

Article Information Sheet

Product name: Li-ion Battery

Printing date: 18-May-2020

Fiche d'information Article

Nom du produit: Batterie Li-ion

Date d'impression: 18-May-2020

Article Information Sheet (AIS)

This Article Information Sheet (AIS) provides relevant battery information to retailers, consumers, OEMs and other users requesting a GHS - compliant SDS. Articles, such as batteries, are exempt from GHS SDS classification criteria. The GHS criteria is not designed or intended to be used to classify the physical, health and environmental hazards of an article. Branded consumer batteries are defined as electro - technical devices. The design, safety, manufacture, and qualification of Energizer branded consumer batteries follow ANSI and IEC battery standards.

1. DOCUMENT INFORMATION

Product name: Li-ion Battery
Model: 751550
Issue Date: 18-May-2020

2. COMPANY INFORMATION

Company name(China) Dongguan Wiliyoung Electronics Co., Ltd.
Address: No.5, Wenming 1 Street, Jinhe Community, Zhangmutou Town, Dongguan City, Guangdong Prov.
E-mail: 2880269975@qq.com
Telephone: +86-769-82932326

3. ARTICLE INFORMATION

Description	Li-ion Battery
Use	LITHIUM ION BATTERY
Brand	----

Article Feuille d'information (AIS)

Cette fiche d'information Article (AIS) fournit des informations sur la batterie correspondant aux détaillants, aux consommateurs, aux OEM et aux autres utilisateurs qui demandent un SDS SGH-conforme. Les articles, tels que les piles, sont exemptés de critères de classification SGH SDS. Les critères du SGH ne sont pas conçus ou destinés à être utilisés pour classer les risques physiques, la santé et l'environnement d'un article. batteries de consommation de marque sont définis comme des dispositifs électro-technique. La conception, la sécurité, la fabrication, et la qualification des batteries de consommation de marque Energizer sont conformes aux normes de la batterie ANSI et IEC.

1. DOCUMENT D'INFORMATION

Produit Nom: Batterie Li-ion
Modèle: 751550
Date d'émission: 18-May-2020

2. INFORMATIONS SUR LA SOCIÉTÉ

Nom de l'entreprise Dongguan Wiliyoung Electronics Co., Ltd.
(Chine)
Adresse: No.5, Wenming 1 Street, Jinhe Community, Zhangmutou Town, Dongguan City, Guangdong Prov.
Email: 2880269975@qq.com
Téléphone: +86-769-82932326

3. ARTICLE D'INFORMATION

La description	Batterie Li-ion
Utilisation	BATTERIE AUX IONS LITHIUM
Marque	----

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Nom du produit: Batterie Li-ion

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Image



Image



4. ARTICLE CONSTRUCTION

IMPORTANT NOTE: The battery should not be opened or burned. Exposure to the ingredients contained within or their combustion products could be harmful.

Chemical name	CAS No.	Concentration%
Lithium Cobalt Oxide (CoLiO ₂)	12190-79-3	37.5
Graphite	7782-42-5	20.8
Phosphate(1-), hexafluoro-, lithium	21324-40-3	20.7
Copper	7440-50-8	9.3
Aluminum foil	7429-90-5	8.3
Nickel	7440-02-0	3.4

5. HEALTH AND SAFETY

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.
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

4. ARTICLE CONSTRUCTION

REMARQUE IMPORTANTE: La batterie ne doit pas être ouverte ou brûlée. L'exposition aux ingrédients contenus dans leurs produits ou de combustion pourrait être nocif.

Nom chimique	N ° CAS.	Concentration%
Lithium oxyde de cobalt (CoLiO ₂)	12190-79-3	37.5
Graphite	7782-42-5	20.8
Phosphate (1-), hexafluoro-, lithium	21324-40-3	20.7
Cuivre	7440-50-8	9.3
Aluminium	7429-90-5	8.3
Nickel	7440-02-0	3.4

5. SANTÉ ET SÉCURITÉ

Ingestion:	Ne pas faire vomir. Se rincer la bouche et boire beaucoup d'eau. Ne portez rien à la bouche d'une personne inconsciente. Appeler un centre de contrôle médecin ou de poison immédiatement.
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Article Information Sheet

Product name: Li-ion Battery

Printing date: 18-May-2020

Fiche d'information Article

Nom du produit: Batterie Li-ion

Date d'impression: 18-May-2020

	may occur. Get medical attention immediately if symptoms occur.
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.
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.
Self-protection of the first aider:	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect 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 protective equipment as required. Wear personal protective clothing (see section 8).

