

ECTIVE BlackBox

Material Safety Data Sheet

12.09.2022

ECTIVE BlackBox

Model	Continuous Power	Peak Power (2 sec.)	Weight	Dimensions (mm)
BlackBox 5	500W	1000W	8.5kg	250 × 190 × 240
BlackBox 10	1000W	2000W	15kg	385 × 190 × 240
BlackBox 15	1500W	3000W	20kg	480 × 190 × 240

1. Product and Company Identification

Brand: ECTIVE
Series name: ECTIVE BlackBox
Manufacturer: batterium GmbH
Robert-Bosch-Straße 1, 71691 Freiberg am Neckar, Germany
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ECTIVE.DE



2. Chemical Composition

Chemical Composition	CAS No.*	EC No.**	Percentage of weight***
LiFePo ₄	15365-14-7	-	24 %
Graphite	7782-42-5	231-955-3	10 to 30 %
Organic Solvent	7429-90-5	231-072-3	23 %
Copper	7440-50-8	231-159-6	7 to 13 %
Aluminium	7429-90-5	231-072-3	5 to 10 %
Nickel	7440-02-0	231-853-9	1 to 5 %

* CAS No. = Chemical Abstract Service Registry Number.

** EC No. = European Inventory of Existing Commercial Chemical Substances. Labeling according to EC directives. No symbols and risk phrases are required.

*** The exact percentage of composition has been withheld as a trade secret.

3. Hazards Summary

Danger Type:	Not dangerous under normal conditions. Do not dismantle, open or damage the battery. Exposure to the battery's contents may be harmful.
Routes of exposure:	<ol style="list-style-type: none"> 1. Eyes and Skin: In case of leakage, the electrolyte solution contained in the battery may irritate ocular tissues and skin. 2. Inhalation: Respiratory irritation may occur if fumes are released due heat or a leakage. 3. Ingestion: In case of ingestion, the battery's contents cause serious chemical burns of the mouth, esophagus and gastrointestinal tract.
Potential health effects:	<p>Exposure the contained electrolyte of a ruptured or leaking battery can cause:</p> <ol style="list-style-type: none"> 1. Inhalation: Burns and irritation of the respiratory system, coughing, wheezing, and shortness of breath. 2. Eyes: Redness, tearing, burns. The electrolyte is corrosive to all ocular tissues. 3. Skin: The electrolyte is corrosive and causes skin irritation and burns. 4. Ingestion: The electrolyte solution causes tissue damage to throat and gastrointestinal tract.
Explosion danger:	The battery may be explosive at high temperature (above 150°C) or when exposed to fire.
Environmental harm:	Not applicable under normal conditions of use.

4. First Aid Measures

Skin contact: If the battery is leaking and the contained material contacts the skin, 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: If the battery is leaking and the contained material comes into contact with eyes, flush with copious amounts of clear water for at least 15 minutes. Seek medical attention at once.

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

Ingestion: If the battery is leaking and the contained material is ingested, rinse mouth and surrounding area with clear water at once. Do not induce vomiting. Consult a physician immediately for treatment.

5. Fire Fighting Measures

Unusual Fire and Explosion Hazards: Cell may vent when subjected to excessive heat, exposing battery contents.

Hazardous Combustion Products: Carbon monoxide, carbon dioxide, lithium oxide fumes.

Suitable extinguishing agents: HO₂, CO₂

Fire Fighting Procedures: Use a positive pressure self-contained breathing apparatus if batteries are involved in a fire. Full protective clothing is necessary. During the application of water, caution is advised as burning pieces of flammable particles may be emitted from the fire.

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, sprinkler-protected 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

Form:	Solid
Color:	Silver
Odour:	N/A
pH:	N/A
Melting / freezing point:	N/A
Boiling point / range:	N/A
Flash point:	N/A
Upper/lower flammability:	N/A
Vapor pressure:	N/A
Vapor density:	N/A
Relative density:	N/A
Solubility in water:	N/A
Auto-ignition temperature:	N/A
Decomposition temperature:	N/A
Evaporation rate:	N/A
Flammability:	N/A
Viscosity:	N/A

10. Stability and Reactivity

Stability:	Stable under normal conditions described in Section 7.
Conditions to avoid:	Do not heat above 70°C, incinerate, deform, crush, disassemble, short circuit, immerse in water or overcharge. Protect from sparks, flames humidity and heat.
Incompatibilities:	Avoid exposure to heat, open flames, corrosives, oxidizing agents, acids, bases.
Hazardous decomposition products:	Carbon monoxide, carbon dioxide, lithium oxide fumes.
Possibility of HazardousReaction:	N/A

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.

Irritancy:	The electrolytes contained in this battery can irritate eyes upon any contact. Prolonged contact with the skin or mucous membranes may cause irritation.
Sensitization:	No information is available.
Teratogenicity:	No information is available.
Carcinogenicity:	No information is available.
Mutagenicity:	No information is available.
Reproductive toxicity:	No information is available.

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

Label for conveyance:	Lithium battery label	
UN number:	3480 or UN 3481	
UN Proper shipping name:	Lithium ion Batteries (Including lithium ion polymer batteries) Lithium ion Batteries packed with equipment (Including lithium ion polymer batteries) Lithium ion Batteries contained in equipments (Including lithium ion polymer batteries)	
Transport hazard class(es):	9	
Packing group:	965 or 966	II
	967	--
Marine pollutant:	No	
ICAO/IATA:	Can be shipped by air in accordance with international Civil Aviation Organization (ICAO), TI or International Air Transport Association (IATA) DGR 63rd Packing Instructions Section IA of 965 or Section I of 966 967 appropriately.	
IMDG Code:	International Maritime Dangerous Goods Code IMDG CODE (Amdt 40-20)	
ADR:	European Agreement concerning the International Carriage of Dangerous Goods by Road	
RID:	Regulations concerning the International Carriage of Dangerous Goods by Rail	
	May be shipped without being declared as Class 9 dangerous goods when meeting the above requirements.	
	The dangerous goods regulations require that each battery design be subject to tests contained in Section 38.3 of the UN Manual of Tests and Criteria prior to being offered for transport.	

15. Regulatory Information

Law information:

- Dangerous Goods Regulations
- Recommendation on the Transport of Dangerous Goods Model Regulations
- International Maritime Dangerous Goods
- Technical Instructions for the Safe Transport of Dangerous Goods
- Classification and Code of Dangerous Goods
- Consumer Product Safety Act (CPSA)
- Federal Environmental Pollution Control Act (FEPCA)
- Resource Conservation and Recovery Act (RCRA)
- European Agreement Concerning the International Carriage of Dangerous Goods
- Regulations Concerning the International Carriage of Dangerous Goods

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 expemplary damages, howsoever arising, even if we have been advised of the possibilty 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.