

Revised:

SEMCO, INC. Beryllium Copper Plunger Tips & Bodies

SAFETY DATA SHEET

Section 1: Identification

CHEMICAL/TRADE NAME: Beryllium Copper Plunger Tips & Bodies

SYNONYMS Semco BE-10s™

01-Feb-19 Semco BE-20s™

Replaces: 25-Mar-16 Semco BE-10s XLT™
Semco BE-20s XLT™

CHEMICAL FAMILY Alloy

MANUFACTURER FOR TRANSPORTATION EMERGENCY

Semco Inc. Call Chemtrec at:

 1025 Pole Lane Road
 Domestic: (800) 424-9300

 Marion, Ohio 43302
 International: (703) 527-3887

FOR INFORMATION FOR EMERGENCY

Phone: (800) 848-5764 Call Semco Inc. at: (800) 848-5764

Fax: (740) 387-6127 (740) 387-2229

Website: www.semcotips.com E-mail: sales@semcotips.com

Section 2: Hazard(s) Identification

Physical hazards Not classified.

Health hazardsSensitization, skinCategory 1

Carcinogenicity Category 1

Specific target organ toxicity, repeated Category 1 (Respiratory system)

exposure

Environmental hazards Not classified.

OSHA defined hazards Not classified.

THO COLUMNIC

Hazard statement May cause cancer by inhalation. May cause allergic skin reaction. May cause allergy or

asthma symptoms or breathing difficulties if inhaled. Causes damage to organs

(respiratory system) through prolonged or repeated exposure.

Precautionary statement

Label elements

Signal word

PreventionObtain special instructions before use. Do not handle until all safety precautions have

been read and understood. Minimize dust generation and accumulation. Do not breathe dust/fume. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection. In case of

inadequate ventilation wear respiratory protection.

Response If on skin: Wash with plenty of water. If inhaled: Remove person to fresh air and keep

comfortable for breathing. If exposed or concerned: Call a poison center/doctor. If skin irritation or rash occurs: Get medical advice/attention. If experiencing respiratory symptoms: Call a poison center/doctor. Wash contaminated clothing before reuse.

Storage Store locked up.

Disposal Dispose of contents/container in accordance with local/regional/national/international

regulations.

Hazard(s) not otherwise classified None known.

(HNOC)



Supplemental information

Exposure to the elements listed in Section 3 by inhalation, ingestion, and skin contact can occur when melting, casting, dross handling, pickling, chemical cleaning, heat treating, abrasive cutting, welding, grinding, sanding, polishing, milling, crushing, or otherwise heating or abrading the surface of this material in a manner which generates particulate.

For further information, please contact Semco Inc. at (800) 848-5764

Section 3: Composition/Information on Ingredients								
Mixtures								
Chemical Name		Common name and synonyms						
	CAS Number	Semco BE-10s & BE-10s XLT	Semco BE-20s & BE-20s XLT					
Beryllium	7440-41-7	.4565	1.80-2.15					
Cobalt	7440-48-4	.3555	.4555					
Nickel	7440-02-0	.90-1.85	Trace					
Copper	7440-50-8	Balance	Balance					

Section 4: First Aid Measures

Inhalation

If symptoms develop, move victim to fresh air. For breathing difficulties, oxygen may be necessary. Breathing difficulty caused by inhalation of particulate requires immediate removal to fresh air. If breathing has stopped, perform artificial respiration and obtain medical help.

Skin contact

Take off contaminated clothing and wash before reuse. Thoroughly wash skin cuts or wounds to remove all particulate debris from the wound. Seek medical attention for wounds that cannot be throughly cleansed. Treat skin cuts and wounds with standard first aid pratices such as cleansing, disinfecting and covering to prevent wound infection and contamination before continuing work. Obtain medical help for persistent irritation. Material accidentally implanted or lodged under the skin must be removed.

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention if symptoms persist.

Ingestion

If swallowed, seek medical advice immediately and show this container or label. Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person.

Most important symptoms/effects, acute and delayed

May cause allergic skin reaction. May cause allergic respiratory reaction. Prolonged exposure may cause chronic effects.

