Document Number:CR-009

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Material Safety Data Sheet for CR Lithium battery Series

Type No.:CR2032 Series **Not for recharge** (Version : 2017)

SECTION 1 - Identification

Product Name: Lithium Battery CR2032
Application: 74307 Digital Angle Finder

Supplier: Draper Tools Ltd
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SECTION 2 - Hazard(s) Identitfication

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 burns and potential of the esophagus. *IMMEDIATELY SEE DOCTOR*; Do not induct 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.

SECTION 3:Composition/Information on Ingredients

Substance Name	Chemical Identification CAS#	% Weight
Lithium	7439 - 93 - 2	3%
Propylene Carbonate	108 - 32 - 7	10%
Manganese Dioxide	1313 - 13 - 9	29%
Dimethoxymethane	109-87-5	7%
Lithium Perchlorate	7791 - 03 - 9	3%
Graphite	7782 - 42 - 5	6%
Steel	7439 – 89 -6	42%

SECTION 4:First Aid Measures

Ingestion: Swallowing may lead to serious injury or death in as little as 2 hours due to chemical burns and potential of the esophagus. **IMMEDATELY 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 with soap and water. If a chemical burn occurs of if irritation persists, seek medical attention.

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

SECTION 5:Fire-Fighting 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 from an explosive mixture. In this situation, smothering agents are recommended. 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 6:Accidental Release Measures

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.Battery materials should be collected in a leak-proof container.

SECTION 7:Handling and storage

Storage : Store in a cool, well ventilated area. Elevated temperatures 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 Draper Tools Limited representative for precautionary suggestions.Do not obstruct safety release vents on batteries.Encapsulation of batteries will not allow cell venting and can cause high pressure rupture.

Handling: Accidental short circuit 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 circuits include 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. Its 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.

SECTION 8:Exposure Controls/Personal Protection

Ventilation Requirements : N.A.

Respiratory Protection : N.A.

Eyes Protection : N.A.

Gloves : N.A.

SECTION 9:Physical and Chemical Properties

Boiling Point : N.A.

Specific Gravity (H2O = 1) : N.A.

Melting Point : N.A.

Vapor Pressure (mm Hg) : N.A.

Vapor Density (AIR = 1) : N.A.

Evaporation Rate (Buty1 Acetate) : N.A.

Solubility in Water : N.A.

Appearance and Odor:Cylindrical Shape, Odorless

SECTION 10:Stability and Reactivity

Stability:stable.

Conditions to Avoid : Stable

Incompatibility : Materials to Avoid

Lithium manganese batteries do not met any of the criteria established in 40CFR 261.2 for reactivity.

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SECTION 11:Toxicological Information

Toxicity information is available on the battery ingredients in Section 2,but ,generally not applicable to intact batteries as Used by customers.

SECTION 12:Ecological Information

N.A.

SECTION 13:Disposal Considerations

Dispose of the batteries according to government regulations.

SECTION 14:Transport Information

Transport Fashion:by air,by sea,byrailway,by road

The Batteries in all forms of transportation must be packaged in a safe and responsible manner. Regulatory concerns form all agencies for safe packaging require that batteries be packaged in s manner that prevents 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
UN	UN3091
US DOT	29,A54,A101,A100
IATA, ICAO	Packaging Instructions 969/970(section II)

Ref: Summary of Packing Instruction (2017 IATA Dangerous Goods Regulations 58th Edition) the minimum requirements necessary to transport as non-restricted goods are as follows.

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.

SECTION 15:Regulatory Information

Special requirement be according to the local regulations.

SECTION 16:Other Information

A. Special requirement be according to the local regulatories.
B. Date of preparation :01,Jan, 2017
C. Latest revision and changes Date : 01,Jan, 2017
D. Explanation : This MSDS (Material Safety Data Sheets) contains health, safety and environment information, and was written by reflecting our company' s current technology. This data is not a guarantee for the product' s character or quality, and should be used only as a reference in relation to safe use of the product.