

BUNTING BEARINGS, LLC

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Material Safety Data Sheet

Aluminum Dross

Revised: November 1, 2009

Section I – Material Identification

Manufacturer:	Bunting Bearings, LLC 153 E. Fifth Street Mansfield, Ohio 44902	Emergency Telephone Number 419-866-7000	Information Telephone Number 419-522-3323
Product Class:	Aluminum Dross & Skimming's		

Section II – Hazardous Ingredients / Identity Information

Hazardous Ingredient(s)	CAS Number	OSHA PEL	ACGIH TLV		Percent Range
Copper	7440-50-8	1.0 mg/m ³	1.0 mg/m ³	dust	0.50 – 4.50%
Copper	7440-50-8	0.1 mg/m ³	0.2 mg/m ³	fume	
Aluminum	7429-90-5	15.0 mg/m ³	10.0 mg/m ³	dust	Remainder
Aluminum Oxide (non-fiber)	1344-28-1	15.0 mg/m ³	10.0 mg/m ³	dust	20.0 – 40.0%
Manganese	7439-96-5	5.0 mg/m ³	5.0 mg/m ³	dust	0.35%
Manganese	7439-96-5	1.0 mg/m ³	1.0 mg/m ³	fume	
Manganese	7439-95-4	_____B	_____B	all	0.35%
Manganese Chloride	7786-30-3	_____B	_____B	dust	<5%
Iron	7439-89-6	_____B	_____B		1.50%
Silicon	7440-21-3	15.0 mg/m ³	10.0 mg/m ³		0.50 – 1.80%
Chromium	7440-47-3	1.0 mg/m ³	1.0 mg/m ³		0.10 – 0.40%
Potassium Chloride	7447-40-7	_____B	_____B	dust	≤ 10 – 30.0%
Sodium Chloride	7647-14-5	_____B	_____B	dust	≤ 10 – 30.0%
Lead	7439-92-1	0.05 mg/m ³	0.15 mg/m ³		≤ 0.05%
Titanium	7440-32-6	_____B	_____B		0.10 – 0.25%
Zinc	7440-66-6	15.0 mg/m ³	10.0 mg/m ³	dust	0.30 – 3.50%
Zinc	7440-66-6	5.0 mg/m ³	5.0 mg/m ³	fume	
Nickel	7440-02-0	1.0 mg/m ³	1.0 mg/m ³		0.1 – 2.3%

B For dusts without an explicit OSHA PEL, a nuisance dust PEL applies (15mg/m³ respirable dust)

HMIS Rating: Health 1, Flammability 1, Reactivity 2

Section III – Physical/Chemical Characteristics

Boiling Point

(Sodium Chloride): 2,575°F

Specific Gravity (H₂O = 1): 2.1 – 2.9

Vapor Pressure

(Sodium Chloride): 1mm Hg @ 865°C

Melting Point: 1,050° - -1,480°F

Vapor Density N/A

Evaporation Rate: N/A

Solubility in Water: Black dross is water soluble, gray skimmings are minimally water soluble

Appearance and Odor: Black with silvery pellets or gray powdery silvery pellets

Section IV – Fire and Explosion Data

Flash Point:	N/A	Flammable Limits:	Upper:	N/A
Method:	N/A		Lower:	N/A

When dry in solid form there is no fire or explosion hazard. When wet there is reaction with heating which is the basis for the DOT rules prohibiting shipping “Wet or Hot” drosses and skimmings

Extinguishing Media: Dross & skimmings may burn in the solid state
Like other metallic and organic dust and fine powder, dross & skimmings dust and powder may burn under some conditions.

Special Fire Fighting Procedures: Confine metal powder dust fire, avoid spreading. Apply Class D (Lith X) powder in heavy quantities. **DO NOT USE WATER OR MOIST SAND.** Fire Fighters should wear self-contained breathing apparatus and protective clothing.

Unusual Fire and Explosion Hazards: Fire or explosion may occur when material is in the form of dust and exposed to heat or flames, chemical reaction or contact with powerful oxidizers.

NEVER PUT WATER ON DROSS OR SKIMMINGS – IT MAY GIVE OFF FLAMMABLE OR TOXIC GAS OR IGNITE

Section V – Reactivity Data

Stability: Stable at room temperature, **when dry**

Incompatibility: Avoid acids, bases and oxidizers.

Hazardous Decomposition or byproducts: Evolved hydrogen in confined areas may be an explosive hazard. Potentially hazardous oxides of metal may be produced when heated or in molten state.

Hazardous Polymerization: Will not occur.

Section VI – Health Hazard Data

Routes of Entry: Inhalation, eyes and Skin

Health Hazards (acute and chronic): Aluminum, aluminum alloys, sodium and potassium chlorides are not generally regarded as industrial toxins. In normal use, few health hazards occur.

