Version: V1.4

SDS

SAFETY DATA SHEET

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

Prepared For: Xiamen Puxing Electronics Science & Technology

Co.,Ltd.

FL3-4,No 11 xianghong road,xiang' an area Xiamen

city, Fujian China 361101

Prepared By: Shenzhen LCS Compliance Testing Laboratory Ltd.

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Bao'an District, Shenzhen, Guangdong, China

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Report

: LCS200402065ASD

Number

Written by: <u>Seven Gu</u> Approved by:

(29 CFR 1910.1200)

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* 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.

client's request.						
	Section 1- Identifi	cation				
(a) Product identifier						
Product name	Li-ion Battery Pack					
(b) Other means of ident						
Product description	Model: MRB400 Nominal Voltage: 7.4V Nominal capacity: 1500mAh Watt-hour: 11.10Wh Weight: 81.8g					
(c) Recommended use of	of the chemical and restrictions on use					
Recommended use	LITHIUM ION BATTERIES					
Uses advised against	No information available.					
(d) Details of the supplie	er of the safety data sheet					
Supplier Name	Xiamen Puxing Electronics Science & Te	echnology Co.,Ltd.				
Supplier Address	FL3-4,No 11 xianghong road,xiang' an area Xiamen city,Fujian China 361101					
Manufacture Company	Xiamen Puxing Electronics Science & Te	echnology Co.,Ltd.				
Manufacture Address	FL3-4,No 11 xianghong road,xiang' an	area Xiamen city,Fujian China 361101				
Supplier Phone Number	0592-7769995-834					
(e) Emergency telephon	e number					
0592-7769995-834						
	Section 2- Hazards ide	entification				
1910.1200). This produc	t is an article which is a sealed battery a	lazard Communication Standard (29 CFR and as such does not require an MSDS per the zards indicated are for a ruptured battery.				
Reproductive toxicity		Category 2				
Acute toxicity-Oral		Category 3				
Skin corrosion/ irritation		Category 1				
Specific target organ toxic	ity-repeated exposure	Category 1				
(b) GHS Label elements,	including precautionary statements					
Emergency Overview						

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Signal word Danger

Hazard Statements

Suspected of damaging fertility or the unborn child Toxic if swallowed

Causes severe skin burns and eye damage

Cause damage to organs through prolonged or repeated exposure.



Appearance:	No information available	Physical State: Solid	Odor: No information available
P101	If medical advice is r	needed,,have product containet o	or label at hand
P201	Obtain special instru	ctions before use.	
P202	Do not handle until a	ıll safety precautions have been ı	read and understood.
P260	Do not breathe dust/	fume/gas/mist/vapours/spray.	
P264	Wash thoroughly a	after handling.	
P270	dust/fume/gas/mist/v	apours/spray	
P280	Wear protective glov	es/protective clothing/eye protec	ction/face protection
	IF exposed or conce	rned: Get medical advice/ attenti	ion.
P308+P313	IF SWALLOWED: In	nmediately call a POISON CENT	ER/doctor/\u2026.
P301+P310	Specific treatment (s	ee on this label).	
P321	Rinse mouth.		
P330	IF SWALLOWED: R	inse mouth. Do NOT induce vom	iting.
P301+P330+P3	IF ON SKIN (or hair) [or shower].	: Take off immediately all contam	ninated clothing. Rinse skin with water
P303+P361+P3	53	clothing before reuse.	
P363		ve person to fresh air and keep co	omfortable for breathing
P304+P340	Immediately call a P	•	omonable for broading.
P310	CENTER/doctor/\u20		
P305+P351+P3 P314	IF IN EYES: Rinse c		ninutes. Remove contact lenses, if
	Get medical advice/a	attention if you feel unwell.	
P405	Store locked up.		
P501	Dispose of contents/	container to	

(c) Hazards not otherwise classified (HNOC)

Not applicable

(d) Unknown Toxicity

32% of the mixture consists of ingredient(s) of unknown toxicity

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(e) Other information

Very toxic to aquatic life with long lasting effects

(f) Interactions with Other Chemicals

No information available.