Indication of immediate medical attention and special treatment needed

Treatment of Chronic Beryllium Disease: There is no known treatment which will cure chronic beryllium disease. Prednisone or other corticosteroids are the most specific treatment currently available. They are directed at suppressing the immunological reaction and can be effective in diminishing signs and symptoms of chronic beryllium disease. In cases where steroid therapy has had only partial or minimal effectiveness, other immunosuppressive agents, such as cyclophosphamide, cyclosporine, or methotrexate, have been used. In view of the potential side effects of all the immunosuppressive medications, including steroids such as prednisone, they should be used only under the direct care of a physician. Other treatment, such as oxygen, inhaled steroids or bronchodilators, may be prescribed by some physicians and can be effective in selected cases. In general, treatment is reserved for cases with significant symptoms and/or significant loss of lung function. The decision about when and with what medication to treat is a judgement situation for individual physicians.



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	In their 2014 official statement on the Diagnosis and Management of Beryllium Sensitivity and Chronic Beryllium Disease, the American Thoracic Society states that "it seems prudent for workers with Beryllium Sensitivity to avoid all future occupational exposure to beryllium."						
General information	If exposed or concerned: get medical attention/advice. Get medical attention if symptoms occur. Wash contaminated clothing before reuse. As supplied, there is no immediate medical risk with beryllium products in article form. First aid measures provided are related to particulate containing beryllium.						
Egil V	Section 5: Fire Fighting Measures						
Suitable extinguishing media	The product is non-combustible. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.						
Unsuitable extinguishing media	Do not use water to extinguish fires around operations involving molten metal due to the potential for steam explosions.						
Specific hazards arising from the chemical	Not applicable.						
Special protective equipment and precautions for firefighters	Firefighters should wear full protective clothing including self contained breathing apparatus. Wear suitable protective equipment.						
Fire fighting equipment/ instructions	Move containers from fire area if you can do so without risk. Water runoff can cause environmental damage.						
Specific methods	Pressure-demand self-contained breathing apparatus must be worn by firefighters or any other persons potentially exposed to the particulate released during or after a fire.						
	Section 6: Accidental Release Measures						
	In solid form this material poses no special clean-up problems. Wear appropriate protective epuipment and clothing during clean-up.						
and emergency procedures							
Methods and materials for containment and cleaning up	Clean up in accordance with all applicable regulations.						
Environmental precautions	Avoid release to the environment. In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.						
	Section 7: Handling and Storage						
Precautions for safe handling	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Minimize dust generation and accumulation. Do not breathe dust/fume. Wear protective gloves/protective clothing/eye protection/face protection. Wear respiratory protection. Wash						

thoroughly after handling. When using, do not eat, drink or smoke. Contaminated work clothing must

not be allowed out of the workplace.



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Conditions for safe storage, including any incompatibilities

Keep locked-up. Avoid contact with acids and alkalies. Avoid contact with oxidizing agents.

JS. OSHA Specifically Regulate Components	d Substances (2 Type	9 CFR 1910.1001-105 Value	00)		
Beryllium (CAS 7440-41-7)	STEL	0.002 mg/	m3		
		0.002 mg/	m3	(as beryllium)	
	TWA	0.0002 mg	g/m3		
US. OSHA Table Z-1 Limits for A	ir Contaminant	s (29 CFR 1910.1000)			
Components	Туре	Value		Form	
Cobalt (CAS 7440-48-4)	PEL	0.1 mg/m3	3	Dust and Fume	
Copper (CAS 7440-50-8)	PEL	1 mg/m3		Dust and Mist	
		0.1 mg/m3	3	Fume	
Nickel (CAS 7440-02-0)	PEL	1 mg/m3			
US. ACGIH Threshold Limit Valu				_	
Components (OAO 7440 44 7)	Type	Value	~/~ 0	Form	
Beryllium (CAS 7440-41-7)	TWA	0.00005m	g/m3	(as inhalable fraction.	
Cabalt (CAS 7440 49 4)	ŤWA	0.02 malm	.2	beryllium)	
Cobalt (CAS 7440-48-4) Copper (CAS 7440-50-8)	TWA	0.02 mg/n 1 mg/m3	13	Dust and Mist	
Copper (CAS 7440-50-6)	IVVA	0.2 mg/m3	2	Fume	
Nickel (CAS 7440-02-0)	TWA	1.5 mg/m3		Inhalable fraction	
US. NIOSH: Pocket Guide to Ch		1.5 mg/m	,	ililalable ll'action	
Components	Туре	Value		Form	
Beryllium (CAS 7440-41-7)	Ceiling	0.0005 mg	g/m3	(as beryllium)	
Cobalt (CAS 7440-48-4)	TWA	0.05 mg/m		Dust and Fume	
Copper (CAS 7440-50-8)			72 J	Dust and Mist	
Copper (CA3 /440-30-6)	IWA	0.1 mg/m3		Fume	
Nickel (CAS 7440-02-0)	TWA	0.015 mg/		, and	
US. California Code of Regulati		•			
Components	Type	Value	Ontaminants	Form	
Beryllium (CAS 7440-41-7)	Ceiling	0.025 mg/	m3	(as beryllium)	
,	PEL	0.0002		(as beryllium)	
Cobalt (CAS 7440-48-4)	PEL	0.02 mg/n	13	Dust and Fume	
Copper (CAS 7440-50-8)	PEL	1 mg/m3		Dust and Mist	
Copper (cr.to r r re de d)		0.1 mg/m3	3	Fume	
Nickel (CAS 7440-02-0)	PEL	0.5 mg/m3			
iological limit values		•			
ACGIH Biological Exposure Ind	lices				
•	alue	Determinant	Specimen	Sampling Time	

