Pony Testing International Group

Report ID: MTI9TVDG7115257U3

# MSDS

| | |
|---|---|
| Sample Name & Model | Rechargeable Li-ion Battery 590930PN2<br>(3.7V 130mAh 0.49Wh) |
| Applicant | CHONGQING VDL ELECTRONICS CO.,LTD. |
| Address | Buiding 1-4, Puli Industrial New Area, Zhaojia Street, Kaizhou District, 405401 Chongqing, PEOPLE'S REPUBLIC OF CHINA |

# Material Safety Data Sheet

Reference to ST/SG/AC.10/30/Rev.10 (GHS)

## Section 1 - Chemical Product and Company Identification

**Chemical Product Identification**

**Sample Name:** Rechargeable Li-ion Battery

**Sample Model:** 590930PN2

**Recommended Uses:** N/A

**Restrictions on Use:** N/A

**Supplier Name:** CHONGQING VDL ELECTRONICS CO.,LTD.

**Address:** Buiding 1-4, Puli Industrial New Area, Zhaojia Street, Kaizhou District, 405401 Chongqing, PEOPLE'S REPUBLIC OF CHINA

**Phone Number:** 023-5297 7888

**FAX:** /

**E-mail:** vdl@gdvdl.com

**Emergency Phone Number:** 023-5297 7888

## Section 2 - Hazards Identification

**Emergency overview:** This product is a battery. Intended use of the product should not result in exposure to the chemical substance. In case of rupture the below hazards exist.

**Classification according to GHS**

Acute toxicity, oral (4)

Skin corrosion/irritation (2)

Serious eye damage/eye irritation (2A)

Specific target organ toxicity, single exposure; Respiratory tract irritation (3)

**Label elements**

**Hazard pictogram(s):**

**Signal word:** Warning

**Hazard statement(s):**

H302 Harmful if swallowed

H315 Causes skin irritation

H319 Causes serious eye irritation

H335 May cause respiratory irritation

**Precautionary statement(s):**

**Prevention:**

P264 Wash skin and clothing thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P280 Wear protective gloves, protective clothing, eye protection, face protection.

P261 Avoid breathing dust, fume, gas, mist, vapours, spray.

P271 Use only outdoors or in a well-ventilated area.

**Response:**

P301 + P312 IF SWALLOWED: Call a POISON CENTER if you feel unwell.

P330 Rinse mouth.

P302 + P352 IF ON SKIN: Wash with plenty water.

P321 Specific treatment (See additional emergency instructions).

P333 + P313 If skin irritation or rash occurs: Get medical advice.

P362 + P364 Take off contaminated clothing and wash it before reuse.

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

P337 + P313 If eye irritation persists: Get medical advice.

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P312 Call a POISON CENTER, if you feel unwell.

**Storage**

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

**Disposal:**

P501 Send contents to approved waste treatment plants.

**Other hazards**

**Physical and chemical hazards:** See Section 10

**Human health hazards:** See Section 11

**Environmental hazards:** See Section 12

## Section 3 – Composition/Information on Ingredients

**Chemical characterization:** Mixture

| Chemical Composition | CAS No. | EC# | Weight (%) |
|---|---|---|---|
| Cobaltate, lithium | 12190-79-3 | 235-362-0 | 10~25 |
| Lithium nickel dioxide | 12031-65-1 | 620-400-4 | 10~25 |
| Cobaltate, lithium | 12190-79-3 | 235-362-0 | |
| Lithium manganese oxide | 12057-17-9 | 601-724-5 | |


Pony Testing Group Shenzhen Co., Ltd.
Address: 3/F. of Building 2, Building 1, Xinhaosheng Industrial Park, Yonghe Road, Qiaotou Community, Baoan District, Shenzhen, Guangdong, China
Testing Address: 3/F. of Building 2, Building 1, Xinhaosheng Industrial Park, Yonghe Road, Qiaotou Community, Baoan District, Shenzhen, Guangdong, China
Tel：0755-26050909
Fax：0755-26068336

