

Article Information Sheet

Product name: Carbon Zinc-Manganese Dioxide Battery

Printing date: 22-Sep-2022

Nom du produit: Pile au dioxyde de carbone

Date d'impression: 22-Sep-2022

Article Information Sheet (AIS)

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

1. DOCUMENT INFORMATION

Product name: Carbon Zinc-Manganese Dioxide Battery
Model: 6F22 (9V)
Issue Date: 22-Sep-2022

2. COMPANY INFORMATION

Company name(China) Guangdong Liwang New Energy Co., Ltd.
Address: shima District, Tangxia Town, Dongguan City, Guangdong Province, China
E-mail: qa1@liwangbattery.com
Telephone: +86-769-86201111-8062

3. ARTICLE INFORMATION

Description	Carbon Zinc-Manganese Dioxide Battery
Use	Carbon zinc Battery.
Brand	--
Image	

Fiche d'information Article

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

1. DOCUMENT D'INFORMATION

Produit Nom: Pile au dioxyde de carbone
Modèle: 6F22 (9V)
Date d'émission: 22-Sep-2022

2. INFORMATIONS SUR LA SOCIÉTÉ

Nom de l'entreprise (Chine) Guangdong Liwang New Energy Co., Ltd.
Adresse: Shima District, ville de Tangxia, ville de Dongguan, Province de Guangdong, Chine
Email: qa1@liwangbattery.com
Téléphone: +86-769-86201111-8062

3. ARTICLE D'INFORMATION

La description	Pile au dioxyde de carbone
Utilisation	Pile au carbone et zinc
Marque	--
Image	

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4. ARTICLE CONSTRUCTION

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

Chemical name	CAS No.	Concentration%
Manganese Dioxide	1313-13-9	29.9
Zinc	7440-66-6	10.9
Carbon Black	1333-86-4	7.5
Water	7732-18-5	8.6
Ammonium chloride	12125-02-9	9.8
Polyvinyl chloride	9002-86-2	3.9
Iron	7439-89-6	20.9
Polypropylene	9003-07-0	4
Zinc chloride	7646-85-7	4.5

5. HEALTH AND SAFETY

Ingestion:	Do NOT induce vomiting. Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.
Inhalation:	Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other

Fiche d'information Article



4. ARTICLE CONSTRUCTION

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

Nom chimique	N ° CAS.	Concentration%
Dioxyde de manganèse	1313-13-9	29.9
Zinc	7440-66-6	10.9
Noir de carbone	1333-86-4	7.5
eau	7732-18-5	8.6
Chlorure d'ammonium	12125-02-9	9.8
Chlorure de polyvinyle	9002-86-2	3.9
fer	7439-89-6	20.9
Polypropylene	9003-07-0	4
Chlorure de Zinc	7646-85-7	4.5

5. SANTÉ ET SÉCURITÉ

Ingestion:	Ne pas faire vomir. Se rincer la bouche et boire beaucoup d'eau. Ne portez rien à la bouche d'une personne inconsciente. Appeler un centre de contrôle médecin ou de poison immédiatement.
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proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get medical attention immediately if symptoms occur.

Skin contact: Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required. May cause an allergic skin reaction.

Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Seek immediate medical attention/advice.

Self-protection of the first aider: Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Use personal protective equipment as required. Wear personal protective clothing (see section 8).

6. FIRE HAZARD & FIREFIGHTING

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

Inhalation: À l'air frais. Si la respiration est arrêtée, pratiquer la respiration artificielle. Consulter un médecin immédiatement. Ne pas utiliser le bouche-à-bouche si la victime a ingéré ou inhalé la substance; pratiquer la respiration artificielle à l'aide d'un masque de poche muni d'une valve à une voie ou d'un autre appareil médical approprié. Si la respiration est difficile, (du personnel qualifié devrait) donner de l'oxygène. œdème pulmonaire retardé peut se produire. Consulter un médecin si des symptômes apparaissent.

Contact avec la peau: Laver immédiatement avec du savon et beaucoup d'eau tout en enlevant les vêtements contaminés et les chaussures. Une attention médicale immédiate est nécessaire. Peut provoquer une réaction allergique cutanée.

