

Safety Data Sheets (SDSs)**Fiches de données de sécurité (FDS)**

For /Pour

Guangdong Liju New Energy Co., Ltd

Building 1, No.136, DalingshanYongjun Road, Dalingshan Town, Dongguan City, Guangdong
Province

Model /Type reference	LIR1254
Modèle/Type référence	
Trademark	/
Marque de commerce	
Nominal Voltage	3.7V
Tension nominale	
Typical Capacity	70mAh 0.259Wh
Capacité typique	
Version Number	V1.0
Date de préparation	
Preparation Date	Mar. 22 2023
Date de préparation	22 mars 2023
Date de révision	N/A

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING**1. IDENTIFICATION DE LA SUBSTANCE/PRÉPARATION ET DE LA SOCIÉTÉ/ENTREPRISE****Product Identifier****Étiquette d'un produit**

Product name: Button lithium-ion battery
Nom du produit Bouton batterie lithium-ion

Other means of identification**Autres moyens d'identification**

Product description	Model:	LIR1254
Description du produit	Modèle:	
	Trade mark:	N/A
	Marque:	
	Nominal voltage:	3.7V
	Tension nominale:	
	Typical capacity:	70mAh 0.259Wh
	Capacité typique:	
	Weight:	1.86g
	Poids:	

Recommended use of the chemical and restrictions on use**Utilisation recommandée du produit chimique et restrictions d'utilisation**

Recommended Use Used in portabl electronic equipments
Utilisation recommandée Utilisé dans les équipements électroniques portables

Uses advidsed against:

Utilisations déconseillées :

- a) Do not dismantle, open or shred secondary cells or batteries.
Ne pas démonter, ouvrir ou déchiqueter les piles ou batteries secondaires.
- b) Do not expose cells or batteries to heat or fire. Avoid storage in direct sunlight.
N'exposez pas les cellules ou les batteries à la chaleur ou au feu.
Éviter le stockage à la lumière directe du soleil.
- c) Do not short-circuit a cell or a battery. Do not store cells or batteries haphazardly in a box or drawer where they may short-circuit each other or be short-circuited by other metal objects.
Ne court-circuitiez pas une cellule ou une batterie. Ne stockez pas les piles ou les batteries au hasard dans une boîte ou un tiroir où elles pourraient se court-circuiter ou être court-circuitées par d'autres objets métalliques.
- d) Do not remove a cell or battery from its original packaging until

required for use.

Ne retirez pas une pile ou une batterie de son emballage d'origine avant son utilisation.

- e) Do not subject cells or batteries to mechanical shock.

Ne soumettez pas les piles ou les batteries à des chocs mécaniques.

- f) In the event of a cell leaking, do not allow the liquid to come in contact with the skin or eyes. If contact has been made, wash the affected area with copious amounts of water and seek medical advice.

En cas de fuite d'une cellule, ne laissez pas le liquide entrer en contact avec la peau ou les yeux. En cas de contact, laver la zone touchée avec de grandes quantités d'eau et consulter un médecin.

- g) Do not use any charger other than that specifically provided for use with the equipment.

N'utilisez pas de chargeur autre que celui spécifiquement prévu pour être utilisé avec l'équipement.

- h) Observe the plus (+) and minus (-) marks on the cell, battery and equipment and ensure correct use.

Respectez les marques plus (+) et moins (-) sur la cellule, la batterie et l'équipement et assurez-vous d'une utilisation correcte.

- i) Do not use any cell or battery which is not designed for use with the equipment.

N'utilisez aucune cellule ou batterie qui n'est pas conçue pour être utilisée avec l'équipement.

- j) Do not mix cells of different manufacture, capacity, size or type within a device.

Ne mélangez pas des cellules de fabrication, de capacité, de taille ou de type différents dans un appareil.

- k) Battery usage by children should be supervised.

L'utilisation de la batterie par les enfants doit être surveillée.

- l) Seek medical advice immediately if a cell or a battery has been swallowed.

Consulter immédiatement un médecin en cas d'ingestion d'une pile ou d'une batterie.

- m) Always purchase the battery recommended by the device manufacturer for the equipment.

Achetez toujours la batterie recommandée par le fabricant de l'appareil pour l'équipement.

- n) Keep cells and batteries clean and dry.

Gardez les cellules et les batteries propres et sèches.

- o) Wipe the cell or battery terminals with a clean dry cloth if they become dirty.

Essuyez les bornes de la cellule ou de la batterie avec un chiffon propre et sec si elles sont sales.

- p) Secondary cells and batteries need to be charged before use. Always

use the correct charger and refer to the manufacturer's instructions or equipment manual for proper charging instructions.

Les piles et batteries secondaires doivent être chargées avant utilisation. Utilisez toujours le chargeur approprié et reportez-vous aux instructions du fabricant ou au manuel de l'équipement pour obtenir des instructions de charge appropriées.

Ne laissez pas une batterie en charge prolongée lorsqu'elle n'est pas utilisée.

- q) Do not leave a battery on prolonged charge when not in use.

Ne laissez pas une batterie en charge prolongée lorsqu'elle n'est pas utilisée.

- r) After extended periods of storage, it may be necessary to charge and discharge the cells or batteries several times to obtain maximum performance.

Après de longues périodes de stockage, il peut être nécessaire de charger et décharger les éléments ou les batteries plusieurs fois pour obtenir des performances maximales.

- s) Retain the original product literature for future reference.

Conservez la documentation originale du produit pour référence future.

- t) Use only the cell or battery in the application for which it was intended.

Utilisez uniquement la pile ou la batterie dans l'application pour laquelle elle a été conçue.

