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***** MATERIAL SAFETY DATA SHEET*****

CHEMICAL NAME: CDA 260

CHEMICAL FAMILY: BRASS



PHYSICAL DATA



- | | | |
|----|---|-----------|
| 1. | BOILING POINT (°C): | 1150 |
| 2. | MELTING POINT °C | 915 |
| 3. | VAPOR PRESSURE (mm Hg.) | * |
| 4. | VAPOR DENSITY (AIR = 1) | N/A |
| 5. | SPECIFIC GRAVITY (H ₂) = 1) | 8.53 |
| 6. | PERCENT VOLATILE, by Volume (%) | N/A |
| 7. | EVAPORATION RATE | N/A |
| 8. | SOLUBILITY IN WATER | INSOLUBLE |

* Vapor Pressure of 1.0mm Hg at 1628⁰C for Cu; 487⁰C for Zn



HAZARDOUS INGREDIENTS



COMPONENTS – Cas #	PCT &	PEL	TLV	STEL	IDLH
Copper (7440-50-8)	70%				
Fume		0.1	0.2	-	unk.
Dusts & Mists (as CU)		1.0	1.0	-	unk.
Zinc (See zinc oxide)	30%				
Zinc Oxide (13]4-]3-2)					
Fume		5.0	5.0	10.0	unk.
Dust		-	10 total	-	unk.
		-	5.0 (resp.)	-	



HEALTH HAZARD DATA



ROUTES OF EXPOSURE: Inhalation of dusts, fumes or mists is the primary route of exposure for most health effects. Ingestion results from pulmonary clearance following inhalation and from poor personal hygiene.

TARGET ORGAN/MODE OF ACTION:

CU: Eyes, nose, throat, skin-irritation: "Flu-like" symptoms, Liver rare.

ZN: Same as CU, excluding liver effects.

SIGNS AND SYMPTOMS:

CU: Irritation of the eyes, nasal mucous, skin, upper respiratory tract: metallic taste, skin or hair discoloration (green). Allergic dermatitis (rare); "Metal Fume Fever" (characteristic influenza-like symptoms include: fever, chills, aches, fatigue, dry throat, nausea, and usually elevated white blood cell count; all of which are rapidly and completely revisable upon removal. Ingestion may result in nausea, vomiting, diarrhea, gastritis; "Wilson's Disease" (extremely rare genetic predisposition to abnormal uptake and storage of Cu by the body) may intensify the toxic effects in chronic exposure situations. Fragments of copper metal or alloys lodged in eye result in discoloration and abscess.

ZN: Metal Fume Fever is them most common effect of overexposure to zinc oxide fume (see Cu); irritation effects similar to copper: metallic taste in mouth is not unusual. No significant chronic exposure effects have been reported.

PREPLACEMENT MEDICAL CONSIDERATIONS: Chronic respiratory disease, skin disease, and Wilson's disease.

MEDICAL SURVEILLANCE: Employees developing any of the above conditions should be referred for further medical evaluation. Diagnostic tests include increased urinary levels of copper and zinc, leucocytosis for metal fume fever, and serum zinc levels.

CARCINOGEN/MUTAGEN/TERATOGEN: Unk.

REMARKS: Adverse health effects from over exposure are primarily associated with processes involving welding, cutting, grinding, or smelting of this product. Health effects most likely from zinc due to low melting point.



EMERGENCY AND FIRST AID PROCEDURES



EYE: Flush with large amounts of water.
SKIN: Wash with mild soap and water, If irritation persists, get follow-up medical attentions.
INHALATION: Move person to fresh air. Perform CPR, if necessary.
INGESTION: Give large amounts of water and induce vomiting, if conscious.
REMARKS: Refer accident victim for medical attention following any accidental eye exposure, inhalation, or ingestion.



FIRE AND EXPLOSION HAZARD DATA



FLASH POINT: N/A
EXTINGUISHING MEDIA: Unk.
FLAMMABLE LIMITS: N/A
AUTOIGNITION TEMPERATURE: N/A
SPECIAL FIREFIGHTING PROCEDURES: N/A
UNUSUAL FIRE AND EXPLOSION HAZARDS: Finely divided dust is flammable.
REMARKS: Vapor explosion may result from contact of water with molten metal.



REACTIVITY DATA



STABILITY: Stable
INCOMPATIBILITY: copper may form Solid Copper acetylides, which are shock sensitive, dusts and mists in the presence of acetylene. Contact with acids may liberate flammable and explosive hydrogen gas.
HAZARDOUS DECOMPOSITION PRODUCTS: Cu_2O , ZnO .
HAZARDOUS POLYMERIZATION: Will no occur
CONDITIONS TO AVOID: N/A



SPILL OR LEAK PROCUEDURES



VENTILATION: Local exhaust: Design for process, concentration, toxicity, as needed.
 MECHANICAL: May be used depending on process, concentration
 And/or toxicity. Consult Ind. Hgy.
 SPECIAL: Ventilate hot work in confined spaces.
 OTHER: Refer to 29 CPR 1910,94 and .252 (grinding, buffing,
 Polishing, welding, cutting, brazing ramts)

PROTECTIVE GLOVES: See other protective equipment
 EYE PROTECTION: See other protective equipment
 CONTAINMENT/ISOLATION PRACTICES: Design for process, if feasible.

RESPIRATORY PROTECTION CONCENTRATION	TYPE OF RESPIRATORY PROTECTION
10 X PEL or less	Fume of High Efficiency Particulate (HEPA) Filter Respirator w/ Half Face piece.
50 X PEL or less	HEPA Filter Respirator w/ full Face piece.
100 X PEL or less	Helmet Type Powered Air Purifying Respirator (PAPR) w/ HEPA Filter.
1000 X PEL or less	Hood or Tight-fitting Full-Face piece Powered Air Purifying Respiratory w/HEPA Filter
2000 X PEL or less	Type C Supplies Air Respiratory (airline) Full Face piece, Hood, or Hemet operated in Positive Pressure Mode (pressure-demand, Continuous Flow) at Manufacturer's maximum Recommended flow rate for Hood/Helmut or 6 cfm for Full Face piece.
Greater than 2000 X PEL Or unknown Concentrations	Self-Contained Breathing Apparatus (SCBA), Open Circuit type operated in Positive Pressure Mode.

-or-

Type C Airline operated in Positive Pressure Mode in combination with Escape Provision (Short Duration, Positive Pressure, Open Circuit SCBA).

OTHER PROTECTIVE EQUIPMENT: Gloves and Eye Protection selection must be based on the process hazards or the physical / thermal hazards such as leather welding gloves, welding helmet, or face-shield for grinding.



SPECIAL PRECAUTIONS



PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Do not wear contact lenses while wearing a respirator or when dusts, mists, or fumes may get into eyes.

OTHER PRECAUTIONS: Good personal hygiene and house keeping practices will serve to minimize exposure and reduce the spread of surface contamination.



ACGIH Documentation of Threshold Limit Values, current edition.
NIOSH Occupational Health Guidelines.
OSHA Publication 2206 (29 CFR 1910.1000)

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John E. Lee, President

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