



SAFETY DATA SHEET

TekFire™ Lighter

SDS EXEMPTION NOTICE:

The battery powered products, and the batteries they contain, covered in this document are exempt articles and are not subject to the OSHA Hazard Communication Standard requirement. This sheet is provided as a service to our customers.

Safety Data Sheets (SDS) are a sub-requirement of the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard, 29 CFR Subpart 1910.1200. This Hazard Communication Standard does not apply to various subcategories including anything defined by OSHA as an "article." OSHA has defined "article" as a manufactured item other than a fluid or particle; (i) which is formed to a specific shape or design during manufacture; (ii) which has end use function(s) dependent in whole or in part upon its shape or design during end use; and (iii) which under normal conditions of use does not release more than very small quantities, e.g. minute or trace amounts of a hazardous chemical, and does not pose a physical hazard or health risk to employees.

Because all of our battery powered products and the batteries they contain are defined as "articles", they are exempt from the requirements of the Hazard Communication Standard; hence an OSHA SDS in accordance with the Global Harmonized System (GHS) is not required.

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name TekFire™ Lighter

Other means of identification

Synonyms USB Rechargeable Lighter; Flameless Lighter; Electronic Pulse Lighter; Arc Lighter
TekFire Fuel-Free Lighter; Item No. 20-00041
TekFire Pro Fuel-Free Lighter; Item No. 20-02197
TekFire LED Fuel-Free Lighter; Item No. 20-12425
TekFire Charge Fuel-Free Lighter; Item No. 20-12474

Recommended use of the chemical and restrictions on use

Recommended Use Lighter
Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Name UST Brands
Supplier Address 7720 Philips Highway
Jacksonville
Florida
32256
USA
Supplier Phone Number Phone:904-786-0033
Fax:904-786-0890
Supplier Email sales@ustbrands.com

Emergency Response Information (ERI) telephone number

ERI Provider: INFOTRAC USA or Canada: 1-800-535-5053 International: 001-352-323-3500

SDS No.: 1033
Issue Date: Dec 23/2016
Revision Date: Aug 7/2018
Revision: C
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2. HAZARDS IDENTIFICATION

Lithium Ion Batteries Contained in Equipment, UN3481

CAUTION: LITHIUM BATTERIES INSIDE. This equipment contains one (1) Secondary (Rechargeable) Lithium battery. The battery is sealed in the equipment and cannot be removed or replaced unless the equipment is damaged or abused. Do not damage or mishandle the packages. If package is damaged, flammability hazard may exist; equipment must be quarantined, inspected, and repacked.

CAUTION: Batteries inside the equipment can explode or leak if heated, disassembled, shorted, recharged, exposed to fire or high temperature or inserted incorrectly. Do not remove batteries from equipment. Do not carry batteries loose in your pocket or purse. Keep this equipment and the batteries contained inside away from children. If swallowed, consult a physician at once. Under certain misuse conditions and by abusively opening the battery, exposed lithium can react with water or moisture in the air causing potential thermal burns or fire.

Physical Appearance: The equipment contains a small rectangular shaped or cylindrical shaped battery pack. The battery and its contents present the hazard. The battery is sealed inside the equipment and can only be removed if the equipment is damaged or abused. The battery is not replaceable and should never be removed from the equipment.

Battery Description:

TekFire Fuel-Free Lighter; Item No. 20-00041

TekFire Pro Fuel-Free Lighter; Item No. 20-02197

TekFire LED Fuel-Free Lighter; Item No. 20-12425

Battery Model: 602030

Battery Type: Polymer Lithium Ion Rated Capacity: 300 mAh Nominal Voltage: 3.7 V

Watt-hours (Wh) = 300 mAh x (1 A/1000 mA) x 3.7 V = 1.11 Wh

TekFire Charge Fuel-Free Lighter; Item No. 20-12474

Battery Model: 18650-3000mAh

Battery Type: Polymer Lithium Ion Rated Capacity: 3000 mAh Nominal Voltage: 3.7 V

Watt-hours (Wh) = 3000 mAh x (1 A/1000 mA) x 3.7 V = 11.1 Wh

REFER TO BATTERY MANUFACTURER'S MSDS, SDS, AND/OR PRODUCT INFORMATION SHEET ATTACHED.

3. COMPOSITION/INFORMATION ON INGREDIENTS

REFER TO BATTERY MANUFACTURER'S MSDS, SDS, AND/OR PRODUCT INFORMATION SHEET ATTACHED.

