



MSDS 1(7)

Title: Coin Type Lithium ion Rechargeable Battery	Number: RJD2032C1
Model: RJD2032C1	Rev: 1 (2016.01.04.)

MSDS (Material Safety Data Sheet) OF COIN TYPE

LI-ION RECHARGEABLE BATTERY

MODEL: RJD2032C1

PRESENTED TO :

Accepted

by: Date:

Notice: The information and recommendations set forth are made in good faith and believed to be accurate as of the date of preparation. The factory makes no warranty, expressed or implied, with respect to this information and disclaims all liabilities from reliance on it.



MATERIAL SAFETY DATA SHEET

Lithium-Ion Battery (RJD2032C1)

1 Chemical Product and Company Identification

Product Identification

RJD2032C1 Lithium-Ion Battery

Manufacturer

Illinois Capacitor
3757 W. Touhy Ave
Lincolnwood, IL 60712

Emergency Telephone Number

Tel : 847-675-1760
Fax : 847-673-2850

2 Composition Information

<u>Hazardous Ingredients</u>	<u>%</u>	<u>CAS Number</u>
Aluminum Foil	2-10	7429-90-5
Lithium Cobalt Dioxide(LiCoO ₂)	4-50	12190-79-3
Nickel compound (proprietary)	0-25	
Manganese compound (proprietary)	0-15	
Cobalt compound (proprietary)	4-50	
Polyvinylidene Fluoride (PVDF)	< 5	24937-79-9
Styrene butadiene rubber	< 2.5	9003-55-8
Carboxymethyl Cellulose	< 2.5	9000-11-7
Copper Foil	2-10	7440-50-8
Carbon (proprietary)	10-30	7440-44-0
Electrolyte (proprietary)	10-20	
Stainless steel, Nickel and inert materials	Remainder	N/A

Li ion batteries are not manufactured to contain lithium metal and the lithium-equivalent content of batteries is 0.0255g per cell (0.3 X 0.085Ah = 0.0255g), gross weight is 3.3g per cell. The watt-hour rating of RJD2032C1 is 0.3145Wh (3.7V X 0.085Ah = 0.3145Wh)

3 Hazards Identification

Emergency Overview

May explode in a fire, which could release hydrogen fluoride gas.
Use extinguishing media suitable for materials burning in fire.

Primary routes of entry

Skin contact : NO
Skin absorption : NO
Eye contact : NO
Inhalation : NO
Ingestion : NO

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Symptoms of exposure

Skin contact

No effect under routine handling and use.

Skin absorption

No effect under routine handling and use.

Eye contact

No effect under routine handling and use.

Inhalation

No effect under routine handling and use.

Reported as carcinogen

Not applicable

4 First Aid Measures

Inhalation

Not a health hazard.

Eye contact

Not a health hazard.

Skin contact

Not a health hazard.

Ingestion

If swallowed, obtain medical attention immediately.

IF EXPOSURE TO INTERNAL MATERIALS WITHIN CELL DUE TO DAMAGED OUTER CASING. THE FOLLOWING ACTIONS ARE RECOMMENDED:

Inhalation

Leave area immediately and seek medical attention.

Eye contact

Rinse eyes with water for 15 minutes and seek medical attention.

Skin contact

Wash area thoroughly with soap and water and seek medical attention.

Ingestion

Drink milk/water and induce vomiting; seek medical attention.

5 Fire Fighting Measures

General Hazard

Cell is not flammable but internal organic material will burn if the cell is incinerated. Combustion products include, but are not limited to hydrogen fluoride, carbon monoxide and carbon dioxide.

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**Extinguishing Media**

Use extinguishing media suitable for the materials that are burning.

Special Firefighting Instructions

If possible, remove cell(s) from fire fighting area. If heated above 125°C, cell(s) may explode/vent.

Firefighting Equipment

Use NIOSH/MSHA approved full-face self-contained breathing apparatus (SCBA) with full protective gear.