No health hazard or toxicity information exists specifically for this material. Data for major components are given instead. For each in this material, the percent by weight can be used as a rough guide to the component’s likely significance.

Inhalation: Melting may produce dusts or fumes containing the component elements and their oxides. Breathing these dust or fumes may present potentially significant health hazards. These may include mucous membrane irritation and lung changes in worker, potentially leading to pulmonary diseases. If wet material will release toxic gases.

Inhalation of finely divided aluminum powder may cause pulmonary fibrosis (aluminosis). Symptoms include anorexia, shortness of breath, dry cough, chest pain on respiration and epigastric abdominal pain.

Fumes of copper, magnesium, manganese and zinc oxide may cause metal fumes fever with flu-like symptoms. Overexposure to manganese fumes may cause chronic manganese poisoning. Early symptoms include headaches, apathy, sleepiness and weakness or cramps in the legs. Chronic overexposure may affect the central nervous system, ultimately leading to emotional disturbances, gait and balance difficulties, and paralysis.

When heated to 2012°F sodium and potassium chlorides react violently with water. Forms toxic gas when heated to decomposition.

Nickel compounds have been associated with allergic reactions, rashes and lung changes. Nickel is a respiratory irritant and may cause pneumonitis.

Skin: Dust or fumes containing component elements of aluminum alloys may cause skin or mouth irritation. Copper may cause skin and hair discoloration. Magnesium particles imbedded in the skin may cause severe lesions, with slow healing.

Eyes: Dusts or fumes containing components of dross and skimmings may cause eye irritation.

Ingestion: Ingestion of significant amounts of material is unlikely.

Carcinogen: Lead, Chromium & Nickel are considered a possible carcinogen by NTP and IARC.

Emergency and First Aid Procedures:

Ingestion: If swallowed and the person is conscious, induce vomiting immediately and get medical attention immediately.

Inhalation: If a person breathes in large amounts of dust or fume, move the exposed people to fresh air. Get medical attention.

Eye Contact: Immediately flush with plenty of water for at least 15 minutes. Get medical attention.

Skin Contact: Immediately wash with plenty of soap and water.

Section VII – Precautions for Safe Handling and Use

Steps to be taken in case material is released or spilled:

No special precautions are necessary for spills of bulk materials. Wear gloves to prevent metal cuts. If large quantities of dust are spilled, remove by vacuuming or sweeping to prevent heavy concentrations of airborne dust. Do not use compressed air for cleaning. Place all collected materials in a labeled container. Spilled dry material may be processed and reclaimed.

Waste Disposal Method:

Follow Federal, State and local regulations regarding disposal. Waste material metals can generally be reclaimed and recycled.

Precautions to be taken in handling and storing:

Use good housekeeping practices to prevent accumulations of dust and keep airborne dust concentrations at a minimum. Avoid breathing dust or fumes. Store dross and skimmings in a dry area away from incompatible materials. Keep dust away from sources of ignition. Dross and skimmings may react with water and ignite. They must be kept dry. Moisture can cause explosions if charged into a melting furnace. Dry before charging to melting furnace. Preheat, when required to evaporate moisture, prior to meeting.

Other precautions:

Aluminum dross and skimmings must be shipped as hazardous materials. HOT OR WET drosses and skimmings MAY NOT BE SHIPPED. The watertight truck used for transportation must be properly placarded with a white lettering on blue background placard reading “Hazardous When Wet”. Plant and trucking personnel must be DOT trained in handling hazardous materials.

Section VIII – Control Measures

- Respiratory Protection:** Employees may wear MSHA or NIOSH approved respirators for protection against airborne dust or fumes.
- Ventilation:** Local exhaust ventilation is required when dust or fumes are generated. Use general or local exhaust ventilation to keep airborne concentrations of dust and fumes below the TLV.
- Protective Gloves:** Advisable to avoid cuts and skin abrasions. Gloves and barrier creams may be necessary to prevent skin sensitization and dermatitis.
- Eye Protection:** Approved safety glasses and/or goggles should be worn when exposed to dusty or hot material. Face shields should be worn around hot metal. Safety eyewash stations should be provided near work areas.
- Other Protective Clothing:** Full protective clothing should be worn by workers exposed to heavy concentrations of dust or high heat and during

alloying operations to prevent injury from molten metal splashing, spilling, etc.

Work/Hygienic Practices: Do not eat, drink or use tobacco products in work area. Wash thoroughly after skin contact and before eating, drinking, use of tobacco products or using restrooms. Take a shower and change clothes at the end of the shift. All protective and contaminated clothing must be left at the plant. Launder all other work clothing separately from other household laundry.

Section 313 – Supplier Notification

These products contain copper, chromium, manganese, aluminum, antimony, lead, zinc, and nickel which are all subject to the annual reporting requirements of Section 313 of the Emergency Planning and Community Right to Know Act of 1986 and of 40 CFR 372.

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