

**MATERIAL SAFETY DATA SHEET**

MAY BE USED TO COMPLY WITH OSHA'S HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200 AND AND SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) OF 1986 PUBLIC LAW 99-499. STANDARD SHOULD BE CONSULTED FOR SPECIFIC REQUIREMENTS.

**SECTION I (IDENTIFICATION)**

**MANUFACTURER/ SUPPLIERS NAME:** High Performance Products  
1220 Shappert Drive  
Machesney Park, IL 61115 USA

**EMERGENCY PHONE:** (815) 985-0441  
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**PRODUCT NAME:** HPP 1607

**PRODUCT CLASSIFICATION:** Welding Wire - Tig

**SECTION II (HAZARDOUS INGREDIENTS/IDENTITY INFORMATION)**

**IMPORTANT:** This section covers the materials of which the products are manufactured. The fumes and gases produced during normal use of this product is covered in Section V. The term "Hazardous" in "Hazardous Ingredients" should not be interpreted as a term required and defined in OSHA Hazard Communication Standard (29 CFR 1910.1200). The chemicals or compounds subject to reporting under Title III in Section 313 of SARA are marked by the symbol #.

**WARNING:** This product contains or produces a chemical known to the State of California to cause birth defects (or other reproductive harm) and cancer. (California Health & Safety Code 25249.5 et seq.)

<b>INGREDIENTS</b>	<b>CAS Number</b>	<b>Max % Range</b>	<b>EXPOSURE LIMIT (mg/m<sup>3</sup>)</b>	
			<b>OSHA PEL</b>	<b>ACGIH-TLV</b>
Iron	7439-89-6	Bal.	10	5 (as Fe)
Molybdenum	7439-98-7	0.75	5	5
Manganese #	7439-96-5	2.50	5 (ceiling)	0.2
Silicon	7440-21-3	1.50	5	10
Copper #	7440-50-8	0.50	0.1	0.2

**SECTION III (PHYSICAL DATA) -- Steel Wire****SECTION IV (FIRE AND EXPLOSION HAZARD DATA)**

Nonflammable - Welding arc and sparks can ignite combustibles. Refer to American National Standard Z49.1 for fire prevention during welding. These products as shipped are non-hazardous, non-flammable, non-explosive and non-reactive. Rating under National Fire Protection 704: Health, 1; Flammability, 0; Reactivity, 0.

**SECTION V (REACTIVITY DATA)**

Welding fumes cannot be classified simply. The composition and quantity of both are dependent upon the metal being welded, the process, procedures and alloy 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 galvanization), 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).

When the electrode is consumed, the fume and gas decomposition products are different in percent and form from the ingredients listed in Section II. Fume and gas decomposition products, not the ingredients in the electrode, are important. Decomposition products 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. 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 would include complex oxides of iron, manganese and silicon. Gaseous reaction products may include carbon monoxide and carbon dioxide. Ozone and nitrogen oxides may be formed from the radiation from the arc. The following table lists reasonably expected fumes that may be generated:

<b>SUBSTANCE</b>	<b>CAS NO.</b>	<b>EXPOSURE LIMIT (mg/m<sup>3</sup>)</b>	
		<b>OSHA PEL</b>	<b>ACGIH TLV</b>
Iron oxide	1309-37-1	10	5
Manganese dioxide #	1313-13-9	1	1

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. ANSI/AWS F1.1 available from the American Society. P.O. Box 351040, Miami, FL 33135.

### Section VI (HEALTH HAZARD DATA)

**Threshold Limit Value:** The ACGIH recommended general limit for welding fume n.o.c. (not otherwise classified) is 5 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 V for specific fume constituents which may modify this TLV.

**Effects 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 ROUTES OF ENTRY** are the respiratory system, eyes, and/or skin.

**PRE-EXISTING** 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.

**IRON, IRON OXIDE, MANGANESE** - Remove from overexposure and apply artificial respiration if needed. **LONG TERM**

**(CHRONIC) OVEREXPOSURE** may lead to siderosis (iron deposits in lungs) and is believed by some investigators to affect pulmonary functions. **PRIMARY ROUTE OF ENTRY** is the respiratory system. **IRON, IRON OXIDE** - Long term overexposure to iron fumes

can cause deposits of iron in the lungs (siderosis). Lungs will clear in time when exposure to iron and its compounds cease.

**MANGANESE** - Long term exposure may lead to "Manganism." Central nervous system is affected and symptoms include muscular weakness and tremors. Exposed workers should get quarterly medical examinations for manganism. **WELDING FUMES** - Welding

fumes (not otherwise classified) are considered to be carcinogenic defined with no further categorization by NIOSH. **ARC RAYS** can injure eyes. **ELECTRIC SHOCK** can kill. See section VII.

**Emergency & First Aid Procedures:** Call for medical aid. Employ first aid techniques recommended by the American Red Cross. In case of electrical shock, turn off power prior to removal from exposure area and administration of first aid.

**INHALATION:** Remove to fresh air. If not breathing, begin artificial respiration. If no detectable pulse, begin artificial external heart massage.

**SKIN:** Wash affected area with soap and water.

**EYES:** Flush with large amounts of water for at least 15 minutes.

**INGESTION:** Seek medical attention.

Carcinogenicity When present	NTP	NIOSH Welding Fumes (n.o.c.)	IARC	OSHA Regulated
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### SECTION VII (PRECAUTION 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 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 (29CFR 1910), U.S. Government Printing Office, Washington, D.C. 20402, for more details on the following:

**Ventilation:** Use enough ventilation, local exhaust at the arc, or both to keep the fumes and gases below the TLV's in the workers 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.

**Eye Protection:** Wear helmet or use a face shield with a filter lens. As a rule of thumb, start with a shade darker to see the weld zone, then go to the next lighter shade which gives sufficient view of the weld zone. Provide screens and flash goggles to shield others.

**Protective Clothing:** Wear head, hand, and body protection which helps to prevent injury from radiation, sparks, and electrical shock (see ANSI Z-49.1). At a minimum, this includes welders' gloves and a protective face shield, and may include arm 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.

**Waste:** Dispose of any grinding dust or waste residue in accordance with EPA or local regulations.

**Storage:** Keep material sealed and dry before use. Store at ambient temperature.

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