Safety Data Sheet (SDS)

Section 1: Product and Company Identification

Product Identifier:	**Powerweld Mild Steel Covered Electrodes**
Product Use:	SMAW / Stick / Arc Welding
Item Code:	E6011, E6013, E7014, E7018, E7018AC
Supplier Name:	Powerweld Inc.
Supplier Address:	2501 Beech Street Valparaiso, IN 46383
Supplier Web Address:	www.powerweldinc.com
Supplier Phone:	219-462-8700 1-800-826-9073
Emergency Phone:	CHEMTREC (24-hour) 1-800-424-9300
Prepared By:	Powerweld Inc.
Preparation Date:	1 January 2026

Section 2: Hazard Identification

Classification:	Not classified
Symbols:	Not applicable
Signal Word:	Not applicable
Hazard Statements:	Not applicable
Precautionary Statements:	Not applicable
Other Hazards:	Spatter and melting metal can cause burn injuries and start fires. Arc rays can injure eyes and burn skin. Electric shock can kill. Welding arc and sparks can ignite combustibles and flammable materials. Overexposure to welding fumes and gases can be hazardous.

Section 3: Composition/Information on Hazardous Ingredients

HAZARDOUS INGREDIENTS	CAS NUMBER	APPROXIMATE CONCENTRATION (%)
Iron (Fe)	7439-89-6	70 – 90
Carbon (C)	7440-44-0	< 0.2
Manganese (Mn)	7439-96-5	1 – 5
Silicon (Si)	7440-21-3	< 1
Sulfur (S)	7704-34-9	< 0.035
Phosphorus (P)	7723-14-0	< 0.035
Chromium (Cr)	7740-47-3	< 0.2
Nickel (Ni)	7440-02-0	0.01 – 0.05
Molybdenum (Mo)	7439-98-7	< 0.3
Vanadium (V)	7740-62-2	< 0.08
Copper (Cu)	7440-50-8	< 0.25
Titanium Oxide (TiO_2)	13463-67-7	1 – 15
Calcium Carbonate ($CaCO_3$)	1317-65-3	< 1 – 10
Calcium Fluoride (CaF_2)	7789-75-5	0 – 10

Section 4: First-aid Measures

Inhalation:	Inhalation may be the most common cause of overexposure due to the welding fumes. Large amounts of welding fumes will cause irritation of the nose, eyes and skin. Move from the area that has any fumes to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and transport to nearest medical facility for additional treatment.
Ingestion:	Not an expected route of exposure. Rinse month completely and drink a cup of water if conscious; obtain medical assistance when needed.
Eye Contact:	If arc flash or burns occur, obtain medical assistance. Large exposure to welding fumes may cause irritation to the eyes. Immediately flush upper and lower eyelids with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Rest eyes for 30 minutes. If redness, burning, blurred vision or swelling persists, visit nearest medical facility for additional treatment.
Skin Contact:	Large exposure to welding fumes may cause irritation to skin. If burns occur, flush with clean cool water for 15 minutes; obtain medical assistance when needed.
Symptoms:	Treat symptomatically; symptoms may be delayed. Show this SDS to the attending physician.

NOTE: In all severe cases, contact physician immediately. Local telephone operators can provide number of regional poison control centre.

Section 5: Fire-fighting Measures

Flammable:	Not flammable; emits toxic fumes when heated
Means of Extinction:	Not applicable
Auto-ignition Temperature:	Not applicable
Hazardous Combustion Products:	Not applicable
Explosion Data Sensitivity to Mechanical Impact:	Not applicable
Explosion Data Sensitivity to Static Discharge:	Not applicable
Special Equipment:	See below
Precautions for Fire Fighters:	This product, as shipped, is non-flammable; however, fine chips and dust may increase the explosion rating under certain heat and other ignition hazards. Hydrogen gas and irritating fumes may form when involved in a fire or if decomposing is caused from water, alcohol or sodium hydroxides. Do not use water with any molten metals and use self-contained safety clothing/equipment in case of fires.

Section 6: Accidental Release Measures

Protective Equipment:	See Section 8
Emergency Procedures:	This product is in rod and wire form and has no hazards as shipped.

Leak or Spill Procedure: If spilled, the product may be picked up (wearing gloves) and placed back into the container. If metals become molten, contain with sand and allow to return back into a solid for recycle as scrap.

Section 7: Handling and Storage

Handling Procedures and Equipment: Avoid contact with eyes. Avoid breathing dust. Avoid prolonged or repeated contact with skin. Do not get on skin or clothing. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling. Avoid contact of spilled material and runoff with soil and surface waterways.

Storage Requirements: Store in a cool, dry and low humid location.

Incompatibilities: Strong acids and bases.

