Microtest
微测检测

MSDS Report

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Sample Name:	Li-ion Polymer Battery
Model(s):	NV623463P
Applicant:	Dongguan Novel Battery Technology Co., Ltd.
Address:	Building A4, Fengfa Industrial Area, Zhenxing Road, Wulian , Fenggang Town, Dongguan, China

Shenzhen Microtest Co., Ltd.

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Tested Date.....:	2017-03-13 to 2017-03-21	

Material Safety Data Sheet

Section 1 Chemical Product and Company Identification

Product Name.....:	Li-ion Polymer Battery
Trade Mark.....:	NOVEO
Model .....:	NV623463P
Nominal Voltage .....:	3.7V
Rated Capacity .....:	750mAh, 2.775Wh
Weight.....:	About 16.0 g
Dimension.....:	Max T:7.2mm, W:30.0mm, L:42.0mm
Manufacture's Name.....:	**Dongguan Novel Battery Technology Co., Ltd.**
Address.....:	Building A4, Fengfa Industrial Area, Zhenxing Road, Wulian , Fenggang Town, Dongguan, China
Contact information.....:	Tel:+86-769-82559253
E-mail address.....:	2850453239@qq.com
Version number .....:	V1.0
Referenced documents.....:	ISO 11014:2009 Safety data sheet for chemical products

Section 2 – Hazards Identification

Preparation hazards and classification	Not dangerous with normal use. Do not dismantle, open or shred Li-ion Polymer Battery . Exposure to the ingredients contained within or their ingredients products could be harmful.
Apperance, Color, and Odor	Solid object with no odor, silvery
Primary Route(s) of Exposure	These chemicals are contained in a sealed stainless steel enclosure. Risk of exposure occurs only if the cell is mechanically, thermally or electrically abused to the point of compromising the enclosure. If this occurs, exposure to the electrolyte solution contained within can occur by Inhalation, Ingestion, Eye contact and Skin contact
Potential Health Effects:	**ACUTE (short term):** see Section 8 for exposure controls In the event that this battery has been ruptured, the electrolyte solution contained within the battery would be corrosive and can cause burns. **Inhalation:** Inhalation of materials from a sealed battery is not an expected route of exposure. Vapors or mists from a ruptured battery may cause respiratory irritation. **Ingestion:** Swallowing of materials from a sealed battery is not an expected route of exposure. Swallowing the contents of an open battery can cause serious chemical burns of mouth, esophagus, and gastrointestinal tract. **Skin:** Contact between the battery and skin will not cause any harm. Skin contact with contents of an open battery can cause severe irritation or burns to the skin. **Eye:** Contact between the battery and the eye will not cause any harm. Eye contact with contents of an open battery can cause severe irritation or burns to the eye. **CHRONIC (long term):** see Section 11 for additional toxicological data
Medical Conditions Aggravated by Exposure	Not applicable
Reported as carcinogen	Not applicable

Section 3 – Composition/Information on Ingredients

Li-ion Polymer Battery is a mixture.

Hazardous Ingredients (Chemical Name)	Concentration or concentration ranges (%)	CAS Number
LiCoO2	54.0	12190-79-3
Graphite(C)	22.05	7782-42-5
Cu	11.0	7440-50-8
Al	6.0	7429-90-5
LiPF6	3.0	21324-40-3
(C3H6)n	3.0	9003-07-0
-(CH2-CF2)n-	1.0	24937-79-9

Labeling according to EC directives.

No symbol and risk phrase are required.

Note:CAS number is Chemical Abstract Service Registry Number. N/A=Not apply

Section 4 – First-aid Measures

Inhalation	If contents of an opened battery are inhaled, remove source of contamination or move victim to fresh air. Obtain medical advice.
Skin contact	If skin contact with contents of an open battery occurs, as quickly as possible remove contaminated clothing, shoes and leather goods. Immediately flush with lukewarm, gently flowing water for at least 30 minutes. If irritation or pain persists, seek medical attention. Completely decontaminate clothing, shoes and leather goods before reuse or discard.
Eye contact	If eye contact with contents of an open battery occurs, immediately flush the contaminated eye(s) with lukewarm, gently flowing water for at least 30 minutes while holding the eyelids open. Neutral saline solution may be used as soon as it is available. If necessary, continue flushing during transport to emergency care facility. Take care not to rinse contaminated water into the unaffected eye or onto face. Quickly transport victim to an emergency care facility.
Ingestion	If ingestion of contents of an open battery occurs, never give anything by mouth if victim is rapidly losing consciousness, or is unconscious or convulsing. Have victim rinse mouth thoroughly with water. Do not induce vomiting. Have victim drink 60 to 240 mL (2-8 oz.) of water. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Have victim rinse mouth with water again. Quickly transport victim to an emergency care facility.

