

OptiSource™

The Optical Supply Resource

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Alloy MSDS

Section 1: Identification

Product Identifier: Blocking Alloy

Other Means of Identification:27-A117-1LB, Alloy

Product Use: Optical Lens Production

Restrictions on use: Only use in recommended manner

Company Identification: Optisoruce

40 Sawgrass Dr
Bellport, NY 11713

Company Contact: 1 (631) 924-8360

Emergency Contact 1 (703) 527-3837

Section 2: Hazard Identification

Signal Word: Warning



Hazard Classification

Acute Toxicity Oral: Category 4

Acute Toxicity Inhalation: Category 4

Carcinogenicity: Category 2

Toxic to reproduction: Category 2

Specific Target Organ Toxicity (repeat exposure): Category 2

Acute Aquatic Hazard: Category 1

Hazard statements)

May be harmful if swallowed

May cause respiratory irritation

May be harmful if inhaled

Suspected of causing cancer (lead)

Suspected of damaging fertility or the unborn

May cause damage to organs through prolonged or repeated exposure (applicable to lead containing product)

Very toxic to aquatic life with long lasting effects (lead) (cadmium)

Precautionary statements

Avoid breathing dust/fume/gas/mist/vapors/spray

Do not eat, drink or smoke when using this product

Avoid release to the environment

Wear protective gloves/protective clothing/eye protection/face protection

Take off contaminated clothing and wash before reuse

IF SWALLOWED: Get Medical advice/attention if you feel unwell

IF ON SKIN: Wash with plenty of soap and water

IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing

IF IN EYES: Rinse continuously with water for several minutes (15 MINS)

Hazards not otherwise classified

None Known

COMPOSITION / INFORMATION ON INGREDIENTS

Product mixtures may contain some of the following ingredients. Review alloy table.

Section 3: Composition/information on ingredients

Tin: CAS 7440-31-5 **Concentration:** 8-10%

Lead: CAS 7439-92-1 **Concentration:** 20-25%

Indium: CAS 7440-75-6 **Concentration:** 17-23%

Bismuth: CAS 7440-69-9 **Concentration:** 42-47%

Cadmium: CAS 7440-43-9 **Concentration:** 5-7%

Concentration ranges provided due to batch to batch variability

Section 4: FIRST AID MEASURES

Eye Contact: Get medical attention immediately. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses.

Skin Contact: Get medical attention immediately. Flush contaminated skin with plenty of water. Continue to rinse for at least 10 minutes. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing or wear gloves. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion Get medical attention immediately. Wash out mouth with water. Remove dentures if any. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Inhalation: Get medical attention immediately. Move exposed person to fresh air. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband..

Section 5: FIRE FIGHTING MEASURES

Auto-ignition Temperature: Not established.

Specific Hazards: Limits not established. Massive metal is not flammable; however dust or powder may be considered to be a dust hazard.

Extinguishing Media: Use extinguishers appropriate for the surrounding fire conditions. Do not add water to molten metal.

Special Precautions: Firefighters must wear NIOSH approved self-contained breathing apparatus and full protective clothing.

Section 6: Accidental Release Measures

Spill or Leak Procedures: Contain spill. If molten, cool to allow metal to solidify. If a solid metal, wear gloves, pick up and return to process. If dust, wear recommended personal protective equipment including respiratory protection. DO NOT SWEEP. Use a vacuum, place in barrels and return to process if applicable. Use proper ventilation. Otherwise, dispose of following all Federal, State and Local regulations. Metal may have reclaim value.

Section 7: Handling and Storage

Handling: Only dry metals should be added to molten bath. If working with molten metals, or exposed to fume or dust, use appropriate personal protective equipment.

Storage Precautions: Store product in a cool, dry area away from incompatible materials.

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits:

Lead ACGIH (United States, 0/1995).

TWA: 0.05 mg/m³

OSHA PEL (United States, 8/1997).

TWA: 50 µg/m³ 8 hour/hours. Form: All forms

ACGIH TLV (United States, 1/2005). Notes: Substance identified by other sources as a suspected or confirmed human carcinogen. 1995-1996 Adoption. Substances for which there is a Biological Exposure Index or Indices Substances for which the TLV is higher than the OSHA Permissible Exposure Limit (PEL) and/or the NIOSH Recommended Exposure Limit (REL). See CFR 58(124) :36338-33351, June 30, 1993, for revised OSHA PEL. See Notice of Intended changes.

TWA: 0.05 mg/m³ 8 hour/hours. Form: All forms

NIOSH REL (United States, 12/2001). Notes: See Appendix C - Supplemental Exposure Limits Note: The REL and PEL also apply to other lead compounds (as Pb).

