Material Safety Data Sheet (MSDS)

Doc no.: E04-EM010030-EN00_MSDS 2026

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SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION	
Product name	LiFePO4 Lithium Battery
Model number	EM010030
Ratings	12.8V 30Ah 384Wh
Manufacturer	PowerXtreme
Address	Informaticastraat 20 4538BT Terneuzen The Netherlands
Emergency telephone	+31 85 2011 820
E-mail	info@emergoplus.com

SECTION 2 HAZARDS IDENTIFICATION	
Description	Not classified as dangerous or hazardous with normal use. Risk of exposure occurs only if the cell is mechanically, thermally or electrically abused. If this occurs, it may cause electrolyte leakage. Electrolyte is flammable, in case of electrolyte leakage, move the battery from fire immediately.
Hazard	It may cause electrolyte leakage and vapor generated from burning batteries, may make eyes, skin and throat irritate.
Eye contact	Not classified as dangerous or hazardous with normal use. Eye contact with contents of an open cell can cause severe irritation or burns to the eye.
Skin contact	Not classified as dangerous or hazardous with normal use. Skin contact with contents of an open cell can cause severe irritation or burns to the skin.
Inhalation	Not classified as dangerous or hazardous with normal use. Vapors or mists from a ruptured cell may cause respiratory irritation.
Ingestion	Not classified as dangerous or hazardous with normal use. Swallowing the contents of an open cell can cause serious chemical burns of mouth and esophagus.

SECTION 3 COMPOSITION INFORMATION

Common Chemical Name	Chemical Formula	CAS No.	Weight %
Lithium iron phosphate	$LiFePO_4$	15365-14-7	≥39.6
Graphite	C	7782-42-5	≥19.72
Polyvinylidene Fluoride	PVDF	24937-79-9	≥0.58
Polymerized Styrene Butadiene Rubber	SBR	9003-55-8	≥0.51
Aluminum	Al	7429-90-5	≥5.79
Copper	Cu	7440-50-8	≥9.53
Organic Electrolyte	-	-	≥13.61
Others	-	-	≥10.63

SECTION 4 FIRST AID MEASURES

Once battery shell rupture, content contact with the human body will produce harm, once contact, should take the following emergency measures:

- **Eye:**
  Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Seek medical attention.
- **Skin:**
  Flush contacted area with large amounts of water for at least 15 minutes. Remove contaminated clothing and seek medical attention.
- **Inhalation:**
  Remove from exposure and move to fresh air immediately. Use oxygen if available. Seek medical attention.
- **Ingestion:**
  Do not induce vomiting. If conscious drink large amounts of water/milk. Never give anything by mouth to an unconscious person. Seek medical attention.

Caution: In all cases if irritation persists, seek medical assistance at once.

SECTION 5 FIRE-FIGHTING MEASURES

- **Extinguishing Media:**
  Water, dry chemical powder, carbon dioxide (CO2), and foam are most effective to extinguish a battery fire.
  For small fires use only sand, dry chemical powder, CO2, or regular foam. Continuously apply media until the fire is extinguished.
  For large fires, use copious quantities of water spray. Continuously apply media until the fire is extinguished.
- **Special Fire-Fighting Procedures:**
  Put on fully protective gear and Self-contained breathing apparatus.
- **Unusual Fire and Explosion Hazards:**
  Exposing the battery cell to excessive heat, fire or over voltage condition may cause a leak, fire, hazardous vapors and hazardous decomposition products. Damaged or opened cells or batteries can result in rapid heating and the release of flammable vapors.

SECTION 6 ACCIDENTAL RELEASE MEASURES

The material contained within the batteries is only released if the battery is mechanically, thermally, or electrically abused and the enclosure is ruptured.

- Personal precautions, protective equipment, and emergency procedures
  Evacuate personnel to safe areas
  Ensure adequate ventilation, especially in confined areas Remove all sources of ignition
  Avoid contact with skin, eyes, and inhalation of vapors
  User personal protection is recommended in Section 8
- Environmental precautions
  Prevent further leakage or spillage if safe to do so
  Do not allow electrolyte to flow into any sewer, on the ground, or into any body of water
- Methods and material for containment and cleaning up
  Add neutralizer/absorbent, e.g. sand or vermiculite, to the spill area. Sweep or shovel spilled material and absorbent and place in an approved container. Dispose of any non-recyclable materials in accordance with local, state, provincial, or federal regulations.

SECTION 7 HANDLING AND STORAGE

The battery should not be opened, destroyed or incinerate, since they may leak or rupture and release to the environment the ingredients that they contain in the hermetically sealed container. Do not short circuit terminals, or over charge the battery, forced over-discharge, throw to fire. Do not crush or puncture the battery or immerse in liquids.

