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|---|---------------------------|
| Report No. 20180314001                      |                           |
| Version number 0                            | Issue Date 14-Mar-2018    |
| Product name: ABP118L5 Lithium Battery Pack | Revision date 14-Mar-2018 |

## 1 SECTION1: Product and Company Identification

### Product identifier

- Product name: ABP118L5 Lithium Battery Pack

Relevant identified uses of the substance or mixture and uses advise against

Identified uses : Used for electric tools

Details of the supplier of the safety data sheet

Supplier : Positec Technology (China) Co.,Ltd.

Address:No.18 Dongwang Road,Suzhou Industrial Park

Postcode:215123

E-mail:Positec.sz@positecgroup.com

Tel:+86-512-65152888

Fax:+86-512-67631999

Emergency telephone number +86-512-65152888

## 2 SECTION 2:Hazards identification

**Emergency situation:** warning, do not open and disassemble it, and do not exposed to fire or open flame; Don't mix put batteries with different models and different types. It will expose and burn when in fire; Do not short circuit, extrusion, burning or remove the battery.

## 3 SECTION 3:Composition/information on ingredients

dangerous components.

| Chemical Name     | CAS Number | Material Composition |
|-------------------|------------|----------------------|
| Nickel            | 7440-02-0  | 3.53%                |
| PA6               | 107-10-8   | 21.81%               |
| glass fibre       | 65997-17-3 | 6.59%                |
| EVA               | 24937-78-8 | 0.33%                |
| Iron              | 7439-89-6  | 12.27%               |
| Carbon            | 7440-44-0  | 11.58%               |
| Copper            | 7440-50-8  | 11.46%               |
| Lithium nickelate | 12031-65-1 | 5.31%                |

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| Aluminium   | 7429-90-5   | 4.70% |
| Lithium manganese oxide   | 12057-17-9  | 3.17% |
| dimethyl carbonate  | 616-38-6    | 3.09% |
| Manganese   | 7439-96-5   | 2.76% |
| cobalt lithium dioxide  | 12190-79-3  | 2.12% |
| Polyethylene  | 9002-88-4   | 1.97% |
| Oxygen  | 7782-44-7   | 1.61% |
| 1,3-Dioxolan-2-one  | 96-49-1     | 1.26% |
| lithium hexafluorophosphate(1-)   | 21324-40-3  | 1.20% |
| Ethyl methyl carbonate  | 623-53-0    | 0.97% |
| Polypropyllene  | 9003-07-04  | 0.76% |
| 1-Propene homopolymer   | 9003-07-0   | 0.62% |
| Polyethylene terephthalate  | 25038-59-9  | 0.54% |
| Carbon black  | 1333-86-4   | 0.39% |
| Polyvinylidene fluoride   | 24937-79-9  | 0.39% |
| lithium carbonate   | 554-13-2    | 0.33% |
| 2-Propenoic acid polymer with butyl 2-propenoate, ethenyl acetate and 2-ethylhexyl 2-propenoate | 35239-19-1  | 0.30% |
| 4-Fluoro-1,3-dioxolan-2-one   | 114435-02-8 | 0.20% |
| Carboxyl Methyl Cellulose   | 9004-32-4   | 0.12% |
| Butanedinitrile   | 110-61-2    | 0.10% |
| Octadecylcarbamic acid ethenyl ester homopolymer  | 36671-85-9  | 0.07% |
| Styrene, butadiene copolymer  | 9003-55-8   | 0.07% |
| titanium dioxide  | 13463-67-7  | 0.07% |

