

# SAFETY DATA SHEET

Issuing Date 31-Mar.-2017

Revision Date 31-Mar.-2017

Revision Number 2



The supplier identified below generated this SDS using the UL SDS template. UL did not test, certify, or approve the substance described in this SDS, and all information in this SDS was provided by the supplier or was reproduced from publically available regulatory data sources. UL makes no representations or warranties regarding the completeness or accuracy of the information in this SDS and disclaims all liability in connection with the use of this information or the substance described in this SDS. The layout, appearance and format of this SDS is © 2014 UL LLC. All rights reserved.

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

### Product identifier

Product Name Lithium Ion Polymer Rechargeable Battery (MB1-1480mAh-11.4V 11.4V 1480mAh 16.87Wh)

### Other means of identification

Synonyms None

### Recommended use of the chemical and restrictions on use

Recommended Use LITHIUM ION BATTERIES

Uses advised against No information available

### Details of the supplier of the safety data sheet

Supplier Name Dong Guan Amperex Technology limited

Supplier Address Songshan Lake Industrial Park, Dong guan City, Guang dong Province, China  
Dong guan  
Dong guan  
523808  
CN

Supplier Phone Number +86-(0)593-257 6248  
+86-177-5933 5025

Supplier Email LinYing@ATLBattery.com

### Emergency telephone number

Company Emergency Phone Number +86-177-5933 5025

## 2. HAZARDS IDENTIFICATION

### Classification


This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).



Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1
Carcinogenicity	Category 2
Specific target organ toxicity (repeated exposure)	Category 1

**GHS Label elements, including precautionary statements**

**Emergency Overview**

<b>Signal word</b>	<b>Danger</b>		
<b>Hazard Statements</b>	Causes skin irritation Causes serious eye damage Suspected of causing cancer Causes damage to organs through prolonged or repeated exposure		
			
This product is an article which contains a chemical substance. Safety information is given for exposure to the article as sold. Intended use of the product should not result in exposure to the chemical substance. This is a battery. In case of rupture: the above hazards exist.			
<b>Appearance</b>	No information available	<b>Physical state</b>	Solid
		<b>Odor</b>	No information available

**Precautionary Statements - Prevention**

- Obtain special instructions before use
- Do not handle until all safety precautions have been read and understood
- Use personal protective equipment as required
- Wash face, hands and any exposed skin thoroughly after handling
- Do not breathe dust/fume/gas/mist/vapors/spray
- Do not eat, drink or smoke when using this product

**Precautionary Statements - Response**

- IF EXPOSED OR CONCERNED: Get medical advice/attention
- Specific treatment (see supplemental first aid instructions on this label)

**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



**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

Not applicable

**Unknown Toxicity**

41 % of the mixture consists of ingredient(s) of unknown toxicity

**Other information**

No information available

**Interactions with Other Chemicals**

No information available.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical name	CAS No	Weight-%	Trade Secret
Lithium Cobalt Oxide (CoLiO <sub>2</sub> )	12190-79-3	15 - 40	*
Graphite	7782-42-5	10 - 30	*
Propylene carbonate	108-32-7	7 - 13	*
Phosphate(1-), hexafluoro-, lithium	21324-40-3	1 - 5	*
Carbon black	1333-86-4	1 - 5	*

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

**4. FIRST AID MEASURES**

**First aid measures**

**General Advice**

First aid is upon rupture of sealed battery.

**Eye contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Do not rub affected area. Seek immediate medical attention/advice.

**Skin contact**

Wash off immediately with soap and plenty of water for at least 15 minutes. Remove and isolate contaminated clothing and shoes. Get medical attention if irritation develops and persists.

**Inhalation**

Remove to fresh air. Get medical attention immediately if symptoms occur. If not breathing, give artificial respiration. If breathing is difficult, (trained personnel should) give oxygen.

**Ingestion**

Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a physician.

**Self-protection of the first aider**

Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wear personal protective clothing (see section 8). Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

**Most important symptoms and effects, both acute and delayed**



**Most Important Symptoms and Effects** Burning sensation.

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician** Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Dry chemical, CO<sub>2</sub>, water spray or regular foam. Move containers from fire area if you can do it without risk.

**Unsuitable extinguishing media**

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

**Specific hazards arising from the chemical**

No information available.

**Explosion Data**

**Sensitivity to Mechanical Impact** None.

**Sensitivity to Static Discharge** None.

**Protective equipment and precautions for firefighters**

Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas.

