MATERIAL SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006 as amended by Regulation (EU) 2020/878

LITEBLOX batteries **MSDS DATE: 13/05/2026**

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: LB12XX / LB20XX / LB28XX / LB31XX / SR40XX / SR60XX / SR80XX / PR40XX / PR60XX / PR80XX / PS20XX / PS32XX / PS40XX / Prototypes (LWXXXX)

SYNONYMS: Lithium Iron Phosphate Battery, High Power/Energy Lithium-Ion Battery Cells, Phosphate Based

PRODUCT CODES: #XXXX-LBXXXX / #HXXX-LBXXXX / #XXXX-LBXXXX / #XXXX-PRXXXX / #XXXX-PSXXXX / #XXXX-XXV-LWXXXX

MANUFACTURER: LITEWERKS GmbH

ADDRESS: Robert-Bosch-Str 18 / 78467 Konstanz / Germany

EMERGENCY PHONE: +49 (0) 7531 / 9452525

CHEMICAL NAME: Lithium Iron Phosphate

CHEMICAL FAMILY: Lithium Ion

CHEMICAL FORMULA: LiFePO4

PRODUCT USE: Automotive starter battery

PREPARED BY:

SECTION 1 NOTES:

SECTION 2: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:
Not dangerous with normal use. The battery should not be disassembled or incinerated.
Exposure to the ingredients contained within or their combustion products could be harmful.

APPEARANCE, COLOR, and ODOR:
Solid object, no odor

ROUTES OF ENTRY:
Risk of exposure will only occur if the battery cell is mechanically, thermally, or electrically abused and the enclosure is compromised. If this occurs, exposure to electrolyte solutions contained within the battery cell may occur by inhalation, eye contact, skin contact and ingestion.

POTENTIAL HEALTH EFFECTS

EYES: Contact between the battery and eye will not cause any harm. Eye contact with the contents of a ruptured

battery can cause severe irritation to the eye.

SKIN: Contact between the battery and skin will not cause any harm. Skin contact with positive and negative terminals of high voltages may cause burns to the skin. Skin contact with a ruptured battery can cause skin irritation.

INGESTION: Swallowing of material from a sealed battery is not an expected route of exposure. Swallowing mists from a ruptured battery may cause respiratory irritation, chemical burns of the mouth and gastrointestinal tract irritation.

INHALATION: Inhalation of material from a sealed battery is not an expected route of exposure. Vapors or mists from a ruptured battery may cause respiratory irritation.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Not Available

SECTION 2 NOTES:

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

USA: This battery is an article pursuant to 29 CFR 1910.1200 and, as such, is not subject to the OSHA Hazard Communication Standard requirement.
The information contained in this Material Safety Data Sheet contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.

Canada: This is not a controlled product under WHMIS. This product meets the definition of a “manufactured article” and is not subject to the regulations of the Hazardous Products Act.

General Information

This Safety Data Sheet applies to all battery pack models using LithiumWerks ANR26650m1B lithium iron phosphate cells.
All battery models use identical cell chemistry and materials.
Differences between models are limited to:

- number of installed cells
- battery capacity
- battery weight
- housing dimensions

Under normal conditions of use, exposure to hazardous ingredients is not expected.
This battery pack is considered an article under Regulation (EC) No. 1907/2006 (REACH).

Battery Model Configuration

Battery Model	Cell Type	Number Of Cells	Cell Weight	Total Cell Mass
LB12XX	ANR26650m1B	12	76 g	912 g
LB14XX	ANR26650m1B	12	76 g	912 g
LB20XX	ANR26650m1B	20	76 g	1520 g
LB28XX	ANR26650m1B	28	76 g	2128 g
PR40XX	ANR26650m1B	40	76 g	3040 g
PR60XX	ANR26650m1B	60	76 g	4560 g
PR80XX	ANR26650m1B	80	76 g	6080 g
PS20XX	ANR26650m1B	20	76 g	1520 g
PS32XX	ANR26650m1B	32	76 g	2432 g
PS40XX	ANR26650m1B	40	76 g	3040 g
LB31XX	ANR26650m1B	32	76 g	2432 g
LWYYXX	ANR26650m1B	YY	76 g	YY * 76 g