Exposure guidelines Based on jo

Based on joint research conducted with the National Institute for Occupational Safety and Health (NIOSH), Semco adopted an eight element Beryllium Worker Protection Model (BWPM) which includes the use of a recommended exposure guideline (REG) for airborne beryllium of 0.2 µg/m3 as a time-weighted average (TWA) limit for an 8-hour work day. Subsequent NIOSH studies have shown that the BWPM has reduced but not eliminated the risk of beryllium sensitization and chronic beryllium disease (CBD) in workers. Information on the BWPM can be found at



www.berylliumsafety.com or by contacting Semco at 1-(800)-848-5764. In January 2017, OSHA issued a comprehensive occupational health standard for beryllium which includes a Permissible Exposure Limit (PEL) of 0.2 μg/m3 as an 8-hour TWA. In its evaluation, OSHA concluded that "despite the reduction in risk expected with the new PEL, the risks of CBD and cancer to workers with average exposure levels of 0.2 μg/m3 are still clearly significant." (Preamble to Final Rule, Occupational Exposure to Beryllium, Docket #OSHA-H005C-2006-0870, at 316.) Therefore, Semco recommends that beryllium users not only comply with the OSHA Beryllium Standard and carefully apply all elements of the BWPM, but reduce airborne exposures to the lowest feasible level.

The American Conference of Governmental Industrial Hygienists (ACGIH®) is a scientific body that has developed guidelines for all listed substances. In its development documents, the ACGIH® states that "Threshold Limit Values and Biological Exposure Indices represent conditions under which ACGIH® believes that nearly all workers may be repeatedly exposed without adverse health effects. They are not fine lines between safe and dangerous exposures, nor are they a relative index of toxicology."

Specific genetic factors have been identified and shown to increase an individual's susceptibility to CBD. Medical testing is available to detect those genetic factors in individuals.

Appropriate engineering controls

Ensure adequate ventilation, especially in confined areas.

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Whenever possible, the use of local exhaust ventilation or other engineering controls is the preferred method of controlling exposure to airborne particulate. Where utilized, exhaust inlets to the ventilation system must be positioned as close as possible to the source of airborne generation Avoid disruption of the airflow in the area of a local exhaust inlet by equipment such as a man-cooling fan. Check ventilation equipment regularly to ensure it is functioning properly. Provide training on the use and operation of ventilation to all users. Use qualified professionals to design and install ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear approved safety glasses, goggles, face shield and/or welder's helmet when risk of eye injury is present, particularly during operations that generate dust, mist or fume.

Skin protection Hand protection

Wear gloves to prevent contact with particulate or solutions. Wear gloves to prevent metal cuts and skin abrasions during handling.

Other

Protective overgarments or work clothing must be worn by persons who may become contaminated with particulate during activities. Skin contact with this material may cause, in some sensitive individuals, an allergic dermal response. Particulate that becomes lodged under the skin has the potential to induce sensitization and skin lesions.

Respiratory protection

When airborne exposures exceed or have the potential to exceed the occupational exposure limits, approved respirators must be used as specified by an Industrial Hygienist or other qualified professional. Respirator users must be medically evaluated to determine if they are physically capable of wearing a respirator. Quantitative and/or qualitative fit testing and respirator training must be satisfactorily completed by all personnel prior to respirator use. Users of tight fitting respirators must be clean shaven on those areas of the face where the respirator seal contacts the face. Use pressure-demand airline respirators when performing jobs with high potential exposures such as changing filters in a baghouse air cleaning device.



