

MSDS

Minchali MSDS No : MCL002	Revision Date : 03-17-2008
Revision No : 4	Previous Revision Date: 04-28-2003 (V1)

1. PRODUCT AND COMPANY IDENTIFICATION

Product name :	BRASS ALLOY		
Synonyms :	JIS C2600~C2801		
chemical name :	Cu-Zn Alloy		
Family :	Copper Metal alloy		
Company name :	Minchali metal industry Co.,Ltd		
Company address :	No.11 Pei Yuan Rd, Chung-Li Industrial District, Chung-Li City, Tao-Yuan County, Taiwan		
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2. COMPOSITION/INFORMATION ON INGREDIENTS

CAS Number	Components	By Weight %
7440-50-8	Copper (Cu)	59.0~71.5
7440-66-6	Zinc (Zn)	41.0~28.5
7439-92-1	Lead (Pb)	<0.1
7439-89-6	Iron (Fe)	<0.07

OHSA: In solid form, this material is not hazardous . Dust and fume: irritant, carcinogen, blood, lung, kidney, reproductive and developmental toxin , neurotoxin.

In solid form, this material is not hazardous . Dust and fumes are hazardous materials

3. Hazards Identification

WARNING! EXPOSURE TO DUST OR FUMES CAN CAUSE EYE, SKIN AND RESPIRATORY TRACT IRRITATION . CONTAINS A MATERIAL WHICH MAY CAUSE BLOOD, KIDNEY, REPRODUCTIVE AND NEUROLOGICAL EFFECTS, CANCER. USE ONLY WITH ADEQUATE VENTILATION. AVOID CONTACT WITH EYES. SKIN AND CLOTHING.. WASH THOROUGHLY AFTER HANDLING.
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HAZARD RATINGS (for dust of fume)

Degree of hazard (0=low, 4=extreme)

Hazardous Materials Identification System (HMIS)

Health: 2 ; Flammability: 0 ; Physical Hazard: None

ACUTE EFFECTS:

Eye: Dust of fume can cause irritation consisting of redness, swelling and pain.

May cause conjunctivitis with repeated exposures.

Skin: Material not expected to be absorbed through the skin. Contact with dust may cause mild irritation consisting of redness and/or swelling.

Inhalation: Inhalation of high concentrations of metallic copper dusts or fumes may cause nasal irritation and/or nausea, vomiting and stomach pain. The metal fume may also produce influenza-like symptoms, known as metal fume fever. Symptoms of this reaction may include metallic taste, runny nose, nausea, fever and chills. These effects usually disappear within 24 hours.

Ingestion: Ingestion of large amounts of dust may cause nausea, diarrhea and or stomach pain.

Chronic Effects: Prolonged or repeated skin contact with dust may cause more severe irritation or dermatitis. Prolonged or repeated inhalation of dust or fume may cause more severe irritation. Chronic exposure to lead can cause kidney damage, anemia, reproductive effects, developmental effects and permanent nervous system damage in humans including changes in cognitive function.

4. FIRST AID MEASURES

For fume and dust

EYE CONTACT:	Immediately flush out fume and dust particles with large amounts of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If eye irritation develops, call a physician at once.
SKIN CONTACT:	If exposed to dust or fumes, wash skin with plenty of water. Remove contaminated clothing and shoes and launder before reuse. If skin irritation or rash develops and persists or recurs, get medical attention.
INHALATION:	If symptoms of lung irritation occur (coughing, wheezing or breathing difficulty), remove from exposure area to fresh air immediately. If breathing has stopped, perform artificial respiration. Keep affected person warm and at rest. Get medical attention.
INGESTION:	Not a likely route of exposure for finished metal alloy. If dust is ingested, immediately drink water to dilute. Consult a physician if symptoms develop.
NOTE TO PHYSICIANS:	There is no specific antidote to the active ingredients in this product; use symptomatic treatment.

5. FIRE FIGHTING MEASURES

Explosive :	No
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Combustible :	No
Flammable :	No
Burning Rate of Material :	Not applicable
Auto ignition Temp :	Not applicable

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Dust may cause an ignitable and/or an explosive atmosphere.

EXTINGUISHING MEDIA:

For localized powder fires, smother with dry sand, dry dolomite, sodium chloride of soda ash. Use fire-extinguishing media appropriate to fight surrounding fire.

SPECIAL FIREFIGHTING PROCEDURES:

None required.

6. ACCIDENTAL RELEASE MEASURES

In dust form, this product may be an explosion hazard. Remove all sources of ignition. Dust of fume may be suppressed by the use of a local exhaust system.

AIR :	Not applicable
WATER :	Not applicable
EARTH :	Not applicable

7. HANDLING AND STORAGE**HANDLING:**

Handling: Avoid dispersion of dust in air

Storage:

Do not store at temperatures above: Not Applicable
Avoid to store in acid or alkaline environment.

8. EXPOSURE CONTROLS/PROTECTION

When this product is heated, fumes are generated, then the zinc oxide could be formed. The OSHA(PEL) and ACGIH(TLV) for Zinc Oxide fume is 5 mg/m³.

CAS Number		OSHA(PEL)	IDLH
(Cu) 7440-50-8	Dust	0.1 mg/m ³	100 mg/m ³
	Fume, Moist	1 mg/m ³	100 mg/m ³
(Zn) 7440-66-6	—	No Data	No Data
(Pb) 7439-92-1	Dust & Fume	0.05 mg/m ³	100 mg/m ³
(Fe) 7439-89-6	—	No Data	No Data
ENGINEERING CONTROLS :	Local exhaust ventilation is recommended if significant dusting occurs or fumes are generated. Otherwise, use general exhaust ventilation.		