Lentilles de contact: Rincer immédiatement et abondamment avec de l'eau, y compris sous les paupières, pendant au moins 15 minutes. Gardez l'œil ouvert pendant le rinçage. Ne pas frotter les zones touchées. lentilles de contact Retirer, si elle est présente et facile à faire. Continuer à rincer. Consulter un / des conseils médicaux immédiats.

Auto-protection du secouriste: Veiller à ce que le personnel médical sont au courant de la matière (s) impliqués, prendre des précautions pour se protéger et prévenir la propagation de la contamination. Éviter tout contact avec la peau, les yeux ou les vêtements. Éviter tout contact direct avec la peau. Utilisez barrière pour donner la respiration artificielle bouche-à-bouche. Utiliser un équipement de protection individuel requis. Porter des vêtements de protection individuelle (voir la section 8).

6. RISQUE D'INCENDIE & POMPIERS

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fires involving lithium batteries can be controlled by flooding with water. However, the contents of the battery will react with water and form hydrogen gas. In a confined space, hydrogen gas can form an explosive mixture. In this situation, smothering agents are recommended. A smothering agent will extinguish burning lithium batteries. Emergency Responders should wear self-contained breathing apparatus. Burning lithium manganese dioxide batteries produce toxic and corrosive lithium hydroxide fumes.

7. HANDLING AND STORAGE

Storage	Store in a cool, well ventilated area. Elevated temperatures can result in shortened battery life. In locations that handle large quantities of lithium batteries, such as warehouses, lithium batteries should be isolated from unnecessary combustibles.
Handling	Avoid mechanical and electrical abuse. Do not short circuit or install incorrectly. Batteries may rupture or vent if disassembled, crushed, recharged or exposed to high temperatures. Install batteries in accordance with equipment instructions.
Spills of Large Quantities Batteries (unpackaged)	Notify spill personnel of large spills. Irritating and flammable vapors may be released from leaking or ruptured batteries. Spread batteries apart to stop shorting. Eliminate all ignition sources. Evacuate area and allow vapors to dissipate. Clean-up personnel should wear appropriate PPE to avoid eye and skin contact and inhalation of vapors or fumes.

Risque d'incendie	Les piles peuvent se rompre ou fuir si elle est impliquée dans un incendie.
Moyens d'extinction	Utilisez tous les moyens d'extinction appropriés pour la région environnante.
Dangers particuliers résultant de la substance chimique	En cas d'incendie où des batteries au lithium sont présents, zone inondable avec de l'eau ou avec un ÉTOUFFER approprié incendie Classe d'extinction D pour le métal de lithium, comme Lith-X. L'eau ne peut pas éteindre les piles qui brûlent mais refroidir les batteries adjacentes et contrôler la propagation du feu. Les piles qui brûlent va se brûler. Pratiquement tous les feux impliquant des piles au lithium peuvent être contrôlées par les inondations avec de l'eau. Cependant, le contenu de la batterie réagiront avec l'eau et sous forme d'hydrogène gazeux. Dans un espace confiné, le gaz d'hydrogène peut former un mélange explosif. Dans cette situation, les agents étouffants sont recommandés. Un agent étouffant éteindra la combustion des batteries au lithium.
Précautions à prendre pour les pompiers	Équipe d'intervention doivent porter un appareil respiratoire autonome. La combustion des piles de dioxyde de manganèse au lithium produisent toxique et corrosif fumées lithium hydroxyde.

7. MANIPULATION ET STOCKAGE

Espace de rangement	Conserver dans un endroit frais et bien ventilé. Les températures élevées peuvent entraîner dans la vie de la batterie raccourcie. Dans les endroits qui traitent de grandes quantités de Les piles au lithium, tels que les entrepôts, les batteries au lithium doivent être isolés à partir de combustibles inutiles.
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Increase ventilation. Carefully collect batteries and place in appropriate container for disposal. Remove any spilled liquid with absorbent material and contain for disposal.