4. FIRST AID MEASURES

REFER TO BATTERY MANUFACTURER'S MSDS, SDS, AND/OR PRODUCT INFORMATION SHEET ATTACHED.

5. FIRE-FIGHTING MEASURES

REFER TO BATTERY MANUFACTURER'S MSDS, SDS, AND/OR PRODUCT INFORMATION SHEET ATTACHED.



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6. ACCIDENTAL RELEASE MEASURES

REFER TO BATTERY MANUFACTURER'S MSDS, SDS, AND/OR PRODUCT INFORMATION SHEET ATTACHED.

7. HANDLING AND STORAGE

WARNING:

KEEP OUT OF REACH OF CHILDREN

TO AVOID ELECTRIC SHOCK AND SEVERE INJURY TO SKIN: Do not touch the electric arc or electrodes. Ignite lighter away from face and clothing.

Be sure electrical arc is off and cover closed after use. Extra care should be taken to prevent burn injury or fire. Do not keep electric arc on for more than 10 seconds. Do not operate in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust. Do not get lighter wet or immerse in water. Do not operate while standing in water. Take care when using in bright light as electric arc is difficult to see.

CAUTION: CONTAINS RECHARGEABLE LITHIUM-ION BATTERY.

Do not crush, puncture, disassemble, heat above 120°F (50°C), or put in fire. Do not short circuit or modify. Misuse can cause fire, explosion, and personal injury. Battery is NOT replaceable. Dispose of or recycle properly in accordance with local regulations.

USE ONLY AS DIRECTED.

REFER TO BATTERY MANUFACTURER'S MSDS, SDS, AND/OR PRODUCT INFORMATION SHEET ATTACHED.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

REFER TO BATTERY MANUFACTURER'S MSDS, SDS, AND/OR PRODUCT INFORMATION SHEET ATTACHED.

9. PHYSICAL AND CHEMICAL PROPERTIES

REFER TO BATTERY MANUFACTURER'S MSDS, SDS, AND/OR PRODUCT INFORMATION SHEET ATTACHED.

10. STABILITY AND REACTIVITY

REFER TO BATTERY MANUFACTURER'S MSDS, SDS, AND/OR PRODUCT INFORMATION SHEET ATTACHED.

11. TOXICOLOGICAL INFORMATION

REFER TO BATTERY MANUFACTURER'S MSDS, SDS, AND/OR PRODUCT INFORMATION SHEET ATTACHED.

12. ECOLOGICAL INFORMATION

REFER TO BATTERY MANUFACTURER'S MSDS, SDS, AND/OR PRODUCT INFORMATION SHEET ATTACHED.

13. DISPOSAL CONSIDERATIONS

REFER TO BATTERY MANUFACTURER'S MSDS, SDS, AND/OR PRODUCT INFORMATION SHEET ATTACHED.



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14. TRANSPORT INFORMATION

Lithium Ion Batteries Contained in Equipment: UN3481

Ground Shipments in the United States (Reference DOT Regulation 49 CFR parts 171-178):

Lithium Ion Batteries Contained in Equipment: UN3481. When packed and labeled in compliance with 49CFR173.185(c) effective Aug 6/2014 (< 20Watt-hours per cell; < 100 Watt-hours per battery), these items are otherwise “excepted” from the requirements of the regulations.

Air Shipments in the U.S and International (Reference IATA Dangerous Goods Regulations):

Lithium Ion Batteries Contained in Equipment: UN3481, Packing Instruction 967, Section II (< 20 Watt-hours per cell; < 100 Watt-hours per battery). This regulation applies to “small” lithium batteries contained in equipment that when packed and labeled as described in Packing Instruction 967 are otherwise “excepted” from the requirements of the regulations.

The transportation of lithium ion batteries contained in equipment is regulated as UN3481 by ICAO, IATA and IMO and US DOT. However, the listed lithium ion batteries contained in equipment are not subject to the other provisions of the regulations as long as they are packaged and marked in accordance with the regulations.

NOTE: Your selected ground, air, rail, or sea carrier may have additional documentation or pre-authorization requirements. Check with your selected carrier before shipping.

REFER TO BATTERY MANUFACTURER’S MSDS, SDS, AND/OR PRODUCT INFORMATION SHEET ATTACHED.

