

1. Product and company identification

Product identifier

Trade name: 625B7/9 - Lithium batteries CR

This safety data sheet pertains to the following products:

625B7 - Battery CR1632

625B9 - Lithium Battery CR1216

Recommended use and restrictions on use

General use: Lithium batteries for orthopedic procedures
For commercial user only.

Initial supplier identifier

Company name: Otto Bock HealthCare Canada Ltd.

Street/POB-No.: 5470 Harvester Road

Postal Code, city: Burlington, ON L7L 5N5, CA
Canada

WWW: www.ottobock.ca

E-mail: info.canada@ottobock.com

Telephone: (800) 665-3327

Telefax: (800) 463-3659

Department responsible for information:

Mark Agro, Telephone: (800) 665-3327 (9 am - 5 pm)

Additional information: Corporate headquarters:
Ottobock SE & Co. KGaA
Max-Näder-Straße 15
Duderstadt
Germany

Emergency phone number

COLLECT, Telephone: (613) 996-6666

Transport:

CONSULTANK Lutz Harder GmbH (Contract QUALI003)

Telephone: +49 (0)178-4337434 (from USA: 01149 178 4337434)

2. Hazards identification

Emergency overview

Appearance: Form: solid

Odor: odorless

Classification: This material is classified as not hazardous.

Precautionary statements:

Keep out of reach of children.

Regulatory status

This material is not considered hazardous by the U.S. OSHA Hazard Communication Standard (29 CFR 1910.1200) and WHMIS in Canada.

Hazards not otherwise classified

In case of ingestion: risk of suffocation!

The battery is hermetically sealed.

danger of releasing ingredients, mentioned in section 3, by damaging the battery

- with strong mechanical action,
- in case of heating and/or Fire,
- with influence of water,
- short circuit.

Hazard statements:

Harmful if swallowed. Harmful if inhaled. Causes severe skin burns and eye damage.

see section 11: Toxicological information

3. Composition / Information on ingredients

Chemical characterisation: Lithium batteries - Article, Cell.

The chemical materials are stored in a hermetically sealed metal case.

Contains Electrolyte, organic.

Relevant ingredients:

CAS No.	Designation	Concentration	Classification
CAS 1313-13-9	Manganese dioxide	< 50 %	Acute Toxicity 4 (oral). Acute Toxicity 4 (inhalative).
CAS 7439-93-2	Lithium	< 10 %	Water-reactive 1. Skin Corrosion 1B.
CAS 7791-03-9	Lithium perchlorate	< 1 %	Acute Toxicity 4 (oral). Skin Irritation 2. Eye Irritation 2A. Specific Target Organ Toxicity (Single Exposure) 3.

4. First aid measures

General information: in case of damaged battery cases: Release of dangerous ingredients possible. Generates dangerous gases or fumes in contact with.

In case of inhalation: in case of damaged battery cases: Provide fresh air. Keep victim at rest in half upright position. Seek medical attention.

Following skin contact: in case of damaged battery cases / In case of exposure to hazardous ingredients: Clean with plenty of water. If possible, also wash with polyethylene glycol 400. Take off immediately all contaminated clothing.

After eye contact: in case of damaged battery cases / In case of exposure to hazardous ingredients: Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Afterwards, consult an ophthalmologist immediately.

After swallowing: in case of damaged battery cases / In case of exposure to hazardous ingredients: Drink large quantities of water. Do not induce vomiting. Risk of perforation in case of vomiting! Immediately get medical attention. Do not try to neutralize.

Most important symptoms and effects, both acute and delayed

No hazardous reaction when handled and stored according to provisions.

In case of ingestion: Risk of suffocation (Cell)!

in case of damaged battery cases: health hazards. Causes severe skin burns and eye damage.

Information to physician

Treat symptomatically.

5. Fire fighting measures

Flash point/flash point range:

No data available

Auto-ignition temperature:

No data available

Suitable extinguishing media:

Extinguishing powder, Extinguishing agent on the basis of sodium chloride, sodium hydrogen carbonate, limestone, or with metal extinguishing powder.

