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Revision Number 2

1. IDENTIFICATION

Product identification

Product identifier	Cronatron™ 47 Sil-Phos Bare Brazing Rod
Other means of identification	CW5765
Recommended use	Brazing Alloy
Restrictions on use	For industrial use only, These items are only intended for normal welding purposes

Supplier

Corporate Headquarters:
Cronatron, A Lawson Brand
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(800) 323-5922

24 Hour Emergency Phone Number (888) 426-4851 (Prosar)

Website <https://www.lawsonproducts.com>

2. HAZARD(S) IDENTIFICATION

Hazard Classification This product is normally not considered hazardous as shipped. Avoid contact with eyes. Avoid inhalation of dust from the product. When this product is used in a welding process the most important hazards are: heat, radiation, electric shock and welding fumes.

Hazardous to the aquatic environment

Category 1

Symbol



Signal word WARNING

Hazard statements H400 - Very toxic to aquatic life

Precautionary statements

General P102 - Keep out of reach of children

Prevention	P280 - Wear protective gloves/protective clothing and eye/face protection P271 - Use only outdoors or in a well-ventilated area P273 - Avoid release to the environment
Response	
Spill	P391 - Collect spillage
Storage	P402 - Store in a dry place
Disposal	P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable
Hazard(s) Not Otherwise Classified (HNOC)	None known.
Physical Hazards Not Otherwise Classified (PHNOC)	None known.
Unknown acute toxicity	None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Composition Mixture.

Chemical name	CAS-No	Weight %
Copper	7440-50-8	75-85
Phosphorus	7723-14-0	1-11
Silver	7440-22-4	10-20

4. FIRST-AID MEASURES

Necessary first-aid measures

Inhalation	Remove to fresh air immediately or administer oxygen. Get medical attention immediately.
Ingestion	Rinse mouth. Get medical attention immediately.
Skin contact	Wash off immediately with soap and plenty of water. If symptoms persist, call a physician.
Eye contact	Flush with plenty of water for at least 15 minutes. Get medical attention.
Most important symptoms (acute)	Not available.
Most important symptoms (over-exposure)	Not available.
Indication of any immediate medical attention and special treatment needed	Not available.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	Water spray. Alcohol resistant foam. Dry chemical. Carbon dioxide (CO ₂). Use the extinguishing media recommended for the burning material and fire situation.
Unsuitable extinguishing	Do not use water on molten metal. Large fires may be flooded with water from a safe

media	distance.
Specific hazards	Welding arcs and sparks can ignite combustible and flammable materials. Hazardous Thermal Decomposition Products: Copper oxides. Silver oxide. Phosphorus oxides.
Special protective equipment for fire-fighters	Firefighters should wear NIOSH/MSHA approved (or equivalent) self-contained pressure-demand breathing apparatus and full protective clothing.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	Use personal protection recommended in Section 8. For waste disposal, see section 13 of the SDS.
Methods and materials for containment and cleaning up	Solid objects may be picked up and placed in a container. Make sure the solid objects are at room temperature before handling. Liquids or pastes should be scooped up and placed into a container. Wear proper protective equipment while handling these materials. Dispose contaminated material as waste according to section 13.

7. HANDLING AND STORAGE

Precautions for safe handling	Handle with care to avoid cuts and prevent the wire from piercing the skin. Wear gloves. Some individuals may develop an allergic reaction to certain materials. Keep all warning and identification labels on the product.
Conditions for safe storage, including any incompatibilities	Avoid accumulation of dust. Good housekeeping practices are essential to prevent risk of secondary explosions. Keep containers tightly closed in a cool, well-ventilated place. Keep away from incompatible materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Chemical name	OSHA PEL (TWA)	ACGIH OEL (TWA)	NIOSH - TWA
Copper	0.1 mg/m ³ TWA 1 mg/m ³ TWA	0.2 mg/m ³ TWA 1 mg/m ³ TWA	1 mg/m ³ TWA 0.1 mg/m ³ TWA 1 mg/m ³ TWA
Phosphorus	-	-	-
Silver	0.01 mg/m ³ TWA	0.1 mg/m ³ TWA	0.01 mg/m ³ TWA

