

Material Safety Data Sheet

1. Product and Company Identification

Brand: ACCURAT
Series name: Accurat IMPULSE LFP
Manufacturer: batterium GmbH
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 batterium.de

	Nominal voltage	Nominal capacity	Battery capacity	CCA	Dimensions (L x W x H) in mm
Model: I75 L2	12,8 V	75 Ah	960 Wh	825 A	244 x 176 x 190
I105 L3	12,8 V	105 Ah	1344 Wh	1100 A	279 x 176 x 189

2. Chemical Composition

Chemical Name	Concentration or concentration ranges (%)	CAS Nr.
Lithium Iron Phosphate Carbon Coated	38.86	15365-14-7
Graphite	18.20	7782-42-5
Copper	1.68	7440-50-8
EC	6.86	96-49-1
EMC	1.14	623-53-0
DEC	9.15	105-58-8
PC	2.86	108-32-7
LiPF ₆	2.29	21324-40-3
Polypropylene	4.20	9003-07-0
Aluminum	14.76	7429-90-5



3. Hazards Identification

Explosive risk	This article does not belong to the explosion of dangerous goods.
Flammable risk	This article does not belong to the flammable material.
Oxidation risk	This article does not belong to the oxidation of dangerous goods.
Toxic risk	This article does not belong to the toxic dangerous goods.
Radioactive risk	This article does not belong to the radiation of dangerous goods.
Mordant risk	This article does not belong to the corrosion of dangerous goods.
Other risk	This article is the LiFePO ₄ battery, Watt hour rate 1536 Wh.

4. First Aid Measures

Skin contact: Wash the affected area with copious amounts of clear water and soap. Wash clothing and shoes before reuse. In case of continued irritation, consult a physician.

Eye contact: Flush with copious amounts of clear water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Seek medical attention at once.

Inhalation: Seek fresh air. In case of breathing difficulties, consult a physician.

Ingestion: If swallowed, rinse mouth and surrounding area with clear water at once. Consult a physician.

5. Fire Fighting Measures

Characteristics of Hazard: Toxic fumes; gases or vapor may be involved in burning.

Hazardous Combustion Products: CO, CO₂, HF, phosphorus fluoride

Fire-extinguishing Methods and Extinguishing Media: Copious amounts of cold water are an effective medium for lithium batteries. Don't use warm or hot water. Don't use Halon type extinguishing material.

Suitable extinguishing agents: dry powder, sand, earth.

Fire Fighting Procedures: Use a positive pressure self-contained breathing apparatus if batteries are involved in a fire. Full protective clothing is necessary.

6. Accidental Release Measures

In the event of a battery rupture or leakage, provide maximum ventilation to dissipate fumes and hazardous gases. Collect all the released materials that are not hot or burning in an appropriate waste disposal container while wearing proper protective clothing. Place in an approved container and dispose in accordance with the local regulations. Avoid contact with skin and eyes as well as the inhalation of vapors.

Do not allow battery contents to enter sewage systems, ground water or water courses. In case of seepage into water courses or sewage system, inform the respective authorities.

7. Handling and Storage

Handling:

1. These batteries are designed to be recharged. However, improper charging may cause a battery to ignite. When charging the battery, use dedicated chargers and follow the specified instructions.
2. Never disassemble, open, damage or otherwise modify a battery.
3. Do not immerse a battery in water.
4. Should a battery unintentionally be damaged, thus releasing its contents, rubber gloves must be used to handle all battery components. Avoid the inhalation of any vapors that may be emitted.
5. Short-circuiting a battery causes heating. In addition, a short circuit reduces the life of the battery and can lead to ignition of surrounding materials. Physical contact with to short-circuited battery can cause skin burns.
6. Avoid reversing the battery polarity. This can damage the battery or cause it to ignite.
7. In the event of skin or eye exposure to the electrolyte, refer to Section 4, "First Aid Measures".

Storage:

1. Batteries should be separated from other materials and stored in a noncombustible, well ventilated, sprinklerprotected structure with sufficient clearance between walls and battery stacks. Do not place batteries near heating equipment, nor expose to direct sunlight for long periods.
2. Do not store batteries above 35°C or below -20°C. Store batteries in a cool (about 20°C±5°C), dry and ventilated area that is subject to little temperature change. Elevated temperatures can result in reduced battery cycle life. Battery exposure to temperatures in excess of 60°C will result in the battery venting flammable liquid and gases.
3. Keep batteries in the original packaging until use. Keep them protected from physical damage.