- u) When possible, remove the battery from the equipment when not in use.

Dans la mesure du possible, retirez la batterie de l'équipement lorsqu'il n'est pas utilisé.

- v) Dispose of properly.

Éliminer correctement.

Details of the supplier of the safety data sheet:

Coordonnées du fournisseur de la fiche de données de sécurité :

Supplier Name:	Guangdong Liju New Energy Co., Ltd
Nom du fournisseur:	
Address:	Building 1, No.136, DalingshanYongjun Road,
Adresse:	Dalingshan Town, Dongguan City, Guangdong Province
Telephone number of the supplier:	0769-81623016
Numéro de téléphone du fournisseur :	
E-mail address:	jacky.cao@lijubattery.com
Adresse e-mail:	

Emergency telephone number

Numéro d'urgence

Company Emergency Phone Number: 0769-81623016

Numéro de téléphone d'urgence de
l'entreprise :

2. HAZARDS IDENTIFICATION

2. IDENTIFICATION DES DANGERS

Classification

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.

Ce produit chimique n'est pas considéré comme dangereux par la norme de communication des risques 2012 de l'OSHA (29 CFR 1910.1200). Ce produit est un article qui est une batterie scellée et, en tant que tel, ne nécessite pas de fiche signalétique selon la norme de communication des dangers de l'OSHA, à moins qu'il ne soit rompu. Les dangers indiqués concernent une batterie rompue.

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

GHS Label elements, including precautionary statements:**Éléments d'étiquetage SGH, y compris les conseils de prudence:**

Signal word	Danger
Hazard Statements Causes skin irritation Causes serious eye irritation May cause an allergic skin reaction Suspected of causing cancer Causes damage to organs through prolonged or repeated exposures	
	
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 Silver	Physical State Solid containing liquid
Odor None	

Precautionary Statements - Prevention**Conseils de prudence - Prévention**

Obtain special instructions before use

Obtenir des instructions spéciales avant utilisation

Do not handle until all safety precautions have been read and understood

Ne pas manipuler tant que toutes les précautions de sécurité n'ont pas été lues et comprises

Use personal protective equipment as required

Utiliser l'équipement de protection individuelle au besoin

Wash face, hands and any exposed skin thoroughly after handling

Se laver soigneusement le visage, les mains et toute peau exposée après manipulation

Contaminated work clothing should not be allowed out of the workplace

Les vêtements de travail contaminés ne devraient pas être autorisés à sortir du lieu de travail

Wear protective gloves

Portez des gants de protection

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

Ne pas respirer les poussières/fumées/gaz/brouillards/vapeurs/aérosols

Do not eat, drink or smoke when using this product

Ne pas manger, boire ou fumer lors de l'utilisation de ce produit

Wear eye/face protection

Porter une protection des yeux/du visage

Precautionary Statements - Response**Precautionary Statements - Response**

IF exposed or concerned: Get medical advice/attention

SI exposé ou concerné : obtenir un avis médical

Specific treatment (see supplemental first aid instructions on this label)

Traitement spécifique (voir les instructions de premiers soins supplémentaires sur cette étiquette)

Eyes**Yeux**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

EN CAS DE CONTACT AVEC LES YEUX : Rincer avec précaution à l'eau pendant plusieurs minutes. Retirez les lentilles de contact, si elles sont présentes et faciles à faire. Continuer le rinçage

If eye irritation persists: Get medical advice/attention

Si l'irritation oculaire persiste : consulter un médecin

Skin**Peau**

IF ON SKIN: Wash with plenty of soap and water

EN CAS DE CONTACT AVEC LA PEAU : Laver abondamment à l'eau et au savon

Take off contaminated clothing and wash before reuse

Enlever les vêtements contaminés et les laver avant réutilisation

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

En cas d'irritation ou d'éruption cutanée : consulter un médecin

Precautionary Statements - Storage**Conseils de prudence - Stockage**

Store locked up

Magasin verrouillé

Precautionary Statements - Disposal**Conseils de prudence - Élimination**

Dispose of contents/container to an approved waste disposal plant

Éliminer le contenu/récipient dans une installation d'élimination des déchets agréée

Hazards not otherwise classified (HNOC)**Dangers non classés ailleurs (HNOC)**

Not applicable

N'est pas applicable

Unknown Toxicity**Toxicité inconnue**

37.3% of the mixture consists of ingredient(s) of unknown toxicity

37,3% du mélange est constitué d'ingrédient(s) de toxicité inconnue

Other information**Les autres informations**

Very toxic to aquatic life with long lasting effects

Très toxique pour la vie aquatique avec effets à long terme

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

Le contact répété ou prolongé avec la peau peut provoquer des réactions allergiques chez les personnes sensibles

Interactions with Other Chemicals**Interactions avec d'autres produits chimiques**

No information available.

Pas d'information disponible.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3. COMPOSITION / INFORMATION SUR LES COMPOSANTS

Chemical characterization: Mixtures

Caractérisation chimique : Mélanges

Description:

La description:

Product: Consisting of the following components.

Produit : Constitué des composants suivants.

Common Chemical Name	Concentration (%)	CAS Number
Cobalt lithium manganese nickel oxide	40	182442-95-1
Polyvinylidene fluoride	2	24937-79-9
Graphite powder	30	7782-42-5
Electrolyte	20	21324-40-3
Polyethylene	0.5	9002-88-4
Copper foil	3	7440-50-8
Nickel	0.5	7440-02-0
Aluminum foil	0.5	7429-90-5
Silicon	1.5	7440-21-3
Epoxy Resin	1	38891-59-7
Gold	0.95	7440-57-5
Sn	0.05	7440-31-5

Note: CAS number is Chemical Abstract Service Registry Number.