Section 3- Composition/information on ingredients

Chemical Name	CAS Number	Weight (%)	Trade Secret
Lithium Cobalt Oxide (CoLiO ₂)	12190-79-3	39.12	*
Copper	7440-50-8	6.33	*
Graphite	7782-42-5	37.89	*
Phosphate(1-), hexafluoro-, lithium	21324-40-3	4.56	*
Aluminum foil	7429-90-5	12.1	*

[&]quot;*" 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

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(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.

(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
Graphite 7782-42-5	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 Graphite in presence of Polycyclic aromatic hydrocarbons PAH
Lithium Cobalt Oxide (CoLiO ₂) 12190-79-3	TWA: 0.02 mg/m³	-	-
Phosphate(1-), hexafluoro-, lithium 21324-40-3	TWA:2.5mg/m³ F	TWA:2.5mg/m³ F TWA:2.5mg/m³ dust (vacated)TWA:2.5mg/m³	
Copper 7440-50-8	TWA:0.2mg/m³ fume TWA:1mg/m³Cu dust and mist	TWA:0.1mg/m³fume TWA:1mg/m³dust and mist (vacated) TWA:0.1mg/m³Cu	IDLH:100mg/m³dust ,fume and mist TWA:1mg/m³dust and mist

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				1	NO.: LCS200402065ASD		
				dust,fume,mist	TWA:0.1mg/m³ fume		
Aluminum foil	TW	/A:1mg/m³ re:	spirable fraction	TWA:15mg/m³ total dust	TWA:10mg/m³ total dust		
7429-90-5		J		TWA:5mg/m³respirable	TWA:5mg/m³ respirable		
				fraction (vacated)	dust		
				TWA:15mg/m³total dust			
				(vacated) TWA:5mg/m³			
				respirable fraction(vacated) TWA:5mg/m³ AL Aluminum			
				ists - Threshold Limit Value ble Exposure Limits Immediately Dange	erous to Life or Health		
				Court of Appeals decision in AF ion 15 for national exposure co			
(b) Appropriate e	engine	eering contro	ols				
Showers							
Engineering Measures Eyewash s Ventilation							
(c) Individual pro	otectio		•	nal protective equipment			
Eye/Face Protection None requi Face prote			ed for consumer use. If there is a risk of contact:. Tight sealing safety goggles. tion shield.				
Skin and body Protection None requirements protective of			red for consumer use. If there is a risk of contact:. Wear protective gloves and lothing.				
Respiratory Protection				eded under normal use condition enced, ventilation and evacuation	-		
Hygiene Measures Hygiene before brea			nen using this prod d contact with skin, Contaminated work aning of equipments and immediately	od industrial hygiene and safety duct. Take off contaminated clot geyes or clothing. Wear suitable clothing should not be allowed t, work area and clothing is received after handling the product. For nated protective equipment before	hing and wash before e gloves and eye/face lout of the workplace. ommended. Wash hands renvironmental protection,		
	S	ection 9-	Physical a	nd chemical proper	ties		
Form			Solid				
Color			Black				
Odor			Not Available				
рН			Not Available				
Melting point/free	zing p	oint	Not Available				
Boiling Point and	Boilir	ng range	Not Available				

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	REPORT NO LC3200402005A5D
Flash Point	Not Available
Upper/lower flammability or explosive limits	Not Available
Vapor Pressure	Not Available
Vapor Density	Not Available
Relative density	Not Available
Solubility in Water	Not Available
Auto-ignition temperature	Not Available
Decomposition temperature	Not Available
Evaporation rate	Not Available
Flammability (soil, gas)	Not Available
Viscosity	Not Available
Secti	ion 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	n 11 – Toxicological information
Product Information	Product does not present an acute toxicity hazard based on known or supplied information. In case of rupture:
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.