Extinguishing media which must not be used for safety reasons:

Water, carbon dioxide, foam

Specific hazards arising from the chemical

> 100 °C: Cell may explode.

In case of fire may be liberated: hydrogen fluoride, Chlorine compounds, carbon monoxide and carbon dioxide.

Special protective equipment and precautions for fire-fighters:

Wear a self-contained breathing apparatus and chemical protective clothing.

6. Accidental release measures

Personal precautions:

in case of damaged battery cases:

Remove all sources of ignition.

Provide fresh air. Avoid contact with skin and eyes.

Wear suitable gloves.

In case of development of vapors or dust:

Do not inhale vapors or dust particles.

Environmental precautions:

Discharge into the environment must be avoided.

Methods for clean-up:

Take up mechanically. Dispose of waste according to applicable legislation.

Avoid generation of dust.

Electrolyte, organic: Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents) and place in closed containers for disposal. Final cleaning.

7. Handling and storage

Handling

Advices on safe handling:

Provide adequate ventilation, and local exhaust as needed.

Avoid damage to the battery casing.

in case of damaged battery cases: Avoid exposure.

Precautions against fire and explosion:

Avoid short circuit. Avoid damage to the battery casing.

Provide fire extinguishing equipment.

Storage

Requirements for storerooms and containers:

Provide adequate ventilation. Store in a dry place.

Protect from: humidity, heat, UV-radiation/sunlight

Storage temperature: < 35 °C

Hints on joint storage: Avoid contact with water, acids, alcohols, halogenic hydrocarbons and halogens.

8. Exposure controls / personal protection

Exposure guidelines

Occupational exposure limit values:

CAS No.	Designation	Type	Limit value
1313-13-9	Manganese dioxide	Canada: VEMP	0.05 mg/m ³ (Aerosol, respirable fraction)
		Canada: VEMP	0.2 mg/m ³ (Aerosol, inhalable fraction)
		USA: IDLH: TWA	500 Mn/m ³

Additional information: The chemical materials are stored in a sealed battery case.

Engineering controls

In case of damaged battery cases: Provide adequate ventilation.

In case of development of vapors or dust:

The use of local exhaust ventilation is recommended.

See also information in chapter 7, section storage.

Personal protection equipment (PPE)

Eye/face protection: In case of damaged battery cases:
Tightly sealed goggles according to OSHA Standard - 29 CFR: 1910.133 or ANSI Z87.1-2010

Skin protection: In case of damaged battery cases:
Protective gloves according to OSHA Standard - 29 CFR: 1910.138.
Glove material: rubber - breakthrough time >480 min.
Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

Respiratory protection: In case of damaged battery cases:
If necessary: When vapors form combination filter Use filter type A, B, K according to OSHA Standard - 29 CFR: 1910.134 or ANSI Z88.2.

General hygiene considerations:

Avoid damage to the battery casing.

In case of damaged battery cases:

Do not inhale vapors or dust particles.

Avoid contact with skin and eyes.

Environmental exposure controls

Refer to 6.: Section "Environmental precautions".

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance:	Form: solid
Odor:	odorless
Odor threshold:	No data available
pH:	No data available
Melting point/freezing point:	No data available
Initial boiling point and boiling range:	No data available
Flash point/flash point range:	No data available
Evaporation rate:	No data available
Flammability:	No data available
Explosion limits:	No data available
Vapor pressure:	No data available
Vapor density:	No data available
Density:	No data available
Solubility:	No data available
Partition coefficient: n-octanol/water:	No data available
Auto-ignition temperature:	No data available
Thermal decomposition:	No data available
Additional information:	weight 625B7 - Batterie CR1632: 3,35 g