Remarque : le numéro CAS est le numéro de registre du Chemical Abstract Service.

4. FIRST-AID MEASURES

4. PREMIERS SECOURSPREMIERS SECOURS

First aid measures

Premiers secours

First aid is upon rupture of sealed battery.

Les premiers secours sont en cas de rupture de la batterie scellée.

Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least

Lentilles de contact

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.

Rincer immédiatement et abondamment à l'eau, également sous les paupières, pendant au moins 15 minutes. Gardez les yeux grands

	ouverts pendant le rinçage. Ne pas frotter la zone touchée. Retirez les lentilles de contact, si elles sont présentes et faciles à faire. Continuez à rincer. Consulter immédiatement un médecin.
Skin Contact Contact avec la peau	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. Laver immédiatement avec du savon et beaucoup d'eau tout en enlevant tous les vêtements et chaussures contaminés. Une attention médicale immédiate est requise. Peut provoquer une réaction allergique cutanée.
Inhalation 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. Sortir à l'air frais. Si la respiration s'est arrêtée, pratiquer la respiration artificielle. Consultez immédiatement un médecin. 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 équipé d'une valve unidirectionnelle ou d'un autre appareil médical respiratoire approprié. Si la respiration est difficile, (le personnel qualifié doit) donner de l'oxygène. Un œdème pulmonaire retardé peut survenir. Consulter un médecin immédiatement si des symptômes apparaissent.
Ingestion 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. NE PAS faire vomir. Rincer immédiatement la bouche et boire beaucoup d'eau. Ne portez rien à la bouche d'une personne inconsciente. Appeler immédiatement un médecin ou un centre antipoison..
Self-protection of the first aider Autoprotection du premier aidant	Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wear personal protective clothing (see section 8). Éviter le contact avec la peau, les yeux ou les vêtements. Utiliser l'équipement de protection individuelle requis. Porter des vêtements de protection individuelle (voir rubrique 8)

Most important symptoms and effects, both acute and delayed**Symptômes et effets les plus importants, aigus et différés**

Itching. Coughing and/ or wheezing. Burning sensation.

Démangeaison. Toux et/ou respiration sifflante. Sensation de brûlure.

Indication of any immediate medical attention and special treatment needed**Indication des éventuels soins médicaux immédiats et traitements particuliers nécessaires**

Notes to Physician
Notes au médecin

Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible 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 rates, frothy sputum, and high pulse pressure. May cause sensitization of susceptible persons.

Treat symptomatically.

Le produit est un matériau corrosif. L'utilisation d'un lavage gastrique ou de vomissements est contre-indiquée. Une éventuelle perforation de l'estomac ou de l'œsophage doit être recherchée. Ne donnez pas d'antidotes chimiques. Une asphyxie due à un œdème de la glotte peut survenir. Une diminution marquée de la pression artérielle peut se produire avec des taux humides, des expectorations mousseuses et une pression pulsée élevée. Peut entraîner une sensibilisation des personnes sensibles.

Traiter de manière symptomatique.

5. FIRE-FIGHTING MEASURES

5. MESURES DE LUTTE CONTRE L'INCENDIE

Suitable Extinguishing Media

Moyens d'extinction appropriés

CO₂, dry chemical powder, water spray.

CO₂, poudre chimique sèche, eau pulvérisée.

Unsuitable Extinguishing Media: No information available.

Moyens d'extinction inappropriés : aucune information disponible.

Specific Hazards Arising from the Chemical

Dangers spécifiques liés au produit chimique

Under fire conditions, batteries may burst and release hazardous decomposition products when exposed to a fire situation.

En cas d'incendie, les batteries peuvent éclater et libérer des produits de décomposition dangereux lorsqu'elles sont exposées à un incendie.

Formation of toxic gases is possible during heating or in case of fire.

La formation de gaz toxiques est possible pendant le chauffage ou en cas d'incendie.

In case of fire, the following can be released:

En cas d'incendie, les éléments suivants peuvent être libérés :

Carbon monoxide(CO)

Monoxyde de carbone (CO)

Carbon dioxide

Gaz carbonique

Other irritating and toxic gases.

Autres gaz irritants et toxiques.

Protective Equipment and Precautions for Firefighters

Équipement de protection et précautions pour les pompiers

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.

Les pompiers doivent porter un équipement de protection résistant au feu et un appareil respiratoire approprié. Le personnel doit s'équiper d'un masque filtrant (masque complet) ou d'un appareil respiratoire isolé. Le personnel doit porter des vêtements qui peuvent défendre le feu et les gaz toxiques. Éteignez le feu en amont. Retirez le conteneur à l'espace ouvert dès que possible. Vaporisez de l'eau sur les récipients du foyer pour les garder au frais jusqu'à la fin de l'extinction.

6. ACCIDENTAL RELEASE MEASURES

6. MESURES EN CAS DE DISPERSION ACCIDENTELLE

Personal precautions, protective equipment and emergency procedures

Précautions individuelles, équipement de protection et procédures d'urgence

Personal Precautions	Attention!Corrosive material. Avoid contact with skin, eyes or clothing.
Précautions personnelles	Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Attention!Matériau corrosif. Éviter le contact avec la peau, les yeux ou les vêtements. Assurer une ventilation adéquate. Utiliser l'équipement de protection individuelle requis. Évacuer le personnel vers des zones sûres. Tenir les gens à l'écart et en amont du déversement/de la fuite.
Other information	Refer to protective measures listed in Sections 7 and 8.
Les autres informations	Se référer aux mesures de protection énumérées dans les sections 7 et 8.

