MATERIAL SAFETY DATA SHEET

This Material Safety Data Sheet (MSDS) complies with the requirements of OSHA's Hazard Communication Standard.

E71T-GS FLUX-CORED WELDING WIRE

Laser Weld	Emergency Phone Number: 1-866-272-4378
Date: May 01, 2011	Product Information Number: 575-874-9188

SECTION 1 – PRODUCT IDENTIFICATION

Product Name/Class	AWS A5.20, E71T-GS Self-Shielded, Flux-Cored Welding Wire
Product Number	E71T-GS
Manufacturer	Archer Company USA, Inc. 1665 Futurity Dr. Sunland Park, NM 88063

SECTION 2 – HAZARDOUS INGREDIENTS

The term "Hazardous Materials" should be interpreted as a term required and defined in OSHA Hazard Communication Standard (29 CFR Part 1910.1200).
The following chemicals are subject to reporting under Title III of the Super Fund Amendments and Reauthorization Act (SARA) of 1986: aluminum (fume or dust) and compounds of barium, and manganese.

Ingredients	CAS Number	Exposure Limits		%
		TLV	PEL	
Iron	7439-89-6	Not Reported	Not Reported	85-90
Manganese	7439-96-5	5	1	<2
Silicon	7440-21-3	10	5	<2
Fluorspar	14542-23-5	2.5 (as F)	2.5 (as F)	1-10
Aluminum	7429-90-5	10	Nothing Found	<5
Magnesium	7439-95-4	Not Reported	Not Reported	<2
Barium Fluoride	7787-32-8	0.5 (as Ba)	0.5 (as Ba)	<5

SECTION 3 – PHYSICAL CHARACTERISTICS

Boiling Point: N/A	Specific Gravity (H_2O = 1): N/A	Solubility in Water: N/A
Vapor Pressure (mm Hg): N/A	Melting Point: N/A	%Volatile: N/A
Vapor Density (Air = 1): N/A	Evaporation Rate (Butyl Acetate=1): N/A	Appearance and Odor: N/A

SECTION 4 – FIRE and EXPLOSION HAZARD DATA

Flash Point (Method Used): N/A	Flammable Limits:	LEL: N/A
		UEL: N/A

Extinguishing Media: N/A

Special Fire Fighting Procedures: Non Flammable. Welding arc and sparks can ignite combustibles and flammables. Refer to American National Standard Z49.1 for fire prevention during the use of welding and allied procedures.

Unusual Fire and Explosion Hazards: N/A

SECTION 5 – REACTIVITY DATA

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, procedures, 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 work 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 2. Decomposition products of normal operation include those originating from the volatilization, reaction, or oxidation of the materials shown in Section 2, plus those from the base metal and coating, etc., as noted above. It is understood, however, that the elements and/or oxides to be mentioned are virtually always present as complex oxides and not as metals. (Characterization of Arc Welding Fume: American Welding Society). The elements or oxides listed below correspond to the ACGIH categories located in (TLV Threshold Limit Values for Chemical Substances and Physical Agents in the Workroom Environment). Reasonably expected constituents of the fume would include: complex oxides of iron, manganese, silicon, aluminum, magnesium, calcium, and barium. Fluorides will also be present.

Stability	Unstable □	Conditions to Avoid: Avoid breathing fumes created by the welding process.
	Stable ■	

Incompatibility (Materials to Avoid): Avoid welding on painted, galvanized or plated surfaces.

Hazardous Decomposition or Byproducts: Gaseous reaction products may include carbon monoxide and carbon dioxide. Ozone and nitrogen oxides may be formed by the radiation from the arc. One recommended way to determine the composition and quantity of fumes and gases 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, available from the "American Welding Society," P.O. Box 351040, Miami, FL 33135. Also, from AWS is F1.3 "Evaluating Contaminants in the Welding Environment – A Sampling Strategy Guide", which gives additional advice on sampling). At a minimum, materials listed in this section should be analyzed.

