

MATERIAL SAFETY DATA SHEET

PLEASE CAREFULLY READ AND UNDERSTAND THIS MATERIAL SAFETY DATA SHEET BEFORE USING THIS PRODUCT

For Welding Consumables and Related Products

May be used to comply with OSHA's Hazards Communication Standard, 29 CFR 1910.1200. Standard must be consulted for specific requirements.

SECTION I (IDENTIFICATION)

Manufacturer/Supplier Name: UNIWELD PRODUCTS, INC.
2850 Ravenswood Road
Fort Lauderdale, FL 33312
Emergency Phone No.: (954) 584-2000

Product Name(s): **UNI-4300**
ALUMINUM SOFT SOLDER

SECTION II (HAZARDOUS INGREDIENTS/IDENTITY INFORMATION)

Important: This section covers the materials from which these products are manufactured. The fumes and gases produced during normal use of these products are covered by Section V. The term "Hazardous Materials" should be interpreted as a term required and defined in OSHA Hazard Communication Standard 26 CFR 1910.1200 and it does not necessarily imply the existence of hazard.

INGREDIENT	CAS NO.	EXPOSURE LIMIT (mg/m ³)	
		OSHA PEL	ACGIH TLV
TIN (Sn)	7440-31-5	2	2
ZINC (Zn)	7440-66-6	5	5

No other hazardous material is present in concentrations greater than 1% (0.1% for carcinogens)

SECTION 3 - PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point: Sn 4120°F/2270°C Zn 1663°F/906°C
Melting Point: 390-420°F / 199-216°C
Vapor Pressure: N/A
Vapor Density (AIR=1): N/A
Specific Gravity: .2630 lbs./in.³
Solubility in Water: 0 (solid)
Evaporation Rate (Butyl Acetate = 1): N/A
Appearance and Odor: Lustrous, silver metal; odorless / various shapes and sizes.

SECTION 4 - FIRE AND EXPLOSION HAZARD DATA

Flash Point: N/A
& Methods Used: N/A
Auto Ignition Temperature: N/A
Flammability Limits (in air, % by volume): LEL N/A UEL N/A

Extinguisher media: CO₂ or dry chemical extinguisher
DO NOT USE WATER ON MOLTEN METAL
Large fires may be flooded with water from a distance

Special Fire Fighting Procedures: Use NIOSH/MSHA - approved self-contained breathing apparatus and full protective clothing if involved in fire.

Unusual Fire and Explosion Hazards: Finely divided dust may form explosive mixture with air.
NEVER DROP WATER OR LIQUIDS INTO MOLTEN SOLDER.
Do not plunge damp or wet solder bars/pieces into molten solder.

NOTE 1: Alloys which contain cadmium should never be heated to extremes beyond melting range.

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. **Most fume ingredients are present as complex oxides and compounds and not as pure metals.** 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 use 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. Reasonably expected constituents of the fume would include: Primarily - iron oxides; Secondarily - complex manganese, molybdenum, silicon, chromium and nickel compounds. Monitor for materials identified in Section 2. Fumes from the use of these products contain nickel, chromium, amorphous silica, and manganese whose exposure limits are lower than the 5 mg/m³ PEL/TLV for general welding fume. 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 for:

SECTION 6 - HEALTH HAZARD DATA

EFFECTS OF OVEREXPOSURE:

(Sn) Tin: Elemental Tin is NOT generally considered to be toxic.

(Zn) Zinc: Excessive inhalation of zinc oxide fumes may produce symptoms know as "Zinc shakes" which are flu-like and usually cease when the individual is removed from the source.

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.

Ingestion: Drink large quantities of water - induce vomiting.

Call a physician at once; advise of chemical composition (Section II).

Skin: Wash thoroughly with water to remove all residue. If a rash develops, call a physician

Inhalation: Terminate exposure and remove to fresh air. Call physician, advise of chemical composition (section II).

▽ **WARNING: DO NOT BREATHE FUMES!**

Eyes: Flush with water for at least 15 minutes to remove irritant. Consult a physician.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

Persons with preexisting impaired lung functions (asthma-like conditions).

▽ **WARNING: CALIFORNIA PROPOSITION 65:** This product, when used for welding, soldering, brazing, cutting and other metal working or flame processes, produces fumes, particulates, residues and other by-products which contain chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. ▽ **WARNING:** This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING & USE/APPLICABLE CONTROL MEASURES

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.

Read and understand the manufacturer's instructions and the 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 (29 CFR 1910), U.S. Government Printing Office, Washington, DC 20402 for more detail on any of the following:

Steps to be taken if material is spilled or released:

SOLDER IS SOLID/RECYCLABLE. Vacuuming is recommended for accumulated metal dust from saw/grind operations. Waste DISPOSE OF ACCORDING TO FEDERAL, STATE, LOCAL, and OSHA REGULATIONS.

Waste Disposal Methods:

DRY STORAGE; AMBIENT TEMPERATURE

Precautions to be taken in handling and storage:

Wet Moist ingot(s) WILL present an explosion hazard when submerged in molten solder.

Other Precaution/ Special Handling:

Always preheat ingot before charging into furnace.

AVOID FIRE RISKS

0= insignificant	1= Slight	2= Moderate	3= high	4= Extreme			
NFPA Rating	Health	1	Flammability:	0	Reactivity:	0	Special: 0
HMS Rating	Health	1	Flammability:	0	Reactivity:	0	Special: 0

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

RESPIRATORY PROTECTION: Use NIOSH approved or equivalent fume respirator or air supplied respirator when welding in a confined space or where local exhaust or ventilation does not keep exposure below PEL/TLVs.

▽ **WARNING: DO NOT BREATHE FUMES!**

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.

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 a protective face shield, and may include arm protectors, aprons, hats, shoulder protection as well as dark nonsynthetic clothing. Train the welder not to touch live electrical parts and to insulate himself from work and ground.

SPECIAL PRECAUTIONS (IMPORTANT): Maintain exposure below the PEL/TLVs. Use industrial hygiene monitoring to ensure that your use of this material does not create exposures which exceed PEL/TLVs. Always use exhaust ventilation. Refer to the following sources for important additional information: ANSI Z49.1 from the American Welding Society, P.O. Box 351040, Miami, FL 33135 and OSHA (29 CFR 1910) from the U.S. Department of Labor, Washington, D.C. 20210.

Uniweld Products, Inc. believes this data to be accurate and to reflect qualified expert opinion regarding current research. Uniweld Products, Inc. cannot make any expressed or implied warranty as to this information.