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# SDS

## SAFETY DATA SHEET

Data Reviewed: 5/26/2016 SDS No.: #126  
**AWS A5.20 E71T-GS FLUX CORED WIRE**

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: **AWS A5.20 E71T-GS FLUX CORED WIRE**

Product Size: **(.030) 0.8MM, (.035) 0.9MM**

Product codes : **HB6200, HB6201, HB6202 ,HB6203**

SDS number: **#126**

Recommended use and restriction on use

Recommended use: **FCAW-S (Self-Shielded Flux Cored Arc Welding)**

Restrictions on use: **Not known.**

#### Read this SDS before using this product

Details of the supplier of the safety data sheet

Manufactured for:

**BHG Import Exports Inc**

715 N Central Ave. Suite 213.

Glendale CA 91203 United States

Information department:

**Product safety department**

Emergency telephone number:

**24 Hrs Emergency Contact:** CHEMTREC **628320**

FOR USA AND CANADA: **1-800 424- 9300**

OUTSIDE USA AND CANADA: **+1 703 -527- 3887.**

### 2. HAZARDS IDENTIFICATION

Classified according to the criteria of the Globally Harmonized System of Classification and Labeling of Chemicals (GHS), OSHA Hazard Communication Standard (29 CFR 1910.1200) and the Canadian Controlled Products Regulations.

**Hazard Classification** Not classified as hazardous according to applicable GHS hazard classification criteria.

#### Label Elements

**Hazard Symbol:** No symbol

**Signal Word:** No signal word.

**Hazard Statement** Not applicable

**Precautionary Statement** Not applicable

**Other hazards which do not result in GHS classification:**

Electrical Shock can kill. If welding must be performed in damp locations or with wet clothing, on metal structures or when in cramped positions such as sitting, kneeling or lying, or if there is a high risk of unavoidable or accidental contact with work piece, use the following equipment:

Semiautomatic DC Welder, DC Manual (Stick) Welder, or AC Welder with Reduced Voltage Control.

Arc rays can injure eyes and burn skin. Welding arc and sparks can ignite combustibles and flammable materials. Overexposure to welding fumes and gases can be hazardous. Read and understand the manufacturer's instructions, Safety Data Sheets and the precautionary labels before using this product. Refer to Section 8.

**Substance(s) formed under the conditions of use:**

The welding fume produced from this welding electrode may contain the following constituent(s) and/or their complex metallic oxides as well as solid particles or other constituents from the consumables, base metal, or base metal coating not listed below:

| Chemical Identity                    | CAS-No.    |
|--------------------------------------|------------|
| Carbon dioxide                       | 124-38-9   |
| Carbon monoxide                      | 630-08-0   |
| Nitrogen dioxide                     | 10102-44-0 |
| Ozone                                | 10028-15-6 |
| Manganese                            | 7439-96-5  |
| Barium and soluble compounds (as Ba) | 7440-39-3  |
| Fluorides (as F)                     | 16984-48-8 |

**3 COMPOSITION / INFORMATION ON INGREDIENTS****Reportable Hazardous Ingredients**

| Chemical Identity               | CAS number  | Content in percent* (%) |
|---------------------------------|-------------|-------------------------|
| Iron                            | 7439-89-6   | 60 - 100%               |
| Barium fluoride                 | 7787-32-8   | 3 - 7%                  |
| Aluminum and/or aluminum alloys | (7429)-90-5 | 1 - 5%                  |
| Portland cement                 | 65997-15-1  | 0.5 - 1.5%              |
| Magnesium                       | 7439-95-4   | 0.5 - 1.5%              |
| Manganese                       | 7439-96-5   | 0.5 - 1.5%              |
| Lithium fluoride                | 7789-24-4   | 0.1 - 1%                |
| Potassium fluorosilicate        | 16871-90-2  | 0.1 - 1%                |
| Silicon                         | 7440-21-3   | 0.1 - 1%                |

All concentrations are percent by weight unless ingredient is a gas.

Gas concentrations are in percent by volume.

**Composition Comments:**

The term "Hazardous Ingredients" should be interpreted as a term defined in Hazard Communication standards and does not necessarily imply the existence of a welding hazard. The product may contain additional non-hazardous ingredients or may form additional compounds under the condition of use. Refer to Sections 2 and 8 for more information.

