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## MSDS Report

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Report No.: A001R20170224031

Samples Lithium Battery

Model ER18505

Applicant Guangxi Ramway New Energy Corp.,Ltd

Issue Date 2017-03-09

深圳市鑫宇环检测有限公司

Attestation of Global Compliance (Shenzhen) Co., Ltd.

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## Material Safety Data Sheet

According to ISO11014:2009 &amp; GB/T16483-2008

### Section 1 - Chemical Product and Company Identification

**Chemical product information****Sample Description:** Lithium Battery**Sample Model:** ER18505**Sample Receiving Date:** 2017-02-24**Sample Uses:** Back-up source**Company information****Manufacturer:** Guangxi Ramway New Energy Corp.,Ltd**Address:** No.9, Xingyu Road, Industrial Park, Wuzhou, Guangxi, China**Tel:** 0774-3930688**Fax:** 0774-3935117**Post code:** 543000**Emergency telephone:** 0774-3930688**E-mail:** service@ramwaycn.com

### Section 2 - Hazards Identification

**Emergency overview:** No information available.**Classification according to GHS:** Not a dangerous substance according to GHS.

Label elements	
Hazard pictogram(s)	No available
Signal word	No available
Hazard statement(s)	No available
Precautionary statement(s)	
Prevention	No available
Response	No available
Disposal	No available

**Physical and chemical risk:** No information available.**Health hazard:** No information available.**Environmental hazards:** No information available.**Other hazards:** No information available.

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### Section 3 - Composition, Information on Ingredients

**Classification of the substance or mixture:**
☐ substance ☒ mixture

Chemical Composition	CAS No.	EC#	Weight (%)
Thionyl chloride	7719-09-7	231-748-8	28.60
Lithium Chloride	7447-41-8	231-212-3	2.15
Aluminum trichloride anhydrous	7446-70-0	231-208-1	6.75
Lithium piece	7439-93-2	231-102-5	3.13
Acetylene black	1333-86-4	231-153-3	3
Stainless steel shell	---	---	55

Note: CAS: Chemical Abstracts Service (Division of the American Chemical Society).

EC#: European Inventory of Existing Commercial Chemical Substances

“---”: No Data

### Section 4 - First Aid Measures

**General information:** No special measures required.

**After inhalation:** Remove victim to fresh area. Administer artificial respiration if breathing is difficult. Seek medical attention.

**After skin contact:** Remove contaminated clothing and shoes. Immediately wash with water and soap and rinse thoroughly. Wash clothing and shoes before reuse. If irritation occurs, get medical attention.

**After eye contact:** Flush eyes with plenty of water for several minutes while holding eyelids open. Get medical attention if irritation persists.

**After swallowing:** Do not induce vomiting. Get medical attention.

**The main symptoms:** No relevant details information.

**Health effects:** No relevant details information.

**To protect the rescuers advice:** No relevant details information.

**To the doctor's advice:** Need timely medical treatment and special symptoms, no relevant details information.

### Section 5 - Fire Fighting Measures

**Suitable extinguishing agents:** Use extinguishing agent suitable for local conditions and the surrounding environment. Such as dry powder, CO<sub>2</sub>.

**Special hazards arising from the substance or mixture:** Battery may burst and release hazardous

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decomposition products when exposed to a fire situation. Lithium ion batteries contain flammable electrolyte that may vent, ignite and produce sparks when subjected to high temperature(>150°C(302°F)), when damaged or abused (e.g. mechanical damage or electrical overcharging); may burn rapidly with flare-burning effect; may ignite other batteries in clothes proximity.

**Attention extinguishing method and protective measures:** Wear self-contained respirator. Wear fully protective impervious suit.

## Section 6 - Accidental Release Measures

**Homework personnel protective measures, protective equipment and emergency disposal procedures:**

Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation

**Environmental precautions:** Do not allow material to be released to the environment without proper governmental permits.

**Steps to be taken in case material is spilled or released and Waste disposal method:** Remove ignition sources, evacuate area. Sweep up using a method that does not generate dust. Collect as much of the spilled material as possible, placed the spilled material into a suitable disposal container. Keep spilled material out of sewers, ditches and bodies of water. All waste must refer to the United Nations, the national and local regulations for disposal.

**To prevent the secondary disasters prevention measures:**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

## Section 7 - Handling and Storage

**Precautions for safe handling:** Consumption of food and beverage should be avoided in work areas. Wash hands with soap and water before eating, drinking. Ground containers when transferring liquid to prevent static accumulation and discharge.

**Information about fire and explosion protection:** Batteries may explode or cause burns, if disassembled, crushed or exposed to fire or high temperatures. Do not short or install with incorrect polarity.

**Conditions for safe storage, including any incompatibilities:** Requirements to be met by storerooms and receptacles. Store in a cool, dry, well-ventilated place. Keep away from heat, avoiding the long time of sunlight.

## Section 8 - Exposure Controls, Personal Protection

### Occupational exposure limit

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**Ingredients with limit values that require monitoring at the workplace:** no relevant details information.