8. DISPOSAL CONSIDERATIONS

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

9. Transport information

<u>DOT</u>	NOT REGULATED
Proper Shipping Name	NON REGULATED
Hazard Class	N/A
<u>TDG</u>	Not regulated
<u>MEX</u>	Not regulated
<u>ICAO</u>	Not regulated
<u>IATA</u>	Not regulated
Proper Shipping Name	NON REGULATED
Hazard Class	N/A
<u>IMDG/IMO</u>	Not regulated
Hazard Class	N/A
Marine Pollutant	Product is a marine pollutant according to the criteria set by IMDG/IMO
<u>RID</u>	Not regulated

Manipulation Éviter les abus mécaniques et électriques. Ne pas court-circuiter ou installer correctement. Les piles peuvent se rompre ou de ventilation si elles sont démontées, écrasées, rechargées ou exposé à une forte températures. Installez les piles conformément aux instructions du fabricant.

Déversements de grandes quantités Batteries (non emballés) Informer le personnel de déversement de grands déversements. Irritant et vapeurs inflammables peuvent être libérés de fuites ou les piles endommagées. piles écarter pour arrêter les courts-circuits. éliminer tous les sources d'allumage. Évacuer la zone et laisser les vapeurs se dissipent. Le personnel de nettoyage devrait porter des EPI appropriés pour éviter les yeux et contact avec la peau et l'inhalation des vapeurs ou fumées. Augmenter la ventilation. batteries cueillent et les placer dans un récipient approprié pour disposition. Retirez tout liquide déversé avec une matière absorbante et contiennent pour l'élimination.

8. CONSIDERATIONS RELATIVES À L'ÉLIMINATION

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

9. Informations de transport

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ADR

Not regulated

ADN

Not regulated

10. REGULATORY INFORMATION

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

CAS No.	USA TSCA	EU EINECS	Japan ENCS	Korea ECL	China IECSC	Canada DSL
1313-13-9	Listed	Listed	Listed	Listed	Listed	Listed
7440-66-6	Listed	Not listed	Listed	Listed	Listed	Listed
1333-86-4	Listed	Listed	Listed	Listed	Listed	Listed
7732-18-5	Listed	Not listed	Listed	Listed	Listed	Listed
12125-02-9	Listed	Listed	Listed	Listed	Listed	Listed
9002-86-2	Listed	Listed	Listed	Listed	Listed	Listed
7439-89-6	Listed	Not listed	Listed	Listed	Listed	Listed
9003-07-0	Listed	Listed	Not listed	Listed	Listed	Not listed
7646-85-7	Listed	Not listed	Listed	Listed	Listed	Not listed

11. OTHER INFORMATION

TSCA: Toxic Substances Control Act, The American chemical inventory.

DSL: Domestic Substances List

EINECS: European Inventory of Existing Commercial chemical Substances

ENCS: Japanese Existing and New Chemical Substances

ECL: Existing Chemicals List, the Korean chemical inventory.

IECSC: Inventory of existing chemical substances in China.

Because all of our batteries are defined as "articles", they are exempted from the requirements of the Hazard Communication Standard. The information in this AIS is provided all the relevant data fully and truly. However, the information is provided without any warranty on their absolute extensiveness and accuracy. This AIS was prepared to provide safety preventive measures for

DOT

Non réglementé

Proper Shipping Name

Non réglementé

Hazard Class

N/A

TDG

Non réglementé

MEX

Non réglementé

ICAO

Non réglementé

IATA

Non réglementé

Proper Shipping Name

Non réglementé

Hazard Class

N/A

IMDG/IMO

Non réglementé

Hazard Class

N/A

Marine Pollutant Le produit est un polluant marin selon les critères fixés par l'IMDG/OMI

RID

Non réglementé

ADR

Non réglementé

10. INFORMATIONS RÉGLEMENTAIRES

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

N ° CAS.	Etats-Unis TSCA	UE Einecs	Japon ENCS	Corée ECL	Chine IECSC	Canada DSL
1313-13-9	Listed	Listed	Listed	Listed	Listed	Listed
7440-66-6	Listed	Non listé	Listed	Listed	Listed	Listed
1333-86-4	Listed	Listed	Listed	Listed	Listed	Listed
7732-18-5	Listed	Non listé	Listed	Listed	Listed	Listed
12125-02-9	Listed	Listed	Listed	Listed	Listed	Listed
9002-86-2	Listed	Listed	Listed	Listed	Listed	Listed
7439-89-6	Listed	Non listé	Listed	Listed	Listed	Listed
9003-07-0	Listed	Listed	Non listé	Listed	Listed	Non listé
7646-85-7	Listed	Non listé	Listed	Listed	Listed	Non listé