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| Talc (Mg <sub>3</sub> H <sub>2</sub> (SiO <sub>3</sub> ) <sub>4</sub> )                                | 14807-96-6 | 0.06% |
| 2-Methyl-2-propenoic acid methyl ester polymer with 1,3-butadiene, ethenylbenzene and 2-propenenitrile | 9010-94-0  | 0.05% |
| 2-Methyl-2-propenoic acid polymer with 1,3-butadiene and ethenylbenzene                                | 9010-93-9  | 0.05% |
| Fatty acids, coco polymers with benzoic acid, pentaerythritol and phthalic anhydride                   | 68604-67-1 | 0.05% |
| poly(1,4-butylene terephthalate)   | 24968-12-5 | 0.05% |
| lithium tetrafluoroborate, anhydrous   | 14283-07-9 | 0.02% |
| 2-Propenenitrile polymer with 1,3-butadiene and ethenylbenzene   | 9003-56-9  | 0.02% |
| 1,3-Bis(2,4,6-trioxoperhydropyrimidin-5-ylidene)isoindoline  | 36888-99-0 | 0.02% |
| Magnesium  | 7439-95-4  | 0.02% |

#### 4 SECTION 4: First aid measures

For the material leaked from battery interior

**Eye contact:** if contact, rinse with clean water for at least 15mins, turns upper and lower eyelid until the chemical residue gone, then go to see doctor immediately.

**Skin contact:** if contact, rinse with suds. Meanwhile take off the polluted clothes and shoes. If chemical burns or continual stimulates, please go to see a doctor immediately.

**Eat:** go to see a doctor immediately

**Inhalation:** remove him to the area that with the clean air immediately , provide him artificial respiration if can not breathe, don't use mouth-to-mouth breath method.

If has difficulty to breathe , given oxygen to overcome breathing problem. Go to see a doctor immediately.

#### 5 SECTION 5: Fire fighting measures

- Extinguishing media
- Suitable extinguishing agents: CO<sub>2</sub>, dry chemical powder, water spray.
- Unsuitable extinguishing agents: No information available.
- Special hazards arising from the substance or mixture Not flammable.
- Advice for firefighters Fire-fighters should wear appropriate breathing apparatus and protective equipment

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## 6 SECTION 6: Accidental release measures

### Personal precautions

Use personal protective clothing. Avoid contact with skin, eyes and clothing. Avoid breathing fume and gas.

### Environmental precautions

Do not discharge into the drains/surface waters/groundwater.

Methods for cleaning up/taking up

Take up mechanically and send for disposal.

## 7 SECTION 7: Handling and storage

### Handling

#### Advice on safe handling

Avoid short circuiting the battery. Avoid mechanical damage of the battery. Do not open or disassemble.

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition.

### Storage

#### Requirements for storage rooms and vessels

Storage at room temperature (approx. 20°C) at approx. 20-60% of the nominal capacity

Keep in closed original container..

## 8 SECTION 8: Exposure controls/personal protection

**Engineering Control:** Select the appropriate ventilation and temperature control equipment, which should be equipped with eye cleaning and shower equipment. Use local equipment to ensure its concentration under the limitation.

**Eye protection:** Not necessary under normal use. Wear safety goggles or glasses with side shields if handling a leaking or ruptured battery.

**Hand protection:** Not necessary under normal use. Wear rubber gloves if handling a leaking or ruptured battery.

**Skin protection:** Not necessary under normal use. Wear protection suit in case of handling a leaking or ruptured battery

**Respiratory protection:** Not necessary under normal use. Keep the air circulation in case of handling a leaking or ruptured battery. Do not use it in a narrow place in this case.

## 9 SECTION 9: Physical and chemical properties

**Physical state:** Solid

**Color:** black

**Smell:** N/A

**Voltage:** 18V

**Weight:** 660g

**Capacity:** 5.0Ah

**Watt-hours of Battery:** 90Wh

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**Solubility in water:** Does not dissolve in water

## 10 SECTION 10: Stability and reactivity

**Stability:** It should be stable under the condition of normal storage and operation.

**Conditions to avoid:** Overheat; Exposure to humid conditions; Mechanical vibration

**Taboo materials:** strong oxidant

**Hazardous decomposition products:** Under the condition of burning may produce harmful decomposition products

**Hazardous polymerization reaction:** NA

## 11 SECTION 11: Toxicological information

- **Acute toxicity:** No data available.
- **Skin corrosion/irritation:** No irritant effect.
- **Serious eye damage/irritation:** No irritating effect.
- **Respiratory or skin sensitization:** No sensitizing effects known.
- **Specific target organ system toxicity:** No information available.
- **Toxicokinetics, metabolism and distribution:** No information available.
- **Aspiration hazard:** No information available.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction):** No information available.