10. Stability and reactivity

Reactivity:	> 100 °C: Cell may explode.
Chemical stability:	Stable under recommended storage conditions. Not readily combustible.
Possibility of hazardous reactions:	Fire hazard in case of technical defects. In case of damaged battery cases: Lithium: Reacts violently with water liberating hydrogen. Without inert protective gas risk of spontaneous ignition. Lithium perchlorate: Contact with combustible material may cause fire.
Conditions to avoid:	Protect from: humidity, heat, UV-radiation/sunlight Avoid short circuit. Avoid damage to the battery casing.
Incompatible materials:	in case of damaged battery cases: Avoid contact with water, acids, alcohols, halogenic hydrocarbons, nitrogen, carbon dioxide, oxygen and halogens. Lithium perchlorate: Contact with combustible material may cause fire.
Hazardous decomposition products:	In case of fire may be liberated: hydrogen fluoride, Chlorine compounds, carbon monoxide and carbon dioxide.
Thermal decomposition:	No data available

11. Toxicological information

Toxicological tests

<p>Toxicological effects:</p>	<p>Acute toxicity (oral): Lack of data.</p> <p>Acute toxicity (dermal): Lack of data.</p> <p>Acute toxicity (inhalative): Lack of data.</p> <p>Skin corrosion/irritation: Lack of data.</p> <p>Serious eye damage/irritation: Lack of data.</p> <p>Sensitisation to the respiratory tract: Lack of data.</p> <p>Skin sensitisation: Lack of data.</p> <p>Germ cell mutagenicity/Genotoxicity: Lack of data.</p> <p>Carcinogenicity: Lack of data.</p> <p>Reproductive toxicity: Lack of data.</p> <p>Effects on or via lactation: Lack of data.</p> <p>Specific target organ toxicity (single exposure): Lack of data.</p> <p>Specific target organ toxicity (repeated exposure): Lack of data.</p> <p>Aspiration hazard: Lack of data.</p>
<p>Other information:</p>	<p>Cell: risk of suffocation!</p> <p>In case of damaged battery cases:</p> <p>Harmful if swallowed. Harmful if inhaled. Causes severe skin burns and eye damage.</p> <p>Vapors irritate eyes, mucous membranes and respiratory system.</p>

12. Ecological information

Ecotoxicity

Further details:	No data available
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Mobility in soil

No data available

Persistence and degradability

Further details:	Product is not biodegradable.
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Additional ecological information

General information:	Discharge into the environment must be avoided.
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13. Disposal considerations

Product

Recommendation:	Dispose of waste according to applicable legislation.
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Package

Recommendation:	Dispose of waste according to applicable legislation.
	Packing can be recycled or disposed of.

14. Transport information

UN number

ADR/RID, IMDG, IATA-DGR:

UN 3090

UN proper shipping name

ADR/RID, IMDG, IATA-DGR:

UN 3090, LITHIUM METAL BATTERIES

Transport hazard class(es)

ADR/RID:

Class 9, Code: M4

IMDG:

Class 9, Subrisk -

IATA-DGR:

Class 9



Packing group

ADR/RID, IATA-DGR:

not applicable

IMDG:

-

Environmental hazards

Marine pollutant:

no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No data available

USA: Department of Transportation (DOT)

Identification number:

UN3090

Proper shipping name:

UN 3090, LITHIUM METAL BATTERIES

Hazard class or Division:

9

Labels:

9

Special Provisions:

388, 422, A54

Packaging – Exceptions:

185

Packaging – Non-bulk:

185

Packaging – Bulk:

185

Quantity limitations – Passenger aircraft / rail:

Forbidden

Quantity limitations – Cargo only:

35 kg

Vessel stowage – Location:

A

Vessel stowage – Other:

156



Canada: Transportation of Dangerous Goods (TDG)

UN Number:

UN3090

Shipping name:

UN 3090, Lithium metal batteries

TDG class:

9

Special provisions:

34, 123, 137, 138, 1

Explosive limit and limited quantity index:

0

Passenger carrying road or rail index:

5 kg

Sea transport (IMDG)