15. REGULATORY INFORMATION

FCC Compliance Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

California Proposition 65

WARNING: This product can expose you to chemicals including lead and lead compounds, which are known to the State of California to cause cancer and birth defects or other reproductive harm. The combustion of wood, charcoal, and other fuels can expose you to chemicals including carbon monoxide and soot, which are known to the State of California to cause cancer and



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birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

REFER TO BATTERY MANUFACTURER'S MSDS, SDS, AND/OR PRODUCT INFORMATION SHEET ATTACHED.

16. OTHER INFORMATION

REFER TO BATTERY MANUFACTURER'S MSDS, SDS, AND/OR PRODUCT INFORMATION SHEET ATTACHED.

Disclaimer of Liability: Since conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of this product. The information contained in this SDS is believed to be true and accurate. All statements or suggestions are made without warranty, express or implied, regarding the accuracy of the information, the hazards connected with the use of the product, or the results to be obtained from the use thereof. Compliance with all federal, state, and local laws and regulations remains the responsibility of the user.

User Responsibility: This SDS cannot cover all possible situations which the distributor, retailer, or end user may experience during transport, storage, processing, or use. The user should examine each aspect of his operation and determine if additional precautions should be taken. All health and safety information contained in this SDS should be provided to the user's employees or customers. It is the user's responsibility to use this information to develop appropriate work practice guidelines and employee training programs for his operation.

End of Safety Data Sheet

MSDS Report

Prepared For :	SHENZHEN KAIYESHENG ENERGY CO., LTD. Building A33, Fukang Industrial Park, Guanlan, Baoan District, Shenzhen, China
Product Name:	Polymer Lithium Cell
Model :	602030
Nominal Voltage:	3.7V
Typical Capacity:	300mAh, 1.11Wh
Weight:	6.4g
Dimension :	32.0mm×20.5mm×6.1mm (L×W×T)
Prepared By :	Shenzhen TCT Testing Technology Co., Ltd. 1F, No.1 Building, No.1 Chongqing Road, Yibaolai Industrial Park, Qiaotou Village, Fuyong Town, Baoan District, Shenzhen
Report No.:	TCT160518M013

Written by: Carry Wang

Approved by: _____

Inspected by: Carol XiongDate: 2016.05.23

Material Safety Data Sheet

Section 1- Chemical Product & Company Identification

Product Name: Polymer Lithium Cell

Manufacture: SHENZHEN KAIYESHENG ENERGY CO., LTD.

Address: Building A33, Fukang Industrial Park, Guanlan, Baoan District, Shenzhen,
China

Contact Person: Mr. Yan

Tel: +86-755-29522932

Fax: +86-755-29522285

Emergency Tel: +86-755-29522932

E-mail: 3266053575@qq.com

Item Code: TCT160518M013

Section 2- Hazards Identification

hazard categories	Not dangerous with normal use. Do not dismantle, open or shred, Polymer Lithium Cell the ingredients contained within or their ingredients could be harmful.
Appearance, Color, Odor	Solid object with no odor, no color.
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	<p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p>

	<p>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. NIC (long term): see Section 11 for additional toxicological data.</p>
Reported as carcinogen	Not applicable

Section 3- Composition/Information on Ingredients

Hazardous Ingredients (Chemical Name)	Concentration or concentration ranges (%)	CAS Number
Lithium Cobalt Oxide	35.69%	12190-79-3
Carbon Black	0.73%	1333-86-4
PVDF	1.00%	24937-79-9
Graphite	21.81%	7782-42-5
CMC	0.31%	9004-32-4
SBR	1.02%	9003-55-8
Electrolyte	18.23%	21324-40-3 96-49-1 623-53-0 105-58-8
Copper Foil	8.34%	7440-50-8
Nickel strip	1.10%	14332-32-2
Aluminum	1.00%	7429-90-5
Separator	4%	9003-07-0
Separator	4%	9002-88-4
Other	7.07%	N/A

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 contaminated clothes and rinse skin with plenty of water or shower for 15 minutes. Get medical aid.
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. Normal 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 Polymer Lithium Cell 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	<p>The battery should not be opened, destroyed or incinerate, since they may leak or rupture and release to the environment the ingredients that they contain in the hermetically sealed container.</p> <p>Do not short circuit terminals, or over charge the battery, forced over-discharge, throw to fire.</p> <p>Do not crush or puncture the battery, or immerse in liquids.</p>
Storage	<p>Avoid mechanical or electrical abuse. Storage preferably in cool, dry and ventilated area, which is subject to little temperature change. Storage at high temperatures should be avoided.</p> <p>Do not place the battery near heating equipment, nor expose to direct sunlight for long periods.</p> <p>The voltage for a long time storage shall be 3.7V~4.2V range.</p>
Other Precautions	The battery may explode or cause burns, if disassembled, crushed or exposed to fire or high temperatures. Do not short or install with incorrect polarity.

