According to HCS-2012 APPENDIX D TO §1910.1200

	ACCOLUME TO HC3-2012 APPENDIX D TO \$1510.1200	
rsion: 1.0/EN oduct name:Rechargeable Li-ion Battery	Revision date: 21-May-2019 Printing date: 21-May-2019	
duct hame. Nechargeable Li-ion battery	Finding date. 21-Way-2019	
Identification		
(a) Product identifier		
Product name:	Rechargeable Li-ion Battery	
Address:	Building 1-4, Puli Industrial New Area, Zhaojia Street, Kaizhou District, Chongqing, Chin	
(b) Other means of identificatio	n	
Product description:	Model:702332	
	Nominal Voltage: 3.7V	
	Ampere-hour: 1.85Wh	
	Minimal Capacity:500mAh	
	Weight:9.691g	
	Dimension:7.34mm×22.90mm×34.00(max.)	
(c) Recommended use of the ch	emical and restrictions on use	
Recommended use:	Rechargeable Li-ion Battery	
Restriction on use:	No information available.	
(d) Details of the supplier of the	product	
Company name(China):	Chongqing VDL Electronics Co., Ltd.	
Address:	Building 1-4,Puli Industrial New Area,Zhaojia Street,Kaizhou District,	
	Chongqing,China	
	pur03@gdvdl.com	
Telephone:	+86-755-2996 1201(8036)	
(e) Emergency phone number		
+86-755-29961201		

2. Hazard(s) identification

(a)Classification of the chemical

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.

Acute toxicity -Oral	Category 4
Skin corrosion/irritation	Category 1 Sub-category B
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity (repeated exposure)	Category 1

(b) GHS Label elements, including precautionary statements

Emergency Overview

Signal word

Danger

Hazard Statements

Harmful if swallowed Causes severe skin burns and eye damage

Causes serious eye damage

Causes damage to organs through prolonged or repeated exposure

According to HCS-2012 APPENDIX D TO §1910.1200

Revision date: 21-May-2019 Printing date: 21-May-2019



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.

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 eat, drink or smoke when using this product

Do not breathe dust/fume/gas/mist/vapors/spray

Contaminated work clothing should not be allowed out of the workplace

Wear protective gloves

Precautionary Statements – Response

Specific measures (see .? on this label)

Immediately call a POISON CENTER or doctor/physician

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

Call a POISON CENTER or doctor/physician if you feel unwell

Wash contaminated clothing before reuse

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

If skin irritation or rash occurs: Get medical advice/attention

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Immediately call a POISON CENTER or doctor/physician

Ingestion

IF SWALLOWED: Call a POISON CENTER or doctor/physician.

if you feel unwell, Rinse mouth. Don't induce vomiting

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

According to HCS-2012 APPENDIX D TO §1910.1200

(c) Other information

Very toxic to aquatic life with long lasting effects;

Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.

(d) Interactions with Other Chemicals

No information available.

3. Composition/information on ingredients

(a) Mixtures information

Chemical name	CAS No.	Concentration%
Lithium Cobalt Oxide	12190-79-3	37.7
Graphite powder	7782-42-5	12.6
Rubber	69028-37-1	3.2
Styrene-butadiene rubber(SBR)	61789-96-6	2.7
Polypropylene	9003-07-0	3.5
Polyethylene	9002-88-4	3.0
Lithium hexafluorophosphate	21324-40-3	11.2
Ethylene carbonate(EC)	96-49-1	4.2
Propylene carbonate(PC)	108-32-7	2.8
Copper	7440-50-8	9.6
Aluminium	7429-90-5	9.5

4. First-aid measures

(a) Description of 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. Do not rub affected area. Remove contact lenses, if present and
	easy to do. Continue rinsing. Seek immediate medical attention/advice.
Skin contact:	Wash off immediately with soap and plenty of water while removing all contaminated clothes
	and shoes. Immediate medical attention is required. May cause an allergic skin reaction.
Inhalation:	Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention
	immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance;
	give artificial respiration with the aid of a pocket mask equipped with a one-way valve or
	other proper respiratory medical device. If breathing is difficult, (trained personnel should) give
	oxygen.
	Delayed pulmonary edema may occur. Get medical attention immediately if symptoms occur.
Ingestion:	Do NOT induce vomiting. Rinse mouth immediately and drink plenty of water. Never give
	anything by mouth to an unconscious person. Call a physician or poison control center
	immediately.
Self-protection of	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect
the first aider:	themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing.
	Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Use personal

