1. Identification

Product Name  Lithium hexafluorophosphate

Cat No. :  AC191260000; AC191260050; AC191260250; AC191261000

CAS-No  21324-40-3

Synonyms  Phosphate(1-), hexafluoro; Lithium hexafluorophosphate(1-); Lithium phosphohexafluoride

Recommended Use  Laboratory chemicals.

Uses advised against  Food, drug, pesticide or biocidal product use.

Details of the supplier of the safety data sheet

Company
Fisher Scientific  Acros Organics
One Reagent Lane  One Reagent Lane
Fair Lawn, NJ 07410  Fair Lawn, NJ 07410
Tel: (201) 796-7100

Emergency Telephone Number
For information US call: 001-800-ACROS-01 / Europe call: +32 14 57 52 11
Emergency Number US:001-201-796-7100 / Europe: +32 14 57 52 99
CHEMTREC Tel. No.US:001-800-424-9300 / Europe:001-703-527-3887

2. Hazard(s) identification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

<table>
<thead>
<tr>
<th>Classification</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute oral toxicity</td>
<td>3</td>
</tr>
<tr>
<td>Skin Corrosion/Irritation</td>
<td>1 A</td>
</tr>
<tr>
<td>Serious Eye Damage/Eye Irritation</td>
<td>1</td>
</tr>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
<td>3</td>
</tr>
<tr>
<td>Target Organs - Respiratory system.</td>
<td></td>
</tr>
<tr>
<td>Specific target organ toxicity - (repeated exposure)</td>
<td>1</td>
</tr>
<tr>
<td>Target Organs - Bone, Teeth.</td>
<td></td>
</tr>
</tbody>
</table>

Label Elements

Signal Word
Danger

Hazard Statements
Toxic if swallowed
Causes severe skin burns and eye damage
May cause respiratory irritation
Causes damage to organs through prolonged or repeated exposure

Precautionary Statements
Prevention
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Do not breathe dust/fume/gas/mist/vapors/spray
Wear protective gloves/protective clothing/eye protection/face protection
Use only outdoors or in a well-ventilated area
Response
Immediately call a POISON CENTER or doctor/physician
Inhalation
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Skin
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Ingestion
Rinse mouth
Do NOT induce vomiting
Storage
Store locked up
Store in a well-ventilated place. Keep container tightly closed
Disposal
Dispose of contents/container to an approved waste disposal plant
Hazards not otherwise classified (HNOC)
None identified

### 3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphate(1-), hexafluoro-, lithium</td>
<td>21324-40-3</td>
<td>&gt;95</td>
</tr>
</tbody>
</table>

### 4. First-aid measures

General Advice
Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

Eye Contact
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Skin Contact
Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

Inhalation
Remove to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a
pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.

### Ingestion
Do NOT induce vomiting. Call a physician or poison control center immediately.

### Most important symptoms and effects
Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation.

### Notes to Physician
Treat symptomatically.

## 5. Fire-fighting measures

### Unsuitable Extinguishing Media
No information available

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flash Point Method</td>
<td>No information available</td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Explosion Limits Upper</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosion Limits Lower</td>
<td>No data available</td>
</tr>
<tr>
<td>Sensitivity to Mechanical Impact</td>
<td>No information available</td>
</tr>
<tr>
<td>Sensitivity to Static Discharge</td>
<td>No information available</td>
</tr>
</tbody>
</table>

### Specific Hazards Arising from the Chemical
The product causes burns of eyes, skin and mucous membranes.

### Hazardous Combustion Products
Hydrogen fluoride. Oxides of phosphorus.

### Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

### NFPA

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>3</td>
</tr>
<tr>
<td>Flammability</td>
<td>0</td>
</tr>
<tr>
<td>Instability</td>
<td>0</td>
</tr>
<tr>
<td>Physical hazards</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### 6. Accidental release measures

### Personal Precautions
Evacuate personnel to safe areas. Use personal protective equipment as required. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid dust formation.

### Environmental Precautions
Should not be released into the environment. See Section 12 for additional Ecological Information.

### Methods for Containment and Cleanup
Avoid dust formation. Sweep up and shovel into suitable containers for disposal.

### 7. Handling and storage

#### Handling
Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Wear personal protective equipment/face protection. Do not ingest. If swallowed then seek immediate medical assistance. Do not breathe (dust, vapor, mist, gas). Avoid dust formation.

#### Storage
Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers. To maintain product quality: Store under an inert atmosphere.

### 8. Exposure controls / personal protection
**Exposure Guidelines**

<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
<th>Mexico OEL (TWA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphate(1-), hexafluoro-, lithium</td>
<td>TWA: 2.5 mg/m³</td>
<td>(Vacated) TWA: 2.5 mg/m³</td>
<td>IDLH: 250 mg/m³</td>
<td>TWA: 2.5 mg/m³</td>
</tr>
</tbody>
</table>

**Legend**

ACGIH - American Conference of Governmental Industrial Hygienists  
OSHA - Occupational Safety and Health Administration

**Engineering Measures**

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

**Personal Protective Equipment**

- **Eye/face Protection**  
  Tight sealing safety goggles. Face protection shield.

- **Skin and body protection**  
  Wear appropriate protective gloves and clothing to prevent skin exposure.

- **Respiratory Protection**  
  Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

- **Hygiene Measures**  
  Keep away from food, drink and animal feeding stuffs. When using do not eat, drink or smoke. Contaminated work clothing should not be allowed out of the workplace. Provide regular cleaning of equipment, work area and clothing. Avoid contact with skin, eyes or clothing. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wear suitable gloves and eye/face protection.

### 9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Powder Solid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Off-white</td>
</tr>
<tr>
<td>Odor</td>
<td>No information available</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>No information available</td>
</tr>
<tr>
<td>Melting Point/Range</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>No information available</td>
</tr>
<tr>
<td>Flash Point</td>
<td>No information available</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability (solid,gas)</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability or explosive limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>No information available</td>
</tr>
<tr>
<td>Solubility</td>
<td>Hydrolysés</td>
</tr>
<tr>
<td>Partition coefficient; n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Molecular Formula</td>
<td>F6 Li P</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>151.91</td>
</tr>
</tbody>
</table>

### 10. Stability and reactivity

**Reactive Hazard**  
None known, based on information available
Stability  Moisture sensitive. Air sensitive.
Conditions to Avoid  Incompatible products. Exposure to moist air or water. Exposure to air.
Incompatible Materials  Strong oxidizing agents, Strong acids
Hazardous Decomposition Products  Hydrogen fluoride, Oxides of phosphorus
Hazardous Polymerization  Hazardous polymerization does not occur.
Hazardous Reactions  None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information
Component Information

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphate(1-), hexafluoro-, lithium</td>
<td>&gt; 50 - 300 mg/kg (Rat)</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Toxicologically Synergistic Products

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

Irritation  No information available
Sensitization  No information available
Carcinogenicity  The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>IARC</th>
<th>NTP</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphate(1-), hexafluoro-, lithium</td>
<td>21324-40-3</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Mutagenic Effects  No information available
Reproductive Effects  No information available.
Developmental Effects  No information available.
Teratogenicity  No information available.
STOT - single exposure  Respiratory system
STOT - repeated exposure  Bone Teeth
Aspiration hazard  No information available

Symptoms / effects, both acute and delayed

Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation
Endocrine Disruptor Information  No information available
Other Adverse Effects  The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity  Do not empty into drains.

<table>
<thead>
<tr>
<th>Component</th>
<th>Freshwater Algae</th>
<th>Freshwater Fish</th>
<th>Microtox</th>
<th>Water Flea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphate(1-), hexafluoro-, lithium</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>EC50 &gt; 100 mg/l (48h)</td>
</tr>
</tbody>
</table>
Persistence and Degradability
Persistence is unlikely based on information available.

Bioaccumulation/Accumulation
No information available.

Mobility
Is not likely mobile in the environment.

13. Disposal considerations

Waste Disposal Methods
Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT
- UN-No: UN2923
- Proper Shipping Name: Corrosive solid, toxic, n.o.s.
- Technical Name: Phosphate(1-), hexafluoro-, lithium
- Hazard Class: 8
- Subsidiary Hazard Class: 6.1
- Packing Group: I

TDG
- UN-No: UN2923
- Proper Shipping Name: Corrosive solid, toxic, n.o.s.
- Hazard Class: 8
- Subsidiary Hazard Class: 6.1
- Packing Group: I

IATA
- UN-No: UN2923
- Proper Shipping Name: Corrosive solid, toxic, n.o.s.
- Hazard Class: 8
- Subsidiary Hazard Class: 6.1
- Packing Group: I

IMDG/IMO
- UN-No: UN2923
- Proper Shipping Name: Corrosive solid, toxic, n.o.s.
- Hazard Class: 8
- Subsidiary Hazard Class: 6.1
- Packing Group: I

15. Regulatory information

United States of America Inventory

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>TSCA</th>
<th>TSCA Inventory notification - Active/Inactive</th>
<th>TSCA - EPA Regulatory Flags</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphate(1-), hexafluoro-, lithium</td>
<td>21324-40-3</td>
<td>X</td>
<td>ACTIVE</td>
<td>PMN</td>
</tr>
</tbody>
</table>

Legend:
- TSCA - Toxic Substances Control Act, (40 CFR Part 710)
- X - Listed
- ´- Not Listed
- PMN - Indicates a commenced PMN substance

TSCA 12(b) - Notices of Export
Not applicable

International Inventories
Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Australia (AICS), China (IECSC), Korea (ECL).

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>PICCS</th>
<th>ENCS</th>
<th>AICS</th>
<th>IECSC</th>
<th>KECL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphate(1-), hexafluoro-, lithium</td>
<td>21324-40-3</td>
<td>-</td>
<td>X</td>
<td>244-334-7</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>KE-22564</td>
<td></td>
</tr>
</tbody>
</table>
Lithium hexafluorophosphate

U.S. Federal Regulations

SARA 313  Not applicable
SARA 311/312 Hazard Categories  See section 2 for more information
CWA (Clean Water Act)  Not applicable
Clean Air Act  Not applicable
OSHA - Occupational Safety and Health Administration  Not applicable
CERCLA  Not applicable
California Proposition 65  This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Component</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphate(1-), hexafluoro-, lithium</td>
<td>-</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>X</td>
</tr>
</tbody>
</table>

U.S. Department of Transportation
Reportable Quantity (RQ): N
DOT Marine Pollutant  N
DOT Severe Marine Pollutant  N

U.S. Department of Homeland Security
This product does not contain any DHS chemicals.

Other International Regulations
Mexico - Grade  No information available

16. Other information

Prepared By  Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

Creation Date  06-Aug-2007
Revision Date  19-Jan-2018
Print Date  19-Jan-2018
Revision Summary  This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

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 SDS