Section 8 - Exposure Controls/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 suitable protective clothing and gloves if handling an open or leaking battery. Hand protection: Wear suitable 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	130°C
Decomposition temperature	Not available.

Odour 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 Polymer Lithium Cell to mechanical shock. Vibration encountered 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:	Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
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Anticipated behavior of a chemical product in environment/possible environmental impact/ 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	<p>Be aware discarded batteries may cause fire, tape the battery terminals to insulate them. Don't disassembly the battery. Completely discharge containers may be recycled or re-used. Observe local, state and federal laws and regulations.</p> <p>The potential effects on the environment and human health of the substances used in batteries and accumulators, the desirability of disposing of waste batteries and accumulators as unsorted municipal waste and of participating in their separate collection so as to facilitate treatment and recycling.</p>

Section 14 – Transport Information

UN number	3480 & 3481
UN Proper shipping name	Lithium ion Batteries (limited to a maximum of 30% SoC) or ; Lithium ion Batteries contained in equipments or Lithium ion Batteries packed with equipment (Including lithium ion polymer batteries)
Transport hazard class(es)	9
Packing group (if applicable)	-
Marine pollutant (Yes/No)	No
Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code)	No information available.
Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises	

Transport information: The transportation of primary lithium cells and batteries is regulated by the International Air Transport Association (According to Section II/Section IB of PACKING INSTRUCTION 965, or Section II of PACKING INSTRUCTION 966~967 of IATA DGR 57th Edition for transportation), International Civil Aviation Organization, International Maritime Dangerous Goods Code and the US Department of Transportation.

The batteries must meet the following criteria for shipment:

Meet the requirements for the US Department of Transportation listed in 49 CFR 173.185.

The transport of primary lithium batteries is prohibited aboard passenger aircraft.

Refer to the Federal Register December 15, 2004 (Hazardous Materials; Prohibited on the Transportation of Primary Lithium Batteries and Cells Aboard Passenger Aircraft; Final Rule) Lithium batteries shipped as may not be classified as "Dangerous Goods" when shipped in accordance with "IATA-DGR" or "special provision 188 of IMO-IMDG Code".

Per IATA "Lithium Batteries as Cargo in 2016 Update III": Lithium ion cells and batteries (UN 3480) must be offered for transport at a state of charge (SoC) not exceeding 30% of their rated design capacity. And they are forbidden for transport as cargo on a passenger aircraft. All packages must bear the Cargo Aircraft Only label in addition to the other marks and labels required by the Regulations.

Separate batteries when shipping to prevent short-circuiting. They should be packed in strong packaging for support during transport.

More information concerning shipping, testing, marking and packaging can be obtained from label master at <http://www.labelmaster.com/>.

Transport Fashion: By air, by sea, by railway, by road.

Section 15 – Regulatory Information

OSHA hazard communication standard (29 CFR 1910.1200)

_____ Hazardous

_____√_____ Non-hazardous

Section 16 – Additional Information

The information above is believed to be accurate and represents the best information currently available to us. However, concordé 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 report*****

Report No.: TCT160518M013

Shenzhen TCT Testing Technology Co., Ltd.
1F, Building 1, Yibaolai Industrial Park, Qiaotou Village, Fuyong Town, Baoan District, Shenzhen,
Guangdong, P.R.C (518101)
Search Number: TCT160518M013C
Search System: <http://www.tct-lab.com/cn/search.asp>

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SDS

SAFETY DATA SHEET

According to 2012 OSHA Hazard Communication Standard

(29 CFR 1910.1200)

Prepared For : Shenzhen xin hao technology co., LTD
2/F, Building 3, Laofacai Science and Technology Park, No.1,
Zhugongling West, Qinghutou Village, Tangxia Town, Dongguan City,
Guangdong Province, China

Prepared By : Shenzhen LCS Compliance Testing Laboratory Ltd.
1/F., Xingyuan Industrial Park, Tongda Road, Bao'an Avenue, Bao'an
District, Shenzhen, Guangdong, China

Issue Date : 2018.09.05
Report Number : LCS180826001ASD

Written by: Una. Quan

Approved by: _____



Safety Data Sheet

Version: V1.2

According to 2012 OSHA Hazard Communication Standard
(29 CFR 1910.1200)

REPORT NO.: LCS180826001ASD

* The SDS is prepared based on the information provided by client. The contents and formats of this SDS are revised as per client's request.