According to HCS-2012 APPENDIX D TO §1910.1200

Revision date: 21-May-2019 Printing date: 21-May-2019

protective equipment as required. Wear personal protective clothing (see section 8).

(b) Most important symptoms/effects, acute and delayed

 Most important
 Itching, Coughing and/ or wheezing. Burning sensation.

 symptoms and
 effects:

 (c) Indication of any immediate medical attention and special treatment needed

 Notes to
 Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible

Physician perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.

5. Fire-fighting measures

(a) Extinguishing media

Suitable extinguishing media:Use foam, dry powder or dry sand, CO2 as appropriate.Unsuitable extinguishing media:No information available.

(b) Special hazards arising from the chemical

Under fire conditions, batteries may burst and release hazardous decomposition products when exposed to a fire situation. This could result in the release of flammable or corrosive materials. Hazardous combustion products: CO, CO₂, Metal oxides, Irritating fumes

(c) Special protective equipment and precautions for fire-fighters

Firefighters must wear fire resistant protective equipment and appropriate breathing apparatus. The staff must equip with filtermask (full mask) or isolated breathing apparatus. The staff must wear the clothes which can defense the fire and the toxic gas. Put out the fire in the upwind direction. Remove the container to the open space as soon as possible. Spray water on the containers in the fireplace to keep them cool until finish extinguishment.

6. Accidental release measures

(a) Personal precautions, protective equipment and emergency procedures

In case of rupture. Attention! Corrosive material. Avoid contact with skin, eyes
or clothing. Ensure adequate ventilation. Use personal protective equipment as
required. Evacuate personnel to safe areas. Keep people away from and upwind
of spill/leak.
Refer to protective measures listed in Sections 7 and 8.
Refer to protective measures listed in Sections 7 and 8. Prevent further leakage
or spillage if safe to do so. Should not be released into the environment. Do not
allow to enter into soil/subsoil. Prevent product from entering drains.
tainment 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

(a) Precautions for safe handling

According to HCS-2012 APPENDIX D TO §1910.1200

Version: 1.0/EN Product name:Rechargeable Li-ion Battery	Revision date: 21-May-2019 Printing date: 21-May-2019	
Handling	In case of rupture. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Use personal protection equipment.	
(b) Conditions for safe storage, incl	uding any incompatibilities	
Storage	Keep containers tightly closed in a dry, cool and well-ventilated place. Protect	
	from moisture. Keep out of the reach of children. Store away from other	

materials.

Incompatible Products Acids. Bases. Oxidizing agent.

8. Exposure controls/personal protection

(a) Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Lithium Cobalt Oxide (CoLiO2) 12190-79-3	TWA: 0.02 mg/m ³		
Graphite powder 7782-42-5	TWA: 2 mg/m3 respirable fraction all forms except graphite fibers	TWA: 15 mg/m3 total dust synthetic TWA: 5 mg/m3 respirable fraction synthetic (vacated) TWA: 2.5 mg/m3 respirable dust natural (vacated) TWA: 10 mg/m3 total dust synthetic (vacated) TWA: 5 mg/m3 respirable fraction synthetic TWA: 15 mppcf natural	IDLH: 1250 mg/m3 TWA: 2.5 mg/m3 respirable dust
Phosphate(1-),hexafluoro-, lithium 21324-40-3	TWA: 2.5 mg/m3 F	TWA: 2.5 mg/m3 F TWA: 2.5 mg/m3 dust (vacated) TWA: 2.5 mg/m3	
Copper 7440-50-8	TWA: 0.2 mg/m3 fume TWA: 1 mg/m3 Cu dust and mist	TWA: 0.1 mg/m3 fume TWA: 1 mg/m3 dust and mist (vacated) TWA: 0.1 mg/m3 Cu dust, fume, mist	IDLH: 100 mg/m3 dust, fume and mist TWA: 1 mg/m3 dust and mist TWA: 0.1 mg/m3 fume
Aluminum 7429-90-5	TWA: 1 mg/m3 respirable fraction	TWA: 15 mg/m3 total dust TWA: 5 mg/m3 respirable fraction (vacated) TWA: 15 mg/m3 total dust (vacated) TWA: 5 mg/m3 respirable fraction (vacated) TWA: 5 mg/m3 Al Aluminum	TWA: 10 mg/m3 total dust TWA: 5 mg/m3 respirable dust