Article Information Sheet

Product name: Carbon Zinc-Manganese Dioxide
Battery

Printing date: 22-Sep-2022

Fiche d'information Article

Nom du produit: Pile au dioxyde de carbone

Date d'impression: 22-Sep-2022

the users who have got professional training. The personal user who obtained this AIS should make independent judgment for the applicability of this AIS under special conditions. In these special cases, we do not assume responsibility for the damage.

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

11. LES AUTRES INFORMATIONS

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

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

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

SDS

SAFETY DATA SHEET

Prepared For : JIEYANG AIR PORT AREA CHUANG GUAN
ENVIRONMENTAL PROTECTION NEW ENERGY
ELECTRONICS CO.,LTD.
MIDDLE SECTION OF RONGJING
ROAD,JINXIANMEN AVENUE,YUHU,JIEYANG
AIRPORT,GUANGDONG PROVINCE

Prepared By : Shenzhen LCS Compliance Testing Laboratory Ltd.
101, 201 Building A and 301 Building C, Juji
Industrial Park, Yabianxueziwei, Shajing Street,
Baoan District, Shenzhen, Guangdong, China

Issue Date : 2023.06.13

Report Number : KA2306120329A

Written by: Wendy

Approved by: Hu + Li



Safety Data Sheet

Version: V1.5

REPORT NO.: KA2306120329A

* The SDS is prepared based on the information provided by client. The contents and formats of this SDS are revised as per client's request.

Section 1- Identification

(a) Product identifier

Product name	Mercury-free alkaline manganese button cell
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(b) Other means of identification

Product description	Model: LR44 Nominal Voltage: 1.5V Weight: 2.0g
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(c) Recommended use of the chemical and restrictions on use

Recommended use	Alkaline Battery
Uses advised against	No information available.

(d) Details of the supplier of the safety data sheet

Applicant Name	JIEYANG AIR PORT AREA CHUANG GUAN ENVIRONMENTAL PROTECTION NEW ENERGY ELECTRONICS CO.,LTD.
Applicant Address	MIDDLE SECTION OF RONGJING ROAD,JINXIANMEN AVENUE,YUHU,JIEYANG AIRPORT,GUANGDONG PROVINCE
Manufacture Company	JIEYANG AIR PORT AREA CHUANG GUAN ENVIRONMENTAL PROTECTION NEW ENERGY ELECTRONICS CO.,LTD.
Manufacture Address	MIDDLE SECTION OF RONGJING ROAD,JINXIANMEN AVENUE,YUHU,JIEYANG AIRPORT,GUANGDONG PROVINCE
Supplier Phone Number	+86-663-8597319

(e) Emergency telephone number

+86-663-8597319

Section 2- Hazards Identification

(a) Classification

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). This product is an article which is a sealed battery and as such does not require an MSDS per the OSHA hazard communication standard unless ruptured. The hazards indicated are for a ruptured battery.

Harmful if swallowed	Category 4
Causes severe skin burns and eye damage	Category 1A

(b) GHS Label elements, including precautionary statements

Emergency Overview

Signal word	Danger
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Safety Data Sheet

Version: V1.5

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Hazard Statements

Harmful if swallowed
Causes severe skin burns and eye damage



Appearance: No information available

Physical State: Solid

Odor: No information available

P102	Keep out of reach of children.
P260 P261 P264 P270 P271 P280	Do not breathe dust/fume/gas/mist/vapours/spray Avoid breathing dust/fume/gas/mist/vapours/spray Wash ... thoroughly after handling Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area Wear protective gloves/protective clothing/eye protection/face protection
P301+P312 P330. P301+P330+P331 P303+P361+P353 P312 P330 P363 P304+P340 P310 P321 P305+P351+P338	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER/doctor if you feel unwell. Rinse mouth IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. Wash contaminated clothing before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor Specific treatment (see ... on this label). IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P405	Store locked up
P501	Dispose of contents/container to ...

