

## Section 1: Product and Company Identification

<i>Product Identifier:</i>	<b>Aluminum Flux Cored Rod</b>
<i>Product Use:</i>	A rub-on solder for aluminum without flux
<i>Item Code:</i>	211118
<i>Supplier Name:</i>	PowerWeld Inc.
<i>Supplier Address:</i>	2501 Beech Street Valparaiso, IN 46383
<i>Supplier Web Address:</i>	www.powerweldinc.com
<i>Supplier Phone:</i>	219-462-8700 1-800-826-9073
<i>Emergency Phone:</i>	Chemtrec (24 hours) 800-424-9300
<i>Prepared By:</i>	Techniweld Corporation
<i>Preparation Date:</i>	10 November 2016

## Section 2: Hazard Identification

<i>Classification:</i>	Acute hazard, hazardous to aquatic environment	Category 1
	Long-term hazard, hazardous to aquatic environment	Category 1
<i>Label Elements:</i>	Warning	



### Hazard Phrases

H400 Very toxic to aquatic life.  
H410 Very toxic to aquatic life with long lasting effects.

### Precautionary Phrases

P210 Keep away from heat/sparks/open flames/hot surfaces – No smoking.  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P273 Avoid release to the environment.  
P280 Wear gloves/eye protection/face protection.  
P391 Collect spillage.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

## Section 3: Composition/Information on Hazardous Ingredients

HAZARDOUS INGREDIENTS	CAS NUMBER	APPROXIMATE CONCENTRATION (%)
Zinc	7440-66-6	85 - 95
Aluminum	7429-90-5	1 - 11
Copper	7440-50-8	1 - 11

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## Section 4: First-aid Measures

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<i>Inhalation:</i>	Remove to fresh air immediately or administer oxygen. Get medical attention immediately.
<i>Ingestion:</i>	Obtain medical attention immediately if ingested.
<i>Eye Contact:</i>	Flush eyes with water for at least 15 minutes. Get medical attention.
<i>Skin Contact:</i>	Flush skin with large amounts of water. If irritation develops and persists, get medical attention.

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

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## Section 5: Fire-fighting Measures

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<i>Flammable:</i>	Not flammable; emits toxic fumes when heated
<i>Means of Extinction:</i>	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Welding arcs and sparks can ignite combustible and flammable materials. Use the extinguishing media recommended for the burning material and fire situation. Do not use water on molten metal. Large fires may be flooded with water from a distance.
<i>Auto-ignition Temperature:</i>	Not available
<i>Hazardous Combustion Products:</i>	Zinc/zinc oxides, Copper oxides, Aluminium oxides
<i>Explosion Data Sensitivity to Mechanical Impact:</i>	Not available
<i>Explosion Data Sensitivity to Static Discharge:</i>	Not available
<i>Special Equipment:</i>	Fire fighters should wear complete protective clothing including self-contained breathing apparatus.
<i>Precautions for Fire Fighters:</i>	See above

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## Section 6: Accidental Release Measures

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<i>Protective Equipment:</i>	See Section 8
<i>Emergency Procedures:</i>	See Section 13
<i>Leak or Spill Procedure:</i>	Solid objects may be picked up and placed into a container. Liquids or pastes should be scooped up and placed into a container. Wear proper protective equipment while handling these materials. Do not discard as refuse.

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## Section 7: Handling and Storage

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<i>Handling Procedures and Equipment:</i>	Handle with care to avoid stings or cuts. Wear gloves when handling welding consumables. Avoid exposure to dust. Do not ingest. Some individuals can develop an allergic reaction to certain materials. Retain all warning and identity labels.
<i>Storage Requirements:</i>	Store in dry place in closed packages. Keep separate from chemical substances like acids and strong bases, which could cause chemical reactions.
<i>Incompatibilities:</i>	Acids and strong bases.

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## Section 8: Exposure Controls/Personal Protection

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### Exposure Limits:

HAZARDOUS INGREDIENTS	CAS NUMBER	OSHA PEL (mg/m <sup>3</sup> )	ACGIH-TLV (mg/m <sup>3</sup> )
Zinc	7440-66-6	10	10
Aluminum	7429-90-5	15(fume)	10
Copper	7440-50-8	0.2(fume)	0.1(fume)

### Engineering Controls:

The usual precautionary measures for handling chemicals should be followed. Keep away from food, beverages and feed. Remove all soiled and contaminated clothing immediately. Wash hands before break and at the end of the work. Store all protective clothing separately. Maintain an ergonomically appropriate working environment. Wear protective equipment. Keep unprotected persons away. Avoid causing dust.