EYE/FACE PROTECTION :	Use safety glasses.
SKIN PROTECTION :	Wear impervious (cut-resistant) gloves and other protective clothing (aprons, coveralls) as appropriate to prevent skin contact when using this product. If generating a dust, wash thoroughly after handling, especially before eating, drinking, or smoking.
RESPIRATORY PROTECTION :	Respiratory protection not normally needed. If significant dusting occurs or fumes are generated use a NIOSH-approved half-face or full-face respirator equipped with High Efficiency Particulate (HEPA) filter cartridges.
GENERAL HYGIENE CONSIDERATIONS :	Do not eat, drink, or smoke while using this product in dust form.

USA/OHSA : Occupational Safety & Health Administration

USA/ACGIH Guide to protective Clothing. Cincinnati, OH: American Conference of Government Industrial Hygienists.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance · Physical State :	Gold metallic · Solid
Melting point :	930-1065°C
Boiling Point :	Not applicable
Specific gravity(g/cc) :	8.66
Vapor Density :	Not applicable
Physical State :	Not applicable
PH at 25°C :	Not applicable

10. STABILITY AND REACTIVITY

Stability: Stable under normal temperatures and pressure.
Condition to Avoid: Not affected by mechanical impact, shock, or by electrical discharge.
Material to Avoid: Chlorine, Acetylene.
Hazardous Decomposition Products: When heated to decomposition, may produce metal oxides and fumes. Inhalation of high concentration of metal fumes may cause a condition known as metal fume fever which is characterized by flu-like symptoms.
Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

POTENTIAL EXPOSURE ROUTES:

For dust: ingestion, inhalation, and eye contact.

For fume: inhalation and eye contact.

The finished alloy metal is not hazardous.

For components:

Components	Copper(Cu)	Zinc(Zn)	Lead(Pb)	Iron(Fe)
Oral LD ₅₀	3.5 mg/Kg,(mouse, intraperitoneal)	No Data	No Data	30 mg/Kg(mouse)
Dermal LD ₅₀	375 mg/Kg(rabbit, subcutaneous)	No Data	No Data	No Data
Inhalation LC ₅₀	No Data	No Data	No Data	No Data

Sub-chronic/Chronic Toxicity: Not known or reported for this product. Lead has caused kidney, blood, and nervous system damage in laboratory animals.

Carcinogenicity: T Not known or reported. The International Agency for Research on Cancer(IARC) lists lead as possibly carcinogenic to humans, group 2B.

Mutagenicity: Not known or reported. Lead has been shown to be mutagenic in several in vitro assays.

Reproductive or Developmental Effects: This product is not known or reported to be mutagenic. Lead has been shown to affect fetal development including birth defects and reduce male reproductive function in laboratory animals.

Neurological effects: Not known or reported. Lead has caused peripheral and central nervous system damage and behavioral effects in laboratory animals.

Interactions with other chemicals which enhance toxicity: Not known or reported.

12. ECOLOGICAL INFORMATION

Ecotoxicity : No data is available on this product.

Individual constituents are as follows:

Copper: The toxicity of copper to aquatic organisms varies significantly not only with the species, but also with the physical and chemical characteristics of the water, such as its temperature, hardness, turbidity and carbon dioxide content. Copper concentrations varying from 0.1to 1.0mg/l have been found by various investigators to be not toxic for most fish. However, concentrations of 0.015to 3.0mg/l have been reported as toxic, particularly in soft water to many kinds of fish, crustaceans, mollusks, insects, and plankton.

Lead: To bluegill, the LC₅₀ (48Hrs) is reported to be 2-5mg/L. Lead is toxic to waterfowl.

MOBILITY: Dissolved lead may migrate into soil.

PERSISTENCE / DEGRADABILITY: Lead may persist and accumulate in the environment .

BIOACCUMULATION: No data

13. DISPOSAL CONSIDERATIONS

If this product becomes a waste, it DOES NOT meet the criteria of a hazardous waste. Care must be taken to prevent environmental contamination from the use of this material. This product may be a candidate for metal reclamation.

14. TRANSPORT INFORMATION

Care must be taken to prevent water unitary, falling from transportation.

15. REGULATORY INFORMATION**US FEDERAL**

TSCA	The components of this product are listed on the Toxic Substance Control Act inventory				
CERCLA	Copper, R.Q=5000 lbs. No reporting is required if diameter of the pieces of metal is equal to or exceeds 100 micrometers (0.0004inches).				
SARA 313	Copper, Zinc(Fume and Dust), Lead				
SARA 313 Hazard Class	Health: For dust or fume only	Acute- Yes, Chronic-Yes,	Fire: None	Reactivity: None	Release of Pressure: None

16. OTHER INFORMATION

First Vision(V1) Date: 04-28-2003

Prepared By: Minchali metal industry Co.,Ltd ;

NOTICE: THE INFORMATION IN THIS MSDS SHOULD BE PROVIDED TO ALL WHO WILL USE, HANDLE, STORE, TRANSPORT, OR OTHERWISE BE EXPOSED TO THIS PRODUCT. THIS INFORMATION HAS BEEN PREPARED FOR THE GUIDANCE OF PLANT ENGINEERING, OPERATIONS AND MANAGEMENT AND FOR PERSONS WORKING WITH OR HANDLING THIS PRODUCT, THIS MSDS INFORMATION IS RELIABLE AND CURRENT AS OF THE DATE OF PUBLICATION, BUT MAKES NO WARRANTY THAT IT IS.