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Material Safety Data Sheet

Brass



Section 1 - Product Identification	
Manufacturer's Name Various	Issue Date November 1, 1990
Product Name / Trade Name Brass Alloys	Common Name / Grade Half Hard, Free Cutting, Leaded Naval, Naval

Section 2 - Typical Chemical Composition (1)				
Ingredient (2)	CAS No.	WL %	Permissible Air Level (3)	
			OSHA PEL	ACGIH TLV
Base Metal Copper (Cu)	7440-50-8	55-90	1.0	1.0
Alloying Elements Zinc (Zn)	7440-66-6	45.0	5.0	5.0 (Resp)
Lead (Pb)	7439-92-1	3.7	0.05(4)	0.15(4)
Tin (Sn)	7440-31-5	1.0	2.0 (5)	2.0 (6)
REMARKS: Basis for TLV: Cu - irritant properties ZnO Fume - prevention of metal fume fever			ZnO Dust - nuisance dust Pb - blood, CNS effects	

Section 3 - Physical Data	
Material Is (At Normal Conditions) Solid	Appearance And Odor Reddish-Brown Metal/No Odor
Melting Point (Base Metal) 1590 - 1900° F	Specific Gravity (H ₂ O = 1) 7.7-8.9

Section 4 - Fire - Explosion

Brass products in the solid state present no fire or explosion hazard.
Dust hazards exist under favoring conditions of small practice size. Dispersion in air and strong ignition source may result in an explosion.

Section 5 - Reactivity Data

Stable under normal conditions of use, storage and transportation.
Incompatible with mercury, ammonia, acetylene. Avoid exposure during storage to strong acids, bases or oxidizing agents.
Toxic gases, aerosols and vapors may be released in a fire involving copper alloys if fume of other compounds or other contacting materials are involved.

Section 6 - Health Hazard Information (See Section 2 for exposure limits.)

Health Effects / Signs and Symptoms

Copper (Cu)
Inhalation of Cu fumes may cause irritation of the eyes, nose, and throat and a flu-like illness called metal fume fever. Signs and symptoms of metal fume fever include fever, muscle aches, nausea, chills, dry throat, cough, and weakness. Cu fumes may also produce a metallic or sweet taste. Repeated or prolonged exposure to Cu fumes may cause discoloration of the skin and hair.

Zinc (Zn)
Subjecting zinc or alloys containing zinc to high temperatures (such as occurs during welding) will cause the formation of zinc oxide. Exposure to zinc oxide fumes or dusts can result in a flu-like illness called metal fume fever. Early symptoms may include a sweet or metallic taste in the mouth, dryness and irritation of the throat, and coughing. These symptoms may progress to shortness of breath, headache, fever, chills, muscle aches, nausea, vomiting, weakness, fatigue, and profuse sweating. The attack may last 6-48 hours and is more likely to occur after a period away from the job.

Section 6 - Health Hazard Information (Continued)

Lead (Pb)

Chronic or acute inhalation exposures to the fumes or dusts of inorganic lead compounds (such as lead oxide) can adversely affect several organ systems including the nervous system, the gastrointestinal system, the hematological system, and the renal system. The early effects are characterized by fatigue, constipation, muscle aches, abdominal pains, and decreased appetite. Later signs and symptoms can include anemia, pallor, a "lead line" on the gums, and reduced hand-grip strength. Lead colic produces intense abdominal cramping which can be accompanied by constipation, nausea, and vomiting. A condition called "wrist drop" can develop if the peripheral nervous system is affected. Severe central nervous system effects (referred to as lead encephalopathy) usually only occur after heavy and rapid lead exposures. Signs and symptoms may include headache, dizziness, convulsions, delirium, coma, and possibly death. Long-term lead exposures can also produce kidney damage with possible decreased renal function leading to such conditions as uremia.

Tin (Sn)

The toxicity of inorganic tin compounds is generally low. Exposure to the dust or fumes of tin oxides can result in a benign pneumoconiosis called stannosis. No tissue reaction or pulmonary dysfunction has been associated with this lung condition.

Usual Route(s) of Entry: Inhalation

Medical Conditions Possibly Aggravated: Chronic diseases or disorders of the respiratory system.

Carcinogen Information: NTP and IARC consider nickel and certain nickel compounds to be probable human carcinogens.

Section 7 - Special Protection Information

NIOSH/MSHA - Approved dust and fume, respirator should be used to avoid excessive inhalation of particulates when exposure exceeds TLV's.

Adequate ventilation should be utilized when welding, burning, sawing, brazing, grinding or machining when exposure exceeds TLV's.

Safety glasses or goggles should be utilized as required by exposure. Other protective equipment should be utilized as required by the welding standards.

Section 8 - Environmental

Waste Disposal Method

Used or unused product should be tested to determine hazard status and disposal requirements under federal, state, or local laws and regulations.

Disclaimer

The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any representation or warranty, express or implied regarding the accuracy or correctness.

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This document has been prepared solely for the intent of compliance with the provisions of Subpart 2 of Part 1910 of Title 29 of the Code of Federal Regulations, paragraph 1910.1200.

Footnotes:

- (1) Concentrations may vary somewhat between batches or lots. Where possible, a concentration range is indicated. Occasionally, however, levels may even fall outside of the usual concentration ranges.
- (2) Common names, if applicable, appear in parentheses following the chemical names.
- (3) All values, unless otherwise specified, refer to 8-hour time-weighted average concentrations and units are in mg/M³.
- (4) As inorganic lead compounds, dusts and fumes.
- (5) As inorganic tin compounds, except oxides.
- (6) As tin oxide and inorganic compounds