

Printing date 18.12.2020

Revision: 18.12.2020

1 Identification

Product Name: Rechargeable Lithium Ion Battery

Recommended Use of the Chemical and Restriction on Use: Battery

Details of Manufacturer or Importer:

Adventure Operations
 3/20 Enterprise Drive,
 Bundoora VIC 3083

Phone Number: 1300 657 022

Emergency telephone number: 1300 657 022

2 Hazard(s) Identification

Hazardous Nature:

Not classified as Hazardous according to the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) and Safe Work Australia criteria.

Not classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. (7th edition)



health hazard

Carcinogenicity 2

H351 Suspected of causing cancer.

STOT RE 2

H373 May cause damage to organs through prolonged or repeated exposure.



corrosion

Serious Eye Damage/Irritation 1 H318 Causes serious eye damage.



Skin Corrosion/Irritation 2

H315 Causes skin irritation.

Skin Sensitisation 1

H317 May cause an allergic skin reaction.

Signal Word Danger

Hazard Statements

H315 Causes skin irritation.

H318 Causes serious eye damage.

H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer.

H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary Statements

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P264 Wash thoroughly after handling.

P272 Contaminated work clothing should not be allowed out of the workplace.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

P302+P352 IF ON SKIN: Wash with plenty of water.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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P310	Immediately call a POISON CENTER/doctor.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P321	Specific treatment (see on this label).
P314	Get medical advice/attention if you feel unwell.
P362+P364	Take off contaminated clothing and wash it before reuse.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national regulations.

3 Composition and Information on Ingredients

Chemical Characterization: Mixtures

Description: Mixture of substances listed below with nonhazardous additions.

Hazardous Components:

CAS: 346417-97-8	Lithium nickel manganese cobalt oxide	36.3%
	☠ Carcinogenicity 2, H351; ⚠ Skin Sensitisation 1, H317	
CAS: 7782-42-5	Graphite	19.4%
CAS: 7439-89-6	Iron	17.0%
	☠ Flammable Solids 1, H228	
CAS: 7440-50-8	Copper	6.7%
CAS: 96-49-1	1,3-Dioxolan-2-one	2.8%
	☠ Serious Eye Damage/Irritation 1, H318	
CAS: 7429-90-5	Aluminium	2.7%
CAS: 21324-40-3	Phosphate(1-), hexafluoro-, lithium	1.8%
	☠ Acute Toxicity (Oral) 3, H301; ☠ STOT RE 1, H372; ☠ Skin Corrosion/Irritation 1A, H314; ☠ Serious Eye Damage/Irritation 1, H318	
CAS: 7440-02-0	Nickel	0.3%
	☠ Carcinogenicity 2, H351; STOT RE 1, H372; ⚠ Skin Sensitisation 1, H317	

Additional information:

The battery is sealed hermetically and designed to withstand temperatures and pressures encountered during normal use. Thus, the ingredients have no hazardous potential except if the battery is ruptured or dismantled. If exposed to a fire, mechanical shocks, and electric stress by misuse, the battery cell case will be breached, hazardous materials and acrid gas may be released. Therefore, the batteries should not be short circuited, overcharged, punctured, incinerated, immersed in water, force discharged or exposed to temperatures above the temperature range of the cell or battery.

4 First Aid Measures

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical attention if breathing problems develop. This information is relevant only if the battery is broken and contents are exposed.

Skin Contact:

In case of skin contact, immediately remove contaminated clothing and wash affected areas with water and soap for at least 15 minutes. Seek medical attention if symptoms occur. This information is relevant only if the battery is broken and contents are exposed.

Eye Contact:

In case of eye contact, rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention. This information is relevant only if the battery is broken and contents are exposed.

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Ingestion:

If swallowed, do not induce vomiting if patient is unconscious. Rinse mouth with water. Dilute with at least two glasses of milk or water. Do not give anything by mouth to an unconscious person. Seek immediate medical attention.

This information is relevant only if the battery is broken and contents are exposed.

Symptoms Caused by Exposure:

Inhalation: Contents of an open battery may cause respiratory irritation.

Skin Contact: Contents of an open battery causes skin irritation and may cause an allergic skin reaction.

Eye Contact: Contents of an open battery causes serious eye damage.

Ingestion: Contents of an open battery may cause gastrointestinal irritation, nausea, vomiting, and diarrhoea.

5 Fire Fighting Measures

Suitable Extinguishing Media: Use water spray or carbon dioxide.

Specific Hazards Arising from the Chemical:

Hazardous combustion products include carbon monoxide, carbon dioxide, and lithium oxide fumes.

