

SAFETY DATA SHEET

FICHE DE DONNÉES SUR LA SÉCURITÉ

Product: Rechargeable Lithium-ion Polymer Battery
Produit :
Model/type reference: MC-1045741-B
Référence du modèle/type :
Nominal Voltage: 3.87V
Tension nominale :
Rated Capacity: 4324mAh 16.74Wh
Capacité nominale :
Applicant: FPR Connectivity Technology (Dongguan) Inc.
Demandeur :
Address: No.6 North Industry 3 Rd, Songshan Lake, Dongguan,
Adresse : Guangdong, China
Report No: P24052403101
Rapport n° :
Effective date: 2024-06-05
Date d'entrée en vigueur :
Revision date: 2024-06-05
Date de révision :

Laboratory: **Shenzhen NTEK New Energy Technology Co., Ltd.**
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Section 1- Identification of the Substance/Preparation and of the Company/Undertaking

Section 1-IDENTIFICATION DE LA SUBSTANCE/PRÉPARATION ET DE LA ENTREPRISE/ENTREPRISE

Product Identifier Identificateur de produit

Product Name Nom du produit: Rechargeable Lithium-ion Polymer Battery

Model No Modèle No.: MC-1045741-B

Other means of identification

Autres moyens d'identification

Synonyms: None

Synonymes : Aucun

Recommended use of the chemical and restrictions on use

Utilisation recommandée du produit chimique et restrictions d'utilisation

Recommended Use: LITHIUM ION BATTERIES

Utilisation recommandée : LITHIUM ION BATTERIES

Uses advised against: No information available

Utilisations déconseillées : No information available

Details of the supplier of the safety data sheet Détails du fournisseur de la fiche de données de sécurité

Manufacturer's/ Supplier Name: FPR Connectivity Technology (Dongguan) Inc.

Nom du fabricant/fournisseur : FPR Connectivity Technology (Dongguan) Inc.

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Telephone number of the manufacturer/supplier: +86-13048862950

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Version number: V2.0

Numéro de version: V2.0

Section 2 – Hazards Identification

Section 2-Hazards Identification

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 dangers de l'OSHA 2012 (29 CFR 1910.1200) Ce produit est un article qui est une batterie scellée et qui, à ce titre, ne nécessite pas de SMDPar selon la norme de communication sur les risques de l'OSHA, à moins d'être rompu. Les dangers indiqués sont pour une batterie rompue.

Skin corrosion/irritation	Category 2
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Corrosion/irritation de la peau	Catégorie 2
Serious eye damage/eye irritation Dommages oculaires graves/irritation oculaire	Category 2 Catégorie 2
Skin sensitization Sensibilisation de la peau	Category 1 Catégorie 1
Specific target organ toxicity (repeated exposure) Toxicité spécifique pour certains organes cibles (exposition répétée)	Category 1 Catégorie 1

GHS Label elements, including precautionary statements

éléments de l'étiquette GHS, y compris les déclarations de précaution

Emergency Overview

Vue d'ensemble d'urgence

Signal word: Danger		
Mot de signal Danger		
Hazard Statements Déclarations de dangers		
Causes skin irritation Causer une irritation de la peau		
Causes serious eye irritation Provoque une irritation oculaire grave		
May cause an allergic skin reaction		
Peut provoquer une réaction allergique de la peau		
May cause cancer Peut causer le cancer		
		
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.		
Ce produit est un article qui contient une substance chimique. Des informations sur la sécurité sont données pour l'exposition à l'article tel qu'il a été vendu. L'utilisation prévue du produit ne devrait pas entraîner l'exposition à la substance chimique. C'est une batterie. En cas de rupture : les dangers ci-dessus existent.		
Appearance Black and silver	Physical State Solid	Odor Odorless
Apparence Noir et argent	État physique Solide	Odeur Inodore

Precautionary Statements – Prevention	Obtain special instructions before use Obtenir des instructions spéciales avant l'utilisation
Déclarations de précaution - Prévention	Do not handle until all safety precautions have been read and understood Ne pas manipuler avant d'avoir lu et compris toutes les précautions de sécurité.
	Use personal protective equipment as required Utiliser des équipements de protection individuelle selon les besoins

	<p>Wash face, hands and any exposed skin thoroughly after handling Laver soigneusement le visage, les mains et toute peau exposée après manipulation. Lavez le visage, les mains et toute peau exposée à fond après la manipulation</p> <p>Contaminated work clothing should not be allowed out of the workplace Les vêtements de travail contaminés ne doivent pas être autorisés à sortir du lieu de travail.</p> <p>Wear protective gloves Portez des gants de protection</p> <p>Do not breathe dust/fume/gas/mist/vapors/spray Ne pas respirer les poussières/fumées/gaz/brouillards/vapeurs/aérosols.</p> <p>Do not eat, drink or smoke when using this product Ne pas manger, boire ou fumer pendant l'utilisation de ce produit.</p>
<p>Precautionary Statements – Response Déclarations de précaution - Réponse</p>	<p>IF exposed or concerned: Get medical advice/attention SI vous êtes exposés ou concernés : Obtenez des conseils/une attention médicale</p> <p>Specific treatment (see supplemental first aid instructions on this label) Traitement spécifique (voir instructions de premiers soins supplémentaires sur cette étiquette)</p> <p>IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing If eye irritation persists: Get medical advice/attention SI EN YEUX: Rincer prudemment avec de l'eau pendant plusieurs minutes. Enlever les lentilles cornéennes, si elles sont présentes et faciles à faire. Continuer le rinçage Si l'irritation oculaire persiste : Obtenez des conseils médicaux/attention</p> <p>IF ON SKIN: Wash with plenty of soap and water SI SUR SKIN: Laver avec beaucoup de savon et d'eau</p> <p>Take off contaminated clothing and wash before reuse Enlever les vêtements contaminés et les laver avant de les réutiliser</p> <p>If skin irritation or rash occurs: Get medical advice/attention En cas d'irritation ou d'éruption cutanée : Obtenez des conseils médicaux/attention</p>
<p>Precautionary Statements – Storage Déclarations de précaution - Stockage</p>	<p>Store locked up Magasin verrouillé</p>
<p>Precautionary Statements - Disposal Déclarations de précaution - Disposition</p>	<p>Dispose of contents/container to an approved waste disposal plant Disposer du contenu/conteneur dans une usine d'élimination des déchets approuvée</p>
<p>Hazards not otherwise classified (HNOC) Risques non classés autrement</p>	<p>Not applicable Non applicable</p>
<p>Unknown</p>	<p>-</p>

Toxicity Toxicité inconnue	
Other information Autres informations	<p>May be harmful if swallowed Peut être nocif en cas d'ingestion</p> <p>Very toxic to aquatic life with long lasting effects Très toxique pour la vie aquatique avec des effets à long terme</p> <p>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.</p>
Interactions with Other Chemicals Interactions avec d'autres produits chimiques	<p>No information available. Aucune information disponible</p>

Section 3 – Composition/Information on Ingredients

Section 3.COMPOSITION/INFORMATION SUR INGREDIENTS

Chemical Name	CAS Number	Weight-%	Trade Secret
Cobalt lithium dioxide	12190-79-3	15-40	-
Ethyl propionate	105-37-3	15-40	-
Copper foil	7440-50-8	10-30	-
Aluminum foil	7429-90-5	10-30	-
Graphite	7782-42-5	7-25	-
Ethylene Carbonate	96-49-1	0-15	-
Propylene Carbonate	108-32-7	0-15	-
Lithium Hexafluorophosphate(1-)	21324-40-3	0-15	-
1,3-propanesultone	1120-71-4	0-1	-
Polyethylene	9002-88-4	0-5	-

* The exact percentage (concentration) of composition has been withheld as a trade secret.

Le pourcentage exact (concentration) de la composition a été retenu comme un secret commercial.

Section 4 – First-aid Measures

Section 4.MESURES DE PREMIERS SOINS

General Advice	First aid is upon rupture of sealed battery.
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<p>Conseils généraux</p>	<p>Les premiers soins sont sur la rupture de la batterie scellée.</p> <p>Eye contact Contact visuel: If symptoms persist, call a physician. 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. Do not rub affected area.</p> <p>Si les symptômes persistent, appelez un médecin. Rincer immédiatement avec beaucoup d'eau, également sous les paupières, pendant au moins 15 minutes. Gardez les yeux grands ouverts tout en rinçant.</p> <p>Retirez les lentilles cornéennes, si elles sont présentes et faciles à faire. Continuer le rinçant. Obtenir des soins médicaux si l'irritation se développe et persiste. Nefrottez pas la zone touchée</p> <p>Skin contact Contact peau: Wash off immediately with soap and plenty of water for at least 15 minutes. In the case of skin irritation or allergic reactions see a physician. May cause an allergic skin reaction.</p> <p>Laver immédiatement avec du savon et beaucoup d'eau pendant au moins 15 minutes. Dans le cas d'une irritation de la peau ou des réactions allergiques voir un médecin. Peut provoquer une réaction cutanée allergique.</p> <p>Inhalation Inhalation: Remove to fresh air. If symptoms persist, call a physician. Get medical attention immediately if symptoms occur.</p> <p>Retirer à l'air frais. Si les symptômes persistent, appelez un médecin. Obtenez immédiatement des soins médicaux en cas de symptômes.</p> <p>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.</p> <p>Ne pas induire des vomissements. Rincer la bouche immédiatement et boire beaucoup d'eau. Ne donnez jamais rien par la bouche à une personne inconsciente. Appelez un médecin.</p> <p>Self-protection of the first aider Autoprotection du secouriste: Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wear personal protective clothing (see section 8).</p> <p>Évitez tout contact avec la peau, les yeux ou les vêtements. Utilisez de l'équipement de protection individuelle au besoin. Porter des vêtements de protection individuelle (voir la section 8)</p>
<p>Most important symptoms and effects, both acute and delayed Les symptômes et effets les plus importants, aigus et retardés</p>	<p>Most important symptoms and effects Symptômes et effets les plus importants: Itching. Coughing and/ or wheezing. Toux et/ou respiration sifflante. Démangeaisons.</p>
<p>Indication of any immediate medical attention and special treatment needed Indication de toute attention médicale immédiate et traitement spécial nécessaire</p>	<p>Notes to Physician Notes au médecin: Treat symptomatically. May cause sensitization of susceptible persons. Traiter symptomatiquement</p> <p>Notes to Physician Notes au médecin: Treat symptomatically. Peut entraîner une sensibilisation des personnes sensibles. Traiter symptomatiquement</p>

Section 5 – Fire-fighting Measures

Section 5.MESURES DE LUTTE CONTRE L'INCENDIE

Suitable extinguishing Media Médias d'extinction appropriés	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Utiliser des mesures d'extinction adaptées aux circonstances locales et aux Environnement
Unsuitable extinguishing Media Médias d'extinction inappropriés	CAUTION: Use of water spray when fighting fire may be inefficient. CAUTION: L'utilisation de pulvérisation d'eau lors de la lutte contre l'incendie peut être inefficace
Specific Hazards arising from the chemical Risques spécifiques découlant de la	Product is or contains a sensitizer. May cause sensitization by skin contact. Le produit est ou contient un sensibilisateur. Peut entraîner une sensibilisation par contact avec la peau.
Hazardous Combustion Products Produits de combustion dangereux	Carbon oxides. Oxydes de carbone
Explosion Data Données sur les explosions	Sensitivity to Mechanical Impact: No. Sensibilité à l'impact mécanique : Non. Sensitivity to Static Discharge: No. Sensibilité aux décharges statiques : Non.
Protective Equipment and precautions for firefighters équipement de protection et précautions pour les pompiers	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Comme dans tout incendie, porter un appareil respiratoire autonome à la demande de pression,MSHA/NIOSH(approuvé ou équivalent) et un équipement de protection complet

Section 6 – Accidental Release Measures

Section 6.MESURES DE LIBÉRATION ACCIDENTELLE

Personal Precautions, protective equipment, and emergency procedures Précautions personnelles, équipement de protection et procédures d'urgence	Personal Precautions Précautions personnelles: Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. évitez tout contact avec la peau, les yeux ou les vêtements. Assurer une ventilation adéquate. Utilisez de l'équipement de protection individuelle au besoin. évacuer le personnel vers des zones sûres. Other Information Autres informations: Refer to protective measures listed in Sections 7 and 8. Se référer aux mesures de protection énumérées aux articles 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. Se référer aux mesures de protection énumérées aux articles 7 et 8 Empêchez d'autres fuites ou déversements s'ils sont sécuritaires.

