

1 Identification

Product Name: Li-ion Battery 1000072

Other Means of Identification: Mixture

Other Name: Model: 18650/3S28P

Recommended Use of the Chemical and Restriction on Use: Electrical storage

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.

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. Route of exposure: Inhalation.

Toxic To Reproduction 1B H360 May damage fertility or the unborn child.

STOT RE 1 H372-H373 Causes damage to the bones and the teeth through prolonged or repeated exposure. Route of exposure: Inhalation. May cause damage to the respiratory system through prolonged or repeated exposure. Route of exposure: Inhalation.



corrosion

Skin Corrosion/Irritation 1A H314 Causes severe skin burns and eye damage.

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



environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



Safety Data Sheet

according to WHS Regulations

Printing date 29.01.2021

Revision: 29.01.2021

Product Name: Li-ion Battery 1000072

(Contd. of page 1)

Acute Toxicity (Oral) 4	H302	Harmful if swallowed.
Skin Sensitisation 1	H317	May cause an allergic skin reaction.
Aquatic Acute 2	H401	Toxic to aquatic life.

Signal Word Danger**Hazard Statements**

H302	Harmful if swallowed.
H330	Fatal if inhaled.
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. Route of exposure: Inhalation.
H360	May damage fertility or the unborn child.
H372-H373	Causes damage to the bones and the teeth through prolonged or repeated exposure. Route of exposure: Inhalation. May cause damage to the respiratory system through prolonged or repeated exposure. Route of exposure: Inhalation.
H411	Toxic to aquatic life with long lasting effects.

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.
P273	Avoid release to the environment.
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.
P391	Collect spillage.
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.

Additional Information

This product is considered as a manufactured article and so is exempt from GHS classification. The classifications listed above refer to the contents of this battery. Users will not be exposed to the contents during normal use, but hazardous materials may be released if the battery is subjected to fire, mechanical shocks, or misuse.

(Contd. on page 3)

Safety Data Sheet

according to WHS Regulations

Printing date 29.01.2021

Revision: 29.01.2021

Product Name: Li-ion Battery 10000072

(Contd. of page 2)

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 colbaltite ⚠ Acute Toxicity (Inhalation) 2, H330; ⚠ Respiratory Sensitisation 1, H334; Toxic To Reproduction 1B, H360; STOT RE 1, H372	15 - 40%
CAS: 7782-42-5	Graphite	10 - 30%
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: 7440-50-8	Copper	7 - 13%
CAS: 7429-90-5	Aluminium	5 - 10%
CAS: 7440-02-0	Nickel ⚠ Carcinogenicity 2, H351; STOT RE 1, H372; ⚠ Skin Sensitisation 1, H317	1 - 5%

Additional information:

The battery is sealed 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 misuse, the battery case will be breached and the hazardous materials may be released. Therefore the batteries should not be short circuited, overcharged, punctured, incinerated, immersed in water, forced to discharge or exposed to temperatures above the temperature range of the cell or battery.

4 First Aid Measures

Inhalation:

If the contents of an opened battery are inhaled, remove to fresh air. If not breathing, give artificial respiration. Seek immediate medical attention.

Skin Contact:

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

Eye Contact:

In case of eye contact with the contents of an opened battery, hold eyelids open and rinse with water for at least 15 minutes. Seek immediate medical attention.

Ingestion:

If the contents of an opened battery are swallowed, induce vomiting unless patient is unconscious. Rinse mouth with water and give water or milk to drink. Never give anything by mouth to an unconscious person. Seek immediate medical attention.

Symptoms Caused by Exposure:

Inhalation: Contents of an opened battery are fatal if inhaled. Battery contents may also cause respiratory irritation, and allergy or asthma symptoms or breathing difficulties if inhaled.

Skin Contact: Contents of an opened battery causes severe skin burns. May cause an allergic skin reaction.

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

Ingestion: Contents of an opened battery are harmful if swallowed and may cause irritation or burns to the mouth, throat and gastrointestinal tract.

5 Fire Fighting Measures

Suitable Extinguishing Media: Water fog or carbon dioxide.

(Contd. on page 4)

Safety Data Sheet

according to WHS Regulations

Printing date 29.01.2021

Revision: 29.01.2021

Product Name: Li-ion Battery 1000072

(Contd. of page 3)

Specific Hazards Arising from the Chemical:

Hazardous combustion products include carbon monoxide, carbon dioxide and lithium oxide fumes. Batteries may rupture or explode if exposed to high temperatures, releasing hazardous contents. Batteries close to fire should be removed if safe to do so. Prevent firefighting run-off from entering drains and 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 and protective equipment. Evacuate all non-essential personnel from affected area. Do not breathe vapours. Ensure adequate ventilation. Extinguish all sources of ignition. Avoid sparks and open flames. No smoking

Environmental Precautions:

In the event of a major spill, prevent spillage from entering drains or water courses. Inform respective authorities in case of seepage into water course or sewage system.