Section 5 – Fire-fighting Measures

Flammable Properties	In the event that this battery has been ruptured, the electrolyte solution contain within the battery would be flammable. Like any sealed container, battery cells may rupture when exposed to excessive heat; this could result in the release of flammable or corrosive materials.
Suitable extinguishing Media	Use extinguishing media suitable for the materials that are burning.
Unsuitable extinguishing Media	Not available
Explosion Data	**Sensitivity to Mechanical Impact:** This may result in rupture in extreme cases **Sensitivity to Static Discharge:** Not Applicable
Specific Hazards arising from the chemical	Fires involving Li-ion Polymer Battery can be controlled with water. When water is used, however, hydrogen gas may evolve. In a confined space, hydrogen gas can form an explosive mixture. In this situation, smothering agents are recommended to extinguish the fire
Protective Equipment and precautions for firefighters	As for any fire, evacuate the area and fight the fire from a safe distance. Wear a pressure-demand, self-contained breathing apparatus and full protective gear. Fight fire from a protected location or a safe distance. Use NIOSH/MSHA approved full-face self-contained breathing apparatus (SCBA) with full protective gear.
NFPA	Health: 0 Flammability: 0 Instability: 0

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 directions 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 Li-ion Polymer Battery with metalwork. Do not open, dissemble, crush or burn battery. Ensure good ventilation/ exhaustion at the workplace. Prevent formation of dust. Information about protection against explosions and fires: Keep ignition sources away- Do not smoke.
Storage	If the Li-ion Polymer Battery are subject to storage for such a long term as more than 6 months, it is recommended to recharge the Li-ion Polymer Battery periodically. Storage Temperature Short period less than 1 month: -20℃~+50℃, 75%RH Max Short period less than 3 months: -20℃~+45℃, 75%RH Max Short period less than 1 year: -20℃~+20℃, 75%RH Max Do not storage Li-ion Polymer Battery haphazardly in a box or drawer where they may short-circuit each other or be short-circuited by other metal objects. Do not expose Li-ion Polymer Battery to heat or fire. Avoid storage in direct sunlight. Do not store together with oxidizing and acidic materials. Keep container tightly sealed.

Section 8 – Exposure Controls and Personal Protection

Engineering Controls	Use local exhaust ventilation or other engineering controls to control sources of dust, mist, fumes and vapor. Keep away from heat and open flame. Store in a cool, dry place.
Personal Protective Equipment	**Respiratory Protection:** Not necessary under normal conditions. **Skin and body Protection:** Not necessary under normal conditions, Wear neoprene or nitrile rubber gloves if handling an open or leaking battery. **Hand protection:** Wear neoprene or natural rubber material gloves if handling an open or leaking battery. **Eye Protection:** Not necessary under normal conditions, Wear safety glasses if handling an open or leaking battery.
Other Protective Equipment	Have a safety shower and eye wash fountain readily available in the immediate work area.
Hygiene Measures	Do not eat, drink, or smoke in work area. Maintain good

	housekeeping.

Section 9 - Physical and Chemical Properties

Physical State	Form: Solid
	Color: Silvery
	Odour: Monotony
Change in condition:	
pH, with indication of the concentration	Not applicable
Melting point/freezing point	Not available.
Boiling Point, initial boiling point and Boiling range:	Not available.
Flash Point	Not available.
Upper/lower flammability or explosive limits	Not available.
Vapor Pressure:	Not applicable
Vapor Density: (Air = 1)	Not applicable
Density/relative density	Not available.
Solubility in Water:	Insoluble
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Odout threshold	Not available.
Evaporation rate	Not available.
Flammability (soil, gas)	Not available.
Viscosity	Not applicable

Section 10 - Stability and Reactivity

Stability	The product is stable under normal conditions.
Conditions to Avoid (e.g. static discharge, shock or vibration)	Do not subject Li-ion Polymer Battery to mechanical shock. Vibration encoutered during transportation does not cause leakage, fire or explosion. Do not disassemble, crush, short or install with incorrect polarity.