6. FIRE HAZARD & FIREFIGHTING

Fire Hazard	Batteries may rupture or leak if involved in a fire.
Extinguishing Media	Use any extinguishing media appropriate for the surrounding area.
Special hazards arising from the chemical	In case of fire where lithium batteries are present, flood area with water or smother with a Class D fire extinguishant appropriate for lithium metal, such as Lith-X. Water may not extinguish burning batteries but will cool the adjacent batteries and control the spread of fire. Burning batteries will burn themselves out. Virtually all fires involving lithium batteries can be controlled by flooding with water. However, the contents of the battery will react with

Inhalation:	À l'air frais. Si la respiration est arrêtée, pratiquer la respiration artificielle. Consulter un médecin immédiatement. Ne pas utiliser le bouche-à-bouche si la victime a ingéré ou inhalé la substance; pratiquer la respiration artificielle à l'aide d'un masque de poche muni d'une valve à une voie ou d'un autre appareil médical approprié. Si la respiration est difficile, (du personnel qualifié devrait) donner de l'oxygène. œdème pulmonaire retardé peut se produire. Consulter un médecin si des symptômes apparaissent.
Contact avec la peau:	Laver immédiatement avec du savon et beaucoup d'eau tout en enlevant les vêtements contaminés et les chaussures. Une attention médicale immédiate est nécessaire. Peut provoquer une réaction allergique cutanée.
Lentilles de contact:	Rincer immédiatement et abondamment avec de l'eau, y compris sous les paupières, pendant au moins 15 minutes. Gardez l'œil ouvert pendant le rinçage. Ne pas frotter les zones touchées. lentilles de contact Retirer, si elle est présente et facile à faire. Continuer à rincer. Consulter un / des conseils médicaux immédiats.
Auto-protection du secouriste:	Veiller à ce que le personnel médical sont au courant de la matière (s) impliqués, prendre des précautions pour se protéger et prévenir la propagation de la contamination. Éviter tout contact avec la peau, les yeux ou les vêtements. Éviter tout contact direct avec la peau. Utilisez barrière pour donner la respiration artificielle bouche-à-bouche. Utiliser un équipement de protection individuel requis. Porter des vêtements de protection individuelle (voir la section 8).

6. RISQUE D'INCENDIE & POMPIERS

Risque d'incendie	Les piles peuvent se rompre ou fuir si elle est impliquée dans un incendie.
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Article Information Sheet

Product name: Li-ion Battery

Printing date: 18-May-2020

Fiche d'information Article

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water and form hydrogen gas. In a confined space, hydrogen gas can form an explosive mixture. In this situation, smothering agents are recommended. A smothering agent will extinguish burning lithium batteries.

Precautions for fire-fighters: Emergency Responders should wear self-contained breathing apparatus. Burning lithium manganese dioxide batteries produce toxic and corrosive lithium hydroxide fumes.

7. HANDLING AND STORAGE

Storage Store in a cool, well ventilated area. Elevated temperatures can result in shortened battery life. In locations that handle large quantities of lithium batteries, such as warehouses, lithium batteries should be isolated from unnecessary combustibles.

Handling Avoid mechanical and electrical abuse. Do not short circuit or install incorrectly. Batteries may rupture or vent if disassembled, crushed, recharged or exposed to high temperatures. Install batteries in accordance with equipment instructions.

Spills of Large Quantities Notify spill personnel of large spills. Irritating and flammable vapors may be released from leaking or ruptured batteries. Spread batteries apart to stop shorting. Eliminate all ignition sources. Evacuate area and allow vapors to dissipate. Clean-up personnel should wear appropriate PPE to avoid eye and skin contact and inhalation of vapors or fumes. Increase ventilation. Carefully collect batteries and place in appropriate container for disposal. Remove any spilled liquid with absorbent material and contain for disposal.

Moyens d'extinction Utilisez tous les moyens d'extinction appropriés pour la région environnante.