<p>Methods and material for containment and cleaning up Méthodes et matériel de confinement et de nettoyage</p>	<p>Methods for Containment Méthodes de confinement: Prevent further leakage or spillage if safe to do so. Empêchez d'autres fuites ou déversements s'ils sont sécuritaires. Methods for cleaning up Méthodes de nettoyage: Pick up and transfer to properly labeled containers. Ramassage et transfert dans des contenants correctement étiquetés.</p>
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Section 7 – Handling and Storage

Section 7.MANIPULATION ET STOCKAGE

<p>Precautions for safe handling Précautions pour une manipulation sécuritaire</p>	<p>Handling Manipulation: In case of rupture. Use personal protection equipment. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Do not breathe dust/fume/gas/mist/vapors/spray. En cas de rupture. Utilisez de l'équipement de protection individuelle. Évitez tout contact avec la peau, les yeux ou les vêtements. Ne pas respirer les poussières/fumées/gaz/brouillards/vapeurs/aérosols.</p>
<p>Conditions for safe storage, including any incompatibilities Conditions d'entreposage sécuritaire, y compris les incompatibilités</p>	<p>Storage Stockage: Keep containers tightly closed in a dry, cool and well-ventilated place. Gardez les contenants bien fermés dans un endroit sec, frais et bien aéré. Incompatible Products Produits incompatibles: Strong acids. Strong oxidizing agents. Strong bases. Des acides forts. Agents oxydants forts. Des bases solides</p>

Section 8 – Exposure Controls and Personal Protection

Section 8.CONTRÔLES D'EXPOSITION/PROTECTION PERSONNELLE

Control parameters Paramètres de contrôle

Exposure Guidelines Ligne directrice sur l'exposition

<p>Chemical Name Nom chimique</p>	<p>ACGIH TLV ACGIH TLV</p>	<p>OSHA PEL ACGIH TLV</p>	<p>NIOSH IDLH ACGIH TLV</p>
<p>Graphite 7782-42-5</p>	<p>TWA: 2 mg/m³ respirable fraction all forms except graphite fibers</p>	<p>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</p>	<p>IDLH: 1250 mg/m³ TWA: 2.5 mg/m³ respirable dust</p>

		TWA: 15 mppcf natural	
Aluminum foil 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 fraction (vacated) TWA: 5 mg/m ³ Aluminum	TWA: 10 mg/m ³ total dust TWA: 5 mg/m ³ respirable dust
Phosphate(1-), hexafluoro-, lithium 21324-40-3	TWA: 2.5 mg/m ³ F	TWA: 2.5 mg/m ³ F TWA: 2.5 mg/m ³ dust (vacated) TWA: 2.5 mg/m ³	-
Lithium Cobalt Oxide (LiCoO ₂) 12190-79-3	TWA: 0.02 mg/m ³	-	-

*ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits NIOSH IDLH Immediately Dangerous to Life or Health

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value OSHA PEL: Occupational Safety and Health Administration - Limites d'exposition admissibles immédiatement dangereuses pour la vie ou la santé

Other Exposure Guidelines Autres lignes directrices sur l'exposition

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 Limites libérées révoquées par la décision de la Cour d'appel dans l'affaire AFL-CIO c. OSHA, 965 F.2d 962 (11e cir., 1992) Voir l'article 15 des paramètres nationaux de contrôle de l'exposition

<p>Appropriate engineering controls Contrôles techniques appropriés</p>	<p>Engineering Measures Mesures techniques: Showers Douches Eyewash stations Stations de lavage des yeux Ventilation systems. Systèmes de ventilation</p>
<p>Individual protection measures, such as personal protective equipment Mesures de protection individuelles, telles que l'équipement de protection individuelle</p>	<p>Eye/Face Protection Protection oeil/visage: If splashes are likely to occur: Wear safety glasses with side shields (or goggles). None required for consumer use. Si des éclaboussures sont susceptibles de se produire: Portez des lunettes de sécurité avec des boucliers latéraux (ou des lunettes). Aucun n'est requis pour l'usage du consommateur.</p> <p>Skin and Body Protection Protection de la peau et du corps: Wear protective gloves and protective clothing. Long sleeved clothing. Impervious gloves. Portez des gants de protection et des vêtements de protection. Vêtements à manches longues. Gants imperméables</p> <p>Respiratory Protection Protection respiratoire: No protective equipment is needed under normal use conditions. If exposure limits are exceeded or</p>

	<p>irritation is experienced, ventilation and evacuation may be required. Aucun équipement de protection n'est nécessaire dans des conditions d'utilisation normales. Si les limites d'exposition sont dépassées ou si l'irritation est ressentie, une ventilation et une évacuation peuvent être nécessaires.</p> <p>Hygiene Measures Mesures d'hygiène: Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Wash hands before breaks and immediately after handling the product. Poignée conformément aux bonnes pratiques d'hygiène et de sécurité. N'eat pas, ne buvez pas ou ne fumez pas lorsque vous utilisez ce produit. Enlever les vêtements contaminés et les laver avant de les réutiliser. évitez tout contact avec la peau, les yeux ou les vêtements. Portez des gants appropriés et une protection pour les yeux et le visage. Lavez-vous les mains avant de se briser et immédiatement après la manipulation du produit.</p>
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Section 9 - Physical and Chemical Properties

Section9.PROPRIÉTÉS PHYSIQUES ET CHIMIQUES

Physical Properties Propriétés physiques	Physical state: Solid état physique Solide		
	Appearance: Black and silver and Prismatic Apparence Noir et argent et prismatique		
	Color: Black and silver Couleur Noir et argent		
	Odor: Odorless Odeur Inodore		
	Odor Threshold: No information available Seuil d'odeur Aucune information disponible		
Chemical Properties: Propriétés chimiques :			
Property Propriété	Values Valeurs	Remarks/ Remarques/Méthode	Method
pH Ph	No data available Aucune information disponible	None known Inconnu	
Melting / freezing point Point de fusion / point de congélation	No data available Aucune information disponible	None known Inconnu	
Boiling point / boiling range Point d'ébullition / gamme d'ébullition	No data available Aucune information disponible	None known Inconnu	
Flash Point Point d'éclair	No data available Aucune information disponible	None known Inconnu	
Evaporation Rate Taux d'évaporation	No data available Aucune information disponible	None known Inconnu	
Flammability (solid, gas)	No data available	None known	

Flammabilité (solide, gaz)	Aucune information disponible	Inconnu
Flammability Limit in Air Limite d'inflammabilité dans l'air Upper flammability limit Limite supérieure d'inflammabilité Lower flammability limit Limite d'inflammabilité inférieure	No data available Aucune information disponible No data available Aucune information disponible	-
Vapor pressure Pression de vapeur	No data available Aucune information disponible	None known Inconnu
Vapor density Densité de vapeur	No data available Aucune information disponible	None known Inconnu
Specific Gravity Spécifique Gravité	No data available Aucune information disponible	None known Inconnu
Water Solubility Hydrosolubilité	Insoluble in water	None known Inconnu
Solubility in other solvents Solubilité dans d'autres solvants	No data available Aucune information disponible	None known Inconnu
Partition coefficient: n-octanol/water Coefficient de partition : n-octanol/eau	0.00001	None known Inconnu
Autoignition temperature Température d'auto-allumage	130°C	None known Inconnu
Decomposition temperature Température de décomposition	No data available Aucune information disponible	None known Inconnu
Kinematic viscosity Viscosité cinématique	No data available Aucune information disponible	None known Inconnu
Dynamic viscosity Viscosité dynamique	0.00001	None known Inconnu
Explosive properties Propriétés explosives	No data available Aucune information disponible	-
Oxidizing Properties Propriétés oxydantes	No data available Aucune information disponible	-

Other Information Autres informations

Softening Point Point d'adoucissement	No data available Aucune information disponible
VOC Content (%) Contenu DE COV (%)	No data available Aucune information disponible
Particle Size Contenu DE COV (%)	No data available Aucune information disponible

Particle Size Distribution Distribution de la taille des particules	No data available Aucune information disponible
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Section 10 - Stability and Reactivity

Section10.STABILITÉ ET RÉACTIVITÉ

Reactivity Réactivité Réactivité	No data available. Aucune donnée disponible
Chemical stability Stabilité chimique Stabilité chimique	Stable under recommended storage conditions. Stable dans les conditions d'entreposage recommandées.
Possibility of Hazardous Reactions Possibilité de réactions dangereuses	None under normal processing. Aucun dans le cadre d'un traitement normal.
Hazardous Polymerization Polymérisation dangereuse	Hazardous polymerization does not occur. La polymérisation dangereuse ne se produit pas
Conditions to avoid Conditions à éviter	None known based on information supplied. inconnu s'appuyant sur les informations fournies.
Incompatible materials Matériaux incompatibles	Strong acids. Strong oxidizing agents. Strong bases. Des acides forts. Agents oxydants forts. Des bases solides.
Hazardous Decomposition Products Produits de décomposition dangereux	Carbon oxides. Des oxydes de carbone.

Section 11 - Toxicological Information

Section11.INFORMATIONS TOXICOLOGIQUES

Information on likely routes of exposure

Product Information Informations sur les produits	Product does not present an acute toxicity hazard based on known or supplied information. In case of rupture: Le produit ne présente pas de risque de toxicité aigu fondé sur des informations connues ou fournies en cas de rupture Product does not present an acute toxicity hazard based on known or supplied information. In case of rupture: Le produit ne présente pas de risque de toxicité aigu fondé sur des informations connues ou fournies en cas de rupture
Inhalation Inhalation	Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract. Les données d'essai spécifiques pour la substance ou le mélange ne sont pas disponibles. Peut provoquer une irritation des voies respiratoires.
Eye Contact Contact visuel	Specific test data for the substance or mixture is not available. Expected to be an irritant based on components. Irritating to eyes. May cause redness, itching, and pain. May cause temporary eye irritation. Les données d'essai spécifiques pour la substance ou le mélange ne sont pas disponibles. Prévu pour être irritant basé sur les composants. Irritant pour les yeux. Peut causer des rougeurs, des démangeaisons et de la douleur. Peut causer une irritation temporaire des yeux.
Skin Contact	Specific test data for the substance or mixture is not available. Expected to be

Contact peau	<p>an irritant based on components. Irritating to skin. Prolonged contact may cause redness and irritation.</p> <p>Les données d'essai spécifiques pour la substance ou le mélange ne sont pas disponibles. On s'attend à être un irritant basé sur des composants. Irritant pour la peau. Un contact prolongé peut causer des rougeurs et de l'irritation.</p>
<p>Ingestion</p> <p>Ingestion</p>	<p>Specific test data for the substance or mixture is not available. Ingestion may cause irritation to mucous membranes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.</p> <p>Les données d'essai spécifiques pour la substance ou le mélange ne sont pas disponibles. L'ingestion peut causer une irritation des muqueuses. L'ingestion peut causer une irritation gastro-intestinale, des nausées, des vomissements et de la diarrhée.</p>

Component Information Informations sur les composants

Chemical Name Nom chimique	Oral LD50	Dermal LD50	Inhalation LC50
Graphite 7782-42-5	> 10000 mg/kg (Rat)	-	-
Propylene carbonate 108-32-7	= 29000 mg/kg (Rat)	> 20 mL/kg (Rabbit)	-

<p>Information on toxicological effects</p> <p>Informations sur les effets toxicologiques</p>	<p>Symptoms Symptômes: Erythema (skin redness). May cause redness and tearing of the eyes. Itching.. érythème (rougeur de peau). Peut causer des rougeurs et des déchirures des yeux. Toux et/ou respiration sifflante. Démangeaisons</p>
<p>Delayed and immediate effects as well as chronic effects from short and long-term exposure Effets retardés et immédiats ainsi que effets chroniques de l'exposition à court et à long terme</p>	<p>Sensitization Sensibilisation: May cause sensitization of susceptible persons. May cause sensitization by skin contact. Peut provoquer la sensibilisation des personnes sensibles. Peut provoquer une sensibilisation par contact cutané</p> <p>Mutagenic Effects Effets mutagènes: No information available. Aucune information disponible</p> <p>Carcinogenicity Cancérogénicité: The table below indicates whether each agency has listed any ingredient as a carcinogen Le tableau ci-dessous indique si chaque organisme a inscrit un ingrédient comme cancérigène</p>

Chemical Name Nom chimique	ACGIH	IARC	NTP	OSHA
Lithium Cobalt Oxide (LiCoO ₂) 12190-79-3	A3	Group 2B	-	X

ACGIH (American Conference of Governmental Industrial Hygienists)
ACGIH (Conférence américaine des hygiénistes industriels gouvernementaux)
A1 - Known Human Carcinogen

<p>A1 - Cancérogène connu pour l'homme</p> <p><i>A3 - Animal Carcinogen</i></p> <p>A3 - Cancérogène pour les animaux</p> <p>IARC (International Agency for Research on Cancer)</p> <p>CIRC (Centre international de recherche sur le cancer)</p> <p><i>Group 1 - Carcinogenic to Humans</i></p> <p>Groupe 1 - Cancérogène pour l'homme</p> <p><i>Group 2B - Possibly Carcinogenic to Humans</i></p> <p>Groupe 2B - Possiblement cancérogène pour l'homme</p> <p><i>Group 3 - Not Classifiable as to Carcinogenicity in Humans</i></p> <p>Groupe 3 - Non classifiable quant à sa cancérogénicité pour l'homme</p> <p>NTP (National Toxicology Program)</p> <p>NTP (Programme national de toxicologie)</p> <p><i>Known - Known Carcinogen</i></p> <p>Connu - Cancérogène connu</p> <p>OSHA (Occupational Safety and Health Administration of the US Department of Labor)</p> <p>OSHA (Administration de la sécurité et de la santé au travail du ministère américain du travail)</p> <p><i>X - Present</i></p> <p>X - Présent</p>

<p>Reproductive Toxicity Toxicité pour la reproduction</p>	<p>No information available. Aucune information disponible</p>
<p>STOT - single exposure STOT - exposition unique</p>	<p>No information available. Aucune information disponible</p>
<p>STOT - repeated exposure STOT - exposition répétée</p>	<p>Causes damage to organs through prolonged or repeated exposure. Based on classification criteria from the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200), this product has been determined to cause systemic target organ toxicity from chronic or repeated exposure. (STOT RE).</p> <p>Cause des dommages aux organes en cas d'exposition prolongée ou répétée. Selon les critères de classification de la norme OSHA 2012 sur la communication des risques (29 CFR 1910.1200), il a été déterminé que ce produit provoque une toxicité systémique pour les organes cibles en cas d'exposition chronique ou répétée. (STOT RE).</p>
<p>Chronic Toxicity Toxicité chronique</p>	<p>Contains a known or suspected carcinogen. Avoid repeated exposure. Prolonged exposure may cause chronic effects. May cause adverse liver effects.</p> <p>Contient un agent cancérogène connu ou suspecté. Évitez les expositions répétées. Une exposition prolongée peut provoquer des effets chroniques. Peut provoquer des effets indésirables sur le foie.</p>
<p>Target Organ Effects Effets sur les organes cibles</p>	<p>Respiratory system. Eyes. Skin. Gastrointestinal tract (GI). Central Vascular System (CVS).Kidney. Liver. Lungs. Heart.</p> <p>Système respiratoire. Les yeux. La peau. Le tractus gastro-intestinal (GI). Système vasculaire central (SVC). Rein. Le foie. Les poumons. Le cœur.</p>
<p>Aspiration Hazard Risque d'aspiration</p>	<p>No information available. Aucune information disponible</p>

Numerical measures of toxicity Product Information

Mesures numériques de la toxicité Informations sur le produit

<p>The values which are on the right are calculated based on chapter 3.1 of the GHS document.</p> <p>Les valeurs qui figurent à droite sont calculées sur la base du chapitre 3.1 du document SGH.</p>	<p>ATEmix (oral) ATEmix (oral)</p> <p>ATEmix (dermal) ATEmix (dermique)</p> <p>ATEmix (inhalation-dust/mist) ATEmix (inhalation-poussière/brouillard)</p>
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Section 12 - Ecological Information

Section12.INFORMATIONS ÉCOLOGIQUES

Ecotoxicity

Very toxic to aquatic life with long lasting effects.