Section 1- Identification

(a) Product identifier

Product name Li-ion Battery

(b) Other means of identification

Product description Model: 18650
Nominal Voltage: 3.7V
Nominal capacity: 3000mAh
Watt-hour: 11.1Wh
Weight: 44.4g

(c) Recommended use of the chemical and restrictions on use

Recommended use LITHIUM ION BATTERIES

Uses advised against No information available.

(d) Details of the supplier of the safety data sheet

Supplier Name Shenzhen xin hao technology co., LTD

Supplier Address 2/F, Building 3, Laofacai Science and Technology Park, No.1, Zhugongling West, Qinghutou Village, Tangxia Town, Dongguan City, Guangdong Province, China

Manufacture Company Shenzhen xin hao technology co., LTD

Manufacture Address 2/F, Building 3, Laofacai Science and Technology Park, No.1, Zhugongling West, Qinghutou Village, Tangxia Town, Dongguan City, Guangdong Province, China

Supplier Phone Number +86-769-88004910

(e) Emergency telephone number

+86-769-88004910

Section 2- Hazards Identification

(a) Classification

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). This product is an article which is a sealed battery and as such does not require an MSDS per the OSHA hazard communication standard unless ruptured. The hazards indicated are for a ruptured battery.

Skin corrosion/irritation Category 2

Serious eye damage/eye irritation Category 1

Carcinogenicity Category 2

Specific target organ toxicity (repeated exposure) Category 1

(b) GHS Label elements, including precautionary statements

Safety Data Sheet

Version: V1.2

According to 2012 OSHA Hazard Communication Standard
(29 CFR 1910.1200)

REPORT NO.: LCS180826001ASD

Emergency Overview	
Signal word	Danger
Hazard Statements Causes damage to organs through prolonged or repeated exposure Causes skin irritation Causes serious eye damage Suspected of causing cancer 	
Appearance: No information available	Physical State: Solid Odor: No information available
Precautionary Statements-Prevention	Do not breathe dust/fume/gas/mist/vapors/spray Wash face, hands and any exposed skin thoroughly after handling Wear protective gloves/protective clothing/eye protection/face protection Use only outdoors or in a well-ventilated area Do not eat, drink or smoke when using this product
Precautionary Statements-Response	Immediately call a POISON CENTER or doctor/physician Specific treatment (see supplemental first aid instructions on this label) Get medical advice/attention if you feel unwell
Eyes	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician
Skin	IF ON SKIN: Wash with plenty of soap and water If skin irritation occurs: Get medical advice/attention Take off contaminated clothing and wash before reuse
Precautionary Statements-Storage	Store locked up Store in a well-ventilated place. Keep container tightly closed
Precautionary Statements-Disposal	Dispose of contents/container to an approved waste disposal plant
(c) Hazards not otherwise classified (HNOC)	
Not applicable	
(d) Unknown Toxicity	
32% of the mixture consists of ingredient(s) of unknown toxicity	
(e) Other information	
Very toxic to aquatic life with long lasting effects	
(f) Interactions with Other Chemicals	
No information available.	

Safety Data Sheet

Version: V1.2

According to 2012 OSHA Hazard Communication Standard
(29 CFR 1910.1200)

REPORT NO.: LCS180826001ASD

Section 3- Composition/Information On Ingredients

Chemical Name	CAS Number	Weight (%)	Trade Secret
Lithium Cobalt Oxide (CoLiO ₂)	12190-79-3	38.5	*
Copper	7440-50-8	6.4	*
Graphite	7782-42-5	38.2	*
Phosphate(1-), hexafluoro-, lithium	21324-40-3	4.5	*
Aluminum foil	7429-90-5	12.4	*

"*" The exact percentage (concentration) of composition has been withheld as a trade secret.

Section 4- First-aid Measures

Description of first aid measures

- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Immediately rinse with water.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

Section 5- Fire-fighting measures

(a) Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

(b) Unsuitable extinguishing media

CAUTION: Use of water spray when fighting fire may be inefficient.

