

# SAFETY DATA SHEET

HCS-2012 APPENDIX D TO §1910.1200

Version 1  
Product name Lithium Ion Battery – CR2025

Issue date 16-Jan-2017  
Revision date 16-Jan-2017

## 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### Product identifier

Product name Lithium Ion Battery – CR2025  
Chemical Name Lithium Ion Battery

### Other means of identification

Voltage : 3.0V  
Watt-Hour: 0.48Wh  
Battery Weight: 2.3g

### Recommended use of the chemical and restrictions on use

Recommended use Power supply.  
Uses advised against No information available.

### Details of the supplier of the safety data sheet

Supplier GREAT POWER BATTERY (ZHUHAI) CO., LTD  
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+86-756-3922334

## 2. HAZARDS IDENTIFICATION

### GHS classification

Not classified according to GHS..

### Label elements

Symbols/Pictograms None.  
Signal word None.  
Hazard statements None.  
Precautionary statements  
Prevention None.  
Response None.  
Storage None.  
Disposal None.

### Hazards not otherwise classified (HNOC)

No information available.

**Unknown acute toxicity**

No information available.

**3. COMPOSITION/INFORMATION ON INGREDIENTS****Chemical nature** Mixture

Chemical name	CAS No	Weight-%
Stainless steel	12597-68-1	55.4
Manganese dioxide	1313-13-9	26.2
Propylene carbonate	108-32-7	4.5
Ethylene glycol dimethyl ether	110-71-4	4
Polypropylene	9003-07-0	3.4
Graphite	7782-42-5	2.5
Perchloric acid, lithium salt	7791-03-9	2.1
Lithium	7439-93-2	1.7
Poly(tetrafluoroethylene)	9002-84-0	0.2

**4. FIRST AID MEASURES****Description of first aid measures**

General advice	No hazards which require special first aid measures.
Inhalation	Not an expected route of exposure. Get medical advice/attention if you feel unwell.
Skin contact	No special technical protective measures are necessary. If skin irritation persists, call a physician.
Eye contact	Not an expected route of exposure. If eye irritation persists: Get medical advice/attention.
Ingestion	Rinse mouth. Get medical attention. Never give anything by mouth to an unconscious person.

**Most important symptoms and effects, both acute and delayed**

No information available.

**Indication of any immediate medical attention and special treatment needed**

Treat symptomatically.

**5. FIRE-FIGHTING MEASURES****Extinguishing media**

Suitable extinguishing media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media No information available.

**Specific hazards arising from the chemical**

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Keep product and empty container away from heat and sources of ignition

In the event of fire and/or explosion do not breathe fumes

**Protective equipment and precautions for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation, especially in confined areas

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area)

**Methods and material for containment and cleaning up**

Should not be released into the environment  
Pick up and transfer to properly labeled containers.

**7. HANDLING AND STORAGE****Precautions for safe handling**

Handle in accordance with good industrial hygiene and safety practice  
Ensure adequate ventilation, especially in confined areas  
Keep away from heat, sparks, flame and other sources of ignition  
Do not eat, drink or smoke when using this product

**Conditions for safe storage, including any incompatibilities**

Keep containers tightly closed in a dry, cool and well-ventilated place  
Keep away from heat

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Control parameters**

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH	Denmark	European Union
Manganese dioxide (CAS #: 1313-13-9)	TWA: 0.02 mg/m <sup>3</sup> Mn TWA: 0.1 mg/m <sup>3</sup> Mn	(vacated) Ceiling: 5 mg/m <sup>3</sup> Ceiling: 5 mg/m <sup>3</sup> Mn	IDLH: 500 mg/m <sup>3</sup> Mn TWA: 1 mg/m <sup>3</sup> Mn STEL: 3 mg/m <sup>3</sup> Mn	TWA: 0.2 mg/m <sup>3</sup>	-
Graphite (CAS #: 7782-42-5)	TWA: 2 mg/m <sup>3</sup> respirable fraction all forms except graphite fibers	-	IDLH: 1250 mg/m <sup>3</sup> TWA: 2.5 mg/m <sup>3</sup> natural respirable dust	TWA: 2.5 mg/m <sup>3</sup>	-

Chemical name	Latvia	France	Finland	Germany	Italy
Manganese dioxide (CAS #: 1313-13-9)	TWA: 0.3 mg/m <sup>3</sup>	-	TWA: 0.2 mg/m <sup>3</sup> TWA: 0.1 mg/m <sup>3</sup>	TWA: 0.2 mg/m <sup>3</sup> TWA: 0.02 mg/m <sup>3</sup> Ceiling / Peak: 1.6 mg/m <sup>3</sup> Ceiling / Peak: 0.16 mg/m <sup>3</sup> TWA: 0.5 mg/m <sup>3</sup>	-
Propylene carbonate (CAS #: 108-32-7)	TWA: 2 mg/m <sup>3</sup>	-	-	-	-
Ethylene glycol dimethyl ether (CAS #: 110-71-4)	TWA: 10 mg/m <sup>3</sup>	-	-	-	-
Polypropylene (CAS #: 9003-07-0)	TWA: 5 mg/m <sup>3</sup>	-	-	-	-
Graphite (CAS #: 7782-42-5)	TWA: 2 mg/m <sup>3</sup>	TWA: 2 mg/m <sup>3</sup>	TWA: 2 mg/m <sup>3</sup>	TWA: 1.5 mg/m <sup>3</sup> TWA: 4 mg/m <sup>3</sup>	-

