



Rep No. CHE13-MAE010206M

MSDS Report

Name of sample: POLYMER LITHIUM ION BATTERY

Client unit: SHENZHEN OUNENG TECHNOLOGY CO., LTD

Address: 5/F, D BUILDING, SOUTH OF INDUSTRIAL ZONE, YOUSONG SHUIDOULAOWEI VILLAGE, LONGHUA STREET, BAOAN DISTRICT, SHENZHEN CITY, CHINA

Inspected by: Kevin Yu
Kevin Yu

Date: January 29, 2013





HEALTH	2
FIRE	2
REACTIVITY	0

Material Safety Data Sheet

Printing date January 29, 2013

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1 Identification of the substance/preparation and of the company/undertaking

· **Product details**

· **Trade name:** Polymer lithium ion battery

· **Model No.:** 563040K

· **Trade uses:** Communication mobile phone, wireless telephone, walkie-talkies, digital photo (taken) camera, MP4/ MP3, HM, reading machine, POTABLE DVD,; Bluetooth headset, laptops, tablet PC, handheld terminal digital products.

· **Manufacturer/Supplier:**

SHENZHEN OUNENG TECHNOLOGY CO., LTD

5/F, D BUILDING, SOUTH OF INDUSTRIAL ZONE, YOUSONG SHUIDOULAOWEI VILLAGE,
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· **MSDS Code:** CHE13-MAE010206M

2 Composition/information on ingredients

· **Chemical characterization**

· **Dangerous components:**

7429-90-9	Aluminum plastic	25.7%
12190-79-3	LiCoO ₂	26.2%
24937-79-7	PVDF	0.92%
/	Acentylene black	1.3%
7782-42-5	Graphite	11.6%
12627-85-9	SBR	0.3%
9000-11-7	CMC	0.2%
21324-40-3	Electrolyte(EC+DMC+EMC)	18.25%
7440-50-8	Copper	7.1%
7429-90-5	Aluminum	5.1%
7440-02-0	Nickel	3.33%

Remark:

Lithium Cobalt (III) Oxide (CAS No. 12190-79-3)

Synonym: Lithiated metal oxide (LiCoO₂)

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3 Hazards identification**· Hazard description:**

Harmful

· Information pertaining to particular dangers for man and environment:

The product has to be labeled due to the calculation procedure of international guidelines.

Irritating to skin.

Risk of serious damage to eyes.

May cause sensitization by inhalation and skin contact.

· Classification system:

The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

4 First aid measures**· After inhalation:**

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

· After skin contact:

Immediately wash with water and soap and rinse thoroughly.

· After eye contact:

Rinse opened eye for several minutes under running water. Then consult a doctor.

· After swallowing:

If symptoms persist consult doctor.

5 Fire – fighting measures**· Suitable extinguishing agents:**

CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam. Use fire fighting measures that suit the environment.

· Special hazards caused by the material, its products of combustion or resulting gases:

Emits toxic fumes under fire conditions

· Protective equipment: Wear self-contained respiratory protective device.

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6 Accidental release measures

Person related measures:

Wear personal protective equipment adapted to the situation (protection gloves, face protection, breathing protection).

Environment protection measures:

Bind released ingredients with powder (rock salt, sand).

Dispose off according to the local law and rules.

Avoid leached substances to penetrate into the earth, canalization or water.

Treatment for cleaning:

If battery casing is dismantled, small amounts of electrolyte may leak. Package the battery tightly including ingredients together with lime, sand or rock salt. Then clean with water.

7 Handling and storage

Guideline for safe handling:

Always follow the warning information on the batteries and in the manuals of devices. Only use the recommended battery types.

Keep batteries away from children.

For devices to be used by children, the battery casing should be protected against unauthorized access.

Unpacked batteries shall not lie about in bulk.

In case of battery change always replace all batteries by new ones of identical type and brand.

Do not swallow batteries.

Do not throw batteries into water.

Do not throw batteries into fire.

Avoid deep discharge.

