# 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:** | **EUTRONIC ARC 520 AS** |
| **SYNONYMS:** | **Eutectic 520 AS** |
| **PRODUCT CODES:** | **520AS-16-11.34K, 520AS-20-15.88K, 520AS-20-22.7K** |
| **MANUFACTURER/ SUPPLIER:** | **EUTECTIC CORPORATION**<br>N94 W14355 GARWIN MACE DRIVE<br>MENOMONEE FALLS, WI 53051 USA |
| **TELEPHONE NUMBER** | (262) 532-4677 |
| **FAX NUMBER:** | (262) 255-5542 |
| **EUTECTIC WEBSITE:** | **www.eutectic.com** |
| **PRODUCT CLASSIFICATION:** | Arc Spray Wire |

## SECTION 2: HAZARDS IDENTIFICATION

**EMERGENCY OVERVIEW:** Welding wires are not normally considered hazardous as shipped or when handled. Gloves should be worn when handling to prevent cuts. Avoid inhalation of dust from these products. Skin contact may cause possible allergic reactions. Persons with a pacemaker should not go near welding or cutting operations until they have consulted their doctor and obtained information from the manufacturer of the pacemaker device. When this product is used in a welding process the most important hazards are: heat, radiation, electric shock, and welding fumes.

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

**POTENTIAL HEALTH EFFECTS:**

| | |
|---|---|
| **EYES:** | RADIATION: Arc rays from welding can injure eyes. HEAT and MOLTEN METAL can severely damage eyes. |
| **SKIN:** | HEAT: Spatter and molten metal can cause burn injuries<br>ELECTRICITY: **Electric shock can kill!**<br>RADIATION from the arc: Skin cancer has been reported. |
| **INGESTION:** | Not an expected route of entry, but if ingested product could cause serious injury. |
| **INHALATION:** | FUMES: Overexposure to welding fumes may result in symptoms like metal fume fever, dizziness, nausea, dryness of the nose, throat or eyes. |

**ACUTE HEALTH HAZARDS:** See Section 11
**CHRONIC HEALTH HAZARDS:** See Section 11
**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:** Nothing found.

***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.

Package Labeling:
Additional advice on labeling

Although this product does not require a hazard warning label in all countries, we recommend that the safety advice should be observed:

**SIGNAL WORD: WARNING**

**Pictograms: GHS07**

**Contains Zinc**

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

**PRECAUTIONARY STATEMENTS:**

**Hazard Statements:**

| | |
|---|---|
| H317 | May cause an allergic skin reaction |
| H351 | Suspected of causing cancer |
| H372 | Causes damage to organs through prolonged or repeated exposure |

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.

**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.

**ADDITIONAL LABELING INFORMATION**
As an article the product does not need to be labeled in accordance with EC-directives or respective national laws.
Metals in massive form, alloys, mixtures containing polymers and mixtures containing elastomers do not require a label according to this Annex (Annex I GHS), if they do not present a hazard to human health by inhalation, ingestion or contact with skin or to the aquatic environment in the form in which they are placed on the market, although classified as hazardous in accordance with the criteria of this Annex.

Instead, the supplier shall provide the information to downstream users or distributors by means of the SDS.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

**IMPORTANT:** This section covers the materials from which these products are manufactured. Any of 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 #.

**Exposure Limit ($mg/m^3$)**

| INGREDIENTS | CAS NUMBER | OSHA PEL | ACGIH-TLV | Percent Ingredients by Weight |
|---|---|---|---|---|
| Zinc # | 7440-66-6 | 5 | 2 | 99.98 minimum |

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

| INGREDIENTS | CAS NUMBER | EINECS NUMBER | Hazard Classification per ECD 67/548/EEC |
|---|---|---|---|
| Zinc # | 7440-66-6 | 231-175-3 | No (wire form) |

**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 and S-phrases if applicable.

## 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 to remove dusts or fumes. Get medical attention. For radiation burns due to arc flash, see physician.
**SKIN:** Wash affected area with soap and water to remove dust or particles. If rash develops, see a physician. For skin burns from arc radiation, promptly flush with cold water. Get medical attention for burns or 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.
**ELECTRIC SHOCK:** Disconnect and turn off the power. Use a nonconductive material to pull victim away from contact with live wire parts or wires. If breathing has stopped, begin artificial respiration and obtain medical assistance immediately. If no detectable pulse, begin Cardiopulmonary Resuscitation. (CPR) and immediately call for medical aid.

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

**SECTION 4 NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:**
When the wire 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 wire, 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). See Section 11.

## SECTION 5: FIRE FIGHTING MEASURES

**Non-Flammable**: Welding arc 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.

**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. Do not use halogenated extinguishing agents on small chips or fines. Dust clouds may be explosive.