Appropriate engineering controls	Avoid exposure to welding fumes, radiation, spatter, electric shock, heated materials and dust. Ensure sufficient ventilation, local exhaust, or both, to keep welding fumes and gases from breathing zone and general area. Keep workplace and protective clothing clean and dry. Train the welder not to touch live electrical parts and to insulate himself from work and ground. Check condition of protective clothing and equipment on a regular basis. Provide adequate ventilation to keep exposure limits below PEL.
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Individual protection measures, such as personal protective equipment

Eye protection	Welder's helmet or face shield with color absorbing lenses. Shield and filter to provide protection from harmful UV radiation, infrared and molten metal approved to standard EN379. Filter shade to be a minimum of shade 9.
Skin and body protection	Wear impervious gloves to prevent contact with the skin. 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.
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.

Hygiene measures

Keep away from food, drink and animal feeding stuffs. Wash hands after handling the product. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of workday. Store protective clothing separately. Maintain an ergonomically appropriate working environment. Keep unnecessary and unprotected personnel from entering the area. Wear protective equipment.

**Canadian Province Occupational
Exposure Limits**

Chemical name	Alberta OEL	British Columbia OEL	Manitoba OEL	New Brunswick - OEL	Newfoundl and & Labrador - OEL	Nova Scotia - OEL	Ontario OEL	Prince Edward Island - OEL	Quebec OEL	Saskatche wan - OEL
Copper	0.2 mg/m ³ TWA 1 mg/m ³ TWA	1mg/m ³ TW A 0.2mg/m ³ T WA	0.2 mg/m ³ TWA 1 mg/m ³ TWA	0.2 mg/m ³ TWA 1 mg/m ³ TWA	0.2 mg/m ³ TWA 1 mg/m ³ TWA	0.2 mg/m ³ TWA 1 mg/m ³ TWA	0.2 mg/m ³ TWA 1 mg/m ³ TWA	0.2 mg/m ³ TWA 1 mg/m ³ TWA	0.2 mg/m ³ TWA EV 1 mg/m ³ TWA EV	0.6 mg/m ³ STEL 3 mg/m ³ STEL 0.2 mg/m ³ TWA 1 mg/m ³ TWA
Phosphorus	0.1 mg/m ³ TWA	-	-	0.02 ppm TWA 0.1 mg/m ³ TWA	-	-	-	-	0.1 mg/m ³ TWA EV	-
Silver	0.1 mg/m ³ TWA	0.03mg/m ³ STEL 0.01mg/m ³ T WA	0.1 mg/m ³ TWA	0.1 mg/m ³ TWA	0.1 mg/m ³ TWA	0.1 mg/m ³ TWA	0.1 mg/m ³ TWA	0.1 mg/m ³ TWA	0.1 mg/m ³ TWA EV	0.3 mg/m ³ STEL 0.1 mg/m ³ TWA

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Solid
Color	Black
Odor	Odorless
Odor threshold	Not applicable
pH	Not applicable
Melting point/range °C	725 °C
Melting point/range °F	1337 °F
Boiling point/range °C	Not available
Boiling point/range °F	Not available
Flash point °C / °F	Not available
Evaporation rate	Not applicable
Flammability (Solid, Gas)	Not available
Lower explosion limit	Not available
Upper explosion limit	Not available
Vapor pressure	Not applicable

Vapor density	Not applicable
Relative density	7.6
Solubility	Insoluble in water
Partition coefficient (n-octanol/water)	No data available
Autoignition temperature °C	Not applicable
Autoignition temperature °F	Not applicable
Decomposition temperature °C	Not available
Decomposition temperature °F	Not available
Viscosity	Not available

