Aufhauser Corporation

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Safety Data Sheet

1. Supplier and Manufacturer

Aufhauser Corporation
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Emergency Phone Number: 516-694-8696 or 212-246-0205
CHEMTREC 24-hour Emergency Response: 800-424-9300 or 703-527-3887
SDS Number: PhosCu 201606
Product Codes: **PhosCopper alloys: 0, 2, 5, 5HP, 6, 6HP, 6D, 15**
Product Use(s): Alloys for brazing and other metallurgical processes.

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2. Hazards identification

Classification(s): None applicable
Label Symbol(s): None applicable
Label Signal Words: None applicable
Label Hazard Statement(s): None applicable
GHS Label Precautionary Statement(s): The product(s) are not classified as hazardous according to the GHS.
The acute toxicities of 74-94% of the products ingredients are unknown.
Other hazards which do not result in GHS classification:
Do not handle until all safety precautions have been read and understood. Obtain special instructions before use.
Heat rays (infrared radiation) from flame or hot metal can injure eyes. Overexposure to brazing fumes and gases can be hazardous. Read and understand the manufacturer's instructions, Safety Data Sheets and the precautionary labels before using this product.

3. Composition/information on ingredients

Ingredient	*CAS Number*	*%wt.*	*Impurities*
Copper	7440-50-8	80 - 93	None known
Phosphorus	7723-14-04	<0.1 - 8	None known
Silver	7440-22-4	0 - 15	None known

4. First aid measures

Eye: Flush affected areas with water for at least fifteen minutes. Remove any contact lenses. Seek medical assistance if necessary.
Skin: 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.
Ingestion: Do NOT induce vomiting. Immediately rinse mouth and drink a cupful of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.
Inhalation: 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.
Note to Physician: Treat symptomatically.

5. Firefighting measures

Fire and Explosion Hazards: Solid metal is not flammable. Finely divided metallic dust or powder may form an explosive mixture with air. If present in a fire or explosion, may emit fumes of the constituent metals or their oxides.
Extinguishing Media: Use dry chemical, foam or carbon dioxide. Do not use water.

Fire Fighting Instructions: 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. Remove containers of product from fire risk area if possible.

6. Accidental release measures

Methods and Materials: 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.
Personal Precautions: Avoid contact with skin, eyes, and mucous membranes. Avoid inhalation of dust. Wear PPE.
Environmental Precautions: Prevent spills from entering sewers or contaminating soil.

7. Handling and storage

Keep formation of airborne dusts to a minimum. Provide appropriate exhaust ventilation where dust is formed. Wear PPE.
Work and Hygiene Practices: 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
Storage Precautions: Do not store in proximity to incompatible materials (see Section #10).

8. Exposure controls/personal protection.

Ingredients – Exposure Limits

Copper	ACGIH TLVs: 0.2 mg/m3 TWA (fume); 1 mg/m3 TWA (dusts and mists)	OSHA PELs: 0.1 mg/m3 TWA (fume); 1 mg/m3 TWA (dusts and mists)
Phosphorus	ACGIH TLV: 0.1 mg/m3 TWA	OSHA PEL: 0.1 mg/m3 TWA
Silver	ACGIH TLV: 0.1 mg/m3 TWA (metal)	OSHA PEL: 0.01 mg/m3 TWA

Ingredients – Biological Limits

Copper	No ACGIH BEI(s) or other biological limit(s)
Phosphorus	No ACGIH BEI(s) or other biological limit(s)
Silver	No ACGIH BEI(s) or other biological limit(s)

Engineering Controls: Use appropriate local exhaust ventilation adequate to maintain concentrations of all components and their byproducts to within their applicable standards.
Eye/Face Protection: 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 and filter lenses (shade #3 / #4) 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).

9. Physical and chemical properties

Appearance: Light-copper metals, various forms
Odor: none
Odor threshold: not applicable
pH: not applicable
Melting Point: >1190 F/645 C.
Freezing point: not applicable
Boiling point/boiling range: not determined
Flash Point, Evaporation Rate, Flammability Class, Lower and Upper Explosive Limit: not applicable
Vapor pressure and density: not applicable
Relative density (H2O): 7.8-10.5
Solubility (H2O): insoluble
Specific gravity: 8.94 (H2O=1)
Oil-water partition coefficient, Auto-ignition point, Decomposition Temp, Viscosity: Not Applicable.

10. Stability and reactivity

Reactivity: none reasonably foreseeable **Stability**: stable
Hazardous Polymerization: will not occur
Risk of Dangerous Reactions: see “Conditions to Avoid”
Conditions to Avoid: Silver and copper can form unstable acetylides in contact with acetylene gas.
Incompatible Materials: Strong oxidizing agents. Strong acids. Strong bases. Halogens. Acid chlorides. (Including but not limited to: 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; hydrazoic acid; tellurium.)

Hazardous Decomposition Products: Heating to elevated temperatures may liberate metal/metal oxide fumes and/ or phosphorus pentoxide.

11. Toxicological information

This product has not been subject to toxicological testing by the supplier/ manufacturer.