Environmental precautions

Précautions environnementales

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.

Se référer aux mesures de protection énumérées dans les sections 7 et 8. Empêcher d'autres fuites ou déversements si cela peut être fait sans danger. Ne doit pas être rejeté dans l'environnement. Ne pas laisser pénétrer dans le sol/sous-sol. Empêcher le produit de pénétrer dans les égouts.

Methods and material for containment and cleaning up**Méthodes et matériel de confinement et de nettoyage**

Methods for Containment	prevent further leakage or spillage if safe to do so.
Méthodes de confinement	empêcher d'autres fuites ou déversements si cela peut être fait en toute sécurité.
Methods for Cleaning up	Use personal protective equipment. Dam up. Cover liquid spill with sand, earth or other Non combustible absorbent material. Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly.
Méthodes de nettoyage	Utiliser un équipement de protection individuelle. Endiguer. Couvrir le déversement de liquide avec du sable, de la terre ou un autre matériau absorbant non combustible. Ramasser et transférer dans des conteneurs correctement étiquetés. Nettoyer soigneusement la surface contaminée.

7. HANDLING AND STORAGE**7. MANIPULATION ET STOCKAGE****Precautions for safe handling****Précautions à prendre pour une manipulation sans danger**

Handling	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing. Wear personal protective equipment.
Manutention	A manipuler conformément aux bonnes pratiques d'hygiène industrielle et de sécurité. Éviter le contact avec la peau, les yeux et les vêtements. Portez un équipement de protection individuelle. Wash thoroughly after handling. Use this material with adequate ventilation. Laver soigneusement après manipulation. Utilisez ce matériau avec une ventilation adéquate. The product is not explosive. Le produit n'est pas explosif.

Conditions for safe storage, including any incompatibilities**Conditions d'un stockage sûr, y compris d'éventuelles incompatibilités**

If the Lithium-ion Battery is subject to storage for such a long term as more than 3 months, it is recommended to recharge the Lithium-ion Polymer Battery periodically.

Si la batterie lithium-ion est stockée pendant une durée aussi longue que plus de 3 mois, il est recommandé de recharger périodiquement la batterie lithium-ion polymère.

3 months: -10°C~+40°C, 45 to 85%RH

3 mois : -10°C~+40°C, 45 à 85 % HR

And recommended at 0°C~+35°C for long period storage.

Et recommandé à 0°C~+35°C pour un stockage de longue durée.

The capacity recovery rate in the delivery state (50% capacity of fully charged) after storage is assumed to be 80% or more.

Le taux de récupération de la capacité à l'état de livraison (50 % de la capacité à pleine charge) après stockage est supposé être de 80 % ou plus.

Do not storage Lithium-ion Battery haphazardly in a box or drawer where they may short-circuit each other or be short-circuited by other metal objects.

Ne stockez pas la batterie lithium-ion au hasard dans une boîte ou un tiroir où elles pourraient se court-circuiter ou être court-circuitées par d'autres objets métalliques.

Keep out of reach of children.

Tenir hors de portée des enfants.

Do not expose Lithium-ion Polymer Battery to heat or fire. Avoid storage in direct sunlight.

N'exposez pas la batterie lithium-ion polymère à la chaleur ou au feu. Éviter le stockage à la lumière directe du soleil.

Do not store together with oxidizing and acidic materials.

Ne pas stocker avec des matières oxydantes et acides.

Keep ignition sources away- Do not smoke.

Tenir à l'écart les sources d'inflammation - Ne pas fumer.

Store in cool, dry and well-ventilated place.

Conserver dans un endroit frais, sec et bien ventilé.

Incompatible Products

Incompatible Products

None known.

Aucun connu.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

8. CONTRÔLES D'EXPOSITION ET PROTECTION INDIVIDUELLE

Engineering Controls

Contrôles d'ingénierie

Use local exhaust ventilation or other engineering controls to control sources of dust, mist, fumes and vapor. Keepaway from heat and open flame. Store in a cool, dry place.

Utiliser une ventilation d'échappement locale ou d'autres contrôles techniques pour contrôler les sources de poussière, de brouillard, de fumées et de vapeur. Tenir à l'écart de la chaleur et des flammes nues. Conservez dans un endroit frais et sec.

(b) Personal Protective Equipment

(b) Équipement de protection individuelle

Respiratory Protection: Not necessary under normal conditions. **Skin and body Protection:** Not necessary under normal conditions, Wear neoprene or nitrile rubber gloves if handling an open or leaking battery.

Protection respiratoire : Pas nécessaire dans des conditions normales. Protection de la peau et du corps : Pas nécessaire dans des conditions normales, Porter des gants en néoprène ou en caoutchouc nitrile si vous manipulez une batterie ouverte ou qui fuit.

Hand protection: Wear neoprene or natural rubber material gloves if handling an open or leaking battery.

Protection des mains : Portez des gants en néoprène ou en caoutchouc naturel si vous manipulez une batterie ouverte ou qui fuit.

Eye Protection: Not necessary under normal conditions, wear safety glasses if handling an open or leaking battery.

Protection des yeux : Pas nécessaire dans des conditions normales, porter des lunettes de sécurité si vous manipulez une batterie ouverte ou qui fuit.

(c) Other Protective Equipment

(c) Autre équipement de protection

Have a safety shower and eye wash fountain readily available in the immediate work area.

Ayez une douche de sécurité et une fontaine pour le lavage des yeux facilement disponibles dans la zone de travail immédiate.