(c) Specific Hazards Arising from the Chemical

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.

(d) Hazardous Combustion Products

Carbon oxides.

(e) Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6- Accidental Release Measures

(a) Personal precautions, protective equipment and emergency procedures

If the battery is released, remove personnel from area until fumes dissipate. Provide maximum ventilation to clear out hazardous gases. The preferred response is to leave the area and allow the vapors to dissipate. Avoid skin and eyes contact or inhalation of vapors. Remove spilled liquid with absorbent and incinerated. If leakage of the battery happens, liquid could be absorbed with sand, earth or other inert substance and contaminated area should be ventilated meantime.

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(b) Environment precautions

Do not allow product to reach sewage system or any water source.
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers surface or ground water.

(c) Methods and material for containment and cleaning up

If battery casing is dismantled, small amounts of electrolyte may leak. Collect all released material in a plastic lined container. Dispose off according to the local law and rules. Avoid leached substances to get into the earth, canalization or waters.

Section 7- Handling and Storage

(a) Precautions for safe handling

Handling

Handle in accordance with good industrial hygiene and safety practice. Wear personal protective equipment. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.

(b) Conditions for safe storage, including any incompatibilities

Storage

Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children.

Incompatible Products

Strong acids. Strong oxidizing agents. Strong bases

Section 8- Exposure Controls/Personal Protection

(a) Control parameters

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Carbon black 1333-86-4	TWA: 3 mg/m ³ inhalable fraction	TWA: 3.5 mg/m ³ (vacated) TWA: 3.5 mg/m ³	IDLH: 1750 mg/m ³ TWA: 3.5 mg/m ³ TWA: 0.1 mg/m ³ Carbon black in presence of Polycyclic aromatic hydrocarbons PAH
Lithium Cobalt Oxide (CoLiO ₂) 12190-79-3	TWA: 0.02 mg/m ³	-	-
Phosphate(1-), hexafluoro-, lithium 21324-40-3	TWA:2.5mg/m ³ F	TWA:2.5mg/m ³ F TWA:2.5mg/m ³ dust (vacated)TWA:2.5mg/m ³	
Copper 7440-50-8	TWA:0.2mg/m ³ fume TWA:1mg/m ³ Cu dust and mist	TWA:0.1mg/m ³ fume TWA:1mg/m ³ dust and mist (vacated) TWA:0.1mg/m ³ Cu dust,fume,mist	IDLH:100mg/m ³ dust ,fume and mist TWA:1mg/m ³ dust and mist TWA:0.1mg/m ³ fume
Aluminum foil 7429-90-5	TWA:1mg/m ³ respirable fraction	TWA:15mg/m ³ total dust TWA:5mg/m ³ respirable fraction (vacated)	TWA:10mg/m ³ total dust TWA:5mg/m ³ respirable dust

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		TWA:15mg/m ³ total dust (vacated) TWA:5mg/m ³ respirable fraction(vacated) TWA:5mg/m ³ AL Aluminum	
ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits Immediately Dangerous to Life or Health			
Other Exposure Guidelines	Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992) See section 15 for national exposure control parameters		
(b) Appropriate engineering controls			
Engineering Measures	Showers Eyewash stations Ventilation systems		
(c) Individual protection measures, such as personal protective equipment			
Eye/Face Protection	None required for consumer use. If there is a risk of contact: Tight sealing safety goggles. Face protection shield.		
Skin and body Protection	None required for consumer use. If there is a risk of contact: Wear protective gloves and protective clothing.		
Respiratory Protection	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.		
Hygiene Measures	Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. For environmental protection, remove and wash all contaminated protective equipment before re-use. No information available.		
Section 9- Physical and Chemical Properties			
Form	Solid		
Color	Gray		
Odor	No available		
pH	No available		
Melting point/freezing point	No available		
Boiling Point and Boiling range	No available		
Flash Point	No available		
Upper/lower flammability or explosive limits	No available		
Vapor Pressure	No available		

