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FREEMAN Mfg. & Supply Co.
 1101 MOORE ROAD
 AVON, OHIO 44011-1011 (800) 321-8511

MATERIAL SAFETY DATA SHEET

I. MATERIAL IDENTIFICATION

Company Name: CERRO METAL PRODUCTS CO. P. O. BOX 388 BELLEFONTE, PA 16823		Emergency Phone No.: (814) 355-6370						
Use of Product: ARTICLE FABRICATION	Product Name: BRASS/BRONZE ROD, PARTS AND WIRE		Chemical Family: COPPER ALLOYS					
Product includes the following CDA Alloys and LLF-61:								
22000	26000	27000	27200	28000	31400*	34000*	34200*	34500*
35000*	35300*	35600*	36000*	36500*	37100*	37700*	38000*	38500*
46200	46400	48200*	48500*	54400*	64200	67000	67300*	67400*
67500	69400	79800*	LLF-61**					

*Denotes leaded alloys.
 **Cerro proprietary alloy.

II. CHEMICAL COMPOSITION

Cerro alloys may contain one or more of the following ingredients:

ELEMENT	CAS NUMBER	RANGE - %	OSHA PERMISSIBLE EXPOSURE LIMIT - 8 HOUR TWA	ACGIH THRESHOLD LIMIT VALUE - 8 HOUR TWA
*Aluminum	7429-90-5	0 - 9	15 mg/m ³ Total dust 5 mg/m ³ Respirable fraction	10 mg/m ³ Metal dust 5 mg/m ³ Welding fumes
Copper	7440-50-8	45 - 91	0.1 mg/m ³ Fume 1 mg/m ³ Dusts & mists	0.2 mg/m ³ Fume 1 mg/m ³ Dusts & mists
*Iron	7439-89-6	0 - 6	10 mg/m ³ Fume	5 mg/m ³ Fume
Lead	7439-92-1	0 - 4.5	0.05 mg/m ³	0.15 mg/m ³
Manganese	7439-96-5	0 - 5	10 mg/m ³ Fume	1 mg/m ³ Fume, 5 mg/m ³ Dust
Nickel	7440-02-0	0 - 12.0	1 mg/m ³	1 mg/m ³
Phosphorus	7723-14-0	0 - 0.5	0.1 mg/m ³	0.1 mg/m ³
Silicon	7440-21-3	0 - 4.5	15 mg/m ³ Total dust 5 mg/m ³ Respirable fraction	10 mg/m ³
Tin	7440-31-5	0 - 4.5	2 mg/m ³	2 mg/m ³
*Zinc	7440-66-6	0 - 43	5 mg/m ³ Fume 15 mg/m ³ Total dust 5 mg/m ³ Respirable fraction	5 mg/m ³ Fume 10 mg/m ³ Total dust 5 mg/m ³ Respirable fraction

*Exposure limits are for the metal oxide which may be released during melting operations.

III. PHYSICAL DATA

Melting Point: 1500 - 2100°F	Boiling Point: N.A.	Vapor Pressure: N.A.	Specific Gravity: 7.5 - 9.0 g/cc
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The product is a silver or yellow to red solid at room temperature and exhibits no odor. The product is insoluble in water.

IV. STORAGE, FIRE & REACTIVITY DATA

Flash Point: N.A.	Auto-ignition Temperature: N.A.	Flammability Limits: N.A.
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There are no fire or explosion hazards with these alloys. Never use water as an extinguishing agent around molten metal. Water will react violently with any molten metal.

The alloy is a stable, non-hazardous solid at room temperatures. Material may react with acids, bases or oxidizers. Material does not present a significant health hazard under normal handling and storage conditions.

V. HEALTH HAZARD DATA

Under normal handling conditions the solid alloy presents no significant health hazard. Processing of the alloy by dust or fume producing operation (grinding, buffing, forgings, etc.) may result in the potential for exposure to airborne metal particulates or fumes. The exposure levels in Section II are relevant to fumes and dust.

Chronic exposure to copper, zinc, lead, and manganese may cause metal fume fever. Symptoms of metal fume fever include fever, fatigue, dryness of throat, head and body ache, fever and chill. Overexposure to copper and lead may result in skin and hair discoloration. Chronic exposure may affect the central nervous system leading to emotional disturbances, gait and balance difficulties and paralysis.

Nickel and lead have been identified as potential cancer causing agents.

The product will not irritate the skin or eyes in bulk form. Particulates may cause dermatitis due to mechanical irritation.

FIRST AID:

Ingestion: Ingestion of significant amounts of copper alloy are unlikely. Seek medical help if large quantities of product are ingested.

Inhalation: Remove from exposure to dust or fume if present. Seek medical help if required

Skin Contact: Wash thoroughly with soap and water.

Eye Contact: Flush with water for at least 15 minutes. Seek medical help if required.

VI. SPILL PROCEDURES

Product is a non-hazardous solid. No special precautions are required for spills of bulk material. Scrap metal can be reclaimed for reuse. Follow Federal, State and Local regulations regarding disposal.

VII. SPECIAL PROTECTION INFORMATION

Typically no special protection is required during use of the product beyond that required for the process operation being employed. Where dust or fume levels are greater than those specified in Section II, NIOSH approved respiratory protection should be used.

VII. SPECIAL PRECAUTIONS AND COMMENTS

Wet material should never be charged into a molten bath.

Eye protection should be used when cutting, grinding, machining or buffing product. Eye protection should also be used with any other process that generates dust, fumes or chips.

Wash hands thoroughly after use, especially before eating.

SARA TITLE III SECTION 313 SUPPLIER NOTIFICATION

Brass/bronze rods, parts and wire which undergo process operations producing a dust or fume are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR 372.

Revised by: James A. Vaiana

Title: Environmental Engineer

Date: 11/22/95

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