(d) Hygiene Measures

(d) Mesures d'hygiène

Do not eat, drink, or smoke in work area. Maintain good housekeeping.

Ne pas manger, boire ou fumer dans la zone de travail. Maintenir un bon ménage.

9. PHYSICAL AND CHEMICAL PROPERTIES

9. PROPRIÉTÉS PHYSIQUES ET CHIMIQUES

Physical State État physique	Form: Button Forme : bouton
	Color: silvery Couleur: Argent argenté
	Odour: Odourless Odeur : Inodore
	Odor Threshold: No information available Seuil olfactif : Aucune information disponible
Change in condition: Changement d'état :	
pH, with indication of the concentration pH, avec indication de la concentration	Not determined. Non déterminé.
Melting point/freezing point Point de fusion/point de congélation	Not determined. Non déterminé.
Initial boiling point and Boiling range: Point d'ébullition initial et plage d'ébullition :	Not determined. Non déterminé.
Flash Point Point de rupture	Not determined. Non déterminé.
Evaporation rate Taux d'évaporation	Not determined. Non déterminé.
Flammability (solid, gas) Inflammabilité (solide, gaz)	Not determined. Non déterminé.
Upper/lower flammability or explosive limits Limites supérieures/inférieures d'inflammabilité ou d'explosivité	Not determined. Non déterminé.
Vapor Pressure: La pression de vapeur:	Not determined. Non déterminé.
Vapor Density: Densité de vapeur:	Not determined. Non déterminé.
relative density: densité relative:	Not determined. Non déterminé.
Solubility in Water: Solubilité dans l'eau:	Not determined. Non déterminé.
Solubility in other solvents Solubilité dans d'autres solvants	Not determined. Non déterminé.
n-octanol/water partition coefficient Coefficient de partage n-octanol/eau	Not determined. Non déterminé.
Auto-ignition temperature	Product is not self-igniting.

La température d'auto-inflammation	Le produit ne s'enflamme pas automatiquement.
Decomposition temperature température de décomposition	Not determined. Non déterminé.
Odour threshold Seuil de sortie	Not determined. Non déterminé.
Evaporation rate Taux d'évaporation	Not determined. Non déterminé.
Viscosity Viscosité	Not determined. Non déterminé.
Other Information les autres informations	No further relevant information available. Aucune autre information pertinente disponible.

10. STABILITY AND REACTIVITY

10. STABILITÉ ET RÉACTIVITÉ

Reactivity: Stable under recommended storage and handling conditions (see section 7, Handling and storage).

Réactivité : Stable dans les conditions de stockage et de manipulation recommandées (voir section 7, Manipulation et stockage).

Chemical stability: Stable under normal conditions of use, storage and transport.

Stabilité chimique : Stable dans des conditions normales d'utilisation, de stockage et de transport.

Thermal decomposition/conditions to be avoided: No decomposition if used according to specifications.

Décomposition thermique/conditions à éviter : Pas de décomposition si utilisé conformément aux spécifications.

Possibility of Hazardous Reactions: None under normal processing.

Possibilité de réactions dangereuses : aucune dans le cadre d'un traitement normal.

Hazardous Polymerization: Hazardous polymerization does not occur.

Polymérisation dangereuse : Une polymérisation dangereuse ne se produit pas.

Conditions to avoid: Strong heating, fire, Incompatible materials.

Conditions à éviter : Fort échauffement, feu, Matières incompatibles.

Incompatible materials: Strong oxidizing agents. Strong acids. Base metals.

Matières incompatibles : Agents oxydants forts. Acides forts. Métaux de base.

Hazardous Decomposition Products: Carbon oxides, Other irritating and toxic gases.

Produits de décomposition dangereux : Oxydes de carbone, Autres gaz irritants et toxiques.

11. TOXICOLOGICAL INFORMATION

11. INFORMATIONS TOXICOLOGIQUES

Acute toxicity: No data available.

Toxicité aiguë : Aucune donnée disponible.

LD/LC50 values relevant for classification:
Valeurs LD/LC50 pertinentes pour la classification :
Not available.
Pas disponible.

Skin corrosion/irritation: No irritant effect.**Corrosion/irritation cutanée :** Pas d'effet irritant.**Serious eye damage/irritation:** Cause serious eye irritation.**Lésions oculaires graves/irritation oculaire :** Provoque une sévère irritation des yeux.**Respiratory or skin sensitization:** No sensitizing effects known.**Sensibilisation respiratoire ou cutanée :** Aucun effet sensibilisant connu.**Specific target organ system toxicity:** No information available.**Toxicité spécifique pour le système d'organes cibles :** Aucune information disponible.**CMR effects(carcinogenity, mutagenicity and toxicity for reproduction):** No information available.**Effets CMR (cancérogène, mutagène et toxique pour la reproduction) :** Aucune information disponible.

12. Ecological Information

12. Informations écologiques

Toxicity:**Toxicité:**

Acquatic toxicity:

Toxicité aquatique :

No further relevant information available.

Aucune autre information pertinente disponible.

Persistence and degradability: No further relevant information available.**Persistence et dégradabilité :** Aucune autre information pertinente disponible.**Bioaccumulative potential:** No further relevant information available.**Potentiel de bioaccumulation :** Aucune autre information pertinente disponible.**Mobility in soil:** No further relevant information available.**Mobilité dans le sol :** Aucune autre information pertinente disponible.

Results of PBT and vPvB assessment

Résultats des évaluations PBT et vPvB

PBT: Not applicable.

PBT : Non applicable.

vPvB: Not applicable.

vPvB : Non applicable.

Other adverse effects: No information available.**Autres effets indésirables :** Aucune information disponible.

