

LTS (CHEMICAL) INC.
MATERIAL SAFETY DATA SHEET
LITHIUM FLUORIDE-SCANDIUM FLUORIDE

GENERAL


MANUFACTURER/SUPPLIER: LTS RESEARCH LABORATORIES, INC.

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1. PRODUCT IDENTIFICATION

PRODUCT NAME: LITHIUM FLUORIDE-SCANDIUM FLUORIDE
CHEMICAL FORMULA: LiF-ScF₃
CHEMICAL FAMILY: ALKALI FLUORIDES
CAS NO: 7789-24-4/13709-47-2

2. HAZARDOUS INGREDIENTS

HAZARD DESCRIPTION: T TOXIC
INFORMATION PERTAINING TO
PARTICULAR DANGERS FOR MAN
AND ENVIRONMENT:  R 20/21/22 HARMFUL BY INHALATION, IN CONTACT WITH
SKIN AND IF SWALLOWED.
R 36/37/38 IRRITATING TO EYES, RESPIRATORY SYSTEM AND
SKIN.

HAZARDOUS COMPONENT %: 0-100%
OSHA/PEL: 2.5 mg/m³ (F)
ACGIH-TLV: 2.5 mg/m³ (F)
HMIS RATING (SCALE 0-4)
HEALTH: 2
FLAMMABILITY: 0
REACTIVITY: 0

3. PHYSICAL DATA

BOILING POINT: N/A
MELTING POINT: N/A
SPECIFIC GRAVITY: N/A
VAPOR PRESSURE: N/A
VAPOR DENSITY: N/A
% VOLATILES: N/A
DENSITY AT 20°C: N/A
SOLUBILITY IN WATER @ 18 °C): N/A
APPEARANCE: GREYISH WHITE PIECES.

4. FIRE AND EXPLOSION HAZARDS DATA

FLASH POINT:	N/A
FLAMMABLE LIMITS:	
UPPER:	N/A
LOWER:	N/A
AUTOIGNITION TEMPERATURE:	N/A
EXTINGUISHING MEDIA:	NONCOMBUSTIBLE. USE SUITABLE AGENT FOR THE SURROUNDING MATERIALS.
SPECIAL FIREFIGHTING PROC:	USE NORMAL PROCEDURES: WEAR NIOSH/MSHA APPROVED SELF-CONTAINED BREATHING APPARATUS, FLAME AND CHEMICAL RESISTANT CLOTHING; HATS, BOOTS AND GLOVES. IF WITHOUT RISK REMOVE MATERIAL FROM FIRE AREA.
UNUSUAL FIRE AND EXPL HAZRDS:	MATERIAL WILL EMIT TOXIC FUMES IF HEATED TO DECOMPOSITION.

5. HEALTH HAZARD INFORMATION

EFFECTS OF EXPOSURE:	
ACUTE EFFECTS:	INHALATION: MAY IRRITATE RESPIRATORY SYSTEM.
INGESTION:	INGESTION OF LARGE AMOUNTS OF LITHIUM ION MAY CAUSE VOMITING; DIARRHEA, ATAXIA, INTESTINAL IRRITATION, KIDNEY INJURY, CNS DEPRESSION AND DROP IN BLOOD PRESSURE. CENTRAL NERVOUS SYSTEM EFFECTS MAY INCLUDE SLURRED SPEECH, BLURRED VISION, DIZZINESS, SENSORY LOSS, CONVULSIONS AND STUPOR.
SKIN:	MAY CAUSE IRRITATION.
EYE:	MAY CAUSE IRRITATION.
CHRONIC EFFECTS:	CHRONIC INTAKE OF LITHIUM ION MAY CAUSE NEUROMUSCULAR EFFECTS SUCH AS TREMOR, ATAXIA, WEAKNESS, CLONUS AND HYPERACTIVE REFLEXES. LITHIUM ION CAN CAUSE KIDNEY DAMAGE, GASTROINTESTINAL DISTURBANCES, FATIGUE, DEHYDRATION, WEIGHT LOSS, DERMATOLOGICAL EFFECTS AND THYROID DISTURBANCES. LITHIUM ION HAS SHOWN TERATOGENIC EFFECTS IN RATS AND MICE. CHRONIC FLUORINE POISONING CAN CAUSE SEVERE BONE CHANGES, LOSS OF WEIGHT, ANOREXIA, ANEMIA AND DENTAL DEFECTS.
MEDICAL CONDITIONS, IF ANY, AGGRAVATED BY EXPOSURE:	NONE KNOWN
MOST LIKELY ROUTES OF ENTRY:	INGESTION.
CARCINOGENICITY:	
NTP:	NO
IARC:	NO
OSHA:	NO
EPA:	NO

6. EMERGENCY AND FIRST AID PROCEDURES:

EYES:	FLUSH WITH COPIOUS AMOUNTS OF WATER INCLUDING UNDER EYELIDS FOR AT LEAST 20 MINUTES. CONTACT A PHYSICIAN IMMEDIATELY
SKIN:	REMOVE CONTAMINATED CLOTHING, FLOOD WITH LARGE AMOUNTS OF WATER. SEEK MEDICAL ATTENTION IF IRRITATION PERSISTS

INHALATION: REMOVE PERSON TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. CALL A PHYSICIAN IMMEDIATELY.

