

Material Safety Data Sheet



Brass Pattern Letters

Date of Preparation: 1/31/01

Revision:

Section 1 - Chemical Product and Company Identification

Product/Chemical Name: Brass Pattern Letters (Standard Alloys)

Chemical Formula: N/A

CAS Number: N/A

Other Designations: N/A

General Use: N/A

Manufacturer: The River Smelting and Refining CO.

☆☆☆☆☆ Emergency Overview ☆☆☆☆☆

Section 2 - Composition / Information on Ingredients

Ingredient Name	CAS Number
Copper	7440-50-8
Lead	7439-92-1
Nickel	7440-02-0
Tin	7440-31-5
Zinc	7440-66-6

Alloying Elements (1% or greater)

TSCA Inventory Status: Chemical components listed on TSCA Inventory.

Ingredient	OSHA PEL		ACGIH TLV		NIOSH REL		NIOSH IDLH
	TWA	STEL	TWA	STEL	TWA	STEL	
Copper	Dust 1 Fume 0.1	none estab.	Dust 1 Fume 0.2	none estab.	none estab.	none estab.	none estab.
Lead	0.05	none estab.	0.15	none estab.	none estab.	none estab.	none estab.
Nickel	1	none estab.	1	none estab.	none estab.	none estab.	none estab.
Tin	2 (inorganic except oxides)	none estab.	2	none estab.	none estab.	none estab.	none estab.
Zinc	Fume 5	none estab.	5	none estab.	none estab.	none estab.	none estab.

Section 3 - Physical and Chemical Properties

Physical State: Solid

Appearance and Odor: Yellow to red; no odor

Odor Threshold: N/A

Vapor Pressure: N/A

Vapor Density (Air=1): N/A

Formula Weight: N/A

Density: 0.27-0.323 lbs/in³

Specific Gravity (H₂O=1, at 4 °C): 7.5-9.0

pH: N/A

Water Solubility: N/A

Other Solubilities: N/A

Boiling Point: N/A

Freezing/Melting Point: Approx. 1550-2150F (819-1180C)

Viscosity: N/A

Refractive Index: N/A

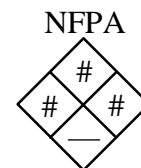
Surface Tension: N/A

% Volatile: N/A

Evaporation Rate: N/A

Section 4 - Fire-Fighting Measures

Flash Point: N/A
 Flash Point Method: N/A
 Burning Rate: N/A
 Autoignition Temperature: N/A
 LEL: N/A
 UEL: N/A



Flammability Classification: N/A
 Extinguishing Media: N/A

Unusual Fire or Explosion Hazards: In the solid form, there are no fire or explosion hazards with these alloys. Fine chips or dust may ignite and should be stored in a well-ventilated area. In case of fire, use extinguishing agents appropriate for the surroundings or materials. Dry chemicals or sand should be used to extinguish fires. Fire fighters should wear full protective clothing and where conditions warrant NIOSH- approved self-contained breathing apparatus, see Sections VI and VII.

Hazardous Combustion Products:

Fire-Fighting Instructions: Do not release runoff from fire control methods to sewers or waterways.

Fire-Fighting Equipment: Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full face piece operated in pressure-demand or positive-pressure mode.

Section 5 - Stability and Reactivity

Stability: Freeman Standard Alloys is stable at room temperature in closed containers under normal storage and handling conditions.

Polymerization: N/A

Chemical Incompatibilities: N/A

Conditions to Avoid: N/A

Hazardous Decomposition Products: N/A

Section 6 - Health Hazard Information

Potential Health Effects

Primary Entry Routes: Inhalation of dust or fumes

Copper and Manganese: Under normal handling and use, exposure to the solid form of copper alloy presents few health hazards. Thermal cutting, melting, machining/grinding may produce fumes or dust containing the component elements, and breathing these fumes or dust may present potentially significant health hazards. The exposure levels in Section II are relevant to fumes and dust. Fumes of copper and manganese may cause metal fume fever with flu-like symptoms, and copper may cause skin and hair discoloration. Overexposure to manganese fumes can cause chronic manganese poisoning.

Lead-Short-term-Exposure: Lead is an accumulative poison. Inhalation effects of exposure to fumes or dust of inorganic lead may not develop quickly. Symptoms may include decreased physical fitness, fatigue, sleep disturbance, headache, aching bones and muscles, constipation, abdominal pains and decreasing appetite. The effects are reversible and complete recovery is possible. Inhalation of large amounts of lead may lead to seizures, coma and death.

