# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
US OSHA Hazard Communication Standard (29 CFR 1910.1200)

**Revision date** 06/30/2026 **Revision Number** 1

## 1. Identification

**Product identifier**

**Product Name** Lithium Fluoride (pieces)

**Other means of identification**

**Safety data sheet number** 04913

**UN number or ID number** UN3288

**Synonyms** None

**Recommended use of the chemical and restrictions on use**

**Recommended use** Physical vapor deposition of thin films

**Restrictions on use** No information available

**Details of the supplier of the safety data sheet**

**Supplier Address**
Kurt J Lesker Company

**Manufacturer Address**
Kurt J Lesker Company
1925 Route 51
Jefferson Hills, PA 15025
+1 412-387-9200

Kurt J Lesker Company LTD
United Kingdom
Austin House
Sidney Little Road
Churchfields Industrial Estate
St Leonards on Sea, East Sussex, TN38 9PU, United Kingdom
Customer Service: +44 (0) 1424 458100

**E-mail** msds@lesker.com

**Emergency telephone number**

**Emergency Telephone**
North America [USA, Canada, Mexico]: 1-866-519-4752
Mainland China: (+86) 4001 2001 74
Europe: { int'l call prefix} -1-760-476-3961
Asia Pacific: { int'l call prefix} -1-760-476-3960
Middle East & Africa: { int'l call prefix} -1-760-476-3959
South Korea: +080-880-0455
Philippines: (+63) 2 83953471

## 2. Hazard(s) identification

**Classification**

| | |
|---|---|
| Acute toxicity - Oral | Category 3 |
| Acute toxicity - Dermal | Category 4 |
| Acute toxicity - Inhalation (Gases) | Category 4 |
| Acute toxicity - Inhalation (Vapors) | Category 4 |
| Acute toxicity - Inhalation (Dusts/Mists) | Category 4 |
| Skin corrosion/irritation | Category 2 |
| Serious eye damage/eye irritation | Category 2A |
| Specific target organ toxicity (single exposure) | Category 3 |

**Hazards not otherwise classified (HNOC)**
Not applicable

**Label elements**



**Danger**

**Hazard statements**
Toxic if swallowed.
Harmful in contact with skin.
Harmful if inhaled.
Causes skin irritation.
Causes serious eye irritation.
May cause respiratory irritation.

**Precautionary Statements - Prevention**
Wash face, hands and any exposed skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Avoid breathing dust, fume, gas, mist, vapors and spray.
Use only outdoors or in a well-ventilated area.
Wear protective gloves, protective clothing, eye protection and face protection.

**Precautionary Statements - Response**
Specific treatment (see .? on this label).
Specific treatment (see .? on this label).
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF ON SKIN: Wash with plenty of water and soap.
Call a POISON CENTER or doctor if you feel unwell.
Take off contaminated clothing and wash it before reuse.
If skin irritation occurs: Get medical advice/attention.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER or doctor if you feel unwell.
IF SWALLOWED: Immediately call a POISON CENTER or doctor.
Rinse mouth.

**Precautionary Statements - Storage**
Store locked up.
Store in a well-ventilated place. Keep container tightly closed.

**Precautionary Statements - Disposal**
Dispose of contents and container in accordance with local, regional, national, and international regulations as applicable.

**Other information**
No information available.

## 3. Composition/information on ingredients

**Substance**

**Formula** LiF

| Chemical name | CAS No. | Weight-% | Trade secret |
|---|---|---|---|
| Lithium Fluoride (pieces) | 7789-24-4 | 100 | * |

*The exact percentage (concentration) of composition has been withheld as a trade secret.

## 4. First-aid measures

**Description of first aid measures**

**General advice** Show this safety data sheet to the doctor in attendance.

**Inhalation** Remove to fresh air. IF exposed or concerned: Get medical advice/attention. Get medical attention immediately if symptoms occur. If breathing has stopped, give artificial respiration. Get medical attention immediately. If symptoms persist, call a physician.

**Eye contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists.

**Skin contact** Wash off immediately with soap and plenty of water for at least 15 minutes. If symptoms persist, call a physician.