Chemical Name Nom chimique	Toxicity to Algae Toxicité pour les algues	Toxicity to Fish Toxicité pour les poissons	Toxicity to Microorganisms Toxicité pour les micro-organismes	Daphnia Magna (Water Flea) Daphnia Magna (Puce d'eau)
Propylene carbonate 108-32-7	72h EC50: > 500 mg/L (Desmodesmus subspicatus)	96h LC50: > 1000 mg/L (Cyprinus carpio) 96h LC50: 5300 mg/L (Leuciscus idus)	EC50: > 10000 mg/L 17 h	48h EC50: > 500 mg/L

Persistence and Degradability Persistence et dégradabilité	No information available. Aucune information disponible.
Bioaccumulation Bioaccumulation	No information available Aucune information disponible.
Other adverse effects Autres effets indésirables	No information available. Aucune information disponible.

Section 13 – Disposal Considerations

Section13.CONSIDÉRATIONS D'ÉLIMINATION

Waste treatment methods Méthodes de traitement des déchets

Disposal methods Méthodes d'élimination: This material, as supplied, is not a hazardous waste according to Federal regulations (40CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Disposal methods Méthodes d'élimination: Ce matériau, tel que fourni, n'est pas un déchet dangereux selon les règlements

fédéraux (40CFR 261). Cette matière peut devenir un déchet dangereux si elle est mélangée ou entre en contact avec un déchet dangereux, si des ajouts chimiques sont faits à cette matière, ou si la matière est traitée ou autrement modifiée. Consultez 40 CFR 261 pour déterminer si le matériau altéré est un déchet dangereux. Consultez les réglementations nationales, régionales ou locales appropriées pour connaître les exigences supplémentaires.

Contaminated Packaging Emballage contaminé: Dispose of in accordance with federal, state and local regulations. Disposer conformément aux réglementations fédérales, étatiques et locales.

Chemical Name	RCRA	RCRA - D Series Wastes	RCRA - U Series Wastes	OSHA
-	-	-	-	-

California Hazardous Waste Codes 141

Codes de déchets dangereux de la Californie 141

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

Ce produit contient une ou plusieurs substances qui sont répertoriées par l'État de Californie comme des déchets dangereux.

Chemical Name Nom chimique	California Hazardous Waste Déchets dangereux de la Californie
Aluminum foil 7429-90-5	Ignitable powder Inflammables Poudre
Lithium Cobalt Oxide (LiCoO ₂) 12190-79-3	Toxic Toxiques

Section 14 – Transport Information

Section14.INFORMATIONS SUR LES TRANSPORTS

The Rechargeable Lithium-ion Polymer Battery as stated in Appendix is made in compliance to the requirements stated in the latest edition of the IATA Dangerous Goods Regulations Packing Instruction 965 section I B or 966 section II or 967 section II.

La Batterie Rechargeable Lithium-ion polymère comme indiqué en annexe est fabriquée en conformité avec les exigences énoncées dans la dernière édition de l'instruction d'emballage 965 section I B ou 966 section II ou 967 section II de la réglementation IATA sur les marchandises dangereuses.

With regard to transport, the following regulations are cited and considered:

En ce qui concerne le transport, les réglementations suivantes sont citées et prises en compte :

- The International Civil Aviation Organization (ICAO) Technical Instructions, Packing instruction 965 section I B or 966 section II or 967 section II (2023-2024 Edition).
- Les instructions techniques de l'Organisation de l'aviation civile internationale (OACI), instruction d'emballage 965 section I B ou 966 section II ou 967 section II (édition 2023-2024).
- The International Air transport Association (IATA) Dangerous Goods Regulations, Packing instruction 965 section I B or 966 section II or 967 section II (65th Edition, 2024).
- La réglementation des marchandises dangereuses de l'Association internationale du transport aérien (IATA), instruction d'emballage 965 section I B ou 966 section II ou 967 section II (65th édition, 2024).
- Special provision 188 of the International Maritime Dangerous Goods (IMDG) Code (Amendment 41-22 Edition).
- Disposition spéciale 188 du code maritime international des marchandises dangereuses (IMDG) (amendement 41-22 édition).

- The US Hazardous Materials Regulation 49 CFR (Code of Federal Regulations), sections 173-185 Lithium batteries and cells.
- La réglementation américaine sur les matières dangereuses 49 CFR (Code of Federal Regulations), sections 173-185 Piles et batteries au lithium.
- The UN Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria 38.3 Lithium batteries.
- Les recommandations de l'ONU sur le transport des marchandises dangereuses, Manuel d'épreuves et de critères 38.3 Piles au lithium.

These products are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation according to all the applicable international and national governmental regulations, not limited to the above mentioned. We further certify that the enclosed products have been tested and fulfilled the requirements and conditions in accordance with UN Recommendations (T1 – T8) on the Transport of Dangerous Goods Model Regulations and the Manual of Tests and Criteria.

Ces produits sont correctement classés, décrits, emballés, marqués et étiquetés, et sont en bon état pour le transport conformément à toutes les réglementations gouvernementales internationales et nationales applicables, sans se limiter à celles mentionnées ci-dessus. Nous certifions en outre que les produits ci-joints ont été testés et ont satisfait aux exigences et conditions conformément aux Recommandations de l'ONU (T1 - T8) sur le transport des marchandises dangereuses Règlement type et Manuel d'épreuves et de critères.

Test results of the UN Recommendation on the Transport of Dangerous Goods

Résultats des tests de la recommandation de l'ONU sur le transport des marchandises dangereuses

Manual of Test and Criteria (38.3 Lithium battery)			
Manuel d'épreuves et de critères (38.3 Batterie au lithium)			
No. Nombre	Test items Éléments du test	Test results Résultats des tests	Remark Remarque
T1	Altitude simulation Simulation de l'altitude	Pass Pass	-
T2	Thermal test Essai thermique	Pass Pass	-
T3	Vibration Vibration	Pass Pass	-
T4	Shock Choc	Pass Pass	-
T5	External short circuit Court-circuit externe	Pass Pass	-
T6	Crush Écrasement	Pass Pass	-
T7	Overcharge Surcharge	Pass Pass	-
T8	Forced discharge Décharge forcée	Pass Pass	-

Additional Requirements for air transport:

Exigences supplémentaires pour le transport aérien :

1. Cells and batteries must be protected so as to prevent short circuits. This includes protection against contact with conductive materials within the same packaging that could lead to a short circuit.

Les piles et les batteries doivent être protégées afin d'éviter les courts-circuits. Cela inclut la protection contre le contact avec des matériaux conducteurs dans le même emballage qui pourrait entraîner un court-circuit.

2. Cells and batteries must be manufactured under a quality management program.

Les piles et les batteries doivent être fabriquées dans le cadre d'un programme de gestion de la qualité.

3. The Watt-hour rating must be marked on the outside of the battery case except those manufactured before 1 January 2009.

La puissance nominale en wattheures doit être indiquée à l'extérieur du boîtier de la batterie, sauf pour celles fabriquées avant le 1er janvier 2009.

4. Cells and batteries must be packed in strong outer packagings. (Applicable to PI 965 only)

Les piles et les batteries doivent être emballées dans des emballages extérieurs solides. (Applicable uniquement au PI 965)

5. Cells and batteries must be packed in inner packagings that completely enclose the cell or battery. To provide protection from damage or compression to the batteries, the inner packagings must be placed in a strong rigid outer packaging of one of the packaging types shown below.

Les piles et les batteries doivent être emballées dans des emballages intérieurs qui enferment complètement la pile ou la batterie. Pour assurer la protection des batteries contre les dommages ou la compression, les emballages intérieurs doivent être placés dans un emballage extérieur solide et rigide de l'un des types d'emballage indiqués ci-dessous.

6. Each consignment must be accompanied with a document with an indication that:

Chaque envoi doit être accompagné d'un document portant la mention suivante :

•the package contains lithium ion cells or batteries;

l'emballage contient des piles ou des batteries lithium-ion ;

•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 ;

•special procedures must be followed in the event the package is damaged, to include inspection and repacking if necessary; and

-des procédures spéciales doivent être suivies dans le cas où le colis est endommagé, y compris l'inspection et le remballage si nécessaire ; et

•a telephone number for additional information.

un numéro de téléphone pour des informations supplémentaires.

7. Each package must be labelled with a lithium battery handling label (Figure 7.4.H) in addition to the Class 9 hazard label (Figure 7.3.W) and Cargo Aircraft Only label.

Chaque colis doit être étiqueté avec une étiquette de manutention des batteries au lithium (Figure 7.4.H) en plus de l'étiquette de danger de classe 9 (Figure 7.3.W) et de l'étiquette « Cargo Aircraft Only ».

Each package must be marked in accordance with the requirements of 7.1.4.1(a) and (b) and in addition the net weight when required by 7.1.4.1(c) must be marked on the package. (Applicable to PI 965 only)

Chaque colis doit être marqué conformément aux exigences du 7.1.4.1(a) et (b) et, en outre, le poids net lorsque cela est requis par le 7.1.4.1(c) doit être indiqué sur le colis. (Applicable uniquement au PI 965)

8. Each package must be capable of withstanding a 1.2 m drop test in any orientation without (Applicable to PI 965 and 966 only):

Chaque colis doit être capable de résister à une épreuve de chute de 1,2 m dans n'importe quelle orientation sans (Applicable aux PI 965 et 966 uniquement) :

•damage to cells or batteries contained therein;

-dommages aux piles ou aux batteries qu'ils contiennent ;

•shifting of the contents so as to allow battery to battery (or cell to cell) contact;

-déplacement du contenu de manière à permettre un contact batterie à batterie (ou cellule à cellule) ;

•release of contents.

-sortie du contenu.

9. Each package must be labelled with a lithium battery handling label (Figure 7.4.H). (Applicable to PI 966 and 967 only)

Chaque colis doit être muni d'une étiquette de manutention des piles au lithium (Figure 7.4.H). (Applicable uniquement aux PI 966 et 967)

10. A Shipper's Declaration for Dangerous Goods is not required. (Applicable to PI 966 and 967 only)

Une déclaration de l'expéditeur pour les marchandises dangereuses n'est pas nécessaire. (Applicable uniquement aux PI 966 et 967)

11. Any person preparing or offering cells or batteries for transport must receive adequate instruction on these requirements commensurate with their responsibilities.

Toute personne préparant ou proposant des piles ou des batteries pour le transport doit recevoir une formation adéquate sur ces exigences, à la mesure de ses responsabilités.

12. The equipment must be secured against movement within the outer packaging and must be equipped with an effective means of preventing accidental activation. (Applicable to PI 966 only)

L'équipement doit être protégé contre tout mouvement à l'intérieur de l'emballage extérieur et doit être équipé d'un moyen efficace pour empêcher toute activation accidentelle. (Applicable uniquement au PI 966)

13. The maximum number of batteries in each package must be the minimum number required to power the equipment plus two spares. (Applicable to PI 966 only)

Le nombre maximum de batteries dans chaque colis doit être le nombre minimum requis pour alimenter l'équipement, plus deux de rechange. (Applicable uniquement au PI 966)

14. The words "Lithium ion batteries in compliance with Section II of PI 966" must be included on the air waybill, when an air waybill is used. The information should be shown in the "Nature and Quantity of Goods" box of the air waybill. (Applicable to PI 966 only)

La mention « Batteries lithium-ion conformes à la section II du PI 966 » doit figurer sur la lettre de transport aérien, lorsqu'une lettre de transport aérien est utilisée. Ces informations doivent figurer dans la case « Nature et quantité des marchandises » de la lettre de transport aérien. (Applicable uniquement au PI 966)

15. Maximum net quantity of lithium ion cells must not be more than 5 kg. (Applicable to PI 966 and 967 only)

La quantité nette maximale de cellules lithium-ion ne doit pas être supérieure à 5 kg. (Applicable uniquement aux PI 966 et 967)

16. Equipment must be equipped with an effective means of preventing accidental activation. (Applicable to PI 967 only)

L'équipement doit être équipé d'un moyen efficace de prévenir toute activation accidentelle. (Applicable uniquement au PI 967)

17. The equipment containing the cells or batteries must be secured against movement within the outer packaging and be packed so as to prevent accidental operation during air transport. (Applicable to PI 967 only)

L'équipement contenant les piles ou les batteries doit être protégé contre tout mouvement à l'intérieur de l'emballage extérieur et être emballé de manière à éviter tout fonctionnement accidentel pendant le transport aérien. (Applicable à la PI 967 uniquement)

18. The equipment must be packed in strong outer packagings constructed of suitable material of adequate strength and design in relation to the packaging's capacity and its intended use unless the cell or battery is afforded equivalent protection by the equipment in which it is contained. (Applicable to PI 967 only)

L'équipement doit être emballé dans des emballages extérieurs solides, construits dans un matériau approprié, d'une résistance et d'une conception adéquates par rapport à la capacité de l'emballage et à l'utilisation prévue, à moins que la pile ou la batterie ne bénéficie d'une protection équivalente de la part de l'équipement dans lequel elle est contenue. (Applicable uniquement au PI 967)

19. Where a consignment includes packages bearing the lithium battery handling label, the words "Lithium ion batteries in compliance with Section II of PI 967" must be included on the air waybill, when an air waybill is used. The information should be shown in the "Nature and Quantity of Goods" box of the air waybill. (Applicable to PI 967 only)

Lorsqu'un envoi comprend des colis portant l'étiquette de manutention des piles au lithium, les mots « Piles au lithium ionique conformes à la section II de l'IP 967 » doivent être inclus sur la lettre de transport aérien, lorsqu'une lettre de transport aérien est utilisée. Ces informations doivent figurer dans la case « Nature et quantité des marchandises » de la lettre de transport aérien. (Applicable uniquement au PI 967)