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value

According to HCS-2012 APPENDIX D TO §1910.1200

Revision date: 21-May-2019 Printing date: 21-May-2019

OSHA PEL: Occupational Safe	ty and Health Administration -Permissible Exposure Limits
Immediately Dangerous to Lif	fe 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 mea	sures, 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.

9. Physical and chemical properties

(a)Appearance	solid
(b) Odor	Odorless
(c) Odor threshold	Not available.
(d) pH	Not available.
(e) Melting point/freezing point	Not available.
(f) Initial boiling point and boiling range	Not available.
(g) Flash point	Not applicable.
(h) Evaporation rate	Not applicable.
(i) Flammability	Non flammable.
(j) Upper/lower flammability or explosive limits	Not available.
(k) Vapor pressure	Not applicable.
(I) Vapor density	Not available.
(m) Relative density	Not available.
(n) Solubility(ies)	Insoluble in water.
(o) Partition coefficient: n-octanol/water	Not available.
(p) Auto-ignition temperature	Not available.
(q) Decomposition temperature	Not available.
(r) Viscosity	Not available.

According to HCS-2012 APPENDIX D TO §1910.1200

Revision date: 21-May-2019 Printing date: 21-May-2019

10. Stability and reactivity

(a) Reactivity

Stable under recommended storage and handling conditions.

(b) Chemical stability

Stable under recommended storage conditions.

(c) Possibility of hazardous reactions

None under normal processing.

(d) Conditions to avoid

Exposure to air or moisture over prolonged periods.

(e) Incompatible materials

Strong oxidizer, strong acid.

(f) Hazardous decomposition products

Carbon oxides.

11. Toxicological information

(a) Information on the 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. Corrosive by
	inhalation. (based on components). Inhalation of corrosive fumes/gases may cause
	coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary
	edema may occur with tightness in the chest, shortness of breath, bluish skin,
	decreased blood pressure, and increased heart rate. Inhaled corrosive substances can
	lead to a toxic edema of the lungs. Pulmonary edema can be fatal. May cause
	irritation of respiratory tract.
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. Ingestion may cause irritation to mucous membranes.
	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May
	be harmful if swallowed.
Skin contact:	Specific test data for the substance or mixture is not available. Corrosive. (based on
	components). Causes burns. May be absorbed through the skin in harmful amounts.
	Harmful in contact with skin.
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

According to HCS-2012 APPENDIX D TO §1910.1200

blindness. Causes serious eye damage. May cause irreversible damage to eyes.

Component Information Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Graphite powder 7782-42-5	> 10000 mg/kg (Rat)		

(b) Information on toxicological characteristics				
Symptoms	Erythema (skin redness). Burning. May cause blindness. Coughing and/ or wheezing.			
	Itching. Rashes. Hives.			
(C) Delayed and immediate effects as well as chronic effects from short and long term exposure				

(C) 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 (Oxide (CoLiO2) 12190-79-3	Cobalt	A3	Group 2B		Х

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 in information available	Reproductive Toxicity	y No information available
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- 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

	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).
oxicitv	Chronic exposure to corrosive fumes/gases may cause erosion of the teeth followed

Chronic Toxicity re to corrosive fumes/gases may cause erosion of the teeth follow by jaw necrosis. Bronchial irritation with chronic cough and frequent attacks of pneumonia are common. Gastrointestinal disturbances may also be seen. 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). Blood. Central Nervous

System (CNS). Central Vascular System (CVS). Kidney. Liver. Lungs.