(c) Hazards not otherwise classified (HNOC)

Not applicable

(d) Unknown Toxicity

88.8 % of the mixture consists of ingredient(s) of unknown toxicity
11.5 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
88.8 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
58.7 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
58.7 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
58.7 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

(e) Other information

Very toxic to aquatic life with long lasting effects.

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(f) Interactions with Other Chemicals

No information available.

Section 3- Composition/Information On Ingredients

Chemical Name	CAS Number	Weight (%)	Trade Secret
Manganese dioxide	1313-13-9	22.93	*
Zinc	7440-66-6	11.29	*
Iron	7439-89-6	49.5	*
Potassium hydroxide	1310-58-3	3.07	*
Graphite	7782-42-5	3.91	*
Water	7732-18-5	5.24	*
Nylon 66	32131-17-2	4.06	*

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

Section 4- First-aid Measures

Description of first aid measures

- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Immediately rinse with water.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

Section 5- Fire-fighting measures

(a) Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

(b) Unsuitable extinguishing media

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

(c) Specific Hazards Arising from the Chemical

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.

(d) Hazardous Combustion Products

Carbon oxides.

(e) Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6- Accidental Release Measures

(a) Personal precautions, protective equipment and emergency procedures

If the battery is released, remove personnel from area until fumes dissipate. Provide maximum ventilation to clear out hazardous gases. The preferred response is to leave the area and allow the vapors to dissipate. Avoid skin and eyes contact or inhalation of vapors. Remove spilled liquid with absorbent and incinerated. If leakage of the battery happens, liquid could be absorbed with sand, earth or other inert substance and contaminated area should be ventilated meantime.

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(b) Environment precautions

Do not allow product to reach sewage system or any water source.
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.

(c) Methods and material for containment and cleaning up

If battery casing is dismantled, small amounts of electrolyte may leak. Collect all released material in a plastic lined container. Dispose off according to the local law and rules. Avoid leached substances to get into the earth, canalization or waters.

Section 7- Handling and Storage

(a) Precautions for safe handling

Handling

Handle in accordance with good industrial hygiene and safety practice. Wear personal protective equipment. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.

(b) Conditions for safe storage, including any incompatibilities

Storage

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

Incompatible Products

Strong acids. Strong oxidizing agents. Strong bases

Section 8- Exposure Controls/Personal Protection

(a) Control parameters

Chemical Name	ACGIH TLV	OSHA PEL		NIOSH IDLH
Manganese dioxide 1313-13-9	TWA: 0.02 mg/m ³ Mn respirable particulate matter TWA: 0.1 mg/m ³ Mn inhalable particulate matter	(vacated) Ceiling: 5 mg/m ³ Ceiling: 5 mg/m ³ Mn		IDLH: 500 mg/m ³ Mn TWA: 1 mg/m ³ Mn STEL: 3 mg/m ³ Mn
Potassium hydroxide 1310-58-3	Ceiling: 2 mg/m ³	(vacated) Ceiling: 2 mg/m ³		Ceiling: 2 mg/m ³
Zinc 7440-66-6	STEL: 10 mg/m ³ respirable fraction TWA: 2 mg/m ³ respirable fraction	TWA: 5 mg/m ³ fume TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable fraction		IDLH: 500 mg/m ³ Ceiling: 15 mg/m ³ dust TWA: 5 mg/m ³ dust and fume STEL: 10 mg/m ³ fume
Carbo 7782-42-5	TWA: 2 mg/m ³ respirable particulate matter all forms except Carbo 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
Chemical name	Alberta	British Columbia	Ontario TWAEV	Quebec

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Manganese dioxide 1313-13-9	TWA: 0.2 mg/m ³	TWA: 0.2 mg/m ³	TWA: 0.02 mg/m ³ TWA: 0.1 mg/m	TWA: 0.2 mg/m ³
Potassium hydroxide 1310-58-3	Ceiling: 2 mg/m ³	Ceiling: 2 mg/m ³	CEV: 2 mg/m ³	Ceiling: 2 mg/m ³
Carbo 7782-42-5	TWA: 2 mg/m ³	TWA: 2 mg/m ³	TWA: 2 mg/m ³	TWA: 2 mg/m ³
Other Exposure Guidelines	Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962(11th Cir., 1992) .			

