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正本/ORIGIN

编号: TCH24024058
No: TCH24024058
日期: 2024-09-30
Date: 2024-09-30

ZAIQ-RF(HH)-01-19

Safety Data Sheet

扫描查看在线报告



Applicant name: Jiangsu Pylon Battery Co., Ltd.

Product Name: Rechargeable Li-ion Battery HM7A200L / 166.4V 314Ah
52.249kWh

Edit date: 2024-09-30

Edit institution: Technology Center of Hangzhou Customs District

Approver:

万旺军

1. Unless other wise stated, this test report is only responsible for the sample(s).
2. This test report can not be reproduced,except in full,without prior written permission of the lab.



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声 明

DECLARATION

1. 本报告中检测结果仅对样品负责。

The result in this test report is only valid for the tested samples.

2. 本报告无授权人签字、未加盖本机构报告专用章无效。

This report is invalid without authorized signature or the stamp of this organization.

3. 对本报告中检测数据如有异议，请在收到报告后十五天内提出复测申请（部分特殊项目不能复测）。复测以原样为准，复测维持原结论时，由申请方承担复测费。

If there is any dissidence to the test data, the entrusting party shall apply for retesting within 15 days upon receiving this report (Some special item can not be retested). The former tested samples will be used as the retested ones. If the retest results are the same as the former ones, the retest fee will be paid by the entrusting party.

4. 本报告各页均为报告不可分割部分，使用者部分使用检测报告而导致误解或由此造成后果，本机构不承担任何责任。

This report shall be used in integrity. This organization will not be responsible for any misleading caused by the content of this report.

1. Identification of substance

Product Name	Rechargeable Li-ion Battery HM7A200L / 166.4V 314Ah 52.249kWh
Other Name	None
Chemical Name	None
Recommended Use	Industrial and commercial energy storage
Manufacturer	Anhui Pylon Technologies Co., Ltd.
Address	Intersection of Daqianshan Road and Gaocheng Road, Economic Development Zone, Feixi County, Hefei, Anhui Province, China
Supplier	Jiangsu Pylon Battery Co., Ltd.
Address	No.7, Keyan 3rd Road, Yizheng Economic Development Zone, Yangzhou, Jiangsu Province, China / 211401
Phone Number	+86-021-5131 7699
Fax Number	None
WEB or E-mail	sales@pylontech.com.cn
Emergency Phone Number	+86-021-5131 7699 or Call your nearest poison control centre

2. Hazards identification

GHS classification	Not applicable
GHS Pictograms	—
Signal words	—
Hazard statements	—
Precautionary Statement	—
Prevention	—
Precautionary Statement	—
Response	—
Precautionary Statement	—
Storage	—
Precautionary Statement	—
Disposal	—
Other hazards which do not result in classification	Not available

3. Composition/information on ingredients

☐ Substances☒ Mixtures

Component Information

Component	CAS number	EINECS number	Mass(%wt)
Lithium Iron Phosphate (LFP)	15365-14-7	476-700-9	40.5
Graphite	7782-42-5	231-955-3	25
Electrolyte (EMC/EC/PC/LiPF6)	—	—	20
Copper	7440-50-8	231-159-6	8.5

Aluminium	7429-90-5	231-072-3	6
4.First-aid measures			
NOTE TO PHYSICIAN	In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation.		
After inhalation	Move to fresh air. Oxygen or artificial respiration if needed. Get immediate medical attention.		
After skin contact	In case of contact with substances in the battery, immediately flush skin thoroughly with soap and plenty of water. Remove and isolate contaminated clothing and shoes. If irritation persists, get medical attention immediately. For minor skin contact, avoid spreading material on unaffected skin. Wash clothing separately before reuse.		
After eye contact	In case of contact with substances in the battery, immediately flush eyes with plenty of water for at least 15 minutes. Assure adequate flushing of the eyes by separating the eyelids with fingers. Get medical attention immediately.		
After ingestion	Rinse mouth. Do not induce vomiting without medical advice. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Loosen tight clothing such as a collar, tie, belt or waistband. Do not use mouth-to-mouth method if victim ingested the substance. Seek immediate medical attention.		
Most important symptoms / effects, acute and delayed	The battery's electrolyte can irritate skin, eyes, and mucosal tissues.		
5. Fire-fighting measures			
Suitable extinguishing agents	Water (cooling), use a HFC (hydrofluorocarbon) clean-agent fire extinguisher or alcohol resistant foam fire extinguishers. Heptafluoropropane and perfluorohexanone have better extinguishing effects.		
Special hazards caused by the material, its products of combustion or flue gases	Cell may vent when subjected to excessive heat-exposing battery contents. Can be released in case of fire: carbon monoxide, carbon dioxide, nitrogen oxides, hydrogen fluoride, hydrogen cyanide, benzene, toluene, methane, lithium oxide fumes, phosphorus oxides, irritating and toxic fumes and gases.		
Protective equipment for fire-fighters	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask, insulating gloves, insulating boots, etc.		
6. Accidental release measures			
Person-related safety precautions	If the battery material is released, remove personnel from area until fumes dissipate. Provide maximum ventilation to clear out hazardous gases. Avoid skin and eye contact or inhalation of vapors.		