**4. FIRST AID MEASURES**

**Ingestion:** Unlikely due to form of product, except for granular materials. Avoid hand, clothing, food, and drink contact with metal fume or powder which can cause ingestion of particulate during hand to mouth activities such as drinking, eating, smoking, etc. If ingested, do not induce vomiting. Contact a poison control center. Unless the poison control center advises otherwise, wash out mouth thoroughly with water. If symptoms develop, seek medical attention at once.

**Inhalation:**

Move to fresh air if breathing is difficult. If breathing has stopped, perform artificial respiration and obtain medical assistance at once.

**Skin Contact:**

Remove contaminated clothing and wash the skin thoroughly with soap and water. For reddened or blistered skin, or thermal burns, obtain medical assistance at once.

**Eye contact:**

Dust or fume from this product should be flushed from the eyes with copious amounts of clean, tepid water until transported to an emergency medical facility. Do not allow victim to rub or keep eyes tightly closed. Obtain medical assistance at once.

Arc rays can injure eyes. If exposed to arc rays, move victim to dark room, remove contact lenses as necessary for treatment, cover eyes with a padded dressing and rest. Obtain medical assistance if symptoms persist.

**Most important symptoms/effects, acute and delayed Symptoms:**

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. May aggravate pre-existing respiratory problems (e.g. asthma, emphysema).

Long-term (chronic) overexposure to welding fumes can lead to siderosis (iron deposits in lung), central nervous system effects, bronchitis and other pulmonary effects. Refer to Section 11 for more information.

**Hazards:**

Welding hazards are complex and may include physical and health hazards such as but not limited to electric shock, physical strains, radiation burns (eye flash), thermal burns due to hot

metal or spatter and potential health effects of overexposure to welding fume or dust. Refer to Section 11 for more information.

**Indication of immediate medical attention and special treatment needed**

**Treatment:** Treat symptomatically.

**5. FIRE-FIGHTING MEASURES****General Fire Hazards:**

As shipped, this product is nonflammable. However, welding arc and sparks can ignite combustibles and flammable products. Read and understand American National Standard Z49.1, "Safety In Welding, Cutting and Allied Processes" and National Fire Protection Association NFPA 51B, "Standard for Fire Prevention During Welding, Cutting and Other Hot Work" before using this product.

**Suitable (and unsuitable) extinguishing media****Suitable extinguishing media:**

As shipped, the product will not burn. In case of fire in the surroundings: use appropriate extinguishing agent.

**Unsuitable extinguishing media:**

None known.

**Specific hazards arising from the chemical:**

Welding arc and sparks can ignite combustibles and flammable products.

**Special protective equipment and precautions for firefighters****Special fire fighting procedures:**

Use standard firefighting procedures and consider the hazards of other involved materials.

**Special protective equipment for fire-fighters:**

Selection of respiratory protection for fire fighting: follow the general fire precautions indicated in the workplace. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures**

If airborne dust and/or fume is present, use adequate engineering controls and, if needed, personal protection to prevent overexposure. Refer to recommendations in Section 8.

**Methods and material for containment and cleaning up**

Clean up spills immediately, observing precautions in the personal protective equipment in Section 8. Avoid generating dust. Prevent product from entering any drains, sewers or water sources. Refer to Section 13 for proper disposal.

**Environmental Precautions:**

Avoid release to the environment. Prevent further leakage or spillage if safe to do so.

**7. HANDLING AND STORAGE****Precautions for safe handling:**

Keep formation of airborne dusts to a minimum. Provide appropriate exhaust ventilation at places where dust is formed.

Read and understand the manufacturer's instruction and the precautionary label on the product. See American National Standard Z49.1, "Safety In Welding, Cutting and Allied Processes" published by the American Welding Society, <http://pubs.aws.org> and OSHA Publication 2206 (29CFR1910), U.S. Government Printing Office, [www.gpo.gov](http://www.gpo.gov).

**Conditions for safe storage,including any incompatibilities:**

Store in closed original container in a dry place. Store away from incompatible materials.

Store in accordance with local/regional/national regulations.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Effects of overexposure** — Electric arc welding may create one or more of the following health hazards:

**ARC RAYS** can injure eyes and burn skin.

**ELECTRIC SHOCK** can kill. See Section 7.

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

**PRIMARY ROUTES OF ENTRY** are the respiratory system, eyes and/or skin.

**Short-term (acute) overexposure effects**

**Welding Fumes-** May result in discomfort such as dizziness, nausea or dryness or irritation of the nose, throat or eyes.

**Iron, Iron Oxide-** None are known. Treat as a nuisance dust or fume.

**Manganese-** Metal fume fever characterized by chills, fever, upset stomach, vomiting, irritation of throat and aching of body.