(b) Appropriate engineering controls

Engineering Measures	Showers Eyewash stations Ventilation systems
----------------------	--

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

Eye/Face Protection	Face protection shield.
Skin and body Protection	Wear protective gloves and protective clothing. Long sleeved clothing. Chemical resistant apron. Impervious gloves.
Respiratory Protection	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
Hygiene Measures	Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. For environmental protection, remove and wash all contaminated protective equipment before re-use.

Section 9- Physical and Chemical Properties

Form	Solid
Color	No information available
Odor	No information available
pH	No information available
Melting point/freezing point	No information available
Boiling Point and Boiling range	Not Available
Flash Point	Not Available
Upper/lower flammability or explosive limits	Not Available
Vapor Pressure	Not Available
Vapor Density	Not Available

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Relative density	Not Available
Solubility in Water	Not Available
Auto-ignition temperature	Not Available
Decomposition temperature	Not Available
Evaporation rate	Not Available
Flammability (soil, gas)	Not Available
Viscosity	Not Available
Section 10- Stability and reactivity	
Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of Hazardous Reactions	None under normal processing.
Hazardous Polymerization	Hazardous polymerization does not occur.
Conditions to avoid	Exposure to air or moisture over prolonged periods. Excessive heat.
Incompatible materials	Acids. Bases. Oxidizing agent.
Hazardous Decomposition Products	Carbon oxides.
Section 11 – Toxicological Information	
Product Information	Product does not present an acute toxicity hazard based on known or supplied information In case of rupture:
Irritation	Specific test data for the substance or mixture is not available. Corrosive by inhalation.(based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal. Harmful by inhalation.
Eye contact	Specific test data for the substance or mixture is not available. Causes burns. (based on components). Corrosive to the eyes and may cause severe damage including blindness. Causes serious eye damage. May cause irreversible damage to eyes.
Skin contact	Specific test data for the substance or mixture is not available. Corrosive. (based on components). Causes burns.
Ingestion	Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth

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	and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.		
Information on toxicological effects			
Symptoms	Redness. Burning. May cause blindness. Coughing and/ or wheezing.		
Numerical measures of toxicity			
Acute Toxicity The following values are calculated based on chapter 3.1 of the GHS document . ATEmix (oral) 749.00 mg/kg ATEmix (inhalation-gas) 6,174.00 mg/L ATEmix (inhalation-dust/mist) 2.06 mg/L ATEmix (inhalation-vapor) 15.09 mg/L			
Unknown acute toxicity 88.8 % of the mixture consists of ingredient(s) of unknown toxicity 11.5 % of the mixture consists of ingredient(s) of unknown acute oral toxicity 88.8 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity 58.7 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas) 58.7 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor) 58.7 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)			
Component Information			
Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Iron 7439-89-6	= 984 mg/kg (Rat)	-	-
Manganese dioxide 1313-13-9	= 9000 mg/kg (Rat)	-	-
Potassium hydroxide 1310-58-3	= 284 mg/kg (Rat)	-	-
Delayed and immediate effects as well as chronic effects from short and long-term exposure			
Skin corrosion/irritation	Classification based on data available for ingredients. Causes burns.		
Serious eye damage/eye irritation	Classification based on data available for ingredients. Risk of serious damage to eyes. Causes burns.		
Respiratory or skin sensitization	No information available.		
Germ cell mutagenicity	No information available.		
Carcinogenicity	No information available.		
Reproductive toxicity	No information available.		
STOT - single exposure	No information available.		
STOT - repeated exposure	No information available.		