Do not short-circuit batteries

Use recommended charging time and current.

Storage:

Storage preferably at room temperature (approx. 20 °C).

Avoid large temperature changes.

Do not store close to heating devices.

Avoid direct sunlight. At higher temperature the electrical performance may be reduced.

Storage of unpacked batteries can cause short circuit and heat generation.

Storage of large amounts: If possible, store the batteries in original packaging (because of short circuit protection and exemptions according to transport regulations).

A fire alarm is recommended.

For automatic fire extinction consider chapter 5 "Fire fighting measures".

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8 Exposure controls/personal protection

· Under normal conditions (during charge and discharge) release of ingredients does not occur. In the event of release of ingredients, the following TLVs have to be considered (U.S.A.):

Material TLV*

Cobalt and compounds: 0.1 mg/m³ (TWA)

Graphite: C 5.0 mg/m³ (TWA)

*Source: OSHA CFR 29 1910.1000 Table Z-1, 2 or 3 3-01-2007.

9 Physical and chemical properties

General Information

Form: Battery

Color: Silvery white

Odor: Odorless

pH: Not applicable unless individual components exposed

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

· Thermal decomposition / conditions to be avoided:

No decomposition if used according to specifications.

· Dangerous reactions

No dangerous reactions known.

· Dangerous products of decomposition:

No dangerous decomposition products known.

11 Toxicological information

Under normal conditions (during charge and discharge) release of ingredients does not occur. In case of accidental release see information in chapter 2, 3, 4.

12 Ecological information

· General notes:

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

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13 Disposal considerations

Lithium ion batteries are classified by the federal government as non-hazardous waste and are safe for disposal in the normal municipal waste stream. These batteries, however, do contain recyclable materials and are accepted for recycling by the Rechargeable Battery Recycling Corporation's (RPBC) Battery Recycling Program. Please go to the RPRC website at www.rbrc.org for additional information.

14 Transport information

Lithium ion batteries are tested according to IATA dangerous goods regulations 54th edition and all applicable carrier and government regulations and 38.3 of the "UN Manual of Tests and Criteria" for compliance with the requirements of special provisions ADR 188, IMDG 188, DOT / 49 CFR §173.102, 49 CFR Part 171 Subpart C. 49 CFR Parts 171–180, 49 CFR 175 and the requirements of IATA DGR packing instruction 966 Section II. Each package is labeled with lithium battery handling label UN CLASS: UN3481. Positive test results required for classification as "non-restricted" are stated in dedicated "Declarations of Conformity". In addition, the following conditions for non-dangerous goods classification are fulfilled by our products in original packaging. Each consignment is accompanied with a document with an indication that:

- the package contains lithium ion cells;
- the package must be handled with care, and that a flammability hazard exists if the package is damaged;
- special procedures must be followed in the event the package is damaged, to include inspection and repacking if necessary; and a telephone number for additional information.

Transport fashion: by air, by sea, by rail, by highway.

15 Regulatory information

·Sara

· Section 355 (extremely hazardous substances):

None of the ingredient is listed.

· Section 313 (Specific toxic chemical listings):

None of the ingredient is listed.

· TSCA (Toxic Substances Control Act):

21324-40-3	Lithium hexafluorophosphate
96-49-1	Ethylene carbonate

Material Safety Data Sheets (MSDS) are a sub-requirement of the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard, 29 CFR Subpart 1910.1200. This Hazard Communication Standard does not apply to various subcategories including anything defined by OSHA as an "article". OSHA has defined "article" as a manufactured item other than a

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fluid or particle; (i) which is formed to a specific shape or design during manufacture; (ii) which has end use function(s) dependent in whole or in part upon its shape or design during end use; and (iii) which under normal conditions of use does not release more than very small quantities, e.g. minute or trace amounts of a hazardous chemical, and does not pose a physical hazard or health risk to employees.

Because all of our batteries are defined as "articles", they are exempted from the requirements of the Hazard Communication Standard.

16 Other 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.