**Other Information** Refer to protective measures listed in Sections 7 and 8.

**Environmental precautions**

**Environmental precautions** Prevent further leakage or spillage if safe to do so.

**Methods and material for containment and cleaning up**

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Pick up and transfer to properly labeled containers.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

**Handling** In case of rupture: Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.

### 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.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

**Exposure Guidelines** The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Lithium Cobalt Oxide (CoLiO <sub>2</sub> ) 12190-79-3	TWA: 0.02 mg/m <sup>3</sup>	-	
Graphite 7782-42-5	TWA: 2 mg/m <sup>3</sup> respirable particulate matter all forms except graphite fibers	TWA: 15 mg/m <sup>3</sup> total dust synthetic TWA: 5 mg/m <sup>3</sup> respirable fraction synthetic (vacated) TWA: 2.5 mg/m <sup>3</sup> respirable dust natural (vacated) TWA: 10 mg/m <sup>3</sup> total dust synthetic (vacated) TWA: 5 mg/m <sup>3</sup> respirable fraction synthetic TWA: 15 mppcf natural	IDLH: 1250 mg/m <sup>3</sup> TWA: 2.5 mg/m <sup>3</sup> respirable dust
Phosphate(1-), hexafluoro-, lithium 21324-40-3	TWA: 2.5 mg/m <sup>3</sup> F	TWA: 2.5 mg/m <sup>3</sup> F TWA: 2.5 mg/m <sup>3</sup> dust (vacated) TWA: 2.5 mg/m <sup>3</sup>	
Carbon black 1333-86-4	TWA: 3 mg/m <sup>3</sup> inhalable particulate matter	TWA: 3.5 mg/m <sup>3</sup> (vacated) TWA: 3.5 mg/m <sup>3</sup>	IDLH: 1750 mg/m <sup>3</sup> TWA: 3.5 mg/m <sup>3</sup> TWA: 0.1 mg/m <sup>3</sup> Carbon black in presence of Polycyclic aromatic hydrocarbons PAH

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits NIOSH IDLH 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)

### Appropriate engineering controls



**Engineering Measures**  
Showers  
Eyewash stations  
Ventilation systems

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Tight sealing safety goggles.

**Skin and body protection** Wear protective gloves and protective clothing. Long sleeved clothing. Impervious gloves.

**Respiratory protection** If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Physical and Chemical Properties**

<b>Physical state</b>	Solid	<b>Odor</b>	No information available
<b>Appearance</b>	No information available	<b>Odor Threshold</b>	No information available
<b>Color</b>	Black		

<u>Property</u>	<u>Values</u>	<u>Remarks</u>	<u>Method</u>
<b>pH</b>	No data available	None known	
<b>Melting / freezing point</b>	No data available	None known	
<b>Boiling point / boiling range</b>	No data available	None known	
<b>Flash Point</b>	No data available	None known	
<b>Evaporation Rate</b>	No data available	None known	
<b>Flammability (solid, gas)</b>	No data available	None known	
<b>Flammability Limit in Air</b>			
<b>Upper flammability limit</b>	No data available		
<b>Lower flammability limit</b>	No data available		
<b>Vapor pressure</b>	No data available	None known	
<b>Vapor density</b>	No data available	None known	
<b>Specific Gravity</b>	No data available	None known	
<b>Water Solubility</b>	No data available	None known	
<b>Solubility in other solvents</b>	No data available	None known	
<b>Partition coefficient: n-octanol/water</b>	No data available	None known	
<b>Autoignition temperature</b>	No data available	None known	
<b>Decomposition temperature</b>	No data available	None known	
<b>Kinematic viscosity</b>	No data available	None known	
<b>Dynamic viscosity</b>	No data available	None known	
<b>Explosive properties</b>	No data available		
<b>Oxidizing properties</b>	No data available		

**Other Information**

<b>Softening Point</b>	No data available
<b>VOC Content (%)</b>	No data available



Particle Size No data available  
Particle Size Distribution

## 10. STABILITY AND REACTIVITY

### Reactivity

No data available.

### Chemical stability

Stable under recommended storage conditions.

### Possibility of Hazardous Reactions

None under normal processing.

### Conditions to avoid

None known based on information supplied.

### Incompatible materials

Strong acids. Strong oxidizing agents. Strong bases.

### Hazardous Decomposition Products

None known based on information supplied.

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

#### Product Information

Product does not present an acute toxicity hazard based on known or supplied information. In case of rupture:.

#### Inhalation

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 serious eye damage. (based on components). Severely irritating to eyes. May cause irreversible damage to eyes.