**Fluorides-** Fluoride compounds evolved may cause skin and eye burns, pulmonary edema and bronchitis.

**Nickel, Nickel Compounds-** Metallic taste, nausea, tightness in chest, fever, allergic reactions.

**Chromium-** Inhalation of fume with chromium VI compounds can cause irritation of the respiratory system, lung damage

and asthma-like symptoms. Swallowing chromium VI salts can cause severe injury or death. Dust on the skin can form ulcers.

Eyes may be burned by chromium VI compounds. Allergic reactions are likely in some people from chromium compounds.

**Copper-** Metal fume fever can be caused by fresh copper oxide.

**Barium-** Aching eyes, rhinitis, frontal headache, wheezing, laryngeal spasms, salivation or anorexia.

**Silica-** None are known. Treat as a nuisances dust or fume.

**Molybdenum-** None are known. Treat as a nuisances dust or fume. **Titanium**

**Dioxide-** None are known. Treat as a nuisances dust or fume.

**Aluminum, Aluminum Oxide-** None are known. Treat as a nuisances dust or fume.

**Magnesium, Magnesium Oxide-** None are known. Treat as a nuisances dust or fume.

#### **Long term (chronic) overexposure effects**

**Welding Fume-** Excess levels may cause bronchial asthma, lung fibrosis, pneumoconiosis, or 'siderosis'.

**Iron, Iron Oxide-** Siderosis or deposits of iron in lungs which is believed to affect pulmonary function. Lungs will clear in time when exposure to iron fumes and its compounds ceases. Iron and magnetite<sup>(Fe)</sup> are not regarded as fibrogenic materials.

**Manganese-** Central nervous system effects referred to as 'manganism'. Symptoms include muscular weakness and tremors. Behavioral changes and changes in handwriting may also appear. Employees overexposed to manganese should receive quarterly medical examinations for early detection of manganism.

**Fluorides-** Serious bone erosion (Osteoporosis) and mottling of teeth.

**Nickel, Nickel Compounds-** Lung fibrosis or pneumoconiosis. Studies of nickel refinery workers indicated a higher incidence of lung and nasal cancers.

**Chromium-** Ulceration and perforation of the nasal septum. Respiratory irritation may occur with symptoms resembling asthma. Studies have shown that chromate production workers exposed to chromium VI compound have an excess of lung cancers. Chromium VI compounds are more readily absorbed through the skin than chromium III compounds. Good practice requires the reduction of employee exposure to chromium III and VI compounds.

**Copper-** No adverse long-term health effects have been reported in the literature.

**Barium-** Exposure to soluble barium compounds may cause nervous disorders and may have deleterious effects on the heart, circulatory and muscular system.

**Silica-** Treat as nuisance dust. Little adverse effect on lungs. Does not produce significant organic disease or toxic effect when exposures are kept under reasonable control.

**Molybdenum-** Treat as a nuisance dust. Little adverse effect on lungs. Does not produce significant organic disease or toxic effect when exposures are kept under reasonable control.

**Aluminum, Aluminum Oxide-** Treat as a nuisance dust. Little adverse effect on lungs. Does not produce significant organic disease or toxic effect when exposures are kept under reasonable control.

**Magnesium, Magnesium Oxide-** Treat as a nuisance dust. Little adverse effect on lungs. Does not produce significant organic disease or toxic effect when exposures are kept under reasonable control.

#### **Emergency and First Aid Procedures**

Call for medical aid. Employ first aid techniques recommended by the American Red Cross. Eyes and Skin: If irritation or flash burns develop after exposure, consult a physician.

#### **Carcinogenicity**

Hexavalent chromium compounds are listed as known human carcinogens by IARC and NTP.

Nickel compounds are listed as known human carcinogens by IARC. Nickel and certain nickel compounds are reasonably anticipated to be human carcinogens by NTP.

Welding fumes are listed as possibly carcinogenic to humans by IARC.

#### **California Proposition 65**

These products contain or produce chemicals known to the State of California to cause reproductive toxicity and cancer.

(California Health and Safety Code, Section 25249.5 et seq.)

