



Material Safety Data Sheet (MSDS)

NO.: ET-20060218 Date: June 01, 2020

Applicant	CHUANGHUI ELECTRONICS CO., LTD.
Address	2/F, Building 2A, Jishengchang Industrial Zone, No. 9, Jingnan Road, Buji Street, Longgang District, Shenzhen
Product	Lithium-ion Polymer Battery
Inspection category	MSDS

Shenzhen Yitong Testing Technology Co., Ltd.



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Product	Lithium-ion Polymer Battery	Model No	YN103440		
Sample number	2020060218	Date of inspection	2020.05.26-2020.05.29		
Sampling mode	Sample sending	Sample status	OK	Sampling date	2020.05.26
Environment condition	temperature (18-35)°C RH (45-55)% Atmospheric pressure (102.5) kPa				
Inspection instructions: According to the requirements of customers, edit MSDS for the samples.					
Comments or suggestions: /					
Tested by: _____ Review ed by: _____ Approved by: _____ Date of issue: 2020.03.19					



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Material Safety Data Sheet

Section 1 - Chemical Product and Company Identification

Product Name: Lithium-ion Polymer Battery

Manufacture: Shenzhen Uneng Electronics Co., Ltd

Address: Area C, 7/F, huaxia high-tech park, jincheng road, heyi village, shajing town, shenzhen city

Emergency Telephone: 0755-23700105

Email: dick290754@sina.com.cn

Section 2 - Hazards Identification

GHS Hazard Categories: None

Pictograms: None

Hazard information:

Not dangerous with normal use. Do not dismantle, open or shred the battery ingredients contained within or their ingredients products could be harmful.

Invasion route: Inhalation, Ingestion, Skin contact and eye contact.

Health hazards: Inhalation: Vapors or mists from a ruptured battery may cause respiratory irritation.

Ingestion: The battery ingredients contained within or their ingredients products can cause serious chemical burns of mouth, esophagus, and gastrointestinal tract.

Skin: Skin contact with contents of an open battery can cause severe irritation or burns to the skin.

Eye: Eye contact with contents of an open battery can cause severe irritation or burns to the eye.

Section 3 - Composition/Information on Ingredient

Pure ☐ Admixture ☒

Composition:

Chemical Composition	CAS NO.	Weight (%)
Lithium Cobalt Oxide ((CoLiO ₂))	12190-79-3	20.4
NCM	--	20.4
PVDF	24937-79-9	0.6
CNT	1333-86-4	0.4
Graphite	7782-42-5	21.3
SBR	9003-55-8	0.5



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CMC	9004-32-4	0.3
Ethylene Carbonate	96-49-1	12.3
Dimethyl Carbonate	616-39-6	
Lithium Hexafluorophosphate	21324-40-3	
Others	--	23.8

Section 4 - First Aid Measures

Skin contact: Remove contaminated clothes and rinse skin with plenty of water or shower for 15min.

Eyes contact: Lifting the upper and lower eyelids, flush the eyes with plenty of water or saline water.

Inhalation: Remove source of contamination or move victim to fresh air. Obtain medical advice.

Ingestion: Please rinse mouth thoroughly with water. Induce vomiting under the guidance of professional personage. Please seek medical treatment in time.

Section 5 - Fire Fighting Measures

Danger characteristic: Toxic fumes, gases or vapors may evolve on burning.

Fire-fighting method: The staff must equip with isolated breathing apparatus, wear clothes which can defense fire and toxic gases. Put out the fire in the upwind direction. Remove the container to the open space as soon as possible.

Fire extinguishing agent: Foam, powder, CO₂, Sandy clay.

Section 6 - Accidental Release Measures

Personal Precautions, protective equipment, and emergency procedures: Restrict access to area until completion of clean-up. Do not touch the spilled material. Wear adequate personal protective equipment as indicated in Section 8.

Environmental Precautions: Prevent material from contaminating soil and from entering sewers or waterways.

Methods and materials for Containment: Stop the leak if safe to do so. Contain the spilled liquid with dry sand or earth. Clean up spills immediately.

Methods and materials for cleaning up: Absorb spilled material with an inert absorbent (dry sand or earth). Scoop contaminated absorbent into an acceptable waste container. Collect all contaminated absorbent and dispose of according to direction in Section 13; Scrub the area with detergent and water collect all contaminated wash water for proper disposal.

Section 7 - Handling and Storage

Handling: Don't handling the batteries in manner that allows terminals to short circuit. Do not open, disassemble,



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crush or burn battery.

Storage: If the battery is subject to storage for such a long term as more than 3 months, it is recommended to recharge the battery periodically, short-circuit each other or be short-circuited by other metal objects; Keep out of reach of children; Do not expose the battery to heat or fire. Avoid storage in direct sunlight; Do not store together with oxidizing and acidic materials.

Section 8 - Exposure Controls, Personal Protection

Engineering control: No engineering controls are required for handling batteries that have not been damaged. Personal protective equipment for damaged batteries should include chemical resistant gloves and safety glasses.

Personal Protective Equipment: 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. Not necessary under conditions of normal use. Protective Gloves: Not necessary under conditions of normal use. Other Protective Clothing or Equipment: Not necessary under conditions of normal use.

Personal Protection is recommended for venting battery: Respiratory Protection, Protective Gloves, Protective Clothing and safety glass with side shields.

