MATERIAL SAFETY DATA SHEET

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

For Manufactured Welding Consumables and Related Products. May be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910.1200 and Superfund Amendments and Reauthorization Act (SARA) of 1986 Public Law 99-499. 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-2400**
Product Classification: **COVERED ELECTRODE FOR CHAMFERING**

SECTION II (HAZARDOUS INGREDIENTS/IDENTITY INFORMATION)

Important: This section covers the hazardous materials from which this product is manufactured. The fumes and gases produced during welding with normal use of this product are also addressed in Section 5. The term "hazardous" in this section should be interpreted as a term required and defined in OSHA Hazard Communication Std. (29 CFR Part 1910).

INGREDIENT	% WEIGHT	CAS NO.	EXPOSURE LIMIT (mg/m^3)	
			OSHA PEL	ACGIH TLV
IRON	63-73	7439-89-6	5	10 (as Fe_2O_3)
CELLULOSE	1-11	9004-34-6	5	5
SILICON DIOXIDE	1-11	14808-60-7	0.1 (dust)	0.1 (dust)
SODIUM SILICATE	1-11	1344-09--8	N/A	5
POTASSIUM SILICATE	1-11	1312-76-1	N/A	5
GRAPHITE	1-11	7782-42-5	15	2.5 (dust)
MAGNESIUM CARBONATE	1-11	546-93-0	15	10

SECTION III (PHYSICAL DATA)

Not Applicable

SECTION IV (FIRE AND EXPLOSION HAZARD DATA)

Nonflammable, Welding arc and spark can ignite combustibles. Refer to American National Standard Z-49.1 for fire prevention during welding.

SECTION V (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 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.

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 the following:

SECTION VI (HEALTH HAZARD DATA)

Threshold Limit Value: The ACGIH recommended general limit for welding fume NOC (Not Otherwise Classified) is 5 mg/m^3. 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 V for specific fume constituents which may modify this TLV.

Effects of Overexposure: FUMES AND GASES can be dangerous to your health. Primary route of exposure is inhalation of fumes. Preexisting respiratory or allergic conditions may be aggravated in some individuals. SHORT-TERM (ACUTE) OVEREXPOSURE to welding fumes may result in discomfort such as: dizziness, nausea, or dryness or irritation of nose, throat or eyes. LONG-TERM (CHRONIC) OVEREXPOSURE may lead to siderosis (iron deposits in the lungs) and is believed by some investigators to affect pulmonary function. ARC RAYS can injure eyes and burn skin. ELECTRIC SHOCK can kill. See Section VII.

▽ **WARNING: DO NOT BREATHE FUMES!**

SHORT-TERM (ACUTE) OVEREXPOSURE to welding fumes may result in discomfort such as dizziness, nausea, or dryness or irritation of the nose, throat or eyes.

Iron oxide: no effects known, treat as nuisance dust or fume.

Magnesium, magnesium oxide - Overexposure to the oxide may cause metal fume fever characterized by metallic taste, tightness of chest and fever. Symptoms may last 24 to 48 hours following overexposure.

LONG-TERM (CHRONIC) OVEREXPOSURE may lead to siderosis (iron deposits in the lungs) and is believed by some investigators to affect pulmonary functions.

Iron, iron oxide fumes: can cause siderosis. Lungs will clear in time when exposure to iron and its compounds ceases. Iron and magnetite (FeO) are not regarded as fibrogenic materials.

Magnesium, magnesium oxide - No adverse long term health effects have been reported in the literature.

ARC RAYS can injure eyes and burn skin.

ELECTRIC SHOCK can kill. See Section VII.

Emergency & First Aid Procedures: Call for medical aid. Employ first aid techniques recommended by American Red Cross.

CONTINUED ON THE BACK

▽ **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 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 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.

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 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 non-synthetic clothing. Train the welder not to touch live electrical parts and to insulate himself from work and ground. Protective gloves are recommended, especially for high temperature applications to prevent burns.

Other: Standard protective equipment used in soldering or (applicable) operations. Conform with all local, state, and federal regulations.

PROCEDURE FOR CLEANUP OF SPILLS OR LEAKS: Not applicable.

WASTE DISPOSAL: 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.

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, DC 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.