Safety Data Sheet
according to WHS Regulations

Printing date 23.05.2022 Revision: 23.05.2022

1 Identification

Product Name: Lumos R1200 Spotlight Battery

Other Means of Identification: Battery

Product Code: 10000467

Recommended Use of the Chemical and Restriction on Use: Lithium-ion battery.

Details of Manufacturer or Importer:
Adventure Trading Australia Pty Ltd
71 Charles Ulm Place
Eagle Farm, QLD 4009
Australia

Phone Number: (07) 3193 1110

Emergency telephone number: National Poisons Information Centre: 13 11 26

2 Hazard(s) Identification

Hazardous Nature:
Classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail (7th edition).
Not classified as Hazardous according to the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) and Safe Work Australia criteria.
Batteries are considered as articles and are as such exempted from the UN-GHS classification requirements.
The classification based on the hazardous substances contained in the product (electrode materials and liquid electrolyte contained in the batteries) is provided below for information purposes only.


Flame

Water-react. 2	H261 In contact with water releases flammable gases.


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
H261 In contact with water releases flammable gases.
H315 Causes skin irritation.
H318 Causes serious eye damage.

(Contd. on page 2)

Safety Data Sheet
according to WHS Regulations

Printing date 23.05.2022 Revision: 23.05.2022

Product Name: Lumos R1200 Spotlight Battery

(Contd. of page 1)

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.
P223	Keep away from any possible contact with water, because of violent reaction and possible flash fire.
P231+P232	Handle and store contents under inert gas. Protect from moisture.
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.
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.
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.
P335+P334	Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages.
P370+P378	In case of fire: Use CO2, powder or water spray for extinction.
P402+P404	Store in a dry place. Store in a closed container.
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:		
	Lithium nickel cobalt manganese oxide	35-40%
	Carcinogenicity 2, H351; Skin Sensitisation 1, H317	
CAS: 96-49-1	1,3-Dioxolan-2-one	5%
	STOT RE 2, H373; Acute Toxicity (Oral) 4, H302; Eye Irrit. 2A, H319	
CAS: 616-38-6	Dimethyl carbonate	2-5%
	Flammable Liquids 2, H225	
CAS: 7440-02-0	Nickel	2-5%
	Carcinogenicity 2, H351; STOT RE 1, H372; Skin Sensitisation 1, H317	
CAS: 7439-93-2	Lithium	2-3%
	Water-react. 1, H260; Skin Corrosion/Irritation 1B, H314	
Non Hazardous Components:		
CAS: 7440-50-8	Copper	7-10%
CAS: 7782-42-5	Graphite	8%
CAS: 7429-90-5	Aluminium	5%

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 misuse, 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

(Contd. on page 3)

Safety Data Sheet
according to WHS Regulations

Printing date 23.05.2022 Revision: 23.05.2022

Product Name: Lumos R1200 Spotlight Battery

(Contd. of page 2)

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. Seek medical attention if breathing problems develop.

Skin Contact:
In case of skin contact with the contents of an open battery, remove contaminated clothing and wash affected areas with water and soap for at least 20 minutes. Seek medical attention if symptoms persist.

Eye Contact:
In case of eye contact with the contents of an open battery, rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for at least 20 minutes. Seek medical attention immediately.

Ingestion:
If the contents of an open battery are swallowed, do not induce vomiting. Immediately rinse mouth with water. Never give anything by mouth to an unconscious person. Seek medical attention immediately.

Symptoms Caused by Exposure:
Inhalation: The contents of an open battery may cause respiratory irritation.
Skin Contact: The contents of an open battery cause skin irritation. 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 may cause gastrointestinal irritation, nausea, diarrhoea and vomiting.

5 Fire Fighting Measures

Suitable Extinguishing Media: Water spray or alcohol resistant foam.

Specific Hazards Arising from the Chemical:
Hazardous combustion products include irritating, corrosive, and toxic fumes, such as oxides of carbon and metal oxides.
The battery may vent if exposed to a fire, releasing hazardous and flammable inner 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 measures entering 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. 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.

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 metal container for disposal. Use only non-sparking tools.

(Contd. on page 4)

Safety Data Sheet
according to WHS Regulations

Printing date 23.05.2022 Revision: 23.05.2022

Product Name: Lumos R1200 Spotlight Battery

(Contd. of page 3)

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 with the battery inner contents and inhalation of vapours.
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. 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, sparks, open flames and direct sunlight. Avoid excessive moisture. Keep away from oxidising agents, corrosives, and combustibles.

8 Exposure Controls and Personal Protection

Exposure Standards:
All information in this section refers to exposure to the contents of an open battery.

CAS: 7440-50-8 Copper	
WES	TWA: 1* 0.2** mg/m³ *dust & mists (as Cu) **fume
CAS: 7429-90-5 Aluminium	
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:
Maintain air concentration below occupational exposure standards, providing adequate ventilation. Use explosion-proof ventilating equipment.

