



SAFETY DATA SHEET

Section 1: Product and Company Identification

Product Identifier: **362 Electrode (Cut Rod / Groovies)**
Product Use: Covered electrode for chamfering and cutting
Item Code: CR
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: 7 June 2016

Section 2: Hazard Identification

Classification: Not applicable
Label Elements: 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 (%)
Cellulose	9004-34-6	10 - 20
Iron Oxide	1317-61-9	1 - 11
Manganese (Mn)	7439-96-5	1 - 11
Titanium Dioxide	13463-67-7	1 - 11
Potassium Silicate	1312-76-1	1 - 11
Sodium Silicate	1344-09-8	1 - 11
Iron (Fe)	7439-89-6	60 - 70

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 mouth 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:

Use extinguishing method most appropriate for surrounding fire (water spray, alcohol-resistant foam, dry chemical or carbon dioxide); do not use water on molten metal. Large fires may be flooded with water from a distance.

Auto-ignition Temperature:

Not available

Hazardous Combustion Products:

Iron oxides, Manganese/manganese oxides, Sodium oxides, Silicon oxides

Explosion Data Sensitivity to

Mechanical Impact:

Not available

Explosion Data Sensitivity to

Static Discharge:

Not available

Special Equipment:

See below

Precautions for Fire Fighters:

In the event of fire, wear self-contained breathing apparatus and full protective gear.

Section 6: Accidental Release Measures

Protective Equipment:

See Section 8

Emergency Procedures:

This product is in rod form and has no hazards as shipped.

Leak or Spill Procedure:

If spilled, the product may be picked up 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. 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. Keep away from heat and open flame. Ground container and receiving equipment.

Incompatibilities:

Strong acids and bases.

Section 8: Exposure Controls/Personal Protection

Exposure Limits:

HAZARDOUS INGREDIENTS	CAS NUMBER	OSHA PEL (mg/m³)	ACGIH TLV (mg/m³)
Cellulose	9004-34-6	-	10
Iron Oxide	1317-61-9	15	10

Manganese (Mn)	7439-96-5	5	1
Titanium Dioxide	13463-67-7	15	10
Potassium Silicate	1312-76-1	-	5
Sodium Silicate	1344-09-8	-	5
Iron (Fe)	7439-89-6	10 (as Fe ₂ O ₃)	5 (as Fe ₂ O ₃)

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. Use an air purifying dust respirator when welding or brazing in a confined space, or when local exhaust or ventilation is not sufficient to keep exposure values within safe limits. Do not eat or drink while using these products and wash hands thoroughly after use.

Section 9: Physical and Chemical Properties

Physical State:

Solid

Odor and Appearance:

Odorless black rod

Odor Threshold (ppm):

Not available

pH:

Not available

Melting Point:

1560 – 2000°F (850 – 1100°C)

Freezing Point:

Not available

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:

Contact with chemical substances (acids or strong bases) causes generation of gas.

Conditions to Avoid:

None known

Materials to Avoid (Incompatibilities):

Reacts with acids

Conditions of Reactivity:

See above

Hazardous Decomposition By-Products:

When this product is used in a welding process, hazardous decomposition products would include those from volatilization, reaction or oxidation of the material listed in section 3 and those from the base metal and coating. The amount of fumes generated from this product varies with welding parameters and dimensions. Refer to applicable national exposure limits for fume compounds, including those exposure limits for fume compounds found in section 3. Manganese has a low exposure limit, in some countries that may be easily exceeded. Reasonably expected gaseous products would include carbon oxides, nitrogen oxides and ozone. Air contaminants around the welding area can be affected by the welding process and influence the composition and quality of fumes and gases produced.

Hazardous Polymerization:

Not applicable

Section 11: Toxicological Information

<i>Skin Contact:</i>	Arc rays can burn skin; skin cancer has been reported.
<i>Skin Absorption:</i>	Not applicable
<i>Eye Contact:</i>	Arc rays can injure eyes.
<i>Inhalation:</i>	Inhalation is the most likely route of exposure; refer to "Effects of Acute Exposure" and "Effects of Chronic Exposure" below.
<i>Ingestion:</i>	Unlikely due to form of product.
<i>Effects of Acute Exposure:</i>	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.
<i>Effects of Chronic Exposure:</i>	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.
<i>Irritancy of Product:</i>	Not available
<i>Sensitization to Product:</i>	This product is not expected to cause skin sensitization.
<i>Carcinogenicity:</i>	Prolonged inhalation of Titanium dioxide (Classified 2B by IARC) above safe exposure limits may cause cancer.
<i>Reproductive Effects:</i>	Not available
<i>Respiratory Sensitization:</i>	Not available
<i>Toxicological Data:</i>	<u>Cellulose</u> Oral, rat: >5000 mg/kg (LD50) Dermal, rabbit: >2000 mg/kg (LD50) <u>Iron Oxide</u> Oral, rat: >10000 mg/kg (LD50) <u>Manganese</u> Oral, rat: 9000 mg/kg (LD50) <u>Titanium Dioxide</u> Oral, rat: >10000 mg/kg (LD50) Dermal, rabbit: >10000 mg/kg (LD50) <u>Iron</u> Oral, rat: 30000 mg/kg (LD50)

Section 12: Ecological Information

<i>Aquatic and Terrestrial Toxicity:</i>	Welding rods contain metals which are considered to be very toxic towards aquatic organisms. Finely divided welding rods are therefore considered harmful to aquatic organisms.
<i>Persistence and Degradability:</i>	The welding rods consist of elements that cannot degrade any further in the environment.
<i>Bio accumulative Potential:</i>	Welding rods contain heavy metals which bio accumulates in the food chain. The following figures are the bio concentration factor (BCF) for the substances on their own: Manganese, BCF: 59052 Iron, BCF: 140 000
<i>Soil Mobility:</i>	Welding rods are not soluble in water or soil. Particles formed by working welding rods can be transported in the air.

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:

For product elimination, consult recycling companies or appropriate local authority. This product is not considered hazardous waste if discarded. Residue from welding consumables and processes could degrade and accumulate in soils and groundwater.

Section 14: Transportation Information

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

Section 15: Regulatory Information

California Proposition 65:

This product contains or produces a chemical(s) known to the State of California to cause cancer and birth defects (or other reproductive harm).

USA EPCRA/SARA Title III Toxic Chemicals:

The following metallic components are listed as *SARA 313 Toxic Chemicals* and potential subject to annual SARA reporting (see Section 3 for weight percentage): Manganese (disclosure threshold = 5 mg/m³)

Section 16: Other Information

Preparation Date:

7 June 2016

Date of Last Revision:

7 June 2016

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.