



## 1. Identification

### 1.1. Product identifier

**Product Identity** Lithium Iron Phosphate  
**Alternate Names** Lithium Iron Phosphate

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

**Intended use** Electric Storage Battery

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

**Company** Gotion Inc.  
8001 E Pleasant Valley Rd. Independence, OH  
44131

### Emergency

**24-hour Emergency Telephone No.** Chemtrec : Domestic 800 424 9300  
International 1 703 527 3887

**Customer Service: Gotion Inc.** (216) 867- 1040

## 2. Hazard(s) identification

### 2.1. Classification of the substance or mixture

No applicable GHS categories.

### 2.2. Label elements

Using the Toxicity Data listed in section 11 and 12 the product is labeled as follows.

No applicable GHS categories.

#### **[Prevention]:**

No GHS prevention statements

#### **[Response]:**

No GHS response statements

#### **[Storage]:**

No GHS storage statements

#### **[Disposal]:**

No GHS disposal statements



### 3. Composition/information on ingredients

This product contains the following substances that present a hazard within the meaning of the relevant State and Federal Hazardous Substances regulations.

Ingredient/Chemical Designations	Weight %	GHS Classification	Notes
Lithium Iron Phosphate (LiFePO <sub>4</sub> ) CAS No.: 0015365-14-7	100	Not Classified	[1]

In accordance with paragraph (i) of §1910.1200, the specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

[1] Substance with a health or environmental hazard.

[2] Substance with a workplace exposure limit.

[3] PBT-substance or vPvB-substance.

\*The full texts of the phrases are shown in Section 16.

### Section 4. First aid measures

#### 4.1. Description of first aid measures

<b>General</b>	No special measures required.
<b>Inhalation</b>	Remove victim to non-exposed area. Administer artificial respiration if breathing is difficult. Seek medical attention.
<b>Eyes</b>	Flush eyes with plenty of water for several minutes while holding eyelids open. Get medical attention if irritation persists.
<b>Skin</b>	Remove contaminated clothing and shoes. Immediately wash with water and soap, rinse thoroughly. Wash clothing and shoes before reuse. If irritation occurs, get medical attention.
<b>Ingestion</b>	Do not induce vomiting. Get medical attention.

#### 4.2. Most important symptoms and effects, both acute and delayed

<b>Overview</b>	No available information No available information Check section 2.2 (GHS Label Elements) for further details.
<b>Chronic effects</b>	The most important known symptoms and effects are described in the labelling (see section 2.2). To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. See section 8.1 for details.

### Section 5. Fire-fighting measures

#### 5.1. Extinguishing media

Use extinguishing agent suitable for local conditions and the surrounding environment, such as dry powder, CO<sub>2</sub>.

#### 5.2. Special hazards arising from the substance or mixture



Hazardous decomposition: Carbon monoxide, carbon dioxide, lithium oxide fumes  
Do not allow material to be released into the environment without proper governmental permits.

### 5.3. Advice for fire-fighters

Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation.

Special hazards arising from the substance or mixture Battery may burst and release hazardous decomposition products when exposed to a fire situation. Lithium-ion batteries contain flammable electrolytes that may vent, ignite, and spark when subjected to high temperature ( $>150^{\circ}\text{C}$  ( $302^{\circ}\text{F}$ ), when damaged or abused (e.g.) mechanical damage or electrical overcharging); may burn rapidly with flare-burning effect; may ignite other batteries in close proximity.

Protective equipment: wear self-contained respirator. Wear fully protective impervious suit.

**ERG Guide No.**

## Section 6. Accidental release measures

### 6.1. Personal precautions, protective equipment, and emergency procedures

Remove ignition sources, evacuate area. Sweep up using a method that does not generate dust. Collect as much of the spilled material as possible, place the spilled material into a suitable container for disposal. Keep spilled material out of sewers, ditches, and bodies of water.

Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

### 6.2. Environmental precautions

Do not allow material to be released into the environment without proper governmental permits.

### 6.3. Methods and material for containment and cleaning up

All waste must refer to the United Nations, the national and local regulations for disposal.

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

## Section 7. Handling and storage

### 7.1. Precautions for safe handling

Store in a cool, dry, well-ventilated place.

Keep away from heat, avoiding long exposure to sunlight.

Keep container tightly sealed

Check section 2.2 (GHS Label Elements) for further details. - [Prevention]:

### 7.2. Conditions for safe storage, including any incompatibilities

Consumption of food and beverage should be avoided in work areas. Wash hands with soap and water before eating or drinking. Ground containers when transferring liquid to prevent static accumulation and



discharge. Batteries may explode or cause burns, if disassembled, crushed, or exposed to fire or high temperatures. Do not short or install with incorrect polarity.

Incompatible materials: Oxidizing agents, acid, base.

Check section 2.2 (GHS Label Elements) for further details. - [Storage]:

### 7.3. Specific end use(s)

No available information

## Section 8. Exposure controls and personal protection

### 8.1. Control parameters

#### Exposure

CAS No.	Ingredient	Source	Value
0015365-14-7	Lithium Iron Phosphate (LiFePO <sub>4</sub> )	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit
		Supplier	No Established Limit

### 8.2. Exposure controls

**Respiratory** Wear suitable protective mask in order to reduce the respiratory system. In case of leakage, wear chemical protective clothing, including self-contained breathing apparatus.

**Eyes** Wear safety goggles or eye protection combined with respiratory protection.

**Skin** Working environment required, wear suitable protective clothing to minimize contact with skin. The type of protective equipment must be according to the concentration and content of certain hazardous substances in the workplace. Wear appropriate protective gloves to reduce skin contact.