	Avoid mechanical or electrical abuse.
Incompatible Materials	Not Available
Hazardous Decomposition Products	This material may release toxic fumes if burned or exposed to fire
Possibility of Hazardous Reaction	Not Available

Section 11 - Toxicological Information

Irritation	Risk of irritation occurs only if the cell is mechanically, thermally or electrically abused to the point of compromising the enclosure. If this occurs, irritation to the skin, eyes and respiratory tract may occur.
Sensitization	Not Available
Neurological Effects	Not Available
Teratogenicity	Not Available
Reproductive Toxicity	Not Available
Mutagenicity (Genetic Effects)	Not Available
Toxicologically Synergistic Materials	Not Available

Section 12 - Ecological Information

General note:	Water hazard class 1(Self-assessment): slightly hazardous for water. Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Anticipated behavior of a chemical product in environment/possible environmental impace/ecotoxicity	Not Available
Mobility in soil	Not Available
Persistence and Degradability	Not Available
Bioaccumulation potential	Not Available
Other Adverse Effects	Not Available

Section 13 – Disposal Considerations

Product disposal recommendation: Observe local, state and federal laws and regulations.
Packaging disposal recommendation: Be aware discarded batteries may cause fire, tape the battery terminals to insulate them. Don't disassembly the battery. Completely discharge containers(no tear drops, no powder rest, scraped carefully). Containers may be recycled or re-used. Observe local, state and federal laws and regulations.

Section 14 – Transport Information

For the international transport of lithium batteries, they must comply with these regulations: the International Maritime Dangerous Goods (IMDG) Code by International Maritime Organization (IMO), Dangerous Goods Regulations (DGR) by International Air Transport Association (IATA) and Technical Instructions for the Safe Transport of Dangerous Goods by Air by International Civil Aviation Organization (ICAO). These regulations are based on the UN Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria.

Lithium batteries which meet the requirements of UN38.3 (UN Manual of Tests and Criteria, Part III, subsection 38.3) could be transported by air and by sea as ordinary goods, otherwise should be transported according to Class 9, Packing Group II hazardous goods.

1. For Lithium battery, UN 3480 or UN 3481. Lithium ion batteries or Lithium ion batteries contained in equipment or Lithium ion batteries packed with equipment.

2. The consignment should be fully described by proper shipping name and packed, marked and in proper condition for carriage by air. The consignment is not classified as dangerous under the current edition of the IATA 58th Effective, Dangerous goods regulation and all applicable carrier and government regulations.

3. For transported by air, Lithium-ion Cells/Batteries shipped as "Not Restricted" Cargo must comply with Section II/Section IB of PI965 or Section II of P966-PI967 accordingly; For cells, the Watt-hour rating should not be more than 20Wh; For batteries, the Watt-hour rating should not be more than 100Wh. Watt-hour rating must be marked on the outside of the battery case (marked by manufacturer).

4. Each consignment must be accompanied with a document such as an air waybill with an indication. For those Lithium ion cells/ batteries contained in equipment, the equipment must be equipped with an effective means of preventing accidental activation. The telephone number for additional information for Dongguan Novel Battery Technology Co., Ltd. is +86-769-82559253.

5. Quantity per package shall not exceed 10kg in Section IB of PI965. Quantity per package shall not exceed 5kg in Section II of PI966-PI967.

6. For only lithium battery transparent or lithium battery packed with equipment transparent, each package must be capable of withstanding a 1.2m drop test in any orientation without damage of cells or batteries contained therein.

7. Li-ion Polymer Battery which meet the requirements of NV623463P could be transported by air and by sea, and the batteries manufactured by Dongguan Novel Battery Technology Co., Ltd. meet these requirements. (NV623463P Li-ion Polymer Battery identified by the manufacturer as being defective for safety reasons or that have been damaged, that have the potential of producing a dangerous evolution of heat, fire or short circuit are forbidden for transport.)

8. Cells and batteries must be 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.

Section 15 - Regulatory Information

OSHA hazard communication standard (29 CFR 1910.1200)

_____Hazardous _____√_____Non-hazardous

Section 16 - Other Information

The information above is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. 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. In no way shall we be liable for Any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, however arising from using the above information.

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