

MATERIAL SAFETY DATA SHEET

Product Name : Lithium-ion Battery Pack

Applicant : Allan&Rikke Cleaning Equipment Shanghai Co.,Ltd.

Address : No.818 Shenglong Road, Songjiang District.,Shanghai

Signed by Shanghai OUTAO Testing Technology Service Co., Ltd

Written by : **Preeti .Deng**

Date: Dec. 02nd , 2022

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Section 1 – Chemical Product and Company Identification

Product name	Lithium-ion Battery Pack
Model(5)	<p>NORSE PROFESSIONALL UnionMart CN2.5 18v 2.5Ah</p> <p>BLUE CLEAN Blue Clean CN2.5 18v 2.5Ah</p> <p>SAND FUTURE Sand Future CN2.5 18v 2.5Ah; 45Wh;</p> <p>WORKER LBW363 CN2.5 18v 2.5Ah 45Wh</p> <p>BLUE CLEAN-EU CN2.5 18V 2.5Ah 45Wh</p>
Applicant	Allan&Rikke Cleaning Equipment Shanghai Co.,Ltd.
Address	No.818 Shenglong Road, Songjiang District.,Shanghai
Manufacturer	Jiangsu Sunpower Co.,Ltd.
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Section 2 – Hazards Identification

2.1 Classification of the substance or mixture

Classification acc. to Regulation (EC) No 1272/2008/EC (CLP/GHS)

Product definition: Mixture

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label Elements Symbol(s)

Signal Words

Danger

Hazard Statement

PHYSICAL HAZARDS:

Not classified as a physical hazard under CLP/GHS criteria.

HEALTH HAZARDS:

Not classified as an health hazard under CLP/GHS criteria.

ENVIRONMENTAL HAZARDS:

Not classified as an environmental hazard under CLP/GHS criteria.

GHS Precautionary Statements

Prevention

Not applicable.

Response

Not applicable.

Storage

Not applicable.

Disposal

Not applicable.

2.3 Other hazard

Do not short circuit, puncture, incinerate, crush, immerse, force discharge or expose to temperatures above the declared operating temperature range of the product. Risk of fire or explosion. The rechargeable lithium-ion batteries described in this Product Safety Data Sheet are sealed units which are not hazardous when used according to the recommendations of the manufacturer.

Under normal conditions of use, the electrode materials and liquid electrolyte they contain are not exposed to the outside, provided the battery integrity is maintained and seals remain intact. Risk of exposure only in case of abuse (mechanical, thermal, electrical) which leads to the activation of safety valves and/or the rupture of the battery container. Electrolyte leakage, electrode materials reaction with moisture/water or battery vent/explosion/fire may follow, depending upon the circumstances.

In the event that this battery has been ruptured, the electrolyte solution contained within the battery would be corrosive and can cause burns to skin and eyes.

Section 3 – Composition/Information on Ingredient

3.1 Mixture information

Ingredient name	CAS No.	EINECS	Weight %	REACH No.	Classification
ABS	9003-56-9	Not assigned	/	Not available	No classification
Nickel cobalt lithium manganite	Not assigned	Not assigned	41	Not available	No classification
Graphite	7782-42-5	231-955-3	22	Not available	No classification
Lithium Hexafluorophosphate	21324-40-3	244-334-7	16	Not available	No classification
Copper foil	7440-50-8	231-159-6	11	Not available	No classification

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Aluminum foil	7429-90-5	231-072-3	5	Not available	No classification
Polypropylene (PP)	9003-07-0	Not assigned	1	Not available	No classification
Polyvinylidene Fluoride (PVDF)	24937-79-9	Not assigned	1	Not available	No classification
Carboxymethyl cellulose (CMC)	9004-32-4	618-378-6	1	Not available	No classification
Styrene-butadiene rubber (SBR)	9003-55-8	Not assigned	1	Not available	No classification
Conductive agent	Not assigned	Not assigned	1	Not available	No classification
Epoxy resin	37625-93-7	Not assigned	/	Not available	No classification

3.2 Substance information

Not applicable

Section 4 – First Aid Measures

4.1 Description of first aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.
Skin contact	Remove contaminated clothes. Rinse skin with water and soap. If cause the serious skin-corrosive, take the medical attention.
Eye contact	Rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take for medical attention.
Ingestion	Rinse mouth. Give one or two glasses of water to drink. Get medical attention.
Protection of first-aiders	A rescuer should wear personal protective equipment, such as rubber gloves and airtight goggles.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Inhalation	No known significant effects or critical hazards.
Skin contact	No known significant effects or critical hazards.
Eye contact	No known significant effects or critical hazards.
Ingestion	No known significant effects or critical hazards.

