

LTS RESEARCH LABORATORIES, INC.
MATERIAL SAFETY DATA SHEET
COPPER MAGNESIUM ALLOY

GENERAL

MANUFACTURER/SUPPLIER: LTS RESEARCH LABORATORIES, INC.

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DATE MSDS PREPARED: 02/03/00
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1. PRODUCT IDENTIFICATION

PRODUCT NAME: COPPER MAGNESIUM
FORMULA: Cu/Mg
CAS #: 7440-50-8/7439-95-4
MOLECULAR WEIGHT: N/A

2. PHYSICAL AND CHEMICAL CHARACTERISTICS

BOILING POINT 760 mm Hg: N/A
MELTING POINT: N/A
SPECIFIC GRAVITY: N/A
VAPOR DENSITY: N/A
VAPOR PRESSURE (mm hg): N/A
% VOLATILES: N/A
SOLUBILITY IN H₂O: INSOLUBLE
APPEARANCE AND ODOR: REDDISH, INGOT, PLATE, SPUTTERING TARGET, POWDER, PIECES, GRANULES, PELLETS, SHOTS, ODORLESS

3. HAZARD IDENTIFICATION

HAZARD DESCRIPTION: Xi IRRITANT
F HIGHLY FLAMMABLE
RISK PHRASES: R 36/37 IRRITATING TO EYES AND RESPIRATORY SYSTEM
R 11 HIGHLY FLAMMABLE
HMIS RATINGS (POWDER):
HEALTH: 1
FLAMMABILITY: 2
REACTIVITY: 1

4. FIRE FIGHTING MEASURES

FLASH POINT: N/A
AUTOIGNITION TEMPERATURE: N/A
FLAMMABLE LIMITS:
UPPER: N/A
LOWER: N/A
SPECIAL FIRE FIGHTING PROCEDURES: FIREFIGHTERS MUST WEAR FULL FACE, SELF-CONTAINED BREATHING APPARATUS WITH FULL PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES.
UNUSUAL FIRE AND EXPLOSION HAZARDS: COMBUSTIBLE METAL. FINE POWDER, OIL OR TURNINGS ARE EASILY IGNITED AND BURN WITH INTENSE HEAT AND BRILLIANT

WHITE FLAME. POWDERS FORM EXPLOSIVE MIXTURES WITH AIR WHICH MAY BE IGNITED BY A SPARK. PIECES >3 MM THICK DIFFICULT TO IGNITE BUT POSSIBLE WHEN SUFFICIENT HEAT IS APPLIED. IN FINELY DIVIDED FORM WILL REACT WITH WATER, HALOGENS, OXIDIZING AGENTS AND ACIDS