TWA: 0.05 mg/m³ 10 hour/hours. Form: All forms

Tin OSHA (United States, 0/1997). Notes: Respirable

TWA: 2 mg/m³

ACGIH (United States, 0/1994). Notes: Respirable

TWA: 2 mg/m³

OSHA (United States, 0/1997). Notes: Respirable

TWA: 2 mg/m³

NIOSH (United States, 0/1994). Notes: Respirable

TWA: 2 mg/m³

STEL: 4 mg/m³

ACGIH TLV (United States, 1/2005).

TWA: 2 mg/m³ 8 hour/hours. Form: All forms

NIOSH REL (United States, 12/2001). Notes: Note: The REL and PEL also apply to other inorganic tin compounds (as Sn) except tin oxides.

TWA: 2 mg/m³ 10 hour/hours. Form: All forms

Cadmium: OSHA (United States, 0/1994).

TWA: 0.01 mg/m³

TWA: 0.002 mg/m³

CEIL: 0.3 mg/m³

ACGIH (United States).

TWA: 0.01 mg/m³

OSHA (United States, 0/1989).

TWA: 0.1 mg/m³

CEIL: 0.3 mg/m³

TWA: 5 _g/m³

No further data available on PEL.

Engineering Controls: Exhaust ventilation is recommended to control any air contaminants. Control concentration of all components so that their exposure levels are not exceeded. Use ventilation for example especially during heating, grinding, cutting, sanding, melting and any other types of work where exposure is possible.

Personal protection: Eyes: Chemical safety glasses/goggles and face shield with molten metal.

Respirator: An authority approved or compliant marked air-purifying respirator with a fume/dust chemical cartridge is recommended under certain circumstances where airborne concentrations are expected to be elevated. Additional respiratory protection may be required based on the work performed and the area in which the work is performed. Lead or cadmium work requires protection from exposure.

Skin: Gloves leather or impervious (vinyl) type. Heat resistant gloves if handling hot metal. Safety type boots. Personal protective equipment is recommended when working with molten metal to avoid burns.

Other: Lab coat, safety shower and eye-wash fountain in work area. Avoid the use of contact lenses in high fume areas. Follow OSHA guidelines for lead and cadmium workers.

Work Hygienic Maintain good housekeeping. Clean up spills immediately. Good personal hygiene is essential. Avoid eating, smoking or drinking in the work area. Wash hands thoroughly with soap and water immediately upon leaving the work area.

Follow standard lead or cadmium work practices when applicable.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Silver grey solid metal

Boiling Point: Not applicable.

Odor: Odorless

Odor Threshold: Not available

Melting Point: No data available

Specific Gravity: No data available

pH: Not applicable

Vapor Pressure: Not applicable.

Solubility in Water: Insoluble

Vapor Density: (air1) Not applicable.

Flash Point: Not applicable

Evaporation rate: Not Applicable

Flammability: No data available

Explosive Limits: No Data Available

Relative Density: No Data Available

Partition Coefficient: No Data available

Auto-ignition Temperature: No data available

Decomposition Temperature: No data available

Viscosity: No data available

Section 10: Stability and reactivity

Stability: Chemical stable under standard temperature and pressure

Reactivity: No data available

Conditions to Avoid: Not established.

Incompatible Materials: Avoid contact with mineral acids.

Hazardous Decomposition: Harmful organic fumes and toxic oxide fumes may form at elevated temperatures

Hazardous Polymerization: Will not occur.

11.Toxicological INFORMATION

Carcinogenicity: National Toxicity Program (NTP): Yes

Cadmium is listed as a known carcinogen. Occupational Safety & Health Administration (OSHA): Yes

Cadmium is listed. 1910. 1027 Lead is listed. 1910.1025

U. Agency for Research on Cancer (IARC): Yes

Lead and Lead compounds are listed as carcinogens. Cadmium is listed as carcinogen.

LD50: Not established LC50: Not established Other: Chronic Toxicity: Lead and Cadmium can cause potential harm to the developing fetus.

Silver – LD50 oral – rat > 5,000 mg/kg

Bismuth – LD50 oral rat 5,000 mg/kg

Lead Suspected human reproductive toxicant. May cause damage to organs through prolonged or repeated exposure. Reproductive toxicity – rat inhalation, effects on newborn.

Cadmium – LD50 Oral – rat 225 mg/kg/ Inhalation LC50 – rat – 30h – 25 mg/m³

Signs and symptoms of exposure

Cadmium suspected as a human reproductive toxicant. Signs and Symptoms of exposure to cadmium: damage to the lungs, kidney injury may occur, prolonged or repeated exposure can cause: vomiting diarrheal lung irritation.

