

# MATERIAL SAFETY DATA SHEET

Trade name: LiFePO4 Powder and Target

Revised March, 2014

## Section 1 Chemical Product and Company Identification

Product Name: LiFePO4 Powder and LiFePO4 Target  
for Li-ion battery Cathode Application

Manufacturer: MTI Corporation  
860 S. 19th Street, Richmond  
CA 94804  
Telephone: 510-525-3070  
Fax: 510-525-4705

## Section 2 Composition/Information on Ingredients

Item	standard	
Particle size	D10( $\mu\text{m}$ )	>1
	D50( $\mu\text{m}$ )	2.5-5.0
	D90( $\mu\text{m}$ )	<15
	Dmax( $\mu\text{m}$ )	<25
Tap density(g/cc)	>0.8	
Specific Area (m <sup>2</sup> /g)	<16	
Moisture (%)	$\leq$ 0.08	
Chemical Composition		
Fe(%)	32.5-34.5	
Li(%)	4.0-4.5	
pH	8.0-11.0	
Fe(%)	<0.01	
K(%)	<0.01	
Na(%)	<0.05	
Ca(%)	<0.05	
SO4(%)	<0.6	
Electric-chemical Properties		
<input type="checkbox"/> Capacity at 1C discharging first cycle	<input type="checkbox"/> >125mAh/g	
<input type="checkbox"/> Capacity at Cycle 100 times	<input type="checkbox"/> >95%	
<input type="checkbox"/> Capacity at Cycle 1000times	<input type="checkbox"/> >90%	

## Section 3 Hazards Identification

The LiFePO4 is not hazardous when used according to the instructions of manufacturer under normal conditions. In case of abuse, there's risk of rupture, fire, heat, leakage of internal components, which could cause casualty loss. Abuses include but not limited to the following cases: charged for a long time, short circuited, put into fire, whacked with hard object, punctured with acute object, crushed, and broken.

## Section 4 First-aid Measures

The LiFePO4 is not hazardous with eye and skin contact under normal circumstance. In case

of fire or rupture, internal hazardous substance leaking and hazardous substance formed, following measures should be taken if body parts contact with these substance:

Eye: Check for and remove any contact lenses. Immediately flush with plenty of clean water for at least 15 minutes, seek medical assistance;

Skin: Immediately flush with plenty of clean water for 15 minutes; seek medical assistance if severe;

Inhalation: If inhaled, remove to fresh air immediately, seek medical assistance, and ventilate the contaminated area;

Ingestion: Rinse mouth with clean water immediately, induce vomit under the direction of expert, and seek medical assistance.

## **Section 5 Fire-fighting Measures**

Extinguish with water, dry powder extinguishers, sands, earth. Combustion products and decomposed products by contact of water or air with internal substance include: carbon monoxide, carbon dioxide, hydrogen fluoride, phosphorus fluoride.

## **Section 6 Handling and Storage**

LiFePO<sub>4</sub> is made of Li<sub>3</sub>PO<sub>4</sub> and iron (Fe). The melting point for Li<sub>3</sub>PO<sub>4</sub> is 837 degree C.

Don't handle and store LiFePO<sub>4</sub> with metalwork. Keep the Stored and Used part far away from sparks,

open flame, or other ignition sources, and always kept in ventilating and dehumidifying environments.

## **Section 7 Exposure Controls/Personal Protection**

There is no need for protect under normal conditions. In engineering aspect, ventilation equipment should be installed. Gas mask, blinkers, gloves enduring chemical erosion and exposure suit are required when dealing with fire and leakage.

## **Section 8 Stability and Reactivity**

LiFePO<sub>4</sub> is safe under normal conditions. The following substance might appear after **catching fire** or leakage: organic carbonate, hydrogen fluoride, carbon monoxide, carbon dioxide, phosphorus fluoride.

## **Section 9 Toxicological Information**

LiFePO<sub>4</sub> is not hazardous when used properly.

## **Section 10 Ecological Information**

There is no influence to ecology and environment when used properly.

## **Section 11 Transport Information**

Not regulated

## **Section 12 Regulatory Information**

There is no regulation on lithium batteries management.

## **Section 13 Other Information**

This information comes from reliable sources, but no warranty is made to the completeness and accuracy of information contained. MTI Corporation doesn't assume responsibility for any damage or loss because of misuse of LiFePO<sub>4</sub>.