Material Safety Data Sheet

NAME OF ITEM: Li-ion BATTERY PACK
p/n: PRR-21
1. Chemical product identification

<table>
<thead>
<tr>
<th>Name of Items</th>
<th>Li-ion BATTERY PACK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type/Model</td>
<td>TL-MAK-18B-3.0Ah</td>
</tr>
<tr>
<td>Rated capacity</td>
<td>3000mAh</td>
</tr>
<tr>
<td>Nominal voltage</td>
<td>18V</td>
</tr>
<tr>
<td>Rated energy</td>
<td>54Wh</td>
</tr>
<tr>
<td>Inspection according to</td>
<td>EEC Directive 93/112/EC</td>
</tr>
<tr>
<td></td>
<td>UN “Recommendations on the TRANSPORT OF DANGEROUS GOODS”</td>
</tr>
<tr>
<td>Emergency telephone call</td>
<td>Mr. Liu 18129946709</td>
</tr>
</tbody>
</table>

2. Composition information

<table>
<thead>
<tr>
<th>Material or ingredient</th>
<th>CAS No.</th>
<th>Wt %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium Co Mn Oxid</td>
<td>/</td>
<td>39.6</td>
</tr>
<tr>
<td>Polyvinylidene Fluoride</td>
<td>24937-79-9</td>
<td>1.15</td>
</tr>
<tr>
<td>Aluminium</td>
<td>7429-90-5</td>
<td>5.56</td>
</tr>
<tr>
<td>Graphite</td>
<td>7782-42-5</td>
<td>23.2</td>
</tr>
<tr>
<td>Styrene-Butadiene Rubber</td>
<td>9003-55-8</td>
<td>1.78</td>
</tr>
<tr>
<td>Copper</td>
<td>7440-50-8</td>
<td>9.80</td>
</tr>
<tr>
<td>Lithium Hexafluorophosphate</td>
<td>21324-40-3</td>
<td>15.35</td>
</tr>
<tr>
<td>Polyethylene</td>
<td>9002-88-4</td>
<td>0.06</td>
</tr>
<tr>
<td>Polyethylene</td>
<td>9003-07-0</td>
<td>0.78</td>
</tr>
<tr>
<td>Electrolyte Carbonate</td>
<td>96-49-1</td>
<td>2.72</td>
</tr>
</tbody>
</table>
3. Hazards identification

<table>
<thead>
<tr>
<th>Risk Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explosive risk</td>
<td>This article does not belong to the explosion dangerous goods.</td>
</tr>
<tr>
<td>Flammable risk</td>
<td>This article does not belong to the flammable material.</td>
</tr>
<tr>
<td>Oxidation risk</td>
<td>This article does not belong to the oxidation of dangerous goods.</td>
</tr>
<tr>
<td>Toxic risk</td>
<td>This article does not belong to the toxic dangerous goods.</td>
</tr>
<tr>
<td>Radioactive risk</td>
<td>This article does not belong to the radiation of dangerous goods.</td>
</tr>
<tr>
<td>Mordant risk</td>
<td>This article does not belong to the corrosion of dangerous goods.</td>
</tr>
<tr>
<td>Other risk</td>
<td>This article is Li-ion BATTERY PACK, Watt hour 54 Wh, which belong to the Li-ion battery.</td>
</tr>
</tbody>
</table>

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:** Give at least 2 glasses of milk or water. Induce vomiting unless patient is unconscious. Call a physician.

5. Fire-fighting measures

**Flash Point:** N/A.

**Auto-Ignition Temperature:** N/A.

**Extinguishing Media:** Water, CO2.

**Special Fire-Fighting Procedures:** Self-contained breathing apparatus.

**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.
6. Accidental release measures

Steps to be taken in case Material is Released or Spilled
If the battery material is released, remove personnel from area until fumes dissipate. Provide maximum ventilation to clear out hazardous gases. Wipe it up with a cloth, and dispose of it in a plastic bag and put into a steel can. The preferred response is to leave the area and allow the battery to cool and vapors to dissipate. Provide maximum ventilation. Avoid skin and eye contact or inhalation of vapors. Remove spilled liquid with absorbent and incinerate.

