
Section 1: Product and Company Identification

<i>Product Identifier:</i>	Silver Brazing Alloys (Sil-Fos)
<i>Product Use:</i>	Alloys for brazing and other metallurgical processes
<i>Item Code:</i>	45CF_, UB0_, UB5, UB15
<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>Manufacturer:</i>	Lucas-Milhaupt, Inc.
<i>Manufacturer Address:</i>	235 Kilvert Street Warwick, RI 02886
<i>Manufacturer Web Address:</i>	www.lucasmilhaupt.com
<i>Manufacturer Phone:</i>	401-739-9550
<i>Emergency Phone:</i>	CHEMTREC (24-hour) 1-800-424-9300
<i>Prepared By:</i>	Powerweld Inc.
<i>Preparation Date:</i>	1 January 2026

Section 2: Hazard Identification

<i>Classification:</i>	Acute toxicity, inhalation	Category 3
	Carcinogenicity	Category 1
	Reproductive toxicity	Category 2
	Germ cell mutagenicity	Category 2

Symbols:



Signal Word:

DANGER!

Hazard Statements:

H331 Toxic if inhaled.
H341 Suspected of causing genetic defects.
H350 May cause cancer.
H361 Suspected of damaging fertility or the unborn child.
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing dust/fume.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves and eye/face protection.
P308+ IF exposed or concerned:

- P313 Get medical advice/attention.
P304+ IF INHALED:
P340 Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P405 Store locked up.
P501 Dispose of contents/container in accordance with applicable regulations.

Other Hazards:

The acute toxicities of 10 – 90% of the products' ingredients are unknown.

Section 3: Composition/Information on Hazardous Ingredients

HAZARDOUS INGREDIENTS	CAS NUMBER	APPROXIMATE CONCENTRATION (%)
Cadmium	7440-43-9	1 – 30
Copper	7440-50-8	5 – 50
Zinc	7440-66-6	5 – 40
Silver	7440-22-4	1 – 60

Section 4: First-aid Measures

<i>Inhalation:</i>	If signs and symptoms of toxicity are observed, remove subject from area, administer oxygen, and seek medical attention. Keep the subject warm and at rest. Perform artificial respiration if breathing has stopped.
<i>Ingestion:</i>	If subject is conscious, induce vomiting. If unconscious or convulsive, seek immediate medical assistance. Do not give anything by mouth to an unconscious or convulsive person.
<i>Eye Contact:</i>	Flush affected areas with water for at least fifteen minutes. Seek medical assistance if necessary.
<i>Skin Contact:</i>	Remove contaminated clothing. Wash affected area with large quantities of water for at least five minutes. Seek medical attention if necessary. Launder or dry-clean clothing before reuse.
<i>Symptoms:</i>	None of the components are acutely toxic by ingestion, nor are they absorbed through the skin. Extensive or prolonged skin contact may cause dermatitis and/or argyria. Inhalation of cadmium fume may cause severe respiratory illness.

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

Section 5: Fire-fighting Measures

<i>Flammable:</i>	Non-flammable
<i>Means of Extinction:</i>	Use dry chemical; do not use water.
<i>Auto-ignition Temperature:</i>	Not applicable
<i>Hazardous Combustion Products:</i>	If present in a fire or explosion, they may emit fumes of the constituent metals or their oxides.
<i>Explosion Data Sensitivity to</i>	

<i>Mechanical Impact:</i>	Not available
<i>Explosion Data Sensitivity to Static Discharge:</i>	Not available
<i>Special Equipment:</i>	See below
<i>Precautions for Fire Fighters:</i>	If fighting a fire in which these products are present, wear a self-contained breathing apparatus with full face piece operated in pressure-demand or other positive pressure mode.

Section 6: Accidental Release Measures

<i>Protective Equipment:</i>	See Section 8
<i>Emergency Procedures:</i>	If a finely-divided form of product is spilled, clean up spillage so as to minimize dispersion of dust. Either wet sweeping or vacuuming using HEPA filtration is recommended. Avoid contact with skin, eyes, and mucous membranes.
<i>Leak or Spill Procedure:</i>	Prevent spills from entering sewers or contaminating soil.

Section 7: Handling and Storage

<i>Handling Procedures and Equipment:</i>	No special handling precautions are required. To prevent ingestion following use of the product, wash hands and face before eating, drinking, applying cosmetics, or using tobacco. Remove contaminated clothing or protective equipment before entering eating/drinking areas.
<i>Storage Requirements:</i>	Do not store in proximity to incompatible materials.
<i>Incompatibilities:</i>	Acetylene; ammonia; azides; nitric acid; halogens; ethylene imine; ethylene oxide; chlorine trifluoride; sulfuric acid; peroxides; peroxyformic acid; oxalic acid; tartaric acid; 1-bromo-2-propyne; permonosulfuric acid; hydrogen sulfide; hydrazine mononitrate; hydrazoic acid; bromates, chlorates, and iodates of alkali and alkali earth metals; hydroxylamine; selenium; carbon disulfide; ammonium nitrate; tellurium

Section 8: Exposure Controls/Personal Protection

Exposure Limits:

HAZARDOUS INGREDIENTS	CAS NUMBER	ACGIH TLVs (mg/m ³)	OSHA PEL (mg/m ³)
Cadmium	7440-43-9	TWA: 0.1 TWA(resp): 0.002	TWA: 5 micrograms/mg ³
Copper	7440-50-8	TWA(fume): 0.2 TWA(dust): 1	TWA(fume): 0.1 TWA(dust): 1
Zinc	7440-66-6	TWA: 2 STEL(resp): 10	TWA(resp): 5
Silver	7440-22-4	TWA(metal): 0.1	TWA: 0.1

<i>Engineering Controls:</i>	Use appropriate local exhaust ventilation adequate to maintain concentrations of all components and their by-products to within their applicable standards.
<i>Personal Protective Equipment:</i>	<u>Eye/Face Protection:</u> Wear eye protection adequate to prevent eye contact with finely-divided product and eye injury if the products are

used with a flame. Plastic-frame spectacles with side shields are recommended.

