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MATERIAL SAFETY DATA SHEETS

Section 1 -SAMPLE INFORMATION:

1. **Sample Description:** XTAR 18700 2600mAh Battery
2. **Sample Model:** 18700-2600
3. **Sample Quantity:**3 PCS
4. **Manufacturer:** Hongkong XTAR Co.,Ltd.
5. **Manufacturer Address:** Rm 813,Moi Art Trading Plaza,No.245 Busha Rd.,Buji,Longgang District,Shenzhen,Guangdong,China

CLIENT INFORMATION

1. **Applicant:** Shenzhen Winner Bros Import & Export Co.,Ltd.
2. **Applicant Address:** Rm 813,Moi Art Trading Plaza,No.245 Busha Rd.,Buji,Longgang District,Shenzhen,Guangdong,China
3. **Applicant Post Code:** -----

TEST INFORMATION:

1. **Applicant No:** ----
2. **Test Items and Request:** MATERIAL SAFETY DATA SHEETS
3. **Date of Receipt:** Jun. 11- 14, 2012

REMARKS:

1. The test report is valid for above tested sample only and shall not be reproduced in part without written approval of the laboratory.
2. Sample State: Solid
3. Sample Package: Intact
4. Ambient Condition During Testing: 20 ^{0}C,45% RH.

Signed for Shenzhen TOBY

Justin Zhang
Manager

MATERIAL SAFETY DATA SHEETS

Section 2 - Composition/ Information on Ingredients

Substance/Preparation : Preparation

Component/Substance	Percentage by weight	CAS#
Lithium Cobalt Dioxide (LiCoO2)	25%-45%	12190-79-3
Graphite (C)	10%～20%	7782-42-5
Poly Vnylidene Fluoride (PVDF)	0-5%	24937-79-9
Organic solvents	10%～20%	616-38-6
Electrolyte	5%～20%	623-53-0/21324-40-3
Acetylene black	0.5%-8%	1333-86-4
Copper	5%-15%	7440-50-8

Section 3 - Hazards Identification

Danger sort	N/A
Routes of entry	1. Eyes and Skin - When leaking, the electrolyte solution contained in the battery irritates to ocular tissues and the skin. 2. Inhalation — Respiratory (and eye) irritation may occur if fumes are released due heat or an abundance of leaking batteries. 3. Ingestion - The ingestion of the battery can be harmful. Content of open battery can cause serious chemical burns of mouth, esophagus and gastrointestinal tract.
Health harm	Exposure to leaking electrolyte from ruptured or leaking battery can cause: 1. Inhalation — Burns and irritation of the respiratory system, coughing, wheezing, and shortness of breath. 2. Eyes — Redness, tearing, burns. The electrolyte is corrosive to all ocular tissues. 3. Skin — The electrolyte is corrosive and causes skin irritation and burns. 4. Ingestion — The electrolyte solution causes tissue damage to throat and gastrointestinal track.
Environment harm	Not necessary under conditions of normal use
Explosion danger	The battery may be explosive at high temperature (above 60℃) or exposing to the fire.

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Section 4 - First Aid Measures

In case of battery rupture or explosion, evacuate personnel from contaminated area and provide maximum ventilation to clear out fumes/gases. In all case, seek medical attention

Skin contact	Remove all contaminated clothing and flush affected areas with plenty of water and soap for at least 15 minutes. Do not apply greases or ointments.
Eye contact	Flush with plenty of water (eyelids held open) for at least 15minutes.
Inhalation	Remove to fresh air and ventilate the contaminated area. Give oxygen or artificial respiration if needed.
Ingestion	Dilute by giving plenty of water and get immediate medical attention. Assure that the victim does not aspirate vomited material by use of positional drainage. Assure that mucus does not obstruct the airway. Do not give anything by mouth to an unconscious person.

Section 5 - Fire-Fighting Measures

Fire and Explosion Hazards	The batteries can leak and/or spout vaporized or decomposed and combustible electrolyte fumes in case of exposure above 60°C resulting from inappropriate use or from the environment. Possible formation of hydrogen fluoride (HF) and phosphorous oxides during fire. LiPF6 salt contained in the electrolyte releases hydrogen fluoride (HF) in contact with water.
Hazardous Combustion Products	Fire, excessive heat, or over voltage conditions may produce hazardous decomposition products. Damaged batteries can result in rapid heating and the release of flammable vapors.
Extinguishing Media	Suitable :CO2, Dry chemical or Foam extinguishers Not to be used : Type D extinguishers
Fire Fighting Procedures	Use a positive pressure self-contained breathing apparatus if batteries are involved in a fire. Full protective clothing is necessary. During water application, caution is advised as burning pieces of flammable particles may be ejected from the fire.
Special exposure hazards	Following cell overheating due to external source or due to unproper use, electrolyte leakage or battery container rupture may occur and release inner component/material in the

	environment.

Section 6 - Accidental Release Measures

The material contained within the battery would only be released under abusive conditions. In the event of battery rupture and leakage, collect all the released materials that are not hot or burning in an appropriate waste disposal container while wearing proper protective clothing and ventilate the area. Placed in approved container and disposed according to the local regulations.