5. HEALTH HAZARD INFORMATION

EFFECTS OF EXPOSURE:	TO THE BEST OF OUR KNOWLEDGE THE ACUTE AND CHRONIC TOXICITY OF COPPER IS NOT FULLY KNOWN. COPPER COMPOUNDS MAY BE IRRITANT TO THE SKIN, EYES AND RESPIRATORY TRACT. THEY MAY CAUSE METAL FUME FEVER, HEMOLYSIS OF THE RED BLOOD CELLS AND INJURY TO THE LIVER, LUNGS, KIDNEYS AND PANCREAS. INGESTION MAY ALSO CAUSE VOMITING, GASTRIC PAIN, DIZZINESS, ANEMIA, CRAMPS, CONVULSIONS, SHOCK, COMA AND DEATH. COPPER SOLUTIONS MAY CAUSE SENSITIZATION REACTIONS. DUST IS AN IRRITANT TO EYES AND MUCOUS MEMBRANES. SMALL PARTICLES IMBEDDED IN SKIN MAY CAUSE ULCERATION WHICH MAY BECOME INFECTED. INHALATION OF EXCESSIVE CONCENTRATIONS OF OXIDE FUME MAY CAUSE METAL FUME FEVER.
ACUTE EFFECTS: INHALATION:	MAY CAUSE SNEEZING, IRRITATION, ULCERATION OF MUCUS MEMBRANE INCLUDING PERFORATION OF NASAL SEPTUM. NAUSEA, WEAKNESS, AND METAL FUME FEVER. DUST OR FUMES MAY IRRITATE THE RESPIRATORY TRACT, COUGHING, CHEST PAIN, FEVER AND INCREASE WHITE BLOOD CELL.
INGESTION:	COPPER INGESTION CAUSES NAUSEA, VOMITING, ABDOMINAL PAIN, METALLIC TASTE, AND DIARRHEA. INGESTION OF LARGE DOSES MAY CAUSE STOMACH AND INTESTINE ULCERATION, JAUNDICE, AND KIDNEY AND LIVER DAMAGE
SKIN:	MAY CAUSE IRRITATION AND DERMATITIS. PARTICLES EMBEDDED IN THE SKIN MAY CAUSE ERUPTIONS. MOLTEN MAGNESIUM MAY CAUSE SERIOUS SKIN BURNS
EYE:	HIGH CONCENTRATIONS OF DUST MAY CAUSE MECHANICAL IRRITATION. WATCHING A MAGNESIUM FIRE CAN CAUSE EYE INJURY
CHRONIC AFFECTS:	PROLONGED EXPOSURE MAY CAUSE DISCOLOR SKIN AND HAIR, DERMATITIS, IRRITATION OF MUCUS MEMBRANE. INGESTION MAY CAUSE LIVER, CNS AND KIDNEY DAMAGE.
ROUTES OF EXPOSURE: TARGET ORGAN:	INHALATION, INGESTION, SKIN, EYE. RESPIRATORY SYSTEM, SKIN, LIVER, KIDNEYS
MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:	PERSONS WITH PRE-EXISTING SKIN DISORDERS OR IMPAIRED LIVER, KIDNEY, OR PULMONARY FUNCTION OR PRE-EXISTING WILSON'S DISEASE MAY BE MORE SUSCEPTIBLE TO THE EFFECTS OF THIS MATERIAL.
CARCINOGENITY: NTP: NO IARC: NO OSHA: NO	

6. STABILITY

STABILITY:	STABLE
CONDITION TO AVOID: INCOMPATIBILITY (MATERIAL TO AVOID):	INCOMPATIBLE MATERIALS, AIR, MOISTURE ALKALIS, BROMATES, STRONG BASES, ACETYLENE, ACETALDEHYDE, MAGNESIUM, CHLORATES AND IODATES. POTASSIUM PER OXIDE, ETHYLENE OXIDE, IODATES, CHLORATES, SODIUM PEROXIDE, SODIUM AZIDE, ACETYLIC COMPOUNDS,

AMMONIUM NITRATE, DIMETHYLSULFOXIDES. REACTS VIOLENTLY WITH HALOGENS, CHLORINATED SOLVENTS, CHLOROMETHANE. AIR AND MOISTURE SENSITIVE. INCOMPATIBLE WITH ACIDS, OXIDIZING AGENTS

DANGEROUS REACTIONS:

SPONTANEOUSLY FLAMMABLE IN AIR, CONTACT WITH WATER RELEASES FLAMMABLE GASES

HAZARDOUS

DECOMPOSITION PRODUCTS:

HAZARDOUS:

ACIDS TO FORM HYDROGEN GAS, METAL OXIDE FUME

POLYMERIZATION:

WILL NOT OCCUR.

7. EMERGENCY AND FIRST AID PROCEDURES:

INHALATION:

REMOVE TO FRESH AIR, KEEP WARM AND QUIET, AND GIVE OXYGEN IF BREATHING IS DIFFICULT. SEEK IMMEDIATE MEDICAL ADVICE

INGESTION:

IF CONSCIOUS, GIVE 1-2 GLASSES OF MILK OR WATER AND INDUCE VOMITING (NEVER GIVE ANYTHING BY MOUTH OR INDUCE VOMITING TO AN UNCONSCIOUS PERSON). SEEK MEDICAL ATTENTION.

SKIN:

WASH AFFECTED SKIN WITH SOAP AND WATER FOR 15 MINUTES. SEEK MEDICAL ADVICE.