Section 9 - Physical and Chemical Properties

Physical State: form: Solid

Color: silver

Odour: Odorless

Change in condition: |

PH with indication of the concentration: Not applicable

Melting point/freezing point: Not applicable

Boiling Point, initial boiling point: Not applicable

Flash Point: Not applicable

Upper/lower flammability or explosivelimits: Not applicable

Vapor Pressure: Not applicable

Vapor Density:(Air=1): Not applicable

Density/relative density: Not applicable

Solubility in Water: Not applicable

n-octanol/water partition coefficient: Not applicable

Auto-ignition temperature: Not applicable

Decomposition temperature: Not applicable

Odour threshold: Not applicable

Evaporation: Not applicable

Flammability(soil,gas): Not applicable



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Viscosity: Not applicable

Section 10 - Stability and Reactivity

Stability: Stable under normal temperature and pressure

Conditions to Avoid: Heat above 70°C or Incinerate, Deform; Mutilate, Crush, Disassemble, Overcharge, Short circuit, Expose over a long period to humid conditions.

Hazardous Decomposition Products: Toxic Fumes, and may form peroxide

Possibility of Hazardous Reaction: If leaked, forbidden to contact with strong oxidizers, mineral acids, strong alkalis, halogenated hydrocarbons.

Section 11 - Toxicological Information

Irritation: In the event of exposure to internal contents, vapor fumes may be very irritating to the eyes and skin.

Sensitization: Not applicable

Reproductive Toxicity: Not applicable

Toxicologically Synergistic Materials: Not applicable.

Section 12 - Ecological Information

General note: Do not allow undiluted product or large quantities of it to reach **Persistence and degradation:** Not applicable ground water, water course or sewage system.

Anticipated behavior of a chemical product in environment/possible environmental impact/ ecotoxicity:
Not applicable

Mobility in soil: Not applicable

Persistence and Degradability: Not applicable

Section 13 - Disposal Considerations

Waste Treatment: Recycle or dispose of in accordance with government, state & local regulations.

Attention for Waste Treatment: Deserted batteries couldn't be treated as ordinary trash. Couldn't be thrown into fire or placed in high temperature. Couldn't be dissected, pierced, crushed or treated similarly. Best way is recycling.

Section 14 - Transport Information

This report applies to by sea, by air and by land;

The Lithium-ion Polymer Battery (model: 426385PU) tested according to the requirements of the UNITED NATIONS "Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria" Part III subsection 38.3;



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The Lithium-ion Polymer Battery was protected so as to prevent short circuits. This includes protection against contact with conductive materials within the same packaging that could lead to short circuit;

The packaging shall be adequate to avoid mechanical damage during transport, handling and stacking.

The package must be handled with care and that a flammability hazard exists if the package is damaged.

The Lithium-ion Polymer Battery can be shipped by air in according to Section I/Section IB of PACKING INSTRUCTION 965, or Section It of PACKING INSTRUCTION 966~967 of the 2018 IATA Dangerous Goods regulations 5gl'm Edition.

With regard to transport, the following regulation are cited and considered:

The International Civil Aviation Organization (ICAO) Technical Instructions.

The International Air transport Association (IATA) Dangerous Goods Regulations.

UN number of lithium battery: UN3480 or UN3481;

UN Proper shipping name/Description (technical name): Lithium ion batteries or Lithium ion batteries contained in equipment or Lithium ion batteries packed with equipment;

UN Classification (Transport hazard class): Class 9 (P1965 Section IB) or NA (P1965~967 Section II)

The International Maritime Dangerous Goods (IMDG) Code.

UN number of lithium battery; UN3480 or UN3481;

UN Proper shipping name/Description (technical name): Lithium ion batteries or Lithium ion batteries contained in equipment or Lithium ion batteries packed with equipment;

UN Classification (Transport hazard class): N/A

Marine pollutant(Y/N): N.

The battery is not restricted according to IMO IMDG Code (inc Amdt 38-16).

Need to meet the Special Provision; International maritime dangerous goods code (IMDG) 188, 230, 310, 348, 957;

Section 15 - Regulatory Information

Regulatory Information:

《Dangerous Goods Regulations》

《Recommendations on the Transport of Dangerous Goods Model Regulations》

《International Maritime Dangerous Goods》

《Technical Instructions for the Safe Transport of Dangerous Goods》

《Classification and code of dangerous goods》

《Occupational Safety and Health Act》 (OSHA)

《Toxic Substance Control Act》 (TSCA)

《Consumer Product Safety Act》 (CPSA)

《Federal Environmental Pollution Control Act》 (FEPCA)

《The Oil Pollution Act》 (OPA)

《Superfund Amendments and Reauthorization Act Ttl(302/311/3121313)》 (SARA)



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《Resource Conservation and Recovery Act》(RCRA)

《Safety Drinking Water Act》(CWA)

《California Proposition 65》

《Code of Federal Regulations》(CFR)

In accordance with all Federal, State and local laws.

Section 16 - Additional Information

The information above is believed to be accurate and represents the best information currently available to us. However, we makes no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. Although reasonable precautions have been taken in the preparation of the data contained herein, it is offered solely for your information, consideration and investigation. This material safety data sheet provides guidelines for the safe handling and use of this product; it does not and cannot advise on all possible situations, therefore, your specific use of this product should be evaluated to determine if additional precautions are required.

The data/information contained herein has been reviewed and approved for general release on the basis that this document contains no export controlled information.

End of MSDS