Safety Data Sheet
according to WHS Regulations

Printing date 01.09.2021 Revision: 24.08.2021

1 Identification

Product Name: Lithium Ion Battery (FR Flashlight)

Other Means of Identification: Battery
Part Number: 10000438/10000439

Recommended Use of the Chemical and Restriction on Use: Battery

Details of Manufacturer or Importer:
Adventure Operations
3/20 Enterprise Drive
Bundoora, VIC 3083
Australia

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.
Classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail (7th edition).


Skull and crossbones

Acute Toxicity (Inhalation) 2	H330	Fatal if inhaled.


Health hazard

Respiratory Sensitisation 1	H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Carcinogenicity 2	H351	Suspected of causing cancer.
Toxic To Reproduction 1B	H360	May damage fertility or the unborn child.
STOT RE 1	H372	Causes damage to organs through prolonged or repeated exposure.


Corrosion

Skin Corrosion/Irritation 1A	H314	Causes severe skin burns and eye damage.
Serious Eye Damage/Irritation 1	H318	Causes serious eye damage.

Acute Toxicity (Oral) 4	H302	Harmful if swallowed.
Skin Sensitisation 1	H317	May cause an allergic skin reaction.

Signal Word Danger

Hazard Statements
H302 Harmful if swallowed.
H330 Fatal if inhaled.

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H314 Causes severe skin burns and eye damage.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer.
H360 May damage fertility or the unborn child.
H372 Causes 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 dusts or mists.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P284	[In case of inadequate ventilation] wear respiratory protection.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P320	Specific treatment is urgent (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.
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
P363	Wash contaminated clothing before reuse.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
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: 12190-79-3	Lithium cobaltite Acute Toxicity (Inhalation) 2, H330; Respiratory Sensitisation 1, H334; Toxic To Reproduction 1B, H360; STOT RE 1, H372	30-60%
CAS: 21324-40-3	Phosphate(1-), hexafluoro-, lithium Acute Toxicity (Oral) 3, H301; STOT RE 1, H372; Skin Corrosion/ Irritation 1A, H314; Serious Eye Damage/Irritation 1, H318	10-30%
CAS: 7440-02-0	Nickel Carcinogenicity 2, H351; STOT RE 1, H372; Skin Sensitisation 1, H317	1-5%
Non Hazardous Components:		
CAS: 7782-42-5	Graphite	10-30%
CAS: 9002-86-2	Polyvinyl chloride	1-5%
CAS: 7429-90-5	Aluminium foil	1-5%

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CAS: 7440-50-8	Copper	5-10%

Additional information:
The battery is sealed hermetically and designed to withstand temperatures and pressures encountered during normal use. Thus, the ingredients have no hazard potential except if the battery is violated or dismantled. If exposed to a fire, mechanical shocks, and electric stress by miss-use, the battery cell case will be breached and the hazardous materials may be released and acrid gas may be emitted. 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 the contents of an open battery are inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical attention immediately.

Skin Contact:
In case of skin contact with the contents of an open battery, immediately remove contaminated clothing and wash affected areas with water and soap for at least 15 minutes. Seek medical attention immediately.

Eye Contact:
In case of eye contact with the contents of an open battery, rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention immediately.

Ingestion:
If the contents of an open battery are swallowed, induce vomiting unless patient is unconscious. Keep head below hips to prevent aspiration. Give at least two glasses of milk or water. Do not give anything by mouth to an unconscious person. Seek immediate medical attention.

Symptoms Caused by Exposure:
Inhalation: The contents of an open battery are fatal if inhaled. May cause allergy or asthma symptoms or breathing difficulties.
Skin Contact: The contents of an open battery cause severe skin burns. May cause an allergic skin reaction.
Eye Contact: The contents of an open battery cause serious eye damage.
Ingestion: The contents of an open battery are harmful if swallowed. May cause burns to the mouth and throat.

5 Fire Fighting Measures

Suitable Extinguishing Media: Water and carbon dioxide.

Specific Hazards Arising from the Chemical:
Hazardous combustion products include carbon monoxide, carbon dioxide, and lithium oxide fumes.
The cell may vent when subjected to excessive heat, exposing hazardous battery contents.
Containers close to fire should be removed only if safe to do so. Use water spray to cool fire exposed containers.
Minimise run-off from fire fighting entering measures drains or water courses.
HAZCHEM Code: 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:
If the battery inner contents are released, wear approved respiratory protection, chemical resistant gloves, protective clothing and safety boots. Evacuate all non-essential personnel from affected area. Do not breathe vapours. Ensure adequate ventilation.

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

Methods and Materials for Containment and Cleaning Up:
Stop leak if safe to do so and absorb spill with sand, earth, vermiculite or some other absorbent material.
Collect the spilled material and place into a suitable container for disposal.

7 Handling and Storage

Precautions for Safe Handling:
Charge according to manufacturer's specifications.
Do not overcharge, short-circuit, force discharge, disassemble, crush, deform, expose to high temperatures or incinerate. Do not allow battery terminals to contact each other or other metals. Do not weld, solder or in any way modify batteries. Do not damage or remove the external casing. Ensure batteries are installed with the correct polarity.
Use of safe work practices are recommended to avoid eye or skin contact and inhalation of vapours. Use only outdoors or in a well-ventilated area.
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:
Storage preferably in cool, dry and well ventilated area. Avoid exposure to air over prolonged periods. Ensure battery terminals are protected during storage. Batteries must be packed in a manner to prevent short circuits. Loose batteries should not be stored in bulk. Protect from mechanical and electrical abuse such as short circuiting, overcharging, installing with incorrect polarity, disassembling or crushing. Protect from heat (such as temperatures above 70ºC), sparks, open flames and direct sunlight. Avoid excessive moisture. Keep away from oxidising agents, bases, mineral acids, water, and halogenated hydrocarbons.