Respiratory Protection:
Use an approved respirator if exposed to the battery inner contents. See Australian Standards AS/NZS 1715 and 1716 for more information.

Skin Protection:
Chemical resistant gloves if exposed to the battery inner contents. 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 exposed to the battery inner contents (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

(Contd. on page 5)

Safety Data Sheet
according to WHS Regulations

Printing date 23.05.2022 Revision: 23.05.2022

Product Name: Lumos R1200 Spotlight Battery

(Contd. of page 4)

each worker and the performance of the protective clothing). See Australian/New Zealand Standard AS/NZS 4501 for more information.

Eye and Face Protection:
Chemical safety glasses if exposed to the battery inner contents. See Australian/New Zealand Standard AS/NZS 1337 for more information.

9 Physical and Chemical Properties

Appearance:	
Form:	Solid cylinder with plastic film shell
Colour:	Blue
Odour:	Odourless
Odour Threshold:	No information available
pH-Value:	8-9
Melting point/freezing point:	>300 °C
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
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: 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:
Exposure to air and moisture over prolonged periods. Mechanical and electrical abuse such as short circuiting, disassembling or crushing. Heat, sparks, open flames and direct sunlight.

Incompatible Materials: Oxidising agents, corrosives, and combustibles.

Hazardous Decomposition Products: Oxides of carbon and metal oxides.

11 Toxicological Information

Toxicity:

LD50/LC50 Values:		
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)

(Contd. on page 6)

Safety Data Sheet
according to WHS Regulations

Printing date 23.05.2022 Revision: 23.05.2022

Product Name: Lumos R1200 Spotlight Battery

(Contd. of page 5)

CAS: 616-38-6 Dimethyl carbonate		
Oral	LD50	13,000 mg/kg (rat)
	LD50	>5,000 mg/kg (rabbit)
CAS: 7440-02-0 Nickel		
Oral	LD50	>9,000 mg/kg (rat)

Acute Health Effects
Inhalation: The contents of an open battery may cause respiratory irritation.
Skin: The contents of an open battery cause skin irritation. May cause an allergic skin reaction.
Eye: The contents of an open battery cause serious eye damage.
Ingestion:
The contents of an open battery may cause gastrointestinal irritation, nausea, diarrhoea and vomiting.

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.
Cobalt compounds and nickel are classified by IARC as Group 2B - Possibly carcinogenic 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.

Chronic Health Effects: No information available

Existing Conditions Aggravated by Exposure: No information available

12 Ecological Information

Ecotoxicity:

Aquatic toxicity:
May be harmful to aquatic life.

CAS: 7440-50-8 Copper	
EC50/48 h	0.792 mg/l (daphnia magna)
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 magna)
LC50/96 h	1.3 mg/l (carp)

Persistence and Degradability: No data available on finished product.

Bioaccumulative Potential: No data available on finished product.

(Contd. on page 7)

Safety Data Sheet
according to WHS Regulations

Printing date 23.05.2022 Revision: 23.05.2022

Product Name: Lumos R1200 Spotlight Battery

(Contd. of page 6)

Mobility in Soil: No data available on finished product.

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**	UN3480
Proper Shipping Name **ADG, IMDG, IATA**	LITHIUM ION BATTERIES
Dangerous Goods Class **ADG Class:**	9
Packing Group: **ADG, IMDG, IATA**	-
Marine pollutant:	
EMS Number:	F-A,S-I
Hazchem Code:	4W
Special Provisions:	188, 230, 310, 348, 376, 377, 384, 387, 390 IATA: 965 Section IB
Excepted quantities (EQ):	E0
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 components are listed except:

Lithium nickel cobalt manganese oxide

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: 23.05.2022

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
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

(Contd. on page 8)

Safety Data Sheet
according to WHS Regulations

Printing date 23.05.2022 Revision: 23.05.2022

Product Name: Lumos R1200 Spotlight Battery

(Contd. of page 7)

STEL: Short Term Exposure Limit
TWA: Time Weighted Average
NES: National Exposure Standard (Safe Work Australia - Workplace Exposure Standards For Airborne Contaminants)
Flammable Liquids 2: Flammable liquids – Category 2
Water-react. 1: Substances and mixtures, which in contact with water, emit flammable gases. Hazard Category 1
Water-react. 2: Substances and mixtures, which in contact with water, emit flammable gases. Hazard Category 2
Acute Toxicity (Oral) 4: Acute toxicity – Category 4
Skin Corrosion/Irritation 1B: Skin corrosion/irritation – Category 1B
Skin Corrosion/Irritation 2: Skin corrosion/irritation – Category 2
Serious Eye Damage/Irritation 1: Serious eye damage/eye irritation – Category 1
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
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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