Potential acute health effects

Inhalation	No known significant effects or critical hazards.
Skin contact	No known significant effects or critical hazards.
Eye contact	No known significant effects or critical hazards.
Ingestion	No known significant effects or critical hazards.

4.3 Indication of the immediate medical attention and special treatment needed

Notes to physician	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	No specific treatment

Section 5 – Fire Fighting Measures

5.1 Extinguishing media

Suitable extinguishing media

Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media

No data available

5.2 Special hazards arising from the substance or mixture

Lithium ion batteries contain flammable liquid electrolyte that may vent, ignite and produce sparks when subjected to high temperatures (> 120 °C), when damaged or abused (e.g., mechanical damage or electrical overcharge). Burning cells can ignite other batteries in close proximity.

5.3 Hazardous thermal decomposition products

Carbon monoxide, carbon dioxide, lithium oxides, hydrogen fluoride.

5.4 Advice for fire-fighters

Fire-extinguishing work is done from the windward and the suitable fire-extinguishing method according to the surrounding situation is used. Uninvolved persons should evacuate to a safe place. In case of fire in the surroundings: Keep containers cool by spraying with water. Eliminate all ignition sources if safe to do so. When extinguishing fire, be sure to wear personal protective equipment.

Section 6 – Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures:

As an immediate precautionary measure, isolate spill or leak area for at least 25 meters in all directions. Keep unauthorized personnel away. Stay upwind. Keep out of low areas.

Ventilate closed areas before entering.

Wear adequate personal protective equipment as indicated in Section 8.

6.2 Environmental precautions

Prevent material from contaminating soil and from entering sewers or waterways.

6.3 Methods and materials for containment and cleaning up

Stop the leak if safe to do so.

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.

6.4 Reference to other sections

See Section 7 for information on safe handling.

See section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

Section 7 – Handling and Storage

7.1 Precautions for safe handling

Do not open, disassemble, crush or burn battery. Do not expose cell to temperatures outside the range of -40°C to 60°C.

7.2 Conditions for safe storage, including any incompatibilities

Store battery in a dry location. To minimize any adverse effects on battery performance it is recommended that the batteries be kept at room temperature (35°C +/- 20°C). Elevated temperatures can result in shortened cell life. Keep out of reach of children.

7.3 Specific end use(s)

Not available.

Section 8 – Exposure Controls, Personal Protection

8.1 Control parameters

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Occupational exposure limits values:	No data available
8.2 Exposure controls	
Appropriate engineering controls:	Airborne exposures to hazardous substances are not expected when product is used for its intended purpose. Use local exhaust ventilation or other engineering controls to control sources of dust, mist, fume and vapor.
Personal protective equipment	
Respiratory protection	Air-purifying full-face respirators are appropriate while handling the crushed batteries.
Hand protection	Impervious gloves while handling the crushed batteries..
Eye / Face protection	Safety glasses with side shields or goggles while handling the crushed batteries..
Skin and body protection :	Wear the protective gloves, protective clothing, protective boots while handling the crushed batteries.
Environmental exposure controls :	Should not be released into the environment. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.

Section 9 – Physical and Chemical Properties

Physical appearance(20°C)	Solid
Odor	Odorless
Odor threshold	No data available
pH	No data available
Boiling point/range	It is solid , the boiling point is not technically feasible.
Melting point/range	No data available
Flash Point	It is solid , the flash point is not technically feasible.
Explosion Limits	No data available
Lower	No data available
Upper	No data available
Ignition Temperature	No data available
Vapour Pressure	No data available
Vapour Density	No data available
Density	No data available
Solubility	Insoluble in water

Section 10 – Stability and Reactivity

10.1 Reactivity

No special reactivity has been reported.

10.2 Chemical Stability

This product is stable under normal conditions.

10.3 Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid

Avoid exposing the battery to fire or temperatures above 80°C. Do not disassemble, crush, short or install with incorrect polarity. Avoid mechanical or electrical abuse.

10.5 Incompatible materials

Do not immerse in seawater or other high conductivity liquids, strong oxidizers.

10.6 Hazardous decomposition products

This material may release toxic fumes if burned or exposed to fire. Breaching of the battery enclosure may lead to generation of hazardous fumes which may include extremely hazardous HF (hydrofluoric acid).

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Section 11 – Toxicological Information

11.1 Toxicokinetics, metabolism and distribution

No data available

11.2 Information on toxicological effects

Acute Toxicity	No data available
Skin corrosion/irritation	Corrosive to the skin, eyes and mucous membranes.
Serious eye damage/irritation	Conjunctival and corneal chemical burns, and iritis.
Respiratory Irritation	Severity of upper gastrointestinal tract injury.
Respiratory or Skin Sensitisation	No data available
Aspiration Hazard	No data available
Germ cell mutagenicity:	No data available
Carcinogenicity	No data available
Genetic Effects	No data available
Target Organ Effects	No data available
Reproductive toxicity	It is unlikely incur the reproductive toxicity.