| | | | |
|---|---|---|---|
| Graphite | 7782-42-5 | 231-955-3 | 20~25 |
| Carbon black | 1333-86-4 | 215-609-9 | 0~1 |
| Polyvinylidene fluoride resin | 24937-79-9 | 607-458-6 | 0~1 |
| Phosphate(1-), hexafluoro-, lithium | 21324-40-3 | 244-334-7 | 1~2 |
| 1,3-Dioxolan-2-one | 96-49-1 | 202-510-0 | 5~8 |
| Diethyl carbonate | 105-58-8 | 203-311-1 | 4~6 |
| 1,2-Propanediolcyclic carbonate | 108-32-7 | 203-572-1 | 1~2 |
| Styrene-butadiene rubber 1500 | 9003-55-8 | 618-370-2 | 5~8 |
| Sodium carboxy methyl cellulose | 9004-32-4 | 618-378-6 | 1~2 |
| Polypropylene | 9003-07-0 | 618-352-4 | 3~6 |
| Polyamide | 63428-84-2 | --- | |
| Polyethylene | 9002-88-4 | 618-339-3 | 0~1 |
| Aluminium | 7429-90-5 | 231-072-3 | 5~8 |
| Copper | 7440-50-8 | 231-159-6 | 6~10 |

## 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.

**Personal protective equipment for first-aid responders:** No data available.

**Most important symptoms/effects, acute and delayed:** No data available.

**Indication of immediate medical attention and special treatment needed:** Treat symptomatically.


Pony Testing Group Shenzhen Co., Ltd.
Address: 3/F. of Building 2, Building 1, Xinhaosheng Industrial Park, Yonghe Road, Qiaotou Community, Baoan District, Shenzhen, Guangdong, China
Testing Address: 3/F. of Building 2, Building 1, Xinhaosheng Industrial Park, Yonghe Road, Qiaotou Community, Baoan District, Shenzhen, Guangdong, China
Tel：0755-26050909
Fax：0755-26068336

## Section 5 - Fire Fighting Measures

**Suitable extinguishing media:**

Small Fire: Dry chemical, $CO_2$, water spray or regular foam. Large Fire: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk.

**Unsuitable extinguishing media:**

No data available.

**Specific Hazards arising from the chemical:**

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℃(302℉)), when damaged or abused (e.g. mechanical damage or electrical overcharging); may burn rapidly with flare-burning effect; may ignite other batteries in close proximity.

**Specific protective actions for fire-fighters:**

Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

## Section 6 - Accidental Release Measures

**Personal precautions:**

As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. Keep unauthorized personnel away. Stay upwind, uphill and/or upstream. Ventilate closed spaces before entering. Large Spill: Consider initial downwind evacuation for at least 100 meters (330 feet).

**Protective equipment:**

No data available.

**Emergency procedures:**

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Absorb with earth, sand or other non-combustible material. Leaking batteries and contaminated absorbent material should be placed in metal containers.

**Environmental precautions:**

Do not allow material to be released to the environment without proper governmental permits.

**Methods and materials for containment and cleaning up:**

For all waste handing must refer to United Nations, National and Local Regulations for disposal.

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.


Pony Testing Group Shenzhen Co., Ltd.
Address: 3/F. of Building 2, Building 1, Xinhaosheng Industrial Park, Yonghe Road, Qiaotou Community, Baoan District, Shenzhen, Guangdong, China
Testing Address: 3/F. of Building 2, Building 1, Xinhaosheng Industrial Park, Yonghe Road, Qiaotou Community, Baoan District, Shenzhen, Guangdong, China
Tel：0755-26050909
Fax：0755-26068336

## Section 7 - Handling and Storage

**Precautions for safe handling:**

Avoid short circuiting the battery. Avoid mechanical damage of the battery. Do not open or disassemble. Batteries may explode or cause burns, if disassembled, crushed or exposed to fire or high temperatures. Do not short or install with incorrect polarity. Avoid all personal contact, including inhalation. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. Prevent concentration in hollows and sumps.

**Conditions for safe storage, including any incompatibilities:**

Store in a cool, dry, well-ventilated place. Keep away from heat, avoiding the long time of sunlight.