Skin Protection: Wear appropriate protective gloves and clothing to prevent skin injury if the products are used with a flame and/or for prolonged or repeated contact with finely-divided forms of product. Avoid flammable fabrics.

Respiratory Protection: If an exposure level to a component(s) exceeds an applicable standard, use a NIOSH-approved respirator having a configuration (face piece, filter media, assigned protection factor, etc.) effective for the concentration of the component(s) generated. For guidance on selection and use of respirators, consult American National Standard Z88.2 (ANSI, New York, NY 10036, USA).

Section 9: Physical and Chemical Properties

<i>Physical State:</i>	Solid welding wire
<i>Odour and Appearance:</i>	Odourless light yellow metals
<i>Odour Threshold (ppm):</i>	Not applicable
<i>pH:</i>	Not applicable
<i>Melting Point:</i>	609°C (1145°F)
<i>Freezing Point:</i>	Not applicable
<i>Boiling Point:</i>	Not determined
<i>Flashpoint:</i>	Not applicable
<i>Upper Flammable Limit (% by volume):</i>	Not applicable
<i>Lower Flammable Limit (% by volume):</i>	Not applicable

Section 10: Stability and Reactivity

<i>Chemical Stability:</i>	Stable under normal conditions of storage and use.
<i>Possible Hazardous Reactions:</i>	Silver and copper can form unstable acetylides in contact with acetylene gas.
<i>Materials to Avoid (Incompatibilities):</i>	Acetylene; ammonia; azides; nitric acid; halogens; ethylene imine; ethylene oxide; chlorine trifluoride; sulfuric acid; peroxides; peroxyformic acid; oxalic acid; tartaric acid; 1-bromo-2-propyne; permonosulfuric acid; hydrogen sulfide; hydrazine mononitrate; hydrazoic acid; bromates, chlorates, and iodates of alkali and alkali earth metals; hydroxylamine; selenium; carbon disulfide; ammonium nitrate; tellurium.
<i>Conditions of Reactivity:</i>	None reasonably foreseeable.
<i>Hazardous Decomposition By-Products:</i>	Heating to elevated temperatures may liberate metal/metal oxide fumes.
<i>Hazardous Polymerization:</i>	Will not occur

Section 11: Toxicological Information

<i>Skin Contact:</i>	Skin contact with these products in finely-divided forms may cause irritation, argyria, discoloration, and/or contact dermatitis.
<i>Skin Absorption:</i>	Not applicable.

Eye Contact:

Eye contact with these products in finely-divided forms may cause irritation, conjunctivitis, ulceration of the cornea, and/or argyria, a permanent gray discoloration of the eyes, skin, mucous membranes, and respiratory tract.

Inhalation:

Inhalation of toxicologically-significant quantities of the components is unlikely when the product is used in accordance with instructions and specified protective measures (see Section #8). If the product is heated to elevated temperatures, inhalation of cadmium fume may cause severe respiratory illness.

Ingestion:

Ingestion of these products may cause nausea, vomiting, and gastrointestinal irritation.

Effects of Acute Exposure:

Acute overexposure to cadmium fume by inhalation may cause pneumonitis, bronchitis, and pulmonary edema.

Effects of Chronic Exposure:

Chronic overexposure by inhalation and/or ingestion may aggravate pre-existing diseases of the liver, kidneys, gastrointestinal system, musculoskeletal system, and nervous system.

Carcinogenicity:

Cadmium (CASRN 7440-43-9) is regulated as a carcinogen by OSHA, listed on the National Toxicology Program (NTP), and listed in the IARC Monographs.

Reproductive Effects:

In experimental studies, cadmium has been found to cause reproductive abnormalities, including reduced birth weights, reduced viability, and behavioral alterations, among offspring of female rodents. Male rodents exposed to cadmium have been found to have testicular damage, reduction in sperm counts, and reduced fertility.

Toxicological Data:

Cadmium

Oral, rat – 2300 mg/kg (LD50)

Rat – 1300 mg/m³, 30 minutes (LC50)

Silver

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

Section 12: Ecological Information

No ecological data is available for the product or its components.

Section 13: Disposal Considerations

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

Safe Handling:

No special handling precautions are required.

Methods of Disposal:

Do not discharge waste product into sanitary or storm sewers or allow it to contaminate soil. Consult applicable federal, state/provincial, and local regulations.

Section 14: Transportation Information

This material is non-hazardous and is not considered a dangerous good per transportation regulations.

Section 15: Regulatory Information

California Proposition 65:

These products contain a chemical(s) known to the State of California to cause cancer: Cadmium.

Section 16: Other Information

Preparation Date:

19 January 2017

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.