This product is not flammable, but organic ingredients will burn in a fire. If subjected to excessive heat >70 °C, batteries may vent/burst and release hazardous flammable or corrosive materials.

Batteries close to fire should be removed if safe to do so. Use water spray to cool fire exposed batteries.

Minimise firefighting run-off from entering drains or water courses.

Hazchem: 2Y

Special Protective Equipment and Precautions for Fire Fighters:

When fighting a major fire wear self-contained breathing apparatus and protective equipment.

6 Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures:

Wear approved respiratory protection, safety glasses with side shields or chemical goggles, chemical-resistant gloves, impervious protective clothing and safety boots. Evacuate all non-essential personnel from affected area. Do not breathe vapours. Ensure adequate ventilation. Do not touch or walk through spilled material.

Environmental Precautions:

In the event of a major spill, prevent spillage from entering soil, drains, or water courses.

Methods and Materials for Containment and Cleaning Up:

Absorb spilled liquid with sand, earth, or some other inert absorbent material. Carefully collect batteries and place in an appropriate plastic lined container for disposal. Provide adequate ventilation. Clean the area of spill with water and detergent.

7 Handling and Storage

Precautions for Safe Handling:

Use of safe work practices are recommended to avoid eye or skin contact and inhalation of vapours.

Avoid mechanical or electrical abuse.

DO NOT short circuit or install incorrectly.

Batteries may explode, pyrolyze or vent if disassembled, crushed, overcharged or exposed to high temperatures.

Food, beverages and tobacco products should not be stored or consumed where this material is in use. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use. Provide eyewash fountains and safety showers in close proximity to points of potential exposure.

Conditions for Safe Storage:

Store in a cool, dry and well ventilated area. Protect from direct sunlight, open flames and heat above 70 °C.

Keep away from strong oxidising agents, acids, bases and humidity. Do not store with other metal objects where they may be short circuited. Do not install with incorrect polarity.

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8 Exposure Controls and Personal Protection

Exposure Standards:	
CAS: 7782-42-5 Graphite	
WES	TWA: 3 mg/m ³
CAS: 7440-50-8 Copper	
WES	TWA: 1* 0.2** mg/m ³ *dust & mists (as Cu) **fume
CAS: 7429-90-5 Aluminium	
WES	TWA: 10* 5** mg/m ³ *metal dust; **welding, pyro powders
CAS: 7440-02-0 Nickel	
WES	TWA: 1 mg/m ³ Metal: Sen

Engineering Controls:

Provide local exhaust ventilation or other engineering controls to keep the airborne concentrations of dust, mist, fumes and vapour below occupational exposure standards.

Respiratory Protection: Respiratory protection is not required under normal use conditions.

Skin Protection:

Skin protection is not required under normal use conditions.

Use suitable chemical resistant gloves, impervious clothing, and safety boots if handling an open or leaking battery.

Eye and Face Protection:

Eye protection is not required under normal use conditions.

Wear safety glasses with sideshields or chemical goggles if handling an open or leaking battery.

9 Physical and Chemical Properties

Appearance:

Form:	Solid
Colour:	Black
Odour:	No information available
Odour Threshold:	No information available
pH-Value:	No information available
Melting point/freezing point:	No information available
Initial Boiling Point/Boiling Range:	No information available
Flash Point:	No information available
Flammability:	Product is not flammable.
Ignition Temperature	No information available
Auto-ignition Temperature:	No information available
Decomposition Temperature:	No information available
Explosion Limits:	
Lower:	No information available
Upper:	No information available
Vapour Pressure:	Not applicable
Density:	No information available
Vapour Density:	Not applicable
Solubility in Water:	Insoluble

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Partition Coefficient (n-octanol/water): No information available

10 Stability and Reactivity

Possibility of Hazardous Reactions: No dangerous reactions known under conditions of normal use.**Chemical Stability:** Stable at ambient temperature and under normal conditions of storage and use.**Conditions to Avoid:**

Direct sunlight, open flames and heat above 70 °C. Exposure over a long period time to humid conditions. Do not disassemble, crush or short circuit. Avoid mechanical or electrical abuse. Do not install with the incorrect polarity.

Incompatible Materials: Strong oxidising agents, acids, bases and water.**Hazardous Decomposition Products:**

Hazardous combustion products include carbon monoxide, carbon dioxide, and lithium oxide fumes.

