

MATERIAL SAFETY DATA SHEET

I. MATERIAL IDENTIFICATION

Manufacturer's Name: Metallurgical Products Company
 Address: 810 Lincoln Avenue
 P.O. Box 598
 West Chester, PA 19381-0598

Telephone Number: 610-696-6770

Material Name: **30 % Manganese Copper**

II. HAZARDOUS INGREDIENTS

Element	Percentage	CAS Number	ACGIH 8 - hr TWA	OSHA 8 - hr TWA	Specific Gravity g./cc.
*Copper	68% - 72%	7440-50-8	1.0 mg/m ³ -Dust 0.2 mg/ m ³ - Fume	1.0 mg/m ³ -Dust 0.1 mg/ m ³ - Fume	8.94
*Manganese	28% - 32%	7439-96-5	1.0 mg/ m ³ - Fume	5.0 mg/ m ³ - Fume	7.20

III. PHYSICAL DATA

Melting Point:	1950° F / 1065° C	Specific Gravity:	8.47
Vapor Pressure:	Not Applicable	Vapor Density:	Not Applicable
% Volatile by Volume:	Not Applicable	Evaporation Rate:	Not Applicable
Appearance and Odor: Odorless dark metallic solid in ingot form.			

IV. FIRE AND EXPLOSION HAZARD DATA

Flash Point:	Not Applicable	Method Used:	Not Applicable
Flammable Limits:	Not Applicable	UEL	Not Applicable
Extinguishing Media:	See Below		

Special Fire Fighting Procedures: Solid, massive form is not combustible under normal conditions. Use fire fighting methods that are appropriate for surrounding fire. **Do not use water on fire where molten metal is present.** Use class D extinguishing agents or dry sand. Dust clouds may be explosive. Prevent formation of a dust cloud. Firefighters should wear self-contained breathing apparatus and protective clothing.

V. HEALTH HAZARD DATA

Permissible Exposure Limits and Threshold Limit Values:	See Section II
Route(s) of Entry:	
Inhalation:	Yes
Skin:	Yes
Ingestion:	Yes

Effects of Overexposure:

*Manganese

Dusts in high concentration may cause irritation of the eyes and throat and may cause the nose to bleed. Manganese fume fever is characterized by cold like symptoms. Chronic exposure may affect the central nervous system.

*Copper

Melting, grinding, cutting of copper may produce fumes or dust exposure and breathing these fumes or dust may present potentially significant health hazards. Fumes of copper may cause metal fume fever with flu-like symptoms and skin and hair discoloration. While industrial dermatitis has not been reported, keratinization of the hands and the soles of the feet have been reported. Systemically as well, copper dust and fume cause irritation of the upper respiratory tract, metallic taste in the mouth, and nausea. Chronic poisoning may result in Wilson's disease, characterized by a hepatic cirrhosis, brain damage, demyelination, renal disease and copper deposition in the cornea.

Emergency and First Aid Procedures:	
Eye Contact:	Flush with copious amounts of water and seek medical attention.
Skin Contact:	Wash thoroughly with soap and water.
Inhalation:	Remove to fresh air. Get medical attention.
Ingestion:	Seek medical attention if large quantities of material have been ingested.

VI. REACTIVITY DATA	
Stability:	Stable under normal conditions of use, storage, and transportation.
Conditions to Avoid:	Molten metal may explode on contact with water. Avoid contact of finely divided material with heat, oxidizers, acids, alkalines, and halogenated compounds (as above).
Hazardous Decomposition of Byproducts:	At temperatures above the melting point metal fumes or vapors may be emitted.

VII. PRECAUTIONS FOR SAFE HANDLING OR USE	
Steps to Be Taken in Case Material is Released or Spilled:	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. Follow federal, state, and local regulations concerning the disposal of waste.
Waste Disposal Method:	Dispose of in accordance with federal, state, and local regulations.
Other Precautions:	See all other sections of this MSDS.

VIII. CONTROL MEASURES	
Respiratory Protection:	If exposure above the PEL or TLV, NIOSH approved respirator for fume or dust, dependent upon the source of airborne contaminant.
Ventilation:	Required if dust or fume is created in handling or working on this material.
Local Exhaust:	Required if dust or fume is created in handling or working on this material.
Mechanical (general):	As above to reduce airborne dust or fume levels.
Protective gloves:	Required for melting, grinding, cutting, and welding operations. Select glove approved for the specific operation.
Eye Protection:	Required melting, grinding, cutting, welding operations. Minimum requirement of safety glasses with side shields for these operations. Melting and welding may require special eye protection including face shields and specially tinted glass. Grinding operations may also require face-shield.
Other Protective Clothing or Equipment:	As required for the work associated with the melting and pouring of molten metal.
Work/Hygiene Practices:	As required for the work associated with the melting and pouring of molten metal.
--Use precautions in lifting and prevent dropping--	

IX. SPECIAL PRECAUTIONS

<p>SPECIAL INSTRUCTIONS FOR CHEMICALS MARKED WITH AN ASTERISK Those chemicals marked with an asterisk (*) are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 in 40 CFR, Part 372.</p>

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