

LTS RESEARCH LABORATORIES, INC.
MATERIAL SAFETY DATA SHEET
LITHIUM SILICIDE

GENERAL

MANUFACTURER/SUPPLIER: LTS RESEARCH LABORATORIES, INC.

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COMPANY'S CITY: ORANGEBURG
COMPANY'S STATE: NEW YORK
COMPANY'S ZIP CODE: 10962
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DATE MSDS PREPARED: 11/1/12

1. PRODUCT IDENTIFICATION

PRODUCT NAME: LITHIUM SILICIDE
FORMULA: LiSi₂
CAS #: 7439-93-2/7440-21-3

2. PHYSICAL AND CHEMICAL CHARACTERISTICS

BOILING POINT: N/A
MELTING POINT: N/A
SPECIFIC GRAVITY (H₂O=1): N/A
DENSITY AT 20C: N/A
VAPOR PRESSURE: N/A
EVAPORATION RATE: N/A
% VOLATILES: N/A
FLAMMABILITY: CONTACT WITH WATER LIBERATES EXTREMELY
FLAMMABLE GASES.
SOLUBILITY IN H₂O: REACTS VIOLENTLY
APPEARANCE AND ODOR: POWDER, GRANULES, FOIL, WIRE, INGOTS, SPUTTERING
TARGETS, SILVER GREY, BROWNISH, ODORLESS

3. HAZARD IDENTIFICATION

HAZARD DESCRIPTION: C CORROSIVE
F HIGHLY FLAMMABLE
RISK PHRASES: R 14/15 REACTS VIOLENTLY WITH WATER, LIBERATING
EXTREMELY FLAMMABLE GASES
R 34 CAUSES BURNS
R11 HIGHLY FLAMMABLE

HAZARDOUS COMPONENTS %

SILICON:	100%
OSHA/PEL:	10 mg/m ³
ACGIH/TLV	6 mg/m ³
SEC. 302	NO
SEC. 304	NO
SEC. 313	NO

HMIS RATINGS:

HEALTH:	3
FLAMMABILITY:	3
REACTIVITY:	3

4. FIRE FIGHTING MEASURES

FLASH POINT:	N/A
AUTOIGNITION TEMPERATURE:	N/A
FLAMMABLE LIMITS:	
UPPER:	N/A
LOWER:	N/A
EXTINGUISHING MEDIA:	SUITABLE EXTINGUISHING AGENTS, SPECIAL POWDER FOR METAL FIRES. GRAPHITE, SALT, AND LIMESTONE. DO NOT USE WATER, CARBON DIOXIDE, DRY CHEMICAL
SPECIAL HAZARDS:	IN CASE OF FIRE, LITHIUM OXIDE CAN BE RELEASED. REACTS VIOLENTLY WITH WATER

5. HEALTH HAZARD INFORMATION

ACUTE EFFECTS:	
SKIN:	POWDER: CORROSIVE EFFECT ON SKIN AND MUCOUS MEMBRANES
EYE:	STRONG CORROSIVE EFFECT
CHRONIC EFFECTS:	LARGE AMOUNTS OF LITHIUM COMOUNDS MAY CAUSE VOMITING, DIARRHEA, ATAXIA, INTESTINAL IRRITATION. KIDNEY INJURY, CENTRAL NERVOUS SYSTEM DEPRESSION, AND A DROP IN BLOOD PRESSURE. CENTRAL NERVOUS SYSTEM EFFECTS MAY INCLUDE SLURRED SPEECH, BLURRED VISION, DIZZINESS, SENSORY LOSS, CONVULSION, AND STUPOR. CHRONIC INTAKE MAY CAUSE NEUROMUSCULAR EFFECTS SUCH AS TREMOR, ATAXIA, WEAKNESS, CLONUS, AND HYPERACTIVE REFLEXES. LITHIUM CAN CAUSE KIDNEY DAMAGE, GASTROINTESTINAL DISTURBANCES, FATIGUES, DEHYDRATION, WEIGHT LOSS, DERMATOLOGICAL EFFECTS, AND THYROID DAMAGE. THE LITHIUM ION HAS SHOWN TERATOGENIC EFFECTS IN RATS AND MICE. 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 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 THE EXPOSURE.

6. STABILITY

STABILITY:	STABLE
CONDITIONS TO AVOID:	MOISTURE
MATERIAL TO AVOID:	WATER/MOISTURE, ACIDS, OXIDIZING AGENTS
DANGEROUS REACTIONS:	CONTACT WITH WATER RELEASES FLAMMABLE GASES, REACTS VIOLENTLY WITH WATER. AMMONIUM NITRATE, HEAT, AMMONIUM PEROXODISULFATE, CHLORIC ACID, CHLORINE TRIFLUORIDE, CHLOROFORMADINIUM NITRATE, SODIUM ACETYLIDE, CHLORINE, DINITROGEN TETRAOXIDE, LIQUID FLUORINE, NITRYL FLUORIDE + HEAT, PEROXYL FORMIC AND POTASSIUM DICHROMATE, SODIUM PEROXIDE (AT 240 OC), WATER AND MOISTURE

HAZARDOUS

DECOMPOSITION PRODUCTS: LITHIUM OXIDE, HYDROGEN GAS

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. HANDLE UNDER DRY PROTECTIVE GAS. STORE AWAY FROM WATER/MOISTURE. DO NOT STORE TOGETHER WITH OXIDIZING AGENTS AND ACIDIC MATERIALS. STORE UNDER DRY INERT GAS

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, TIGHTLY SEALED GOGGLES, FULL FACE PROTECTION

PROTECTIVE CLOTHING: PROTECTIVE GEAR SUITABLE TO PREVENT CONTAMINATION.

WASTE DISPOSAL METHOD: DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

10. TOXICITY DATA

SILICON

ORAL RAT LD50: 3160 MG/KG (RAT)

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

D.O.T REGULATED FOR POWDERS, GRANULES, FOIL, WIRE

LITHIUM

PROPER SHIPPING NAME: LITHIUM SILICIDE

UN NUMBER: 1415

HAZARD CLASS: 4.3

PACKING GROUP: I

ADR/RID CLASS: 4.3 (W2) SUBSTANCES WHICH, IN CONTACT WITH WATER, EMIT FLAMMABLE GASES

IMDG CLASS: 4.3

ICAO/IATA CLASS: 4.3

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.