11 Toxicological Information

Toxicity:**LD50/LC50 Values Relevant for Classification:****CAS: 7439-89-6 Iron**

Oral LD50 984 mg/kg (rat)

CAS: 7440-50-8 Copper

Oral LD50 >2,000 mg/kg (rat)

CAS: 96-49-1 1,3-Dioxolan-2-one

Oral LD50 10,000 mg/kg (rat)

CAS: 7440-02-0 Nickel

Oral LD50 >9,000 mg/kg (rat)

Acute Health Effects**Inhalation:** Contents of an open battery may cause respiratory irritation.**Skin:** Contents of an open battery causes skin irritation and may cause an allergic skin reaction.**Eye:** Contents of an open battery causes serious eye damage.**Ingestion:** Contents of an open battery may cause gastrointestinal irritation, nausea, vomiting, and diarrhoea.**Skin Corrosion / Irritation:** Causes skin irritation.**Serious Eye Damage / Irritation:** Causes serious eye damage.**Respiratory or Skin Sensitisation:** May cause an allergic skin reaction.**Germ Cell Mutagenicity:** Based on classification principles, the classification criteria are not met.**Carcinogenicity:**

Suspected of causing cancer.

Nickel, metallic is classified by IARC as Group 2B - Possibly carcinogenic to humans.

Polyethylene is classified by IARC as Group 3 - Not classifiable as to its carcinogenicity to humans.

Reproductive Toxicity: Based on classification principles, the classification criteria are not met.**Specific Target Organ Toxicity (STOT) - Single Exposure:**

Based on classification principles, the classification criteria are not met.

Specific Target Organ Toxicity (STOT) - Repeated Exposure:

May cause damage to organs through prolonged or repeated exposure.

Aspiration Hazard: Based on classification principles, the classification criteria are not met.

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Chronic Health Effects: No information available.**Existing Conditions Aggravated by Exposure:** No information available.**Additional toxicological information:** No information available.

12 Ecological Information

Ecotoxicity:**Aquatic toxicity:****CAS: 7439-89-6 Iron**

LC50/96 h 0.56 mg/l (carp)

CAS: 7440-50-8 Copper

EC50/48 h 0.792 mg/l (daphnia)

EC50/72 h 0.333 mg/l (algae)

LC50/96 h 0.0068-0.0156 mg/l (fathead minnow)

0.0081 mg/l (fish)

CAS: 7440-02-0 Nickel

EC50/48 h 1 mg/l (daphnia)

LC50/96 h 1.3 mg/l (carp)

Persistence and Degradability: No further relevant information available.**Bioaccumulative Potential:** No further relevant information available.**Mobility in Soil:** No further relevant information available.**Other adverse effects:** No further relevant information available.

13 Disposal Considerations

Disposal Methods and Containers: Dispose according to applicable local and state government regulations.**Special Precautions for Landfill or Incineration:**

Please consult your state Land Waste Management Authority for more information.

14 Transport Information

UN Number**ADG, IMDG, IATA**

UN3481

Proper Shipping Name**ADG, IMDG, IATA**

LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT

Dangerous Goods Class**ADG Class:**

9 Miscellaneous dangerous substances and articles.

Subsidiary Risk:**Packing Group:**

Not applicable

Marine pollutant:**EMS Number:**

F-A,S-B

Hazchem Code:

2Y

Special Provisions:

188, 230, 310, 348, 360, 376, 377, 384, 387

Limited Quantities:

0

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Packagings & IBCs - Packing Instruction: P903, P908, P909, P910, P911, LP903, LP904, LP905, LP906

15 Regulatory Information

Australian Inventory of Industrial Chemicals:

All ingredients are listed.

Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Poison Schedule:
 Not Scheduled.

Australia: Priority Existing Chemicals

None of the ingredients is listed.

16 Other Information

Date of Preparation or Last Revision: 18.12.2020**Prepared by:** MSDS.COM.AU Pty Ltdwww.msds.com.au
Abbreviations and acronyms:

ADG: Australian Dangerous Goods

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

IARC: International Agency for Research on Cancer

STEL: Short Term Exposure Limit

TWA: Time Weighted Average

NES: National Exposure Standard (Safe Work Australia - Workplace Exposure Standards For Airborne Contaminants)

Flammable Solids 1: Flammable solids – Category 1

Acute Toxicity (Oral) 3: Acute toxicity - oral – Category 3

Skin Corrosion/Irritation 1A: Skin corrosion/irritation – Category 1A

Skin Corrosion/Irritation 2: Skin corrosion/irritation – Category 2

Serious Eye Damage/Irritation 1: Serious eye damage/eye irritation – Category 1

Skin Sensitisation 1: Skin sensitisation, Hazard Category 1

Carcinogenicity 2: Carcinogenicity – Category 2

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

Disclaimer

This SDS is prepared in accord with the Safe Work Australia document “Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals - July 2020”

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