13. DISPOSAL CONSIDERATIONS

13. CONSIDÉRATIONS RELATIVES À L'ÉLIMINATION

Waste treatment methods

Méthodes de traitement des déchets

Recommendation: Must not be disposed together with household garbage.

Recommandation : Ne doit pas être éliminé avec les ordures ménagères.

Do not allow product to reach sewage system

Ne pas laisser le produit atteindre le système d'égouts

Uncleaned packaging:

Emballage non nettoyé :

Recommendation: Disposal must be made according to official regulations.

Recommandation : L'élimination doit être effectuée conformément aux réglementations officielles

14. TRANSPORT INFORMATION

14. INFORMATIONS RELATIVES AU TRANSPORT

Land transport

Transport terrestre

ADR/RID class: Not regulated.

Classe ADR/RID : Non réglementé.

UN-Number: UN3480 or UN3481.

Numéro UN : UN3480 ou UN3481.

Maritime transport

Transport maritime

IMDG Class: Class 9.

Classe IMDG : Classe 9

UN Number: UN3480 or UN3481.

Numéro ONU : UN3480 ou UN3481.

Marine pollutant: No

Polluant marin : Non

Air transport

Transport aérien

ICAO/IATA Class: Class 9

Classe OACI/IATA : Classe 9

UN/ID Number: UN3480 or UN3481

Numéro UN/ID : UN3480 ou UN3481

Environmental hazards: Not applicable.

Dangers pour l'environnement : Sans objet.

Special precautions for user: Not applicable.

Précautions particulières à prendre par l'utilisateur : Non applicable.

Transport/Additional information: Not restricted goods according to the above specifications.

Transport/Informations supplémentaires : Marchandises non restreintes selon les spécifications ci-dessus.

The Lithium-ion Battery had been tested according to the requirements of the UN manual of tests and Criteria, Part III, subsection 38.3;

Transport/Informations supplémentaires : Marchandises non restreintes selon les spécifications ci-dessus.

The lithium ion batteries according to Section II/Section IB of PACKING INSTRUCTION 965, or Section II of PACKING INSTRUCTION 966~967 of the Dangerous Goods regulations 64th Edition may be transported.

Les batteries lithium-ion selon la Section II/Section IB de l'INSTRUCTION D'EMBALLAGE 965, ou la Section II de l'INSTRUCTION D'EMBALLAGE 966~967 de la 64th édition de la réglementation sur les marchandises dangereuses peuvent être transportées.

The packaging shall be adequate to avoid mechanical damage during transport, handling and stacking. The materials and pack design shall be chosen so as to prevent the development of unintentional electrical conduction, corrosion of the terminals and ingress of moisture.

L'emballage doit être adéquat pour éviter les dommages mécaniques pendant le transport, la manutention et l'empilage. Les matériaux et la conception de l'emballage doivent être choisis de manière à empêcher le développement d'une conduction électrique involontaire, la corrosion des bornes et la pénétration d'humidité.

Meets requirements of DOT Special Provision 188 to be transported as non-dangerous goods

Répond aux exigences de la disposition spéciale 188 du DOT pour être transporté en tant que marchandises non dangereuses

Meets the requirements of 49CFR173.185 to be transported as non-dangerous goods for road, rail, air, and vessel (Effective August 6, 2014 per HM224F)

Répond aux exigences de 49CFR173.185 pour être transporté en tant que marchandises non dangereuses pour la route, le rail, l'air et les navires (En vigueur le 6 août 2014 selon HM224F)

The package must be handled with care and that a flammability hazard exists if the package is damaged;

Le colis doit être manipulé avec soin et qu'il existe un risque d'inflammabilité si le colis est endommagé ;

15. REGULATORY INFORMATION

15. INFORMATIONS RÉGLEMENTAIRES

OSHA hazard communication standard (29 CFR 1910.1200)

Norme de communication des dangers OSHA (29 CFR 1910.1200)

_____ Hazardous

V _____ Non-hazardous

16. OTHER INFORMATION**16.AUTRES INFORMATIONS**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Ces informations sont basées sur nos connaissances actuelles. Cependant, cela ne constitue pas une garantie pour les caractéristiques spécifiques du produit et n'établit pas de relation contractuelle juridiquement valable.

Preparation and revision information		
Informations sur la préparation et la révision		
Date of previous revision	Date of this revision	Revision summary
Date de la révision précédente	Date de cette révision	Résumé de la révision
Not applicable		The first New SDS
N'est pas applicable		La première nouvelle FDS

Relevant phrases:**Expressions pertinentes :**

R20/22: Harmful by inhalation and if swallowed.

R20/22 : Nocif par inhalation et par ingestion.

R36: Irritating to eyes.

R36 : Irritant pour les yeux.

H302: Harmful if swallowed.

H302 : Nocif en cas d'ingestion.

H332: Harmful if inhaled.

H332 : Nocif par inhalation.

*****End of SDS*****

*****Fin de la FDS*****

SAFETY DATA SHEET

Issuing Date 21-July-2019

Revision Date 11-July-2019

Revision Number 1

NGHS / English



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Page 1 /

1. IDENTIFICATION

Product identifier

Product Name BFN Li-ion 18650 2000mAh 3.7V Battery

Other means of identification

Product Code(s) 1507569

Recommended use of the chemical and restrictions on use

Recommended Use LITHIUM ION BATTERIES

Restrictions on use No information available

Details of the supplier of the safety data sheet

Supplier Identification Shenzhen Bofuneng Battery Co., LTD

Address A&E Building, Chunyang Industrial Park, Wulian, Longgang
Shenzhen
Guangdong
51817
China

Telephone Phone:86 755 89312858
Fax:86 755 89312389

E-mail bfn@bfnbattery.com

Emergency telephone number

Company Emergency Phone Number 86 755 89322386

2. HAZARDS IDENTIFICATION

Classification

Acute toxicity - Oral	Category 4
Acute toxicity - Dermal	Category 3
Skin corrosion/irritation	Category 1 Sub-category B
Serious eye damage/eye irritation	Category 1
Carcinogenicity	Category 2
Specific target organ toxicity (repeated exposure)	Category 1

This is a battery. In case of rupture: the above hazards exist.