Measures for environmental protection	Prevent further leakage or spillage if safe to do so. Do not allow material to be released to the environment without proper governmental permits.
Measures for cleaning/collecting	If batteries show signs of leaking, avoid skin or eye contact with the material leaking from the battery. Use chemical resistant rubber gloves and non-flammable absorbent materials for clean up. Mix with inert material (e.g. dry sand, vermiculite) and transfer to sealed container for disposal.
Additional information	See Section 7 for information on safe handling See section 8 for information on personal protection equipment. See Section 13 for information on disposal.

7. Handling and storage

Handling

Information for safe handling	Operators should be trained and strictly abide by the operating procedures. It is recommended that operators wear general protective clothing and safety gloves. Keep away from fire, heat source and direct sunlight. Smoking is strictly prohibited in the workplace. Provide ventilation systems and equipment in the workplace. Such batteries must be packed in inner packages in such a manner as to effectively prevent short circuits and to prevent movement which could lead to short circuits. Avoid mechanical or electrical abuse. More than a momentary short circuit will generally reduce the battery service life. Avoid reversing battery polarity within the battery assembly. In case of a battery unintentionally be crushed, rubber gloves must be used to handle all battery components. Avoid contact with eyes, skin. Avoid inhalation. Store separately from strong oxidizing agents, corrosives.
Information about protection against explosions and fires	Avoid mechanical and electrical abuse. Do not short circuit or install incorrectly. Batteries may explode or cause burns if disassembled, crushed, recharged or exposed to high temperatures. Install batteries in accordance with equipment instructions.

STORAGE

Requirements to be met by storerooms and containers	Avoid mechanical or electrical abuse. Storage preferably in cool, dry and ventilated area, which is subject to little temperature change. Storage at high temperatures should be avoided. Do not place the battery near heating equipment, nor expose to direct sunlight for long periods.
Information about storage in one common storage facility	Store in a cool, well-ventilated and dry area. Keep away from fire, heat source and direct sunlight. Such batteries must be packed in inner packages in such a manner as to effectively prevent short circuits and to prevent movement which could

Further information about storage conditions	lead to short circuits. Materials to Avoid: strong oxidizing agents, flammables and corrosives. The storage area shall be equipped with corresponding types and quantities of fire-fighting equipment, leakage emergency treatment equipment and appropriate materials.
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8. Exposure controls/personal protection

Limit Values for Exposure					
Component	CAS number	ACGIH TLV-TWA	ACGIH TLV-STEL	NIOSH REL-TWA	NIOSH REL-STEL
Lithium Iron Phosphate (LFP)	15365-14-7	N.E.	N.E.	N.E.	N.E.
Graphite	7782-42-5	2mg/m ³	N.E.	2.5mg/m ³	N.E.
Electrolyte (EMC/EC/PC/LiPF6)	---	---	---	---	---
Copper	7440-50-8	0.2 mg/m ³	N.E.	1 mg/m ³ 10mg/m ³	N.E.
Aluminium	7429-90-5	1mg/m ³	N.E.	(total) 5mg/m ³ (resp)	N.E.
Appropriate engineering controls	Use ventilation system and equipment. In case of battery venting, provide as much ventilation as possible. Avoid confined areas with venting cell cores. Provide safety shower and eye wash equipment.				
General protective and hygienic measures	Not necessary under conditions of normal use. Personal protection is recommended for venting battery. No smoking, drinking and eating at working site. Wash thoroughly after handling.				
Personal protective equipment	Personal protection is recommended for venting battery: respiratory protection, protective gloves, protective clothing and safety glass with side shields.				
Breathing equipment	When workers are facing high concentrations they must use appropriate certified respirators. Respiratory protection is not necessary under conditions of normal use.				
Protection of hands	Not necessary under conditions of normal use.				
Eye/Face protection	If necessary, wear safety glasses and safety masks.				
Body protection	Full set of anti chemical reagent overalls, flame retardant antistatic protective clothing, choose body protection according to the amount and concentration of the dangerous substance at the work place.				
Note: 1. N.E. means not established.					

