

LTS RESEARCH LABORATORIES, INC.
MATERIAL SAFETY DATA SHEET
LANTHANUM STRONTIUM COPPER OXIDE

GENERAL

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1. PRODUCT IDENTIFICATION

PRODUCT NAME: LANTHANUM STRONTIUM COPPER OXIDE
FORMULA: La₂O₃/SrO/CuO
CAS #: 1312-81-8/1314-11-0/1317-38-0

2. PHYSICAL AND CHEMICAL CHARACTERISTICS

BOILING POINT: N/A
MELTING POINT: N/A
SPECIFIC GRAVITY (H₂O=1): N/A
VAPOR DENSITY: N/A
VAPOR PRESSURE: N/A
EVAPORATION RATE: N/A
% VOLATILES: N/A
SOLUBILITY IN H₂O: INSOLUBLE
APPEARANCE AND ODOR: DARK GRAY TARGET, ODORLESS



3. HAZARD IDENTIFICATION

HAZARD DESCRIPTION:
LANTHANUM OXIDE: Xi IRRITANT
STRONTIUM OXIDE: C CORROSIVE
COPPER OXIDE: Xn HARMFUL
N DANGEROUS FOR THE ENVIRONMENT

RISK PHRASES:
LANTHANUM OXIDE: R 36/37/38 IRRITATING TO EYES, RESPIRATORY SYSTEM,
AND SKIN
STRONTIUM OXIDE: R 34 CAUSES BURNS
COPPER OXIDE: R 22 HARMFUL IF SWALLOWED
R 50/53 VERY TOXIC TO AQUATIC ORGANISMS, MAY CAUSE
LONG-TERM ADVERSE EFFECTS IN THE AQUATIC
ENVIRONMENT

HMS RATINGS:
LANTHANUM OXIDE:
HEALTH: 1
FLAMMABILITY: 0
REACTIVITY: 0
STRONTIUM OXIDE:
HEALTH: 2
FLAMMABILITY: 0
REACTIVITY: 1
COPPER OXIDE:
HEALTH: 2
FLAMMABILITY: 0

REACTIVITY: 0

4. FIRE FIGHTING MEASURES

FLASH POINT: N/A
AUTOIGNITION TEMPERATURE: N/A
FLAMMABLE LIMITS:
UPPER: N/A
LOWER: N/A
EXTINGUISHING MEDIA: EXTINGUISHING POWDER. DO NOT USE WATER
SPECIAL HAZARDS: IN CASE OF FIRE METAL OXIDE FUMES MAY BE
RELEASED
CONTACT WITH WATER CAUSES EXOTHERMIC REACTION

5. HEALTH HAZARD INFORMATION

ACUTE EFFECTS:

LANTHANUM OXIDE:

SKIN: IRRITANT TO SKIN AND MUCOUS MEMBRANES
EYE: IRRITATING EFFECT

STRONTIUM OXIDE:

SKIN: CORROSIVE EFFECT ON SKIN AND MUCOUS MEMBRANES
EYE: STRONG CORROSIVE EFFECT

COPPER OXIDE:

SKIN: IRRITANT TO SKIN AND MUCOUS MEMBRANES
EYE: IRRITATING EFFECT

CHRONIC EFFECTS:

LANTHANUM OXIDE:

LANTHANONS CAN CAUSE DELAYED BLOOD CLOTTING LEADING TO HEMORRHAGE. EXPOSURE MAY ALSO LEAD TO SENSITIVITY TO HEAT, ITCHING, INCREASED AWARENESS OF ODOR AND TASTE, AND LIVER DAMAGE
STRONTIUM HAS A LOW ORDER OF TOXICITY. HIGH DOSES HAVE CAUSED CHANGES IN BLOOD CLOTTING FACTORS, ADRENAL FUNCTION, AND LIVER FUNCTION. CORROSIVE MATERIALS ARE ACUTELY DESTRUCTIVE TO THE RESPIRATORY TRACT, EYES, SKIN, AND DIGESTIVE TRACT. EYE CONTACT MAY RESULT IN PERMANENT DAMAGE AND COMPLETE VISION LOSS. INHALATION MAY RESULT IN RESPIRATORY EFFECTS SUCH AS AIRWAY INFLAMMATION, EDEMA, AND CHEMICAL PNEUMONITIS. MAY CAUSE COUGHING, WHEEZING, LARYNGITIS, SHORTNESS OF BREATH. HEADACHE, NAUSEA, AND VOMITING. INGESTION MAY CAUSE DAMAGE TO THE MOUTH, THROAT, AND ESOPHAGUS. MAY CAUSE SKIN BURNS OR IRRITATION DEPENDING ON THE SEVERITY OF EXPOSURE.

STRONTIUM OXIDE:

COPPER OXIDE:

COPPER COMPOUNDS MAY BE IRRITATING 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.

6. STABILITY

STABILITY: STABLE
CONDITIONS TO AVOID: NONE
MATERIAL TO AVOID: WATER/MOISTURE, ACIDS, OXIDIZING AGENTS, REDUCING AGENTS, CARBON DIOXIDE, MAGNESIUM, ALUMINUM/ALUMINUM ALLOYS

DANGEROUS REACTIONS: NONE KNOWN
HAZARDOUS
DECOMPOSITION PRODUCTS: METAL OXIDE FUMES, CORROSIVE GASES/VAPORS, HEAT

7. EMERGENCY AND FIRST AID PROCEDURES:

INHALATION: REMOVE TO FRESH AIR AND PROVIDE ARTIFICIAL RESPIRATION IF NECESSARY. SEEK IMMEDIATE MEDICAL ADVICE.
INGESTION: SEEK IMMEDIATE MEDICAL ATTENTION.
SKIN: WASH SKIN THOROUGHLY WITH MILD SOAP AND WATER. RINSE THOROUGHLY. SEEK IMMEDIATE MEDICAL ADVICE.
EYE: FLUSH EYES WITH PLENTY OF WATER. SEEK IMMEDIATE MEDICAL ADVICE.

8. HANDLING AND STORAGE

HANDLING & STORAGE: STORE IN A COOL, DRY PLACE IN TIGHTLY SEALED CONTAINERS. ENSURE GOOD VENTILATION. NO SPECIAL REQUIREMENTS ARE NECESSARY IF USED CORRECTLY. PROTECT FROM HUMIDITY AND WATER.

9. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
RESPIRATION: WEAR NIOSH APPROVED DUST-MIST VAPOR RESPIRATOR.
VENTILATION: LOCAL EXHAUST TO MAINTAIN CONCENTRATION AT OR BELOW THE PEL, TLV.
PROTECTIVE GLOVES: RUBBER GLOVES.
EYE PROTECTION: SAFETY GLASSES
PROTECTIVE CLOTHING: PROTECTIVE GEAR SUITABLE TO PREVENT CONTAMINATION.
WASTE DISPOSAL METHOD: DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

10. TOXICITY DATA

THE REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES REPORTS THE FOLLOWING EFFECTS OF COPPER OXIDE ON LABORATORY ANIMALS: BEHAVIORAL – EXCITEMENT
SENSE ORGANS AND SPECIAL SENSES (EYE) – CONJUNCTIVE IRRITATION
LUNG, THORAX, OR RESPIRATION – COUGH
GASTROINTESTINAL – HYPERMOTILITY, DIARRHEA
GASTROINTESTINAL – NAUSEA OR VOMITING
GASTROINTESTINAL – OTHER CHANGES
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

UN NUMBER: 3262
HAZARD CLASS: 8
PACKING GROUP: II

PROPER SHIPPING NAME:	CORROSIVE SOLID, BASIC, INORGANIC, N.O.S. (STRONTIUM OXIDE)
ADR/RID CLASS:	8 (C6) CORROSIVE SUBSTANCES
IMDG CLASS:	8
ICAO/IATA CLASS:	8

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.