10. STABILITY AND REACTIVITY

Reactivity	Stable under normal conditions.
Chemical stability	Stable under normal storage conditions.
Possibility of hazardous reactions	Contact with chemical substances like acids or strong bases could cause generation of gas. Keep away from any possible contact with water, because of violent reaction and possible flash fire.
Conditions to avoid	Not applicable.
Incompatible materials	Incompatible with acids. Water.
Hazardous decomposition products	When this product is used in a welding process, hazardous decomposition products would include those from volatilization, reaction or oxidation of the materials 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 the fume compounds. Fume limit for chromium, nickel, and or manganese may be reached before limit of 5 mg/m ³ of general welding fumes is reached. Air contaminants around the welding area can be affected by the welding process and influence the composition and quality of fumes and gases produced.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	Dermal. Inhalation. Ingestion.
Symptoms	Inhalation of welding fumes and gases can be dangerous to your health. Welding fumes cannot be classified simply. Their composition and quantity are dependent upon the metal being welded, the process, procedures and electrodes being used. The International Agency for Research on Cancer has classified welding fumes as possibly carcinogenic to humans (group 2B). Overexposure to brazing and soldering fumes may result in symptoms like metal fume fever, dizziness, nausea, dryness or irritation of the nose, throat or eyes. Symptoms of 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. The red form of phosphorous is stable and relatively non-toxic at room temperature. When heated in the presence of air, it is converted to phosphorous pentoxide, which is corrosive and irritating to the eyes, nose, throat, and mucous membranes. May cause sensitization by skin contact.
Delayed and immediate effects as well as chronic effects from	Overexposure to brazing and soldering fumes may affect pulmonary function. 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

short and long-term exposure disease. It has also been reported that copper poisoning has led to hemolytic anemia and accelerates arteriosclerosis, damage to the lungs, vomiting, diarrhea, abdominal pain and blood disorders.

Numerical measures of toxicity

Chemical name	Inhalation LC50:	Dermal LD50:	Oral LD50:
Copper	-	-	-
Phosphorus	= 4.3 mg/L (Rat) 1 h	= 100 mg/kg (Rat)	= 3030 µg/kg (Rat)
Silver	-	> 2000 mg/kg (Rat)	> 5000 mg/kg (Rat)

ATEmix (dermal) Not available

ATEmix (oral) Not available

ATEmix (inhalation-gas) Not available

ATEmix (inhalation-vapor) Not available

ATEmix (inhalation-dust/mist) Not available

Carcinogenicity

Chemical name	ACGIH OEL - Carcinogens	IARC	OSHA RTK Carcinogens	NTP
Copper	-	-	-	-
Phosphorus	-	-	-	-
Silver	-	-	-	-

Canadian Province carcinogenicity limits

Chemical name	Alberta - Carcinogen	British Columbia - Carcinogen	Manitoba - Carcinogen	New Brunswick - Carcinogen	Nova Scotia - Carcinogen	Quebec - Carcinogen
Copper	-	-	-	-	-	-
Phosphorus	-	-	-	-	-	-
Silver	-	-	-	-	-	-

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical name	Algae/aquatic plants	Fish
Copper	0.0426 - 0.0535: 72 h Pseudokirchneriella subcapitata mg/L EC50 static 0.031 - 0.054: 96 h Pseudokirchneriella subcapitata mg/L EC50 static	0.0068 - 0.0156: 96 h Pimephales promelas mg/L LC50 0.2: 96 h Pimephales promelas mg/L LC50 flow-through 0.3: 96 h Pimephales promelas mg/L LC50 static 0.3: 96 h Cyprinus carpio mg/L LC50 semi-static 0.052: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 0.112: 96 h Poecilia reticulata mg/L LC50 flow-through 1.25: 96 h Lepomis macrochirus mg/L LC50 static 0.8: 96 h Cyprinus carpio mg/L LC50 static
Phosphorus	-	0.0017 - 0.0035: 96 h Lepomis macrochirus mg/L

Chemical name	Algae/aquatic plants	Fish
		LC50 flow-through 0.001 - 0.004: 96 h <i>Lepomis macrochirus</i> mg/L LC50 static 100: 96 h <i>Brachydanio rerio</i> mg/L LC50 static 0.015 - 0.032: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 static 0.011 - 0.028: 96 h <i>Pimephales promelas</i> mg/L LC50 static
Silver	-	0.00155 - 0.00293: 96 h <i>Pimephales promelas</i> mg/L LC50 static 0.064: 96 h <i>Lepomis macrochirus</i> mg/L LC50 static 0.0062: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 flow-through

Persistence and degradability The welding rods consist of elements that cannot degrade any further in the environment.