Chemical name	Poland	Portugal	Spain	Switzerland	Netherlands
Manganese dioxide (CAS #: 1313-13-9)	TWA: 0.3 mg/m <sup>3</sup>	TWA: 0.2 mg/m <sup>3</sup>	TWA: 0.2 mg/m <sup>3</sup>	TWA: 0.5 mg/m <sup>3</sup>	-

Chemical name	Norway	United Kingdom	Australia	Austria	Belgium
Manganese dioxide (CAS #: 1313-13-9)	TWA: 1 mg/m <sup>3</sup> TWA: 0.1 mg/m <sup>3</sup> STEL: 1 ppm STEL: 0.1 mg/m <sup>3</sup>	TWA: 0.5 mg/m <sup>3</sup>	1 mg/m <sup>3</sup>	STEL 2 mg/m <sup>3</sup> TWA: 0.5 mg/m <sup>3</sup>	-
Graphite (CAS #: 7782-42-5)	TWA: 5 mg/m <sup>3</sup> TWA: 2 mg/m <sup>3</sup> TWA: 10 mg/m <sup>3</sup> TWA: 4 mg/m <sup>3</sup> STEL: 5 mg/m <sup>3</sup> STEL: 2 mg/m <sup>3</sup> STEL: 10 mg/m <sup>3</sup> STEL: 4 mg/m <sup>3</sup>	-	3 mg/m <sup>3</sup>	STEL 10 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>	-

**Appropriate engineering controls**

Ensure adequate ventilation, especially in confined areas  
Remove all sources of ignition

**Individual protection measures, such as personal protective equipment**

Respiratory protection	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
Hand protection	No special technical protective measures are necessary.
Eye/face protection	No special technical protective measures are necessary.
Skin and body protection	Wear suitable protective clothing.

**9. PHYSICAL AND CHEMICAL PROPERTIES****Information on basic physical and chemical properties**

Appearance	Solid
Color	Silver
Odor	Odorless
Odor threshold	Not determined
pH	Not determined
Melting point/freezing point	Not determined
Boiling point / boiling range	Not determined
Flash point	Not determined
Evaporation rate	Not determined
Flammability (solid, gas)	Not determined
Flammability limit in air	Not determined
Vapor pressure	Not determined
Vapor density	Not determined
Density	Not determined
Partition coefficient (LogPow)	Not determined
Autoignition temperature	Not determined
Decomposition temperature	Not determined
Kinematic viscosity	Not determined
Dynamic viscosity	Not determined
Explosive properties	Not an explosive
Oxidizing properties	Not determined

**Other information**

No information available

**10. STABILITY AND REACTIVITY****Reactivity**

Stable under recommended storage and handling conditions.

**Chemical stability**

Stable under normal conditions.

**Possibility of hazardous reactions**

None under normal processing.

**Conditions to avoid**

Extremes of temperature and direct sunlight.

**Incompatible materials**

No information available.

**Hazardous decomposition products**

None under normal use conditions

**11. TOXICOLOGICAL INFORMATION****Information on likely routes of exposure**

Inhalation	Inhalation of vapors in high concentration may cause irritation of respiratory system
Eye contact	Contact with eyes may cause irritation
Skin contact	Substance may cause slight skin irritation
Ingestion	Ingestion may cause irritation to mucous membranes

**Information on toxicological effects****Acute toxicity**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Manganese dioxide (CAS #: 1313-13-9)	>3480 mg/kg ( Rat ) male	-	-
Propylene carbonate (CAS #: 108-32-7)	29000 mg/kg ( Rat ) > 5000 mg/kg bw (Rat)	> 20 mL/kg ( Rabbit ) 2000 mg/kg bw (Rabbit)	-
Ethylene glycol dimethyl ether (CAS #: 110-71-4)	= 5370 mg/kg ( Rat )	-	-
Polypropylene (CAS #: 9003-07-0)	>5 g/kg	-	-
Graphite (CAS #: 7782-42-5)	> 2000 mg/kg (rat)	-	> 2000 mg/m <sup>3</sup> /4h (rat)

**Skin corrosion/irritation**

Non-irritating to the skin.

**Serious eye damage/eye irritation**

No eye irritation.

**Sensitization**

No information available.

**Germ cell mutagenicity**

No information available.

**Carcinogenicity**

Chemical name	ACGIH	IARC	NTP	OSHA
Polypropylene (CAS #: 9003-07-0)	-	Group 3	-	-
Poly(tetrafluoroethylene) (CAS #: 9002-84-0)	-	Group 3	-	-

**Reproductive toxicity**

No information available.

**STOT - single exposure**

No information available.

**STOT - repeated exposure**

No information available.

**Aspiration hazard**

No information available.