**Ingestion** Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Get medical attention.

**Self-protection of the first aider** Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid breathing dust/fume/gas/mist/vapors/spray. Use personal protective equipment as required. See section 8 for more information.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** May cause redness and tearing of the eyes. Burning sensation. Coughing and/ or wheezing. Difficulty in breathing.

**Effects of Exposure** No information available.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians** Treat symptomatically.

## 5. Fire-fighting measures

**Suitable Extinguishing Media** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Large Fire** CAUTION: Use of water spray when fighting fire may be inefficient.

**Unsuitable extinguishing media** Do not scatter spilled material with high pressure water streams.

**Specific hazards arising from the chemical** No information available.

**Explosion data**

**Sensitivity to mechanical impact** None.

**Sensitivity to static discharge** None.

**Special protective equipment and precautions for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Avoid generation of dust. Do not breathe dust.

**Other information** Refer to protective measures listed in Sections 7 and 8.

**Methods and material for containment and cleaning up**

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Pick up and transfer to properly labeled containers.

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

## 7. Handling and storage

**Precautions for safe handling**

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Avoid breathing vapors or mists. In case of insufficient ventilation, wear suitable respiratory equipment.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Store locked up.

## 8. Exposure controls/personal protection

**Control Parameters**

**Exposure Limits**

| Chemical name | ACGIH TLV | OSHA PEL | NIOSH |
|---|---|---|---|
| Lithium Fluoride (pieces) | TWA: 2.5 mg/m³ F | TWA: 2.5 mg/m³ F | IDLH: 250 mg/m³ F |

| | | | |
|---|---|---|---|
| 7789-24-4 | | (vacated) TWA: 2.5 mg/m³ | TWA: 2.5 mg/m³ F |

**Biological occupational exposure limits**

| Chemical name | ACGIH |
|---|---|
| Lithium Fluoride (pieces)<br>7789-24-4 | 2 mg/L - urine (Fluoride) - prior to shift<br>3 mg/L - urine (Fluoride) - end of shift |

**Appropriate engineering controls**

**Engineering controls** Showers
Eyewash stations
Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Wear safety glasses with side shields (or goggles).

**Hand protection** Wear suitable gloves. Impervious gloves.

**Skin and body protection** Wear suitable protective clothing. Long sleeved clothing.

**Respiratory protection** Appropriate respiratory protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**General hygiene considerations** Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Avoid breathing dust/fume/gas/mist/vapors/spray.

## 9. Physical and chemical properties

**Information on basic physical and chemical properties**

**Physical state** Solid
**Appearance** solid
**Color** Off-white
**Odor** No characteristic odour
**Odor threshold** No information available

| Property | Values | Remarks • Method |
|---|---|---|
| **pH** | No data available | |
| **pH (as aqueous solution)** | | |
| **Melting point / freezing point** | 845 °C / 1553.0 °F | 845°C/1553°F |
| **Initial boiling point and boiling range** | 1681 °C / 3057.8 °F | 1681°C/3057°F |
| **Flash point** | No data available | |
| **Evaporation rate** | No data available | |
| **Flammability** | No data available | |
| **Flammability Limit in Air** | | |
| **Upper flammability or explosive limits** | No data available | |
| **Lower flammability or explosive limits** | No data available | |
| **Vapor pressure** | No data available | |
| **Relative vapor density** | No data available | |
| **Relative density** | 2.635 @ 25°C | |
| **Water solubility** | No data available | |
| **Solubility(ies)** | No data available | |

| | |
|---|---|
| **Partition coefficient** | No data available |
| **Autoignition temperature** | No data available |
| **Decomposition temperature** | |
| **Kinematic viscosity** | No data available |
| **Dynamic viscosity** | No data available |

**Other information**

| | |
|---|---|
| **Explosive properties** | No information available |
| **Oxidizing properties** | No information available |
| **Softening point** | No information available |
| **Molecular weight** | 25.939 |
| **VOC content** | No information available |
| **Liquid Density** | No information available |
| **Bulk density** | No information available |

