

Material Safety Data Sheet

for POWERSYNC Energy Solutions, LLC
LiFePO4 Battery Module

Section 1 - Chemical Product and Company Identification

Product Identification:	Model No	Voltage	Capacity	Energy
	LFP3250-LV512100	51.2V	100Ah	5.12 kWh
	LFP3250-LV512100SP	51.2V	100Ah	5.12 kWh
	LFP3250-LV256200	25.6V	200Ah	5.12 kWh
	LFP3250-LV256200SP	25.6V	200Ah	5.12 kWh
	LFP3250-LV128400	12.8V	400Ah	5.12 kWh
Manufacturer's/ Supplier Name:	POWERSYNC Energy Solutions, LLC			
Address:	1910 8th Ave. N. Lake Worth, FL 33461			
Telephone:	+1 (877) 459-4591			
Emergency Telephone No. (24h):	+1 (800) 535-5053			
E-mail address:	info@powersyncenergy.com			

Section 2 – Hazards Identification

Classification of Danger	(See Section 14)
Invasion Route	Inhalation, skin contact, eye contact and ingestion
Fire and Explosion Risk	May occur fire or explode under high temperature or short circuit conditions
Mordant Risk	No information available.
Health Hazard	Batteries are not hazardous when used according to the instruction of the manufacturer under normal conditions. In the case of abuse, rupture, fire, heat, swelling, leakage risk, and may result in unexpected losses. Abuse includes but not limited to the following cases: charged for long time, short-circuited, put into fire, hit with hard object, punctured with acute object, crushed, and broken.
Environmental Hazards	No information available.

Section 3 – Composition, Information on Ingredients

Classification of the substance or mixture: LiFePO4 Battery is a mixture.

Chemical Composition	Chemical Formula	CAS Number	Weight (%)
Lithium Ferrous Phosphate	LiFePO4	15365-14-7	25~30
Carboxyl methyl Cellulose	[C6H7O2(OH)2CH2COOna]n	9000-11-7	0.2
Styrene Butadiene Rubber	SBR	9003-55-8	0.3~0.4
Carbon	C	1333-86-4	12~13.2
Polypropylene	---	9003-07-0	1.6~2.4
Lithium hexafluorophosphate	LiPF6	21324-40-3	1.2~1.4
Dimethyl Carbonate	C3H6O3	616-38-6	2.4~2.9
Carbonic acid ethyl methyl ester	C4H8O3	623-53-0	4.0~5.6
Ethylene Carbonate	C3H4O3	96-49-1	2.0~2.4
Poly(vinyl chloride)	[C2H3Cl]n	9002-86-2	2.0
Copper	Cu	7440-50-8	7.2~8.0
Aluminum	Al	7429-90-5	3.2~3.6
Steel	Fe	7439-89-6	16~19.2
Nickel	Ni	7440-02-0	0.9
Polybutadiene	C4H6	25038-44-2	1.6~4.7
Cyclooctatetraene	C8H8	100-42-5	4.5~9.3
Other	---	---	0.1

Section 4 – First-aid Measures

General	No special measures required.
After Inhalation	Remove victim to fresh area. Administer artificial respiration if breathing is difficult. Seek medical attention.
After Skin contact	Remove contaminated clothing and shoes. Immediately wash with water and soap and rinse thoroughly. Wash clothing and shoes before reuse. If irritation occurs, seek medical attention.
After Eye contact	Flush eyes with plenty of water for several minutes while holding eyelids open. Seek medical attention if irritation persists.
After swallowing	Do not induce vomiting. Seek medical attention.

Section 5 – Fire-fighting Measures

Extinguishing Agent	Use extinguishing agent suitable for local conditions and the surrounding environment. Such as dry powder, CO2, cold water, sand, earth. Do not use warm or hot water. Do not use halon type extinguishing material.
Special Hazards	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 electrolyte that may vent, ignite, and produce sparks when subjected to high temperature (>150°C (302°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.
Hazardous Combustion Products	Carbon monoxide, carbon dioxide, lithium oxide fumes.
Protective Measures	Wear self-contained respirator. Wear fully protective impervious suit.

Section 6 – Accidental Release Measures

Homework personnel protective measures, protective equipment, and emergency disposal procedures:	Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation.
Environmental Precautions:	Do not allow material to be release to the environment without proper governmental permits.
Steps to be taken in case material is spilled or released and waste disposal method	Remove ignition sources, evacuate area. Sweep up using a method that does not generate dust. Collect as much of the spilled material as possible, placed the spilled material into a suitable disposal container. Keep spilled material out of sewers, ditches, and bodies of water. All waste must refer to the United Nations, the national and local regulations for disposal.
To prevent the secondary disasters prevention measures:	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

Precautions for Safe Handling:	Do not handle the batteries in a manner that allows terminals to short circuit.
Information about fire and explosion protection:	Batteries may explode or cause burns, if disassembled, crushed or exposed to fire or high temperatures. Do not short circuit or install with incorrect polarity.
Conditions for safe storage, including incompatibilities:	Requirements to be met by storerooms and receptacles. Store in a cool, dry, well-ventilated place. Keep away from heat, avoid prolonged exposure to direct sunlight.