Appearance Blue

Physical state Solid

Odor No information available

GHS Label elements, including precautionary statements

Danger

Hazard statements

Harmful if swallowed

Toxic in contact with skin

Causes severe skin burns and eye damage

Suspected of causing cancer

Causes damage to organs through prolonged or repeated exposure



Precautionary Statements - Prevention

Obtain special instructions before use

Do not handle until all safety precautions have been read and understood

Wear protective gloves/protective clothing/eye protection/face protection

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

Precautionary Statements - Response

Specific treatment (see supplemental first aid instructions on this label)

Immediately call a POISON CENTER or doctor

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

Call a POISON CENTER or doctor if you feel unwell

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

Wash contaminated clothing before reuse

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing

Immediately call a POISON CENTER or doctor

Ingestion

IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell

Rinse mouth

Do NOT induce vomiting

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other information

Very toxic to aquatic life with long lasting effects.

Unknown acute toxicity 96.23 % of the mixture consists of ingredient(s) of unknown toxicity
 78.16 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
 80.88 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
 96.23 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
 96.23 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
 96.23 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable.

Mixture

Chemical name	CAS No.	Weight-%	Hazardous Material Information Review Act registry number (HMIRA registry #)	Date HMIRA filed and date exemption granted (if applicable)
Lithium Cobalt Oxide (CoLiO ₂)	12190-79-3	39.6	-	-
Graphite	7782-42-5	23.2	-	-
Phosphate(1-), hexafluoro-, lithium	21324-40-3	15.35	-	-
Copper	7440-50-8	9.8	-	-
Aluminum	7429-90-5	5.56	-	-

4. FIRST AID MEASURES

First aid measures

General advice

First aid is upon rupture of sealed battery. In case of rupture: Show this safety data sheet to the doctor in attendance. Immediate medical attention is required. IF exposed or concerned: Get medical advice/attention.

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 immediate medical advice/attention.

Eye contact

Get immediate medical advice/attention. 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.

Skin contact

Get immediate medical advice/attention. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Ingestion

Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Get immediate medical advice/attention.

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. Wear personal protective clothing (see section 8). Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed

Symptoms

Burning sensation.

Indication of any immediate medical attention and special treatment needed

Note to physicians

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

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.
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.
Hazardous Combustion Products	Carbon oxides.
Explosion Data	
Sensitivity to Mechanical Impact	None.
Sensitivity to Static Discharge	None.
Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

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

Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling	In case of rupture: Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Take off contaminated clothing and wash before reuse. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product.
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Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Store locked up. Protect from moisture. Store away from other materials.
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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH	
Lithium Cobalt Oxide (CoLiO2) 12190-79-3	TWA: 0.02 mg/m³	-		
Graphite 7782-42-5	TWA: 2 mg/m³ respirable particulate matter 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 (vacated) TWA: 2.5 mg/m³	IDLH: 250 mg/m³ F	
Copper 7440-50-8	TWA: 0.2 mg/m³ fume	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 particulate matter	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	TWA: 10 mg/m³ total dust TWA: 5 mg/m³ respirable dust	
Chemical name	Alberta	British Columbia	Ontario TWA/EV	Quebec
Lithium Cobalt Oxide (CoLiO2) 12190-79-3	TWA: 0.02 mg/m³	TWA: 0.02 mg/m³	TWA: 0.02 mg/m³	TWA: 0.02 mg/m³
Graphite 7782-42-5	TWA: 2 mg/m³	TWA: 2 mg/m³	TWA: 2 mg/m³	TWA: 2 mg/m³
Phosphate(1-), hexafluoro-, lithium 21324-40-3	TWA: 2.5 mg/m³	TWA: 2.5 mg/m³	TWA: 2.5 mg/m³	TWA: 2.5 mg/m³
Copper 7440-50-8	TWA: 0.2 mg/m³ TWA: 1 mg/m³	TWA: 1 mg/m³ TWA: 0.2 mg/m³	TWA: 0.2 mg/m³ TWA: 1 mg/m³	TWA: 0.2 mg/m³ TWA: 1 mg/m³
Aluminum 7429-90-5	TWA: 10 mg/m³	TWA: 1.0 mg/m³	TWA: 1 mg/m³	TWA: 10 mg/m³

Other Exposure Guidelines

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering controls

Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection

Face protection shield.

Hand protection

Wear suitable gloves. Impervious gloves.

Skin and body protection

Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.

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.