INGESTION: CONTACT A PHYSICIAN IMMEDIATELY

7. REACTIVITY DATA

STABILITY: STABLE

CONDITIONS TO AVOID: NONE IF STORED UNDER NORMAL CONDITION

MATERIALS TO AVOID: OXIDIZING AGENTS, ACTIVE METALS (SUCH AS POTASSIUM AND MAGNESIUM).

HAZARDOUS DECOMPOSITION: HF, LITHIUM OXIDE, METAL OXIDE FUME

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

8. SPILL OR LEAK PROCEDURES

IN CASE OF MATERIAL IS RELEASED / SPILLED: WEAR FULL PROTECTIVE EQUIPMENT, COVER SPILL WITH DRY SAND OR VER-MICULITE. MIX WELL AND CAREFULLY TRANSFER TO A CONTAINER.

VENTILATION: FUME HOOD.

RESPIRATORY PROTECTION: NIOSH/MSHA APPROVED DUST MASK FOR ORDINARY USE, SELF-CONTAINED BREATHING APPARATUS FOR EMERGENCY USE. PROTECTIVE GLOVES: RUBBER

EYE/FACE PROTECTION: ANSI APPROVED SAFETY GOGGLES

WASTE DISPOSAL: DISPOSAL SHOULD BE MADE IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.

9. HANDLING AND STORAGE

HANDLING AND STORAGE: KEEP MATERIAL IN TIGHTLY CLOSED CONTAINER. STORE IN A COOL, DRY, WELL-VENTILATED AREA. WASH THOROUGHLY AFTER USE.

OTHER PRECAUTIONS: WEAR LAB COAT AND APRON; USE FLAME AND CHEMICAL RESISTANT COVERALLS, EYEWASH CAPABLE OF SUSTAINED FLUSHING, SAFETY DRENCH SHOWER AND HYGIENIC FACILITIES FOR WASHING.

10. TOXICOLOGICAL INFORMATION

ORAL: LD50::143 mg/kg (RAT)

PRIMARY IRRITANT EFFECT:

ON THE SKIN: IRRITANT TO SKIN AND MUCOUS MEMBRANES.

ON THE EYE: IRRITATING EFFECT.

SENSITIZATION: NO SENSITIZING EFFECT.

SUBACUTE TO CHRONIC TOXICITY: LARGE AMOUNTS OF LITHIUM COMPOUNDS MAY CAUSE VOMITING, DIARRHEA, ATAXIA, INTESTINAL IRRITATING, 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, CONVULSIONS AND STUPOR. CHRONIC INTAKE MAY CAUSE NEUROMUSCULAR EFFECTS SUCH AS TREMOR, ATAXIA, WEAKNESS, CLONUS AND HYPERACTIVE REFLEXES. LITHIUM CAN CAUSE KIDNEY DAMAGE, GASTROINTESTINAL DISTURBANCES, FATIGUE,

DEHYDRATION, WEIGHT LOSS, DERMATOLOGICAL EFFECTS AND THROID DAMAGE. LITHIUM ION HAS SHOWN TETRATOGENIC EFFECTS IN RATS AND MICE.

CARCINOGENICITY:

EPA:	NO
IARC:	NO
NTP:	NO
OSHA:	NO
ACGIH:	NO

11. TRANSPORTATION DATA

UN NUMBER:	3288
HAZARD CLASS:	6.1
PACKING GROUP:	II
PROPER SHIPPNG NAME:	TOXIC SOLID, INORGANIC, N.O.S (LITHIUM FLUORIDE-SCANDIUM FLUORIDE)
RAIL/ROAD (RID/ADR):	6.1, TOXIC SUBSTANCE
MARITIME TRANSPORT (IMO/MDG):	6.1, TOXIC SOLID, INORGANIC, N.O.S.,
AIR TRANSPORT (ICAO-IATA):	6.1, TOXIC SOLID, INORGANIC, N.O.S.,
REGULATIONS:	
HAZARD SYMBOL:	T TOXIC
RISK PHRASES:	25 TOXIC IF SWALLOWED 36/37/38 IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
SAFETY PHRASES:	20 WHEN USING, DO NOT EAT AND DRINK 26 IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH COPIUS WATER AND SEEK MEDICAL HELP. 36/37 WEAR PROTECTIVE CLOTHING THIS MATERIAL & ITS CONTAINER MUS BE DISPOSED OF AS HAZARDOUS WASTE. USE ONLY BY TECHNICALLY QUALIFIED PERSON.

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.