Material Safety Data Sheet

MSDS No. CYBER-2015-01

Section 1 – Chemical Product and Company Identification

Product name: Lithium Ion Polymer Battery (P/N: CYL-4867102-3S 11.1V 3400mA 37.74Wh CYL-603450 3.7V 1000mAh 3.7Wh) (Capacity rating ≤ 6000mAh, Watt-hour rating < 100Wh)

Manufacturer: Cyber-Power Electronic Corp.
Address: 5FL., Section 2, ZhongShan Road, Panquiao Dist., New Taipei City, Taiwan
Post code: 22068
TEL: +886 2 89535170
FAX: +886 2 89535176
Email: david@cyber-power.com.tw
Emergency: +886 2 89535170

Section 2 – Composition/Information on Ingredient

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Chemical Formula or</th>
<th>CAS No.</th>
<th>Content (wt%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium Cobalt Oxide</td>
<td>LiCoO2</td>
<td>12190-79-3</td>
<td>30-50</td>
</tr>
<tr>
<td>Carbon / Graphite</td>
<td>C</td>
<td>7440-44-0</td>
<td>15-25</td>
</tr>
<tr>
<td>Aluminum Foil</td>
<td>Al</td>
<td>7429-90-5</td>
<td>3-10</td>
</tr>
<tr>
<td>Copper Foil</td>
<td>Cu</td>
<td>7440-50-8</td>
<td>7-14</td>
</tr>
<tr>
<td>PVDF (Polyvinylidene Fluoride)</td>
<td>(C2H2F2)n</td>
<td>24937-79-9</td>
<td>3-8</td>
</tr>
<tr>
<td>Electrolyte</td>
<td>--</td>
<td>--</td>
<td>10-20</td>
</tr>
<tr>
<td>Al Lamination Film</td>
<td>--</td>
<td>--</td>
<td>&lt;8</td>
</tr>
<tr>
<td>Silicon Rubber</td>
<td>--</td>
<td>63394-02-5</td>
<td>&lt;5</td>
</tr>
<tr>
<td>PVC</td>
<td>[-CH2-CHCl-]n</td>
<td>9002-86-2</td>
<td>&lt;3</td>
</tr>
</tbody>
</table>

Section 3 - Hazards Identification

Primary routes of entry
Skin contact: No
Skin absorption: No
contact: No
Inhalation: No
Ingestion: No
Signs and Symptoms of Exposure
Skin Contact No effect under routine handling and use
Skin absorption No effect under routine handling and use
Eye Contact No effect under routine handling and use
Inhalation No effect under routine handling and use
Reported as carcinogen Not applicable

<Caution>
Risk of exposure occurs only if the battery is mechanically or electrically abused. May explode in a fire, which could release hydrogen fluoride gas and smoke. Use extinguishing media suitable for materials burning in fire.

**Section 4 - First Aid Measures**

<table>
<thead>
<tr>
<th>Inhalation</th>
<th>Not a health hazard.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye contact</td>
<td>Not a health hazard.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>Not a health hazard.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>If swallowed, obtain medical attention immediately.</td>
</tr>
</tbody>
</table>

<Caution>

**IF EXPOSURE TO INTERNAL MATERIALS WITHIN CELL DUE TO DAMAGED OUTER Al CASING, THE FOLLOWING ACTIONS ARE RECOMMENDED:**

**Inhalation**
If inhaled, remove to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth and seek medical attention.

**Eye & Skin contact**
In case of contact, immediately flush eyes or skin with copious amounts of water for at least 15 minutes while removing contaminated clothing and shoes; seek medical attention.

**Ingestion**
Drink milk / water and induce vomiting; seek medical attention.

**Section 5 - Fire Fighting Measures**

**General Hazard**
Cell is not flammable but internal organic material will burn if the cell is incinerated. Combustion products include, but are not limited to hydrogen fluoride, carbon monoxide and carbon dioxide.

**Extinguishing Media**
Use extinguishing media suitable for the materials that are burning.

**Special Firefighting Instructions**
If possible, remove cell(s) from fire fighting area. If heated above 130°C, Cell(s) may explode/swell or leak.
Firefighting Equipment
Use NISH/MSHA approved full-face self-contained breathing apparatus (SCBA) with full protective gear.

