

Material Safety Data Sheet

1. Product and Company Identification

Brand: ACCURAT
Series name: ACCURAT Sport (LFP batteries)
Manufacturer: batterium GmbH
 Robert-Bosch-Straße 1, 71691 Freiberg am Neckar, Germany
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Models:

- | | |
|--------------------|--------------------|
| Sport YTX5L-BS LFP | Sport YTX12-BS LFP |
| Sport YTX4L-BS LFP | Sport YTX14-BS LFP |
| Sport YTX7L-BS LFP | Sport YTX16-BS LFP |
| Sport YTX7A-BS LFP | Sport YB5L-BS LFP |
| Sport YTZ10-S LFP | Sport YB9-B LFP |
| Sport YTX9-BS LFP | |

2. Composition / Information on Ingredients

Component	Approx. percentage	CAS No.	EC No.
Lithium Iron Phosphate (LiFePO ₄)	30 to 40%	1536-14-7	476-700-9
Carbon	2 to 4%	7440-44-0	231-153-3
Graphite	13 to 19%	7782-42-5	231-955-3
Aluminum	3 to 5%	7429-90-5	231-072-3
Copper	4 to 8%	7440-50-8	231-159-6
1,3-Dioxolan-2-on	3 to 5%	96-49-1	202-510-0
Carbonic acid, dimethyl ester	8 to 10%	616-38-6	210-478-4
Nickel	8 to 12%	7440-02-0	231-111-4



3. Hazards Summary

There is no hazard when the measures for handling and storage are followed.

If the battery is damaged, dangerous substances and a flammable gas mixture may be released.

Classification according to GHS:

Acute toxicity, oral (4)

Skin corrosion/irritation (2)

Serious eye damage/eye irritation (2A)

Specific target organ toxicity, single exposure; Respiratory tract irritation (3)

4. First Aid Measures

The following first-aid measures are required only if a battery has been damaged or opened and a person is exposed to the internal components. Undamaged, closed batteries do not present a health hazard.

Skin contact: Immediately remove contaminated clothing and shoes. Wash off affected area with plenty of water. Consult a physician.

Eye contact: Rinse thoroughly with plenty of water for at least 15 minutes. Consult a physician.

Ingestion: Rinse mouth and drink plenty of water. Induce vomiting. Do not administer anything by mouth or induce vomiting to an unconscious person. Consult a physician.

Inhalation: Move the affected person to fresh air. If they are not breathing, administer artificial respiration. Seek medical attention.

5. Fire Fighting Measures

Suitable extinguishing media: Dry chemical, CO₂, cold water or regular foam.

Special hazards arising from the chemical: Battery may burst and release hazardous decomposition products when exposed to fire. Lithium ion batteries contain flammable electrolyte that may vent, ignite and produce sparks when subjected to high temperatures (> 150°C), 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.

Protective fire-fighting equipment: Wear a self-contained breathing apparatus and a protective suit.

Additional information: If possible, remove batteries from the area of the fire. If heated above 125°C, batteries may explode. The battery casing is not flammable, but internal components will burn if the battery is incinerated.

6. Accidental Release Measures

Personal precautions: Use personal protective clothing. Avoid contact with skin, eyes and clothing. Avoid inhalation of fumes and gas. Evacuate personnel to safe areas upwind of the spill.

Emergency procedures: Eliminate all ignition sources (cigarettes, flares, sparks, flames). Do not touch or walk through spilled material.

Environmental precautions: Keep the contents of the battery away from sewers, water drains and water sources. Stop the leak if it is safe to do so and contain the spilled liquid with dry sand or earth. Dispose of any spilled contents in accordance with national, state and local regulations.

7. Handling and Storage

- Handling:** Never lift a battery by its terminals. Prevent any risk of short circuited terminals. Avoid mechanical damage to the battery. Do not install with incorrect polarity. Do not disassemble the battery. The battery may explode or cause burns if disassembled, crushed or exposed to fire or high temperatures.
- Storage:** Store at room temperature (approx. 20°C) in a dry, well ventilated place.
- Precautions:** Keep away from open flames, sparks and sources of heat.

8. Exposure Controls/Personal Protection

During normal use and charging, no internal components are released.