TIN: Has been shown to increase incidence of sarcoma in animal tests. Chronic exposure may result in stannosis" a mild form of pneumoconiosis.

LEAD: Prolonged exposure to vapors or fumes at higher temperatures may cause respiratory irritation and systematic lead poisoning. Symptoms of lead poisoning include headache, nausea, abdominal pain, muscle and joint pain and damage to the nervous system, blood system and kidneys.

SILVER Chronic skin contact or ingestion of silver dust, salts or fume can result in a condition known as Argyria, a condition with bluish pigmentation of the skin and eyes.

INDIUM: May cause damage to respiratory system if inhaled over long exposure.

BISMUTH; May cause kidney damage.

CADMIUM: Overexposure can cause damage to the lungs and kidneys. Cadmium is a toxic metal and ingestion or inhalation of fumes and dust can be harmful. Included effects may be obstructive lung disease such as emphysema, bone demineralization, microfractures and osteomalacia, gastrointestinal symptoms, rhinitis and discoloration of the teeth

Routes of Exposure

Eye Contact: Contact with powdered metal alloy or fume from molten metal may cause irritation. Severe eye damage may result from hot molten metal being splashed into the eyes. Wear safety glasses and face shield when working with molten metal. Dusts are irritating to eyes.

Ingestion: Ingestion of dust/vapors/fume may cause irritation or harm.

Inhalation: Inhalation of fume or dust may cause local irritation or harm to the respiratory system.

12. ECOLOGICAL INFORMATION

Product mixtures not tested.

Lead – Toxicity to fish – mortality LOEC – rainbow trout – 1.19 mg/l. Very toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment. Bioaccumulation – Oncorhynchus kisutch – 2 weeks

Bioconcentration factor (BCF): 12

Contains substances that are harmful to the aquatic environment.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal of metal mixtures. Review product used and the alloy table. Recycle when possible.

Cadmium: toxicity to fish – mortality LOEC-Oncorhynchus myliss (rainbow trout) – .0015 mg/l/96h

LC50- Pimephales promelas (fathead minnow) – 1.0 – 96h Toxicity to daphnia and other aquatic invertebrates- mortality NOEC-Daphnia-0.019 mg/l – 24h/mortality LOEC-Daphnia – .039 mg/l – 24h

13. DISPOSAL CONSIDERATION

Waste Disposal Method: Scrap metal alloy usually has value. Contact a commercial reclaimer for recycling.

Otherwise, dispose of in accordance with all Federal, State and Local environmental regulations.

14. Transport information

Transport in accordance with applicable regulations and requirements.

Not regulated under US DOT (United States Department of Transportation).

Solid metal mixtures are not hazardous under shipping regulations (ground/air/sea).

UN – none

Marine Pollutant. No

Shipping of metal powders that contain lead or cadmium may be considered to be an environmental hazard. Reportable spill quantity () in case of spill for lead is 10 lbs. Reportable spill quantity () in case of spill for cadmium is 10 lbs. Reportable spill quantity () in case of spill for silver is 1000 lbs Reportable spill quantity () in case of spill for zinc is 1000 lbs Reportable spill quantity () in case of spill for antimony is 5000 lbs. Reportable spill quantity () in case of spill for copper is 5000 lbs

Metal powders containing lead and or cadmium at or above 10 lbseach in a single container:

UN 3077, Environmentally Hazardous Substance, , PG III

If less than the 10 lbs the product ships as non-hazardous. UN – none

Marine Pollutant. No Review the product being shipped. Consult the alloy table.

15. Regulatory Information

The information in this Safety Data Sheet meets the requirements of the United States Occupational Safety and Health Act and regulations promulgated hereunder (29 CFR 1910.1200 ET, SEQ..

California PROP 65 (Safe Drinking Water Standard): WARNING: This product contains a chemicals) known to the State of California to cause cancer and or birth defects (or other reproductive harm. (lead/cadmium)

SARA 313 Listing – 40 CFR 372.65: Lead CAS7439-92-1, Silver CAS7440-22-4, Cadmium CAS7440-43-9 Copper CASH 7440-50-8, Antimony CAS; 7440-36-0, Zinc CAS; 7440-66-6

All ingredients are listed on the US EPATSCA Inventory.

EPA Genetic Toxicology Program – Lead CAS7439-92-1, Cadmium CAS7440-43-9 EC

Section 16: Other Information

Date of preparation: 06/21/2022

This product may contain lead. Lead may be harmful to your health. US Federal law prohibits the use of leaded solders in making joints or fittings in any private or public water supply system. Keep out of the reach of children. Not intended for household use and should not be used by children.

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