Section 12 – Ecological Information

Ecotoxicity	No data available
Result of PBT and vPvB assessment	No data available
Persistence/ degradability	Not easy for degradability
Bioaccumulative potential (BCF)	No data available
Mobility in soil	No data available
Other adverse effects	No data available

Section 13 – Disposal Considerations

Material Disposal	Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Do not dispose into the environment, in drains or in water courses.
Container Disposal	Dispose in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the collector or contractor should be established beforehand.
Local Legislation	Disposal should be in accordance with applicable regional, national, and local laws and regulations.

Section 14 – Transport Information

lithium-ion batteries are designed to comply with all applicable shipping regulations as prescribed by industry and legal standards which includes compliance with the UN Recommendations on the Transport of Dangerous Goods; IATA Dangerous Goods Regulations and applicable U.S. DOT regulations for the safe transport of lithium-ion batteries and the International Maritime Dangerous Goods Code. Each of the listed cells in Section 1 have passed the UN Manual of Tests and Criteria Part III Subsection 38.3, which is required by all of the directives listed above.

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In the US, shipments of lithium ion batteries are classified as Class 9, UN3480, Packing Group II, by the U.S. Hazardous Materials Regulations (HMR). Packaging, markings and documentation requirements are defined in Title 49 of the Code of Federal Regulations (CFR), Section 173.185. of the U.S. HMR. Excepted cells and batteries are allowed to be transported within the US without Class 9 packaging and markings, but must conform to other requirements as stipulated in Special Provisions 188 and 189 in the 49 CFR Section 173.185 of the U.S. HMR.

International shipments of lithium ion cells and batteries are generally classified as Class 9, UN3480, Packing Group II, by the International Civil Aviation Organization (ICAO) and the International Maritime Dangerous Goods (IMDG) Code. Packaging, markings and documentation requirements are defined in the International Air Transport Association (IATA) Dangerous Goods Regulations (DGR) Packing Instructions 965 and Packing Instruction P903 of the IMDG Code.

Excepted cells and batteries are allowed to be transported internationally without Class 9 packaging and markings, but must conform to other requirements as stipulated in Packing Instructions 965 of the IATA DGR and Special Provision 188 under the IMDG Code.

The Lithium Ion Batteries according to Section IB of PACKING INSTRUCTION 965 and PACKING INSTRUCTION 968 of the 2022 IATA Dangerous Goods 09th Edition may be transport.

Section 15 – Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

USA(TSCA)

All ingredients in the product are listed on the TSCA inventory

EC Classification for the substance/Preparation

This product is not classified as hazardous according to regulation (EC) No. 1272/2008.Keep out of the reach of children.

European/internation regulations

European Labelling in accordance with EC Directives

Hazard Symbols:

Xi,N

Risk Phrase

R 20/22

Harmful by inhalation and if swallowed

R 52/53

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Safety Phrases

S 16

Keep away from sources of ignition-No smoking.

S 24/25

Avoid contact with skin and eyes

S 60

This material and/or Its container must be disposed of as hazardous waste

S 61

Avoid release to the enviroment. Refer to special instructions/ Safety data sheets.

15.2 Chemical Safety Assessment

The mixture has undergone any safety assessment.

For details regulations you should contact the appropriate agency in your country.

Section 16 – Additional Information

Labeling information

Danger



MSDS Creation Date: Dec. 02nd , 2022

This SDS was prepared sincerely on the basis of the information we could obtained, however, any warranty shall not be given regarding the data contained and the assessment of hazards and toxicity. Prior to use, please Shanghai OUTAO Testing Technology Service Co., Ltd

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investigate not only the hazards and toxicity information but also the laws and regulations of the organization, area and country where the products are to be used, which shall be given the first priority. Products are supposed to be used promptly after purchase in consideration of safety. Some new information or amendments may be added afterwards. If the products are to be used far behind the expected time of use or you have any questions, please feel free to contact us. The stated cautions are for normal handling only. In case of special handling, sufficient care should be taken, in addition to the safety measures suitable for the situation. All chemical products should be treated with the recognition of "having unknown hazards and toxicity", which differ greatly depending on the conditions and handling when in use and/or the conditions and duration of storage. The products must be handled only by those who are familiar with specialized knowledge and have experience or under the guidance of those specialists throughout use from opening to storage and disposal. Safe usage conditions shall be set up on each user's own responsibility.

This SDS is applicable to following models

PRODUCT PHOTO