Section 8: Exposure Controls/Personal Protection

Exposure Limits:

HAZARDOUS INGREDIENTS	CAS NUMBER	CANADA TWA	OSHA PEL (mg/m^3)
Iron (Fe)	7439-89-6	5 mg/m3	5
Carbon (C)	7440-44-0	3 mg/m3	3.5
Manganese (Mn)	7439-96-5	0.2 mg/m3	0.2
Silicon (Si)	7440-21-3	10 mg/m3	10(dust), 5(resp)
Sulfur (S)	7704-34-9		
Phosphorus (P)	7723-14-0	0.1 mg/m3	0.1
Chromium (Cr)	7740-47-3	0.5 mg/m3	0.5
Nickel (Ni)	7440-02-0	0.5 mg/m3	0.5
Molybdenum (Mo)	7439-98-7	10 mg/m3	10(dust), 3(resp)
Vanadium (V)	7740-62-2		0.05
Copper (Cu)	7440-50-8	1(dust), 0.2(fume)	0.1
Titanium Oxide (TiO_2)	13463-67-7	10	
Calcium Carbonate ($CaCO_3$)	1317-65-3	10	
Calcium Fluoride (CaF_2)	7789-75-5	2.5	

Engineering Controls: Ensure proper ventilation and respiratory protection is used when welding, brazing or processing. Respiratory protection is recommended and information may be found regarding the OSHA STANDARDS (29 CRF 1910.134), as well as CSA Standards Z94.4, along with many other safety standards.

Personal Protective Equipment: Use proper welding helmet or safety shield, as well as clothing and gloves, as required for job duties. Do not eat or drink while using these products and wash hands thoroughly after use.

Section 9: Physical and Chemical Properties

Physical State: Solid

Odour and Appearance: Odourless coated rod, reddish-brown or greyish-white in colour

Odour Threshold (ppm): Not applicable

pH: Not applicable

Melting Point:	1600°C (2912°F)
Freezing Point:	Not applicable
Boiling Point:	Not available
Flashpoint:	Not available
Upper Flammable Limit (% by volume):	Not available
Lower Flammable Limit (% by volume):	Not available

Section 10: Stability and Reactivity

Chemical Stability:	Stable under normal conditions
Possible Hazardous Reactions:	During welding, brazing and processing: fumes, dust and gas decomposition may form.
Conditions to Avoid:	Avoid contact with incompatible materials.
Materials to Avoid (Incompatibilities):	Strong oxidizing agents; strong acids; strong bases; Acetylene; Ammonia; Hydrogen peroxide (H_2O_2); Chlorine; Bromine; iodine; turpentine; Magnesium metal; Hydrogen sulfide; Ammonium nitrate.
Conditions of Reactivity:	Not available
Hazardous Decomposition By-Products:	Toxic metal oxides are emitted when heated above the melting point. Welding fumes and gases cannot be classified simply. The composition and quantity of both are dependent upon the metal being welded, the process, procedure 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 welders and the volume of the worker 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). Fumes can be reasonably expected to include metal oxides.
Hazardous Polymerization:	Will not occur under normal conditions

Section 11: Toxicological Information

Skin Contact:	Arc rays can burn skin; skin cancer has been reported.
Skin Absorption:	Not applicable
Eye Contact:	Arc rays can injure eyes.
Inhalation:	Inhalation is the most likely route of exposure; refer to "Effects of Acute Exposure" and "Effects of Chronic Exposure" below.
Ingestion:	Unlikely due to form of product.
Effects of Acute Exposure:	Overexposure or inhalation of large amounts of welding fumes may cause symptoms such as metal fume fever, dizziness, nausea, dryness and irritation of your nose, throat or eyes as well as lung disease.
Effects of Chronic Exposure:	Overexposure or prolonged inhalation of large amounts of welding fumes symptoms may include damage to the central nervous system, respiratory system, skin and could affect organs such as pancreas and liver.

Irritancy of Product:	Not available
Sensitization to Product:	This product is not expected to cause skin sensitization.
Carcinogenicity:	Titanium Dioxide (CAS # 13463-67-7); 2B: Possibly carcinogenic to humans
Reproductive Effects:	Not available
Respiratory Sensitization:	Not available
Toxicological Data:	Not available

Section 12: Ecological Information

Welding consumables and materials can degrade and should avoid exposure to conditions that could lead to accumulation in soils or groundwater.

Section 13: Disposal Considerations

NOTE: Always dispose of waste in accordance with local, provincial and federal regulations.

Safe Handling:	Gloves can be worn while handling discarded or unwanted product.
Methods of Disposal:	Recycle when possible. Do not allow to enter drains, sewers or watercourses. Discard any unwanted product, residues, containers, or liners in a suitable disposal container in an environmentally acceptable manner, as required by relevant legislation.

Section 14: Transportation Information

This material is not considered as a dangerous good per transportation regulations.

Section 15: Regulatory Information

WARNING! This product contains a chemical(s) known to the State of California to cause cancer.

Canada WHMIS:	Class D; Division 2, Subdivision A
Canada Controlled Products Regulations:	This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR.
OSHA Regulations:	This product is a "Hazardous Chemical" as defined by the *OSHA Hazard Communication Standard, 29 CFR 1910.1200*
California Proposition 65:	This product contains a chemical(s) known to the State of California to cause cancer.
California Hazardous Substances:	Iron, Manganese
Massachusetts Right to Know:	Calcium carbonate, Manganese, Titanium oxide
New Jersey Right to Know:	Calcium carbonate, Manganese, Titanium oxide, Nickel, Fluorides
New York Right to Know:	Nickel
Pennsylvania Right to Know:	Calcium carbonate, Manganese, Titanium oxide, Nickel

Section 16: Other Information

Preparation Date:	5 April 2016
Date of Last Revision:	1 January 2026

This SDS format is in accordance with GHS. Powerweld Inc. provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Product use and conditions of use are beyond the control of Powerweld. Warranty of materials is limited to test results of product performance as detailed in certificates of compliance. Interpretation of test results is the responsibility of end-user. No other warranties, expressed or implied, are made.