WEATHERDON

Issue date: 01 May, 2025
Revision date: 31 April, 2030
Version number: 01

Material Safety Data Sheet

Section 1 Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Identification /Trade name : Li - Mn Button Cell CR2032

Product Style/Model No. : Tianqiu brand

1.2. Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses : Used as a battery.

Uses advised against : None known.

1.3. Details of the supplier of the safety data sheet

Importer : R Weatherdon & Co. Pty Ltd

Importer address : Level1, 40 Chandos Street, St Leonards NSW 2065

Telephone : 02 9906 2202

Fax : /

Email of the person in charge : accounts@weatherdon.com.au

1.4. Emergency telephone Number

24h Emergency telephone : 131 126 (24 hours) Poison Information Centre, Australia

Section 2 Hazards Identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008.

This product does not meet the criteria for classification in any hazard class.

Health Hazards: In case of leakage, may cause itchy and/or chemical burns with direct contact with the electrolyte

Hazards to the environment: Not applicable

2.1. Fire and Explosion Hazards: Not applicable Label elements

Labelling according to Regulation (EC) No 1272/2008.

Hazard pictogram(s) : No hazard pictogram is used.

Signal word : No signal word is used.

Hazard statement(s) : Not applicable.

Precautionary statement(s) : Not applicable.

Supplemental Hazard information (EU) : Not applicable

Section 3 Composition/information on ingredients

Substance/Mixture : This product is an article.

Ingredient(s) :

Hazardous Components	Approx weight %	CAS #	EC #
Iron (Fe)	48	7439-89-6	231-096-4
Manganese Dioxide (MnO2)	34.8	1313-13-9	215-202-6
Perchloric Acid, Lithium Salt (LiClO4)	3.99	77-1-03-9	232-237-2
Polypropylene (C3H6)X	3.43	9003-07-0	
Propylene Carbonate(C4H6O3)	3	108-32-7	203-572-1
Lithium(Li)	1.9	7439-93-2	231-102-5
Graphite(C)	1.7	7782-42-5	231-955-3
Polytetrafluoroethylene	1.7	9002-84-0	----
Ethylene Glycol Dimethyl Ether (C4H10O2)	1.48	110-71-4	203-794-9
Mercury (Hg)	<0.0001	7439-97-6	231-106-7
Cadmium (Cd)	<0.001	7440-43-9	231-152-8
Lead (Pb)	<0.001	7439-92-1	231-100-4

Section 4 First aid measures

4.1. Description of first aid measures

4.1.1. General information : Normally, no special measures required. Exposure to contents of an open or damaged battery: Remove contaminated, saturated clothing immediately. In the case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

4.1.2. Following inhalation : Normally, no special measures are required. Exposure to contents of an open or damaged battery: Remove casualty to fresh air, consult doctor in case of complaints.

4.1.3. Following skin contact : Normally, no special measures are required. Exposure to contents of an open or damaged battery: If there is any irritation or rash, wash off with soap and plenty of water. If irritation persists, consult a physician.

4.1.4. Following eyes contact : Normally, no special measures are required. Exposure to contents of an open or damaged battery: Protect unexposed eye. Rinse/flush exposed eye(s) gently using water. Remove contact lens(es) if able to do so during rinsing. In case of any symptoms, consult a physician.

4.1.5. Following ingestion : Ingestion of batteries is an unlikely route of entry. If ingested, rinse mouth with water. Never give anything by mouth to an unconscious person. Do not induce vomiting. Seek medical attention if irritation, discomfort or vomiting persists.

4.1.6. Self-protection of the first aider : Pay attention to self-protection.

4.2. Most important symptoms and effects, both acute and delayed : The most important known symptoms and effects are described in section 2 and/or in section 11.

4.3. Indication of any immediate medical attention and special treatment needed

Specific treatment : First Aid, decontamination, treatment of symptoms.

Notes for the doctor : Treat symptomatically.

Section 5 Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray, CO_2, Foam, Dry powder, Dry sand.

Unsuitable extinguishing media : Avoid using the direct flow of water to extinguish a fire. Direct flow of water may cause containers to rupture , allowing the fire to spread.

5.2. Special hazards arising from the substance or mixture : If the battery is overcharged or heated, it may explode. Damaged or open batteries may release irritating or toxic gases/dust. Such as hydrogen fluoride, carbon monoxide and carbon dioxide.

5.3. Advice for firefighters : Special protective equipment for firefighters: Wear self-contained breathing apparatus and full protective clothing. Put out the fire in the upwind direction. If possible, move the items to an open space as soon as possible. Keep the container cool with water spray until the end of fire fighting.

