

NEXcell Battery Co., LTD.

Material Safety Data Sheet

CR SERIES –Not for recharge –Version:2020

Model No. CR2477 CR2450 CR2330 CR2032 CR2016 CR1616 CR1220 CR927 CR2430
CR2320 CR2025 CR1620 CR1225 CR1216

Note: Blank spaces are not permitted if any item is not applicable or no information is available, the space must be marked to indicate That.

Section 1-Information of manufacturer

Name of ● NEXcell BATTERY CO., LTD.
manufacturer:
Address: ● 3F No. PROSPERITY RD. 2 SCIENCE PARK HSINCHU
TAIWAN
Telephone: ● 886-3-5783800

Section 2-Hazardous ingredients/ Identity information

IMPORTANT NOTE:

Use under normal conditions, the lithium battery is hermetically sealed.

Ingestion: Swallowing may lead to serious injury or death in as little as 2 hours due to chemical and potential of the esophagus .IMMEDIATELY SEE DOCTOR.: Do not induce vomiting or give food or drink

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

Skin Contact: Contents of an open battery can cause skin irritation / or chemical burns.

Eye Contact: Contents of an open battery can cause severe irritation and chemical burns.

Important Note: The battery should not be opened or burned. Exposure to the ingredients contained within or their combustion products could be harmful.

Substance Name/CAS#	PEL (OSHA)	% Weight
Lithium /7439-93-2	None Established	1-8%
Propylene Carbonate/108-32-7	None Established	1-9%
Manganese Dioxide/1313-13-9	5mg/m ³ Ceiling (as Mn)	10%-22%
Dimethoxy ethane /110-71-4	None Established	0-6%

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Lithium Perchlorate /7791-03-09	None Established	0-3%
Carbon Black /1333-86-4	3.5mg/m ³ TWA	0-1%
Dioxolane /646-06-0	None Established	0-8%
Graphite / 7782-42-5	15mg/m ³ TWA (total Dust) 5mg/m ³ TWA (respirable fraction)	4%
Steel /65997-19-5	None Established	32%
Others	None Established	Balance

Section 3- Physical / Chemical Characteristics

Boiling Point N.A.

Specific Gravity (H₂O=1) N.A

Vapor Pressure (mm Hg):N.A

Melting Point: N.A

Vapor Density (Air=1): N.A

Evaporation Rate (Buty 1Acetate): N.A.

Solubility in Water: N.A

Appearance and Odor, Button or cylindrical shape, odorless

Section4-Control Fire Measures

In case of fire, where lithium batteries are present, flood area with water or smother with a Class D fire extinguishant appropriate for lithium metal, such as lith-X . Water may not extinguish burning batteries but will cool the adjacent batteries and control the spread of fire. Burning batteries will burn themselves out. Virtually all fires involving lithium batteries can be controlled by flooding with water. However, the contents of the battery will react with water and form hydrogen gas. In a confined space, hydrogen gas can form an explosive mixture. In this situation, smothering agents are recommend. A smothering agent will extinguish burning lithium batteries.

Emergency Responders should wear self-contained breathing apparatus. Burning lithium manganese dioxide battery produce toxic and corrosive lithium hydroxide fumes.

Section 5- Reactivity Data

Stability: Stable

Conditions to void: Stable

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Incompatibility : Materials to Avoid

Lithium Manganese batteries do not meet any of the criteria established in 40 CFR 261.2 for reactivity

Section 6- Health Hazard Data

Route(s) of Entry

Inhalation: N.A.

Skin :N.A.

Ingestion: N.A.

Health Hazard (Acute and Chronic)/Toxicological information

In case of electrolyte leakage, Skin will be itchy when contaminated with electrolyte..

In contact with electrolyte can cause severe irritation and chemical burns

Inhalation of electrolyte vapors may cause irritation of the upper respiratory tract and lungs.

SECTION 7- First Aid Measures

Ingestion: Swallowing may lead to serious injury or death in as little as 2 hours due to chemical and potential of the esophagus .IMMEDIATELY SEE DOCTOR.: Do not induce vomiting or give food or drink

Inhalation: Provide fresh air and seek medical attention.

Skin Contact: Remove contaminated clothing and wash skin soap and water. If a chemical burn occurs or if irritation persists, Seek medical attention.

Eye Contact: Immediately flush eyes thoroughly water for at least 15 minutes, lifting upper and lower lids, until no evidence of the chemical remains. Seek medical attention.