## 10. Stability and reactivity

**Reactivity** No information available.

**Chemical stability** Stable under normal conditions.

**Possibility of hazardous reactions** None under normal processing.

**Conditions to avoid** Excessive heat.

**Incompatible materials** Strong acids. Strong bases. Strong oxidizing agents.

**Hazardous decomposition products** None known based on information supplied.

## 11. Toxicological information

**Information on likely routes of exposure**

**Product Information**

**Inhalation** Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract. Harmful by inhalation. (based on components).

**Eye contact** Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components). May cause redness, itching, and pain.

**Skin contact** Specific test data for the substance or mixture is not available. Causes skin irritation. (based on components).

**Ingestion** Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Toxic if swallowed. (based on components).

**Symptoms related to the physical, chemical and toxicological characteristics**

**Symptoms** Redness. May cause redness and tearing of the eyes. Coughing and/ or wheezing.

**Acute toxicity** Toxic if swallowed. Harmful by skin contact. Harmful by inhalation.

**Numerical measures of toxicity**

**Component Information**

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| Lithium Fluoride (pieces)<br>7789-24-4 | = 143 mg/kg ( Rat ) | > 2000 mg/kg ( Rat ) | > 15.57 mg/L ( Rat ) 4 h |

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Skin corrosion/irritation** Classification based on data available for ingredients. Causes skin irritation.

**Serious eye damage/eye irritation** Classification based on data available for ingredients. Causes serious eye irritation.

**Respiratory or skin sensitization** No information available.

**Germ cell mutagenicity** No information available.

**Carcinogenicity** No information available.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Chemical name | ACGIH | IARC | NTP | OSHA |
|---|---|---|---|---|
| Lithium Fluoride (pieces)<br>7789-24-4 | - | Group 3 | - | - |

**Legend**

**IARC (International Agency for Research on Cancer)**

Group 3 - Not Classifiable as to Carcinogenicity in Humans

**Reproductive toxicity** No information available.

**STOT - single exposure** May cause respiratory irritation.

**STOT - repeated exposure** No information available.

**Aspiration hazard** No information available.

**Other adverse effects** No information available.

**Interactive effects** No information available.

## 12. Ecological information

**Ecotoxicity** The environmental impact of this product has not been fully investigated.

**Persistence and degradability** No information available.

**Bioaccumulation** There is no data for this product.

**Other adverse effects** No information available.

## 13. Disposal considerations

**Disposal methods**

| | |
|---|---|
| **Waste from residues/unused products** | Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation. |
| **Contaminated packaging** | Do not reuse empty containers. |

## 14. Transport information

**DOT**

| | |
|---|---|
| **Notes** | **No components found suitable for Technical Name.** |
| **UN number or ID number** | UN3288 |
| **Proper shipping name** | Toxic solid, inorganic, n.o.s. |
| **Transport hazard class(es)** | 6.1 |
| **Packing group** | III |
| **Special Provisions** | IB8, IP3, T1, TP33 |
| **DOT Marine Pollutant** | NP |
| **Description** | UN3288, Toxic solid, inorganic, n.o.s., 6.1, III |
| **Emergency Response Guide Number** | 151 |

**TDG**

| | |
|---|---|
| **Notes** | **No components found suitable for Technical Name.** |
| **UN number or ID number** | UN3288 |
| **UN proper shipping name** | Toxic solid, inorganic, n.o.s. |
| **Transport hazard class(es)** | 6.1 |
| **Packing group** | III |
| **Special Provisions** | 16 |
| **Description** | UN3288, Toxic solid, inorganic, n.o.s., 6.1, III |

**MEX**

| | |
|---|---|
| **Notes** | **No components found suitable for Technical Name.** |
| **UN number or ID number** | UN3288 |
| **UN proper shipping name** | Toxic solid, inorganic, n.o.s. |
| **Transport hazard class(es)** | 6.1 |
| **Packing group** | III |
| **Description** | UN3288, Toxic solid, inorganic, n.o.s., 6.1, III |
| **Special Provisions** | 223, 274 |