- **Precautions to be taken in handling and storing**
  The battery must be transported the original or equivalent packing. Avoid mechanical or electrical abuse. Storage preferably in cool, dry and ventilated area, which is subject to little temperature change. Storage at high temperatures should be avoided, elevated temperatures can result in reduced battery life. Do not place the battery near heating equipment, nor expose to direct sunlight for long periods.
- **Other Precautions**
  The battery may explode or cause bums, if disassembled, crushed or exposed to fire or high temperatures. Do not short or install with incorrect polarity.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

- **Respiratory Protection**
  Not necessary under conditions of normal use. In case of ruptured or leaking battery, provide as much ventilation as possible and use a self-contained full face respiratory mask.
- **Ventilation**
  Not necessary under conditions of normal use.
- **Eye protection**
  Not necessary under normal use. Wear safety goggles if handling a ruptured or leaking battery cell.
- **Hand / Skin protection**
  Not necessary under conditions of normal use. Use Viton rubber gloves if handling a ruptured or leaking battery cell.
- **Personal Protection is recommended for venting battery**
  Respiratory Protection, Protective Gloves, Protective Clothing and safety glass with side shields.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance and odor	N/A
Flash point (°C)	N/A
Melting point (°C)	N/A
Boiling point (°C)	N/A
Relative density (water=1)	N/A
Relative Vapor density (air=1)	N/
Vapor pressure (KPa)	N/A
Heat of combustion (KJ/mol)	N/A
Auto-ignition temperature (°C)	N/A
Solubility	Insoluble in water
Lower explosive limits % (V/V))	N/A
Upper explosive limits % (V/V)	N/A

SECTION 10 STABILITY AND REACTIVITY

- **Stability:** Product is stable under conditions described in Section 7.
- **Conditions to Avoid:** Heat above 70°C or incinerate. Deform. Mutilate. Crush. Disassemble. Overcharge. Short circuit.
- **Materials to avoid:** Oxidizing agents, alkalis, water.
- **Hazardous Decomposition Products:** Toxic Fumes and may form peroxides.
- **Hazardous Polymerization:** N/A.

If leaked, forbidden to contact with strong oxidizers, mineral acids, strong alkalis, halogenated hydrocarbons.

SECTION 11 TOXICOLOGICAL INFORMATION

- **Signs & symptoms:** None, unless battery ruptures.
  In the event of exposure to internal contents, vapor fumes may be very irritating to the eyes and skin.
- **Inhalation:** Lung irritant.
- **Skin contact:** Skin irritant.
- **Eye contact:** Eye irritant
- **Ingestion:** Poisoning if swallowed.

Medical conditions generally aggravated by exposure: In the event of exposure to internal contents. moderate to server irritation, burning and dryness of the skin may occur, Target organs nerves, liver and kidneys.

SECTION 12 ECOLOGICAL INFORMATION

- **Bioaccumulation potential**: No information available.
- **Persistence and degradability**: Not readily biodegradable.
- **Mobility**: No information available.
- **Ecotoxicity**: No information available.
- **Other adverse effects:** Batteries and cells released in the environment will slowly degrade and may release toxic or harmful substances. Batteries should be disposed of or recycled according to local regulations.

SECTION 13 DISPOSAL CONSIDERATION

- Dispose in accordance with applicable regulations, which vary from country to country.
- Lithium-Ion batteries should have their terminals insulated and be preferably wrapped in individual plastic bags prior to disposal.

SECTION 14 TRANSPORT INFORMATION

Proper shipping name	Lithium-ion batteries
Hazard class: 9	Miscellaneous Dangerous Goods (lithium battery)
Identification number	UN3480 *
Packing group	II
Packing Instruction	P903
EmS No	F-A, S-I
Label for transportation	Class 9—Lithium Battery hazard label
Hazard Classification:	The goods are complied with Packaging instruction P903 of IMDG CODE (Amdt. 42-24) 2024 Edition, including the passing of the UN38.3 test.

*UN3481 when packed with or contained in the device or apparatus for which the cells or batteries will provide electrical power for its operation.
*UN3171 for battery-powered vehicles with installed batteries. Refer to relevant regulations for transport guidance.

SECTION 15 REGULATORY INFORMATION

This MSDS is made in compliance with Regulation No 1907/2006.
No other regulatory information is applicable for the used substances and mixtures.

SECTION 16 OTHER INFORMATION

This file is only effective to the batteries (EM010030) which manufactured by PowerXtreme The manufacturer provides the composition information of batteries and promises its integrity and accuracy. Users should read this file carefully and use the batteries in correct method. PowerXtreme doesn't assume responsibility for any damage or loss because of misuse of batteries.