

Specification Sheet

Chemical Name	CAS No.	
Lithium tetrafluoroborate	14283-07-9	
Testing Parameters	Testing Method	Specification
Appearance	Visual Inspection	White powder free of impurities
Shelf Life		180 days
Moisture (ppm)	Karl Fisher	≤100
Purity (wt%)	IC	≥99.9
Acidity (HF, ppm)	Titration	≤100
Na	ICP-OES	≤10
K	ICP-OES	≤10
Ca	ICP-OES	≤10
Cu	ICP-OES	≤10
Ni	ICP-OES	≤10
Pb	ICP-OES	≤10
Fe	ICP-OES	≤10
Cr	ICP-OES	≤10
Cl- (ppm)	Ion Chromatography	≤10
SO42- (ppm)	Ion Chromatography	≤10



Safety Data Sheet (SDS)**Lithium Tetrafluoroborate (LiBF₄)****SECTION 1: IDENTIFICATION****Product Name:** Lithium Tetrafluoroborate (LiBF₄)**CAS Number:** 14283-07-9**Recommended Use:** Electrolyte salt for lithium-ion and lithium metal batteries**Supplier:** Automat Solutions, Inc.**Emergency Contact:** (510) 982-6488**SECTION 2: HAZARD IDENTIFICATION****GHS Classification:**

- Acute Toxicity (Oral) – Category 4
- Skin Irritation – Category 2
- Eye Irritation – Category 2A
- Specific Target Organ Toxicity (Single Exposure) – Category 3

Signal Word: Warning**Hazard Statements:**

- Harmful if swallowed.
- Causes skin irritation.
- Causes serious eye irritation.
- May cause respiratory irritation.

Precautionary Statements:

- Avoid breathing dust or fumes.
- Wear protective gloves, protective clothing, and eye protection.
- Wash thoroughly after handling.
- In case of fire: Use CO₂, dry chemical, or foam to extinguish.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS Number	% Composition
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Lithium Tetrafluoroborate (LiBF ₄)	14283-07-9	100%
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SECTION 4: FIRST AID MEASURES

Inhalation: Remove person to fresh air. Seek medical attention if symptoms persist.

Skin Contact: Wash with soap and water. Seek medical attention if irritation develops.

Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek immediate medical attention.

Ingestion: Do not induce vomiting. Seek immediate medical attention.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media: Use CO₂, dry chemical, or foam. Avoid using water.

Hazardous Combustion Products: Hydrogen fluoride, boron oxides, lithium compounds.

Special Protective Equipment: Wear self-contained breathing apparatus and full protective gear.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear PPE including gloves, goggles, and a respirator.

Environmental Precautions: Avoid release to the environment. Prevent from entering waterways.

Cleanup Methods: Absorb with inert material and place in a properly labeled container. Dispose of per local regulations.

SECTION 7: HANDLING AND STORAGE

Handling: Handle in a well-ventilated area. Avoid contact with skin and eyes. Avoid inhalation.

Storage: Store in a cool, dry, well-ventilated place away from incompatible materials. Keep container tightly closed.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Use local exhaust ventilation or a fume hood.

Personal Protective Equipment (PPE):

- **Respiratory Protection:** Use NIOSH-approved respirator if airborne concentrations exceed limits.
- **Hand Protection:** Chemical-resistant gloves.
- **Eye Protection:** Safety goggles or face shield.



- **Skin Protection:** Protective clothing.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance: White crystalline solid

Odor: Odorless

Melting Point: ~293°C

Boiling Point: Decomposes before boiling

Flash Point: Not applicable

Solubility: Soluble in organic solvents, hygroscopic

Density: ~0.852 g/cm³

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable under recommended storage conditions.

Incompatible Materials: Water, strong bases, strong oxidizing agents.

Hazardous Decomposition Products: Hydrogen fluoride, boron oxides, lithium compounds.

SECTION 11: TOXICOLOGICAL INFORMATION

Routes of Exposure: Inhalation, skin contact, eye contact, ingestion.

Symptoms: Irritation, dizziness, nausea.

Chronic Effects: Prolonged exposure may cause organ damage.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity: Harmful to aquatic organisms.

Persistence & Degradability: Not readily biodegradable.

SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of in accordance with local, state, and federal regulations. Do not release into the environment.

SECTION 14: TRANSPORT INFORMATION

UN Number: UN3260

Hazard Class: 8 (Corrosive)

Packing Group: II

Proper Shipping Name: Corrosive Solid, N.O.S. (Contains Lithium Tetrafluoroborate)

SECTION 15: REGULATORY INFORMATION

TSCA Status: Listed

SARA 311/312 Hazards: Acute health hazard



SECTION 16: OTHER INFORMATION

Revision Date: February 2025

Disclaimer: The information provided in this SDS is believed to be accurate but is not guaranteed to be exhaustive. Users should conduct their own assessments for specific applications.

