SDS SAFETY DATA SHEET

According to 2012 OSHA Hazard Communication Standard

(29 CFR 1910.1200)

- Prepared For : Dongguan Woertai Electronic Technology Co., Ltd Elevator No. 2, Building A, Yayao Jutai Technology Park, Humen Town, Dongguan City
- **Prepared By** : Shenzhen LCS Compliance Testing Laboratory Ltd. 101, 601, Xingyuan Industrial Park, Gushu Community, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China
 - Issue Date : 2019.09.19

Report Number

: LCS190909086ASD

Written by: Seven lin Approved by:



SHENZHEN LCS COMPLIANCE TESTING LABORATORY LTD.

(29 CFR 1910.1200)

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* The SDS is prepared based client's request.	d on the information provided by client. The co	ntents and formats of this SDS are revised as per
	Section 1- Identifie	cation
(a) Product identifier		
Product name	Lithium ion Battery	
(b) Other means of ident	ification	
Product description	Model: 302020 Nominal Voltage: 3.7V Nominal capacity: 90mAh Watt-hour: 0.333Wh Weight: 2.2g	
(c) Recommended use o	f the chemical and restrictions on use	
Recommended use	LITHIUM ION BATTERIES	
Uses advised against	No information available.	
(d) Details of the supplie	r of the safety data sheet	
Supplier Name	Dongguan Woertai Electronic Technolog	y Co., Ltd
Supplier Address	Elevator No. 2, Building A, Yayao Jutai	Fechnology Park, Humen Town, Dongguan City
Manufacture Company	Dongguan Woertai Electronic Technolog	y Co., Ltd
Manufacture Address	Elevator No. 2, Building A, Yayao Jutai	Technology Park, Humen Town, Dongguan City
Supplier Phone Number	+86-769-82790486	
(e) Emergency telephone	e number	
+86-769-82790486		
	Section 2- Hazards ide	entification
1910.1200). This product	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
Toxic if swallowed Causes severe skin bu	g fertility or the unborn child rns and eye damage ns through prolonged or repeated exposure.
Appearance: No info	rmation available Physical State: Solid Odor: No information available
P101	If medical advice is needed,,have product containet or label at hand
	· · · · · · · · · · · · · · · · · · ·
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash thoroughly after handling.
P270	dust/fume/gas/mist/vapours/spray
P280	Wear protective gloves/protective clothing/eye protection/face protection
	IF exposed or concerned: Get medical advice/ attention.
P308+P313	IF SWALLOWED: Immediately call a POISON CENTER/doctor/\u2026.
P301+P310	Specific treatment (see on this label).
P321	Rinse mouth.
P330	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P301+P330+P331 P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P363	Wash contaminated clothing before reuse.
	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P304+P340 P310	Immediately call a POISON
P305+P351+P338	CENTER/doctor/\u2026
P314	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	Get medical advice/attention if you feel unwell.
P405	Store locked up.
P501	Dispose of contents/container to
(c) Hazards not other	wise classified (HNOC)
Not applicable	
(d) Unknown Toxicity	
32% of the mixture con	sists 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	39.23	*
Copper	7440-50-8	6.34	*
Graphite	7782-42-5	37.85	*
Phosphate(1-), hexafluoro-, lithium	21324-40-3	4.25	*
Aluminum foil	7429-90-5	12.33	*

"*" 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/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	IDLH:100mg/m³dust ,fume and mist TWA:1mg/m³dust and mist