Dangers particuliers résultant de la substance chimique En cas d'incendie où des batteries au lithium sont présents, zone inondable avec de l'eau ou avec un ÉTOUFFER approprié incendie Classe d'extinction D pour le métal de lithium, comme Lith-X. L'eau ne peut pas éteindre les piles qui brûlent mais refroidir les batteries adjacentes et contrôler la propagation du feu. Les piles qui brûlent va se brûler. Pratiquement tous les feux impliquant des piles au lithium peuvent être contrôlés par les inondations avec de l'eau. Cependant, le contenu de la batterie réagiront avec l'eau et sous forme d'hydrogène gazeux. Dans un espace confiné, le gaz d'hydrogène peut former un mélange explosif. Dans cette situation, les agents étouffants sont recommandés. Un agent étouffant éteindra la combustion des batteries au lithium.

Précautions à prendre pour les pompiers Équipe d'intervention doivent porter un appareil respiratoire autonome. La combustion des piles de dioxyde de manganèse au lithium produisent toxique et corrosif fumées lithium hydroxyde.

7. MANIPULATION ET STOCKAGE

Espace de rangement Conserver dans un endroit frais et bien ventilé. Les températures élevées peuvent entraîner dans la vie de la batterie raccourcie. Dans les endroits qui traitent de grandes quantités de Les piles au lithium, tels que les entrepôts, les batteries au lithium doivent être isolés à partir de combustibles inutiles.

Article Information Sheet

Product name: Li-ion Battery

Printing date: 18-May-2020

Fiche d'information Article

Nom du produit: Batterie Li-ion

Date d'impression: 18-May-2020

8. DISPOSAL CONSIDERATIONS

Dispose of used (or excess) batteries in compliance with federal, state/provincial and local regulations. Do not accumulate large quantities of used batteries for disposal as accumulations could cause batteries to short-circuit. Do not incinerate. In countries, such as Canada and the EU, where there are regulations for the collection and recycling of batteries, consumers should dispose of their used batteries into the collection network at municipal depots and retailers. They should not dispose of batteries with household trash.

9. Transport information

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"

(a) UN number 3480&3481

(b) UN Proper shipping name LITHIUM ION BATTERIES (including lithium ion polymer batteries) or;

Manipulation	Éviter les abus mécaniques et électriques. Ne pas court-circuiter ou installer correctement. Les piles peuvent se rompre ou de ventilation si elles sont démontées, écrasées, rechargées ou exposé à une forte températures. Installez les piles conformément aux instructions du fabricant.
Déversements de grandes quantités	Informez le personnel de déversement de grands déversements. Irritant et vapeurs inflammables peuvent être libérés de
Batteries (non emballés)	fuites ou les piles endommagées. piles écarter pour arrêter les courts-circuits. éliminer tous les sources d'allumage. Évacuer la zone et laisser les vapeurs se dissipent. Le personnel de nettoyage devrait porter des EPI appropriés pour éviter les yeux et contact avec la peau et l'inhalation des vapeurs ou fumées. Augmenter la ventilation. batteries cueillent et les placer dans un récipient approprié pour disposition. Retirez tout liquide déversé avec une matière absorbante et contiennent pour l'élimination.

8. CONSIDERATIONS RELATIVES À L'ÉLIMINATION

Jetez les piles usagées (ou excédent) conformément aux règlements fédéraux, provinciaux / provinciaux et locaux. Ne pas accumuler de grandes quantités de piles usagées pour l'élimination comme accumulations pourraient provoquer un court-circuit. Ne pas incinérer. Dans les pays, comme le Canada et l'Union européenne, où il existe des règlements pour la collecte et le recyclage des batteries, les consommateurs devraient disposer de leurs piles usagées dans le réseau de collecte dans les dépôts municipaux et les détaillants. Ils ne doivent pas jeter les piles avec les ordures ménagères.

9. Informations de transport

Article Information Sheet

Product name: Li-ion Battery

Printing date: 18-May-2020

Fiche d'information Article

Nom du produit: Batterie Li-ion

Date d'impression: 18-May-2020

	LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT or LITHIUM ION BATTERIES PACKED WITH EQUIPMENT (including lithium ion polymer batteries)			
(c) Transport hazard class(es)	9			
(d) Packing group (if applicable)	IA			
(e) Marine pollutant (Yes/No)	No			
(f) Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code)	No information available.			
(g) Special precautions	No information available.			
(h) Organizations governing the transport of lithium batteries	Area	Method	Organization	Special Provision
	U.S.A	Air, Rail, Road, Marine	DOT	49 CFR Section 173.185