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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 cause lung damage if swallowed. May be fatal if swallowed and enters airways.							
Component Information	n								
Chemical Name			Oral LD50		Derm	nal LD50	Inhal	ation LC50	
Graphite 7782-42-5		>	> 10000 mg/kg (F	Rat)	> 3 g/kç	g(Rabbit)		-	
Information on toxicolo	gical effe	ects							
Symptoms			Erythema (sk Itching. Rashe		ss). May ca	ause redness	and tearin	g of the eyes.	
Delayed and immediate	effects a	as we	ell as chronic	effects f	rom short a	and long-term	exposure		
Sensitization:			May cause se skin contact.	nsitizatio	n of suscept	ible persons. M	lay cause s	sensitization by	
Mutagenic Effects:			No information available.						
Carcinogenicity:	carcinogenicity:		The table below indicates whether each agency has listed any ingredient as a carcinogen.						
Chemical Name		ACG	HIE	I <i>A</i>	RC	NTP		OSHA	
Lithium Cobalt Oxide (CoLiO ₂) 12190-79-3		A3	3	Gro	up 2B			Х	
Graphite 7782-42-5		A3	3	Gro	up 2B			Х	
ACGIH (American Conference A3 - Animal Carcinogen IARC (International Agency for Group 2B - Possibly Carcinoger OSHA (Occupational Safety of X - Present Reproductive Toxicity STOT - single exposure	or Researc enic to Huma and Health	ch on C ans Admir	Cancer) nistration of the (<i>US Departn</i> n available	Э.				
STOT - repeated exposure Chronic Toxicity		;	No information available. 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). Contains a known or suspected carcinogen. Avoid repeated exposure.						
Target Organ Effects			Prolonged exposure may cause chronic effects. May cause adverse liver effects. Respiratory system. Eyes. Skin. Gastrointestinal tract (GI). Central Vascular System (CVS).Kidney. Liver. Liver. Cardiovascular system. Systemic Toxicity.						

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Aspiration Ha	zard	No information av	ailable.	REPUR	T NO.: LCS200402065ASD		
Numerical me	asures of toxicity Pro	duct Information					
_	values are calculated	based on	ATEmix (d	oral):	12,905.00 mg/kg		
chapter 3.1 of	chapter 3.1 of the GHS document Secti		ATEmix	(dermal):	10,200.00 mg/kg (ATE)		
	Secti	on 12- Ecol	ogical	information			
Ecological To	xicity	Very toxic to aqua	atic life with	n long lasting effects	i.		
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: 0.0 0.0156 mg/L (Pimepl promelas 96h LC50: = 0.1 (Poecilia reticula LC50: = 0.3 I (Cyprinus carpio) 96h LC5 mg/L (Cyprinus 96h LC50: = 1.25 (Lepomis macrochirus) 96h 0.052 mg/ (Oncorhync mykiss) 96h LC5 mg/L (Pimepl promelas 96h LC50: < 0. (Pimephales pro	hales 12 mg/L 12 mg/L ata) 96h mg/L s 0: = 0.8 carpio) mg/L s 1 LC50: = /L hus 50: = 0.2 hales s) 3 mg/L		48h EC50: = 0.03 mg/L		
Graphite 7782-42-5					24h EC50: > 5600 mg/L		
Persistence a	nd Degradability	No information avai	ilable.				
Bioaccumula	tion	No information avai	ilable.				
Other adverse	effects	No information available.					
	Section	on 13- Dispo	sal co	nsiderations			
Waste treatme	ent methods						
Disposal meth	nods	regulations (40 C it is mixed with or chemical addition or otherwise alter	FR 261). T otherwise s are made ed. Consu ardous was	This material could be comes in contact when to this material, or lt 40 CFR 261 to detecte. Consult the apprentice.	aste according to Federal ecome a hazardous waste if ith a hazardous waste, if if the material is processed termine whether the altered opriate state, regional, or		