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Thermal hazards

Not applicable.

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

Section 9: Physical and Chemical Properties

Appearance

Physical state Solid.

Form Various shapes.

Color Copper.
Odor None

Odor threshold Not applicable. pH Not applicable.

Melting point/freezing point 1600 - 1981.4 °F (871.11 - 1083 °C) estimated/Not applicable

Initial boiling point and boiling Not applicable.

range

Flash point Not applicable.

Evaporation rate Not applicable.

Flammability (solid, gas) None known.

Upper/lower flammability or explosive limits

Explosive limit - lower (%)
Explosive limit - upper (%)
Vapor pressure
Vapor density
Relative density

Not applicable.
Not applicable.
Not applicable.
Not applicable.
Not applicable.

Solubility(ies)

Solubility (water) Insoluble

Auto-ignition temperature Not applicable.

Decomposition temperature Not applicable.

Viscosity Not applicable.

Other information

Density 8.62 - 8.80 g/cm3 estimated

Section 10: Stability and Reactivity

Reactivity Product is stable and non-reactive under normal conditions of use, storage and

transport.

Chemical stability
Possibility of hazardous

Material is stable under normal conditions. Hazardous polymerization does not occur.

reactions

Conditions to avoid Avoid dust formation. Contact with acids. Contact with alkalis.

Incompatible materials Strong acids, alkalies and oxidizing agents.

Hazardous decomposition

products

No hazardous decomposition products are known.

Section 11: Toxicological Information

Information on likely routes of exposure

Inhalation May cause sensitization by inhalation. May cause allergy or asthma symptoms or breathing

difficulties if inhaled. May cause damage to organs (respiratory system) through prolonged or

repeated exposure.

Skin contact May cause an allergic skin reaction.



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Eye contact Not likely, due to the form of the product.

Ingestion Not likely, due to the form of the product.

Symptoms related to the physical, chemical

Respiratory disorder.

the physical, chem and toxicological characteristics

Information on toxicological effects

Acute toxicity May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause allergic skin

reaction.

Skin corrosion/irritation

Not likely, due to the form of the product.

Serious eye damage/eye

Harmful in contact with eyes.

irritation

Respiratory or skin sensitization

ACGIH Sensitization

BERYLLIUM AND COMPOUNDS, SOLUBLE AND Respiratory sensitization

INSOLUBLE COMPOUNDS, AS BE, INHALABLE

FRACTION (CAS 7440-41-7)

HARD METALS CONTAINING COBALT AND Respiratory sensitization

TUNGSTEN CARBIDE, THORACIC FRACTION, AS CO

(CAS 7440-48-4)

Respiratory sensitization May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Skin sensitization

May cause an allergic skin reaction.

Germ cell mutagenicity

Due to lack of data the classification is not possible

Carcinogenicity

Cancer hazard.

IARC Monographs. Overall Evaluation of Carcinogenicity

Beryllium (CAS 7440-41-7) 1 Carcinogenic to humans.

Cobalt (CAS 7440-48-4) 2B Possibly carcinogenic to humans. Nickel (CAS 7440-02-0) 2B Possibly carcinogenic to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Beryllium (CAS 7440-41-7) Cancer

US. National Toxicology Program (NTP) Report on Carcinogens

Beryllium (CAS 7440-41-7) Known To Be Human Carcinogen.

Cobalt (CAS 7440-48-4) Reasonably Anticipated to be a Human Carcinogen.

Nickel (CAS 7440-02-0) Known To Be Human Carcinogen.

Reasonably Anticipated to be a Human Carcinogen.

Reproductive toxicity

Not classified

Specific target organ toxicity-single exposure

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Specific target organ

May cause damage to organs (respiratory system) through prolonged or repeated

toxicity-repeated exposure exposure by inhalation.

Aspiration hazard Due to lack of data the classification is not possible.

Chronic effects Hazardous by OSHA criteria. May cause damage to organs through prolonged or repeated

exposure.

Further information Symptoms may be delayed.

Section 12: Ecological Information

Ecotoxicity No ecotoxicity data noted for the ingredient(s).

Persistence and degradability No data is available on the degradability of this product.