EYE:

FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. CONSULT A DOCTOR

8. HANDLING AND STORAGE

HANDLING AND STORAGE

PROTECT AGAINST PHYSICAL DAMAGE. STORE FINELY DIVIDED SHIPS OR SHAVINGS IN DETACHED FIRE RESISTIVE BUILDING PROTECTED FROM MOISTURE AND AWAY FROM HALOGENS, ACIDS, AND ALL SOURCES OF IGNITION. HEAVIER MAY BE STORED IN THE OPEN.

OTHER PRECAUTIONS:

NORMAL LAB COAT.

9. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN

CASE MATERIAL IS

RELEASED OR SPILLED:

WEAR PROTECTIVE CLOTHING, GOGGLES AND A NIOSH APPROVED RESPIRATOR. SPRINKLE MODERATELY WITH DAMP SAND AND COLLECT FOR DISPOSAL AVOIDING DUST CLOUDS AS MUCH AS POSSIBLE.

RESPIRATORY PROTECTION

(SPECIFY TYPE):

USE SUPPLIED AIR RESPIRATORY PROTECTION IN CONFINED OR ENCLOSED SPACES IF NEEDED.

VENTILATION:

LOCAL EXHAUST; MINIMUM FACE VELOCITY OF 60 FPM

PROTECTIVE GLOVES:

CHEMICAL RESISTANT GLOVES.

EYE PROTECTION:

SAFETY GLASSES

BODY PROTECTION:

PROTECTIVE CLOTHING

WASTE DISPOSAL METHOD:

IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

10. TOXICITY DATA

LD50/LC50

N/A

SARA TITLE III HAZARD CATEGORIES:

ACUTE:

YES

CHRONIC:

YES

FLAMMABILITY:

NO

PRESSURE: NO
REACTIVITY: NO
TSCA INVENTORY: YES
CARCINOGENICITY: NO CLASSIFICATION DATA ON CARCINOGENIC PROPERTIES OF THIS MATERIAL IS AVAILABLE FROM THE EPA, IARC, NTP, OSHA, OR ACGIH.
ADDITIONAL INFORMATION: TO THE BEST OF OUR KNOWLEDGE THE ACUTE AND CHRONIC TOXICITY OF THIS SUBSTANCE IS NOT FULLY KNOWN.

11. TRANSPORTATION DATA

DOT REGULATED FOR POWDER
UN# 3089
HAZARD CLASS: 4.1
PACKING GROUP: III
PROPER SHIPPING NAME: METAL POWDER, FLAMMABLE, N.O.S
ADR//RID CLASS: 4.1 (F3) FLAMMABLE SOLIDS, SELF-REACTIVE SUBSTANCES AND SOLID DESENSITISED EXPLOSIVES
IMDG CLASS: 4.1
AIR TRAN. ICAO/IATA CLASS: 4.1

12. OTHER INFORMATION

THIS SAFETY DATA SHEET SHOULD BE USED IN CONJUNCTION WITH TECHNICAL SHEETS. IT DOES NOT REPLACE THEM. THE INFORMATION GIVEN IS BASED ON OUR KNOWLEDGE OF THIS PRODUCT, AT THE TIME OF PUBLICATION. IT IS GIVEN IN GOOD FAITH. THE ATTENTION OF THE USER IS DRAWN TO THE POSSIBLE RISKS INCURRED BY USING THE PRODUCT FOR ANY OTHER PURPOSE OTHER THAN THAT FOR WHICH IT WAS INTENDED. THIS DOES NOT IN ANY WAY EXCUSE THE USER FROM KNOWING AND APPLYING ALL THE REGULATIONS GOVERNING HIS ACTIVITY. IT IS THE SOLE RESPONSIBILITY OF THE USER TO TAKE ALL PRECAUTIONS REQUIRED IN HANDLING THE PRODUCT. THE AIM OF THE MANDATORY REGULATIONS MENTIONED IS TO HELP THE USER TO FULFILL HIS OBLIGATIONS REGARDING THE USE OF HAZARDOUS PRODUCTS.