Methods and Materials for Containment and Cleaning Up:

The material contained within the battery is released only in the case of mechanical, electrical or thermal abuse. In the event of battery rupture and leakage allow the batteries to cool and the vapour to dissipate. Stop leak if safe to do so and absorb spill with sand, earth or some other inert absorbent material. Collect the spilled material and place into a suitable plastic lined 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. Contaminated work clothing must not be allowed out of the workplace. 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. 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, sparks, open flames and direct sunlight. Avoid excessive moisture. Avoid exposure to temperatures above 70°C. Keep away from oxidising agents, acids and bases.

8 Exposure Controls and Personal Protection

Exposure Standards:**CAS: 7782-42-5 Graphite**WES | TWA: 3 mg/m³

(Contd. on page 5)

Safety Data Sheet

according to WHS Regulations

Printing date 29.01.2021

Revision: 29.01.2021

Product Name: Li-ion Battery 10000072

(Contd. of page 4)

CAS: 7440-50-8 Copper	
WES	TWA: 1* 0.2** mg/m ³ *dust&mists **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 vapour below occupational exposure standards.

Respiratory Protection:

Respiratory protection is not required under normal use conditions.

Use an approved vapour respirator under conditions where exposure to the substance is apparent (e.g. In the case of abuse and leakage of liquid or emission of fumes) and engineering controls are not feasible. See Australian Standards AS/NZS 1715 and 1716 for more information.

Skin Protection:

Skin and body protection are not required under normal use conditions.

In case of spill or leakage, wear impervious protective gloves. 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 (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:

Not necessary under normal conditions of use. In case of spill or leakage wear safety glasses for protection against splashing materials or liquids. See Australian/New Zealand Standard AS/NZS 1337 for more information.

9 Physical and Chemical Properties

Appearance:

Form:	Solid
Colour:	Blue
Odour:	No information available
Odour Threshold:	No information available
pH-Value:	Not applicable.
Melting point/freezing point:	No information available
Initial Boiling Point/Boiling Range:	No information available
Flash Point:	No information available
Flammability:	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
Relative Density:	No information available

(Contd. on page 6)

Safety Data Sheet

according to WHS Regulations

Printing date 29.01.2021

Revision: 29.01.2021

Product Name: Li-ion Battery 10000072

(Contd. of page 5)

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: Hazardous polymerisation is not expected to occur.

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

Conditions to Avoid:

Mechanical and electrical abuse such as short circuiting, overcharging, installing with incorrect polarity, disassembling or crushing. Protect from heat, sparks, open flames and direct sunlight. Avoid excessive moisture. Avoid exposure to temperatures above 70°C.

Incompatible Materials: Oxidising agents, acids and bases.

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)
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CAS: 7440-02-0 Nickel

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

Inhalation:

Contents of an opened battery are fatal if inhaled. Battery contents may also cause respiratory irritation, and allergy or asthma symptoms or breathing difficulties if inhaled.

Skin: Contents of an opened battery causes severe skin burns. May cause an allergic skin reaction.

Eye: Contents of an opened battery causes serious eye damage.

Ingestion:

Contents of an opened battery are harmful if swallowed and may cause irritation or burns to the mouth, throat and gastrointestinal tract.

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:

Suspected of causing cancer. Route of exposure: Inhalation.

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

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.

(Contd. on page 7)

Safety Data Sheet

according to WHS Regulations

Printing date 29.01.2021

Revision: 29.01.2021

Product Name: Li-ion Battery 10000072

(Contd. of page 6)

Specific Target Organ Toxicity (STOT) - Repeated Exposure:

Causes damage to the respiratory system, bones and teeth through prolonged or repeated exposure. Route of exposure: Inhalation.

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

Additional toxicological information: No information available

12 Ecological Information

Ecotoxicity:**Aquatic toxicity:**

Toxic to aquatic life with long lasting effects.

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:	
ADG, IMDG, IATA	None
Marine pollutant:	Symbol (fish and tree)
EMS Number:	F-A,S-I

(Contd. on page 8)

Safety Data Sheet

according to WHS Regulations

Printing date 29.01.2021

Revision: 29.01.2021

Product Name: Li-ion Battery 1000072

(Contd. of page 7)

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: 29.01.2021**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)

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

Aquatic Acute 2: Hazardous to the aquatic environment, short-term (Acute). Category 2

Aquatic Chronic 2: Hazardous to the aquatic environment, long-term (Chronic). 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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