9. Physical and chemical properties

Physical state	Lithium-ion battery pack, with a black prismatic appearance. Size (L*W*H), 1145*790*245 (mm) Weight, 338.05 kg
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Colour	No data available
Odour	Odourless
Melting point/freezing point	No data available
Boiling point or initial boiling point and boiling range	No data available
Flammability	No data available
Lower and upper explosion limit/flammability limit	No data available
Flash point	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
pH	No data available
Kinematic viscosity	No data available
Solubility	No data available
Partition coefficient: n-octanol/water(log value)	No data available
Vapour pressure	No data available
Density and/or relative density (water=1)	No data available
Relative vapour density (air=1)	No data available
Particle characteristics	No data available

10. Stability and reactivity

Reactivity	No data available.
Chemical stability	This is a stable product under recommended storage conditions.
Possibility of hazardous reactions	No polymerization.
Conditions to avoid (e.g. static discharge, shock or vibration)	Fire source, heating source, disassemble, external short circuit, crushes, deformation, high temperature, direct sunlight, high humidity, immerse in water or overcharge, etc.
Incompatible materials	Explosives, flammables, strong oxidants and corrosives. If leaked, forbidden to contact with strong oxidising agents, mineral acids, strong alkalis, etc.
Hazardous decomposition products	May include metal oxides, carbon monoxide, carbon dioxide, nitrogen oxides, hydrogen fluoride, hydrogen cyanide, benzene, toluene, methane, phosphorus oxides and other toxic smoke and gas.

11. Toxicological information

Routes of Entry: Dermal contact, eye contact, inhalation, ingestion.

Acute Toxicity LD50 (Oral, rat) N/A

LC50 (Inhalation, rat) N/A

LD50 (Dermal, rabbit) N/A

Skin corrosion/Irritation The electrolyte may cause skin irritation.

Serious eye The electrolyte may cause eye irritation.

damage/irritation

Respiratory or skin Not classified

sensitization

Germ cell mutagenicity Not classified

Carcinogenicity Not classified

Reproductive toxicity Not classified

STOT-single exposure Not classified

STOT-repeated exposure Not classified

Aspiration hazard Not classified

Chronic Effects Not classified

Further Information In the event of exposure to internal contents, moderate or severe irritation, burning and dryness of the skin may occur, and may damage the nerves of the target organs.
No detailed toxicological study.

12. Ecological information

Ecotoxicity

Aquatic Toxicity

Test & Species

96 Hr LC50 fish: N/A

48 Hr EC50 Daphnia: N/A

72 Hr EC50 Algae: N/A

Persistence and Not available

degradability

Bioaccumulative Not available

potential

Mobility in soil Not available

Additional Information May cause water or soil pollution.

13. Disposal considerations

WASTE DISPOSAL INSTRUCTIONS

Contact a qualified professional waste disposal service to dispose of this material.

Dispose of in accordance with local environmental regulations or local authority requirements.

14. Transport information

The Recommendation of Transport of Dangerous Goods (TDG)

UN Number UN 3480

Proper Shipping Name LITHIUM ION BATTERIES

Class/Division
Package Group
Subsidiary risk
labeling pictogram

Class 9 Miscellaneous Dangerous Substances and Articles



Note: The sample is rechargeable Lithium-ion battery pack with a Watt-hour rating in excess of 100wh, which contains 52 cells in series, and passed the tests required by UN 38.3. Samples do not equipped with battery overcharge protection, are only designed as a component in another battery or equipment which affords such protection. Cells and batteries incorporate a safety venting device. Cells and batteries are properly protected to prevent short circuits, and have a high quality management programme can be transported as mentioned above. Lithium cells and batteries must be packed in inner packaging that completely enclose the cell or battery and placed in a strong outer packaging. The completed package must meet the Packing Group II performance requirements.