### Personal Protective Equipment:

Respiratory protection: 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.

Hands protection: Wear appropriate gloves to prevent skin contact.

Eyes protection: Welder's helmet or face shield with colour absorbing lenses. Shield and filter to provide protection from harmful UV radiation, infra-red and molten metal approved to standard EN379. Filter shade to be a minimum of shade 9.

Skin protection: Heat-resistant protective clothing. Wear safety boots, apron, arm and shoulder protection. Keep protective clothing clean and dry. Clothing should be selected to suit the level, duration and purpose of the welding activity.

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## Section 9: Physical and Chemical Properties

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<i>Physical State:</i>	Soild
<i>Odour and Appearance:</i>	Odourless
<i>Odour Threshold (ppm):</i>	Not available
<i>pH:</i>	Not available
<i>Melting Point:</i>	728°F (387°C)
<i>Freezing Point:</i>	Not applicable
<i>Boiling Point:</i>	2400°F (1314°C)
<i>Flashpoint:</i>	Not available
<i>Upper Flammable Limit (% by volume):</i>	Not available
<i>Lower Flammable Limit (% by volume):</i>	Not available

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## Section 10: Stability and Reactivity

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<i>Chemical Stability:</i>	This product is stable under normal conditions.
<i>Possible Hazardous Reactions:</i>	Contact with chemical substances like acids or strong bases cause generation of gas.
<i>Conditions to Avoid:</i>	None under normal conditions of use.
<i>Materials to Avoid (Incompatibilities):</i>	Strong acids and strong Alkalis.
<i>Conditions of Reactivity:</i>	See above
<i>Hazardous Decomposition By-Products:</i>	When this product is used in a welding process, hazardous decomposition product 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. 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

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## Section 11: Toxicological Information

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*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 to welding fumes may result in symptoms like metal fume fever, dizziness, nausea, dryness or irritation of the nose, throat or eyes. Symptoms of systematic copper poisoning may include: capillary damage, headache, cold sweat, weak pulse, kidney and liver damage, central nervous system excitation followed by depression, jaundice, convulsions, paralysis and coma. Signs and symptoms of Zinc exposure are central nervous system depression, cough, chest pain and difficulty breathing. Exposure to high airborne concentrations can cause anesthetic effects

*Effects of Chronic Exposure:*

Excessive inhalation of zinc oxide fumes may produce symptoms known as "Zinc Shakes" which are flu-like and usually cease when the individual is removed from the source. Chronic copper poisoning is typified by hepatic cirrhosis, brain damage and demyelination, kidney defect and copper deposition in the cornea as exemplified by humans with Wilson's disease. It has also been reported that copper poisoning has led to haemolytic anemia and accelerates arteriosclerosis, damage to the lungs, vomiting, diarrhoea, abdominal pain and blood disorders.

*Irritancy of Product:*

Not available

*Sensitization to Product:*

Not available

*Carcinogenicity:*

Not available

*Reproductive Effects:*

Not available

*Respiratory Sensitization:*

Not available

*Toxicological Data:*

### Aluminum

Oral, rat: > 15 900 mg/kg (LD50)

Inhalation, rat: > 0.888 mg/L [4hr] (LC50)

Inhalation, rainbow trout: 12 mg/L [96hr] (LC50)

### Copper

Oral, rat: > 2000 mg/kg (LD50)

Dermal, rat: > 2000 mg/kg (LD50)

Inhalation: >5.11 mg/L [4hr] (LC50)

Intraperitoneal, mouse: 3.5 mg/kg (LD50)

### Zinc

Oral, rat: 630 mg/kg (LD50)

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## Section 12: Ecological Information

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*No data available. Welding materials could degrade into components originating from the materials used in the welding process. Avoid exposure to conditions that could lead to accumulation in soils or groundwater. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.*

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## Section 13: Disposal Considerations

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

*Safe Handling:*

See Section 7

*Methods of Disposal:*

For product elimination, consult recycling companies or appropriate local authority. May be disposed in approved landfills provided local regulations are observed.

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## Section 14: Transportation Information

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*Welding rods are not classified as dangerous goods for transport and has no UN number.*

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## Section 15: Regulatory Information

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*California Proposition 65:*

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

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## Section 16: Other Information

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*Preparation Date:*

10 November 2016

*Date of Last Revision:*

10 November 2016

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*This SDS format is in accordance with GHS. Techniweld Corporation 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 Techniweld. 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.*