## Section 8 - Exposure Controls/Personal Protection

**Control parameters**

| CAS No. | ACGIH | NIOSH | OSHA |
|---|---|---|---|
| 12190-79-3 | N/A | N/A | N/A |
| 12031-65-1 | N/A | N/A | N/A |
| 12057-17-9 | N/A | N/A | N/A |
| 7782-42-5 | TLV-TWA 2mg/m$^3$ | REL-TWA 2.5mg/m$^3$ | PEL-TWA 15mppcf<br>PEL-TWA 20mppcf |
| 1333-86-4 | TLV-TWA 3mg/m$^3$ | REL-TWA 3.5mg/m$^3$ | PEL-TWA 3.5mg/m$^3$ |
| 24937-79-9 | N/A | N/A | N/A |
| 21324-40-3 | N/A | N/A | N/A |
| 96-49-1 | N/A | N/A | N/A |
| 105-58-8 | N/A | N/A | N/A |
| 108-32-7 | N/A | N/A | N/A |
| 9003-55-8 | N/A | N/A | N/A |
| 9004-32-4 | N/A | N/A | N/A |
| 9003-07-0 | N/A | N/A | N/A |
| 63428-84-2 | N/A | N/A | N/A |
| 9002-88-4 | N/A | N/A | N/A |
| 7429-90-5 | TLV-TWA 1mg/m$^3$ | REL-TWA 2mg/m$^3$<br>REL-TWA 5mg/m$^3$<br>REL-TWA 10mg/m$^3$ | PEL-TWA 5mg/m$^3$<br>PEL-TWA 15mg/m$^3$ |
| 7440-50-8 | TLV-TWA 0.2mg/m$^3$ | REL-TWA 1mg/m$^3$ | PEL-TWA 0.1mg/m$^3$ |


Pony Testing Group Shenzhen Co., Ltd.
Address: 3/F. of Building 2, Building 1, Xinhaosheng Industrial Park, Yonghe Road, Qiaotou Community, Baoan District, Shenzhen, Guangdong, China
Testing Address: 3/F. of Building 2, Building 1, Xinhaosheng Industrial Park, Yonghe Road, Qiaotou Community, Baoan District, Shenzhen, Guangdong, China
Tel：0755-26050909
Fax：0755-26068336

| | | | |
|---|---|---|---|
| | TLV-TWA 1mg/$m^3$ | REL-TWA 0.1mg/$m^3$ | PEL-TWA 1mg/$m^3$ |

**Appropriate engineering controls:**

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.

**Personal Protective Equipment:**

**Respiratory protection:** Wear suitable protective mask. For a large large number of battery leakages, wear chemical protective clothing, including self-contained breathing apparatus.

**Hand Protection:** Wear appropriate protective gloves to reduce skin contact.

**Eye Protection:** Wear safety goggles or eye protection combined with respiratory protection.

**Skin and Body Protection:** Working environment required, wear suitable protective clothing to minimize contact with skin. The type of protective equipment must be according to the concentration and the content of certain hazardous substances in the workplace.

## Section 9 - Physical and Chemical Properties

**Information on basic physical and chemical properties**

| | |
|---|---|
| **Colour:** | Yellow. |
| **Physical State:** | Prismatic. |
| **Odour:** | Not available. |
| **pH:** | Not available. |
| **Melting point/freezing point:** | Not available. |
| **Boiling point or initial boiling point and boiling range:** | Not available. |
| **Flash Point:** | Not available. |
| **Flammability:** | Not available. |
| **Solubility:** | Not available. |
| **Lower and upper explosion limit/flammability limit:** | Not available. |
| **Auto-ignition temperature:** | Not available. |
| **Decomposition temperature:** | Not available. |
| **Kinematic viscosity:** | Not available. |
| **Partition coefficient: n-octanol/water (log value):** | Not available. |
| **Vapour pressure:** | Not available. |
| **Density and/or relative density:** | Not available. |
| **Relative vapour density:** | Not available. |
| **Particle characteristics:** | Not available. |

**Other information:**

| | |
|---|---|
| **Voltage** | 3.7V |
| **Electric capacity** | 130mAh |
| **Electric Energy** | 0.49Wh |

