

MSDS Report

Applicant: **ATHENA SPA**
Via delle Albere 13, 36045 Alonte (VI) ITALY

Description model: **Lithium Iron Phosphate Battery**

Type Model: **GK-ATHBL-0006**

Nominal Voltage: **12.8V**

Rated Capacity: **2Ah, 25.6Wh**

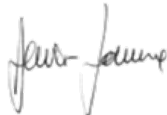
Weight: **429.6g**

Size (L×W×T): **86.0*85.0*48.0mm**

Referenced Document:
Report No. ST240103053-2,
ISO 11014:2009 Safety data sheet for chemical products

Place: **Alonte (VI) Italy**
Date: **January 7th, 2024**

ATHENA SPA
Quality, Safety, Environment, Energy and Facility Director
ALBERTO ZAVARISE



SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name:	Lithium Iron Phosphate Battery
Trademark:	GET
Model:	GK-ATHBL-0005
Nominal Voltage:	12.8V
Rated Capacity:	2Ah (25.6Wh)
Manufacture's Name:	Athena S.p.A.
Address:	Via delle Albere, 13, 36045 Alonte VI, Italy
Contact Information:	Alberto Zavarise
Email:	Alberto.Zavarise@athena.eu

SECTION 2: HAZARDS IDENTIFICATION

Classification of Danger	See section 14.
Primary Route(s) of Exposure	Eye, skin contact, ingestion.
Health Hazard	The batteries are not hazardous when used according to the instructions of manufacturer under normal conditions. In case of abuse, there's Hazard of rupture, fire, heat, leakage of internal components, which could cause casualty loss. Abuses including but not limited to the following cases: charged for long time, short circuited, put into fire, whacked with hard object, punctured with acute object, crushed, and broken.

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Concentration or concentration ranges (%)	CAS Number
LiFePO ₄	15 -40	15365-14-7
Copper	7-9	7440-50-8
Graphite	15-17	7440-44-0
Ethylene carbonate	10 -31	96-49-1
Dimethyl carbonate	5-16	616-38-6
Ethyl methyl carbonate	1-2	623-53-0
Lithium Hexafluorophosphate	2-3	21324-40-3
Aluminium foil	5-7	7429-90-5
Nickel	2-3	7440-02-0
Other	/	/

Labelling according to EC directives.

No symbol and hazard phrase are required.

Note: CAS number is Chemical Abstract Service Registry Number.

N/A=Not apply.

SECTION 4 – FIRST-AID MEASURES

Eye	Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.
Skin	Remove contaminated clothes and rinse skin with plenty of water or shower for 15 minutes. Get medical aid.
Inhalation	Remove from exposure and move to fresh air immediately. Use oxygen if available.
Ingestion	Ingesting damaged batteries, do not induce vomiting or give food or drink. Seek medical attention immediately

SECTION 5 – FIRE-FIGHTING MEASURES

Characteristics of Hazard	Dusts at sufficient concentrations can form explosive mixtures with air. Combustion generates toxic fumes
Hazardous Combustion Products	Carbon dioxide.
<i>Fire-extinguishing Methods and Extinguishing Media</i>	For small fires, use water spray, dry chemical, carbon dioxide or chemical foam.
<i>Attention in Fire-extinguishing</i>	Wear self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal Precautions, protective equipment, and emergency procedures	In case of rupture. Attention! Corrosive material. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Refer to protective measures listed in Sections 7 and 8.
Environmental Precautions	Prevent product from contaminating soil and from entering sewers or waterways.
Methods and materials for Containment	Stop the leak if safe to do so. Contain the spilled liquid with dry sand or earth. Clean up spills immediately.
Methods and materials for cleaning up	Absorb spilled material with an inert absorbent (dry sand or earth). Scoop contaminated absorbent into an acceptable waste container. Collect all contaminated absorbent and dispose of according to directions in Section 13. Scrub the area with detergent and water; collect all contaminated wash water for proper disposal.

SECTION 7 – HANDLING AND STORAGE

Handling	The battery may explode or cause burns, if disassembled, crushed or exposed to fire or high temperatures. Do not short or install with incorrect polarity.
Storage	Store in a cool, dry, well-ventilated area away from incompatible substances. Store locked up. Keep out of the reach of children.
<i>Other Precautions</i>	In case of rupture. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Use personal protection equipment.

SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering Controls	Use adequate ventilation to keep airborne concentrations low. If used under conditions that generate particulates, the ACGIH TLV-TWA of 3mg/m ³ respirable fraction (10mg/m ³ total) should be observed.
Personal Protective Equipment	Eye and Face Protection: None required for consumer use. If there is a Hazard of contact: Tight sealing safety goggles. Face protection shield. Skin and Body Protection: None required for consumer use. If there is a Hazard of contact: Wear protective gloves and protective clothing. Respiratory Protection: No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, 柱 ventilation and evacuation may be required.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Black almost cuboid
	Odour: If leaking, smells of medical ether.
Change in condition:	
pH	Not applicable as supplied.
Flash Point	Not applicable unless individual components exposed.
Flammability (soil, gas)	Not applicable unless individual components exposed.
	Not applicable unless individual components exposed.
Viscosity	Not applicable unless individual components exposed.
Solubility (other)	Not applicable unless individual components exposed.

SECTION 10 – STABILITY AND REACTIVITY

Chemical Stability	Stable under recommended storage conditions.
Possibility of Hazardous Reactions	None under normal processing.
Conditions to Avoid	Exposure to air or moisture over prolonged periods.
Incompatible materials	Acids, Oxidizing agents, Bases.
Hazardous Decomposition Products	Carbon oxides.