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Vapor Density	No available
Relative density	No available
Solubility in Water	No available
Auto-ignition temperature	No available
Decomposition temperature	No available
Evaporation rate	No available
Flammability (soil, gas)	No available
Viscosity	No available
Section 10- Stability and reactivity	
Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of Hazardous Reactions	None under normal processing.
Hazardous Polymerization	Hazardous polymerization does not occur.
Conditions to avoid	Exposure to air or moisture over prolonged periods. Excessive heat.
Incompatible materials	Acids. Bases. Oxidizing agent.
Hazardous Decomposition Products	Carbon oxides.
Section 11 – Toxicological Information	
Product Information	Product does not present an acute toxicity hazard based on known or supplied information. In case of rupture:
Irritation	Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.
Eye contact	Specific test data for the substance or mixture is not available. Causes burns. (based on components). Corrosive to the eyes and may cause severe damage including blindness. Causes serious eye damage. May cause irreversible damage to eyes.
Skin contact	Specific test data for the substance or mixture is not available. Corrosive. (based on components). Causes burns.
Ingestion	Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May

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		cause lung damage if swallowed. May be fatal if swallowed and enters airways.		
Component Information				
Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50	
Carbon black 1333-86-4	> 10000 mg/kg (Rat)	> 3 g/kg (Rabbit)	-	
Information on toxicological effects				
Symptoms	Erythema (skin redness). May cause redness and tearing of the eyes. Itching. Rashes. Hives.			
Delayed and immediate effects as well as chronic effects from short and long-term exposure				
Sensitization:	May cause sensitization of susceptible persons. May cause sensitization by skin contact.			
Mutagenic Effects:	No information available.			
Carcinogenicity:	The table below indicates whether each agency has listed any ingredient as a carcinogen.			
Chemical Name	ACGIH	IARC	NTP	OSHA
Lithium Cobalt Oxide (CoLiO ₂) 12190-79-3	A3	Group 2B		X
Carbon black 1333-86-4	A3	Group 2B		X
ACGIH (American Conference of Governmental Industrial Hygienists) A3 - Animal Carcinogen IARC (International Agency for Research on Cancer) Group 2B - Possibly Carcinogenic to Humans OSHA (Occupational Safety and Health Administration of the US Department of Labor) X - Present				
Reproductive Toxicity	No information available.			
STOT - single exposure	No information available.			
STOT - repeated exposure	Causes damage to organs through prolonged or repeated exposure. Based on classification criteria from the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200), this product has been determined to cause systemic target organ toxicity from chronic or repeated exposure. (STOT RE).			
Chronic Toxicity	Contains a known or suspected carcinogen. Avoid repeated exposure. Prolonged exposure may cause chronic effects. May cause adverse liver effects.			
Target Organ Effects	Respiratory system. Eyes. Skin. Gastrointestinal tract (GI). Central Vascular System (CVS).Kidney. Liver. Liver. Cardiovascular system. Systemic Toxicity.			
Aspiration Hazard	No information available.			
Numerical measures of toxicity Product Information				
The following values are calculated based on	ATEmix (oral):	12,905.00 mg/kg		

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chapter 3.1 of the GHS document		ATEmix (dermal):		10,200.00 mg/kg (ATE)
Section 12- Ecological Information				
Ecological Toxicity		Very toxic to aquatic life with long lasting effects.		
Chemical name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Copper 7440-50-8	96h EC50: 0.031 - 0.054 mg/L (Pseudokirchneriella subcapitata) 72h EC50: 0.0426 - 0.0535 mg/L (Pseudokirchneriella subcapitata)	96h LC50: 0.0068 - 0.0156 mg/L (Pimephales promelas) 96h LC50: = 0.112 mg/L (Poecilia reticulata) 96h LC50: = 0.3 mg/L (Cyprinus carpio) 96h LC50: = 0.8 mg/L (Cyprinus carpio) 96h LC50: = 1.25 mg/L (Lepomis macrochirus) 96h LC50: = 0.052 mg/L (Oncorhynchus mykiss) 96h LC50: = 0.2 mg/L (Pimephales promelas) 96h LC50: < 0.3 mg/L (Pimephales promelas)		48h EC50: = 0.03 mg/L
Carbon black 1333-86-4				24h EC50: > 5600 mg/L
Persistence and Degradability		No information available.		
Bioaccumulation		No information available.		
Other adverse effects		No information available.		
Section 13- Disposal Considerations				
Waste treatment methods				
Disposal methods		This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.		
Contaminated Packaging		Disposal should be in accordance with applicable regional, national and local laws and regulations.		
California Hazardous Waste Codes 141				
This product contains one or more substances that are listed with the State of California as a hazardous waste.				
Chemical Name:		California Hazardous Waste		