Lead-Long-Term Exposure: Long-term exposure to lower levels can result in a buildup of lead in the body and more severe symptoms. Prolonged exposure may also result in kidney damage. Continuous exposure can result in decreased fertility, and exposure of the mother during pregnancy can cause birth defects.

Chronic overexposure to iron oxide or tin fumes may cause an apparent benign pneumoconiosis. In the case of iron oxide, this is called siderosis, and stannosis for tin exposure. Overexposure to zinc oxide fumes can cause Metal Fume Fever.

Section 7 - Spill, Leak, and Disposal Procedures

Spill /Leak Procedures: No special precautions are necessary for spills of bulk material. If large quantities of dust are spilled, remove by vacuuming or wet sweeping to prevent heavy concentrations of airborne dust. Cleanup personnel should wear respirators and protective clothing. Scrap metal can be reclaimed for reuse. Follow Federal, State, and Local regulations regarding disposal.

Containment: For large spills, dike far ahead of liquid spill for later disposal. Do not release into sewers or waterways.

Regulatory Requirements: Follow applicable OSHA regulations (29 CFR 1910.120).

Disposal: Contact your supplier or a licensed contractor for detailed recommendations. Follow applicable Federal, state, and local regulations.

Disposal Regulatory Requirements: N/A

Container Cleaning and Disposal: N/A

Ecological Information: N/A

EPA Regulations:

RCRA Hazardous Waste Number: Not listed (40 CFR 261.33)
 RCRA Hazardous Waste Classification (40 CFR 261.): Not classified
 CERCLA Hazardous Substance (40 CFR 302.4) listed/unlisted specific per RCRA, Sec. 3001; CWA, Sec. 311 (b)(4); CWA, Sec. 307(a), CAA, Sec. 112
 CERCLA Reportable Quantity (RQ) lb (kg)
 SARA 311/312 Codes:
 SARA Toxic Chemical (40 CFR 372.65): Not listed
 SARA EHS (Extremely Hazardous Substance) (40 CFR 355): Not listed, Threshold Planning Quantity (TPQ)

OSHA Regulations:

Air Contaminant (29 CFR 1910.1000, Table Z-1, Z-1-A): Not listed
 OSHA Specifically Regulated Substance (29CFR 1910.)

State Regulations: N/A

Section 8 - Exposure Controls / Personal Protection

Engineering Controls: N/A

Ventilation: Use general and local exhaust ventilation to keep airborne concentrations of dust and fumes below the TLV. When required, employees should wear MSHA or NIOSH approved respirators for protection against airborne dust or fumes.

Approved safety glasses and/or goggles should be worn during any machining, grinding, cutting or other operation from which airborne particles may be emitted. Food or drink should not be consumed in the work area. Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs (Sec. 2). Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

Administrative Controls: N/A

Respiratory Protection: Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a MSHA/NIOSH-approved respirator. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. For emergency or nonroutine operations (cleaning spills, reactor vessels, or storage tanks), wear an SCBA.

Warning! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres. If respirators are used, OSHA requires a written respiratory protection program that includes at least: medical certification, training, fit-testing, periodic environmental monitoring, maintenance, inspection, cleaning, and convenient, sanitary storage areas.

Protective Clothing/Equipment: Wear chemically protective gloves, boots, aprons, and gauntlets to prevent prolonged or repeated skin contact. Wear protective eyeglasses or chemical safety goggles, per OSHA eye- and face-protection regulations (29 CFR 1910.133). Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with contact lenses.

Safety Stations: Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.

Contaminated Equipment: Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment.

Comments: Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Section 9 - Special Precautions and Comments

Handling & Storage: Use good housekeeping practices to prevent accumulations of dust and to keep airborne dust concentrations at a minimum. Avoid breathing dust or fumes. Store dust away from source of ignition.

DOT Transportation Data (49 CFR 172.101):

Shipping Name:	Packaging Authorizations	Quantity Limitations
Shipping Symbols:	a) Exceptions:	a) Passenger, Aircraft, or Railcar:
Hazard Class:	b) Non-bulk Packaging:	b) Cargo Aircraft Only:
ID No.:	c) Bulk Packaging:	
Packing Group:		Vessel Stowage Requirements
Label:		a) Vessel Stowage:
Special Provisions (172.102):		b) Other:

Prepared By:

Revision Notes:

Disclaimer: We believe the information contained in this MSDS is correct as of this date, however, because the material may be used under conditions over which we have no control we give no warranty and assume no responsibility for any damage to person, property or business arising from such use. It is the responsibility of the user to ensure it is properly used.