Section 15 - Regulatory Information

Section 15. INFORMATIONS RÉGLEMENTAIRES

International Inventories Inventaires internationaux

TSCA: Complies Conforme

DSL: All components are listed either on the DSL or NDSL. Tous les composants sont répertoriés soit sur le DSL ou NDSL

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

TSCA -United States Toxic Substances Control Act Section 8(b) Inventaire

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List Liste des substances domestiques

DSL/NDSL - Canadiennes/Liste des substances non domestiques

US Federal Regulations Règlement fédéral des états-Unis

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

L'article 313 du Titre III de la Superfund Amendments and Reauthorization Act of 1986 (SARA). Ce produit contient un produit chimique ou chimique qui est assujéti aux exigences de déclaration de la Loi et du titre 40 du Code de réglementation fédérale, Partie 372

Chemical Name Nom chimique	CAS No CAS Nombre	Weight-% Poids-%	SARA 313 - Threshold Values % SARA 313 - Seuil Valeurs%
Aluminum foil	7429-90-5	10-30%	1.0%
Lithium Cobalt Oxide (LiCoO ₂)	12190-79-3	15-40%	0.1%

SARA 311/312 Hazard Categories SARA 311/312 Catégories de dangers

Acute Health Hazard Risque aigu pour la santé	No non
Chronic Health Hazard Risque chronique pour la santé	No non
Fire Hazard Incendie Risque	No non
Sudden release of pressure hazard Libération soudaine du risque de pression	No non
Reactive Hazard Risque réactif	No non

CWA (Clean Water Act) CWA (Loi sur l'eau propre)

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)

Ce produit contient les substances suivantes qui sont des polluants réglementés en vertu de la Loi sur l'eau propre (40

CFR 122,21 et 40 CFR 122,42)

Chemical Name Nom chimique	CWA - Reportable Quantities CWA -Rapportables Quantités	CWA - Toxic Pollutants CWA - Toxiques Polluants	CWA - Priority Pollutants CWA - Priorité Polluants	CWA - Hazardous Substances CWA - Dangereux Substances
-	-	-	-	-

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)

Ce matériel, tel qu'il est fourni, contient une ou plusieurs substances réglementées comme substance dangereuse en vertu de la Loi sur l'indemnisation et la responsabilité en matière d'indemnisation et de responsabilité environnementales globales (CERCLA) (40 CFR 302)

Chemical Name Nom chimique	Hazardous Substances RQs Substances dangereuses RQs	Extremely Hazardous Substances RQs Extrêmement dangereux Substances RQs	RQ
Aluminum foil 7429-90-5	-	-	-

US State Regulations Règlement des états-Unis**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

Ce produit ne contient aucun produit chimique de la Proposition 65.

U.S. State Right-to-Know Regulations

Règlement sur le droit de savoir des états-Unis

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Graphite 7782-42-5	X	X	X	-	-
Ethylene carbonate 96-49-1	-	X	X	-	-
Aluminum foil 7429-90-5		X		X	
Lithium Cobalt Oxide (LiCoO ₂) 12190-79-3	X	-	X	X	X

International Regulations

Règlement international

Mexico**National occupational exposure limits**

Limites nationales d'exposition professionnelle

Component Composant	Carcinogen Status Statut cancérogène	Exposure Limits Limites d'exposition
Graphite	-	Mexico: TWA= 2 mg/m ³

7782-42-5 (7-25%)		
Aluminum foil 7429-90-5 (10-30%)	-	Mexico: TWA= 10 mg/m ³

Mexico - Occupational Exposure Limits – Carcinogens

Mexico - Limites d'exposition professionnelle - Cancérogène

Canada

WHMIS Hazard Class

Classe DE danger WHMIS

Non-controlled Non contrôlé

Section 16 - Other Information

Section16.AUTRES INFORMATIONS

NFPA NFPA	Health Hazards 1 Dangers pour la santé 1	Flammability 0 Inflammabilité 0	Instability 1 Instabilité 1	Physical and Chemical Hazards - Personal Protection X Physique et Risques chimiques - Protection personnelle X
HMIS HMIS	Health Hazards 4 Risques pour la santé 4	Flammability 0 Inflammabilité 0	Physical Hazard 1 Risque physique 1	

Revision Note Note de révision: No information available Aucune information disponible

Disclaimer

Avis de non-responsabilité

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Les informations fournies dans cette fiche de données de sécurité sont correctes au mieux de nos connaissances, informations et convictions à la date de sa publication. Les informations fournies sont uniquement destinées à servir de guide pour une manipulation, une utilisation, un traitement, un stockage, un transport, une élimination et un rejet en toute sécurité et ne doivent pas être considérées comme une garantie ou une spécification de qualité. Les informations ne concernent que le matériau spécifique désigné et peuvent ne pas être valables pour ce matériau utilisé en combinaison avec d'autres matériaux ou dans un processus quelconque, sauf indication contraire dans le texte.

--End of Safety Data Sheet--

Feuille de données de fin de sécurité

Safety Data Sheet

According to HCS-2012 APPENDIX D TO §1910.1200 & WHMIS 2015

Version: 1.0/EN
Product name: Alkaline Battery

Revision date: 01/01/2020
Issue date: 23/10/2020

1. Identification

identification

(a) Product identifier

étiquette d'un produit

Product name: Alkaline Manganese Dioxide-Zinc Battery
Nom du produit: Batterie alcaline au dioxyde de manganèse-zinc

(b) Other means of identification

Autres moyens d'identification

Product description: Model: LR03 (AAA) ; LR6 (AA) ; LR14 (C) ; LR20 (D) ; LR61 (AAAA) ; 6LR61 (9V)
Description du produit: Modèle: LR03 (AAA) ; LR6 (AA) ; LR14 (C) ; LR20 (D) ; LR61 (AAAA) ; 6LR61 (9V)

(b) Recommended use of the chemical and restrictions on use

Utilisation recommandée du produit chimique et restrictions d'utilisation

Recommended use: Alkaline Manganese Dioxide-Zinc Battery
Utilisation recommandée: Batterie alcaline au dioxyde de manganèse-zinc
Restriction on use: No information available.
Pas d'information disponible. Pas d'information disponible.

(c) Details of the supplier of the product

Détails du fournisseur du produit

Company name: Fujian Nanping Nanfu Battery Co., Ltd.
Nom de la compagnie:
Address: 109 Industry Road, Nanping, Fujian, P.R.C., 353000
Adresse:
E-mail: Service@nanfu.com
Email:
Telephone: +86 599 8735117
Téléphone:

(e) Emergency phone number

Numéro de téléphone d'urgence

+86 599 8735117

Safety Data Sheet

According to HCS-2012 APPENDIX D TO §1910.1200 & WHMIS 2015

Version: 1.0/EN
Product name: Alkaline Battery

Revision date: 01/01/2020
Issue date: 23/10/2020

2. Hazard(s) identification Identification des dangers

Hazards Identification: Identification des dangers

The battery is not restricted to IATA DGR according to special provision A123

La batterie n'est pas limitée à IATA DGR selon la disposition spéciale A123

This substance is considered to be non-hazardous for transport.

Cette substance est considérée comme non dangereuse pour le transport.

Emergency Overview: Aperçu des urgences

Avoid contact and inhalation the internal materials. Emit toxic fumes fire conditions.

Évitez le contact et l'inhalation des matériaux internes. Emettre des fumées toxiques en cas d'incendie.

3. Composition/information on ingredients

Composition / informations sur les composants

(a) Mixtures information Informations sur les mélanges

Chemical name	CAS No.	Concentration%
Manganese Dioxide	1313-13-9	41
Zinc	7440-66-6	17.5
Water (H ₂ O)	7732-18-5	17
Graphite	7782-42-5	11.5
Potassium Hydroxide	1310-58-3	2.9
Iron	7439-89-6	5.47
Brass	12597-71-6	2.3
Zinc Oxide	1314-13-2	2.33

4. First-aid measures

Premiers secours

(a) Description of first aid measures

Description des premiers secours

General Advice First aid is upon rupture of sealed cell.

Conseil général Les premiers secours sont à la rupture de lacell scellée.

Eye contact: Show this safety data sheet to the doctor in attendance.

Lentilles de contact: 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

Safety Data Sheet

According to HCS-2012 APPENDIX D TO §1910.1200 & WHMIS 2015

Version: 1.0/EN

Product name: Alkaline Battery

Revision date: 01/01/2020

Issue date: 23/10/2020

rinsing. Get medical attention if irritation develops and persists. Do not rub affected area.

Montrer cette fiche de données de sécurité au médecin traitant.

Rincer immédiatement à grande eau, y compris sous les paupières, pendant au moins 15 minutes. Gardez les yeux grands ouverts pendant le rinçage. Retirez les lentilles cornéennes, si elles sont présentes et faciles à faire. Continuer à rincer. Consulter un médecin si une irritation se développe et persiste. Ne pas frotter la zone touchée.

Skin contact: Remove contaminated clothes and rinse the skin with plenty of water. Get medical advice /
Contact avec la attention if you feel unwell.
peau: Retirer les vêtements contaminés et rincer la peau à grande eau. Consulter un médecin si vous ne vous sentez pas bien.

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.
Sortir à l'air frais. En cas d'arrêt respiratoire, pratiquer la respiration artificielle. Si la respiration est difficile, (du personnel qualifié devrait) donner de l'oxygène. Consulter un médecin si vous ne vous sentez pas bien.

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.
Rincer la bouche immédiatement et boire beaucoup d'eau. Ne portez rien à la bouche d'une personne inconsciente. NE PAS faire vomir. Obtenez de l'aide médicale.

Self-protection of Ensure that medical personnel are aware of the material(s) involved, take precautions to
the first aider protect themselves and prevent spread of contamination.
Autoprotection du Assurez-vous que le personnel médical connaît le (s) matériau (s) impliqué (s), prenez des
secouriste précautions pour vous protéger et éviter la propagation de la contamination.

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

Principaux symptômes / effets, aigus et différés

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).

Le contact avec des composants internes peut provoquer une sensibilisation allergique de la peau (éruption cutanée) et irriter les yeux, la peau, le nez, la gorge et les voies respiratoires. Le cobalt et les composés de cobalt sont considérés comme des cancérogènes possibles pour l'homme.

(c) Immediate medical attention and special treatment

Soins médicaux immédiats et traitement spécial

No information available.

Pas d'information disponible.

Safety Data Sheet

According to HCS-2012 APPENDIX D TO §1910.1200 & WHMIS 2015

Version: 1.0/EN
Product name: Alkaline Battery

Revision date: 01/01/2020
Issue date: 23/10/2020

5. Fire-fighting measures

Mesures de lutte contre l'incendie

(a) Extinguishing media

Moyens d'extinction

Suitable extinguishing media:	Use foam, dry powder or dry sand, CO ₂ as appropriate.
Moyen d'extinction approprié:	Utilisez de la mousse, de la poudre sèche ou du sable sec et du CO ₂ , selon le cas.
Unsuitable extinguishing media:	No information available.
Moyens d'extinction inappropriés:	Pas d'information disponible.

(b) Special hazards arising from the chemical

Dangers particuliers résultant du produit chimique

Under fire conditions, cells 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

En cas d'incendie, les cellules peuvent éclater et libérer des produits de décomposition dangereux lorsqu'elles sont exposées à un incendie. Cela pourrait entraîner la libération de matériaux inflammables ou corrosifs. Produits de combustion dangereux: CO, CO₂, Oxydes métalliques, Vapeurs irritantes

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

Équipements de protection spéciaux et précautions spéciales 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 être équipé d'un masque filtrant (masque complet) ou d'un appareil respiratoire isolé. Le personnel doit porter des vêtements qui peuvent protéger du feu et des gaz toxiques. Éteignez le feu dans la direction du vent. Retirez le conteneur dans l'espace ouvert dès que possible. Pulvériser de l'eau sur les récipients dans le foyer pour les garder au frais jusqu'à l'extinction finale.

6. Accidental release measures

Mesures à prendre en cas de dispersion accidentelle

(a) Personal precautions, protective equipment and emergency procedures

Précautions individuelles, équipement de protection et procédures d'urgence

Safety Data Sheet

According to HCS-2012 APPENDIX D TO §1910.1200 & WHMIS 2015

Version: 1.0/EN

Product name: Alkaline Battery

Revision date: 01/01/2020

Issue date: 23/10/2020

If the cell 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 cells cool and vapors dissipate. Provide maximum ventilation. Avoid skin and eye contact or inhalation of vapors.

Si le matériau de la cellule est libéré, éloignez le personnel de la zone jusqu'à ce que les vapeurs se dissipent. Fournir une ventilation maximale pour éliminer les gaz dangereux. La meilleure solution consiste à quitter la zone, à jeter le boîtier une fois les piles refroidies et les vapeurs dissipées. Fournir une ventilation maximale. Éviter le contact avec la peau et les yeux ou l'inhalation de vapeurs.

(b) Environmental Precautions

Précautions environnementales

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

Empêcher le matériau de contaminer le sol et de pénétrer dans les égouts ou les voies navigables.

(c) Methods and materials for containment and cleaning up

Méthodes et matériel de confinement et de nettoyage

If the cell 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.

Si le boîtier de la cellule est démonté, de petites quantités d'électrolyte peuvent fuir. Récupérez tout le produit libéré dans un récipient doublé de plastique. Éliminer conformément à la loi et aux règles en vigueur. Éviter que les substances lessivées pénètrent dans la terre, dans les canaux ou dans les eaux.

7. Handling and storage

Manutention et stockage

(a) Precautions for safe handling

Précautions à prendre pour une manipulation sans danger

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

Toujours après les informations d'avertissement figurant sur les cellules et dans les manuels des appareils. Utilisez uniquement les types de cellules recommandés. Gardez les cellules hors de portée des enfants. Pour les appareils destinés à être utilisés par des enfants, le boîtier de la cellule doit être protégé par un accès non autorisé. En cas de changement de pile, remplacez toujours toutes les piles par des neuves du même type et de même marque. Ne jetez pas les piles dans l'eau. Ne jetez pas les piles au feu. Ne jetez pas les piles au feu. Circuit des cellules Utilisez le temps de charge et le

Safety Data Sheet

According to HCS-2012 APPENDIX D TO §1910.1200 & WHMIS 2015

Version: 1.0/EN
Product name: Alkaline Battery

Revision date: 01/01/2020
Issue date: 23/10/2020

courant recommandés.