UN number:	UN 3090
Proper shipping name::	UN 3090, LITHIUM METAL BATTERIES
Class or division, Subsidiary risk:	Class 9, Subrisk -
Packing Group:	-
EmS:	F-A, S-I
Special Provisions:	188 230 310 376 377 384 387
Limited quantities:	0
Excepted quantities:	E0
Package - Instructions:	P903, P908, P909, P910, P911, LP903, LP904, LP905, LP906
Package - Provisions:	-
IBC - Instructions:	-
IBC - Provisions:	-
Tank instructions - IMO:	-
Tank instructions - UN:	-
Tank instructions - Provisions:	-
Stowage and handling:	Category A. SW19
Properties and observations:	Electrical batteries containing lithium metal may react (e.g., flame, heat, emission of toxic, corrosive or flammable gases or vapours) or disassemble due to damage, defects or short circuit.
Marine pollutant:	no
Segregation group:	none

Air transport (IATA)

UN/ID number:	UN 3090
Proper shipping name::	UN 3090, LITHIUM METAL BATTERIES
Class or division, Subsidiary risk:	Class 9
Hazard label:	Lithium batt or Sodium-ion batt
Excepted Quantity Code:	E0
Passenger and Cargo Aircraft: Ltd.Qty.:	Forbidden
Passenger and Cargo Aircraft:	Forbidden
Cargo Aircraft only:	Pack.Instr. See 968 - Max. Net Qty/Pkg. See 968
Special Provisions:	A88 A99 A154 A183 A201 A213 A334 A802
Emergency Response Guide-Code (ERG):	12FZ

15. Regulatory information

National regulations - Canada

Manganese dioxide:	DSL: listed
Lithium:	DSL: listed
Lithium perchlorate:	DSL: listed

National regulations - U.S. Federal Regulations

Manganese dioxide:	TSCA Inventory: listed
Lithium:	TSCA Inventory: listed
Lithium perchlorate:	TSCA Inventory: listed

National regulations - U.S. State Regulations

No data available

16. Other information

Hazard rating systems:



NFPA Hazard Rating:

Health: 0 (Minimal)

Fire: 1 (Slight)

Reactivity: 0 (Minimal)

HMIS Version III Rating:

Health: 0 (Minimal)

Flammability: 1 (Slight)

Physical Hazard: 0 (Minimal)

Personal Protection: X = Consult your supervisor

HEALTH	0
FLAMMABILITY	1
PHYSICAL HAZARD	0
	X

Abbreviations and acronyms:

Acute Toxicity: Acute toxicity
 ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
 ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
 AS/NZS: Australian Standards/New Zealand Standards
 CAS: Chemical Abstracts Service
 CFR: Code of Federal Regulations
 CLP: Classification, Labelling and Packaging
 DMEL: Derived minimal effect level
 DNEL: Derived no-effect level
 EC: European Community
 EmS: Emergency Response Procedures for Ships Carrying Dangerous Goods
 EN: European Standard
 EQ: Excepted quantities
 Eye Irritation: Eye irritation
 IATA: International Air Transport Association
 IATA-DGR: International Air Transport Association – Dangerous Goods Regulations
 IBC Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
 IMDG Code: International Maritime Dangerous Goods Code
 IMO: International Maritime Organization
 MARPOL: Maritime Pollution: The International Convention for the Prevention of Pollution from Ships
 OSHA: Occupational Safety and Health Administration
 PBT: Persistent, bioaccumulative and toxic
 PNEC: Predicted no-effect concentration
 RID: Regulations Concerning the International Carriage of Dangerous Goods by Rail
 Skin Corrosion: Skin corrosion
 Skin Irritation: Skin irritation
 STOT SE: Specific target organ toxicity - single exposure
 TRGS: Technical Rules for Hazardous Substances
 UN: United Nations
 UV: Ultraviolet
 vPvB: Very persistent and very bioaccumulative
 Water-reactive: Water-reactive
 WHMIS: Workplace Hazardous Materials Information System

Reason of change: Changes in section 14: IMDG 2025

Date of first version: 17/2/2016

Department issuing data sheet

Contact person: see section 1: Department responsible for information

The information in this data sheet has been established to our best knowledge and was up-to-date at time of revision. It does not represent a guarantee for the properties of the product described in terms of the legal warranty regulations.