Precautions:

Batteries may explode or cause burns if disassembled, crushed or exposed to fire or high temperatures. Avoid short circuits and reversed polarity.

8. Exposure Controls/Personal Protection

Engineering Controls:

Keep away from heat and open fire. Store in a cool, dry place. Use local exhaust ventilation or other means to control sources of dust, mist, fumes and vapor.

Respiratory Protection:

Not necessary under conditions of normal use. If a battery is burning, avoid inhalation of generated gases and fumes. During fire fighting, self-contained breathing, full-face respiratory equipment should be used. Fires must be fought only from safe fire fighting distance. Evacuate all persons from the area of fire immediately.

Eye Protection:

Not necessary under conditions of normal use. Use safety glasses with side shields if handling a leaking or ruptured battery.

Body Protection:

Not necessary under conditions of normal use. Use a rubber apron when handling a leaking or ruptured battery.

Protective Gloves:

Not necessary under conditions of normal use. Use chemical resistant rubber gloves when handling a leaking or ruptured battery.

Others:

Use good chemical hygiene practice. Wash hands thoroughly after cleaning-up a battery spill caused by leaking battery. Do not eat, drink, or smoke in the battery storage area.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Appearance	Black
Form	Prismatic
Odour	Odorless

10. Stability and Reactivity

Stability:	Stable under normal conditions.
Conditions to avoid:	Do not heat, throw into fire, disassemble, short circuit, immerse in water or overcharge. Protect from sparks, flames and heat.
Incompatibilities:	Avoid exposure to heat, open flames, corrosives, oxidizing agents, acids, bases.
Hazardous polymerization:	Will not occur.
Decomposition Products:	CO, CO ₂ , HF, Phosphorus fluoride.

11. Toxicological Information

The battery does not elicit toxicological properties during routine handling and use. If the battery is opened through misuse or damage, discard immediately. The internal components of battery cells cause irritations.

Signs & symptoms: None, unless the battery ruptures.

In the event of exposure to internal contents, vapor fumes may irritate 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 severe irritation, burning, and skin dryness may occur. Target organs nerves, liver, and kidneys.

12. Ecological Information

Ecological toxicity:	N/A
Mobility in soil:	N/A
Persistence and degradability:	N/A
Bioaccumulation potential:	N/A
Other adverse effects:	N/A

13. Disposal Considerations

1. Disposal of the battery should be performed by authorized, professional disposal firms knowledgeable in Federal, State or Local requirements of hazardous waste treatment and hazardous waste transportation.
2. The battery should be completely discharged prior to disposal and/or the terminals taped or capped to prevent short circuits. When completely discharged, the battery is not considered hazardous.
3. The battery contains recyclable materials. Recycling options available in your local area should be considered when disposing of this product, through licensed waste carrier.

14. Transport Information

UN number:	UN3480, UN3481
UN Proper shipping name:	UN3480 - UN3480 Lithium Ion Batteries UN3481 - UN3481 Lithium Ion Batteries Packed With Equipment UN3481 - UN3481 Lithium Ion Batteries Contained in Equipment
Label for conveyance	Lithium Battery Label Class 9 Hazard Label Cargo aircraft Only Label

S03A24050971U00901

The dangerous good regulations require that each battery design be subject to tests contained in UNITED NATIONS the „Manual of Test and Criteria“ (ST/SG/AC. 10/11Rev.8) Section 38.3.

Report No.: S03A24050971U00901

The package of battery should be complied with the requirements of Packaging Instruction 965/966/967 of IATA DGR 65th Edition for transport

IMDG-CODE (41-22).

The package of battery should be complied IMDG-CODE (41-22).

15. Regulatory Information

- Recommendations on the Transport of Dangerous Goods Model Regulations 23rd
- IATA dangerous goods regulations 65th
- International Maritime Dangerous Goods Code (41-22)
- European Agreement concerning the International Carriage of Dangerous Goods by Road (2023)
- Regulations concerning the International Carriage of Dangerous Goods by Rail (2023)

16. Other Information

The information given above is provided in good faith based on present knowledge and does not constitute an assurance of safety under all conditions. It's the users responsibility to observe all laws and regulations applicable. We make no warranty of merchantability or any other warranty, expressed 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. In no way shall we be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or expemprary damages, howsoever arising, even if we have been advised of the possibility of such damages. If there are any queries, the supplier should be consulted. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.