



Silver ChannelFlux A50N

Safety Data Sheet

1. Product and Company Identification

Supplier

Bellman-Melcor, LLC
7575 183rd St.
Tinley Park, IL 60477 USA
Telephone: 708-532-5000
www.bellmanmelcor.com

Emergency Phone Number

CHEMTREC: within USA and Canada 1-800-424-9300
CHEMTREC: outside USA and Canada 1-703-741-5970

Product: Silver ChannelFlux A50N

Product Use(s): Alloys for brazing and other metallurgical processes

2. Hazards Identification

Classification(s)

Acute Toxicity, Oral: Hazard Category 4
Skin Sensitization: Hazard Category 1C
Carcinogenicity: Hazard Category 2
Specific Target Organ Toxicity, Single Exposure:
Hazard Category 3

Label Symbol(s): Health Hazard, Exclamation Point,
Corrosive

Label Signal Word(s): Danger

Label Hazard Statement(s)

May cause respiratory irritation.
May cause skin irritation or burns.
May cause eye damage.
Suspected of causing cancer by inhalation.

Label Precautionary Statement(s)

Do not handle until all safety precautions have been read and understood.
Obtain special instructions before use.
Avoid breathing dust or fumes.
Use only outdoors or in a well-ventilated area. Store locked up.
Wear protective gloves and eye/face protection.
If skin irritation or rash occurs, get medical advice or attention.
If exposed or concerned, get medical advice/attention.



IF ON SKIN: Wash with plenty of water. Wash contaminated clothing before reuse. Contaminated work clothing must not be allowed out of the workplace.

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a Poison Control Center or doctor if you feel unwell.

Dispose of contents and container in accordance with applicable regulations. The acute toxicities of 20-90% of the products' ingredients are unknown.

WARNING: These products contain chemicals known to the State of California to cause cancer.

3. Composition/Information on Ingredients

Ingredient	CAS Number	%	Impurities
Silver	7440-22-4	30-50	None Known
Copper	7440-50-8	20-40	None Known
Zinc	7440-66-6	20-40	None Known
Nickel	7440-02-0	1-5	None Known
Potassium Bifluoride	7789-29-9	1-5	None Known
Potassium Fluborate	14075-53-7	1-7	None Known
Boric Acid	10043-35-3	1-7	None Known
Potassium Tetraborate	1332-77-0	1-5	None Known
Boron	7440-42-8	1-3	None Known
Aliphatic Polycarbonate	-----	1-5	None Known

Ingredient Notes: The percentage by weight volumes reported for the ingredients in this product represent approximate formulation values. See Section 8 for exposure limits and Section 11 for Toxicological Information.

4. First Aid Measures

Eye

Flush affected areas with water for at least fifteen minutes. Seek medical assistance if necessary.

Skin

Remove contaminated clothing. Wash affected areas 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. If unconscious or convulsive, seek

immediate medical assistance. Do not give anything by mouth to an unconscious or convulsive person. If conscious, give 3-4 glasses of water.

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 or Poison Control Center

None of the components are acutely toxic by ingestion, nor are they absorbed through the skin. Skin exposure may cause contact or allergic dermatitis and/or argyria.

5. Fire Fighting Measures

Fire and Explosion Hazards

These products are non-flammable and non-explosive. explosion, they may emit fumes of the constituent metals or their oxides.

Extinguishing Media

Use dry chemical. 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 facepiece operated in pressure-demand or other positive pressure mode.

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. Prevent from entering sewers or soils.

Personal Precautions

Avoid contact with skin, eyes, and mucous membranes, using personal protective equipment as necessary.

7. Handling and Storage

Handling Precautions

No special handling precautions are required.

Work and Hygiene Practices

As good hygiene practice, 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). Store in a cool, dry location.

8. Exposure Controls and 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)
Nickel
ACGIH TLV: 1.5 mg/m3 TWA OSHA PEL: 1 mg/m3 TWA
Silver
ACGIH TLV: 0.1 mg/m3 TWA (metal)
Zinc
ACGIH TLVs (as ZnO): 2 mg/m3 TWA; 10 mg/m3 STEL (respirable fractions)
OSHA PEL: 5 mg/m3 TWA (as respirable fraction of ZnO dust or fume)

Potassium Bifluoride
ACHIH TLVs (as fume): 2.5 mg/m3 OSHA PEL (as fume): 2.5 mg/m3

Potassium Fluoborate
ACHIH TLVs (as fume): 2.5 mg/m3 OSHA PEL (as fume): 2.5 mg/m3

Boric Acid
ACHIH TLVs: None Established OSHA PEL: None established

Potassium Tetraborate
ACHIH TLVs: None Established OSHA PEL: None established

Aliphatic Polycarbonate
ACHIH TLVs: None Established OSHA PEL: None established

Ingredients - Biological Limits

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

Engineering Controls

Use dilution or 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 injury if the products are used with a flame. Plastic-frame spectacles with side shields are recommended.