## 12 SECTION 12: Ecological information

There are no ecological injuries under normal usage. Do not flush into water or sanitary sewer system

## 13 SECTION 13: Disposal considerations

Advice on disposal

For recycling consult manufacturer.

Disposal in accordance with local regulations

## 14 SECTION 14: Transport information

The rechargeable Lithium-Ion battery pack as stated in Appendix are made in compliance to the requirements stated in the latest edition of the IATA Dangerous Goods Regulations Packing Instruction 965 section II such that they can be transported as a NOT RESTRICTED (non-hazardous/non-dangerous) goods.

With regard to transport, the following regulations are cited and considered:

- The International Civil Aviation Organization (ICAO) Technical Instructions, Packing Instruction 965, Section II (2017-2018 Edition),
- The International Air Transport Association (IATA) Dangerous Goods Regulations, Packing Instruction 965, Section II (59th Edition, 2018)
- The International Maritime Dangerous Goods (IMDG) Code (2016 Edition),
- US Hazardous Materials Regulations 49 CFR (Code of Federal Regulations) Sections 173-185 Lithium batterie and cells,



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- The UN Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria 38.3 Lithium batteries, Rev.5, Amend.1

**DOT** Not regulated  
**Proper Shipping Name** Lithium ion battery  
**Hazard Class** 9  
**Emergency Response Guide** 147  
**UN number** 3480

**TDG** Not regulated

**MEX** Not regulated

**ICAO (air)** Not regulated

**IATA** The goods meet the requirements is General Requirements and section II of Packing Instruction 965  
**Proper Shipping Name** Lithium ion battery  
**Hazard Class** 9  
**UN number** 3480

**IMDG** The article is not restricted to IMO IMDG Code according to Special Provision 188  
**Proper Shipping Name** Lithium ion battery  
**Hazard Class** 9  
**EmS-No.** F-A, S-I  
**UN number** 3480

**RID** Not regulated

**ADR** Not regulated

**ADN** Not regulated

Our products are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation according to all the applicable international and national governmental regulations, not limited to the above mentioned. We further certify that the enclosed products have been tested and fulfilled the requirements and conditions in accordance with UN Recommendations (T1 – T8) on the Transport of Dangerous Goods Model Regulations and the Manual of Testes and Criteria that can be treated as “Non-Dangerous Goods”.

| Test results of the UN Recommendation on the Transport of Dangerous Goods Manual of Test and Criteria (38.3 Lithium battery) | Test Results           | Remark |
|--|------------------------|--------|
| No .   | Test item              |        |
| T1   | Altitude Simulation    | Pass   |
| T2   | Thermal Test           | Pass   |
| T3   | Vibration              | Pass   |
| T4   | Shock                  | Pass   |
| T5   | External Short Circuit | Pass   |
| T6   | Impact                 | Pass   |
| T7   | Overcharge             | Pass   |



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|    |                  |      |
|----|------------------|------|
| T8 | Forced Discharge | Pass |
|----|------------------|------|

## 15 SECTION 15: Regulatory information

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

USA or EU Regulation:

Authorizations : No information available.

Restrictions on use: No information available.

## 16 SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

### Disclaimer

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

| Author                    | Reviewer                    | Approval                 |
|---------------------------|-----------------------------|--------------------------|
| Yingchun Li<br>2018-03-14 | Jennifer Chen<br>2018-03-14 | Allen Ding<br>2018-03-14 |

——End of Safety Data Sheet——