

MATERIAL SAFETY DATA SHEET

COMMON NAME: COPPER

DATE: 2/19/96

REVISED: 3/17/06

HAZARDOUS MATERIAL (as Defined in 29 CFR 1910.1200)

Flammable       Explosive       Organic Peroxide       Irritant       Ingestion  
 Combustible       Reactive       Pyrophoric       Sensitizer       Inhalation  
 Oxidizer       Water Reactive       Compressed Gas       Corrosive       Absorption  
 Other Health Hazard       OSHA or ACGIH Limit  
(See Section VI)

SECTION I. MATERIAL DESCRIPTION:

CHEMICAL NAME & FORMULA: COPPER - Cu

OTHER DESIGNATION: UNS-C12200 - DEOXIDIZED HIGH PHOSPHORUS COPPER

CAS NO.: 7440-50-8

SECTION II: INGREDIENTS:

COPPER

OCCUPATIONAL EXPOSURE LIMITS:

DUST - 1.0 mg/m<sup>3</sup>

FUME - 0.1 mg/m<sup>3</sup>

(1984-85 OSHA

8 hr TWA)

SECTION III. PHYSICAL DATA:

PHYSICAL FORM:

SOLID

BOILING TEMPERATURE:

N/A

FREEZE-MELT TEMPERATURE:

1982 DEGREES F

VAPOR PRESSURE:

N/A

EVAPORATION RATE:

N/A

SPECIFIC GRAVITY:

N/A

DENSITY:

8-91

WATER SOLUBILITY:

N/A

pH

N/A

COLOR:

RED

ODOR:

N/A

SECTION IV. FIRE & EXPLOSION DATA:

FLASHPOINT: N/A      AUTO-IGNITION TEMP: N/A      FLAMMABILITY LIMITS IN AIR: N/A

IN SOLID FORM, THERE ARE NO FIRE OR EXPLOSION HAZARDS WITH THIS ALLOY. FINE CHIPS OR DUST MAY IGNITE AND SHOULD BE STORED IN A WELL-VENTILATED AREA. IN CASE OF FIRE, USE EXTINGUISHING AGENTS APPROPRIATE FOR THE SURROUNDINGS OR MATERIALS. DRY CHEMICALS OR SAND SHOULD BE USED TO EXTINGUISH FIRES. FIRE FIGHTERS SHOULD WEAR FULL PROTECTIVE CLOTHING AND WHERE CONDITIONS WARRANT NIOSH-APPROVED SELF-CONTAINED BREATHING APPARATUS, SEE SECTIONS VI AND VII.

**SECTION V. REACTIVITY DATA:**

COPPER AND COPPER ALLOYS ARE STABLE UNDER NORMAL CONDITIONS OF TRANSPORT, USE AND STORAGE.

**SECTION VI. HEALTH HAZARD INFORMATION:**

TLV: SEE SECTION II

PRIMARY ROUTES OF ENTRY: INHALATION OF DUST OR FUMES.

**COPPER:** UNDER NORMAL HANDLING AND USE, EXPOSURE TO THE SOLID FORM OF COPPER OR COPPER ALLOYS PRESENTS FEW HEALTH HAZARDS. THERMAL CUTTING MELTING, MACHINING/GRINDING MAY PRODUCE FUMES OR DUST CONTAINING THE POTENTIALLY SIGNIFICANT HEALTH HAZARDS. THE EXPOSURE LEVELS IN SECTION II ARE RELEVANT TO FUMES AND DUST. FUMES OF COPPER MAY CAUSE METAL FUME FEVER WITH FLU-LIKE SYMPTOMS, AND COPPER MAY CAUSE SKIN AND HAIR DISCOLORATION.

**SECTION VII. SPILL, LEAK & DISPOSAL PROCEDURES:**

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. CLEANUP PERSONNEL SHOULD WEAR RESPIRATORS AND PROTECTIVE CLOTHING. SCRAP METAL CAN BE RECLAIMED FOR REUSE. FOLLOW FEDERAL, STATE AND LOCAL REGULATIONS REGARDING DISPOSAL.

**SECTION VIII. SPECIAL PROTECTION INFORMATION:**

USE GENERAL AND LOCAL EXHAUST VENTILATION TO KEEP AIRBORNE CONCENTRATIONS OF DUST AND FUMES BELOW THE TLV. WHEN REQUIRED, EMPLOYEES SHOULD WEAR MSHA- OR NIOSH-APPROVED RESPIRATORS FOR PROTECTION AGAINST AIRBORNE DUST OR FUMES. APPROVED SAFETY GLASSES AND/OR GOGGLES SHOULD BE WORN DURING ANY MACHINING, GRINDING, CUTTING OR OTHER OPERATION FROM WHICH AIRBORNE PARTICLES MAY BE EMITTED. FOOD OR DRINK SHOULD NOT BE CONSUMED IN THE WORK AREA.

**SECTION IX. SPECIAL PRECAUTIONS & COMMENTS:**

USE GOOD HOUSEKEEPING PRACTICES TO PREVENT ACCUMULATIONS OF DUST AND TO KEEP AIRBORNE DUST CONCENTRATIONS AT A MINIMUM. AVOID BREATHING DUST OR FUMES. STORE AWAY FROM SOURCE OF IGNITION.

THIS PRODUCT CONTAINS TOXIC CHEMICAL (COPPER) OR (COPPER AND NICKEL) WHICH COULD PRODUCE FUMES OR DUST AS DESCRIBED IN SECTION VI. THE INFORMATION FURNISHED COMPLIES WITH THE REPORTING REQUIREMENTS OF SECTION 313 OF THE EMERGENCY PLANNING AND COMMUNITY RIGHT TO KNOW ACT OF 1986 (40 CFR 372).

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