Cell component	Chemical Name	CAS #	EINECS #	Concentration range in electrolyte (w/w %)	Mass range in cell (g/g %)
Electrolyte salt	Lithiumhexafluorophosphate Lithium bis-trifluoromethanesulfonimide	21324-40-3 90076-65-6	244-334-7 415-300-0	10 - 20 1 - 5	1 - 5 0.1 - 1
Electrolyte solvents	Includes one or more of the following: Ethylene Carbonate Propylene Carbonate Diethyl Carbonate Dimethyl Carbonate Ethyl Methyl Carbonate 1, 3 - Propanesultone Ethyl Propionate	 96-49-1 108-32-7 105-58-8 616-38-6 623-53-0 1120-71-4 105-37-3	 202-510-0 203-572-1 203-311-1 210-478-4 Not Listed 214-317-9 203-291-4	80 - 90	10 -20

SECTION 3 NOTES:

SECTION 4: FIRST AID MEASURES

EYES: Wash affected eye with lukewarm water for at least 30 minutes. Rinse with saline solution if possible. Seek medical attention.

SKIN: Wash affected area with lukewarm water for at least 30 minutes. If irritation or pain persists, seek medical attention.

INGESTION: Move victim to fresh air and remove source of contamination from area. Seek medical attention.

INHALATION: Move victim to fresh air and remove source of contamination from area. Seek medical attention.

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

SECTION 4 NOTES:

SECTION 5: FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA: Water, carbon dioxide, dry chemical powder and foam are most effective means to extinguish a battery fire.

FIRE FIGHTING PROCEDURE: Put on fully protective gear, including self-contained breathing apparatus, goggles, fireproofing jacket and gloves. Damaged lithium-ion batteries may re-ignite after extinguishing.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Exposing 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. Fire may produce irritating, corrosive and toxic gases including hydrogen fluoride (HF), carbon monoxide and organic vapors.

SECTION 5 NOTES:

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES:
The material contained within the batteries cells is only expelled under abusive conditions. Use a shovel and cover battery with sand or vermiculite, place in an approved container and dispose in accordance with section 13.

SECTION 6 NOTES:

SECTION 7: HANDLING AND STORAGE

HANDLING: Do not expose battery or cell to extreme temperatures or fire.
Do not disassemble, crush or puncture battery.

STORAGE: Insulate positive and negative terminals to avoid short circuit. Store in a cool and well ventilated area and avoid direct sunlight. Elevated temperatures can result in reduced battery life.

SECTION 7 NOTES:

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

RESPIRATORY PROTECTION: Not necessary under normal use. In case of battery or cell rupture, use a self contained full face respiratory mask.

EYE PROTECTION: Not necessary under normal use. Wear safety goggles if handling a ruptured or leaking battery cell.

HAND PROTECTION: Not necessary under normal use. Wear Viton rubber gloves if handling a ruptured or leaking battery cell.

SKIN PROTECTION: Not necessary under normal use. Wear rubber apron and Viton rubber gloves if handling a ruptured or leaking battery cell.

SECTION 8 NOTES:

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Solid	**Odor Type:**	Odorless
Appearance:	Battery	**Odor Threshold:**	Not Applicable
pH:	Not Applicable	**Evaporative Rate: (n-Butyl Acetate = 1)**	Not Applicable
Relative Density:	Not Applicable	**Auto Ignition Temperature (°C):**	Not Applicable
Boiling Point:	Not Applicable	**Flammability Limits (%):**	Not Applicable
Melting Point:	Not Applicable	**Vapor Pressure: (mm Hg @ 20 °C)**	Not Applicable
Viscosity:	Not Applicable	**Vapor Density: (Air = 1)**	Not Applicable
Oxidizing Properties:	Not Applicable	**Solubility in Water:**	Insoluble
Flash Point and Method (°C)	Not Applicable	**Water/ Oil distribution coefficient:**	Not Applicable

SECTION 9 NOTES:

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable
Conditions to Avoid: Avoid exposing battery to high temperatures. Do not incinerate, deform, mutilate, crush, pierce, short circuit or disassemble.