(b) Conditions for safe storage, including any incompatibilities

Conditions d'un stockage sûr, y compris d'éventuelles incompatibilités

If the cell is subject to storage for such a long term as more than 3 months, it is recommended to recharge the cell periodically. And recommended at -5°C~45°C for 1 month storage, at -5°C~35°C for 3 months storage. Do not storage the cell 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.

Si lacell est stockée pendant une période aussi longue que plus de 3 mois, il est recommandé de la recharger périodiquement, à une température comprise entre -5 ° C et 45 ° C pendant 1 mois, entre -5 ° C et 35 ° C pendant 3 mois. Mois de stockage Ne rangez pas lacell au hasard dans une boîte ou un tiroir où elle pourrait se court-circuiter ou être court-circuitée par d'autres objets métalliques.

8. Exposure controls/personal protection

Contrôles de l'exposition / protection individuelle

(a) Control parameters Paramètres de contrôle

ACGIH TLV: American Conference of Governmental Industrial Hygienists -Threshold Limit Value
Conférence américaine des hygiénistes industriels gouvernementaux - Valeur limite de seuil

OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits Immediately Dangerous to Life or Health
Administration de la sécurité et de la santé au travail - Limites d'exposition admissibles immédiatement dangereuses pour la vie ou la santé

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

Autres directives d'exposition: Limites annulées révoquées par la décision de la Cour d'appel dans AFL-CIO c. OSHA 965 F.2d 962 (11th Cir., 1992) Voir la section 15 pour les paramètres nationaux de contrôle de l'exposition

(b) Appropriate engineering controls Contrôles d'ingénierie appropriés

Engineering Measures: 1. Showers Douches
Mesures d'ingénierie 2. Eyewash stations Douches oculaires
3. Ventilation systems Systèmes de ventilation

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

Mesures de protection individuelle, telles que les équipements de protection individuelle

Safety Data Sheet

According to HCS-2012 APPENDIX D TO §1910.1200 & WHMIS 2015

Version: 1.0/EN
Product name: Alkaline Battery

Revision date: 01/01/2020
Issue date: 23/10/2020

Eye/Face Protection: Protection des yeux / du visage	Not necessary under normal conditions, wear safety glasses if handling an open or leaking battery. Pas nécessaire dans des conditions normales, portez des lunettes de sécurité si vous manipulez une batterie ouverte ou qui fuit.
Skin and body Protection: Protection de la peau et du corps	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. Pas nécessaire dans des conditions normales, portez des gants de protection et des vêtements de protection tels que des vêtements à manches longues, des gants imperméables, un tablier résistant aux produits chimiques et des bottes antistatiques si vous manipulez une batterie ouverte ou qui fuit.
Respiratory Protection: Protection respiratoire	Not necessary under normal conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. Pas nécessaire dans des conditions normales. En cas de dépassement des limites d'exposition ou d'irritation, une ventilation et une évacuation peuvent être nécessaires.
Hygiene Measures: Mesures d'hygiène	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 in work area. Maintain good housekeeping. Manipuler conformément aux bonnes pratiques d'hygiène industrielle et de sécurité. Évitez tout contact avec la peau, les yeux ou les vêtements. Porter des gants appropriés et une protection oculaire / faciale. Ne pas manger, boire ou fumer dans la zone de travail. Maintenez un bon entretien ménager.

9. Physical and chemical properties

Propriétés physiques et chimiques

(a) Appearance		Silver Solid	Argent massif
(b) Odor	Odeur	Odorless	Inodore
(c) Odor threshold	Seuil d'odeur	Not available.	Indisponible
(d) pH		Not available.	Indisponible
(e) Melting point/freezing point		Not available.	Indisponible
	Point de fusion / point de congélation		
(f) Initial boiling point and boiling range		Not available.	Indisponible
	Point d'ébullition initial et intervalle d'ébullition		
(g) Flash point	point de rupture	Not applicable.	Indisponible
(h) Evaporation rate	Taux d'évaporation	Not applicable.	Indisponible
(i) Flammability	Inflammabilité	Nonflammable.	Ininflammable

Safety Data Sheet

According to HCS-2012 APPENDIX D TO §1910.1200 & WHMIS 2015

Version: 1.0/EN
Product name: Alkaline Battery

Revision date: 01/01/2020
Issue date: 23/10/2020

(j) Upper/lower flammability or explosive limits Limites supérieures / inférieures d'inflammabilité ou d'explosivité		Not available.	Indisponible
(k) Vapor pressure	La pression de vapeur	Not applicable.	N'est pas applicable
(l) Vapor density	La densité de vapeur	Not available.	Indisponible
(m) Relative density	Densité relative	Not available.	Indisponible
(n) Solubility(ies)	Solubilité (s)	Insoluble in water.	Insoluble dans l'eau
(o) Partition coefficient: n-octanol/water Coefficient de partage: n-octanol / eau		Not available.	Indisponible
(p) Auto-ignition temperature La température d'auto-inflammation		130°C	
(q) Decomposition temperature température de décomposition		Not available.	Indisponible
(r) Viscosity	Viscosité	Not available.	Indisponible

10. Stability and reactivity

Stabilité et réactivité

(a) Reactivity

Réactivité

Stable under recommended storage and handling conditions.

Stable dans les conditions de stockage et de manipulation recommandées.

(b) Chemical stability

Stabilité chimique

Stable under normal conditions. Stable dans des conditions normales.

(c) Possibility of hazardous reactions

Possibilité de réactions dangereuses

When heated above 150°C the risk of rupture occurs. Due to special safety construction, rupture implies controlled release of pressure without ignition.

Au-dessus de 150 ° C, le risque de rupture est présent. En raison de la construction de sécurité spéciale, la rupture implique une libération contrôlée de la pression sans inflammation.

(d) Conditions to avoid

Conditions à éviter

Do not subject the cell to mechanical shock. Keep away from open flames, high temperature.

Ne soumettez pas la cellule à des chocs mécaniques. Tenir à l'abri des flammes nues, des températures élevées.

(e) Incompatible materials

Matériaux incompatibles

Strong oxidizer, strong acid.

Oxydant fort, acide fort.

(f) Hazardous decomposition products

Produits de décomposition dangereux

Under fire conditions, the electrode materials can form carcinogenic nickel and cobalt oxides.

En cas d'incendie, les matériaux des électrodes peuvent former des oxydes cancérigènes du nickel et du cobalt.

11. Toxicological information

Safety Data Sheet

According to HCS-2012 APPENDIX D TO §1910.1200 & WHMIS 2015

Version: 1.0/EN
Product name: Alkaline Battery

Revision date: 01/01/2020
Issue date: 23/10/2020

Informations toxicologiques

(a) Information on the likely routes of exposure

Informations sur les voies d'exposition probables

- Inhalation:** Inhalation of a large number of vapors or fumes released due to heat may cause respiratory. L'inhalation d'un grand nombre de vapeurs ou de vapeurs dégagées par la chaleur peut causer des problèmes respiratoires.
- Ingestion:** Ingestion of cell contents may cause mouth, throat and intestinal burns and damage. L'ingestion du contenu de lacell peut provoquer des brûlures et des dommages à la bouche, à la gorge et à l'intestin.
- Skin contact:** Contact with cell electrolyte may cause burns and skin irritation.
- Contact avec la peau:** Le contact avec l'électrolyte de lacell peut provoquer des brûlures et une irritation de la peau.
- Eye contact:** Contact with cell electrolyte may cause burns. Eye damage is possible.
- Lentilles de contact:** Le contact avec l'électrolyte de lacell peut provoquer des brûlures. Les dommages aux yeux sont possibles.

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 cell can be harmful. Call the local Poison Control Centre for advice and follow-up.

Dans des conditions normales (pendant le chargement et le déchargement), les ingrédients ne sont pas libérés. Si une libération accidentelle se produit, voir les informations de la section 4. L'ingestion d'une pile peut être nocive. Appelez le centre antipoison local pour obtenir des conseils et un suivi.

(b) Information on toxicological characteristics

Informations sur les caractéristiques toxicologiques

- Acute toxicity:** No data available. Pas de données disponibles
- Toxicité aiguë:**
- Skin corrosion/irritation:** The liquid in the cell irritates.
- Corrosion cutanée / irritation cutanée:** Le liquide dans lacell irrite.
- Serious eye damage/irritation:** The liquid in the cell irritates.
- Lésions oculaires graves / irritation:** Le liquide dans lacell irrite.
- Respiratory sensitization:** The liquid in the cell may cause sensitization to some person.
- Sensibilisation respiratoire:** Le liquide dans lacell peut provoquer une sensibilisation chez une personne.
- Skin sensitization:** The liquid in the cell may cause sensitization to some person.
- Sensibilisation de la peau:** Le liquide dans lacell peut provoquer une sensibilisation chez une personne.
- Carcinogenicity:** Cobalt and Cobalt compounds are considered to be possible human carcinogen(s).
- Cancérogénicité:** Le cobalt et les composés de cobalt sont considérés comme des cancérogènes possibles pour l'homme.
- Germ Cell Mutagenicity:** No data available. Pas de données disponibles
- Mutagénicité des cellules germinales:**

Safety Data Sheet

According to HCS-2012 APPENDIX D TO §1910.1200 & WHMIS 2015

Version: 1.0/EN
Product name: Alkaline Battery

Revision date: 01/01/2020
Issue date: 23/10/2020

Reproductive Toxicity:	No data available.	Pas de données disponibles
Toxicité pour la reproduction:		
STOT-Single Exposure:	No data available.	Pas de données disponibles
Exposition simple STOT:		
STOT-Repeated Exposure:	No data available.	Pas de données disponibles
Exposition répétée STOT:		
Aspiration Hazard:	No data available.	Pas de données disponibles
Danger d'aspiration:		

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

Effets retardés et immédiats ainsi que les effets chroniques d'une exposition à court et à long terme

Sensitization:	No data available.	Pas de données disponibles
Sensibilisation:		
Mutagenic Effects:	No data available.	Pas de données disponibles
Effets mutagènes:		
Carcinogenicity:	No data available.	Pas de données disponibles
Cancérogénicité:		
Reproductive Toxicity:	No data available.	Pas de données disponibles
Toxicité pour la reproduction:		
Chronic Toxicity:	No data available.	Pas de données disponibles
Toxicité chronique:		
Target Organ Effects:	No data available.	Pas de données disponibles
Effets sur les organes cibles:		
Aspiration Hazard:	No data available.	Pas de données disponibles
Danger d'aspiration:		

12. Ecological information

Information écologique

(a) Ecotoxicity

Écotoxicité

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

Classe de danger pour l'eau 1 (Auto-évaluation): légèrement dangereux pour l'eau.

(b) Persistence and Degradability

Persistence and Degradability

No information available.

Pas d'information disponible.

(c) Bioaccumulative potential

Potentiel bioaccumulatif

No information available.

Pas d'information disponible.

(d) Mobility in soil

Mobilité dans le sol

No information available.

Pas d'information disponible.

Safety Data Sheet

According to HCS-2012 APPENDIX D TO §1910.1200 & WHMIS 2015

Version: 1.0/EN
Product name: Alkaline Battery

Revision date: 01/01/2020
Issue date: 23/10/2020

(e) Other adverse effects

No information available.

Autres effets indésirables

Pas d'information disponible.

13. Disposal considerations

Considérations relatives à l'élimination

Safe handling and methods of disposal

Manipulation et méthodes d'élimination sûres

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 cells may cause fire, tape the cell terminals to insulate them. Don't disassembly the cell. 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 cells and accumulators; the desirability of not disposing of waste cells and accumulators as unsorted municipal waste and of participating in their separate collection so as to facilitate treatment and recycling.

L'élimination doit être conforme aux lois et réglementations régionales, nationales et locales applicables.

Les réglementations locales peuvent être plus strictes que les exigences régionales ou nationales.

Recommandation concernant l'élimination des produits: Respectez les lois et réglementations locales, provinciales et fédérales.

Recommandation sur la mise au rebut de l'emballage: Sachez que les piles jetées peuvent provoquer un incendie, fixez-les avec du ruban adhésif pour les isoler. Ne démontez pas la cellule. Déchargez complètement les récipients (pas de larmes, pas de poudre, soigneusement raclés). Les conteneurs peuvent être recyclés ou réutilisés. Respectez les lois et règlements locaux, provinciaux et fédéraux.

Les effets potentiels sur l'environnement et la santé humaine des substances utilisées dans les piles et les accumulateurs; l'opportunité de ne pas éliminer les déchets de piles et d'accumulateurs en tant que déchets municipaux non triés et de participer à leur collecte séparée afin de faciliter le traitement et le recyclage.

14. Transport information

Informations sur le transport

In general, all batteries in all forms of transportation (ground, air, or ocean) must be packaged in a safe and responsible manner. Regulatory concerns from all agencies for safe packaging require that batteries be packaged in a manner that prevents short circuits and be contained in "strong outer packaging" that prevents spillage of contents. All original packaging for alkaline batteries has been designed to be compliant with these regulatory concerns.

En général, toutes les batteries de tous les modes de transport (terrestre, aérien ou océanique) doivent être emballées de manière sûre et responsable. Les préoccupations réglementaires de toutes les agences pour un emballage sûr exigent que les piles soient emballées de manière à éviter les courts-circuits et à être contenues dans

Safety Data Sheet

According to HCS-2012 APPENDIX D TO §1910.1200 & WHMIS 2015

Version: 1.0/EN
Product name: Alkaline Battery

Revision date: 01/01/2020
Issue date: 23/10/2020

un «emballage extérieur solide» qui empêche le déversement du contenu. Tous les emballages d'origine des piles alcalines ont été conçus pour être conformes à ces préoccupations réglementaires.

Alkaline batteries (sometimes referred to as “Dry cell” batteries) are not listed as dangerous goods under the ADR European Agreement Concerning the International Carriage of Dangerous Goods by Road, the IMDG International Maritime Dangerous Goods Code, UN Dangerous Good Regulations, IATA Dangerous Goods Regulations, ICAO Technical Instructions and the U.S. hazardous materials regulations (49 CFR). These batteries are not subject to the dangerous goods regulations provided they meet the requirements contained in the following special provisions.

