

# Material Safety Data Sheet

MSDS No. CYBER-2015-02

## Section 1 – Chemical Product and Company Identification

Product name Lithium Ion Polymer Battery( P/N:SDL352054,3.7V/350mAh 1.295Wh)  
(Capacity rating  $\leq$  6000mAh, Watt-hour rating <100Wh)

Manufacturer Cyber-Power Electronic Corp.

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## Section 2 – Composition/Information on Ingredient

| Chemical Name                  | Chemical Formula or  | CAS No.    | Content (wt%) |
|--------------------------------|--|------------|---------------|
| Lithium Cobalt Oxide           | LiCoO <sub>2</sub>   | 12190-79-3 | 30-50         |
| Carbon / Graphite              | C  | 7440-44-0  | 15-25         |
| Aluminum Foil                  | Al   | 7429-90-5  | 3-10          |
| Copper Foil                    | Cu   | 7440-50-8  | 7-14          |
| PVDF (Polyvinylidene Fluoride) | (C <sub>2</sub> H <sub>2</sub> F <sub>2</sub> ) <sub>n</sub> | 24937-79-9 | 3-8           |
| Electrolyte                    | --   | --         | 10-20         |
| Al Lamination Film             | --   | --         | <8            |
| Silicon Rubber                 | --   | 63394-02-5 | <5            |
| PVC                            | [-CH <sub>2</sub> -CHCl-] <sub>n</sub>                       | 9002-86-2  | <3            |

## Section 3 - Hazards Identification

Primary routes of entry

Skin contact No

Skin absorption No

No Eye contact No

Inhalation No

Ingestion No

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### 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

|              |   |
|--------------|---|
| Inhalation   | Not a health hazard.                                |
| Eye contact  | Not a health hazard.                                |
| Skin contact | Not a health hazard.                                |
| Ingestion    | If swallowed, obtain medical attention immediately. |

#### <Caution>

IF EXPOSURE TO INTERNAL MATERIALS WITHIN CELL DUE TO DAMAGED OUTER AI 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.

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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

|                      |                               |
|----------------------|-------------------------------|
| Appearance           | Silvery-white, solid battery. |
| Odor                 | Odorless                      |
| Vapor Pressure(mmHg) | N/A                           |
| Vapor Density(air=1) | N/A                           |
| Boiling Point        | N/A                           |
| Solubility in water  | Insoluble                     |
| Specific Gravity     | N/A                           |
| Density              | N/A                           |

## 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.

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## 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 56<sup>th</sup> 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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