

Report No.: 104013021816D~1

# **MSDS** Report

Sample Description

& Model

Cylindrical Lithium-ion Battery(F®18650 2500)

**Applicant** 

First New Energy Co., Ltd

Address

Jiangxi Yichun Economic Development Zone

No.: I04013021816D Code: wq3m04



www.ponytest.com

CHotline 400-819-5688

北京市海淀区苏州町19-3 分為初大館 Add:

(010) 82618116

天津市南开区红旗路贏賽 大厦10层 (022) 27360730

Add: Tel:

宁波市岛新区新晖路150号 二期4号楼4层 (0574)87736499

(0532) 88706866

青岛市崂山区株洲路190 号6层

广州市海珠区敦和路189号 海珠科技図3号楼7层。 (020)89224310

深圳市南山区创业路中兴 工业城6栋1层 (0755) 26050909 上海市條汇区柱平路680号 35号楼4层 (021) 64851999



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# **Material Safety Data Sheet**

According to ISO11014:2009 & GB16483-2008

# Section 1 - Chemical Product and Company Identification

Chemical product identification

Sample Description: Cylindrical Lithium-ion Battery

Sample Model: F®18650 2500

Sample Photo:





Authenticate the photo on original report only

Company identification

Manufacturer: First New Energy Co., Ltd

Address: Jiangxi Yichun Economic Development Zone

Tel: 0795-3666188 Fax: 0795-3666118 Post code: 336000

Further Information obtainable from Emergency telephone: 0795-3666188

E-mail: py\_kk1985@126.com

## Section 2 - Hazards Identification

No harm at the normal use. If contact the electrolyte in the battery, reference as follows:

Classification of the substance or mixture

Classification according to GHS

Acute toxicity, Oral (Category 4)

Acute toxicity, Dermal (Category 3)

Skin, irritate (Category 1B)

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Tel:

(010) 82618116

(022) 27360730

天津市南开区红旗路赢赛 大厦10层

青島市朝山区株洲路190 号6层 (0532) 88706866



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Eves, irritate (Category 1)

Label elements

Labelling according to Regulation (EC) No 1272/2008[CLP]

Hazard pictogram(s):

Signal word:

Danger

Hazard statement(s):

H311: Toxic in contact with skin.

H314: Causes severe skin burns and eye damage

H302: Harmful if swallowed.

Precautionary statement(s):

Prevention:

P280: Wear protective gloves/protective clothing/eye protection

/ face protection.

Response:

P312: Call a POISON CENTER or doctor/ physician if you feel

P302 + P350 - IF ON SKIN: Gently wash with plenty of soap and

water

P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT

induce vomiting

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy

Disposal:

P501: Dispose of contents/container in accordance with

local/national regulations

Other hazards

No information available.

# Section 3 - Composition, Information on Ingredients

**Chemical characterization: Mixture** 

| Chemical Composition                | CAS No.    | EC#       | <b>Weight (%)</b> 36.1 15.8 |  |
|-------------------------------------|------------|-----------|-----------------------------|--|
| Lithium Manganese Nickel And Cobalt |            |           |                             |  |
| Graphite                            | 7782-42-5  | 231-955-3 |                             |  |
| Rubber                              | 69028-37-1 |           | 0.88                        |  |
| Acetylene Black 1333-86-4           |            | 231-153-3 | 0.91                        |  |
| SBR                                 | 9003-55-8  |           | 0.47                        |  |

Add:

CHotline 400-819-5688 上海市徐汇区柱平路680号 35号模4层 (021) 64851999

北京市海淀区苏州街49-3 号流智大厦 Add:

(010) 82618116

天津市南开区红旗路温瓷 宁波市高新区新辉路150号 二期4号楼4层 (0574)87736499 (022) 27360730

深圳市南山区创业路中兴 工业城6栋1层 (0755) 26050909

青岛市崂山区株洲路190 号6层 (0532) 88706866

广州市海珠区敦和路189号 海珠科技闘3号楼7层 (020) 89224310



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| Lithium Hexafluorophosphate | 21324-40-3 | 244-334-7 | 1.78<br>3.51 |
|-----------------------------|------------|-----------|--------------|
| EC                          | 96-49-1    | 202-510-0 |              |
| EMC                         | 623-53-0   | 3-53-0    |              |
| DMC                         | 616-38-6   | 210-478-4 | 3.14         |
| Copper                      | 7440-50-8  | 231-159-6 | 8.3          |
| Aluminum                    | 7429-90-5  | 231-072-3 | 3.5          |
| Nickel                      | 7440-02-0  | 231-853-9 | 0.22         |

## Section 4 - First Aid Measures

## Description of first aid measures

General information No special measures required.

