

## SAFETY DATA SHEET

Creation Date 09-Feb-2011

Revision Date 06-May-2022

Revision Number 4

### 1. Identification

**Product Name** Lithium tetraborate

**Cat No. :** 12592

**CAS No** 12007-60-2  
**Synonyms** No information available

**Recommended Use** Laboratory chemicals.  
**Uses advised against** Food, drug, pesticide or biocidal product use.

#### Details of the supplier of the safety data sheet

##### Company

Alfa Aesar  
Thermo Fisher Scientific Chemicals, Inc.  
30 Bond Street  
Ward Hill, MA 01835-8099  
Tel: 800-343-0660  
Fax: 800-322-4757  
**Email:** tech@alfa.com  
www.alfa.com

##### **Emergency Telephone Number**

During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660.  
After normal business hours, call Carechem 24 at (866) 928-0789.

### 2. Hazard(s) identification

#### **Classification**

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

|                                   |            |
|-----------------------------------|------------|
| Acute oral toxicity               | Category 4 |
| Serious Eye Damage/Eye Irritation | Category 1 |
| Reproductive Toxicity             | Category 2 |

#### Label Elements

##### **Signal Word**

Danger

##### **Hazard Statements**

Harmful if swallowed  
Causes serious eye damage  
Suspected of damaging the unborn child



### Precautionary Statements

#### Prevention

Obtain special instructions before use  
Do not handle until all safety precautions have been read and understood  
Use personal protective equipment as required  
Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product

#### Response

IF exposed or concerned: Get medical attention/advice

#### Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
Immediately call a POISON CENTER or doctor/physician

#### Ingestion

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

Rinse mouth

#### Storage

Store locked up

#### Disposal

Dispose of contents/container to an approved waste disposal plant

#### Hazards not otherwise classified (HNOC)

None identified

## 3. Composition/Information on Ingredients

| Component                                                            | CAS No     | Weight % |
|----------------------------------------------------------------------|------------|----------|
| Boron lithium oxide (B <sub>4</sub> Li <sub>2</sub> O <sub>7</sub> ) | 12007-60-2 | <=100    |

## 4. First-aid measures

|                                            |                                                                                                                   |
|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>General Advice</b>                      | If symptoms persist, call a physician.                                                                            |
| <b>Eye Contact</b>                         | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.   |
| <b>Skin Contact</b>                        | Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician. |
| <b>Inhalation</b>                          | Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.      |
| <b>Ingestion</b>                           | Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.             |
| <b>Most important symptoms and effects</b> | None reasonably foreseeable. Causes severe eye damage.                                                            |

## Notes to Physician

Treat symptomatically

## 5. Fire-fighting measures

**Suitable Extinguishing Media** Water spray. Carbon dioxide (CO<sub>2</sub>). Dry chemical. Chemical foam.

**Unsuitable Extinguishing Media** No information available

**Flash Point** No information available

**Method -** No information available

**Autoignition Temperature** No information available

**Explosion Limits**

**Upper** No data available

**Lower** No data available

**Sensitivity to Mechanical Impact** No information available

**Sensitivity to Static Discharge** No information available

**Specific Hazards Arising from the Chemical**

Keep product and empty container away from heat and sources of ignition.

**Hazardous Combustion Products**

Oxides of boron.

**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.

**NFPA**

**Health**  
2

**Flammability**  
2

**Instability**  
1

**Physical hazards**  
N/A

## 6. Accidental release measures

**Personal Precautions** Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation.

**Environmental Precautions** Should not be released into the environment.

**Methods for Containment and Clean Up** Sweep up and shovel into suitable containers for disposal. Keep in suitable, closed containers for disposal.

## 7. Handling and storage

**Handling** Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Avoid dust formation.

**Storage.** Keep containers tightly closed in a dry, cool and well-ventilated place. Store under an inert atmosphere. Protect from moisture. Incompatible Materials. Strong oxidizing agents. Strong acids.

## 8. Exposure controls / personal protection

**Exposure Guidelines**

| Component                                                            | ACGIH TLV                                             | OSHA PEL | NIOSH IDLH | Mexico OEL (TWA) |
|----------------------------------------------------------------------|-------------------------------------------------------|----------|------------|------------------|
| Boron lithium oxide (B <sub>4</sub> Li <sub>2</sub> O <sub>7</sub> ) | TWA: 2 mg/m <sup>3</sup><br>STEL: 6 mg/m <sup>3</sup> |          |            |                  |

**Legend**

ACGIH - American Conference of Governmental Industrial Hygienists

**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** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

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

**Respiratory Protection** A NIOSH/MSHA approved air purifying dust or mist respirator or European Standard EN 149.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

### 9. Physical and chemical properties

|                                               |                                               |
|-----------------------------------------------|-----------------------------------------------|
| <b>Physical State</b>                         | Powder Solid                                  |
| <b>Appearance</b>                             | White                                         |
| <b>Odor</b>                                   | No information available                      |
| <b>Odor Threshold</b>                         | No information available                      |
| <b>pH</b>                                     | Not applicable                                |
| <b>Melting Point/Range</b>                    | 930 °C / 1706 °F                              |
| <b>Boiling Point/Range</b>                    | No information available                      |
| <b>Flash Point</b>                            | No information available                      |
| <b>Evaporation Rate</b>                       | Not applicable                                |
| <b>Flammability (solid,gas)</b>               | No information available                      |
| <b>Flammability or explosive limits</b>       |                                               |
| <b>Upper</b>                                  | No data available                             |
| <b>Lower</b>                                  | No data available                             |
| <b>Vapor Pressure</b>                         | No information available                      |
| <b>Vapor Density</b>                          | Not applicable                                |
| <b>Specific Gravity</b>                       | No information available                      |
| <b>Solubility</b>                             | 28 g/L @ 20 °C                                |
| <b>Partition coefficient; n-octanol/water</b> | No data available                             |
| <b>Autoignition Temperature</b>               | No information available                      |
| <b>Decomposition Temperature</b>              | No information available                      |
| <b>Viscosity</b>                              | Not applicable                                |
| <b>Molecular Formula</b>                      | B <sub>4</sub> Li <sub>2</sub> O <sub>7</sub> |
| <b>Molecular Weight</b>                       | 169.12                                        |