10. REGULATORY INFORMATION

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

CAS No.	USA TSCA	EU EINECS	Japan ENCS	Korea ECL	China IECSC	Canada DSL
12190-79-3	Listed	Listed	Listed	Listed	Listed	Listed
7782-42-5	Listed	Listed	Not listed	Listed	Listed	Listed
21324-40-3	Not listed	Listed	Listed	Listed	Listed	Not listed
7440-50-8	Listed	Listed	Listed	Listed	Listed	Listed
7429-90-5	Not listed	Listed	Listed	Listed	Listed	Not listed

Le transport des piles au lithium primaire et les batteries est réglementé par l'Organisation internationale de l'aviation civile, l'Association internationale du transport aérien, Code maritime international des marchandises dangereuses et le Département américain des Transports. Les batteries doivent répondre aux critères suivants pour l'expédition: 1. les livraisons d'air doivent satisfaire aux exigences énumérées à disposition spéciale A45 de l'Association internationale du transport aérien des marchandises dangereuses Règlement. 2. Répondre aux exigences du ministère américain des Transports répertoriés dans 49 CFR 173,185. 3. Le transport des piles au lithium primaire est interdit à bord des avions de passagers. Reportez-vous au Registre fédéral de 15 Décembre 2004 (matières dangereuses, interdites sur le transport des piles au lithium primaire et cellules Aboard passagers d'avion Règle finale)

Les piles au lithium expédiés comme « batteries au lithium », « Les piles au lithium emballées avec un équipement » ou « piles au lithium contenues dans l'équipement » ne peuvent pas être considérés comme des « marchandises dangereuses » lorsqu'ils sont expédiés conformément à la « disposition A45 spéciale de IATA-DGR » ou " disposition spéciale 188 du code de l'OMI-IMDG »

(A) Numéro ONU 3480 & 3481
 (B) l'ONU Nom Batteries lithium-ion (y compris les piles de polymère au lithium-ion) ou; Batteries lithium-ion contenues dans un équipement ou LITHIUM ION batteries emballées avec un équipement (y compris les piles de polymère au lithium-ion)

(C) classe de danger pour le transport (s) 9

(D) des groupes d'emballage (le cas échéant) IA

(E) Polluant marin (Oui / Non) Non

(F) de transport Pas d'information disponible.

Article Information Sheet

Product name: Li-ion Battery

Printing date: 18-May-2020

7440-02-0	Not listed	Listed	Listed	Listed	Listed	Not listed
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11. OTHER INFORMATION

TSCA:	Toxic Substances Control Act, The American chemical inventory.
DSL	Domestic Substances List
EINECS:	European Inventory of Existing Commercial chemical Substances
ENCS	Japanese Existing and New Chemical Substances
ECL:	Existing Chemicals List, the Korean chemical inventory.
IECSC:	Inventory of existing chemical substances in China.

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

----- End of the AIS -----

Fiche d'information Article

Nom du produit: Batterie Li-ion

Date d'impression: 18-May-2020

en vrac (selon l'Annexe II de MARPOL 73/78 et au recueil IBC)

(g) Précautions particulières Pas d'information disponible.

(H) Les organisations régissant le transport des batteries au lithium	Zone	Méthode	Organisation	Provision SPECIALE
	Etats-Unis	Aérien, ferroviaire, routier, maritime	POINT	49 CFR Section 173,185

10. INFORMATIONS RÉGLEMENTAIRES

(A) la sécurité, de santé et de l'environnement spécifique pour le produit en question

N ° CAS.	Etats-Unis TSCA	UE Einecs	Japon ENCS	Corée ECL	Chine IECSC	Canada DSL
12190-79-3	Listed	Listed	Listed	Listed	Listed	Listed
7782-42-5	Listed	Listed	Non listé	Listed	Non listé	Listed
21324-40-3	Non listé	Non listé	Listed	Non listé	Listed	Non listé
7440-50-8	Non listé	Non listé	Listed	Non listé	Listed	Non listé
7429-90-5	Listed	Listed	Listed	Non listé	Listed	Listed
7440-02-0	Non listé	Listed	Listed	Listed	Non listé	Non listé

11. LES AUTRES INFORMATIONS

TSCA:	Toxic Substances Control Act, l'inventaire chimique américain.
DSL	Liste intérieure
Einecs:	Inventaire européen des substances chimiques existantes commerciales
ENCS	Existantes et nouvelles substances chimiques japonaises

Article Information Sheet

Product name: Li-ion Battery

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ECL: Liste des produits chimiques existants, l'inventaire chimique coréenne.