## Section 10 - Stability and Reactivity

**Reactivity:** No data available.

**Chemical stability:** Stable.

**Possibility of hazardous reactions:** No data available.

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

**Incompatible materials:** Oxidizing agents, acid base.

**Hazardous decomposition products:** Carbon monoxide, carbon dioxide, lithium oxide fumes.

## Section 11 - Toxicological Information

**Acute Toxicity:**

| CAS No. | LC50/LD50 |
|---|---|
| 12190-79-3 | No data available. |
| 12031-65-1 | No data available. |
| 12057-17-9 | No data available. |
| 7782-42-5 | No data available. |
| 1333-86-4 | No data available. |
| 24937-79-9 | No data available. |
| 21324-40-3 | No data available. |
| 96-49-1 | LD50 Rat (oral): 10g/kg |
| 105-58-8 | No data available. |
| 108-32-7 | LD50 Rat (oral): ≥29000mg/kg; LD50 Rabbit (Dermal): >20000mg/kg |
| 9003-55-8 | No data available. |
| 9004-32-4 | No data available. |
| 9003-07-0 | No data available. |
| 63428-84-2 | No data available. |
| 9002-88-4 | No data available. |
| 7429-90-5 | No data available. |


Pony Testing Group Shenzhen Co., Ltd.
Address: 3/F. of Building 2, Building 1, Xinhaosheng Industrial Park, Yonghe Road, Qiaotou Community, Baoan District, Shenzhen, Guangdong, China
Testing Address: 3/F. of Building 2, Building 1, Xinhaosheng Industrial Park, Yonghe Road, Qiaotou Community, Baoan District, Shenzhen, Guangdong, China
Tel：0755-26050909
Fax：0755-26068336

| | |
|---|---|
| 7440-50-8 | No data available. |

**Skin corrosion/irritation:** No data available.
**Serious eye damage/irritation:** No data available.
**Respiratory or Skin sensitization:** No data available.
**Germ Cell mutagenicity:** No data available.
**Carcinogenicity:** No data available.
**Reproductive toxicity:** No data available.
**Specific target organ toxicity-Single exposure:** No data available.
**Specific target organ toxicity-Repeated exposure:** No data available.
**Aspiration hazard:** No data available.
**Information on the likely routes of exposure:** No data available.
**Eye:** No data available.
**Skin:** No data available.
**Ingestion:** No data available.
**Inhalation:** No data available.

## Section 12 - Ecological Information

**Ecological Toxicity:**
**CAS# 108-32-7**
LC50: >1000 mg/L - Fish (Carp) - 96h;
EC50: >1000 mg/L - Crustaceans (Daphnia magna) - 48h;
EC50: >900 mg/L - Algae (Scenedesmus subspicatus)- 72h

**Persistence and degradability:** No data available.
**Bioaccumulative Potential:** No data available.
**Mobility in Soil:** No data available.
**Other adverse effects:** No data available.

## Section 13 - Disposal Considerations

**Disposal 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


Pony Testing Group Shenzhen Co., Ltd.
Address: 3/F. of Building 2, Building 1, Xinhaosheng Industrial Park, Yonghe Road, Qiaotou Community, Baoan District, Shenzhen, Guangdong, China
Testing Address: 3/F. of Building 2, Building 1, Xinhaosheng Industrial Park, Yonghe Road, Qiaotou Community, Baoan District, Shenzhen, Guangdong, China
Tel：0755-26050909
Fax：0755-26068336

| | |
|---|---|
| **UN or ID Number** | |
| **IATA** | UN3481 |
| **IMDG** | UN3481 |
| **Proper Shipping Name/Description** | |
| **IATA** | Lithium ion batteries contained in equipment |
| **IMDG** | LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT |
| **Packing Group** | |
| **IATA** | N/A |
| **IMDG** | N/A |
| **Hazard Label** | |
| **IATA** | N/A |
| **IMDG** | N/A |
| **Environmental hazards** | |
| **Marine pollutant:** | No |
| **IMDG EmS:** | F-A. S-I |
| **Special precautions for user** | No information available. |

**Transport information:** The Rechargeable Li-ion Battery 590930PN2 has passed the test UN38.3, according to the report ID: MTI9G0YG7086307U5.

According to the Packing Instruction 967 section Ⅱ of IATA DGR 66th Edition for transportation.

According to the special provision 188 of IMDG (41-22), the goods are not subject to other provision of this code.