### 10. Stability and reactivity

**Reactive Hazard** None known, based on information available

**Stability** Hygroscopic.

**Conditions to Avoid** Incompatible products. Exposure to moist air or water.

**Incompatible Materials** Strong oxidizing agents, Strong acids

**Hazardous Decomposition Products** Oxides of boron

**Hazardous Polymerization** No information available.

**Hazardous Reactions** None under normal processing.

### 11. Toxicological information

**Acute Toxicity****Product Information  
Component Information**

| Component                     | LD50 Oral  | LD50 Dermal               | LC50 Inhalation |
|-------------------------------|------------|---------------------------|-----------------|
| Boron lithium oxide (B4Li2O7) | Not listed | LD50 > 2000 mg/kg ( Rat ) | Not listed      |

**Toxicologically Synergistic Products** No information available

**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.

| Component                     | CAS No     | IARC       | NTP        | ACGIH      | OSHA       | Mexico     |
|-------------------------------|------------|------------|------------|------------|------------|------------|
| Boron lithium oxide (B4Li2O7) | 12007-60-2 | Not listed | Not listed | Not listed | Not listed | Not listed |

**Mutagenic Effects** No information available

**Reproductive Effects** No information available.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

**STOT - single exposure** None known

**STOT - repeated exposure** None known

**Aspiration hazard** No information available

**Symptoms / effects, both acute and delayed** No information available

**Endocrine Disruptor Information** No information available

**Other Adverse Effects** The toxicological properties have not been fully investigated.

## 12. Ecological information

**Ecotoxicity**

**Persistence and Degradability** Soluble in water Persistence is unlikely based on information available.

**Bioaccumulation/ Accumulation** No information available.

**Mobility** Will likely be mobile in the environment due to its water solubility.

## 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** Not regulated

**TDG** Not regulated

**IATA** Not regulated

**IMDG/IMO**

Not regulated

**15. Regulatory information****United States of America Inventory**

| Component                     | CAS No     | TSCA | TSCA Inventory notification - Active-Inactive | TSCA - EPA Regulatory Flags |
|-------------------------------|------------|------|-----------------------------------------------|-----------------------------|
| Boron lithium oxide (B4Li2O7) | 12007-60-2 | X    | ACTIVE                                        | -                           |

**Legend:**

TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

- - Not Listed

**TSCA - Per 40 CFR 751, Regulation of Certain Chemical Substances & Mixtures, Under TSCA Section 6(h) (PBT)**

Not applicable

**TSCA 12(b)** - Notices of Export

Not applicable

**International Inventories**

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

| Component                     | CAS No     | DSL | NDSL | EINECS    | PICCS | ENCS | ISHL | AICS | IECSC | KECL     |
|-------------------------------|------------|-----|------|-----------|-------|------|------|------|-------|----------|
| Boron lithium oxide (B4Li2O7) | 12007-60-2 | X   | -    | 234-514-3 | X     | X    | X    | X    | X     | KE-11000 |

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)**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**

| Component                     | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|-------------------------------|---------------|------------|--------------|----------|--------------|
| Boron lithium oxide (B4Li2O7) | -             | X          | -            | -        | -            |

**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

Authorisation/Restrictions according to EU REACH Not applicable

| Component                                                            | CAS No     | REACH (1907/2006) - Annex XIV - Substances Subject to Authorization | REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances | REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC) |
|----------------------------------------------------------------------|------------|---------------------------------------------------------------------|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| Boron lithium oxide (B <sub>4</sub> Li <sub>2</sub> O <sub>7</sub> ) | 12007-60-2 | -                                                                   | -                                                                             | -                                                                                                     |

**Safety, health and environmental regulations/legislation specific for the substance or mixture**

| Component                                                            | CAS No     | OECD HPV       | Persistent Organic Pollutant | Ozone Depletion Potential | Restriction of Hazardous Substances (RoHS) |
|----------------------------------------------------------------------|------------|----------------|------------------------------|---------------------------|--------------------------------------------|
| Boron lithium oxide (B <sub>4</sub> Li <sub>2</sub> O <sub>7</sub> ) | 12007-60-2 | Not applicable | Not applicable               | Not applicable            | Not applicable                             |

| Component                                                            | CAS No     | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements | Rotterdam Convention (PIC) | Basel Convention (Hazardous Waste) |
|----------------------------------------------------------------------|------------|-------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|----------------------------|------------------------------------|
| Boron lithium oxide (B <sub>4</sub> Li <sub>2</sub> O <sub>7</sub> ) | 12007-60-2 | Not applicable                                                                            | Not applicable                                                                           | Not applicable             | Not applicable                     |

**16. Other information**

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 www.alfa.com

**Creation Date** 09-Feb-2011  
**Revision Date** 06-May-2022  
**Print Date** 06-May-2022  
**Revision Summary** SDS authoring systems update, replaces ChemGes SDS No. 12007-60-2.

**Disclaimer**

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**End of SDS**