#### Engineering Controls

**Other Work Practices** Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

Check section 2.2 (GHS Label Elements) for further details. - [Prevention]:

## Section 9. Physical and chemical properties

<b>Appearance</b>	White Powder Solid
<b>Odor</b>	Characteristic
<b>Odor threshold</b>	No available information
<b>pH</b>	7 - 9.5 ( 10 g/l, 20 °C)
<b>Melting point / freezing point</b>	234 - 238 °C ( 1,013 hPa)



<b>Initial boiling point and boiling range</b>	Not determined
<b>Flash Point</b>	Not applicable, the product is a solid
<b>Evaporation rate (Ether = 1)</b>	Not Measured
<b>Flammability (solid, gas)</b>	No available information
<b>Upper/lower flammability or explosive limits</b>	<b>Lower Explosive Limit:</b> For solids not relevant for classification and labelling. <b>Upper Explosive Limit:</b> For solids not relevant for classification and labelling.
<b>Vapor pressure (Pa)</b>	The value has not be determined because of the high melting point.
<b>Vapor Density</b>	Not Measured
<b>Specific Gravity</b>	Not Measured
<b>Solubility in Water</b>	10 g/l ( 20 °C)
<b>Partition coefficient n-octanol/water (Log Kow)</b>	No available information
<b>Auto-ignition temperature</b>	Based on its structural properties the product is not classified as self-igniting.
<b>Decomposition temperature</b>	Not Measured
<b>Viscosity (cSt)</b>	Not Measured ( 20 °C) Literature data. ( 20 °C) ( 20 °C) Literature data.

## 9.2. Other information

No other relevant information.

## Section 10. Stability and reactivity

### 10.1. Reactivity

Hazardous Polymerization will not occur.

### 10.2. Chemical stability

Stable under normal circumstances.

### 10.3. Possibility of hazardous reactions

Contact with water releases flammable gases.

### 10.4. Conditions to avoid

Flames, sparks and other sources of ignition, incompatible materials

### 10.5. Incompatible materials

Oxidizing agents, acid, base.

### 10.6. Hazardous decomposition products

Carbon monoxide, carbon dioxide, lithium oxide fumes



**Section 11. Toxicological information**

**Acute toxicity**

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation Vapor LC50, mg/L/4hr	Inhalation Dust/Mist LC50, mg/L/4hr	Inhalation Gas LC50, ppm
Lithium Iron Phosphate (LiFePO4) - (15365-14-7)	No data available.	No data available.	No data available.	No data available.	No data available.

**Carcinogen Data**

CAS No.	Ingredient	Source	Value
0015365-14-7	Lithium Iron Phosphate (LiFePO4)	OSHA	Regulated Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;

Classification	Category	Hazard Description
Acute toxicity (oral)	---	Not Applicable
Acute toxicity (dermal)	---	Not Applicable
Acute toxicity (inhalation)	---	Not Applicable
Skin corrosion/irritation	---	Not Applicable
Serious eye damage/irritation	---	Not Applicable
Respiratory sensitization	---	Not Applicable
Skin sensitization	---	Not Applicable
Germ cell mutagenicity	---	Not Applicable
Carcinogenicity	---	Not Applicable
Reproductive toxicity	---	Not Applicable
STOT-single exposure	---	Not Applicable
STOT-repeated exposure	---	Not Applicable
Aspiration hazard	---	Not Applicable

**Section 12. Ecological information**

**12.1. Toxicity**

No additional information provided for this product. See Section 3 for chemical specific data.



**Aquatic Ecotoxicity**

Ingredient	96 hr LC50 fish, mg/l	48 hr EC50 crustacea, mg/l	ErC50 algae, mg/l
Lithium Iron Phosphate (LiFePO4) - (15365-14-7)	No data available.	No data available.	No data available.

**12.2. Persistence and degradability**

There is no data available on the preparation itself.

**12.3. Bio accumulative potential**

No available information

**12.4. Mobility in soil**

No available information

**12.5. Results of PBT and vPvB assessment**

This product contains no PBT/vPvB chemicals.

**12.6. Other adverse effects**

No available information

**Section 13. Disposal considerations**

**13.1. Waste treatment methods**

Observe all federal, state, and local regulations when disposing of this substance.

**Section 14. Transport information**

	DOT (Domestic Surface Transportation)	IMO / IMDG (Ocean Transportation)	ICAO/IATA
<b>14.1. UN number</b>			
<b>14.2. UN proper shipping name</b>	NOT REGULATED	NOT REGULATED	NOT REGULATED
<b>14.3. Transport hazard class(es)</b>	<b>DOT Hazard Class:</b>	<b>IMDG:</b>	<b>Air Class:</b>
<b>14.4. Packing group</b>			
<b>14.5. Environmental hazards</b>	Marine Pollutant: No;		
<b>14.6. Special precautions for user</b>	No available information		

**Section 15. Regulatory information**



**Regulatory Overview** The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented.

**Toxic Substance Control Act ( TSCA)** All components of this material are either listed or exempt from listing on the TSCA Inventory.

**EPCRA 302 Extremely Hazardous:**

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

**EPCRA 313 Toxic Chemicals:**

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

**Proposition 65 - Carcinogens (>0.0%):**

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

**Proposition 65 - Developmental Toxins (>0.0%):**

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

**Proposition 65 - Female Repro Toxins (>0.0%):**

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

**Proposition 65 - Male Repro Toxins (>0.0%):**

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

**Proposition 65 Label Warning:**

This product contains no chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

**Section 16. Other information**

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

The full text of the phrases appearing in section 3 is:

Not Applicable





**Safety Data Sheet**  
**Lithium Iron Phosphate**

**Revision Date: 05/10/2023**

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