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Lithium Cobalt Oxide (CoLiO ₂) 12190-79-3	Toxic
Copper 7440-50-8	Toxic
Aluminum foil 7429-90-5	Ignitable powder

Section 14 – Transport Information

UN Number -DOT, IMDG, IATA	UN 3480 & UN 3481
UN Proper shipping name -DOT, IMDG, IATA	Lithium ion Batteries (Including lithium ion polymer batteries) or ; Lithium ion Batteries contained in equipments (Including lithium ion polymer batteries) or; Lithium ion Batteries packed with equipment (Including lithium ion polymer batteries)
Transport information	Li-ion Battery (Sample Model: 18650) is tested and has passed in accordance with UN manual of Tests and Criteria, Part III, subsection 38.3. The transportation of lithium cells and batteries is regulated by the International Air Transport Association (According to Section II/ Section IB of PACKING INSTRUCTION 965, or to Section II of PACKING INSTRUCTION 966-967 of IATA DGR 59th Edition for transportation), International Civil Aviation Organization, International Maritime Dangerous Goods Code and the US Department of Transportation listed in 49 CFR 173.185. Lithium batteries shipped as "Lithium batteries", "Lithium batteries packed with equipment", or "Lithium batteries contained in equipment" may not be classified as "Dangerous Goods" when shipped in accordance with "special provision A45 of IATA-DGR" or "special provision 188 of IMO-IMDG Code"
Transport hazard class(es) -DOT, IMDG, IATA	9
Environmental hazards	Yes(DOT)
Marine pollutant	Symbol (fish and tree)
Special precautions for user EMS Number	Warning: Miscellaneous dangerous substances and articles F-A,S-N
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable
DOT Remarks:	Special marking with the symbol (fish and tree)
IMDG Limited quantities (LQ) Excepted quantities (EQ)	0 Code: E0 Not permitted as Excepted Quantity

Section 15- Regulatory information

(a) International Inventories

TSCA	Complies.
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DSL	All components are listed either on the DSL or NDSL.				
(b) US Federal Regulations					
SARA 313	Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.				
Chemical Name	CAS No	Weight-%	SARA 313 – Threshold Values %		
Lithium Cobalt Oxide (CoLiO ₂)	12190-79-3	15-40	0.1		
Copper	7440-50-8	3-7	1.0		
Aluminum foil	7429-90-5	7-13	1.0		
SARA 311/312 Hazard Categories					
Acute Health Hazard	No				
Chronic Health Hazard	No				
Fire Hazard	No				
Sudden release of pressure hazard	No				
Reactive Hazard	No				
CWA (Clean Water Act)	This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)				
Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants		
Copper 7440-50-8		X	X		
CERCLA	This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)				
Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ		
Copper 7440-50-8	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ		
(c) US State Regulations					
California Proposition 65	This product contains the following Proposition 65 chemicals.				
Chemical name	California Proposition 65				
Carbon black - 1333-86-4	Carcinogen				
U.S. State Right-to-Know Regulations					
Chemical Name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Carbon black 1333-86-4	X	X	X		X
Lithium Cobalt Oxide (CoLiO ₂) 12190-79-3	X		X	X	X
Dimethyl carbonate 616-38-6	X	X	X		
Aluminum 7429-90-5	X	X	X	X	
Copper 7440-50-8	X	X	X	X	X
Ethylene carbonate 96-49-1		X	X		

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(d) International Regulations								
Mexico								
National occupational exposure limits								
Component			Carcinogen Status			Exposure Limits		
Carbon black 1333-86-4 (15 - 40)						Mexico: TWA=3.5 mg/m ³		
Aluminum 7429-90-5 (7 - 13)						Mexico: TWA= 10 mg/m ³		
Copper 7440-50-8 (3 - 7)						Mexico: TWA= 1 mg/m ³ Mexico: TWA= 0.2 mg/m ³ Mexico: STEL= 2 mg/m ³		
<i>Mexico - Occupational Exposure Limits - Carcinogens</i>								
Canada								
WHMIS Hazard Class			Not determined					
Section 16- Additional Information								
NFPA	Health Hazards	1	Flammability	0	Instability	0	Physical and Chemical Hazards	-
HMIS	Health Hazards	2*	Flammability	0	Physical Hazard	0	Personal Protection	X
Chronic Hazard Star Legend * = Chronic Health Hazard								
Disclaimer								
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.								

*****End of Safety Data Sheet*****