Not available.		
Not available.		
Not available.		
Section 13: Dispos	sal Considerations	
supplied. Disposal must be in material characteristics at time	n accordance with current applicable laws ne of disposal. When this product as supp	s and regulations, and blied is to be discarded
	8000	aterial and its container
, •	• • • • • • • • • • • • • • • • • • • •	
	Not available. Not available. Section 13: Dispos Material should be recycled in supplied. Disposal must be in material characteristics at time as waste, it does not meet the Empty containers or liners meaning the most be disposed of in a safe Empty containers should be disposal. Since emptied containers	Not available. Section 13: Disposal Considerations Material should be recycled if possible. Disposal recommendations ar supplied. Disposal must be in accordance with current applicable laws material characteristics at time of disposal. When this product as supplied as waste, it does not meet the definition of a RCRA waste under 40 C Empty containers or liners may retain some product residues. This may must be disposed of in a safe manner (see: Disposal instructions). Empty containers should be taken to an approved waste handling site disposal. Since emptied containers may retain product residue, follow

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Section 15: Regulatory Information

US federal regulations All components are on the U.S. EPA TSCA Inventory List.

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication

Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

 Beryllium (CAS 7440-41-7)
 Listed.

 Cobalt (CAS 7440-48-4)
 Listed.

 Copper (CAS 7440-50-8)
 Listed.

 Nickel (CAS 7440-02-0)
 Listed.

SARA 302 Emergency release notification

Not Regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Beryllium (CAS 7440-41-7) Cancer

Lung effects (CBD and acute beryllium disease)

Beryllium sensitization Respiratory tract irritation

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous No (Exempt)

chemical

SARA 313 (TRI reporting)

 Chemical name
 CAS number
 % by wt.

 Beryllium
 7440-41-7
 .45 - 2.15



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Cobalt Copper 7440-48-4 7440-50-8 .35 - .55

Nickel 7440-02-0

95.45 - 98.30 .90 - 1.85

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Beryllium (CAS 7440-41-7) Cobalt (CAS 7440-48-4) Nickel (CAS 7440-02-0)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act

Contains component(s) regulated under the Safe Drinking Water Act.

(SDWA)
US state regulations

WARNING: This product contains a chemical known to the State of California to cause

cancer.

California Proposition 65

WARNING:

This product can expose you to chemicals including Cobalt, which is known to the State of

California to cause cancer. For more information go to www.P65Warnings.ca.gov.

California Proposition 65 - CRT: Listed date/Carcinogenic substance

Beryllium (CAS 7440-41-7) Cobalt (CAS 7440-48-4) Nickel (CAS 7440-02-0) Listed: October 1, 1987 Listed: July 1, 1992 Listed: October 1, 1989

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22,

69502.3, subd. (a))

Beryllium (CAS 7440-41-7) Cobalt (CAS 7440-48-4) Copper (CAS 7440-50-8) Nickel (CAS 7440-02-0)

Section 16: Other Information, including date of preparation or last revision

Issue date

03-25-2016

Revision date

10-08-2018

Version #

02

Further information

Transportation Emergency

Call Chemtrec at:

Domestic: 800-424-9300 International: 703-527-3887

Disclaimer

This document has been prepared using data from sources considered to be technically reliable and the information is believed to be correct. Semco makes no warranties, expressed or implied, as to the accuracy of the information contained herein. Semco cannot anticipate all conditions under which this information and its products may be used and the actual conditions of use are beyond its control. The user is responsible to evaluate all available information when using this product for any particular use and to comply with all Federal, State, Provincial and Local laws, statutes and regulations.

Other information

Following is the label which accompanies this product during shipment.

BERYLLIUM COPPER ALLOY PLUNGER TIPS

DRY GRINDING, WELDING OR MELTING MAY RELEASE DUST OR FUMES WHICH MAY CAUSE ALLERGIC SKIN REACTION, ALLERGY OR ASTHMA SYMPTOMS, DIFFICULTY BREATHING OR CANCER BY INHALATION. CAUSES DAMAGE TO ORGANS (RESPIRATORY SYSTEM) THROUGH PROLONGED OR REPEATED EXPOSURE BY INHALATION.

CONSULT S.D.S. FOR DETAILS

SEMCO INC. (740) 387-2229 1025 POLE LANE ROAD MARION, OH 43302

IMPORTANT: If you have any questions or require additional information regarding the materials described in this Safety Data Sheet, please telephone or write to the Plant Manager at the location given on page 1. Additional product safety information, is available from the plant manager or at www.semcotips.com.