#### **9. PHYSICAL AND CHEMICAL PROPERTIES**

|                        |                    |
|------------------------|--------------------|
| <b>Appearance:</b>     | Cored welding wire |
| <b>Physical state:</b> | Solid              |
| <b>Form:</b>           | Solid              |
| <b>Color:</b>          | No data available. |
| <b>Odor:</b>           | No data available. |
| <b>Odor threshold:</b> | No data available. |
| <b>pH:</b>             | Not applicable     |

**Melting point/freezing point:** No data available.

**Initial boiling point and boiling range:** No data available.

**Flash Point:** Not applicable

**Evaporation rate:** Not applicable

**Flammability (solid, gas):**

**Upper/lower limit on flammability or explosive limits**

**Flammability limit - upper (%):** No data available.

**Flammability limit - lower (%):** No data available.

**Explosive limit - upper (%):** No data available.

**Explosive limit - lower (%):** No data available.

**Vapor pressure:** Not applicable

**Vapor density:** Not applicable

**Relative density:** No data available.

**Relative density:** No data available.

**Solubility(ies)**

**Solubility in water:** No data available.

**Solubility (other):** No data available.

**Partition coefficient (n-octanol/water):** No data available.

**Auto-ignition temperature:** No data available.

**Decomposition temperature:** No data available.

**Viscosity:** Not applicable

## 10. STABILITY AND REACTIVITY

**Reactivity:**

The product is non-reactive under normal conditions of use, storage and transport.

**Chemical Stability:**

Material is stable under normal conditions.

**Possibility of Hazardous Reactions:** No data available.

**Conditions to Avoid:** Avoid heat or contamination.

**Incompatible Materials:** Strong oxidizing substances. Strong acids. Strong bases.

**Hazardous Decomposition Products:**

Welding fumes and gases cannot be classified simply. The composition and quantity of both are dependent upon the metal being welded, the process, procedure and electrodes 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 welded (such as paint, plating, or galvanizing), the number of welders and the volume of the worker area, the quality and amount of ventilation, the position of the welder'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 electrode is consumed, the fume and gas decomposition products generated are different in percent and form from the ingredients listed in Section 3. Decomposition products of normal operation include

those originating from the volatilization, reaction, or oxidation of the materials shown in Section 3, plus those from the base metal and coating, etc., as noted above. Reasonably expected fume constituents produced during arc welding include the oxides of iron, manganese and other metals present in the welding consumable or base metal. Hexavalent chromium compounds may be in the welding fume of consumables or base metals which contain chromium. Gaseous and particulate fluoride may be in the welding fume of consumables which contain fluoride. Gaseous reaction products may include carbon monoxide and carbon dioxide. Ozone and nitrogen oxides may be formed by the radiation from the arc.

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

**Ingestion:** Health injuries from ingestion are not known or expected under normal use.

**Inhalation:** Potential chronic health hazards related to the use of welding consumables are most applicable to the inhalation route of exposure. Refer to Inhalation statements in Section 11.

**Skin Contact:** Arc rays can burn skin. Skin cancer has been reported.

**Eye contact:** Arc rays can injure eyes.

### Symptoms related to the physical, chemical and toxicological characteristics

#### Inhalation:

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. May aggravate pre-existing respiratory problems (e.g. asthma, emphysema). Long-term (chronic) overexposure to welding fumes can lead to siderosis (iron deposits in lung), central nervous system effects, bronchitis and other pulmonary effects.

#### Information on toxicological effects

##### Acute toxicity (list all possible routes of exposure)

###### Oral

**Product:** Not classified

###### Specified substance(s):

Iron: LD 50 (Rat): 98.6 g/kg

Barium fluoride: LD 50 (Rat): 250 mg/kg

Lithium fluoride : LD 50 (Rat): 143 mg/kg

Potassium fluorosilicate: LD 50 (Rat): 114 mg/kg

###### Dermal

**Product:** Not classified

###### Inhalation

**Product:** Not classified

###### Specified substance(s):

Aluminum and/or      LC 50 (Rat, 1 h): 7.6 mg/l  
aluminum alloys (as Al)

Potassium fluorosilicate      LC 50 (Rat, 4 h): 2.021 mg/l

**Repeated Dose Toxicity Product:** Not classified

**Skin Corrosion/Irritation Product:** Not classified

**Serious Eye Damage/Eye Irritation Product:** Not classified

**Respiratory or Skin Sensitization Product:**

**Carcinogenicity** Not classified

**Product:** Arc rays: Skin cancer has been reported.

**IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:**

No carcinogenic components identified

**US. National Toxicology Program (NTP) Report on Carcinogens:**

No carcinogenic components identified

**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):**

No carcinogenic components identified

**Germ Cell Mutagenicity**

**In vitro**

**Product:** Not classified

**In vivo Product:** Not classified

**Reproductive Toxicity Product:** Not classified

**Specific Target Organ Toxicity - Single Exposure**

**Product:** Not classified

**Specific Target Organ Toxicity - Repeated Exposure**

**Product:** Not classified

**Aspiration Hazard Product:** Not classified

**Other Effects:**

Organic polymers may be used in the manufacture of various welding consumables.