**ICAO (air)**

| | |
|---|---|
| **Notes** | **No components found suitable for Technical Name.** |
| **UN number or ID number** | UN3288 |
| **UN proper shipping name** | Toxic solid, inorganic, n.o.s. |
| **Transport hazard class(es)** | 6.1 |
| **Packing group** | III |
| **Description** | UN3288, Toxic solid, inorganic, n.o.s., 6.1, III |
| **Special Provisions** | A3, A5 |

**IATA**

| | |
|---|---|
| **Notes** | **No components found suitable for Technical Name.** |
| **UN number or ID number** | UN3288 |
| **UN proper shipping name** | Toxic solid, inorganic, n.o.s. |
| **Transport hazard class(es)** | 6.1 |
| **Packing group** | III |
| **Description** | UN3288, Toxic solid, inorganic, n.o.s., 6.1, III |

| | |
|---|---|
| **Special Provisions** | A3, A5 |
| **ERG Code** | 6L |

**IMDG**

| | |
|---|---|
| **Notes** | **No components found suitable for Technical Name.** |
| **UN number or ID number** | UN3288 |
| **UN proper shipping name** | Toxic solid, inorganic, n.o.s. |
| **Transport hazard class(es)** | 6.1 |
| **Packing group** | III |
| **EmS-No.** | F-A, S-A |
| **Special Provisions** | 223, 274 |
| **Marine pollutant** | NP |
| **Description** | UN3288, Toxic solid, inorganic, n.o.s., 6.1, III |

## 15. Regulatory information

**International Inventories**

**TSCA** Contact supplier for inventory compliance status.

| Chemical name | CAS No. | Inventory Listing Status | Commercial Activity Designation |
|---|---|---|---|
| Lithium Fluoride (pieces) | 7789-24-4 | Present | Active |

| | |
|---|---|
| **DSL/NDSL** | Contact supplier for inventory compliance status. |
| **EINECS/ELINCS** | Contact supplier for inventory compliance status. |
| **ENCS** | Contact supplier for inventory compliance status. |
| **IECSC** | Contact supplier for inventory compliance status. |
| **KECI** | Contact supplier for inventory compliance status. |
| **PICCS** | Contact supplier for inventory compliance status. |
| **AIIC** | Contact supplier for inventory compliance status. |
| **NZIoC** | Contact supplier for inventory compliance status. |

**Legend:**
**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
**ENCS** - Japan Existing and New Chemical Substances
**IECSC** - China Inventory of Existing Chemical Substances
**KECL** - Korean Existing Chemicals Inventory
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances
**AIIC** - Australian Inventory of Industrial Chemicals
**NZIoC** - New Zealand Inventory of Chemicals

**US Federal Regulations**

**SARA 313**
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

**SARA 311/312 Hazard Categories**
Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

**CWA (Clean Water Act)**
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40

CFR 122.42).

**CERCLA**
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

**US State Regulations**

**California Proposition 65**
This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

| Chemical name | New Jersey | Massachusetts | Pennsylvania |
|---|---|---|---|
| Lithium Fluoride (pieces)<br>7789-24-4 | X | - | - |

**U.S. EPA Label Information**

**EPA Pesticide Registration Number** Not applicable

## 16. Other information

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **NFPA** | **Health hazards** 3 | **Flammability** 0 | **Instability** 0 | **Special hazards** - |
| **HMIS** | **Health hazards** 2 | **Flammability** 0 | **Physical hazards** 0 | **Personal protection** X |

**Key or legend to abbreviations and acronyms used in the safety data sheet**

**Legend Section 8: Exposure controls/personal protection**

| | | | |
|---|---|---|---|
| TWA | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| Ceiling | Maximum limit value | Sk* | Skin designation |

**Key literature references and sources for data used to compile the SDS**
Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
Environmental Protection Agency
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
National Institute of Technology and Evaluation (NITE)
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine’s PubMed database (NLM PUBMED)
U.S. National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
World Health Organization

| | |
|---|---|
| **Revision date** | 06/30/2026 |
| **Revision Note** | No information available. |

**Disclaimer**

**The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.**

**End of Safety Data Sheet**