Les piles alcalines (parfois appelées «piles sèches») ne sont pas répertoriées comme marchandises dangereuses en vertu de l'Accord européen ADR concernant le transport international des marchandises dangereuses par route, du Code maritime international des marchandises dangereuses IMDG, du Règlement sur les marchandises dangereuses de l'ONU, des marchandises dangereuses de l'IATA Réglementation, instructions techniques de l'OACI et réglementation américaine sur les matières dangereuses (49 CFR). Ces batteries ne sont pas soumises à la réglementation sur les marchandises dangereuses à condition qu'elles répondent aux exigences contenues dans les dispositions spéciales suivantes.

Regulatory Body	Organisme de réglementation	Special Provisions	Dispositions spéciales
	ADR	Not regulated	Non réglementé
	IMDG	Not regulated	Non réglementé
	UN	Not regulated	Non réglementé
	US DOT	49 CFR 172.102	Provision 130
	IATA		A123
	ICAO	Not regulated	Non réglementé

All alkaline batteries are packed in such a way to prevent short circuits or the generation dangerous quantities of heat and meet the special provisions listed above. In addition, the IATA Dangerous Goods Regulations and ICAO Technical Instructions require the words “not restricted” and the Special Provision number A123 be provided on the air waybill, when an air waybill is issued.

Toutes les piles alcalines sont emballées de manière à éviter les courts-circuits ou la génération de quantités dangereuses de chaleur et répondent aux dispositions spéciales énumérées ci-dessus. De plus, le Règlement de l'IATA sur les marchandises dangereuses et les Instructions techniques de l'OACI exigent que les mots «sans restriction» et le numéro de disposition spéciale A123 soient indiqués sur la lettre de transport aérien, lorsqu'une lettre de transport aérien est émise.

15. Regulatory information

Informations réglementaires

OSHA hazard communication standard (29 CFR 1910.1200)

Norme de communication des dangers OSHA (29 CFR 1910.1200)

_____ *Hazardous Dangereux* *Non-hazardous Non dangereux*

Safety Data Sheet

According to HCS-2012 APPENDIX D TO §1910.1200 & WHMIS 2015

Version: 1.0/EN
Product name: Alkaline Battery

Revision date: 01/01/2020
Issue date: 23/10/2020

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

Autres informations, y compris date de préparation ou dernière révision

(a) Preparation and revision information

Informations de préparation et de révision

Date of previous revision: Not applicable.

Date of this revision: 01/01/2020

Date de la révision précédente: Non applicable.

Date de cette révision: 01/01/2020

Revision summary: The first New SDS

Résumé de la révision: La première nouvelle SDD

(b) Abbreviations and acronyms

Abréviations et acronymes

TSCA:	Toxic Substances Control Act, The American chemical inventory. Toxic Substances Control Act, inventaire américain des produits chimiques.
DSL	Domestic Substances List Liste intérieure des substances
EINECS:	European Inventory of Existing Commercial chemical Substances Inventaire européen des substances chimiques commerciales existantes
ENCS	Japanese Existing and New Chemical Substances Substances chimiques existantes et nouvelles du Japon
ECL:	Existing Chemicals List, the Korean chemical inventory. Liste des produits chimiques existants, inventaire coréen des produits chimiques.
IECSC:	Inventory of existing chemical substances in China. Inventaire des substances chimiques existantes en Chine.

(c) Disclaimer Avertissement

Because all of our cells 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.

Étant donné que toutes nos cellules sont définies comme des "articles", elles sont exemptées des exigences de la norme de communication des dangers. Les informations contenues dans cette fiche signalétique contiennent toutes les données pertinentes de manière complète et sincère. Toutefois, les informations sont fournies sans aucune garantie quant à leur étendue et leur exactitude absolues. Cette FDS a été préparée pour fournir des mesures de sécurité

Safety Data Sheet

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préventives aux utilisateurs ayant reçu une formation professionnelle. L'utilisateur personnel qui a obtenu cette fiche de données de sécurité doit décider en toute indépendance de son applicabilité dans des conditions particulières. Dans ces cas particuliers, nous n'assumons aucune responsabilité pour les dommages.

----- End of the SDS -----

----- Fin de la SDS -----

SAFETY DATA SHEETS

In Accordance with OSHA Standard 1910.1200 App D (USA)

Date: 01/01/2023

1. Identification

(a) Product identifier used on the label:

AA/LR6 / AM3/单 3 形 1.5V

(b) Other means of identification:

Alkaline

(c) Recommended use of the chemical and restrictions on use:

Do not throw in fire! Not rechargeable!

(d) Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party:

Manufacturer: HANGZHOU POWERPACK BATTERY CO., LTD.

Address: 1307,Shipping Mansion Shangcheng District Hangzhou Zhejiang, China.

Tel / Fax: +86-571-87831186

(e) Emergency phone number.

Tel: +86-571-87831186

2. Hazard(s) identification

(a) Classification of the chemical in accordance with paragraph (d) of §1910.1200

Chemical power source

(b) Signal word, hazard statement(s), symbol(s) and precautionary statement(s) in accordance with paragraph (f) of §1910.1200. (Hazard symbols may be provided as graphical reproductions in black and white or the name of the symbol, e.g., flame, skull and crossbones)

N/A

(c) Describe any hazards not otherwise classified that have been identified during the classification process

The chemical materials concluded in the Product is sealed up, thus being stable, safe and eco-friendly under common conditions, may not cause physical / chemical hazards.

SAFETY DATA SHEETS

In Accordance with OSHA Standard 1910.1200 App D (USA)

Date: 01/01/2023

- (d) Where an ingredient with unknown acute toxicity is used in a mixture at a concentration $\geq 1\%$ and the mixture is not classified based on testing of the mixture as a whole, a statement that X% of the mixture consists of ingredient(s) of unknown acute toxicity is required

No such an ingredient is contained in the product.

3. Composition/information on ingredients

Except as provided for in paragraph (i) of §1910.1200 on trade secrets:

For Substances:

- (a) Chemical name
- (b) Common name and synonyms
- (c) CAS number and other unique identifiers
- (d) Impurities and stabilizing additives which are themselves classified and which contribute to the classification of the substance

Chemical Name	CAS #	Content (approximate Wt %)
Manganese dioxide	1313-13-9	36.7 %
Carbon	7440-44-0	1.4 %
Graphite	7782-42-5	1.4 %
Zinc	7440-66-6	18 %
Potassium hydroxide	1310-58-3	8 %
Iron	7439-89-6	23 %
Brass (pin)	7440-50-8	1.4 %
Nylon (gasket)	32131-17-2	1.1 %
Water	7732-18-5	9%

For Mixtures

In addition to the information required for substances:

- (a) The chemical name and concentration (exact percentage) or concentration ranges of all

SAFETY DATA SHEETS

In Accordance with OSHA Standard 1910.1200 App D (USA)

Date: 01/01/2023

ingredients which are classified as health hazards in accordance with paragraph (d) of

§1910.1200 and,

- (1) Are present above their cut-off/concentration limits; or
- (2) Present a health risk below the cut-off/concentration limits.

No such an ingredient is contained in the product.

- (b) The concentration (exact percentage) shall be specified unless a trade secret claim is made in accordance with paragraph (i) of §1910.1200, when there is batch-to-batch variability in the production of a mixture, or for a group of substantially similar mixtures (See A.0.5.1.2) with similar chemical composition. In these cases, concentration ranges may be used.

No such a situation would happen during the production from batch to batch.

For All Chemicals Where a Trade Secret is claimed

Where a trade secret is claimed in accordance with paragraph (i) of §1910.1200, a statement that the specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret is required.

4. First-aid measures

- (a) Description of necessary measures, subdivided according to the different routes of exposure, i.e., inhalation, skin and eye contact, and ingestion

Inhalation: Not applicable.

Skin Contact: Wash with clean water immediately once leakage happens and the inner liquid splashes onto skin.

Eye contact: Rinse eyes immediately with running water for at least ten minutes. Consult an ophthalmologist.

Ingestion: Seek medical assistance or treatment immediately.

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

The liquid if leaked from the product may be smelly, mild irritant to skin, etc.

- (c) Indication of immediate medical attention and special treatment needed, if necessary

Wash with clean water immediately.

SAFETY DATA SHEETS

In Accordance with OSHA Standard 1910.1200 App D (USA)

Date: 01/01/2023

5. Fire-fighting measures

- (a) Suitable (and unsuitable) extinguishing media.

Carbon dioxide (CO₂), foam, or dry chemical powder extinguishing media is suitable.

- (b) Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products).

The product is not inflammable; the liquid, if leaked from the product, may cause corrosion to paper, plastic, or any other tender material(s) near by.

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

The fire-fighters are suggested wearing full protective clothing and using self contained breathing apparatus.

6. Accidental release measures

- (a) Personal precautions, protective equipment, and emergency procedures.

Wear protective clothing. Keep unprotected persons away.

- (b) Methods and materials for containment and cleaning up.

Collect spilled material with an insert standard absorbent like sand or silica.

Care for well-Ventilated conditions. Recycle or dispose of the materials in an appropriate way.

7. Handling and storage

- (a) Precautions for safe handling.

Obey the common known rules and precautions for handling with chemical power sources.

- (b) Conditions for safe storage, including any incompatibilities.

Store product in clean, cool and ventilated place with a temperature between 10 °C and 30 °C (no higher than 40 °C in the ordinary course of events) and a relative humidity no higher than 65%; the storage time should not be too long; the batteries should be well-arranged, and do avoid short-circuit caused by the contact of the positive and negative electrodes.

SAFETY DATA SHEETS

In Accordance with OSHA Standard 1910.1200 App D (USA)

Date: 01/01/2023

8. Exposure controls/personal protection

- (a) OSHA permissible exposure limit (PEL), American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV), and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the safety data sheet, where available.

N/A

- (b) Appropriate engineering controls.

Do not disassemble the product without professional basis.

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

No special equipment is required for handling, carrying or using the product.

The chemical materials concluded in the Product is sealed up, thus being stable, safe and eco-friendly under common conditions.

9. Physical and chemical properties

- | | | |
|--|---|---|
| (a) Appearance (physical state, color, etc.) | : | Cylindrical battery with PET label in white, blue, golden and black colours, etc. |
| (b) Odor | : | not applicable |
| (c) Odor threshold | : | not applicable |
| (d) pH | : | not applicable |
| (e) Melting point/ freezing point | : | not applicable |
| (f) Initial boiling point and boiling range | : | not applicable |
| (g) Flash point | : | not applicable |
| (h) Evaporation rate | : | not applicable |
| (i) Flammability (solid, gas) | : | not applicable |
| (j) Upper/lower flammability or explosive limits | : | not applicable |

SAFETY DATA SHEETS

In Accordance with OSHA Standard 1910.1200 App D (USA)

Date: 01/01/2023

- (k) Vapor pressure : not applicable
- (l) Vapor density : not applicable
- (m) Relative density : not applicable
- (n) Solubility(ies) : not applicable
- (o) Partition coefficient: : not applicable
n-octanol/ water
- (p) Auto-ignition temperature : not applicable
- (q) Decomposition temperature : not applicable
- (r) Viscosity : not applicable

10. Stability and reactivity

- (a) Reactivity

N/A

- (b) Chemical stability

Stable.

The chemical materials concluded in the Product are sealed up, thus being stable, safe and eco-friendly under common conditions.

- (c) Possibility of hazardous reactions

No.

- (d) Conditions to avoid (e.g., static discharge, shock, or vibration)

Environmental temperature higher than 40°C, relative humidity below 45% or higher than 65% is recommended to be avoided for product storage or working.

- (e) Incompatible materials

N/A

- (f) Hazardous decomposition products

SAFETY DATA SHEETS

In Accordance with OSHA Standard 1910.1200 App D (USA)

Date: 01/01/2023

No.

11. Toxicological information

Description of the various toxicological (health) effects and the available data used to identify those effects, including

(a) Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact)

The chemical materials concluded in the Product are sealed up, thus being stable, safe and eco-friendly under common conditions;

The liquid (alkaline solution), if leaked from the product, may cause corrosion to paper, plastic, or any other tender material(s) near by, but not toxicological.

(b) Symptoms related to the physical, chemical and toxicological characteristics

People might feel itching, if the inner liquid splashes onto skin.

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

N/A

(d) Numerical measures of toxicity (such as acute toxicity estimates)

N/A

(e) Whether the hazardous chemical is listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition) or has been found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest edition), or by OSHA

No.

12. Ecological information (Non-mandatory)

(a) Ecotoxicity (aquatic and terrestrial, where available): N/A

(b) Persistence and degradability: N/A

(c) Bio-accumulative potential: N/A

(d) Mobility in soil: N/A

(e) Other adverse effects (such as hazardous to the ozone layer) : No.

SAFETY DATA SHEETS

In Accordance with OSHA Standard 1910.1200 App D (USA)

Date: 01/01/2023

13. Disposal considerations (Non-mandatory)

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging.

The used product (waste) is recommended to be disposed-of in separate collection, so as to avoid improper disassembly or recycling method that may lead to pollution or corrosion caused by the alkaline solution inside it.

14. Transport information (Non-mandatory)

(a) UN number: N/A

(b) UN proper shipping name: N/A

(c) Transport hazard class(es) : N/A

(d) Packing group, if applicable: N/A

(e) Environmental hazards (e.g., Marine pollutant (Yes/No)) No.

(f) Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code)

The product can be treated as ordinary goods in transportation;

Products in bulk shall be packed in inner packaging in such a manner that can prevent movement or short-circuit effectively.

(g) Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises

Avoid high-temperature, high-humidity condition.

15. Regulatory information (Non-mandatory)

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

The product is eco-friendly and in accordance with the safety regulations in ANSI C18.1M Part2 Standard, and complying with the environmental requirements in EU Directives 2006/66/EC (Battery Directive).

SAFETY DATA SHEETS

In Accordance with OSHA Standard 1910.1200 App D (USA)

Date: 01/01/2023

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

The date of preparation of the SDS or the last change to it

This Safety Date Sheets (SDS) is issued on January 1st, 2023 as a third version according to requirements of the USA's OSHA Standard 1910.1200 App D.