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Contaminated work clothing should not be allowed out of the workplace.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Physical state	Solid
Appearance	Blue
Odor	No information available
Color	No information available
Odor Threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks</u>	<u>Method</u>
pH	No data available	None known	
Melting / freezing point	No data available	None known	
Boiling point / boiling range	No data available	None known	
Flash Point	No data available	None known	
Evaporation Rate	No data available	None known	
Flammability (solid, gas)	No data available	None known	
Flammability Limit in Air		None known	
Upper flammability limit	No data available		
Lower flammability limit	No data available		
Vapor pressure	No data available	None known	
Vapor density	No data available	None known	
Relative density	No data available	None known	
Water Solubility	Insoluble in water		
Solubility(ies)	No data available	None known	
Partition coefficient: n-octanol/water	0		
Autoignition temperature	No data available	None known	
Decomposition temperature	No data available	None known	
Kinematic viscosity	No data available	None known	
Dynamic viscosity	0		

Other Information

Explosive properties	No information available
Oxidizing properties	No information available
Softening Point	No information available
Molecular Weight	No information available
VOC Content (%)	No information available
Liquid Density	No information available
Bulk Density	No information available
Particle Size	No information available
Particle Size Distribution	No information available

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.
Incompatible materials	Acids. Bases. Oxidizing agent.
Hazardous Decomposition Products	Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information	Product does not present an acute toxicity hazard based on known or supplied information In case of rupture:
Inhalation	Specific test data for the substance or mixture is not available. 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.
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. Toxic in contact with skin.
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.

Information on toxicological effects

Symptoms	Redness. Burning. May cause blindness. Coughing and/ or wheezing.
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Numerical measures of toxicity

Acute Toxicity

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

ATEmix (oral)	705.20 mg/kg
ATEmix (dermal)	373.70 mg/kg

Unknown acute toxicity	96.23 % of the mixture consists of ingredient(s) of unknown toxicity
	78.16 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
	80.88 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
	96.23 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
	96.23 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
	96.23 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

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

Skin corrosion/irritation	Classification based on data available for ingredients. Causes burns.
Serious eye damage/eye irritation	Classification based on data available for ingredients. Risk of serious damage to eyes. Causes burns.
Respiratory or skin sensitization	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	Contains a known or suspected carcinogen. Classification based on data available for ingredients. Suspected of causing cancer.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Lithium Cobalt Oxide (CoLiO ₂) 12190-79-3	A3	Group 2B	Reasonably Anticipated	X

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)

A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)

Group 2B - Possibly Carcinogenic to Humans

NTP (National Toxicology Program)

Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present

Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	Causes damage to organs through prolonged or repeated exposure.
Aspiration hazard	No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity Very toxic to aquatic life with long lasting effects.

Chemical name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Copper	96h EC50: 0.031 - 0.054 mg/L (Pseudokirchneriella subcapitata) 72h EC50: 0.0426 - 0.0535 mg/L (Pseudokirchneriella subcapitata)	96h LC50: = 1.25 mg/L (Lepomis macrochirus) 96h LC50: = 0.2 mg/L (Pimephales promelas) 96h LC50: = 0.052 mg/L (Oncorhynchus mykiss) 96h LC50: = 0.3 mg/L (Cyprinus carpio) 96h LC50: = 0.112 mg/L (Poecilia reticulata) 96h LC50: 0.0068 - 0.0156 mg/L (Pimephales promelas) 96h LC50: < 0.3 mg/L (Pimephales promelas) 96h LC50: = 0.8 mg/L (Cyprinus carpio)	-	48h EC50: = 0.03 mg/L

Persistence and Degradability	No information available.
Bioaccumulation	There is no data for this product.
Mobility	No information available.
Other adverse effects	No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
Contaminated packaging	Do not reuse empty containers.

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical name	California Hazardous Waste
Lithium Cobalt Oxide (CoLiO ₂) 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"

DOT

Proper Shipping Name

Hazard Class

Emergency Response Guide
Number

NOT REGULATED

NON-REGULATED

N/A

147

TDG

Not regulated

MEX

Not regulated

ICAO

Not regulated

IATA

Proper Shipping Name

Hazard Class

Not regulated

NON REGULATED

N/A

IMDG/IMO

Hazard Class

EmS-No.

Not regulated

N/A

F-A, S-I

RID

Not regulated

ADR

Not regulated

ADN

Not regulated

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

International Regulations

Ozone-depleting substances (ODS) Not applicable

Persistent Organic Pollutants Not applicable

Export Notification requirements Not applicable

International Inventories

TSCA	Contact supplier for inventory compliance status.
DSL/NDSL	Contact supplier for inventory compliance status.
EINECS/ELINCS	Contact supplier for inventory compliance status.
ENCS	Contact supplier for inventory compliance status.
KECL	Contact supplier for inventory compliance status.
PICCS	Contact supplier for inventory compliance status.
AICS	Contact supplier for inventory compliance status.

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	CAS No.	Weight-%	SARA 313 - Threshold Values %
Lithium Cobalt Oxide (CoLiO ₂) - 12190-79-3	12190-79-3	39.6	0.1
Copper - 7440-50-8	7440-50-8	9.8	1.0
Aluminum - 7429-90-5	7429-90-5	5.56	1.0

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications. Under the amended regulations at 40 CFR 370, EPCRA 311/312 Tier II reporting for the 2017 calendar year will need to be consistent with updated hazard classifications.

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Copper 7440-50-8		X	X	

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Copper 7440-50-8	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product may contain substances regulated by state right-to-know regulations.

Chemical name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Lithium Cobalt Oxide (CoLiO2) 12190-79-3	X		X	X	X
Graphite 7782-42-5	X	X	X		
Phosphate(1-), hexafluoro-, lithium 21324-40-3	X				
Copper 7440-50-8	X	X	X	X	X
Aluminum 7429-90-5	X	X	X	X	

16. OTHER INFORMATION

<u>NFPA</u>	Health hazards 1	Flammability 0	Instability 0	Physical and Chemical Properties -
<u>HMIS</u>	Health hazards 0	Flammability 0	Physical hazards 0	Personal Protection X

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Disclaimer

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End of Safety Data Sheet