Aspiration Hazard No information available

12. Ecological information

(a) Ecotoxicity

Very toxic to aquatic life with long lasting effects.

According to HCS-2012 APPENDIX D TO §1910.1200

Version: 1.0/EN Product name:Rechargeable Li-ion Battery

Revision date:**21**-May-2019Printing date:**21-**May-2019

(b) Persistence and Degradability

No information available.

(c) Bioaccumulative potential

No information available.

(d) Other adverse effects

No information available.

13. Disposal considerations

(a) Waste treatment methods

Contaminated Packaging

Disposal methods

This material, as supplied, is not a hazardous waste according to Federal regulations (40CFR 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. Dispose of contents/containers in accordance with local regulations

According to HCS-2012 APPENDIX D TO §1910.1200

Version: 1.0/EN Product name:Rechargeable Li-ion Battery

Revision date: 21-May-2019 Printing date: 21-May-2019

California Hazardous Waste 141

Codes

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 (CoLiO2) 12190-79-3	Toxic
Copper 7440-50-8	Toxic
Aluminum 7429-90-5	Ignitable powder

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"
UN number	3480&3481
DOT	NOT REGULATED
Proper Shipping Name	NON REGULATED
Hazard Class	N/A
TDG	Not regulated
MEX	Not regulated
ICAO	Not regulated
ΙΑΤΑ	Not regulated
Proper Shipping Name	NON REGULATED
Hazard Class	N/A
IMDG/IMO	Not regulated
Hazard Class	N/A
EmS-No.	F-A, S-I
RID	Not regulated
ADR	Not regulated
ADN	Not regulated

According to HCS-2012 APPENDIX D TO §1910.1200

15. Regulatory information

(a) Safety, health and environmental regulations specific for the product in question

	USA	EU	Japan	Korea	China	Canada
CAS No	TSCA	EINECS	ENCS	ECL	IECSC	DSL
12190-79-3	Listed	Listed	Listed	Listed	Listed	Listed
7782-42-5	Listed	Listed	Not listed	Listed	Listed	Listed
69028-37-1	Not listed	Not listed	Listed	Listed	Listed	Not listed
61789-96-6	Not listed	Not listed	Not listed	Not listed	Listed	Not listed
9003-07-0	Listed	Listed	Listed	Listed	Listed	Listed
9002-88-4	Listed	Listed	Listed	Listed	Listed	Listed
21324-40-3	Not listed	Listed	Listed	Listed	Listed	Not listed
96-49-1	Listed	Listed	Not listed	Listed	Listed	Not listed
108-32-7	Listed	Listed	Not listed	Listed	Not listed	Not listed
7440-50-8	Not listed	Listed	Listed	Listed	Listed	Not listed
7429-90-5	Listed	Listed	Not listed	Listed	Listed	Listed

16. Other information, including date of preparation or last revision

(a) Preparation and revision information

Date of previous revision: Not	Date of previous revision: Not applicable.			
Revision summary: The first New SDS				
(b) Abbreviations and acronyms				
TSCA:	Toxic Substances Control Act	t, The American chemical inventory.		
DSL	Domestic Substances List			
EINECS:	European Inventory of Existi	ng Commercial chemical Substances		
ENCS	Japanese Existing and New (Chemical Substances		
ECL:	Existing Chemicals List, the H	Korean chemical inventory.		
IECSC:	Inventory of existing chemic	al substances in China.		

(c) Disclaimer

Because all of our batteries are defined as "articles", they are exempted from the requirements of the Hazard Communication Standard. The information in this SDS is provided all the relevant data fully and truly. However, the information is provided without any warranty on their absolute extensiveness and accuracy. This SDS was prepared to provide safety preventive measures for the users who have got professional training. The personal user who obtained this SDS should make independent judgment for the applicability of this SDS under special conditions. In these special cases, we do not assume responsibility for the damage.

——End of the SDS——