Section 8-Accidental Release or Spillage

To Clean up leaking batteries:

Ventilation Requirements: Room ventilation may be required in areas where there are open or leaking batteries.

Respiratory Protection: Avoid exposure to electrolyte fumes from open or leaking batteries.

Eye Protection: Wear safety glasses with side shields if handling an open or leaking battery.

Gloves: use neoprene or natural rubber gloves if handling an open or leaking battery.

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Battery materials should be collected in leak-proof container.

SECTION 9- Safety Warning for Swallowed Hazardous

WARNING !

Keep out of reach of children. Swallowing may lead to serious injury or death in as little as 2 hours due to chemical burn and potential perforation of the esophagus. Immediately see doctor or ring **LOCAL EMERGENCY CALL**. Keep in original package until ready to use. Dispose of used batteries immediately.

Section 10-handling and Storage

Storage: Store in cool, well ventilated area. Elevated temperature can result in shortened battery life. In locations that handle large quantities of lithium batteries, such as warehouse, lithium batteries should be isolated from unnecessary combustible.

Mechanical Containment: If potting or sealing the battery in an airtight or watertight container is required, consult your NEXcell Battery Co., Ltd. Representative for precautionary suggestions.

Do not obstruct safety release vents on batteries, Encapsulation of batteries will not allow call venting and can cause high pressure rupture.

Handling: Accidental short circuits for a few seconds will not seriously affect the battery. Prolonged short circuit will cause the battery to lose energy, generate significant heat and can cause the safety release vent to open. Source of short circuit included jumbled batteries in bulk containers, metal jewelry, metal covered tables or metal belts used for assembly of batteries into devices. Damaging a lithium battery may result in an internal short circuit.

The contents of an open battery. Including a vented battery, when exposed to water, may result in a fire and / or explosion, Crushed or damaged batteries may result in a fire.

If soldering or welding to the battery is required , consult us for proper precaution to prevent seal damage or short circuit.

Charging: This battery is manufactured in a charged state. It is not designed for recharging. Recharging can cause battery leakage or in some case, high pressure rupture. Inadvertent charging can occur if a battery is installed backwards.

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SECTION 11-Exposure control / Person protection

Ventilation Requirements: N.A

Respiratory Protection: N.A

Eyes Protection: N.A.

Gloves: N.A.

SECTION 12- Ecological Information: N.A.

SECTION13-Disposal Method

Dispose of batteries according to government regulations

SECTON -14 Regulatory Information:

Special requirement be according to the local regulations.

SECRION 15- Transport Information

The batteries in all forms of transportation (e.g. Truck, air or sea) must be packaged in safe and responsible manner. Regulatory concern form all agencies for safe packing require that batteries be packaged in a manner that prevent short circuits and be contained in (Strong Carton/ Packaging) that prevents spillage of contents.

The lithium button cell are exempt from the classification as dangerous goods as they meet the requirements of the special provisions listed below (Essentially, they are properly packaged and labeled. Contains less than 1 gram of lithium and pass the tests defined in UN model regulation section 38.3)

Regulatory Parties	Special Provisions
ADR	188,230,310,636,656
IMDG	188,230,310,957

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UN	UN3090, UN3091
US DOT	29, A54, A101, A100
IATA, ICAO	Packing Instruction 968-970 (section II)

Ref: Summary of packing Instruction (2020 IATA Dangerous Goods Regulations 61th edition)the minimum requirements necessary to transport as non-restricted goods are as follow:

1. For a lithium metal /lithium alloy cell, the lithium content is not more than 1g.
2. Each package must be displayed a battery handling label.(Tel no and emergency call must be printed on label)
3. Each consignment must be accompanied with a declaration of non-dangerous goods document.
4. The Original package must be capable of with standard a 1.2M drop test.

Lithium Content :

Model No	Lithium/g	Model No:	Lithium/g
CR2450	Less than 0.496	CR2430	Less than 0.336
CR2330	Less than 0.320	CR2320	Less than 0.240
CR2032	Less than 0.248	CR2025	Less than 0.200
CR2016	Less than 0.144	CR1620	Less than 0.104
CR1616	Less than 0.096	CR1225	Less than 0.080
CR1220	Less than 0.072	CR1216	Less than 0.056
CR927	Less than 0.040	CR2477	Less than 0.684

SECTION 16- Other Information:

None.