#### Skin contact

Specific test data for the substance or mixture is not available. Causes skin irritation. (based on components). Prolonged contact may cause redness and irritation.

#### Ingestion

Specific test data for the substance or mixture is not available. Ingestion may cause irritation to mucous membranes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

#### Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Propylene carbonate 108-32-7	= 29000 mg/kg ( Rat )	> 20 mL/kg ( Rabbit )	-

Carbon black 1333-86-4	> 15400 mg/kg ( Rat )	> 3 g/kg ( Rabbit )	-
---------------------------	-----------------------	---------------------	---

**Information on toxicological effects**

**Symptoms** Erythema (skin redness). May cause redness and tearing of the eyes. May cause blindness. Burning.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Sensitization** No information available.

**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 (CoLiO2) 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). Lymphatic System. Liver. Lungs.

**Aspiration Hazard** No information available.

**Numerical measures of toxicity Product Information**

The following values are calculated based on chapter 3.1 of the GHS document

**ATEmix (oral)**

6,399.00 mg/kg

**ATEmix (dermal)**

5,300.00 mg/kg (ATE)





## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

The environmental impact of this product has not been fully investigated.

Chemical name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Propylene carbonate 108-32-7	72h EC50: > 500 mg/L (Desmodesmus subspicatus)	96h LC50: > 1000 mg/L (Cyprinus carpio) 96h LC50: = 5300 mg/L (Leuciscus idus)	EC50 > 10000 mg/L 17 h	48h EC50: > 500 mg/L
Carbon black 1333-86-4				24h EC50: > 5600 mg/L

### Persistence and Degradability

No information available.

### Bioaccumulation

Chemical name	Log Pow
Propylene carbonate 108-32-7	0.48

### Other adverse effects

No information available.

## 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**

Dispose of contents/containers in accordance with local 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
Lithium Cobalt Oxide (CoLiO <sub>2</sub> ) 12190-79-3	Toxic

## 14. TRANSPORT INFORMATION

#### **Note:**

The transportation of primary lithium cells and batteries is regulated by the International Civil Aviation Organization, International Air Transport Association, International Maritime Dangerous Goods Code and the US Department of Transportation. The batteries must



meet the following criteria for shipment: 1. Air shipments must meet the requirements listed in Special Provision A45 of the International Air Transport Association Dangerous Goods Regulations. 2. Meet the requirements for the US Department of Transportation listed in 49 CFR 173.185. 3. 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 "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"

**DOT**  
**Proper Shipping Name** NOT REGULATED  
**Hazard Class** NON-REGULATED  
**Emergency Response Guide Number** N/A  
 147

**TDG** Not regulated

**MEX** Not regulated

**ICAO** Not regulated

**IATA**  
**Proper Shipping Name** Not regulated  
**Hazard Class** NON REGULATED  
 N/A

**IMDG/IMO**  
**Hazard Class** Not regulated  
**EmS-No.** N/A  
 F-A, S-I

**RID** Not regulated

**ADR** Not regulated

**ADN** Not regulated

## 15. REGULATORY INFORMATION

### International Inventories

TSCA Complies  
 DSL All components are listed either on the DSL or NDSL.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory  
 DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

### 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 (CoLiO2) - 12190-79-3	12190-79-3	15 - 40	0.1



**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 does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

**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
Lithium Cobalt Oxide (CoLiO2) 12190-79-3	X		X	X	X
Graphite 7782-42-5	X	X	X		
Ethylene carbonate 96-49-1		X	X		
Dimethyl carbonate 616-38-6	X	X	X		
Diethyl carbonate 105-58-8	X	X	X		
Phosphate(1-), hexafluoro-, lithium 21324-40-3	X				
Carbon black 1333-86-4	X	X	X		X

**International Regulations**

**Mexico**

**National occupational exposure limits**

Chemical name	Carcinogen Status	Exposure Limits
Graphite		Mexico: TWA= 2 mg/m <sup>3</sup>
Carbon black		Mexico: TWA 3.5 mg/m <sup>3</sup> Mexico: STEL 7 mg/m <sup>3</sup>

Mexico - Occupational Exposure Limits - Carcinogens

**Canada**

**WHMIS Hazard Class**

Non-controlled



---

## 16. OTHER INFORMATION

<b>Prepared By</b>	Product Stewardship 23 British American Blvd. Latham, NY 12110 1-800-572-6501
<b>Revision Date</b>	31-Mar.-2017
<b>Revision Note</b>	No information available

### 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**