SAFETY DATA SHEET

HCS-2012 APPENDIX D TO §1910.1200

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
Address	XINQING TECHNOLOGY PARK, ZHUFENG AVENUE, JING AN TOWN, DOUMEN DISTRICT, ZHUHAI CITY, GUANGDONG PROVINCE,CHINA
Postal code	519100
Phone	+86-756-3922111
FAX	+86-756-3922334
E-mail	renzheng@greatpower.net

Importer
Address
Postal code
Phone
FAX
E-mail

Emergency telephone number

+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^3 Mn TWA: 0.1 mg/m^3 Mn	(vacated) Ceiling: 5 mg/m^3 Ceiling: 5 mg/m^3 Mn	IDLH: 500 mg/m^3 Mn TWA: 1 mg/m^3 Mn STEL: 3 mg/m^3 Mn	TWA: 0.2 mg/m^3	-
Graphite (CAS #: 7782-42-5)	TWA: 2 mg/m^3 respirable fraction all forms except graphite fibers	-	IDLH: 1250 mg/m^3 TWA: 2.5 mg/m^3 natural respirable dust	TWA: 2.5 mg/m^3	-

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

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

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

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	Odorles
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/m³/4h (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 Desmodesmus subspicatus	> 100 other: % v/v saturated solution 96h Oncorhynchus mykiss	> 100 other: % v/v saturated solution 48h Daphnia magna
Propylene carbonate (CAS #: 108-32-7)	500mg/L72 h Desmodesmus subspicatus > 900 mg/L 72h Desmodesmus subspicatus	1000mg/L 96 h Cyprinus carpio semi-static 5300mg/L 96 h Leuciscus idus static > 1000 mg/L 96h Cyprinus carpio	500mg/L 48 h Daphnia magna > 1000 mg/L 24h 48h Daphnia magna
Graphite (CAS #: 7782-42-5)	> 100 mg/l/72h (Pseudokirchneriella subcapitata)	> 100 mg/l/96h (Danio rerio)	> 100 mg/l/48h (Daphnia magna)

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.

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

15. REGULATORY INFORMATION

International inventories

Component	AICS	DSL/NDSL	EINECS/ELINCS	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(tetrafluoroethylene) 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/NDSL - 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.

-------- End of Safety Data Sheet --------