Section 6 - Accidental Release Measures

Procedures of Personal Precautions
Put on adequate protective equipment. Do not breathing vapour.
Environmental precautions
Keep away from drains, surface-water, ground-water and soil.
Methods for Cleaning Up
Collect as much as possible in a clean container for disposal. Disposal according to local regulations.
On Land
Place material into suitable containers and call local fire/police department.
In Water
If possible, remove from water and call local fire/police department.

Section 7 - Handling and Storage

Handling
No special protective clothing required for handling individual cells.
Storage
Store away from sources of heat or ignition. Over high temperature will make the cell inflate, melt the separator, causing short circuit.
Storage area should be cool, dry, well ventilated, out of direct sunlight, away from metal or sharp edge, such as keys, pins, or wires.

Section 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.
Eye/face protection
Not necessary under conditions of normal use.
Foot protection
Not necessary under conditions of normal use.
Gloves
Not necessary under conditions of normal use.
Section 9 - Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Silvery-white, solid battery.</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Vapor Pressure (mmHg)</td>
<td>N/A</td>
</tr>
<tr>
<td>Vapor Density (air=1)</td>
<td>N/A</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>N/A</td>
</tr>
<tr>
<td>Solubility in water</td>
<td>Insoluble</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>N/A</td>
</tr>
<tr>
<td>Density</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Section 10 - Stability and Reactivity

Reactivity
None during normal operating or handling conditions.

Hazardous decomposition
None during normal operating conditions. If Cells are leaked, hydrogen fluoride, carbon monoxide and carbon dioxide may be released.

Incompatibilities
None during normal operation. Avoid exposure to heat, open flame and corrosives.

Conditions to avoid
Don’t short terminals and immerse in water or pour.
Don’t heat or throw in fire and solder.
Don’t attempt to crush or drop.
Don’t put it in microwave oven, oven or pressure container.

Section 11 - Toxicological Information

This product does not elicit toxicological properties during routine handling and use.
Sensitization                  No
Teratogenicity                No
No Reproductive toxicity     No
Acute toxicity                No

If the cells are leaked through misuse or damage, discard immediately. Internal components of cell are irritants and sensitizer.

Section 12 - Ecological Information

When promptly used or disposed the battery does not present environmental hazard. When disposed, keep away from water, rain and snow.
Section 13 - Disposal Considerations

Methods of disposal
Lithium-ion Polymer battery contains no toxic metals, only naturally occurring trace elements. It is advisable to consult with local authorities as disposal regulations may vary dependent on location.

Dangers
Incinerating and disposing of the cell in fire are strictly prohibited, because it may cause rupture.
Fully charged battery or only partially discharged batteries may cause fire or explosion when disposed improperly. Fully discharged the battery before disposal.

Section 14 - Transport Information

The batteries are considered to be non-dangerous by the International Civil Aviation Galvanization (ICAO) and the International Air Transport Association (IATA), because they can be classified as “Not Restricted” which is “Comply with Section II of PI965- 967” of IATA DGR 56th Edition. The batteries are considered to be non-dangerous by the International Maritime Dangerous Goods regulation (IMDG). The Watt-hour rating of all batteries is not more than 100Wh. Each battery of the type is proven to meet the requirements of each test in the UN Manual of Tests and Criteria, Part III, subsection 38.3.

Transport Fashion: By air. By sea By ,railroad, By road

Section 15 - Regulatory Information

Law Information
〈Dangerous Goods Regulation〉
〈Recommendations on the Transport of Dangerous Goods Model Regulations〉
〈International Maritime Dangerous Goods〉
〈Technical Instruction for the safe transport Dangerous Goods〉
〈Classification and Code of Dangerous Goods〉
〈Occupational Safety and Health Act〉 (OSHA)
〈Toxic Substances Control Act〉 (TSCA)
〈Consumer Product Safety Act〉 (CPSC)
〈Federal Environmental Pollution Act〉 (FEPCA)
〈The Oil Pollution Act〉 (OPA)
〈Superfund Amendments and reauthorization Act Title III (302/311/312/313)〉 (SARA)
〈Resource Conservation and Recovery Act〉 (RCRA)
〈Safety Drinking Water Act〉 (CWA)
〈California Proposition 65〉
〈Code of Federal Regulation〉 (CFR)

In accordance with all Federal, State, Local laws
Section 16 - Additional Information

The above information is based on the data of which we are aware and is believed to be correct as of the data hereof. Since this information may be applied under conditions beyond our control and with which may be unfamiliar and since data made available subsequent to the data hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

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