Maritime transport IMDG

Being same with TDG

Marine pollutant (Yes/No): No

EmS No.: F-A, S-I

Each package must be labeled with the Class 9 Lithium Battery hazard label (Model No.9A ,5.2.2.2.2 in IMDG code).

According to 2.9.4.7 of IMDG Code (2022 Edition), except for button cells installed in equipment (including circuit boards), manufacturers and subsequent distributors of cells or batteries manufactured after 30 June 2003 shall make available the test summary as specified in the Manual of Tests and Criteria, Part III, sub-section 38.3, paragraph 38.3.5.

Air transport ICAO-TI
and IATA-DGR

Being same with TDG

The product shall meet the General Requirements and section IA of Packaging Instruction 965. According to 3.9.2.6.1(g) of IATA DGR (65th Edition), except for button cells installed in equipment (including circuit boards), manufacturers and subsequent distributors of cells or batteries manufactured after 30 June 2003 must make available the test summary as specified in the UN Manual of Tests and Criteria, Part III, sub-section 38.3, paragraph 38.3.5.

According to Special Provisions of IATA DGR (65th Edition) A164 Any electrical battery or battery powered device, equipment or vehicle having the potential of a dangerous evolution of heat

must be prepared for transport so as to prevent: (a) a short circuit (b) unintentional activation.

A802 Notwithstanding the absence of a packing group in column E, substances and articles assigned to these entries must be packed in UN Specification packagings that meet packing group II performance standards. This does not apply when lithium batteries prepared in accordance with Section IB of Packing Instructions 965 or 968.

15. Regulatory information

European/International Regulations

OSHA:	Hazardous by definition of Hazard Communication Standard (29CFR 1910.1200).
EINECS Status:	Graphite, Copper, Aluminium are included in EINECS inventory.
EPA TSCA Status:	Lithium Iron Phosphate (LFP), Graphite, Copper, Aluminium are included in TSCA public inventory.
Canadian DSL/NDSL (Domestic Substances List/ Non-domestic Substances List):	Lithium Iron Phosphate (LFP), Graphite, Copper, Aluminium are included in DSL / NDSL.
HMIS (Hazardous Material Identification System Ratings):	Health: 1 Flammability: 0 Physical hazard: 0 Personal protection: F (4. Severe Hazard; 3. Serious Hazard; 2. Moderate Hazard; 1. Slight Hazard; 0. Minimal Hazard)
WHMIS (Canadian Workplace Hazardous Material Identification System Ratings):	B6 (Aluminium).
ICAO-TI	1. Unless be exempted according to ICAO TI, the lithium ion cell/batteries (UN 3480, PI 965) and lithium metal cell/batteries (UN 3090, PI 968) are forbidden for carriage on passenger aircraft. 2. Unless be approved according to ICAO TI, Lithium ion cells/batteries (UN 3480, PI 965) must be offered for transport at a state of charge (SoC) not exceeding 30% of their rated design capacity.
List of dangerous goods (GB 12268-2012)	UN Number: UN3480, Shipping Name: LITHIUM ION BATTERIES, Packing Group: II. Lithium cells and batteries listed in this report are of the types proven to meet the requirements of each applicable test in the UN Manual of Tests and Criteria, Part III, sub-section 38.3.

16. other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

This Material Safety Data Sheet was based on the "Globally Harmonized System of Classification and Labelling of Chemicals", "Recommendations on the TRANSPORT OF DANGEROUS GOODS Model Regulations", "INTERNATIONAL MARITIME DANGEROUS GOODS CODE", "International Air Transport Association Dangerous Goods Regulations", the National Standards and other related dangerous chemicals management laws, regulations and standards, which are periodically updated and changed. To make dangerous goods / hazardous chemicals comply with the relevant requirements of the latest management, regularly update is recommended.

This Material Safety Data Sheet has been compiled in both English and Chinese. For any discrepancies, the Chinese version shall prevail.

Abbreviations and acronyms	ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road RID: Regulations Concerning the International Transport of Dangerous Goods by Rail IMDG: International Maritime Code for Dangerous Goods IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA) ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO) EINECS: European Inventory of Existing Commercial Chemical Substances CAS: Chemical Abstracts Service LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent EC50: Effective concentration, 50 percent
Edit Date	30.09.2024
Update and Revise	Original edition
Edit Standard	<i>Globally Harmonized System of Classification and Labelling of Chemicals</i> Part 1.5
Revised Institution	Technology Center of Hangzhou Customs District