IECSC: Inventaire des substances chimiques existantes en Chine.

Parce que toutes nos batteries sont définis comme des « articles », ils sont exemptés des exigences de la norme de communication des risques. Les informations contenues dans ce AIS est fourni tous les pleinement et véritablement les données pertinentes. Cependant, les informations sont fournies sans aucune garantie sur leur extensification absolue et la précision. Cet AIS a été préparé à des mesures préventives de sécurité pour les utilisateurs qui ont obtenu la formation professionnelle. L'utilisateur personnel qui a obtenu ce SIA devrait porter un jugement indépendant pour l'applicabilité de cette AIS dans des conditions particulières. Dans ces cas particuliers, nous n'assumons la responsabilité pour les dommages.

----- Fin de l'AIS -----

Safety Data Sheet

Name of sample:

Polymer lithium ion Battery

Client:

AnRen Duanshi New Energy Technology Co., Ltd.

Compiled by:

Test Engineer

Zhu Xiaojuan**Reviewed by:**

Project Supervisor

Pang Juxia**Approved by:**

Technology Supervisor

Huang Zhiqiang

1. Chemical product and company identification

Commissioned by	AnRen Duanshi New Energy Technology Co., Ltd.
Commissioner address	Industrial Concentration Zone, Yonglejiang Town, Anren County, Chenzhou city, Hunan Province (Caoguzu, Junshan Village, Junshan Town)
Manufacturer	AnRen Duanshi New Energy Technology Co., Ltd.
Manufacturer address	Industrial Concentration Zone, Yonglejiang Town, Anren County, Chenzhou city, Hunan Province (Caoguzu, Junshan Village, Junshan Town)
Name of samples	Polymer lithium ion Battery
Type/Model	581013
Rated capacity	45mAh
Nominal voltage	3.7V
Rated energy	0.1665Wh
Emergency telephone call	0769-81916656

2. Hazard(s) 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
Specific target organ toxicity (repeated exposure) Category	Category 1

(b) GHS Label elements, including precautionary statements

Emergency Overview
Signal word: Danger Hazard Statements: Causes skin irritation Causes serious eye damage
 
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. Appearance: Prismatic Physical State: Solid Odor: Odorless

Rep. No.:TCTTJ20200417122ZB-BR02

Page 3 / 11 Pages

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling;
Wear protective gloves/protective clothing/eye protection/face protection Do not breathe dust,fume,gas,mist,vapors,spray;
Do not eat, drink or smoke when using this product;

Precautionary Statements – Response

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;

-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

No information available.

Precautionary Statements – Disposal

Dispose of contents/container to an approved waste disposal plant

(c) Hazards not otherwise classified (HNOC)

No information available.

(d) Unknown Toxicity

10% of the mixture consists of ingredient(s) of unknown toxicity.

(e) Other information

No information available.

(f) 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	40-45
Graphite	7782-42-5	20-25
Carbom nanotubes	1333-86-4	4-5
Methyl ethyl carbonate	623-53-0	2-3
Phosphate(1-),hexaf luoro-,lithium	21324-40-3	2-5
Copper	7440-50-8	6-8
Aluminium	7429-90-5	3-5
Nickel	7440-02-0	2-5
Poly(vinylidene flouride)	24937-79-9	2-3

4.First-aid measures

(a) Description of first aid measures

General Advice	First aid is upon rupture of sealed battery.
Eye contact	Show this safety data sheet to the doctor in attendance.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. Get medical attention if irritation develops and persists. Do not rub affected area.
Skin contact	Remove contaminated clothes and rinse the skin with plenty of water. Get medical advice/attention if you feel unwell.
Inhalation	Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, (trained personnel should) give oxygen. Get medical advice/attention if you feel unwell.
Ingestion	Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Get medical aid.
Self-protection of the first aider	Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Get medical aid. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

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

Contact with internal components may cause allergic skin sensitization (rash) and irritate eyes, skin, nose, throat,respiratory system. Cobalt and Cobalt compounds are considered to be possible human carcinogen(s).

(c) Immediate medical attention and special treatment

No information available.

5.Fire-fighting measures

Suitable extinguishing media	Use foam, dry powder or dry sand, CO ₂ as appropriate.
Unsuitable extinguishing media	No information available.

