to ensure compliance to the applicable country limits.

**SECTION 10 NOTES:** Other country exposure limits may be different and the appropriate country standards should be used.

## SECTION 11: TOXICOLOGICAL INFORMATION

**EFFECTS OF OVEREXPOSURE** - welding and brazing may create one or more of the following health hazards:

**FUMES AND GASES** can be dangerous to your health.

**PRIMARY ROUTES OF ENTRY** are the respiratory system. Other possible routes are eyes, ingestion, and/or skin contact.

**PREEXISTING** respiratory or allergic conditions may be aggravated in some individuals (i.e. asthma, emphysema).

**SHORT TERM (ACUTE) OVEREXPOSURE:** 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). 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-** Individuals with Wilson's Disease are at increased risk of COPPER poisoning **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'. Copper poisoning can result in hemolytic anemia and kidney, liver, and spleen 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. Fumes 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. **TIN:** Exposure to fume can cause stannosis (a benign pneumoconiosis), shortness of breath, and respiratory tract infection.

**CHRONIC TOXICITY: LONG TERM (CHRONIC) OVEREXPOSURE** is believed by some investigators to affect pulmonary functions. Target organs are eyes, skin, and respiratory system. Excessive **ZINC** intake has been associated with copper deficiency anemia. Prolonged or excessive exposures may result in argyria, a permanent localized blue-grey discoloration of the eye, skin, or mucous membranes. Primary route of entry is the respiratory system. **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** 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. **SILVER:** Chronic exposure via inhalation may cause argyria.

**SECTION 11 NOTES:** Avoid direct inhalation of fumes during heating and use. Monitor fume levels.

## SECTION 12: ECOLOGICAL INFORMATION

**MATERIAL:** Welding consumables and materials can degrade into the components used to manufacture the product. Avoid exposure to conditions that could lead to accumulation in soils and groundwater.

**CONTAMINATED PACKAGING:** Empty containers should be taken for local recycling, recovery, or waste disposal. Metals may be recycled.

**SECTION 12 NOTES:** None.

**SECTION 13: DISPOSAL CONSIDERATION**

**WASTE DISPOSAL METHOD:** Dispose of any grinding dust and waste residues in accordance with EPA or local regulations. Plastic materials, cardboard, and wire can be re-cycled.

**U.S.A. RCRA:** Ingredients in this product may be considered “hazardous material” in other countries and they may require special disposal methods. Contact your local municipality for the proper disposal method.

Residues from welding consumables and processes could degrade and accumulate in groundwater.

**SECTION 13 NOTES:** None

**SECTION 14: TRANSPORTATION INFORMATION**

**DOMESTIC TRANSPORT REGULATIONS (USA):** DOT - not regulated.

**DOMESTIC TRANSPORT REGULATIONS (CANADA):** TDG - not regulated.

**DOMESTIC TRANSPORT REGULATIONS (MEXICO):** MEX - not regulated.

**INTERNATIONAL TRANSPORT REGULATIONS:**

ICAO – not regulated

IATA – not regulated

IMDG / IMO – not regulated

**OTHER AGENCIES:** No international regulations or restrictions are applicable.

**SECTION 14 NOTES:** Handle with care to avoid damaging the product and keep product dry. Do not remove product identification label or warning label.

**SECTION 15: REGULATORY INFORMATION**

**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 information. Before using this product, understand and your employer's safety practices.

**U.S. FEDERAL REGULATIONS:** Under the OSHA Hazard Communication Standard these products are considered as hazardous.

**U.S. EPA TSCA (TOXIC SUBSTANCE CONTROL ACT):** All constituents of these products are on the TSCA inventory list or are excluded from listing.

**CERCLA (COMPREHENSIVE RESPONSE COMPENSATION, AND LIABILITY ACT)/SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT):**

Reportable Quantities (RQ's) and/or Threshold Planning Quantities (TPQ's):

Ingredient name:	RQ (lb)	TPQ(lb)
Product is a solid solution in the form of a solid article	-	-

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center and to our Local Emergency Planning Committee.

**EPCRA/SARA TITLE III 313 TOXIC CHEMICALS:**

The following metallic components are listed as SARA 313 "TOXIC CHEMICALS" and are potentially subject to annual SARA 313 reporting. See Section 3 for percent and if the ingredient is present.

<u>INGREDIENT NAME</u>	<u>CAS NUMBER</u>	<u>DISCLOSURE THRESHOLD</u>
Chromium & chromium compounds	7440-47-3	1.0 % de minimis concentration
Chromium VI	Not listed	0.1 % de minimis concentration
Barium compounds	Not listed	1.0 % de minimis concentration
Cobalt	7440-48-4	0.1 % de minimis concentration
Copper	7440-50-8	1.0 % de minimis concentration
Manganese	7439-96-5	1.0 % de minimis concentration
Nickel	7440-02-0	0.1 % de minimis concentration
Aluminum (fume or dust)	7429-90-5	1.0 % de minimis concentration
Silver	7440-22-4	1.0 % de minimis concentration
Zinc	7440-66-6	1.0 % de minimis concentration

Package Labeling:

Additional advice on labeling

As a finished article the product does not need to be labeled in accordance with EC-directives or respective national laws.

**SECTION 15 NOTES:** International rules may vary and the appropriate regulations should be followed as defined by the country where the products are used.

**SECTION 16: OTHER INFORMATION**

This Safety Data Sheet has been revised due to modifications to several paragraphs.

Prepared by: Eutectic Corporation, USA

**SUPPLEMENTAL INFORMATION – DEFINITIONS:**

IARC: International Agency for the Research on Cancer  
 NIOSH: National Institute for Occupational Safety and Health  
 OSHA: U.S. Occupational Safety and Health Administration  
 ACGIH: American Conference of Governmental Industrial Hygienists  
 CAS: Chemical Abstracts Service Registry Number  
 EINECS: European Inventory of Existing Chemical Substances

PEL: Permissible Exposure Limit  
 NTP: National Toxicology Program  
 TLV: Threshold Limit Value  
 ECD: European Council Directive  
 GHS: Globally Harmonized System

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