SECTION 11 – TOXICOLOGICAL INFORMATION

Irritation	In the event of exposure to internal contents, vapour fumes may be very irritating to the eyes and skin.
Sensitization	Not Available
Reproductive Toxicity	Not Available
Toxicologically Synergistic Materials	Not Available

SECTION 12 – ECOLOGICAL INFORMATION

General note:	Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Anticipated behaviour of a chemical product in environment / possible environmental impact / ecotoxicity	Not Available

SECTION 13 – DISPOSAL CONSIDERATIONS

Waste Treatment	Recycle or dispose of in accordance with government, state & local regulations.
Attention for Waste Treatment	Deserted batteries shouldn't be treated as ordinary trash. Shouldn't be thrown into fire or placed in high temperature. Shouldn't be dissected, pierced, crushed or treated similarly. Best disposal method is recycling.

SECTION 14 – TRANSPORT INFORMATION

UN number	/
<i>Proper shipping name</i>	UN3480: Lithium-ion Batteries (PI 965) UN3481: Lithium-ion Batteries packed with equipment (PI 966) UN3481: Lithium-ion Batteries Contained in equipment (PI 967)
Label(s) / Placard Required	/
Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises.	
ICAO / IATA:	Can be shipped by air in accordance with International Civil Aviation Organization (ICAO), TI or International Air Transport Association (IATA), DGR Packing Instructions (PI) 965 Section IB、 (PI) 966、 967 Section II of IATA DGR 65th (2024 Edition) for transportation.
IMDG CODE:	Shipping may be done in accordance with the IMDG Code 2022 Edition (Amdt 41-22).
DOT:	Other requirements for the US Department of Transportation (DOT) Subchapter C, Hazardous Materials Regulations if shipped in compliance with 49 CFR 173.185
ADR/ ADN:	Transport Requirements for United Nations Economic Commission for Europe (UNECE) ADR/ADN, Applicable as from 1 January 2024.

RID:	Regulations concerning the International Carriage of Dangerous Goods by Rail under Special Provision 188
In addition, to be permitted in transport each lithium cell and battery types must have passed the applicable tests set out in Subsection 38.3 of the UN Manual of Tests and Criteria.	

SECTION 15 – REGULATORY INFORMATION

- Dangerous Goods Regulations
- Recommendations on the Transport of Dangerous Goods-Model Regulations (23rd revised edition)
- Recommendations on the Transport of Dangerous Goods-Manual of Tests and Criteria
- International Air Transport Association (IATA)
- International Maritime Dangerous Goods (IMDG Code 2022 Edition Amdt 41-22)
- Technical Instructions for the Safe Transport of Dangerous Goods
- Classification and code of dangerous goods (GB 6944-2012)
- OSHA Hazard Communication (29 CFR 1910.1200)
- Toxic Substance Control Act (TSCA)
- Code of Federal Regulations
- In accordance with all Federal, State and local laws

SECTION 16 – ADDITIONAL INFORMATION

MSDS creation date: 2024 Version: 1.0

Sample photo:



To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

The data/information contained herein has been reviewed and approved for general release on the basis that this document contains no export-controlled information.

***** End of Report *****

锂电池 UN38.3 试验概要 Lithium Battery Test Summary

项目编号: ST240103053-TS

单位信息 Company Information					
委托单位 Consignor		ATHENA S.P.A VIA DELLE ALBERE 13 ALONTE (VI) CAP 36045, VICENZA, ITALY			
测试单位 Test Lab		深圳市北航检测有限公司 Shenzhen Beihang Technology Co., Ltd. 广东省深圳市坪山区青松西路豪威工业园 F 栋 2 楼 202 房 Room 202, 2/F, Building F, HaoWei Industrial Park, QingSong West Road, PingShan District, Shenzhen, Guangdong, China 电话/Tel: 0755-86503482 邮箱/Mail: cs@hc-stc.net 网址/Website: www.hc-stc.net			
电池信息 Battery Information					
名称 Name	磷酸铁锂电池 Lithium Iron Phosphate Battery		电池/电芯类别 Battery/Cell Classification		锂离子电池 Li-ion Battery
型号 Type	GK-ATHBL-0006		商标 Trademark		GET
额定电压 Normal Voltage	12.8V		额定容量 Rated Capacity		2Ah
额定能量 Watt-hour rating	25.6Wh		外观/Appearance		黑色近长方体 Black almost cuboid
质量/Mass	429.6g		锂含量/Li Content		不适用 N/A
测试信息 Test Information					
测试报告编号 Test Report Number	RSZBHST240103053		测试报告签发日期 Date of Test Report		2024-01-03
测试标准 Edition of UN Manual of Tests and Criteria Used	联合国《试验和标准手册》(第 7 版修订 1) 38.3 节 UN "Manual of Tests and Criteria" ST/SG/AC.10/11/Rev.7/Amend1/Subsection 38.3				
T.1: 高度模拟 Altitude Simulation	通过 Pass	T.2: 温度试验 Thermal Test	通过 Pass	T.3: 振动 Vibration	通过 Pass
T.4: 冲击 Shock	通过 Pass	T.5: 外部短路 External Short Circuit	通过 Pass	T.6: 撞击/挤压 Impact/Crush	通过 Pass
T.7: 过度充电 Overcharge	通过 Pass	T.8: 强制放电 Forced Discharge	通过 Pass		
UN38.3.3(f)	不适用 N/A		UN38.3.3(g) 不适用 N/A		
签名 Signatory 职务 Title	商宝莹 检验员		签发日期 Issued Date		