8 Exposure Controls and Personal Protection

Exposure Standards:	
CAS: 7440-50-8 Copper	
WES	TWA: 1* 0.2** mg/m³ *dust & mists (as Cu) **fume
CAS: 7429-90-5 Aluminium foil	
WES	TWA: 10* 5** mg/m³ *metal dust;**welding, pyro powders
CAS: 7440-02-0 Nickel	
WES	TWA: 1 mg/m³ Metal: Sen
CAS: 7782-42-5 Graphite	
WES	TWA: 3 mg/m³

Engineering Controls:
Natural ventilation is appropriate under normal conditions. Ensure adequate ventilation of the area if the battery contents are exposed.

Respiratory Protection:
Respiratory protection is not required under normal use conditions.
Use an approved respirator if battery inner contents are exposed. See Australian Standards AS/NZS 1715 and 1716 for more information.

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Skin Protection:
Skin protection is not required under normal use conditions.
Chemical resistant gloves if battery inner contents are exposed. See Australian/New Zealand Standard AS/NZS 2161 for more information. When selecting gloves for use against certain chemicals, the degradation resistance, permeation rate and permeation breakthrough time should be considered.
Occupational protective clothing if battery inner contents are exposed (depending on conditions in which it has to be used, in particular as regards the period for which it is worn, which shall be determined on the basis of the seriousness of the risk, the frequency of exposure to the risk, the characteristics of the workstation of each worker and the performance of the protective clothing). See Australian/New Zealand Standard AS/NZS 4501 for more information.

Eye and Face Protection:
Eye protection is not required under normal use conditions.
Wear safety glasses with side shields if battery inner contents are exposed. See Australian/New Zealand Standard AS/NZS 1337 for more information.

9 Physical and Chemical Properties

Appearance:	
Form:	Cylindrical solid
Colour:	No information available
Odour:	If leaking, smells of medical ether
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:	Not applicable.
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:	No information available
Density:	No information available
Relative Density:	No information available
Vapour Density:	No information available
Evaporation Rate:	No information available
Solubility in Water:	No information available
Partition Coefficient (n-octanol/water):	No information available
Viscosity:	No information available

10 Stability and Reactivity

Possibility of Hazardous Reactions:
The inner contents of the battery may react with strong oxidising agents, mineral acids, strong bases, and halogenated hydrocarbons if leaked.

Chemical Stability: Stable at ambient temperature and under normal conditions of storage and use.

Conditions to Avoid:
Protect from mechanical and electrical abuse. Keep away from temperatures above 70ºC. Protect from excess moisture, heat, sparks, open flames, and direct sunlight.

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Incompatible Materials: Incompatible with oxidising agents, 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: 7440-50-8 Copper		
Oral	LD50	>2,000 mg/kg (rat)
CAS: 7440-02-0 Nickel		
Oral	LD50	>9,000 mg/kg (rat)

Acute Health Effects
Inhalation:
The contents of an open battery are fatal if inhaled. May cause allergy or asthma symptoms or breathing difficulties.
Skin: The contents of an open battery cause severe skin burns. May cause an allergic skin reaction.
Eye: The contents of an open battery cause serious eye damage.
Ingestion:
The contents of an open battery are harmful if swallowed. May cause burns to the mouth and throat.

Skin Corrosion / Irritation: Causes severe skin burns.

Serious Eye Damage / Irritation: Causes serious eye damage.

Respiratory or Skin Sensitisation:
May cause an allergic skin reaction.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Germ Cell Mutagenicity: Based on classification principles, the classification criteria are not met.

Carcinogenicity:
Nickel is classified by IARC as Group 2B - Possibly carcinogenic to humans.
Polyvinyl chloride is classified by IARC as Group 3 - Not classifiable as to its carcinogenicity to humans.
Suspected of causing cancer.

Reproductive Toxicity: May damage fertility or the unborn child.

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

Specific Target Organ Toxicity (STOT) - Repeated Exposure:
Causes damage to organs through prolonged or repeated exposure.

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

Chronic Health Effects: No information available

Existing Conditions Aggravated by Exposure: No information available

12 Ecological Information

Ecotoxicity:

Aquatic toxicity:	
CAS: 7440-50-8 Copper	
EC50/48 h	0.792 mg/l (daphnia)

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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: Slowly biodegradable.

Bioaccumulative Potential: No information available

Mobility in Soil: No 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:

Marine pollutant:

EMS Number: F-A,S-I

Hazchem Code: 2Y

Special Provisions: 188, 230, 310, 348, 360, 376, 377, 384, 387

Limited Quantities: 0

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 a scheduled poison.

16 Other Information

Date of Preparation or Last Revision: 24.08.2021

Prepared by: MSDS.COM.AU Pty Ltd www.msds.com.au

Abbreviations and acronyms:
ADG: Australian Dangerous Goods
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association

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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)
Acute Toxicity (Oral) 3: Acute toxicity - oral – Category 3
Acute Toxicity (Oral) 4: Acute toxicity - oral – Category 4
Acute Toxicity (Inhalation) 2: Acute toxicity - inhalation – Category 2
Skin Corrosion/Irritation 1A: Skin corrosion/irritation – Category 1A
Serious Eye Damage/Irritation 1: Serious eye damage/eye irritation – Category 1
Respiratory Sensitisation 1: Respiratory sensitisation, Hazard Category 1
Skin Sensitisation 1: Skin sensitisation, Hazard Category 1
Carcinogenicity 2: Carcinogenicity – Category 2
Toxic To Reproduction 1B: Reproductive toxicity – Category 1B
STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

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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