



## MATERIAL SAFETY DATA SHEET

"ESSENTIALLY SIMILAR" to U.S. Department of Labor Form OSHA 20 (to comply with OSHA's Hazard Communication Standard 29 CFR 1910, 2100)

### SECTION 1: Identification

**SUPPLIER:** Weldcote Metals **Phone:** 704.866.4115 **Revised:** May 15, 2006

**Address:** 2100 Chespark Drive, Gastonia, N.C. 28052

EMERGENCY: CHEMTREC (24-HOUR) 1-800-424-9300

Product Trade Name/Product Classification(s): FLUX-CORED STAINLESS STEEL ELECTRODES (WIRE)
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<b>NAMES:</b>	<b>CLASSIFICATIONS:</b>
308LT1-1/4	E308LT1-1/4
309LT1-1/4	E309LT1-1/4
316LT1-1/4	E316LT1-1/4

### SECTION 2: Hazardous Ingredients/Identity Info.

IMPORTANT: THE MATERIALS LISTED ARE WHAT IS REASONABLY EXPECTED TO EXIST IN THE FUMES WHEN PRODUCT IS USED IN WELDING. THE FUMES WHEN PRODUCT IS USED IN WELDING.

THE TERM "HAZARDOUS" SHOULD BE INTERPRETED AS A TERM REQUIRED AND DEFINED IN OSHA HAZARD COMMUNICATION STANDARD (29 C.F.R. 1910.1200) AND IT DOES NOT NECESSARILY IMPLY THE EXISTENCE OF ANY HAZARD.

<u>INGREDIENT</u>	<u>(CAS No.)</u>	<u>EXPOSURE</u>	<u>LIMITS mg/MM<sup>3</sup></u>
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		<u>TLV</u>	<u>PEL</u>
Silica Amorphous	6067-76-86-0	10	80
Silicon Dioxide (c )	7631-86-9	10	80
Titanium Oxide	13463-67-7	5	None
Aluminum Fume	7429-90-5	5	None
Aluminum Oxide (b)	1344-28-1	10	None
Chromium (chromates)	7440-47-3	0.05	0.05
Chromium (cr) (b)	7440-47-3		1
Nickel (soluble)	7440-02-0	0.1	
Nickel (N) (b)	7440-02-0	1	
Manganese Fume	7439-96-5	1	5c
Zirconium Oxide (b)	1314-23-4	None	None
Manganese (Mn) (b)	7439-96-5	5	5c
Molybdenum (Mo)(a)(b)	7439-98-7	10	15
Molybdenum (soluble)	7439-98-7	5	5

1. Occupational Safety and Health Administration, 29, C.R.F. 1910. 1000 Permissible Exposure Limit (PEL).
2. American Conference of Government Industrial Hygienists (ACGIH) Threshold Limit Value.
3. Not known; nuisance particulate concentration per ACGIH is 10mg/M3. (nuisance)
4. TLV and PEL are stated in mg/M3.
5. c= ceiling limit

- (a) In Fusion Flow 308H, 308HT, 308L AP, 316L AP, 317L AP, 347 AP  
 (b) In all Fusion Flow and Fusion Flow AP Products.

## SECTION 3: Physical Properties

**NOT APPLICABLE**

## SECTION 4: Fire and Explosion Hazard Data

These products as shipped are non-hazardous, nonflammable, non-explosive and non-reactive. Welding arc and sparks can ignite combustibles, and flammables. Refer to American National Standard Z-49.1 for fire prevention during the use of welding procedures.

## SECTION 5: Health Hazard Data

Welding gases cannot be classified simply. Their composition and quantities are dependent upon the metal being welded, the process, the 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), number of welds and volume of work area, quality and amount of ventilation, position of 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). The primary route of welding fumes and gases is by inhalation.

When the electrode is consumed, the fume and gas decomposition products are different in percent and form from ingredients listed in Section 2. Decomposition products include those originating from volatilization, reaction or oxidation of the materials shown in Section 2 plus those from base metal, coating, etc. as noted in Section 6.

These components are virtually always present as a complex compound and not metals (Characterization of Arc Welding Fume: American Welding Society).

Reasonably expected fume or gas constituents of this product could include primarily oxides of nickel; secondarily complex oxides of iron, chromium, manganese, silicon, titanium, copper, molybdenum, aluminum and columbium. Cr VI fume limits ( $0.05 \text{ mg/M}^3$ ) is reached. Monitor fumes for Cr VI level. Gaseous formed by the radiation of the arc.

One recommended way to determine the composition and quantity of fumes and gases to which worker's 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.

## SECTION 6: Reactivity Data

**THRESHOLD LIMIT VALUE:** The ACGIH recommended general limit for welding fume NOC (Not Otherwise Classified) is mg/m<sup>3</sup>. The ACGIH 1984-85 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 5 for specific fume constituents which may modify this TLV.

**EFFECTS OF OVEREXPOSURE: FUMES AND GASES CAN BE DANGEROUS TO YOUR HEALTH.** Aggravation of preexisting respiratory or allergic conditions may occur in some workers. Short term (ACUTE) overexposure to welding fumes may result in discomfort such as: dizziness, nausea and dryness or irritation of the nose, throat, or eye. Long term (CHRONIC) overexposure to welding fumes may lead to serious (iron deposits in the lung) and is believed by some investigators to affect pulmonary function. ARC RAYS can injure eyes and burn skin. ELECTRIC SHOCK CAN KILL. See Section 7.

<u>Carcinogenicity</u>	<u>NTP</u>	<u>IARC Monographs?</u>
<u>OSHA Regulated?</u>		
When Present	Cr, Ni	Cr, Ni
		Cr

**EMERGENCY & FIRST AID PROCEDURES:** Employ first aid techniques recommended by American Red Cross. For skin contact, remove particles by thoroughly washing with soap and water. For eye contact, flush with water for at least 15 minutes, get medical attention. For inhalation, remove from exposure; get medical attention if experiencing breathing difficulty.

## **SECTION 7: Precautions for Safe Handling and Use/ Applicable Control Measures**

Read and understand the manufacturer's instructions and the precautionary label on this product. See American National Welding Society, P.O. Box 354140, Miami, FL 33135 and OSHA Publication 2206 (29 C.R.F. 1910), U.S. Government Printing Office, Washington, D.C. 20402 for more detail.

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

RESPIRATORY PROTECTION: Use respirable fume respirator or air supplies respirator when welding in confined space or where local exhaust or ventilation does not keep exposure below TLV.

PROTECTIVE CLOTHING: Wear head, hand and body protection which help to prevent injury from radiation, sparks and electrical shock. See ANSI Z-49.1. 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 substantial clothing. Train protectors, aprons, hats shoulder protection, as well as dark substantial clothing. Train the welder not to touch live electrical parts and to insulate himself from work and ground.

PROCEDURE FOR CLEANING OF SILLS OR LEAKS: Not applicable.

WASTE DISPOSAL METHOD: Prevent waste from contaminating surrounding environment. Discard any product, residue, disposable container, or liner in an environmentally acceptable manner, in full compliance with Federal, State, and Local regulations.

## **SECTION 8: DISCLAIMER**

Weldcote Metals believes this data to be accurate and to reflect qualified expert opinion regarding current research. However, Weldcote Metals can not make any expressed or implied warranty as to this information.