Toxicological Data by components:

Copper	LD50: No data available	LC50: No data available
Phosphorus	LD50: >15,000 mg/kg (oral/rat)	LC50: 4,300 mg/m3 for 1 hr (rat)
Silver	LD50: >2,000 mg/kg (oral/rat)	LC50: No data available

Primary Routes(s) of Entry: Ingestion; inhalation.
Eye Hazards: 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.
Skin Hazards: Skin contact with these products, particularly in finely-divided forms, may cause irritation, argyria, discoloration, and/or contact dermatitis.
Ingestion Hazards: Ingestion of these products in finely-divided forms may cause nausea, vomiting, and gastrointestinal irritation. Phosphorus is toxic and may produce poisoning if taken by mouth.
Inhalation Hazards: 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).
Symptoms Related to Overexposure: Pre-existing pulmonary diseases (e.g., bronchitis, asthma) may be aggravated by inhalation overexposure, particularly as fume.
Delayed Effects from Long Term Overexposure: Chronic overexposure by inhalation and/or ingestion may aggravate pre-existing diseases of the liver, kidneys, and gastrointestinal system.
Carcinogenicity: The product contains no chemicals classified as potential or demonstrated carcinogens by IARC, NTP, or OSHA.
Germ Cell Mutagenicity: The product contains no chemicals determined to be germ cell mutagens.
Reproductive Effects: The product contains no chemicals determined to be damaging to fertility of the unborn child.
Acute Toxicity Estimates:
LD50 (oral): >2,000 mg/kg
LD50 (dermal): no data available
LC50: no data available
Interactive Effects of Components: no data available

12. Ecological information

No ecological data is available for the product. Available ecological data for the components is as follows:

Copper	Aquatic: EC50: 0.0076 - 0.026 mg/L/48 hrs (water flea)
Silver	Aquatic: LC50: 0.0019 - 0.003 mg/L/96 hrs (fathead minnow fish)
Phosphorus	Aquatic: EC50: 0.025 - 0.037 mg/L/48 hrs (water flea) LC50: 0.002 - 0.006 mg/L/96 hrs (bluegill fish)

Ecotoxicity: Alloys in massive forms present limited hazard for environment.
Environmental effects: Significant environmental persistence and bioaccumulation can be expected.
Aquatic toxicity: May cause long-lasting harmful effects to aquatic life.
Persistence and degradability: This product is not biodegradable.
Bioaccumulation/Accumulation: This product contains potentially bioaccumulating substances.
Mobility in environmental media: Alloys in massive forms are not mobile in environment.
Ozone Depletion Potential: This product contains no ingredients listed in the Annexes to the Montréal Protocol on Substances that Deplete the Ozone Layer.

13. Disposal considerations

Waste code: D011 Waste Silver
Do not discharge waste product into sanitary or storm sewers or allow it to contaminate soil. Consult applicable Federal, State/ Provincial, and local regulations. Scrapped material should be sent for refining to recover precious metal content.

14. Transport information

Transport is not regulated by USDOT, TDG (Canada), IATA, or IMDG.

15. Regulatory information

US Federal Regulations: None of the ingredients is listed.
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050): None present or none present in regulated quantities.
SARA

Section 302 (extremely hazardous substances): 7723-14-0 phosphorus
Section 304 (emergency release notification):7723-14-0 phosphorus
Sections 311/312 (hazardous chemical threshold planning quantity in pounds): None of the ingredients is listed.
Section 313 (TRI reporting):7440-50-8 copper, 7440-22-4 silver
Section 355 (extremely hazardous substances): 7723-14-0 phosphorus
CERCLA Hazardous Substance List (40 CFR 302.4): 7440-50-8 copper, 7723-14-0 phosphorus, 7440-22-4 silver
TSCA (Toxic Substances Control Act): All ingredients are listed.
Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3): None present or none present in regulated quantities.
Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130): None present or none present in regulated quantities.
Proposition 65 (California):
· Chemicals known to cause cancer: None of the ingredients are listed.
· Chemicals known to cause reproductive toxicity for females: None of the ingredients are listed.
· Chemicals known to cause reproductive toxicity for males: None of the ingredients is listed.
· Chemicals known to cause developmental toxicity: None of the ingredients is listed.

Carcinogenic categories
EPA (Environmental Protection Agency): 7440-50-8 copper D, 7723-14-0 phosphorus D, 7440-22-4 silver D
TLV (Threshold Limit Value established by ACGIH): None of the ingredients is listed.
NIOSH-Ca (National Institute for Occupational Safety and Health): None of the ingredients is listed.

State Right to Know Listings
US. New Jersey Worker and Community Right-to-Know Act: copper, phosphorus, silver
US. Massachusetts RTK - Substance List: copper, phosphorus, silver
US. Pennsylvania RTK - Hazardous Substances: copper, phosphorus, silver
US. Rhode Island RTK: copper, phosphorus, silver

Canada
Canadian Controlled Products Regulations: Not hazardous under WHMIS.
Canadian substance listings:
· Canadian Domestic Substances List (DSL): All ingredients are listed.
· Canada Non-Domestic Substances List (NDSL): None of the ingredients is listed.
· Canadian Ingredient Disclosure list (limit 0.1%): None of the ingredients is listed.
· Canadian Ingredient Disclosure list (limit 1%): All ingredients are listed.
· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16. Other information including information on preparation and revision of the SDS

NFPA Ratings	HMIS Ratings
Health - 1	Health – 1
Flammability - 0	Flammability – 0
Reactivity – 0	Physical Hazard – 0

PPE: Aufhauser Corporation recommends use of protective eyewear and gloves (Personal Protection Index "B") as standard PPE. HMIS recommends that its ratings be used only in conjunction with a fully implemented HMIS program, and that specific PPE codes be created by the user, who is familiar with the actual conditions under which the product is used. We cannot anticipate every condition of the product's use, and it is the user's responsibility to evaluate the hazards pertinent to its specific operations, and to determine the specific PPE required.

Date of Preparation: 2016-Jun

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