5.4. Additional information : Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

Section 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel : If a battery ruptures: Avoid contact with any spilled material. Avoid contact with skin and eyes. Do not breathe mist/vapors/spray. Use personal protective equipment. Ensure good ventilation/exhaustion at the workplace, Move to safe area. See Section 8.

6.1.2. For emergency responders : Remove persons to safety. Isolate hazard area and deny entry. Ventilate closed spaces before entering. Use personal protective equipment, see Section 8.

6.2. Environmental Precautions : Make sure spills can be contained. Avoid throwing material to water bodies or streams. Avoid discharge into sewers and the environment.

6.3. Methods and material for Containment and Cleaning up

6.3.1. For containment : Pick up mechanically. Avoid formation of dust, If the battery is damaged and leaked, absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust), prevent further leakage or spillage if safe to do so.

6.3.2. For cleaning up : Clean up contaminated objects and areas and collect them in closed and suitable containers for treatment. Strictly comply with environmental regulations.

6.3.3. Other information : None.

6.4. Reference to other sections : For personal protection see section 8, For handling see section 7,
For disposal see section 13.

Section 7 Handling and storage

7.1. Precautions for safe handling

7.1.1.	**Protective measures**	:	Follow manufacturer's instructions for installation and service. If battery is misused or abused, leakage, heating, or rupture may result. Do not charge batteries unless the batteries are labeled as rechargeable. Ensure that batteries are installed in the correct direction. Do not mix different types of batteries or mix new and old batteries together. Do not directly heat, solder, or expose to fire. Do not disassemble, modify, or deform batteries. Do not allow children to replace batteries unless supervised by an adult. In case of rupture: Handle in accordance with good industrial hygiene and safety practice. Use personal protective equipment (see Section 8). Avoid contact with skin, eyes or clothing. Take off contaminated clothing and wash before reuse.
7.1.2.	**Measures to prevent fire**	:	The battery may explode at high temperature. and is equipped with the corresponding variety and quantity of fire-fighting equipment and emergency
7.1.3.	**Measures to prevent aerosol and dust generation.**	:	Normally, no special measures are required. Provide suction extractors if dust is formed.
7.1.4.	**Measures to protect the environment.**	:	Avoiding spills or keeping away from drains.
7.1.5.	**Advice on general occupational hygiene**	:	Work in well-ventilated zones or use proper respiratory protection. Do not eat, drink and smoke in work areas. Wash hands after use. Before entering eating areas, take off contaminated clothing and protective equipment. Wash contaminated clothing prior to re-use.

7.2. Conditions for safe storage, including any incompatibilities.

7.2.1.	**Technical measures and storage conditions**	:	Store at room temperature.
7.2.2.	**Requirements for storage rooms and vessels**	:	Keep out of reach of children and animals. Store in a cool, dry, well-ventilated area. Keep/store only in original container. Storage areas should be equipped with emergency leakage treatment equipment and suitable containment materials.
7.2.3.	**Further information on storage conditions**	:	Keep away from sources of ignition and heat. Keep container tightly sealed. Protect container against damage. Place cardboard between layers of stacked batteries to avoid damage and short circuits.
7.3.	**Specific end use(s)**	:	Apart from the uses mentioned in section 1.2 no other specific uses are stipulated. Observe instructions for use.

Section 8 Exposure Controls/Personal Protection

8.1. Control parameters

8.1.1.	**Occupational exposure limits**	:	None
8.1.2.	**currently recommended monitoring procedures**	:	Not required under normal use.
8.1.3.	**If air contaminants are formed when using the substance or mixture as intended**	:	Air contaminants are not formed when using the battery as intended. Do not inhale vapor or dust when the battery is damaged or opened.
8.1.4.	**Details of any control banding approach used**	:	Not required under normal use.

8.2. Exposure controls

8.2.1.	**Appropriate engineering controls**	:	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of work. Ensure adequate ventilation, especially in confined.

8.2.2. Individual protection measures, such as personal protective equipment

Eye/face protection	:	None under normal conditions. Exposure to contents of an open or damaged battery: Wear safety glasses with side shields (or goggles) and a face shield.
Hand protection	:	None under normal conditions. Exposure to contents of an open or damaged battery: Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.
Body protection	:	None under normal conditions. Exposure to contents of an open or damaged battery: Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.
Respiratory protection	:	None under normal conditions. Exposure to contents of an open or damaged battery: Use respiratory filter device.
Thermal hazards	:	When material is heated, wear gloves to protect against thermal burns.