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

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

## Section 15 - Regulatory Information

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

| CAS No. | TSCA | IECSC | DSL/NDSL | EINECS/ ELINCS/ NLP |
|---|---|---|---|---|
| 12190-79-3 | Listed | Listed | Listed DSL | Listed |
| 12031-65-1 | Listed | Listed | Listed DSL | Listed |
| 12057-17-9 | Listed | Listed | Listed DSL | Listed |


Pony Testing Group Shenzhen Co., Ltd.
Address: 3/F. of Building 2, Building 1, Xinhaosheng Industrial Park, Yonghe Road, Qiaotou Community, Baoan District, Shenzhen, Guangdong, China
Testing Address: 3/F. of Building 2, Building 1, Xinhaosheng Industrial Park, Yonghe Road, Qiaotou Community, Baoan District, Shenzhen, Guangdong, China
Tel：0755-26050909
Fax：0755-26068336

| | | | | |
|---|---|---|---|---|
| 7782-42-5 | Listed | Listed | Listed DSL | Listed |
| 1333-86-4 | Listed | Listed | Listed DSL | Listed |
| 24937-79-9 | Listed | Listed | Listed DSL | Listed |
| 21324-40-3 | Listed | Listed | Listed DSL | Listed |
| 96-49-1 | Listed | Listed | Listed DSL | Listed |
| 105-58-8 | Listed | Listed | Listed DSL | Listed |
| 108-32-7 | Listed | Listed | Listed DSL | Listed |
| 9003-55-8 | Listed | Listed | Listed DSL | Listed |
| 9004-32-4 | Listed | Listed | Listed DSL | Listed |
| 9003-07-0 | Listed | Listed | Listed DSL | Listed |
| 63428-84-2 | Listed | Listed | Listed DSL | Listed |
| 9002-88-4 | Listed | Listed | Listed DSL | Listed |
| 7429-90-5 | Listed | Listed | Listed DSL | Listed |
| 7440-50-8 | Listed | Listed | Listed DSL | Listed |

## Section 16 - Other Information

Issue Date: 2025-02-21

Issue Department: Technical department

Modification record:

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Other Information:

CAS: (Chemical Abstracts Service);

EC: (European Commission);

ACGIH: (American Conference of Governmental Industrial Hygienists);

NIOSH: (US National Institute for Occupational Safety and Health);

OSHA: (US Occupational Safety and Health);

TLV: (Threshold Limit Value)

TWA: (Time Weighted Average);

STEL: (Short Term Exposure Limit);


Pony Testing Group Shenzhen Co., Ltd.
Address: 3/F. of Building 2, Building 1, Xinhaosheng Industrial Park, Yonghe Road, Qiaotou Community, Baoan District, Shenzhen, Guangdong, China
Testing Address: 3/F. of Building 2, Building 1, Xinhaosheng Industrial Park, Yonghe Road, Qiaotou Community, Baoan District, Shenzhen, Guangdong, China
Tel：0755-26050909
Fax：0755-26068336

PEL: (Permissible Exposure Level);
REL: (Recommended Exposure Limit);
PC-STEL: (Permissible concentration-short time exposure limit);
PC-TWA: (Permissible concentration-time weighted average);
IARC: (International Agency for Research on Cancer);
LC50: (Lethal concentration, 50 percent kill);
LD50: (Lethal dose, 50 percent kill);
EC50: (Median effective concentration);
BCF: (Bioconcentration Factor);
BOD: (Biochemical oxygen demand);
IECSC: (Inventory of Existing Chemical Substances in China);
NOEC: (No observed effect concentration);
NTP: (US National Toxicology Program);
RTECS: (Registry of Toxic Effects of Chemical Substances);
TOC: (Total Organic Carbon);
TSCA: (Toxic Substances Control Act of USA);
DSL: (the Domestic Substances List of Canada);
NDSL: (the Non-domestic Substances List of Canada);
IATA: (International Air Transport Association);
IMDG: (International Maritime Dangerous Goods);
TDG: (Recommendations on the TRANSPORT OF DANGEROUS GOODS Model Regulations)

Approver: Zheng Chunmei.

***End of report***


Pony Testing Group Shenzhen Co., Ltd.
Address: 3/F. of Building 2, Building 1, Xinhaosheng Industrial Park, Yonghe Road, Qiaotou Community, Baoan District, Shenzhen, Guangdong, China
Testing Address: 3/F. of Building 2, Building 1, Xinhaosheng Industrial Park, Yonghe Road, Qiaotou Community, Baoan District, Shenzhen, Guangdong, China
Tel：0755-26050909
Fax：0755-26068336