### After eye contact

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

#### 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 inhalation

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

#### After swallowing

Do not induce vomiting. Get medical attention.

## Information for doctor:

Indication of any immediate medical attention and special treatment needed No further relevant information available.

# Section 5 - Fire Fighting Measures

Flammability: Not available.

**Extinguishing media** 

Suitable extinguishing agents

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Use extinguishing agent suitable for local conditions and the surrounding environment. Such as dry powder, CO2.

### Special hazards arising from the substance or mixture

Battery may burst and release hazardous 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.

### Advice for firefighters

Protective equipment: Wear self-contained respirator. Wear fully protective impervious suit.

### Section 6 - Accidental Release Measures

### Personal precautions, protective equipment and emergency 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

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.

#### Waste disposal method

All waste must refer to the United Nations, the national and local regulations for disposal.

#### Reference to other sections

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

#### Handling

### Precautions for safe handling

Consumption of food and beverage should be avoided in work areas.



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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.

Information about storage in one common storage facility

Keep away from heat, avoiding the long time of sunlight.

Further information about storage conditions

Keep container tightly sealed.

Specific and use

No further relevant information available.

# Section 8 - Exposure Controls, Personal Protection

Control parameters

| Ingredients with limit | values that require monitoring at the workplace: |
|------------------------|--|
| 12190-79-3 Lithium C   | Cobalt Oxide                                     |
| TLV (USA)              | 0.02mg/m <sup>3</sup> .                          |
| MAK(Germany)           | 0.1mg/m <sup>3</sup> .                           |

#### **Exposure controls**

Personal protective equipment

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

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北京市海淀区苏州街49-3 号盈智大厦 Add: (010) 82618116

Tel: 天津市南开区红旗路臺賽 大厦10层 Add: (022) 27360730 Tel:

(hotline 400-819-5688) 上海市徐汇区柱平路680号 35号楼4层 (021) 64851999

宁被市高新区新库路150号 二期4号楼4层 (0574)87736499

深圳市南山区创业路中兴 工业城6栋1层 (0755) 26050909

青岛市崂山区株洲路190 号6层 (0532) 88706866

广州市海珠区敦和路189号 海珠科技园3号楼7层 (020)89224310



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Eye protection



Tightly sealed goggles

# Section 9 - Physical and Chemical Properties

Information on basic physical and chemical properties

**General information** 

Green. Appearance:

Cylindrical. Form:

Odorless. Odour:

Not available. pH:

Change in condition

Not available. **Melting point:** 

Not available. **Boiling point:** 

Not available. Freezing point

Not available. Flash point:

Not available. Flammability:

Not available. Ignition temperature:

Not available. Decomposition temperature:

Not available. Self-igniting:

Not available. Danger of explosion:

**Explosion limits** 

Not available. Lower:

Not available. Upper:

Not available. Oxidizing properties:

Not available. Vapour pressure:

Not available. Density:

Not available. Relative density:

Add:



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Not available. Vapour density:

Not available. **Evaporation rate:** 

Not available. Solubility in/Miscibility with water:

Not available. n-octanol/water partition coefficient:

Not available. **Viscosity** 

Not available. Dynamic: Not available.

**Kinematic:** 

Other information:

3.7V Voltage

2500mAh **Electric capacity** 

## Section 10 - Stability and Reactivity

Reactivity: Data not available. Chemical stability: Stable.

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.

**Hazardous Polymerization** 

N/A.

## Section 11 - Toxicological Information

#### Information on toxicological effects

**Acute toxicity** 

LD/LC50 Values relevant for classification:

Not available.

### Primary irritant effect

No further relevant information available.

Sensitization:

No further relevant information available.

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## Additional toxicological information:

Toxicological, metabolism and distribution:

No further relevant information available.

Acute effects (acute toxicity, irritation and corrosivity):

No further relevant information available.

CMR effects (carcinogenity, mutagenicity and toxicity for reproduction):

No further relevant information available.

## Section 12 - Ecological Information

**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

Recommendation:

Consult state, local or national regulations to ensure proper disposal.

Uncleaned packaging

Recommendation: Disposal must be made according to official regulations.