8.2.3.	**Environmental exposure controls**	:	Keep container tightly sealed when not in use. Avoid discharge into the environment. Refer to National or Local regulations before d

Section 9 Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Solid coin shape
Colour	:	Various.
Odour	:	Odorless.
Odour threshold	:	No data available.
Melting point/freezing point (°C)	:	No data available.
Boiling point or initial boiling point and boiling range (°C)	:	No data available.
Flammability	:	Non-flammable solid.
Lower explosion limit	:	Not applicable.
Upper explosion limit	:	Not applicable.
Flash point (°C)	:	Not applicable.
Auto-ignition temperature (°C)	:	Not applicable.
Decomposition temperature (°C)	:	Not applicable.
pH	:	No data available.
Kinematic viscosity	:	Not applicable.
Solubility	:	No data available.
Partition coefficient n-octanol/water (log value)	:	Not applicable.
Vapour pressure	:	No data available.
Density and/or relative density	:	No data available.
Relative vapour density	:	Not applicable.
Particle characteristics	:	No data available.

9.2. Other information :

Information with regard to physical hazard classes	:	If the battery is overcharged or heated, it may explode. Damaged or open batteries may release irritating or toxic gases/dust.
Other safety characteristics	:	No additional information relevant to safe use of the produc

Section 10 Stability and reactivity

10.1.	**Chemical stability**	:	The product is chemically stable under recommended conditions of storage, use and temperature.
10.2.	**Possibility of hazardous reactions**	:	No hazardous reaction when handled and stored according to provisions.
10.3.	**Conditions to avoid**	:	Fire and heat. Extreme hot or extreme cold
10.4.	**Incompatible materials**	:	Oxidizing agents, acid, base, water.

Section 11 Toxicological information

11.1. Information on toxicological effects

Acute toxicity	:	Under normal conditions of intended use, this material is not expected to cause a hazard. Exposure to contents of an open or damaged battery: Harmful if inhaled or swallowed.
Skin corrosion/Irritation	:	Under normal conditions of intended use, this material is not expected to cause a hazard. Exposure to contents of an open or damaged battery: Causes skin irritation.
Serious eye damage/irritation	:	Under normal conditions of intended use, this material is not expected to cause a hazard. Exposure to contents of an open or damaged battery: Causes serious eye irritation.
Respiratory or skin sensitization	:	Under normal conditions of intended use, this material is not expected to cause a hazard. Exposure to contents of an open or damaged battery: May cause an allergic skin reaction.
Germ cell mutagenicity	:	Based on available data, the classification criteria are not met.
Carcinogenicity	:	Under normal conditions of intended use, this material is not expected to cause a hazard. Exposure to contents of an open or damaged battery: May cause cancer.
Reproductive toxicity	:	Under normal conditions of intended use, this material is not expected to cause a hazard. Exposure to contents of an open or damaged battery: May cause harm to breastfed babies. May damage fertility or the unborn child.
STOT- single exposure	:	Under normal conditions of intended use, this material is not expected to cause a hazard. Exposure to contents of an open or damaged battery: Causes damage to organs (respiratory system). May cause respiratory irritation.

	STOT-repeated exposure	:	Under normal conditions of intended use, this material is not expected to cause a hazard. Exposure to contents of an open or damaged battery: Causes damage to organs.
	Aspiration hazard	:	Based on available data, the classification criteria are not met.
11.2.	**Information on other hazards**		
	Endocrine disrupting properties	:	The product does not contain endocrine disruptor at levels of 0.1% or higher.
	Other information	:	No data available.

Section 12 Ecological information

12.1.	**Toxicity**	:	The product components are not classified as environmentally hazardous. However, large or frequent spills may have hazardous effects on the environment. Do not flush into surface water or sanitary sewer system.The product contains the following substances which are hazardous for the environment.
12.2.	**Persistence and degradability**	:	No data available.
12.3.	**Bio accumulative potential**	:	No data available.
12.4.	**Mobility in soil**	:	No data available.
12.5.	**Results of PBT and vPvB assessment**	:	The product does not contain PBT / vPvB substance at levels of 0.1% or higher.
12.6.	**Endocrine disrupting properties**	:	The product does not contain endocrine disruptor at levels of 0.1% or higher.
12.7.	**Other adverse effects**	:	No data available.

Section 13 Disposal considerations

13.1. Waste treatment methods : Waste disposal according to directive 2008/98/EC and 2006/66/EC, covering waste and dangerous waste.