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Aspiration hazard		No information available.		
Section 12- Ecological Information				
Ecological Toxicity		Very toxic to aquatic life with long lasting effects.		
Chemical name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Iron 7439-89-6	-	96h LC50: = 13.6 mg/L (Morone saxatilis)	-	-
Potassium hydroxide 1310-58-3	-	96h LC50: = 80 mg/L (Gambusia affinis)	-	-
Zinc 7440-66-6	96h EC50: 0.11 - 0.271 mg/L (Pseudokirchneriella subcapitata) 72h EC50: 0.09 - 0.125 mg/L (Pseudokirchneriella subcapitata)	96h LC50: = 3.5 mg/L (Lepomis macrochirus) 96h LC50: = 7.8 mg/L (Cyprinus carpio) 96h LC50: = 0.24 mg/L (Oncorhynchus mykiss) 96h LC50: = 0.59 mg/L (Oncorhynchus mykiss) 96h LC50: = 0.41 mg/L (Oncorhynchus mykiss) 96h LC50: 0.211 - 0.269 mg/L (Pimephales promelas) 96h LC50: = 2.66 mg/L (Pimephales promelas) 96h LC50: = 30 mg/L (Cyprinus carpio) 96h LC50: = 0.45 mg/L (Cyprinus carpio) 96h LC50: 2.16 - 3.05 mg/L (Pimephales promelas)	-	48h EC50: 0.139 - 0.908 mg/L
Persistence and Degradability		No information available.		
Bioaccumulation				
Chemical name			Log Pow	
Manganese dioxide 1313-13-9			<0	
Potassium hydroxide 1310-58-3			0.83	
Section 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.		

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Contaminated packaging	Do not reuse empty containers.
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
Potassium hydroxide 1310-58-3	Toxic Corrosive
Zinc 7440-66-6	Ignitable powder Toxic
Section 14 – Transport Information	
DOT Proper Shipping Name Hazard Class	NOT REGULATED NOT REGULATED N/A
TDG	NOT REGULATED
MEX	NOT REGULATED
ICAO	NOT REGULATED
IATA Proper Shipping Name Hazard Class	NOT REGULATED NON REGULATED N/A
IMDG/IMO Hazard Class Marine Pollutant	NOT REGULATED N/A Product is a marine pollutant according to the criteria set by IMDG/IMO
RID	NOT REGULATED
ADR	NOT REGULATED
ADN	NOT REGULATED
Section 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.

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Legend

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

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

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

<u>Chemical name</u>	<u>CAS-No</u>	<u>Percent</u>	<u>SARA 313 - Threshold Values %</u>
Manganese dioxide - 1313-13-9	1313-13-9	30.1	1.0
Zinc - 7440-66-6	7440-66-6	8.2	1.0

Acute Health Hazard No

Chronic Health Hazard No

Fire Hazard No

Sudden release of pressure hazard No

Reactive Hazard No

CWA (Clean Water Act)

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

<u>Chemical name</u> <u>CWA - Reportable</u>	<u>Quantities</u>	<u>CWA - Toxic Pollutants CWA - Priority</u>	<u>Pollutants</u>	<u>CWA - Hazardous</u>
Potassium hydroxide 1310-58-3	1000 lb			X
Zinc 7440-66-6		X	X	

CERCLA

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

<u>Chemical name</u>	<u>Hazardous Substances RQs</u>	<u>Extremely Hazardous Substances RQs</u>	<u>RQ</u>
Potassium hydroxide	1000 lb		RQ 1000 lb final RQ

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1310-58-3			RQ 454 kg final RQ
Zinc 7440-66-6	1000 lb		RQ 454 kg final RQ RQ 1000 lb final RQ

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

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

Chemical name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Manganese dioxide 1313-13-9	X		X	X	X
Potassium hydroxide 1310-58-3	X	X	X	X	
Zinc 7440-66-6	X	X	X	X	
Carbo 7782-42-5	X	X	X		

Section 16- Other Information

NFPA Health hazards 1 Flammability 0 Instability 0 Physical and Chemical Properties -

HMIS Health hazards 0 Flammability 0 Physical hazards 0 Personal Protection X

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

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In Accordance with OSHA Standard 1910.1200 App D (USA)

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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.

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- (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

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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.

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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 inert 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.

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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 |

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(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

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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.

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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).

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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.

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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.

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- (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

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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.

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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 inert 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.

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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 |

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(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

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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.

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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).

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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.