Section 7 - Handling and Storage

The batteries should not be opened, destroyed nor incinerate since they may leak or rupture and release in the environment the ingredients they contain

Handling	Do not crush, pierce, short (+) and (-) battery terminals with conductive (i.e .metal) goods. Do not directly heat or solder. Do not throw into fire. Do not mix batteries of different types and brands. Do not mix new and used batteries. Keep batteries in non-conductive (i.e. plastic) trays. Do not strike or throw the battery against hard surface. Do not directly solder the battery and pierce the battery with a nail or other sharp object.
Storage	Store in a cool (preferably below 30°C) and ventilated area away from moisture, sources of heat, open flames, food and drink. Keep adequate clearance between walls and batteries. Temperature above 70°C may result in battery leakage and rupture. Since short circuit can cause burn, leakage and rupture hazard, keep batteries in original packaging until use and do not jumble them.
Other	Follow manufacturer recommendations regarding maximum recommended currents and operating temperature range. Applying pressure on deforming the battery may lead to disassembly followed by eye, skin and throat irritation.

Section 8 - Exposure Controls/ Personal Protection

Engineering Controls	Keep away from heat and open flame.
Ventilation	Not necessary under conditions of normal use. In case of abuse, use adequate mechanical ventilation (local exhaust) for the battery that vent gas or fumes.
Respiratory	Not necessary under conditions of normal use. If battery is

Protection	burning, leave the area immediately. During fire fighting fireman should use self-contained breathing, full-face respiratory equipment. Fires may be fought but only from safe fire fighting distance, evacuate all persons from the area of fire immediately.
Eye Protection	Not necessary under conditions of normal use. Use safety glasses with side shields if handling a leaking or ruptured battery.
Body Protection	Not necessary under conditions of normal use. Use rubber apron and protective working in case of handling a leaking of ruptured battery.
Protective Gloves	Not necessary under conditions of normal use. Use chemical resistant rubber gloves if handling a leaking or ruptured battery.
Others	Use good chemical hygiene practice. Wash hands thoroughly after cleaning-up a battery spill caused by leaking battery. No eating, drinking, or smoking in battery storage area.

Section 9 - Physical and Chemical Properties

State	Solid
Odor	Not Available
pH	Not Available
Vapor pressure	Not Available
Vapor density	Not Available
Boiling point	Not Available
Solubility in water	Insoluble
Specific gravity	Not Available
Density	Not Available

Section 10 - Stability and Reactivity

Stability	Stable
Conditions to Avoid	Do not heat, throw into fire, disassemble, short circuit, immerse in water or overcharge, etc.
Incompatibility	None during normal operation. Avoid exposure heat, open flame and corrosives.
Hazardous Polymerization	Will not occur
Hazardous Decomposition	Corrosive/Irritant Hydrogen fluoride (HF) is produced in case of reaction of lithium hexafluorophosphate(LiPF6) with water

Products	Combustible vapors and formation of Hydrogen fluoride (HF) and phosphorous oxides during fire.

Section 11 - Toxicological Information

The battery does not elicit toxicological properties during routine handling and use. If the battery is opened through misuse or damage, discard immediately. Internal components of cell are irritant and sensitization.

Irritation	The electrolytes contained in this battery can irritate eyes with any contact. Prolonged contact with the skin or mucous membranes may cause irritation.
Sensitization	Not Available
Neurological Effects	Not Available
Teratoaenicitv	Not Available
Reproductive Toxicity	Not Available
Mutagenicity (Genetic Effects)	Not Available
Toxicologically Synergistic Materials	Not Available

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Section 12 - Ecological Information

1. When properly used and disposed, the battery does not present environmental hazard.
2. The battery does not contain mercury, cadmium, or lead.
3. Do not let internal components enter marine environment. Avoid releasing to water ways, wastewater or ground water.

Section 13 - Disposal Considerations

Product disposal recommendation:

1. Disposal of the battery should be performed by permitted, professional disposal firms knowledgeable in Federal, State or Local requirements of hazardous waste treatment and hazardous waste transportation.
2. The battery should be completely discharged prior to disposal and/or the terminals taped or capped to prevent short circuit. When completely discharged it is not considered hazardous.
3. The battery contains recyclable materials. Recycling options available in your local area should be considered regulations.

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Section 14 - Transport Information

Label for conveyance: For the single cell batteries and multicell battery packs that are non-restricted to transport, use lithium-ion batteries inside label. For the single cell batteries and multicell battery packs which are restricted to transport (assigned to the Miscellaneous Class 9), use Class 9 Miscellaneous Dangerous Goods and UN Identification Number labels. In all cases, refer to the product transport certificate issued by the Manufacturer.

UN number：UN 3090

Shipping name：Lithium Batteries

Hazard classification：Depending on their equivalent lithium metal content, some single cells and small multicell battery packs may be non- assigned to Class 9 (Refer to Transport Certificate)

Packing group：II

IMDG Code：9033

Marine pollutant：No

ADR Class：Class 9

Section 15 - Regulatory Information

China:	This MSDS in accordance with GB/T18287-2000 General specification of lithium-ion battery for cellular phone.
USA:	This MSDS meets/exceeds OSHA requirements.
International:	This MSDS conforms to European Union (EU), the International Standards Organization (ISO) and the International Labour Organization (ILO)
UL certification:	The Future Power batteries are registered by Underwriters Laboratories, Northbrook, U.S.A. under file MH 46086.

Section 16 - Other Information

Date: Jun.14,2012

Department: Quality department.

Data Audit Units: Shenzhen Toby Technology Co., Ltd.

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****** (END OF REPORT) ******