(a) 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;

(b) 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

If the battery material 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, dispose the case after the batteries cool and vapors dissipate. Provide maximum ventilation. Avoid skin and eye contact or inhalation of vapors.

(b) Environmental Precautions

Prevent material from contaminating soil and from entering sewers or waterways.

(c) Methods and materials for containment and cleaning up

If the 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.

7.Handling and storage

(a) Precautions for safe handling

Always follow the warning information on the batteries and in the manuals of devices. Only use the recommended battery types;
Keep batteries away from children. For devices to be used by children, the battery casing should be protected against unauthorized access;
Unpacked batteries shall not lie about in bulk;
In case of battery change always replace all batteries by new ones of identical type and brand;
Do not swallow batteries;
Do not throw batteries into water;
Do not throw batteries into fire;
Avoid deep discharge;
Do not short-circuit batteries Use recommended charging time and current;

(b) Conditions for safe storage, including any incompatibilities

If the battery is subject to storage for such a long term as more than 3 months, it is recommended to recharge the battery periodically;
And recommended at -5℃~45℃ for 1 month storage, at -5℃~35℃ for 3 months storage;
Do not storage the battery haphazardly in a box or drawer where they may short-circuit each other or be short-circuited by other metal objects;
Keep out of reach of children;

8.Exposure controls/personal protection

(a) Control parameters Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Lithium Cobalt Oxide (CoLiO ₂) 12190-79-3	TWA: 0.02 mg/m ³	N/A	N/A
Aluminum 7429-90-5	TWA: 1/mg/m ³ respirable fraction	TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 15 mg/m ³ total dust (vacated) TWA: 5 mg/m ³ respirable dust	TWA: 10 mg/m ³ total dust TWA: 5 mg/m ³ respirable dust
Copper 7440-50-8	TWA: 0.2 mg/m ³ fume TWA: 1 mg/m ³ Cu dust and mist	TWA: 0.1 mg/m ³ fume TWA: 1 mg/m ³ dust and mist (vacated) TWA: 0.1 mg/m ³ Cu dust, fume, mist	IDLH: 100 mg/m ³ dust, fume and mist TWA: 1 mg/m ³ dust and mist TWA: 0.1 mg/m ³ fume
Phosphate(1-), hexafluoro-, lithium	TWA: 2.5 mg/m ³ F	TWA: 2.5 mg/m ³ F TWA: 2.5 mg/m ³ dust	N/A

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	1.Showers
	2.Eyewash stations
	3.Ventilation systems

(c) Individual protection measures, such as personal protective equipment

Eye/Face Protection	Not necessary under normal conditions, wear safety glasses if handling an open or leaking battery.
Skin and body Protection	Not necessary under normal conditions, Wear protective gloves and protective clothing such as long sleeved clothing, impervious gloves, chemical resistant apron, and antistatic boots if handling an open or leaking battery.
Respiratory Protection	Not necessary under normal 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, Avoid contact.

9.Physical and chemical properties

(a) Appearance	Prismatic
(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.
(l) 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	130°C
(q) Decomposition temperature	Not available.
(r) Viscosity	Not available.

10.Stability and reactivity

(a) Reactivity	Stable under recommended storage and handling conditions.
(b) Chemical stability	Stable under normal conditions.
(c) Possibility of hazardous reactions	When heated above 150°C the risk of rupture occurs. Due to special safety construction, rupture implies controlled release of pressure without ignition.
(d) Conditions to avoid	Do not subject the battery to mechanical shock. Keep away from open flames, high temperature.
(e) Incompatible materials	Strong oxidizer, strong acid.
(f) Hazardous decomposition products	Under fire conditions, the electrode materials can form carcinogenic nickel and cobalt oxides.

11.Toxicological information

(a) Information on the likely routes of exposure

Inhalation	Inhalation of a large number of vapors or fumes released due to heat may cause respiratory.
Ingestion	Ingestion of battery contents may cause mouth, throat and intestinal burns and damage.
Skin contact	Contact with battery electrolyte may cause burns and skin irritation.
Eye contact	Contact with battery electrolyte may cause burns. Eye damage is possible.

Under normal conditions (during charge and discharge) release of ingredients does not occur. If accidental release occurs see information in section 4.

Swallowing of a battery can be harmful.

Call the local Poison Control Centre for advice and follow-up.