## Section 14 - Transport Information

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| UN Number                    | 5.25.357              |  |  |
|------------------------------|-----------------------|--|--|
| IATA                         | UN3480                |  |  |
| IMDG                         | None                  |  |  |
| Model Regulation             | None                  |  |  |
| UN Proper shipping name      |                       |  |  |
| IATA                         | Lithium Ion Batteries |  |  |
| IMDG                         | None                  |  |  |
| Model Regulation             | None                  |  |  |
| Transport hazard class(es)   | 1                     |  |  |
| IATA                         | 9                     |  |  |
| IMDG                         | None                  |  |  |
| Model Regulation             | None                  |  |  |
| Packing group                |                       |  |  |
| IATA                         | None                  |  |  |
| IMDG                         | None                  |  |  |
| Model Regulation             | None                  |  |  |
| Environmental hazards        |                       |  |  |
| Marine pollutant:            | No                    |  |  |
| Special precautions for user | Not applicable.       |  |  |

Transport information: The Cylindrical Lithium-ion Battery (F®18650 2500) has passed the test UN38.3, according to the report ID: I04013021421D and I04013021421D~1.

According to the Packing Instruction 965 section II of IATA DGR 55th Edition for transportation.

According to the special provision 188 of IMDG (36-12). The products are not subject to dangerous 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.

Transport Fashion: By air, by sea.

## Section 15 - Regulatory Information

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Add: Tel:

CHotline 400-819-5688

北京市海淀区苏州街49-3 号盈智大厦 Add: Tel: (010) 82618116

(021) 64851999

宁波市高新区新库路150号 二期4号榜4层

上海市徐江区桂平路680号 深圳市南山区创业路中兴 35号楼4层 工业城6栋1层 工业域6株1层 (0755) 26050909

育岛市崂山区株洲路190 号6层 (0532) 88706866

天津市南开区红旗路赢衰 大厦10层 (022) 27360730 (0574) 87736499

广州市海珠区教和路189号 海珠科技园3号楼7层 (020) 89224310



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This Material Safety Data Sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Safety, health and environmental regulations/legislation specific for the substance or mixture

| Composition                 | CAS#       | TSCA   | EC#       | EINECS     |
|-----------------------------|------------|--------|-----------|------------|
| Graphite                    | 7782-42-5  | Listed | 231-955-3 | Listed     |
| Rubber                      | 69028-37-1 | Listed |           | Not Listed |
| Acetylene Black             | 1333-86-4  | Listed | 231-153-3 | Listed     |
| SBR                         | 9003-55-8  | Listed |           | Not Listed |
| Lithium Hexafluorophosphate | 21324-40-3 | Listed | 244-334-7 | Listed     |
| EC                          | 96-49-1    | Listed | 202-510-0 | Listed     |
| EMC                         | 623-53-0   | Listed |           | Not Listed |
| DMC                         | 616-38-6   | Listed | 210-478-4 | Listed     |
| Copper                      | 7440-50-8  | Listed | 231-159-6 | Listed     |
| Aluminum                    | 7429-90-5  | Listed | 231-072-3 | Listed     |
| Nickel                      | 7440-02-0  | Listed | 231-853-9 | Listed     |

## Section 16 - Additional Information

#### Abbreviations and acronyms

CLP:

EU regulation (EC) No 1272/2008 on classification, labelling and packaging

of chemical substances and mixtures.

CAS:

Chemical Abstracts Service (Division of the American Chemical Society).

ACGIH:

American Conference of Governmental Industrial Hygienists

TLV:

Threshold Limit Value

IATA:

International Air Transport Association

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上海市徐汇区桂平路680号 35号楼4层 (021) 64851999 宁波市高新区新辉路150号 二期4号楼4层

深圳市南山区创业路中兴 工业域6栋1层 (0755) 26050909

青島市崂山区株洲路190 号6层 (0532) 88706866

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Pony Testing International Group

IMDG: International Maritime Dangerous Goods

lethal concentration, 50 percent kill LC50:

LD50: lethal dose, 50 percent kill TWA Time Weighted Average

**TSCA** United States Toxic Substances Control Act Section 8(b) Inventory **EINECS** European Inventory of Existing Commercial Chemical Substances Recommendations on the Transport of Dangerous Goods Model Model

Regulation Regulations

#### 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.

Prepared by:

MSDS Creation Date: April 10, 2014

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

Add:

Tel: