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. Emergency Phone No.: (954) 584-2000
2850 Ravenswood Road
Fort Lauderdale, FL 33312
Product Name(s): **UNI-4200**
Product Classification: **Self-fluxing aluminum buildup**

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. The chemicals or compounds reportable by Section 313 of SARA are marked by the symbol #.

INGREDIENT	% WEIGHT	CAS NO.	EXPOSURE LIMIT (mg/m^3)	
			OSHA PEL	ACGIH TLV
ALUMINUM	>03	7429-90-5	10 mg/m^3	5
COPPER	>02	744-50-8	2 mg/m^3	0.05
MAGNESIUM	<.05	1309-48-4	negligible> see %	10 (fume)
ZINC	>90	7440-66-6	5 mg/m^3	Zinc oxide fume: 8 hr.
STEL of 10.0 mg/m^3	Short term exposure limit		TWA of 5.0	

SECTION III (PHYSICAL DATA)

Boiling point:	2400°F / 1314°C	Specific Gravity (H_2O =1):	6.68
Vapor pressure (mm Hg):	N/A	Percentage by volume (%):	N/A
Vapor density (Air - 1):	N/A	Evaporation rate (Butyl Acetate - 1):	NIF
Solubility in water:	0 solid metal	Melting Point:	728°F / 387°C
Appearance:	silver, bluish-white metal		

SECTION IV (FIRE AND EXPLOSION HAZARD DATA)

Flash point: N/A
Flammable limits: N/A
Auto ignition temperature: N/A
LEL: N/AUEL: N/A
Extinguishing media: CO_2 or dry chemical extinguisher. Do not use water on molten metal.
Unusual fire and explosion hazard: Healing metal beyond boiling point results in evolution of zinc vapor which immediately reacts with air to form zinc oxide fumes.
Special fire fighting procedures: Use NIOSH/MSHA self-contained breathing apparatus and full protective clothing if involved in fire.

SECTION V (REACTIVITY DATA)

Stable
Hazardous polymerization will not occur.
Incompatibility (materials to avoid): Strong acids and alkalis.
Hazardous combustion or decomposition products: HAZARDOUS POLYMERIZATION WILL NOT OCCUR.

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 welds and volume of the work area, quality and amount of ventilation, 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 percentage and composition from the ingredients listed in Section II. Fume and gas decomposition products, not the ingredients in the electrode, are important. Decomposition products generated in normal operations include those originating from the volatilization, reaction, or oxidation of the materials shown in Section II plus those from the base metal, coating, etc., as noted above.

One recommended way to determine the composition and quantity of fumes 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 the following:

SECTION VI (HEALTH HAZARD DATA)

Emergency and First Aid procedures: Remove to fresh air. Treatment such as bed rest, and possible aspirin or other non-aspirin product to relieve fever and chills. Consult physician if symptoms persist.

Effects of Acute Overexposure: Excessive inhalation of zinc fume may produce symptoms known as zinc shakes; an acute, self-limiting condition without recognized complications. Symptoms usually disappear within 24 hours. Symptomatic treatment such as bed rest, possibly aspirin or aspirin-free pain reliever to afford relief from fever and chills.

Medical conditions aggravated by exposure: Dermatitus or respiratory aliments may be aggravated.

▽ **WARNING: DO NOT BREATHE FUMES!**

Avoid direct inhalation of fumes during heating. Avoid inhalation or ingestion of dust. Do not allow dust to accumulate.

▽ **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/or 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 VII (PRECAUTIONS FOR SAFE HANDLING AND USE/APPLICABLE CONTROL MEASURES)

Read and understand the manufacturer's instructions and the precautionary label on the product. (See American National Standard Z-49.1, "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), US Government Printing Office, Washington, DC 20402 for more detail on the following):

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

CONTINUED ON THE BACK

▽ **WARNING: DO NOT BREATHE FUMES!**

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

EYE PROTECTION: Wear helmet or use face shield with filter lens. As a rule of thumb, begin with shade #14. Adjust if needed by selecting the next lighter or darker shade number.

SKIN PROTECTION: Follow statutes for your application.

PROCEDURE FOR CLEANUP OR SPILLS OR LEAKS: Recyclable solid. Vacuuming is strongly recommended for accumulated dust. Conform with applicable federal, state, local, and OSHA regulatory statutes..

WASTE DISPOSAL: Solid, recyclable. Conform with applicable regulatory statutes.

SPECIAL PRECAUTIONS: IMPORTANT. MAINTAIN EXPOSURE BELOW 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 Z-49.1. The American Welding Society, P.O. Box 351040, Miami FL 33135: OSHA (29 CFR 1910), US Dept. of Labor, Washington, DC 20210.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Store unused rods in dry place at ambient temperatures. Gloves should be worn during handling to avoid cuts, scrapes, and burns (when applicable). Clothing should be laundered after contact. Wash hands after handling. Do not smoke cigarettes while handling.

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.