(b) Information on toxicological characteristics

Acute toxicity	No data available.
Skin corrosion/irritation	The liquid in the battery irritates.
Serious eye damage/irritation	The liquid in the battery irritates.
Respiratory sensitization	The liquid in the battery may cause sensitization to some person.
Skin sensitization	The liquid in the battery may cause sensitization to some person.
Carcinogenicity	Cobalt and Cobalt compounds are considered to be possible human carcinogen(s).
Germ Cell Mutagenicity	No data available.
Reproductive Toxicity	No data available.
STOT-Single Exposure	No data available.
STOT-Repeated Exposure	No data available.
Aspiration Hazard	No data available.

(c) Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization	No data available.
Mutagenic Effects	No data available.
Carcinogenicity	No data available.
Reproductive Toxicity	No data available.
Chronic Toxicity	No data available.
Target Organ Effects	No data available.
Aspiration Hazard	No data available.

12. Ecological information

(a) Ecotoxicity

Water hazard class 1(Self-assessment): slightly hazardous for water.

(b) Persistence and Degradability

No information available.

(c) Bioaccumulative potential

No information available.

(d) Mobility in soil

No information available.

(e) Other adverse effects

No information available.

13. Disposal considerations

Safe handling and methods of disposal

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

Product disposal recommendation:

Observe local, state and federal laws and regulations.

Packaging disposal recommendation:

Be aware discarded batteries may cause fire, tape the battery terminals to insulate them. Don't disassembly the battery. Completely discharge containers (no tear drops, no powder rest, scraped carefully). Containers may be recycled or re-used. Observe local, state and federal laws and regulations. The potential effects on the environment and human health of the substances used in batteries and accumulators, the desirability of not disposing of waste batteries and accumulators as unsorted municipal waste and of participating in their separate collection so as to facilitate treatment and recycling.

14. Transport information

The goods shall be complied with the requirements of Section IA\IB\II of Packing Instructions 965 and Section III of Packing Instructions 966\967 of 61st DGR Manual of IATA(2020 edition)or special provision 188 of IMDG CODE(Amdt. 39-18)2018 Edition.

The batteries should be securely packed and protected against short-circuits. Examine whether the package of the containers are integrate and tighten closed before transport.

Take in a cargo of them without falling, dropping, and breakage. Prevent collapse of cargo piles.

Don't put the goods together with oxidizer and chief food chemicals. The transport vehicle and ship must be cleaned and sterilized otherwise it is not allowed to assemble articles. During transport, the vehicle should prevent exposure, rain and high temperature. For stopovers, the vehicle should be away from fire and heat sources. When transported by sea, the assemble place should keep away from bedroom and kitchen, and isolated from the engine room, power and fire source.

Under the condition of Road Transportation, the driver should drive in accordance with regulated route, don't stop over in the residential area and congested area. Forbid to use wooden, cement for bulk transport.

(a) UN number	UN3480 or UN3481
(b) UN Proper shipping name	Lithium Ion Batteries (or); Lithium Ion Batteries Contained in Equipment (or); Lithium Ion Batteries Packed with Equipment.
(c) Transport hazard class(es)	9
(d) Packing group (if applicable)	No information available.
(e) Marine pollutant (Yes/No)	No
(f) Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code)	No information available.
(g) Special precautions	No information available.

15.Regulatory information

OSHA hazard communication standard (29 CFR 1910.1200)

☒ Hazardous ☐ Non-hazardous

16.Other information

(a) Preparation and revision information

Date of previous revision	Not applicable
Revision summary	The first New SDS
Date of issue	April 23, 2020

(b) Abbreviations and acronyms

TSCA	Toxic Substances Control Act, The American chemical inventory.
DSL	Domestic Substances List.
EINECS	European Inventory of Existing Commercial chemical Substances.
ENCS	Japanese Existing and New Chemical Substances.
ECL	Existing Chemicals List, the Korean chemical inventory.
IECSC	Inventory of existing chemical 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.

STATEMENTS

1. The test report is invalid without the official stamp of Tiansu.
2. Nobody is allowed to photocopy or partly photocopy this test report without written permission of Tiansu.
3. The test report is invalid without the signatures of Ratifier, Reviewer and Testing engineer.
4. The test report is invalid if altered.
5. Objections to the test report must be submitted to Tiansu within 15 days.
6. The test report is valid for the tested samples only.

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