For any other question, please contact the manufacturer for further information.

SAFETY DATA SHEET

Date of issue 04-03-2024

Canada/English

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name Rechargeable Lithium-ion Polymer Battery MC-1045741-B

Other means of identification

Recommended use of the chemical and restrictions on use

Recommended Use LITHIUM ION BATTERIES

Uses advised against No information available

Details of the supplier of the safety data sheet

Initial supplier identifier Sunwoda Electronic Co., Ltd.

Address Floor 1,A,B,D District of Floor 2 and Floor 3 to 9 of Comprehensive Building, No.2 Yihe Road, Shilong Community, Shiyuan Street, Bao'an District, Shenzhen City, Guangdong Province, P.R. China

Telephone 0755-29516888

E-mail xiangjing@sunwoda.com

Emergency telephone number

Company Emergency Phone Number 0755-29516888

2. HAZARDS IDENTIFICATION

Classification

This is a battery. In case of rupture:

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

GHS Label elements, including precautionary statements

Danger

Hazard statements

This is a battery. In case of rupture:.

Causes skin irritation
Causes serious eye irritation
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 breathe dust/fume/gas/mist/vapors/spray Do not eat, drink or smoke when using this product

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention
Specific treatment (see supplemental first aid instructions on this label)

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing If eye irritation persists: Get medical advice/attention

Skin

IF ON SKIN: Wash with plenty of water and soap
If skin irritation occurs: Get medical advice/attention Take off contaminated clothing and wash it before reuse

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

30.9 % of the mixture consists of ingredient(s) of unknown toxicity

- 30.9 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
- 30.9 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
- 30.9 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
- 30.9 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
- 30.9 % 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	Percent(%) Max	Hazardous Material Information Review Act registry number (HMIRA registry #)	Date HMIRA filed and date exemption granted (if applicable)
Lithium Cobalt Oxide	12190-79-3	34%		
Ethyl propionate	105-37-3	25%		
Copper	7440-50-8	10%	-	-
Aluminum	7429-90-5	6%		
Graphite	7782-42-5	8%	-	-
Polyethylene	9002-88-4	5%	-	-
Ethylene carbonate	96-49-1	4%	-	-
Propylene carbonate	108-32-7	5%	-	-
Phosphate(1-), hexafluoro-, lithium	21324-40-3	0.5%	-	-
1,3-Propane sultone	1120-71-4	2.5%		

4. FIRST AID MEASURES

First aid measures

General advice	First aid is upon rupture of sealed battery. IF exposed or concerned: Get medical advice/attention. Show this safety data sheet to the doctor in attendance.
Inhalation	Remove to fresh air. Get medical attention immediately if symptoms occur.
Eye contact	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	Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.
Ingestion	Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a physician.
Self-protection of the first aider	Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

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 Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	CAUTION: Use of water spray when fighting fire may be inefficient.
Specific hazards arising from the chemical .	No information available
Hazardous Combustion Products	Carbon oxides.

Explosion Data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Special protective equipment for Firefighters should wear self-contained breathing apparatus and full firefighting turnout

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas.

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

Environmental precautions Prevent further leakage or spillage if safe to do so.

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.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

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. Ensure adequate ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.

Conditions for safe storage, including any incompatibilities

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

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Copper 7440-50-8	TWA: 0.2 mg/m ³ fume	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

Aluminum 7429-90-5	TWA: 1 mg/m ³ respirable particulate matter	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 fraction	TWA: 10 mg/m ³ total dust TWA: 5 mg/m ³ respirable dust
Phosphate(1-), hexafluoro-, lithium 21324-40-3	TWA: 2.5 mg/m ³ F	TWA: 2.5 mg/m ³ F (vacated) TWA: 2.5 mg/m ³	IDLH: 250 mg/m ³ F

Chemical name	Alberta	British Columbia	Ontario TWAEV	Quebec
Copper 7440-50-8	TWA: 0.2 mg/m ³ TWA: 1 mg/m ³	TWA: 1 mg/m ³ TWA: 0.2 mg/m ³	TWA: 0.2 mg/m ³ TWA: 1 mg/m ³	TWA: 0.2 mg/m ³ TWA: 1 mg/m ³
Aluminum 7429-90-5	TWA: 10 mg/m ³	TWA: 1.0 mg/m ³	TWA: 1 mg/m ³	TWA: 10 mg/m ³
Phosphate(1-), hexafluoro-, lithium 21324-40-3	TWA: 2.5 mg/m ³	TWA: 2.5 mg/m ³	TWA: 2.5 mg/m ³	TWA: 2.5 mg/m ³

Other Exposure Guidelines

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d962 (11th Cir., 1992).

Appropriate engineering controls

Engineering controls

Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection

If splashes are likely to occur, wear safety glasses with side-shields.

Hand protection

Wear suitable gloves. Impervious gloves.

Skin and body protection

Wear suitable protective clothing. Long sleeved clothing.

Respiratory protection

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. Wear suitable gloves and eye/face protection. Avoid contact with skin, eyes or clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Physical state	Solid
Appearance	Black
Odor	Odorless
Color	No information available
Odor Threshold	Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks 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/water¹		
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	
Kinematic viscosity	No data available	
Dynamic viscosity		
<u>Other Information</u>		
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	None known based on information supplied.
Incompatible materials	Strong acids. Strong bases. Strong oxidizing agents.
Hazardous Decomposition Products	Carbonoxides.

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. May cause irritation of respiratory tract.
Eye contact	Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components). Irritating to eyes.
Skin contact	Specific test data for the substance or mixture is not available. Causes skin irritation. (based on components).
Ingestion	Specific test data for the substance or mixture is not available. Ingestion may cause

gastrointestinal irritation, nausea, vomiting and diarrhea.

Information on toxicological effects

Symptoms Redness. Burning. May cause blindness. Coughing and/ or wheezing

Numerical measures of toxicity

Acute Toxicity

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

ATEmix (oral) 12,452.00 mg/kg

ATEmix (dermal) 9,132.00 mg/kg

Unknown acute toxicity 30.9 % of the mixture consists of ingredient(s) of unknown toxicity

30.9 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

30.9 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

30.9 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

30.9 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

30.9 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Lithium Cobalt Oxide	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rat)	> 5.05 mg/L (Rat) 4 h
Copper	-	-	> 5.11 mg/L (Rat) 4 h
Aluminum	-	-	> 0.888 mg/L (Rat) 4 h

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. Irritating to skin.

Serious eye damage/eye irritation Classification based on data available for ingredients. Irritating to eyes.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity Classification based on data available for ingredients. Contains a known or suspected carcinogen.

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	Algae/aquatic plants	Toxicity to Fish	Toxicity to Microorganism	Crustacea
Copper foil	96h EC50: 0.031 - 0.054 mg/L (Pseudokirchneriella subcapitata) 72h EC50: 0.0426 - 0.0535 mg/L (Pseudokirchneriella subcapitata)	96h LC50: 0.0068 - 0.0156 mg/L (Pimephales promelas) 96h LC50: < 0.3 mg/L (Pimephales promelas)	No data available	48h EC50: = 0.03 mg/L (Daphnia magna)

Persistence and Degradability No information available.

Bioaccumulation No information available

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.

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"

TDG Not regulated

DOT NOT REGULATED
Proper Shipping Name NON-REGULATED
Hazard Class N/A
Emergency Response Guide Number 147

MEX Not regulated

ICAO Not regulated

IATA
UN-No. UN3480
Proper Shipping Name LITHIUM ION BATTERIES
Hazard Class 9
ERG Code 12FZ
Description Lithium Battery Mark, Class 9 lithium battery hazard label, Cargo Aircraft Only Label.

IMDG/IMO Not regulated
Hazard Class N/A
EmS-No. 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

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

<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

Prepared By Shenzhen Precise Testing Technology Co., Ltd.

Issuing Date 04-03-2024

Revision Note No information available

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet

Inhalation Statement	dust
Not Hazardous	This is a battery. In case of rupture:
Hazard statements	Causes damage to organs through prolonged or repeated exposure
Signal word	Danger
Precautionary Statements	P302 + P352 - IF ON SKIN: Wash with plenty of water and soap P321 - Specific treatment (see supplemental first aid instructions on this label) P332 + P313 - If skin irritation occurs: Get medical advice/attention P362 + P364 - Take off contaminated clothing and wash it before reuse P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing P337 + P313 - If eye irritation persists: Get medical advice/attention P201 - Obtain special instructions before use P202 - Do not handle until all safety precautions have been read and understood P280 - Wear protective gloves/protective clothing/eye protection/face protection P308 + P313 - IF exposed or concerned: Get medical advice/attention P405 - Store locked up P260 - Do not breathe dust/fume/gas/mist/vapors/spray P264 - Wash face, hands and any exposed skin thoroughly after handling P270 - Do not eat, drink or smoke when using this product P314 - Get medical advice/attention if you feel unwell P501 - Dispose of contents/ container to an approved waste disposal plant
Signal word	Danger
Skin corrosion/irritation	Category 2

Hazard statements	Causes skin irritation
Signal word	Warning
Serious eye damage/eye irritation	Category 2A
Hazard statements	Causes serious eye irritation
Signal word	Warning
Carcinogenicity	Category 2
Hazard statements	Suspected of causing cancer
Signal word	Warning
Specific target organ toxicity (repeated exposure)	Category 1
Skin corrosion/irritation	- (H315)
Serious eye damage/eye irritation	- (H319)
Carcinogenicity	- (H351)
STOT - repeated exposure	- (H372)
STOT - repeated exposure	

Graphic



Graphic



Graphic



Hazard statements	Causes skin irritation Causes serious eye irritation Suspected of causing cancer Causes damage to organs through prolonged or repeated exposure
Hazard statements	H315 - Causes skin irritation H319 - Causes serious eye irritation H351 - Suspected of causing cancer H351 - Suspected of causing cancer H372 - Causes damage to organs through prolonged or repeated exposure H372 - Causes damage to organs through prolonged or repeated exposure
Precautionary Statements - EU (§28, 1272/2008)	P103 - Read label before use P280 - Wear face protection P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish P234 - Keep only in original container P303 - IF ON SKIN (or hair):
Precautionary Statements	IF ON SKIN: Wash with plenty of water and soap IF ON SKIN: Wash with plenty of water and soap If skin irritation occurs: Get medical advice/attention If skin irritation occurs: Get medical advice/attention Take off contaminated clothing And wash it before reuse Take off contaminated clothing and wash it before reuse Take off contaminated clothing and wash it before reuse IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing If eye irritation persists: Get medical advice/attention If eye irritation persists: Get medical advice/attention Obtain special instructions before use Obtain special instructions before use Do not handle until all safety precautions have been read and understood Do not handle until all safety precautions have been read and understood Wear protective gloves Wear protective gloves IF exposed or concerned: Get medical advice/attention IF exposed or concerned: Get medical advice/attention Store locked up Do not breathe dust/fume/gas/mist/vapors/spray Do not breathe dust/fume/gas/mist/vapors/spray Do not breathe dust/fume/gas/mist/vapors/spray Do not eat, drink or smoke when using this product Get medical advice/attention if you feel unwell Get medical advice/attention if you feel unwell
Skin	IF ON SKIN: Wash with plenty of water and soap If skin irritation occurs: Get medical advice/attention Take off contaminated clothing and wash it before reuse

Precautionary Statements	P302 + P352 - IF ON SKIN: Wash with plenty of water and soap P321 - Specific treatment (see supplemental first aid instructions on this label) P332 + P313 - If skin irritation occurs: Get medical advice/attention P362 + P364 - Take off contaminated clothing and wash it before reuse P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing P337 + P313 - If eye irritation persists: Get medical advice/attention P201 - Obtain special instructions before use P202 - Do not handle until all safety precautions have been read and understood P280 - Wear protective gloves/protective clothing/eye protection/face protection P308 + P313 - IF exposed or concerned: Get medical advice/attention P405 - Store locked up P260 - Do not breathe dust/fume/gas/mist/vapors/spray P264 - Wash face, hands and any exposed skin thoroughly after handling P270 - Do not eat, drink or smoke when using this product P314 - Get medical advice/attention if you feel unwell P501 - Dispose of contents/ container to an approved waste disposal plant
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 breathe dust/fume/gas/mist/vapors/spray Do not eat, drink or smoke when using this product
Precautionary Statements - Response	IF exposed or concerned: Get medical advice/attention Specific treatment (see supplemental first aid instructions on this label)
Eyes	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing If eye irritation persists: Get medical advice/attention
Skin	IF ON SKIN: Wash with plenty of water and soap If skin irritation occurs: Get medical advice/attention Take off contaminated clothing and wash it before reuse
Precautionary Statements - Storage	Store locked up
Precautionary Statements - Disposal	Dispose of contents/container to an approved waste disposal plant
The following values are calculated based on chapter 3.1 of the GHS document	
ATEmix (oral)	12,452.00
Units	mg/kg
ATEmix (dermal)	9,132.00
Units	mg/kg
Contains Carbon black, Phosphate(1-), hexafluoro-, lithium	
Unknown acute toxicity	90.77 % of the mixture consists of component(s) of unknown hazards to the aquatic environment
Unknown Acute Aquatic Toxicity	90.77
Unknown Chronic Aquatic Toxicity	90.77
Product ATE Oral Status	1
Product ATE Dermal Status	1
Product ATE Inhalation - Gas Status	1
Product ATE Inhalation - Vapor Status	1
Product ATE Inhalation - Dust/Mist Status	1
Product Skin Corrosion Status	1
Product Eye Damage Status	1
Product Respiratory Sens. Status	1
Product Skin Sensitization Status	1
Product Mutagenic Status	1
Product Carcinogenic Status	1
Product Reproductive Toxicity Status	1
Product STOT Single Status	1
Product STOT Repeated Status	1
Product Aquatic Toxicity Status	1
Product Aspiration Toxicity Status	1
Product Ozone Status	1
Product and Component Overall	1
Classification Status	
STOT - repeated exposure	- (H372)
Unknown acute toxicity	30.9 % of the mixture consists of ingredient(s) of unknown toxicity
	30.9 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
	30.9 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
	30.9 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
	30.9 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
	30.9 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)
Symbols/Pictograms	
Symbols/Pictograms	
Other hazards	Very toxic to aquatic life with long lasting effects
Health hazards	Skull and Crossbones
Health hazards	Exclamation mark
Inhalation Statement	dust
Health hazards	1

Safety Data Sheet

Date of Issue: Mar. 11, 2024

File No.: DS20240220WERC01

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product Identifier

Name of Product: Rechargeable Lithium-ion Polymer Battery

1.2 Other means of identification

Product Models: MC-1045741-B

Nominal Voltage: 3.87V

Nominal capacity: 4324mAh

Nominal Power: 16.74Wh

Weight: 69g

1.3 Recommended use of the chemical and restriction on use

Recommended Use: Rechargeable Li-ion Battery

Restriction on Use: No information available

1.4 Information Of Supplier:

Company Name: Huizhou Desay Battery Co.,LTD

Address: No.15 Zone, Zhong Kai Hi_Tech Development Zone, Huizhou, Guangdong, China

Zip code: 516006

Contact person: Guocheng Wei

Tel: 86-752-2629634

E-mail: desay_certification@desay.com

1.5 Emergency Telephone

86-0752-2629750

2. Hazard(s) Identification

2.1 Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

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

2.2 Label elements

2.2.1 Signal Word Danger

2.2.2 Hazard Statements

Causes skin irritation

Causes serious eye damage

Suspected of causing cancer

Causes damage to organs through prolonged or repeated exposure

2.2.3 Symbol



Safety Data Sheet

Date of Issue: Mar. 11, 2024

File No.: DS20240220WERC01

This product is an article which contains a chemical substance. Safety information is given for exposure to the article as solid. 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.