Waste Disposal Method
It is recommended to discharge the battery to the end, to use up the metal lithium inside the battery, and to bury the discharged battery in soil.

7. Handling and storage
The battery should not be opened, destroyed or incinerate, since they may leak or rupture and release to the environment the ingredients that they contain in the hermetically sealed container. Do not short circuit terminals, or over charge the battery, forced over-discharge, throw to fire. Do not crush or puncture the battery, or immerse in liquids.

Precautions to be taken in handling and storing
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.

Other Precautions
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.

8. Exposure controls/personal protection

Respiratory Protection
In case of battery venting, provide as much ventilation as possible. Avoid confined areas with venting cell cores. Respiratory Protection is not necessary under conditions of normal use.

Ventilation
Not necessary under conditions of normal use.

Protective Gloves
Not necessary under conditions of normal use.

Other Protective Clothing or Equipment
Not necessary under conditions of normal use.

Personal Protection is recommended for venting battery
Respiratory Protection, Protective Gloves, Protective Clothing and safety glass with side shields.
9. Physical and chemical properties

**Appearance:** Prismatic.

**Odor:** Under normal circumstances, is odorless; if leaking, smells of medical ether.

**pH:** Not applicable as supplied.

**Flash Point:** Not applicable unless individual components exposed.

**Flammability:** Not applicable unless individual components exposed.

**Relative density:** Not applicable unless individual components exposed.

**Solubility (water):** Not applicable unless individual components exposed.

**Solubility (other):** Not applicable unless individual components exposed.

10. Stability and reactivity

**Stability:** Product is stable under conditions described in Section 7.

**Conditions to Avoid:** Heat above 70°C or incinerate. Deform. Mutilate. Crush. Disassemble. Overcharge. Short circuit. Expose over a long period to humid conditions.

**Materials to avoid:** Oxidizing agents, alkalis, water.

**Hazardous Decomposition Products:** Toxic Fumes, and may form peroxides.

**Hazardous Polymerization:** N/A.

If leaked, forbidden to contact with strong oxidizers, mineral acids, strong alkalies, halogenated hydrocarbons.

11. Toxicological information

**Signs & symptoms:** None, unless battery ruptures.

In the event of exposure to internal contents, vapor fumes may be very irritating to the eyes and skin.

**Inhalation:** Lung irritant.

**Skin contact:** Skin irritant.

**Eye contact:** Eye irritant.

**Ingestion:** Poisoning if swallowed.

**Medical conditions generally aggravated by exposure:** In the event of exposure to internal contents, moderate to severe irritation, burning and dryness of the skin may occur, Target organs nerves, liver and kidneys.

12. Ecological information

| **Eco-toxicity:** | None known at present. |
| **Bioaccumulation potential:** | Slowly Bio-degradable. |
| **Environmental fate:** | None known environmental hazards at present. |
13. Disposal consideration

Do not incinerate, or subject cells to temperature in excess of 70°C, Such abuse can result in loss of seal leakage, and/or cell explosion. Dispose of in accordance with appropriate local regulations.

14. Transport information

**Scope of application**: This report applies to by sea, by air, and by land.

**Label for conveyance**: Class 9 hazard label.

**UN Number**: UN3480.

**Packaging Group**: N/A.

**EmS No**: F-A,S-I.

**EmS 编号**: F-A,S-I．

**Marine pollutant**: No

**Proper Shipping name**: Li-ion BATTERY PACK.

**Hazard Classification**: The goods shall be complied with the requirements of Packing Instructions


15. Regulation information

**Law information**

《Dangerous Goods Regulations》
《Recommendations 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》
《Occupational Safety and Health Act》(OSHA)
《Toxic Substance Control Act》(TSCA)
《Consumer Product Safety Act》(CPSA)
《Federal Environmental Pollution Control Act》(FEPCA)
《The Oil Pollution Act》(OPA)
《Superfund Amendments and Reauthorization Act TitleⅢ (302/311/312/313)》(SARA)
《Resource Conservation and Recovery Act》(RCRA)
《Safety Drinking Water Act》(CWA)
《California Proposition 65》
《Code of Federal Regulations》(CFR)
In accordance with all Federal, State and local laws.

END