6 Accidental Release Measures**On Land**

Place material into suitable containers and call local fire/police department.

In Water

If possible, remove from water and call local fire/police department.

7 Handling and Storage**Handling**

No special protective clothing required for handling individual cells.

Storage

Store in a cool, dry place.

8 Exposure Controls / Personal Protection**Engineering controls**

Keep away from heat and open flame. Store in a cool dry place.

Personal ProtectionRespirator

Not required during normal operations. SCBA required in the event of a fire.

Eye/face protection

Not required beyond safety practices of employer.

Gloves

Not required for handling of cells.

Foot protection

Steel toed shoes recommended for large container handling.

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9 Physical and Chemical Properties

State	Solid
Odor	N/A
PH	N/A
Vapor pressure	N/A
Vapor density	N/A
Boiling point	N/A
Solubility in water	Insoluble
Specific gravity	N/A
Density	N/A

10 Stability and Reactivity

Reactivity

None

Incompatibilities

None during normal operation. Avoid exposure to heat, open flame, and corrosives.

Hazardous Decomposition Products

None during normal operating conditions. If cells are opened, hydrogen fluoride and carbon monoxide may be released.

Conditions To Avoid

Avoid exposure to heat and open flame. Do not puncture, crush or incinerate.

11 Toxicological Information

This product does not elicit toxicological properties during routine handling and use.

Sensitization	Teratogenicity	Reproductive	Acute toxicity
NO	NO	NO	NO

If the cells are opened through misuse or damage, discard immediately. Internal components of cell are irritants and sensitizers.

12 Ecological Information

Some materials within the cell are bioaccumulative. Under normal conditions, these materials are contained and pose no risk to persons or the surrounding environment.

13 Disposal Considerations

California regulated debris

RCRA Waste Code : Nonregulated

Dispose of according to all federal, state, and local regulations.

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14 Transport Information

Lithium Ion batteries are considered to be "Rechargeable batteries" and meet the requirements of transportation by the U.S. Department of Transportation(DOT), International Civil Aviation Administration(ICA0).

Hereby We certify that this model of Lithium battery meets the requirements each test in the UN Manual of Tests and Criteria, Part 3, sub-section 38.3.

Not regulated for Transport under Special Provision 188 of the International Maritime Dangerous Goods Code (IMDG)

Even classified as lithium ion batteries (UN3480), 2016 IATA Dangerous Goods Regulations 57TH edition Packing Instruction 965 Section II is applied.

The Product is handled as Non-Dangerous Goods by meeting the following

Lithium ion cells and batteries offered for transport are not subject to other additional requirements of the UN Regulations if they meet the following ; (1)–(5)

1. for cells, the Watt-hour rating is not more than 20Wh.
2. for batteries, Watt-hour rating is not more than 100Wh.
3. each cell or battery is of the type proven to meet the requirements of each test in the UN Manual of Tests and Criteria Part 3 subsection 38.3.
4. each cells comply with Special Provision A154.
5. net quantity per package shall not exceed 2.5kg

The product has been evaluated according to the UN Manual of Tests and Criteria.

No.	Test Item	Criteria	Result
Test 1	Altitude simulation	-No leakage, No venting, No disassembly, No rupture and No fire. -Measuring mass before/after each test. (If M>5g, less than 0.1%) -Measuring voltage before/after each test. (more than 90%)	Pass
Test 2	Thermal test		Pass
Test 3	Vibration		Pass
Test 4	Shock		Pass
Test 5	External short circuit	-No disassembly, No rupture and No fire within six hours of this test.	Pass
Test 6	Impact / Crush	-Max. temperature should not exceed 170°C .	Pass
Test 7	Overcharge	-No disassembly and No fire within seven days of the test.	No test
Test 8	Forced Discharge		Pass

15 Regulatory Information

International safety standards

The basis cells are approved according to UL1642

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16 Other information

Revision No.

Rev 0.

Rev 1.

Revision Date

2015.09.18.

2016.01.04

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