- Occupational exposure controls:** No specific precautions necessary.
- Protective and hygiene measures:** Do not eat, drink or smoke near the battery when it is in use. Wash hands after handling the battery.
- Respiratory protection:** In case of leakage: Wear suitable protective mask, self-contained breathing apparatus.
- Hand protection:** In case of leakage: Wear appropriate gloves to reduce skin contact.
- Skin and body protection:** In case of leakage: Wear appropriate protective clothing.

Remove jewelry, rings, watches and any other metallic objects while working on batteries. All tools should be adequately insulated to avoid any possibility of short circuits. Do not lay tools on top of the battery. Be sure of discharge static electricity from tools and individual persons by touching a grounded surface in the vicinity of the batteries.

Batteries are heavy. Serious injury can result from improper lifting or installation. Do not lift, carry, install or remove cells by lifting or pulling the terminal posts. Do not wear nylon clothes or overalls as they can create static electricity. Always keep emergency communications device in the work area.

CAS No.	ACGIH	NIOSH	OSHA
1536-14-7	N/A	N/A	N/A
7440-44-0	N/A	N/A	PEL-TWA 5mg/m ³ PEL-TWA 15mg/m ³
7782-42-5	TLV-TWA 2mg/m ³	REL-TWA 2.5mg/m ³	PEL-TWA 15mppcf PEL-TWA 20mppcf
7429-90-5	TLV-TWA 1mg/m ³	REL-TWA 2mg/m ³ REL-TWA 5mg/m ³ REL-TWA 10mg/m ³	PEL-TWA 5mg/m ³ PEL-TWA 15mg/m ³
7440-50-8	TLV-TWA 0.2mg/m ³ TLV-TWA 1mg/m ³	REL-TWA 1mg/m ³ REL-TWA 0,1mg/m ³	PEL-TWA 0.1mg/m ³ PEL-TWA 1mg/m ³
96-49-1	N/A	N/A	N/A
616-38-6	N/A	N/A	N/A
7440-02-0	TLV-TWA 1.5mg/m ³	REL-TWA 0.015mg/m ³	PEL-TWA 1mg/m ³

TLV = Threshold Limit Value; TWA: Time Weighted Average; REL = Recommended Exposure Limit;
PEL = Permissible Exposure Limit

9. Physical and Chemical Properties

Form:	Solid
Color:	Black
Odor:	Odourless. May smell of medical ether if punctured.
pHValue:	N/A
Flash Point:	N/A
Lower explosion limits:	N/A
Vapour pressure:	N/A
Density:	N/A
Water solubility:	N/A
Ignition temperature:	N/A

10. Stability and Reactivity

Chemical stability:	Stable under normal temperatures and pressures.
Conditions to avoid:	Keep away from open flames, hot surfaces and sources of ignition. Do not expose to moisture for prolonged periods. Do not puncture, crush or incinerate.
Materials to avoid:	Acids, oxidizing agents, bases.
Decomposition products:	If the battery case is damaged or opened carbon monoxide may be released.
Hazardous reactions:	Will not occur.
Additional information:	No decomposition if stored and applied as directed.

11. Toxicological Information

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

Sensitization:	no data available
Teratogenicity:	no data available
Reproductive toxicity:	no data available
Acute toxicity:	no data available

12. Ecological Information

Do not allow undiluted contents of the battery or large quantities of it to enter ground water, water courses or sewage systems. Some materials within the battery are bioaccumulative. Under normal conditions, these materials are contained and pose no risk to persons or the environment.

13. Disposal Considerations

Consult national, state and local regulations to ensure proper disposal.

Dispose of packaging in accordance with all national, state and local regulations.

14. Transport Information

The batteries have passed the test UN38.3. The goods are to be packaged according to the special provision 230, 348, 384 of IMDG (39-18).

The batteries should be securely packed and protected against short-circuits. Make sure the packaging is undamaged and tightly closed before transport. Avoid falling, dropping, and breakage during transport.

Prevent collapse of cargo piles. Don't put the batteries together with oxidizers or food chemicals. During transport, the vehicle should prevent exposure to rain and high temperatures.

Transport hazard class: 9

Means of transportation: By air, by sea, by railway, by road.

Proper shipping name: Lithium Ion Batteries

15. Regulatory Information

N/A

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 exemplary 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.