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Contaminated Packaging	Disposal should be local laws and reg	e in accordance with applicable regional, national and gulations.
California Hazardous Waste Co		sted with the State of California as a hazardous waste.
Chemical Na		California Hazardous Waste
Lithium Cobalt Oxide	e (CoLiO ₂)	Toxic
12190-79-3	3	TOXIC
Copper 7440-50-8		Toxic
Aluminum fo 7429-90-5	oil	Ignitable powder
Se	ection 14 – Trar	nsport information
UN Number -DOT, IMDG, IATA	UN 3480 & UN 3481	
UN Proper shipping name -DOT, IMDG, IATA	Lithium ion Batteries c batteries) or;	ncluding lithium ion polymer batteries) or ; ontained in equipments (Including lithium ion polymer acked with equipment (Including lithium ion polymer
Transport information	accordance with UN m The transportation of li Air Transport Associati RUCTION 965, or to S GR 61st Edition for tra national Maritime Dan- tion listed in 49 CFR 1 Lithium batteries shipp equipment", or "Lithium as "Dangerous Goods	Sample Model: MRB400) is tested and has passed in annual of Tests and Criteria, Part III, subsection 38.3. Ithium cells and batteries is regulated by the International ion (According to Section II/ Section IB of PACKING INST Section II of PACKING INSTRUCTION 966~967 of IATA D insportation), International Civil Aviation Organization, Intergerous Goods Code and the US Department of Transporta 73.185. The dead of Ithium batteries, "Lithium batteries packed with a batteries contained in equipment," may not be classified when shipped in accordance with "special provision A45 itial 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: Miscellaneou F-A,S-N	us dangerous substances and articles
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable	
DOT Remarks:	Special marking with the	ne symbol (fish and tree)
IMDG Limited quantities (LQ) Excepted quantities (EQ)	0 Code: E0 Not permitted as Exce	pted Quantity

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	S	ectio	on 15	5- Re	egul	latory	inforn		<u> </u>	
(a) International I	nventories									
TSCA	Complie	es.								
DSL	All com	ponent	ts are li	sted e	ither o	n the DSL	or NDS	L.		
(b) US Federal Re	gulations									
SARA 313	(SARA)	. This	product	t conta	ains à	chemical o	or chemic		subjec ations,	
Chemical Name		CAS No				,	Neight-%			313 – Threshold Values %
Lithium Cobalt Oxio (CoLiO ₂)	de	12190-7					15-40			0.1
Copper		744	0-50-8				3-7			1.0
Aluminum foil		9-90-5				7-13			1.0	
SARA 311/312 Haz		ries								
Acute Health Hazar			No							
Chronic Health Hazard			No							
Fire Hazard			No							
Sudden release of pressure hazard No										
Reactive Hazard			No							
CWA (Clean	Water Act)			tants p				substances wh ter Act (40 CF		e regulated 21 and 40 CFR
Chemical Name	CWA - Re Quan			,					CWA - Hazardous Substances	
Copper 7440-50-8							Х			
CER	CLA		haza	ardous	material, as supplied, contains one or more substances regulated as a dous substance under the Comprehensive Environmental Response pensation and Liability Act (CERCLA) (40 CFR 302)					
Chemical Na	ame	Haz	ardous	rdous Substances Extreme				azardous		RQ
Copper 7440-50-	8			000 lb	RQ			5000 lb final RQ 2270 kg final RQ		
(c) US State Regu		I								
California Proposi	tion 65				This product contains the following Proposition 65 chemicals.					
Cł	nemical name	e			California Proposition 65					
	hite – 7782-4				Carcinogen					
U.S. State Right-to			ns	Į				Carolinogon		
Chemical Name	New Je			achuse	etts	Pennsy	lvania	Rhode Isl	and	Illinois
Graphite 7782-42-5	×			Х		Х				Х
Lithium Cobalt Oxi (CoLiO ₂) 12190-79-3	de x					Х		х		х
Aluminum 7429-90-5	х			Х		х		Х		
Copper 7440-50-8	×			Х		Х		Х		Х

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(d) Inter	national Regulation	าร						
Mexico								
National	occupational expos	sure lir	nits					
	Component		Carcin	ogen	Status		Exposure Limits	
7	Graphite 7782-42-5 (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			
Mexico - O	ccupational Exposure Limi	ts - Carc	inogens					
Canada								
WHMIS	Hazard Class		Not determined					
		S	ection 16-	Othe	er informati	ion		
NFPA	Health Hazards	1	Flammability	0	Instability	0	Physical and Chemical Hazards	_
HMIS	Health Hazards	2*	Flammability	0	Physical Hazard	0	Personal Protection	X

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*****