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

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Small chips and dust may readily ignite.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Reasonably expected fume constituents of the fume could include complex oxides of 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.**
Always use adequate ventilation and wear appropriate personal protection. Do not breathe welding fumes and gases; they are dangerous to your health.
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:

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

**ARC RAYS** and **SPARKS** can injure eyes and burn skin. **ELECTRIC SHOCK** can kill! Wear correct hand, eye, head, and body protection.

**VENTILATION**: Use enough ventilation, local exhaust at the arc, or both, to keep the fumes and gases below the TLV's in the workers breathing zone and the general area. Train the welder to keep their 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 welding in a confined space or where local exhaust or ventilation does not keep exposure below the TLV's.
**EYE PROTECTION**: Wear a helmet or face shield with a filter lens of shade 12 or darker. Provide screens and flash goggles to shield others.
**PROTECTIVE CLOTHING**: Wear head, hand, and body protection which help to prevent injury from radiation, sparks, and electrical shock. See ANSI Z49.1. At a minimum, this includes welders' gloves and a protective face shield and may include arm protectors, aprons, hats, shoulder protection, as well as dark substantial clothing. Train the welder not to touch live electrical parts and to insulate themselves from work and ground, especially if clothing and gloves are wet.
**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. When the wire is consumed, fume and gas decomposition products generated are different in percent and form from the ingredients listed in Section 3. The fume and decomposition products, not the ingredients in the wire, 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 zinc. The following limits can be used as guidance. Refer to Section 11 for more information about welding fumes.

| | | Exposure Limit ($mg/m^3$) | |
|---|---|---|---|
| **SUBSTANCE** | **CAS NUMBER** | **OSHA PEL** | **ACGIH-TLV** |
| Zinc oxide # (fume) | 1314-13-2 | 5 | Not listed |
| Nitric Oxide | 10102-43-9 | 30 | 31 |

**SECTION 8 NOTES**: In other countries the exposure limits listed above may be different and the appropriate country exposure limits should be used.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

**APPEARANCE:** Solid appearance, non volatile, wire. No odor. Not soluble in water.

**MELTING POINT:** > 1800 °F (> 1000 °C)

**SECTION 9 NOTES:** None

## SECTION 10: STABILITY AND REACTIVITY

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

**STABILITY**: Stable under normal conditions.

**HAZARDOUS POLYMERIZATION:** Will not occur.

**MATERIALS TO AVOID**: Reactive with oxidizing agents, acids alkalis. Zinc + NaOH causes ignition. Contact with acids and alkali hydroxides (sodium hydroxide, potassium hydroxide, calcium hydroxide, etc). Avoid exposure of product to excess heat, incompatible materials, and moisture.

**HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:** Metallic oxides.

**SECTION 10 NOTES**: None

## SECTION 11: TOXICOLOGICAL INFORMATION

**Threshold Limit Value**: The **ACGIH** recommended general limit for welding fume NOS (not otherwise specified) is 5 mg/m³. The **ACGIH 1999** preface states: "The **TLV-TWA** should be used as guides in the control of health hazards and should not be used as firm lines between safe and dangerous concentrations." See Section 8 for specific fume constituents that may modify the **TLV**.

**SHORT TERM (ACUTE) OVEREXPOSURE** to welding fumes may result in discomfort such as metal fume fever, dizziness, nausea, or dryness or irritation of nose, throat, or eyes and exposure to zinc fume may leave a metallic taste in the mouth. **PRIMARY ROUTE OF ENTRY** is the respiratory system. **INHALATION** may cause respiratory tract and mucous membrane irritation. Symptoms include nasal discharge and nosebleeds, coughing, sore throat and labored breathing. 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. **Zinc** fumes generated may produce fumes that cause metal fume fever and benign transient flu-like symptoms. Contact with the skin may cause irritation. Dermal exposure to zinc may produce leg pains, fatigue, anorexia and weight loss.

**LONG TERM (CHRONIC) OVEREXPOSURE:** ZINC – Severe and prolonged over exposure may cause pulmonary edema and pneumonia. Chromosomal anomalies in leukocytes have been reported. Arthritic, lameness, and inflammation of the gastrointestinal tract have been reported from animal studies. **PRIMARY ROUTE OF ENTRY** is the respiratory system.

**SECTION 11 NOTES:** See Section 2 for any carcinogenic effects.

## 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**: Some unused 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. Keep product dry and in original labeled container.

## 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.

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 if the ingredient is present and for percent.

| INGREDIENT NAME | CAS NUMBER | DISCLOSURE THRESHOLD |
|---|---|---|
| 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 |

## SECTION 16: OTHER INFORMATION

This Safety Data Sheet has been revised due to modifications to several paragraphs and/or new format.
**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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