Materials to Avoid: Not Applicable

Hazardous Decomposition Products: Combustible vapors may be released if exposed to fire.

Possibility of Hazardous Reactions: Not available.

SECTION 10 NOTES:

SECTION 11: TOXICOLOGICAL INFORMATION

Irritation: Risk of irritation only occurs if battery cells are mechanically, thermally or electrically abused and the enclosure is compromised.

Neurological Effects: Not applicable.

Sensitization: Not applicable.

Teratogenicity: Not applicable.

Reproductive Toxicity: Not applicable.

Mutagenicity (Genetic Effects): Not applicable.

Toxicologically Synergistic Materials: Not available

SECTION 11 NOTES:

SECTION 12: ECOLOGICAL INFORMATION

Bioaccumulative potential: Not available.

Persistence and degradability: Not available.

Mobility: Not available.

SECTION 12 NOTES:

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Recycling is encouraged. Dispose of in accordance with local, state and federal laws and regulations.

USA: Dispose of in accordance with local, state and federal laws and regulations.

Canada: Dispose of in accordance with local, state and federal laws and regulations.

EC: Dispose of in accordance with relevant EC Directives.

SECTION 13 NOTES:

SECTION 14: TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION / water transportation / air transportation

PROPER SHIPPING NAME: Lithium Ion batteries

HAZARD CLASS: UN3480

ID NUMBER: Not applicable

PACKING GROUP: PI965 Section IA

LABEL STATEMENT: See note

SECTION 14 NOTES:

Use Class 9 Miscellaneous Dangerous Goods and UN Identification labels for transportation of lithium ion batteries which are assigned Class 9. Refer to relevant transportation documents.
Lithium and lithium ion cells and batteries are regulated in the U.S. in accordance with Part 49 of the Code of Federal Regulations, (49 CFR Sections 105-180) of the U.S. Hazardous Materials Regulations.

SECTION 15: REGULATORY INFORMATION

USA

TSCA Status: All ingredients in the product are listed on the TSCA inventory.

SARA Title III:
Sec. 302/304: None
Sec. 311/312: None
Sec. 313: None
CERCLA RQ: None

California Prop 65: This product does not contain chemicals know to the State of California to cause cancer or reproductive toxicity.

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

WHMIS Classification: Not Controlled

New Substance Notification Regulations: All ingredients in the product are listed, as required, on Canada's Domestic Substance List.

NPRI Substances (National Pollutant Release Inventory): This product does not contain any NPRI chemicals.

European Union

Classification for the Substance/ Preparation: This product is not classified as hazardous according to Regulation (EC) No. 1272/2008 and its amendments.

Risk Phrases: None

Safety Phrases: S2: Keep out of the reach of children.

SECTION 15 NOTES:

Configuration:
Each LITEBLOX LB12XX battery contains 12 lithium cells of 76 grams each.
Each LITEBLOX LB14XX battery contains 12 lithium cells of 76 grams each.
Each LITEBLOX LB20XX battery contains 20 lithium cells of 76 grams each.
Each LITEBLOX LB28XX battery contains 28 lithium cells of 76 grams each.
Each LITEBLOX PR40XX battery contains 40 lithium cells of 76 grams each.
Each LITEBLOX PR60XX battery contains 60 lithium cells of 76 grams each.
Each LITEBLOX PR80XX battery contains 80 lithium cells of 76 grams each.
Each LITEBLOX PS20XX battery contains 20 lithium cells of 76 grams each.
Each LITEBLOX PS32XX battery contains 32 lithium cells of 76 grams each.
Each LITEBLOX PS40XX battery contains 40 lithium cells of 76 grams each.
Each LITEBLOX LB31XX battery contains 32 lithium cells of 76 grams each.
Each LITEBLOX Prototype LWYY battery contains YY lithium cells of 76 grams each.

SECTION 16: OTHER INFORMATION

Preparation Date: 01/03/2019

Revision Date: 12/03/2025

Revision Summary: -

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Disclaimer: The information and recommendations set forth are made in good faith and accurate at the date of preparation. LITEWERKS GmbH makes no warranty expressed or implied with respect to this information and recommendations and disclaims all liability from reliance on it.