2.3 Precautionary Statements

2.3.1 Precautionary Statements – Prevention

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Use personal protective equipment as required.
Wash face, hands and any exposed skin thoroughly after handling.
Contaminated work clothing should not be allowed out of the workplace.
Keep away from flames and hot surface –no smoking.
Do not breathe dust/fume/gas/mist/vapors/spray.
Do not eat, drink or smoke when using this product.

2.3.2 Precautionary Statements – Response

If exposed or connected: Get medical advice/attention.
Specific treatment (see supplemental first aid/instruction on this label).

Skin

If ON SKIN: wash with plenty of soap and water.
Take off contaminated clothing and water before reuse.
If skin irritation or rash occurs: get medical advice/attention if feel unwell.

Eye

If IN EYES: Rinse cautiously with water for several minutes, remove contact lenses, if present and easy to do, Continue rinsing. Call a POISON CENTER or doctor/physician.

Inhalation

If inhalation: if breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a poison center or doctor/physician.

Ingestion

If swallowed: rinse mouth, do not induce vomiting, Call a poison center or doctor/physician if feel unwell.

2.3.3 Precautionary Statements – Storage

Store locked up

2.3.4 Precautionary Statements – Disposal

Dispose of contents/container to an approved waste disposal plant.

2.4 Hazards not otherwise classified (HNOC)

Not applicable

2.5 Unknown Toxicity

39% of the mixture consists of ingredient(s) of unknown toxicity.

2.6 Other information

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

2.7 Interactions with other chemicals

Use of alcoholic beverages may enhance toxic effect.

Safety Data Sheet

Date of Issue: Mar. 11, 2024

File No.: DS20240220WERC01

3. Composition/ Information on Ingredients

Chemical Name	CAS No.	Weigh%
Cobalt lithium dioxide	12190-79-3	28
Ethyl propionate	105-37-3	15
Copper foil	7440-50-8	9
Aluminum foil	7429-90-5	10
Graphite	7782-42-5	15.4
Ethylene Carbonate	96-49-1	1.2
Propylene Carbonate	108-32-7	2.6
Lithium Hexafluorophosphate(1-)	21324-40-3	15
Separator	9002-88-4	3
1,3 Propane sultone	1120-71-4	0.8

4. First Aid Measures

4.1 General Advice

First aid is upon rupture of sealed battery.

4.1.1 Eye contact

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. Do not rub affected area. Seek immediate medical attention/advice.

4.1.2 Skin Contact

Wash off immediately with plenty of water and soap for at least 15 minutes. Remove and isolate contaminated clothing and shoes. Get medical attention if irritation develops and persists.

4.1.3 Inhalation of Vented Gas

Remove to fresh air. Get medical attention immediately if symptoms occur. If not breathing, give artificial respiration. If breathing is difficult, (trained personnel should) give oxygen.

4.1.4 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.

4.1.5 Self-protection of the first aider

Ensure that medical personnel are aware of the material(s) involved. Take precaution 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 personnel protective equipment as required. Wear personnel protective clothing (see section 8).

Safety Data Sheet

Date of Issue: Mar. 11, 2024

File No.: DS20240220WERC01

4.2 Most important symptoms and effects, both acute and delayed

Burning sensation, Itching. Rashes. Hives, Coughing.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician

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. May cause sensitization of susceptible persons. Treat symptomatically.

5. Fire – Fighting Measures

5.1 Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Dry chemical, CO₂, water spray or regular foam. Move containers from fire area if you can do it without risk.

5.2 Unsuitable Extinguishing Media

CAUTION: Use of water spray when fighting fire may be inefficient.

5.3 Specific Hazards Arising from the chemical

Thermal decomposition can lead to release of irritating gases and vapors. In the event of fire and/or explosion do not breathe fumes. May cause sensitization by inhalation and skin contact. Product is or contains a sensitizer.

Hazardous Combustion products

Carbon oxides

5.4 Explosion Data

Sensitivity to Mechanical Impact: None.

Sensitivity to Static Discharge: None.

5.5 Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/IOSH (approved or equivalent) and full protective gear. Move containers from fire area if you can do it without risk.

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

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.

6.2 Environmental Precautions

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.

6.3 Methods for containment

Prevent further leakage or spillage if safe to do so. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

Safety Data Sheet

Date of Issue: Mar. 11, 2024

File No.: DS20240220WERC01

6.4 Methods for cleaning up

Pick up and transfer to properly labeled containers.

7. Handling and Storage

7.1 Precaution for safe handling

In case of rupture, use personal protection equipment. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Do not breathe dust/fume/gas/mist/vapors/spray.

7.2 Conditions for safe storage, including any incompatibilities

Storage

Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children.

Incompatible products

Strong acids.Strong oxidizing agent. Strong bases.

8. Exposure Controls/Personal Protection

8.1 Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Graphite 7782-42-5	TWA:2mg/m ³ respirable particulate matter all forms except graphite fibers	TWA: 15 mg/m ³ total dust synthetic TWA: 5 mg/m ³ respirable fraction synthetic (vacated) TWA: 2.5 mg/m ³ respirable dust natural (vacated) TWA: 10 mg/m ³ total dust synthetic (vacated) TWA: 5 mg/m ³ respirable fraction synthetic TWA: 15 mppcf natural	IDLH: 1250 mg/m ³ TWA: 2.5 mg/m ³ respirable dust
Lithium Cobalt Oxide 12190-79-3	TWA:0.02mg/m ³	-	-

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

OSHA PEL: Occupational Safety and Health Administration-Permissible Exposure Limits

NIOSH IDLH Immediately Dangerous to Life or Health.

Other Exposure Guidelines:

Vacated limits revoked by the court of Appeals decision in AFL-CLO v. OSHA, 965F, 2d 962(11th Cir., 1992) See section 15 for national exposure control parameters.

8.2 Appropriate engineering controls

Engineering Measures:

Showers, Eyewash stations, Ventilation systems

Safety Data Sheet

Date of Issue: Mar. 11, 2024

File No.: DS20240220WERC01

8.3 Individual protection measures, such as personal protective equipment

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.

Eye /face protection:if splashes are likely to occur: Wear safety glasses with side shields(or goggles). None required for consumer use.

Skin protection: Wear protective gloves and protective clothing. Long sleeved clothing. Imperious gloves.

Hygiene Measure: Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Wash hands before breaks and immediately after handling the product. For environmental protection, remove and wash all contaminated protective equipment before re-use. No information available.

9. Physical and Chemical Properties

Physical State: Solid

Color: Black

Odor: Odorless

Odor Threshold: No information available

pH: No data available

Melting/freezing point: No data available

Boiling point/boiling range: No data available

Flash Point: No data available

Evaporation Rate: No data available

Flammability(Solid, gas): No data available

Flammability Limit in Air: No data available

Upper flammability limit: No data available

Lower flammability limit: No data available

Vapor pressure: No data available

Vapor density: No data available

Specific Gravity: No data available

Solubility: Insoluble in water

Partition coefficient: n-octanol/water: No data available

Autoignition temperature: No data available

Decomposition temperature: No data available

Safety Data Sheet

Date of Issue: Mar. 11, 2024

File No.: DS20240220WERC01

Kinematic viscosity: No data available

Dynamic viscosity: No data available

10. Stability and Reactivity

Reactivity:

No data available

Chemical stability:

Stable under recommended storage conditions.

Possibility of Hazardous Reactions:

None under normal processing.

Hazardous Polymerization:

Hazardous polymerization does not occur.

Conditions to avoid:

Do not subject battery to mechanical shock. Keep away from open flames, high temperature.

Incompatible materials:

Strong acids, Strong oxidizing agents. Strong bases.

Hazardous decomposition products:

Carbon oxides

11. Toxicological Information

11.1 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 corrosion 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 corrosion substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal. May cause irritation of respiratory tract.

Eye Contact:

Specific test data for the substance or mixture is not available. Cause burns. (based on components). Corrosion to the eyes and may cause severe damage including blindness. Cause serious eye damage. May cause irreversible damage to eyes.

Skin Contact:

Specific test data for the substance or mixture is not available. Corrosion (based on components). Cause burns. Toxic in contact with skin. May be absorbed through the skin in harmful amounts.

Ingestion:

Safety Data Sheet

Date of Issue: Mar. 11, 2024

File No.: DS20240220WERC01

Specific test data for the substance or mixture is not available. Cause burns. (based on components). Ingestion cause burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways. Ingestion may cause irritation to mucous membranes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May be harmful if swallowed.

Component Information

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

11.2 Information on toxicological effects

Symptoms:

Erythema (skin redness).May cause redness and tearing of eyes.Itching.Rashes.Hives. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing. Coughing and/or wheezing.

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

Sensitization: May cause sensitization of susceptible person, May cause sensitization by skin contact. May cause sensitization by inhalation.

Mutagenic Effects: No information available.

Carcinogenicity: the table below whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Lithium Cobalt Oxide12190-79-3	A3	Group 2B		X

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 Carcinogenic.

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: Cause damage to organs through prolonged or repeated exposure. Based on classification criteria from the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200), this product has been determined to cause systemic target organ toxicity from chronic or repeated exposure. (STOT RE)

Chronic Toxicity: Prolonged exposure may cause chronic effects. Repeated contact may cause

Safety Data Sheet

Date of Issue: Mar. 11, 2024

File No.: DS20240220WERC01

allergic reactions in very susceptible persons. Contain a known or suspected carcinogen. Avoid repeated exposure. May cause adverse effects on the bone marrow and blood-forming system. May cause adverse liver effects.

Target Organ Effects: Respiratory system. Eyes. Skin. Gastrointestinal tract (GI). Blood. Central Nervous System (CNS). Kidney. Liver. Lungs. Nasal cavities.

Aspiration Hazard: No information available.

11.4 Numerical measures of toxicity product information

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

ATE mix (oral): 6513 mg/kg

ATE mix (dermal): 5141 mg/kg (ATE)

12. Ecological Information

Ecotoxicity:

Chemical name	Toxicity to Aglae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
-	-	-	-	-

Persistence and Degradability: No information available

Bioaccumulation: No information available

Other adverse effects: No information available

13. Disposal Considerations

13.1 Waste treatment methods

Disposal methods:

This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements. Should not be released into the environment.

Contaminated Packaging:

Dispose of in accordance with federal, state and local regulations.

California Hazardous Waste Codes 141

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

Chemical Name	California Hazardous Waste
---------------	----------------------------

Safety Data Sheet

Date of Issue: Mar. 11, 2024

File No.: DS20240220WERC01

Lithium Cobalt Oxide 12190-79-3	Toxic
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14. Transportation 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 "PI965-967 section II of IATA-DGR" or "special provision 188 of IMO-IMDG Code"

DOT: NOT REGULATED

Proper Shipping Name: NON REGULATED

Emergency Response Guide Number: 147

Hazard Class: N/A

TDG: Not regulated

MEX: Not regulated

ICAO: Not regulated

IATA: Not regulated

Proper Shipping Name: Not regulated

Hazard Class: Not regulated

IMDG/IMO: Not regulated

Proper Shipping Name: NON REGULATED

Hazard Class: N/A

Ems No.: F-A,S-1

RID: Not regulated

ADR: Not regulated

AND: Not regulated

15. Regulatory information

15.1 International Inventories

Safety Data Sheet

Date of Issue: Mar. 11, 2024

File No.: DS20240220WERC01

TSCA Complies

DSL All components are listed either on the DSL or NDSL.

TSCA – United State Toxic Substance Control Act Section 8(b) Inventory

DSL/NDSL – Canadian Domestic Substance List/Non-Domestic Substance List

15.2 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 (%)	SARA313-Threshold values(%)
Lithium Cobalt Oxide	12190-79-3	15-40	0.1

15.3SARA 311/312Hazard Categories

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

15.4CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

15.5CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

15.6 US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals.

Chemical Name	California Proposition 65
-	Carcinogen

U.S State Right-to-Know Regulations

Chemical Name	NewJersey	Massachusetts	Pennsylvania	Rhodelsland	Illinois
Graphite 7782-42-5	x	x	x		
Lithium Cobalt Oxide 12190-79-3	x	x	x	x	x

15.7 International Regulations

Mexico

National occupational exposure limits

Chemical Name	Carcinogen Status	Exposure Limits
Graphite		Mexico: TWA= 2 mg/m ³

Canada

Safety Data Sheet

Date of Issue: Mar. 11, 2024

File No.: DS20240220WERC01

WHMIS Hazard Class
Non-controlled

16. Other Information

Disclaimer:

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used material used in combination with any other materials or in any process, unless specified in the test.

Prepared By: Guangzhou MCM Certification and Testing Co., Ltd.

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--- End of SDS ---