Hazardous Polymerization	May Occur □	Conditions to Avoid: N/A
	Will Not Occur ■	

SECTION 6 – HEALTH HAZARD DATA

Threshold Limit Value: The exposure level for welding fume has been established at 5 mg/m^3 with OSHA's PEL and ACGIH's TLV. TLV-TWAs should be used as a guide in the control of health hazards and not as fine lines between safe and excessive concentrations. Effects of Overexposure: Electric arc welding 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, eyes and/or skin. Short-Term (Acute) Overexposure to welding fumes may result in discomfort such as dizziness, nausea, or dryness or irritation of nose, throat or eyes. Manganese – Manganese Dioxide (MnO_2) Remove from overexposure and apply artificial respiration, if needed. Wash eyes or skin with water to remove dusts. Fluoride – Fluoride compounds evolved may cause skin and eye burns; pulmonary edema bronchitis. Long-Term (Chronic) Overexposure may lead to siderosis (iron deposits in lungs) and is believed by some investigators to affect pulmonary functions. Manganese – Manganese Dioxide (MnO_2) Long term overexposure to manganese compounds may affect the central nervous system. Symptoms include muscular weakness, tremors similar to Parkinson's disease. Behavioral changes and changes in handwriting may also appear. Employees overexposed to manganese compounds should get quarterly examinations for early detection of manganism. Fluoride – Repeated overexposure to fluorides can cause serious bone erosion although the effect is minimized in combination with iron. Arc Rays can injure eyes and burn skin. Electric Shock can kill. Emergency and First Aid Procedures Call for medical aid. Employ first aid techniques recommended by the American Red Cross. Eyes & Skin: If irritation or flash burns develop after exposure, consult a physician. Carcinogenicity: The composition of welding fumes may contain carcinogens, depending on several factors that are unknown and unknowable to the product manufacturer (see Section 5). Always assume that welding fumes may contain toxic and/or carcinogenic materials, and follow sound Work/Hygenic practices as recommended by ANSI Z49.1.

HMIS Rating	HMIS Scale	NFPA Rating	NFPA Scale
Health = 2 Flammability = 0 Reactivity = 0	4 = Severe Hazard 3 = Serious Hazard 2 = Moderate Hazard 1 = Slight Hazard 0 = Minimal Hazard	Health = 1 Flammability = 0 Reactivity = 0 Other = N/A	4 = Severe Hazard 3 = Serious Hazard 2 = Moderate Hazard 1 = Slight Hazard 0 = Minimal Hazard

SECTION 7 – PRECAUTIONS for SAFE HANDLING and USE

Read and understand the manufacturer's instructions and precautionary label on the product. See American National Standard Z49.1, "Safety in Welding and Cutting", published by the American Welding Society, P.O. Box 351040, Miami, FL 33135 and OSHA Publication 2206 (29CFR1910), U.S. Government Printing Office, Washington, D.C. 20402 for more details on many of the following:

Steps to Be Taken in Case Material Is Released or Spilled: Product is non-hazardous. No special precautions are required for spills of bulk material. Scrap metal can be reclaimed for reuse. Follow federal, state, and local regulations regarding disposal.

Waste Disposal Method: Discard any product, residue, disposable container or liner in an environmentally acceptable manner, in full compliance with federal, state and local regulations.

SECTION 8 – CONTROL MEASURES

Respiratory Protection (Specify Type) Use NIOSH approved or equivalent fume respirator or air supplied respirator when welding in confined space or where local exhaust or ventilation does not keep exposure below TLV.

Ventilation: Use enough ventilation, local exhaust at the arc, or both, to keep the fumes and gases below TLV's in the worker's breathing zone and the general area. Train the welder to keep his head out of the fumes.

Protective Gloves: Wear welding gloves made of leather or other heat-resistant resistant materials.

Eye Protection: Wear helmet or use face shield with filter lens. As a rule of thumb begin with Shade Number 14. Adjust if needed by selecting the next lighter and/or darker shade number. Provide protective screens and flash goggles, if necessary, to shield others.

Other Protective Clothing or Equipment: Wear hand, head, and body protection which help to prevent injury from radiation, sparks, and electrical shock. See ANSI Z49.1. At a minimum this includes welder's gloves and a protective face shield, and may include arm protectors, aprons, hats, shoulder protection, as well as dark non synthetic clothing. Train the welder not to touch live electrical parts and to insulate himself from work and ground.

Work/Hygienic Practices: Maintain exposure below the PEL/TLV. Use industrial hygiene monitoring to ensure that your use of this material does not create exposures which exceed PEL/TLV. Always use exhaust ventilation. Refer to the following sources for important additional information. ANSI Z49.1 The American Welding Society, P.O. Box 351040, Miami, FL 33135 – OSHA (29CFR1910) U.S. Dept. of Labor, Washington, D.C. 20210.

OTHER INFORMATION REQUIRED BY STATE OR FEDERAL LAW

California Proposition 65 Information: Warning: This product contains a chemical known to the State of California to cause cancer.

New Jersey Right-To-Know Information: 5 most predominant ingredients/hazardous and non-hazardous)
1. Iron; 2. Fluorspar; 3. Barium Fluoride; 4. Aluminum; 5. Manganese.

SARA Title III Notification Information: All chemical compounds marked with an asterisk (*) are toxic chemicals subject to the reporting requirements of Section 313 of Title III of the Super Fund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.