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

Chemical name	Algae/Aquatic plants EC50	Fish LC50	Crustacea EC50
Manganese dioxide (CAS #: 1313-13-9)	> 100 other: v/v saturated solution 72h <i>Desmodesmus subspicatus</i>	> 100 other: % v/v saturated solution 96h <i>Oncorhynchus mykiss</i>	> 100 other: % v/v saturated solution 48h <i>Daphnia magna</i>
Propylene carbonate (CAS #: 108-32-7)	500mg/L 72 h <i>Desmodesmus subspicatus</i> > 900 mg/L 72h <i>Desmodesmus subspicatus</i>	1000mg/L 96 h <i>Cyprinus carpio</i> semi-static 5300mg/L 96 h <i>Leuciscus idus</i> static > 1000 mg/L 96h <i>Cyprinus carpio</i>	500mg/L 48 h <i>Daphnia magna</i> > 1000 mg/L 24h 48h <i>Daphnia magna</i>
Graphite (CAS #: 7782-42-5)	> 100 mg/l/72h ( <i>Pseudokirchneriella subcapitata</i> )	> 100 mg/l/96h ( <i>Danio rerio</i> )	> 100 mg/l/48h ( <i>Daphnia magna</i> )

**Persistence and degradability**

No information available.

**Bioaccumulative potential**

Chemical name	Partition coefficient (LogPow)
Manganese dioxide (CAS #: 1313-13-9)	<0
Propylene carbonate (CAS #: 108-32-7)	0.48
Ethylene glycol dimethyl ether (CAS #: 110-71-4)	-0.21

**Mobility in soil**

No information available.

**Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS****Waste treatment methods**

Disposal of wastes	Disposal should be in accordance with applicable regional, national and local laws and regulations.
Contaminated packaging	Dispose of in accordance with federal, state and local regulations.

**14. TRANSPORT INFORMATION****DOT**

The polymer lithium ion batteries has passed the test UN38.3

According to packing instruction PI965–PI967 section II of IATA DGR 56th Edition for transportation or the special provision 188 of IMDG or 49CFR 173. 185.

The products are not subject to dangerous goods.

<b>UN/ID No.</b>	Not regulated
<b>UN proper shipping name</b>	Not regulated
<b>Hazard class</b>	Not regulated
<b>Packing group</b>	Not regulated
<b>Special precautions</b>	No information available
<b>Marine pollutant</b>	Not applicable

**15. REGULATORY INFORMATION****International inventories**

Component	AICS	DSL/NDL	EINECS/ELI NCS	ENCS	IECSC	KECL	PICCS	TSCA

Stainless steel 12597-68-1 ( 55.4 )	-	-	-	-	X	-	-	-
Manganese dioxide 1313-13-9 ( 26.2 )	X	X	X	X	X	X	X	X
Propylene carbonate 108-32-7 ( 4.5 )	X	X	X	X	X	X	X	X
Ethylene glycol dimethyl ether 110-71-4 ( 4 )	X	X	X	X	X	X	X	X
Polypropylene 9003-07-0 ( 3.4 )	X	X	-	X	X	X	X	X
Graphite 7782-42-5 ( 2.5 )	X	X	X	-	X	X	X	X
Perchloric acid, lithium salt 7791-03-9 ( 2.1 )	X	X	X	X	X	X	-	X
Lithium 7439-93-2 ( 1.7 )	X	X	X	X	X	X	X	X
Poly(tetrafluoroethyl ene) 9002-84-0 ( 0.2 )	X	X	-	X	X	X	X	X

"-" Not Listed

"X" Listed

**US Federal Regulations**

**SARA 313**

Chemical name	SARA 313 - Threshold Values %
Manganese dioxide - 1313-13-9	1.0
Ethylene glycol dimethyl ether - 110-71-4	1.0

**SARA 311/312 Hazard Categories**

Not applicable

**CWA (Clean Water Act)**

Not applicable

**CERCLA**

Not applicable

**US State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals

**U.S. State Right-to-Know Regulations**

Chemical name	New Jersey	Massachusetts	Pennsylvania
Manganese dioxide 1313-13-9	X	-	X
Ethylene glycol dimethyl ether 110-71-4	X	X	X
Graphite 7782-42-5	X	X	-
Lithium 7439-93-2	X	X	X
Poly(tetrafluoroethylene) 9002-84-0	-	-	X

**16. OTHER INFORMATION**

**Revision note**

Issue date

16-Jan-2017

Revision date 16-Jan-2017  
Revision note Not applicable

**Key or legend to abbreviations and acronyms used in the safety data sheet**

**TWA** - TWA (Time Weighted Average)

**STEL** - STEL (Short Term Exposure Limit)

**Ceiling** - Maximum limit value

**TSCA** - Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List

**EINECS/ELINCS** - European Inventory of Existing Commercial chemical Substances/European List of Notified Chemical Substances

**ENCS** - Japanese Existing and New Chemical Substances

**IECSC** - Chinese Inventory of Existing Chemical Substances

**KECL** - Korea Existing Chemicals List

**PICCS** - The Philippine Inventory of Chemicals and Chemical Substances

**AICS** - The Australian Inventory of Chemical Substances

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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