Bioaccumulation

Chemical name	CAS-No	Partition coefficient (log Kow)
Copper 7440-50-8	7440-50-8	-
Phosphorus 7723-14-0	7723-14-0	-
Silver 7440-22-4	7440-22-4	-

Mobility in soil Welding rods are not soluble in water or soil. Particles formed by working welding rods can be transported in the air.

Other adverse effects Welding consumables and materials can degrade into the components used to manufacture the product. Avoid exposure to conditions that could lead to accumulation in soils and groundwater. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment

13. DISPOSAL CONSIDERATIONS

Disposal information Collect, transport, store or dispose in accordance with local, state, provincial and federal regulations. Consult appropriate federal, state and local regulatory agencies to ascertain proper disposal procedures. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste.

Contaminated packaging Dispose in accordance with local, state and federal regulations.

14. TRANSPORTATION INFORMATION

Shipping Descriptions

DOT
Proper shipping name Not regulated

TDG
Proper shipping name Not regulated

IATA
Proper shipping name Not regulated

IMDG/IMO
Proper shipping name Not regulated

Marine Pollutants

Chemical name	CAS-No	USDOT Marine Pollutant	Canada TDG Marine Pollutant	IMDG Marine Pollutant
Copper	7440-50-8	X	-	X
Phosphorus	7723-14-0	-	-	-
Silver	7440-22-4	-	-	-

Special Precautions

Multi-modal shipping descriptions are provided for informational purposes and do not consider container size. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

15. REGULATORY INFORMATION

State regulations**U.S. state Right-to-Know regulations**

Chemical name	CAS-No	Massachusetts - RTK	New Jersey - RTK	Pennsylvania - RTK
Copper	7440-50-8	X	X	X
Phosphorus	7723-14-0	X	X	X
Silver	7440-22-4	X	X	X

California Prop. 65

Chemical name	CAS-No	California Prop. 65
Copper	7440-50-8	-
Phosphorus	7723-14-0	-
Silver	7440-22-4	-

California Proposition 65

This product does not contain any Proposition 65 chemicals

U.S. Federal Regulations**US EPA SARA 313**

Chemical name	CAS-No	CERCLA/SARA Hazardous Substances RQ	SARA 313 - Threshold Values
Copper	7440-50-8	5000 lb 2270 kg	1.0 %
Phosphorus	7723-14-0	1 lb 0.454 kg	1.0 %
Silver	7440-22-4	1000 lb 454 kg 1 lb 0.454 kg	1.0 %

US EPA SARA 311/312 hazardous categorization

Not applicable

Chemical name	DSL/NDSL	Inventory - United States - Section 8(b) Inventory (TSCA)	U.S. - TSCA (Toxic Substances Control Act) - Section 12(b) - Export Notification
Copper	X	X	-
Phosphorus	X	X	-
Silver	X	X	-

Legend X - Listed

16. OTHER INFORMATION

NFPA

Health	Not available
Flammability	Not available
Instability	Not available

HMIS

Health	Not available
Flammability	Not available
Physical hazards	Not available

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Prepared by Regulatory Affairs

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Revision note

Key to abbreviations

ACGIH (American Conference of Governmental Industrial Hygienists)
 ATE (Average Toxicity Estimate)
 DSL/NDSL (Domestic Substance List/Non-Domestic Substance List)
 HMIS (Hazardous Materials Identification System)
 IARC (International Agency for Research on Cancer)
 IATA (International Air Transport Association)
 IMDG/IMO (International Maritime Dangerous Goods/International Maritime Organization)
 NFPA (National Fire Protection Association)
 NTP (National Toxicology Program)
 OEL (Occupational Exposure Level)
 OSHA (Occupational Safety and Health Administration of the US Department of Labor)
 PEL (Permissible Exposure Limit)
 TSCA (Toxic Substance Control Act)
 USEPA (United States Environmental Protection Agency)

Disclaimer

The information accumulated herein is believed to be accurate, but is not warranted to be, whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

End of Safety Data Sheet