Skin Protection

Wear protective gloves and clothing to prevent skin injuries if the products are used with a flame. 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 (facepiece, 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: White or light-yellow metals, various forms

Odor: none

Odor threshold: not applicable

pH: not applicable

Melting Point: approx. 1,207F./653C.

Freezing point: not applicable

Boiling point/boiling range: not determined

Flash Point: not applicable

Evaporation Rate: not applicable

Flammability Class: not applicable

Lower Explosive Limit: not applicable

Upper Explosive Limit: not applicable

Vapor pressure: not applicable

Vapor density: not applicable

Relative density (H₂O): 8.35-9.70

Solubility (H₂O): insoluble

Oil-water partition coefficient: not applicable

Autoignition Point: not applicable

Decomposition temperature: not applicable

Viscosity: not applicable

10. Stability and Reactivity

Reactivity: none reasonably foreseeable

Stability: stable

Hazardous Polymerization: will not occur

Risk of Dangerous Reactions: Silver and copper can form unstable acetylides in contact with acetylene gas.

Incompatible Materials

Acetylene; ammonia; ammonium nitrate; azides; nitric acid; halogens; ethylene imine; ethylene oxide; chlorine trifluoride; sulfuric acid; peroxides; peroxyformic acid; oxalic acid; tartaric acid; 1-bromo-2-propyne; hydrazine mononitrate; hydrazine; hydrazoic acid; permonosulfuric acid; hydroxylamine; hydrogen sulfide; bromates, chlorates, and iodates of alkali and alkali earth metals; selenium; tellurium; carbon disulfide; performic acid; phosphorus; sulfur; dioxane; titanium plus potassium chlorate; strong acids and bases; combustible materials.

Hazardous Decomposition Products

Heating to elevated temperatures may liberate metal/metal oxide fumes.

Thermal decomposition may produce oxides of carbon, boron, hydrogen, fluoride, and potassium.

11. Toxicological Information

This product has not been tested for toxicology by the manufacturer.

Ingredients - Toxicological Data

Copper

LD50: No data available

LC50: No data available

Nickel

LD50: >5,000 mg/kg (oral/rat)

LC50: No data available

Silver

LD50: >2,000 mg/kg (oral/rat)

LC50: No data available

Zinc

LD50: No data available

LC50: No data available

Potassium Bifluoride

LD50: No data available

LC50: No data available

Potassium Fluborate

LD50: No data available

LC50: No data available

Boric Acid

LD50: 3450 mg/kg (oral/mouse)

LC50: 9600 ug/m³/4 hr (rat)

Potassium Tetraborate

LD50: Not available

LC50: Not available

Boron

LD50: 2000 mg/kg (oral/mouse)

LC50: Not available

Aliphatic Polycarbonate

LD50: Not available

LC50: Not available

Primary Routes(s) of Entry

Ingestion; inhalation.

Eye Hazards

Eye contact with this product 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 this product in finely-divided forms may cause irritation and/or argyria.

Ingestion Hazards

Ingestion of finely-divided forms of product may cause nausea, vomiting, and gastrointestinal irritation.

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 or ingestion may aggravate pre-existing diseases of the liver, kidneys, and gastrointestinal and respiratory systems.

Carcinogenicity

Nickel is classified as a potential human carcinogen by IARC ("2b", possibly carcinogenic to humans) and NTP ("K", known to be a human carcinogen). Exposure to some compounds of nickel has been shown to increase the risk of various cancers, although these effects have not been demonstrated among individuals occupationally exposed only to nickel metal. ACGIH classifies nickel metal as "A5" (not suspected as a human carcinogen).

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 or to 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 - Not mandatory and therefore not provided

13. Disposal Considerations - Not mandatory and therefore not provided

14. Transport Information - Not mandatory and therefore not provided

15. Regulatory Information - Not mandatory and therefore not provided

16. Other Information

HMIS Ratings (Legend)

Health - 2* (moderate chronic hazard)

Flammability - 1 (slight hazard)

Physical Hazard - 1 (slight hazard)

PPE - see Note

Note: Bellman-Melcor 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.

NFPA Ratings

Health - 2 Flammability - 1 Flammability - 1

Preparation Information

Date of Preparation: 10 Jan 2017
Date of Prior SDS: 18 December 2015

Disclaimer

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Bellman-Melcor, LLC