SALES PTY LTD

MATERIAL SAFETY DATA SHEET

SECTION 1 ~ IDENTIFICATION

Product Classification / Trade Name: High Quality Solid Stainless Welding Wires

Supplier: AWE Sales Pty Ltd
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Croydon, Vic, 3136
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Product Classification / Product Trade Name:
ER316L: T316L12, T316L16, T316L24, T316L32, AWET316L16, AWET316L24, AWET316L32,
ER316LSi: ER316LSI085, ER316LSI09, ER316LSI095, ER316LSI12, ER316LSI16
ER308LSi: ER308LSI09,
ER308L: T308L16, T308L24, AWET308L16, AWET30824,
ER309L: T309L16, T309L24, T309L32, AWET309L16, AWET309L24
ER309LSi: ER309LSI09, ER309LSI12
ER309LMo: AWET309LMO16, AWET309LMO24
ER2209: AWET220916, AWET220924, AWEM220909, AWEM220912

SECTION 2 ~ HAZARDOUS INGREDIENTS / IDENTITY INFORMATION

IMPORTANT

This section covers the materials from which this product is manufactured. The fumes and gases produced during welding which the normal use of this product are covered by Section 5. The term "Hazardous" in Hazardous Materials should be interpreted as a term required and defined in OSHA Hazard Communication Standard (29 CFR Part 1910.1200) and does not necessary imply the existence of any hazard.

INGREDIENTS	CAS No.	Wt.%	PEL mg/m³	Supplemental Info:
Iron	7439-89-6	Bal.	10(as FeO3)	1 Occupational Safety and Health Administration, 29, C.F.R 1910.1000 Permissible Exposure Limit (PEL). 2 American Conference Of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV[R]). 3 Not known; nuisance particulate concentration per ACGIH is 10mg/M3. (Nuisance) 4 These ingredients are covered under the reporting requirements of Section 313 of the Emergency Planning and Community Right to Know Act of 1986 and CFR 372.
Chromium	7440-47-3	11-32	0.5(Chromium VI)	
Nickel	7440-02-0	4-26	1	
Molybdenum	7439-98-7	0-5.2	10	
Manganese	7439-96-5	0.5-2.5	5 ceiling	
Silicon	7440-21-3	0.90	3(as SiO2)	
Columbium	7440-03-1	0.2-1.0	5	

SECTION 3 ~ PHYSICAL / CHEMICAL CHARACTERISTICS

These products are non-hazardous, non-flammable, non-explosive and non-reactive.

SECTION 4 ~ FIRE AND EXPLOSION HAZARD DATA

Nonflammable. Welding arc and sparks can ignite combustibles and flammables. Refer to American National Standard Z49.1 for fire prevention during the use of welding allied procedures.

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 bing 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: coating on the metal being welded (such as paint, plating, 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 form 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. These components are virtually always present as complex compounds and not as metals (Characterization of Arc Welding Fume: American Welding Society).

Reasonably expected fume constituents from these products would include: complex oxides of iron, chromium, nickel, manganese and silicon. Products containing molybdenum or columbium will also have complex oxides of these elements in their fumes. Cr III fume limits (0.5mg/M³) may be reached before general fume limit of 5mg/M³ is reached. Monitor fumes for Cr III level. 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 to is to take an air sample inside the welders helmet, or in the workers breathing zone. See ANSI/AWS F1.1 available from the American Welding Society, P.O Box 351040, Miami, FL, 33135.

SECTION 6 ~ HEALTH HAZARD DATA

Threshold Limit Value: The ACGIH recommended limit for Welding Fume NOC (Not Otherwise Classified) is 5 mg/m³. ACGIH-1987-88 preface states that the TLV-TWA should be used as guides in the control of health hazards and should not be used as fine lines between safe and dangerous concentrations. See Section 5 for specific fume constituents which may modify this TLV.
Effect 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 Route of Entry** is the respiratory system, eyes and / or skin. Aggravation of respiratory or allergic conditions may affect some exposed individuals.
Short-term (acute) Overexposure may result in discomfort such as metal fume fever, dizziness, nausea or dryness of 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 products in lungs) and believed by some investigators to affect pulmonary function.
Arc rays can injure eyes and burn skin.
Electric 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, 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 Voltage Reduction Device.
CARCINOGENICITY: Nickel, Chromium and its compounds must be considered as carcinogens under OSHA (29 CFR 1910.1200). Welding fume must be considered as possible carcinogens under OSHA (29 CFR 1910.1200).

SECTION 7
CONTROL MEASURES AND PRECAUTIONS FOR SAFE HANDLING AND USE

Read and understand the manufacture'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, 550 N.W. Jejune Road, Miami, FL. 33126 and OSHA Publication 2206 (29 CFR 1910), U.S Government Printing Office, Washington, DC 20402 for more detail on any of the following:

Ventilation: Use enough ventilation, local exhaust at the arc or both, to keep the fumes and gases below PEL / TLV 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 supplied respirator when welding in confined space or where local exhaust or ventilation does not keep exposure below TLV / PEL.

Eye Protection: Wear helmet or use face shield with filter lens. Lens filters should be as dark as possible without obstructing view of the weld zone. Provide protective screens and flash goggles, if necessary, to shield others.

Protective Clothing: 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 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 his/her person from work ground.

Disposal Information: Discard any product, residue, disposable container or liner in an environmentally acceptable manner, in full compliance with Federal, State and Local regulations.