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			dust,fume,mist	TWA:0.1mg/m ³ fume				
Aluminum foil	TWA:1mg/m ³	espirable fraction	TWA:15mg/m ³ total dust	TWA:10mg/m ³ total dust				
7429-90-5			TWA:5mg/m³respirable fraction	TWA:5mg/m³ respirable dust				
			(vacated) TWA:15mg/m³total dust					
			(vacated) TWA:5mg/m ³					
			respirable fraction(vacated) TWA:5mg/m ³ AL Aluminum					
			ists - Threshold Limit Value ble Exposure Limits Immediately Dange	erous to Life or Health				
Other Exposure Guidelines			Court of Appeals decision in AF tion 15 for national exposure co					
(b) Appropriate e	engineering con	trols						
Engineering Measu	Showers	stations						
Engineering Measu	ures Eyewash Ventilation							
(c) Individual pro	etection measur	es, such as perso	nal protective equipment					
Eye/Face Protect	on None required Face protection	se. If there is a risk of contact:.	Tight sealing safety goggles.					
Skin and body Protection		None required for consumer use. If there is a risk of contact:. Wear protective gloves and protective clothing.						
Respiratory Protection			eded under normal use condition incomentation and evacuation and evacuatition and evacuation and	•				
Hygiene MeasuresHandle in accordance with good industrial hygiene and safety practice. Do not eat or smoke when using this product. Take off contaminated clothing and wash befor 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 has before breaks and immediately after handling the product. For environmental protective equipment before re-use. No inform available.								
	Section 9	- Physical a	nd chemical proper	ties				
Form		Solid	Solid					
Color		Silver	Silver					
Odor		Not Available						
рН		Not Available	lot Available					
Melting point/free	zing point	Not Available	Not Available					
Boiling Point and	Boiling range	Not Available						

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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
Sect	tion 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.
Sectio	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 Informatio	n									
Chemical Name		Oral LD50		Derm	al LD50	Inhalat	tion LC50			
Graphite 7782-42-5		> 10000 mg/kg (F	Rat)	> 3 g/kę	g(Rabbit)		-			
Information on toxicolo	ogical effec	ts								
Symptoms		Erythema (sk Itching. Rashe		, .	ause redness	and tearing	of the eyes.			
Delayed and immediate	e effects as	well as chronic	effects f	rom short a	and long-term	exposure				
Sensitization:	May cause se skin contact.	ensitizatio	n of suscept	ible persons. N	lay cause se	ensitization by				
Mutagenic Effects:	No information	No information available.								
Carcinogenicity:	-			he table below indicates whether each agency has listed any ingredient as a carcinogen.						
Chemical Name	A	CGIH	IAI		NTP		OSHA			
Lithium Cobalt Oxide (CoLiO ₂) 12190-79-3		A3	Gro	up 2B			Х			
Graphite 7782-42-5		A3	Group 2B				Х			
ACGIH (American Conference A3 - Animal Carcinogen IARC (International Agency a Group 2B - Possibly Carcinoge OSHA (Occupational Safety X - Present Reproductive Toxicity	for Research o	on Cancer)	US Departn	-						
	_	No informatior	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).								
				•	cinogen. Avoid ronic effects. M	•				
Target Organ Effects					Respiratory system. Eyes. Skin. Gastrointestinal tract (GI). Central Vascular System (CVS).Kidney. Liver. Liver. Cardiovascular system. Systemic					

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Aspiration Ha	zard	No information av	ailable.				
Numerical me	asures of toxicity Pro	duct Information					
-	values are calculated	based on	ATEmix (oral):	12,905.00 mg/kg		
chapter 3.1 of	the GHS document		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			
Chemical name	Toxicity to Algae	Toxicity to F	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 r (Cyprinus carpio) 96h LC5 mg/L (Cyprinus 96h LC50: = 1.25 (Lepomis macrochirus) 96h 0.052 mg, (Oncorhync mg/L (Pimepl promelas 96h LC50: < 0. (Pimephales pro	hales) 12 mg/L ata) 96h mg/L s carpio) mg/L hus 50: = 0.2 hales) 3 mg/L		48h EC50: = 0.03 mg/L		
Graphite 7782-42-5					24h EC50: > 5600 mg/L		
Persistence a	nd Degradability	No information available.					
Bioaccumula	ition	No information avai	ilable.				
Other adverse effects		No information available.					
	Sectio	on 13- Dispo	sal co	nsiderations			
Waste treatmo	ent methods						
Disposal meti	hods	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					

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local regulations for additional requirements.