Overexposure to their decomposition byproducts may result in a condition known as polymer fume fever. Polymer fume fever usually occurs within 4 to 8 hours of exposure with the presentation of flu like symptoms, including mild pulmonary irritation with or without an increase in body temperature. Signs of exposure can include an increase in white blood cell count. Resolution of symptoms typically occurs quickly, usually not lasting longer than 48 hours.

**Symptoms related to the physical, chemical and toxicological characteristics under the condition of use**

**Inhalation:**

**Specified substance(s):**

Manganese Overexposure to manganese fumes may affect the brain and central nervous system, resulting in poor coordination, difficulty speaking, and arm or leg tremor. This condition can be irreversible.

Barium and soluble compounds (as Ba)

Overexposure to soluble barium compounds may cause severe stomach

pain, slow pulse rate, irregular heartbeat, convulsions, and muscle spasms.

**Additional toxicological Information under the conditions of use:****Acute toxicity****Oral****Specified substance(s):**

|                                      |                          |
|--------------------------------------|--------------------------|
| Barium and soluble compounds (as Ba) | LD 50 (Rat): 630 mg/kg   |
| Fluorides (as F)                     | LD 50 (Rat): 4,250 mg/kg |
|                                      | LD 50 (Rat): 4,250 mg/kg |

**Inhalation****Specified substance(s):**

|                  |                                 |
|------------------|---------------------------------|
| Carbon dioxide   | LC Lo (Human, 5 min): 90000 ppm |
| Carbon monoxide  | LC 50 (Rat, 4 h): 1,300 mg/l    |
| Nitrogen dioxide | LC 50 (Rat, 4 h): 88 ppm        |
| Ozone            | LC Lo (Human, 30 min): 50 ppm   |

**Other Effects:****Specified substance(s):**

|                                      |                                  |
|--------------------------------------|----------------------------------|
| Barium and soluble compounds (as Ba) | Muscles Gastro-intestinal system |
|--------------------------------------|----------------------------------|

**12. ECOLOGICAL INFORMATION****Ecotoxicity Acute hazards to the aquatic environment:****Fish**

**Product:** Not classified.

**Specified substance(s):**

|  |  |
|--|--|
| Aluminum and/or aluminum alloys (as Al)  |  |
| LC 50 (Grass carp, white amur (Ctenopharyngodon idella), 96 h): 0.21 - 0.31 mg/l |  |

**Aquatic Invertebrates Product:** Not classified.

**Specified substance(s):**

|           |  |
|-----------|--|
| Manganese | EC50 (Water flea (Daphnia magna), 48 h): 40 mg/l |
|-----------|--|

**Chronic hazards to the aquatic environment:****Fish**

**Product:** Not classified.

**Aquatic Invertebrates Product:** Not classified.

**Toxicity to Aquatic Plants Product:** Not classified.

**Persistence and Degradability****Biodegradation**

**Product:** No data available.

**Bioaccumulative Potential****Bioconcentration Factor (BCF)**

**Product:** No data available.

**Mobility in Soil:** No data available.

**Other Adverse Effects:** Harmful to aquatic organisms.

### 13. DISPOSAL CONSIDERATIONS

**General information:**

The generation of waste should be avoided or minimized whenever possible. When practical, recycle in an environmentally acceptable, regulatory compliant manner. Dispose of non-recyclable products in accordance with all applicable Federal, State, Provincial, and Local requirements.

**Disposal Instructions:**

Discharge, treatment, or disposal may be subject to national, state, or local laws.

### 14. TRANSPORT INFORMATION

Proper Shipping Name: NOT DG REGULATED

Transport Hazard Class(es)

Class: NR

Label(s): –

Packing Group: –

Marine Pollutant: Not regulated.

Special precautions for user: –

Passenger and cargo aircraft: Allowed.

Cargo aircraft only: Allowed.

### 15. REGULATORY INFORMATION

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

None present or none present in regulated quantities.

**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

None present or none present in regulated quantities.

### 16. OTHER INFORMATION

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

**Revision Date: 2016-5-26**