**Biological limit:** no relevant details information.

**Detection:** no relevant details information.

**Engineering control**



**General protective and hygienic measures:** The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed. Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

**Respiratory Protection:** Use suitable respirator when high concentrations are present.

**Personal Protection**

Protection of hands	Eye protection
 <i>Protective gloves</i>	 <i>Tightly sealed goggles</i>

## Section 9 - Physical and Chemical Properties

Information on basic physical and chemical properties	
Appearance	White
Form	Cylinder
Odour	Odorless.
Electrical properties information	
Voltage	3.6V
Electric capacity	4Ah
Watt-hour	14.4Wh

## Section 10 - Stability and Reactivity

**Chemical stability:** Stable in normal circumstances.

**Possibility of hazardous reactions:** Data not available.

**Conditions to Avoid:** Flames, sparks, and other sources of ignition, incompatible materials.

**Incompatibilities:** Oxidizing agents, acid, base.

**Hazardous Combustible Products:** Carbon monoxide, carbon dioxide, lithium oxide fumes.

## Section 11 - Toxicological Information

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**Information on toxicological effects**

**Acute toxicity LD/LC50 Values relevant for classification:** Not available.

Note: LC50: lethal concentration, 50 percent kill

LD50: lethal dose, 50 percent kill

**Skin irritation/corrosion:** No further relevant information available.

**Eyes stimulus/corrosion:** No further relevant information available.

**Breathing or skin irritation:** No further relevant information available.

**Germ cell respectively:** No further relevant information available.

**Carcinogenicity:** No further relevant information available.

**Reproductive toxicity:** No relevant details information.

**Specific target organ system toxicity disposable contact:** No further relevant information available.

**Specific target organ system toxicity, repeated contact:** No further relevant information available.

**Inhalation hazard:** No further relevant information available.

**Potentially harmful effects:** No further relevant information available.

## Section 12 - Ecological Information

**Ecological toxicity**

**Aquatic toxicity:** No further relevant information available.

**Persistence and degradability:** No further relevant information available.

**Behaviour in environmental systems**

**Bioaccumulative potential:** No further relevant information available.

**Mobility in soil:** No further relevant information available.

**Ecological effects****Additional ecological information**

**General notes:** Do not allow material to be released to the environment without proper governmental permits.

**Other adverse effects:** No further relevant information available.

## Section 13 - Disposal Considerations

**Waste treatment methods and Recommendation:** Consult state, local or national regulations to ensure proper disposal.

**Uncleaned packaging and Recommendation:** Disposal must be made according to official regulations.

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## Section 14 - Transport Information

	IATA	IMDG
<b>UN Number</b>	UN3480	N/A
<b>UN Proper shipping name</b>	Lithium Metal Batteries	N/A
<b>Transport hazard class(es)</b>	9	N/A
<b>Packing group</b>	N/A	N/A
<b>Marine pollutant</b>	No	

Note: IATA: International Air Transport Association

IMDG: International Maritime Dangerous Goods

**Transport information:** The Lithium Battery (ER18505 3.6V 4Ah) has passed the test UN38.3, according to the report ID: A001R20160201016.

According to the Packing Instruction 967 section II of IATA DGR 58<sup>th</sup> Edition for transportation. The report ID which provided by Beijing DGM Air Transport Technology Co.,Ltd: PEKGZ20170306004GC0001.

According to the special provision 188 of IMDG (37-14) or the <<Recommendations On The Transport Of Dangerous Goods-Model Regulations>> (19<sup>th</sup>). The package is subjected to non-restricted goods.

More information concerning shipping, testing, marking and packaging can be obtained from Label master at <http://www.labelmaster.com>.

Separate Lithium-ion batteries when shipping to prevent short-circuiting. They should be packed in strong packaging for support during transport. Take in a cargo of them without falling, dropping, and breakage. Prevent collapse of cargo piles and wet by rain.

**Note: Batteries weight in the package<5kg(By air, Batteries installed in equipment).**

**Transport Fashion:** By air, by sea, by railway, by road.

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## Section 15 - Regulatory Information

**This Material Safety Data Sheet complies with the requirements of Regulation (EC) No. 1907/2006.**  
**The following laws, regulations, rules and standards of the substance or mixture of management to do the corresponding provisions:**

Composition	CAS No.	IECSC	TSCA	DSL/NDSL	EINECS/ ELINCS/ NLP
Thionyl chloride	7719-09-7	Listed	Listed	Listed	Listed
Lithium Chloride	7447-41-8	Listed	Listed	Listed	Listed
Aluminum trichloride anhydrous	7446-70-0	Listed	Listed	Listed	Listed
Lithium piece	7439-93-2	Listed	Listed	Listed	Listed
Acetylene black	1333-86-4	Listed	Listed	Listed	Listed

Note: EINECS: European Inventory of Existing Chemical Substances

ELINCS: European List of Notified Chemical Substances

DSL: Canadian Domestic Chemical Substances

IECSC: Inventory of Existing Chemical Substances in China

NDSL: Canadian non-domestic Chemical Substances

TSCA: Toxic Substances Control Act of USA

## Section 16 - Additional Information

### Declare to reader

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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\*\*\*End of report\*\*\*

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