Section 8 – Exposure Controls and Personal Protection

Respiratory Protection	In case of battery venting, provide as much ventilation as possible. Avoid confined areas with venting cell cores. Respiratory Protection is not necessary under conditions of normal use.
Ventilation	Not necessary under conditions of normal use.
Protective Gloves	Not necessary under conditions of normal use.
Other protective clothing or equipment:	Not necessary under conditions of normal use.
Personal protection is recommended for damaged battery	Respiratory protection, protective gloves, protective clothing, and safety glass with side shields.

Section 9 – Physical and Chemical Properties

Appearance	Black
Form	Near cuboid
Odor	Odorless
Voltage	51.2V
Cell Voltage	3.2V
Electric capacity	100Ah
Energy	5120 Wh

Section 10 – Stability and Reactivity

Chemical Stability	The product is stable under normal conditions
Incompatibilities	Oxidant, acid, alkali
Conditions to avoid	Heat above 70°C or incinerate. Deform. Mutilate. Crush. Disassemble. Overcharge. Short circuit. Expose over a long period to humid conditions.
Possibility of hazardous reactions	Data not available.
Hazardous Combustible Products	Carbon monoxide, carbon dioxide, lithium oxide fumes

Section 11 – Toxicological Information

This product does not elicit toxicological properties during routine handling and use.

Section 12 – Ecological Information

Ecological Toxicity	
Aquatic Toxicity	No further relevant information available.
Persistence and degradability	No further relevant information available.
Behavior in environmental systems	No further relevant information available.
Bio accumulative potential	No further relevant information available.
Mobility in soil	No further relevant information available.
Ecological Effects	
General Notes	Do not allow material to be released to the environment without proper governmental permits.
Other Adverse Effects	No further relevant information available.

Section 13 – Disposal Considerations

Waste treatment methods and recommendation	Consult State, local or national regulations to ensure proper disposal.
Attention for waste treatment.	Deserted batteries cannot be treated as ordinary trash. Do not throw into fire or place in high temperature area. Do not dissect, pierce, crush, or treat similarly. Recycle if possible.

Section 14 – Transport Information

UN Number	UN3480
Shipping Name	Lithium Ion Batteries
Labels for Packaging	Class 9
Packaging Group	II
Marine Pollutant	No
Transport Information	The dangerous goods regulations require that each lithium battery design be subject to test contained in Section 38.3 of the UN Manual of Tests and Criteria prior to transport.
	Report No: ORTSZ201220010080
	The goods comply with the requirements of Packaging Instructions PI965 Section IA of 62nd DGR Manual of IATA (2021 Edition)
	The goods comply with the requirements of Special provision 188 of IMDG CODE on 188 of IMDG CODE (Amdt. 39-18)
Transport Method	By sea, by railway, by road.
More information concerning shipping, testing, marking, and packaging can be obtained from Label master at www.labelmaster.com	
Separate Lithium-ion batteries when shipping to prevent short-circuiting. They should be packaged in strong packaging for support during transport. Take in a cargo of them without falling, dropping and breakage. Prevent collapse of cargo piles and soaking.	

Section 15 - Regulatory Information

Recommendations on the transport of dangerous goods - model Regulations 20th
IATA dangerous goods regulations 62nd
International maritime dangerous goods code (39-18)
European Agreement concerning the International carriage of Dangerous goods by Road
Technical Instructions for the Safe Transport of Dangerous Goods
Classification and code of dangerous goods
Occupational Safety and Health Act (OSHA)
Toxic Substance Control Act (TSCA)
Consumer Product Safety Act (CPSA)
Federal Environmental Pollution Control Act (FEPCA)
The Oil Pollution Act (OPA)

Section 16 – Other Information

The information above is believed to be accurate and represents the best information currently available to us. However, POWERSYNC makes no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. Although reasonable precautions have been taken in the preparation of the data contained herein, it is offered solely for your information, consideration and investigation. This material safety data sheet provides guidelines for the safe handling and use of this product; it does not and cannot advise on all possible situations, therefore, your specific use of this product should be evaluated to determine if additional precautions are required.

The data/information contained herein has been reviewed and approved for general release on the basis that this document contains no export-controlled information.

END OF MSDS