Waste treatment-relevant information : Spent batteries are completely recyclable and should be reclaimed rather than disposed of as waste. Most retailers that sell batteries collect used batteries for recycling, as required by regulations.

Sewage disposal-relevant information : Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Other disposal recommendations : Packages that may not be cleansed are to be disposed of in the same manner as the product.

Section 14 Transportation information

		IMDG	ADR/RID	ADN	ICAO/IATA
14.1	UN number or ID number	UN3091	UN3091	UN3091	UN3091
14.2	UN Proper shipping name	Li – Mn battery cell inside equipment			
14.3	Transport hazard Class(es)	9	9	9	9
14.4	Packing group	Not regulated	Not regulated	Not regulated	Not regulated
14.5	Environmental hazards	No	No	No	No

14.6. Special precautions for user : Australia Road and Rail Transport (ADG Code): This material is classified as Dangerous Goods Class 9

Miscellaneous Dangerous Goods Class 9: Miscellaneous substances Dangerous Goods are incompatible in a placard load with any of the following: Class 1: Explosives (when the class 9 substance is a fire risk substance) Division 5.1: Oxidizing substances (when the class 9 substance is a fire risk substance) and Division 5.2: Organic peroxides (when the class 9 substance is a fire risk substance)

14.7. Maritime transport in bulk according to IMO instruments : Not applicable.

Section 16 Other information

16.1. Indication of changes

16.2. Abbreviations and acronyms

IMDG: International Maritime Dangerous Goods Code.

ADR: European Agreement Concerning the International Carriage of Dangerous Goods by Road.

RID: Regulations Concerning the International Carriage of Dangerous Goods by Rail.

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.

ICAO: The International Civil Aviation Organization Technical Instructions on the Safe Transport of Dangerous Goods by Air.

IATA: International Air Transport Association-Dangerous Goods Regulations.

UFI: Unique Formula Identifier.

ATE: Acute Toxicity Estimate.

LC50: Lethal Concentration to 50 % of a test population.

LD50: Lethal Dose to 50% of a test population (Median Lethal Dose).

EC50: Lethal Dose to 50% of a test population (Median Lethal Dose).

NOEC: No Observed Effect Concentration.

DNEL: derived no-effect level.

PNEC: predicted no-effect concentration.

PBT: Persistent, Bio accumulative and Toxic.

vPvB: Very Persistent and Very Bioaccumulative.

M-factor: Multiplying factor.

16.3. Key literature references and sources for data

Regulation (EC) No 1272/2008 Classification, labelling and packaging of substances and mixtures.

Regulation (EC) No 1907/2006 Registration, Evaluation, Authorisation and Restriction of Chemicals

(REACH). Globally Harmonized System of Classification and Labelling of Chemicals.

UN Model Regulations-Transport of dangerous goods.

29 CFR § 1910.1200 Hazard communication.

Transport of dangerous goods by road or rail (49 CFR US DOT).

ECHA Registered substances data.

16.4. Classification method of mixture

Physical and chemical properties: The classification is based on tested mixture.

Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

16.5. list of relevant hazard statements and/or precautionary statements

Skin Sens. : Skin sensitization.

STOT RE : Specific target organ toxicity after repeated exposure.

Carc. : carcinogenicity.

Flam. Sol. : flammable solids

Water-react.: substances and mixtures which in contact with water emit flammable gases

Acute Tox. : Acute toxicity.

Flam. Liq. : flammable liquids.

Eye Irrit. : eye irritation.

Skin Corr. : skin corrosion

Eye Dam.: eye damage.

STOT SE : specific target organ toxicity after single exposure.

H317: May cause an allergic skin reaction.

H372: Causes damage to organs.

H350: May cause cancer.

H228: Flammable Solid.

H261: In contact with water releases flammable gases.

H302: Harmful if swallowed.

H332: Harmful if inhaled.

H413: May cause long lasting harmful effects to aquatic life.

H411: Toxic to aquatic life with long lasting effects

H225: Highly flammable liquid and vapour.

H319: Causes serious eye irritation.

H373: May cause damage to organs .

H301: Toxic if swallowed.

H314: Causes severe skin burns and eye damage.

H318: Causes serious eye damage.

H351: Suspected of causing cancer .

H335: May cause respiratory irritation.

16.6. Training advice

Proper education and training of workers facilitates safe transportation, use, storage, and disposal of products.

16.7. Disclaimer

This safety data sheet is compiled based on existing information and data. To the best of our knowledge, the above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide for use, storage, transportation, and disposal. And the information is only used for the specified product , Any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

END OF SAFETY DATA SHEET