material is a hazardous waste. Consult the appropriate state, regional, or

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Contaminated Packaging	Exaging Disposal should be in accordance with applicable regional, national and local laws and regulations.					
California Hazardous Waste Co This product contains one or mor		sted with the State of California as a hazardous waste.				
Chemical Nar	ne	California Hazardous Waste				
Lithium Cobalt Oxide 12190-79-3	· ,	Toxic				
Copper 7440-50-8		Тохіс				
Aluminum foil 7429-90-5		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 (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	Lithium ion Battery (Sample Model: 302020) 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 INST RUCTION 965, or to Section II of PACKING INSTRUCTION 966~967 of IATA D GR 60th Edition for transportation), International Civil Aviation Organization, Inte national Maritime Dangerous Goods Code and the US Department of Transporta tion 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 <i>(DOT)</i>					
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 t	he symbol (fish and tree)				
IMDG Limited quantities (LQ) Excepted quantities (EQ)	0 Code: E0 Not permitted as Exce	pted Quantity				

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Section 15- Regulatory information

		Secin		J- N	eyula	litory		Πατιοπ		
(a) International	Inventorie	s								
TSCA	Com	plies.								
DSL	All co	mponen	ts are li	isted e	ither on	the DSL	or NDS	L.		
(b) US Federal R	egulation	S								
SARA 313	(SAR	Section 313 of Title III of the Superfund Amendments and Rea (SARA). This product contains a chemical or chemicals which requirements of the Act and Title 40 of the Code of Federal Re						cals which are	subjec	t to the reporting
Chemical Name	•	CAS No				١	Neight-%	, o		313 – Threshold Values %
Lithium Cobalt Ox (CoLiO ₂)	de	1219	90-79-3	3			15-40			0.1
Copper		744	0-50-8				3-7			1.0
Aluminum foil			29-90-5				7-13			1.0
SARA 311/312 Ha		gories								
Acute Health Haza			No							
Chronic Health Ha	zard		No							
Fire Hazard	No									
Sudden release of	pressure h	azard	No							
Reactive Hazard No										
				tants p 42)	oursuant	to the C		substances wl ter Act (40 CF		e regulated 21 and 40 CFR
Chemical Name					WA - Toxic CWA - Prior Pollutants Pollutants			A - Priority Pollutants	 CWA - Hazardous Substances 	
Copper 7440-50-8					Х					
CEF	CLA		haza Com	ardous npensa	terial, as supplied, contains one or more substances regulated as a us substance under the Comprehensive Environmental Response asation and Liability Act (CERCLA) (40 CFR 302)					
Chemical N	lame	Haz	ardous: R	s Subst RQs	tances	ances Extremely Hazardous Substances RQs				RQ
Coppe 7440-50			50	000 lb	RQ 5000 lb final RQ 2270 kg final					
(c) US State Reg	ulations									
California Propos	ition 65				This pr	roduct co	ontains th	ne following P	ropositi	on 65 chemicals.
C	hemical na	ime			California Proposition 65					
Grap	ohite – 778	2-42-5						Carcinogen		
U.S. State Right-t	o-Know Re	egulatior	าร							
Chemical Name	New	Jersey	Mass	achus	etts	Pennsy	Ivania	Rhode Isl	and	Illinois
Graphite 7782-42-5		х		х		х				х
Lithium Cobalt Ox (CoLiO ₂) 12190-79-3	ide	х				х		x		X
Aluminum 7429-90-5		х		х		х		x		
Copper 7440-50-8		x		х		х		x		х

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			,		,	REF	ORT NO.: LCS190909086	SASD
(d) Inter	national Regulatior	าร						
Mexico								
National	occupational expos	ure lim	its					
	Component		Carcin	ogen	Status		Exposure Limits	
7	Graphite 782-42-5(15 - 40)						Mexico: TWA=3.5 mg/m ³	
-	Aluminum 7429-90-5(7 - 13)						Mexico: TWA= 10 mg/m ³	
Copper Mexico: TWA= 0.2 m						Mexico: TWA= 1 mg/m ³ Mexico: TWA= 0.2 mg/m ³ Mexico: STEL= 2 mg/m ³		
Mexico - O	ccupational Exposure Limit	ts - Carcii	nogens					
Canada								
WHMIS I	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	Х
Chronic I	Hazard Star Legend *	= Chro	nic Health Hazar	d				
the date storage, information	mation provided in th of its publication. The transportation, dispos	information inform	ation given is des release and is r cific material des	signed not to signat	l only as a guida be considered a ed and may no	nce fo a warra ot be v	wledge, information and bel r safe handling, use, proces anty or quality specification valid for such material use	sing, The

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