

Safety Data Sheet (SDS) Report

Applicant: SHENZHEN VICTPOWER TECHNOLOGY CO.,LTD
5F,B building,Xinmu sheng Industrial park ,Pinghu Longgang
District,Shenzhen.

SDS Number:220201825SHA02S1

Issue Date: 2022-03-15

Sample Description:

The sample information was submitted and identified on client's behalf to be:

Product Name	:	Rechargeable Li-ion Battery Pack
Physical State	:	Solid
Data Received	:	Mar 09, 2022
Initial Version Date	:	Mar 15, 2022
Data Reviewed	:	Mar 30, 2022

Service Requested:

Based on the information provided by the applicant, the Safety Data Sheet (SDS) was generated in accordance with requirements of Hazardous Products Regulations, for details please refer to attached pages.

Authorized By:

On Behalf Of Regulatory Affairs in Intertek Testing Services Ltd., Shanghai



Anna Wang
Technical Manager

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Rechargeable Li-ion Battery Pack

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

Issue Date:2022.03.15 Revision Date:2022.03.30 Version No:1.0 SDS Number: 220201825SHA02S1

SECTION 1: Identification

1.1. Product identifier

Product form : Mixture
Trade name : Rechargeable Li-ion Battery Pack
Other Identification : VICTg2S2PNB320001

1.2. Recommended use and restrictions on use

Power supply to other products

1.3. Supplier

SHENZHEN VICTPOWER TECHNOLOGY CO.,LTD
5F,B building,Xinmu sheng Industrial park ,Pinghu Longgang District,Shenzhen.
0086-755-89635916
engineer1@victpower.com

1.4. Emergency telephone number

No additional information available

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Classification (GHS CA)

Not applicable

2.2. GHS Label elements, including precautionary statements

GHS CA labelling

No labelling applicable

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS CA)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

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3.2. Mixtures

Name	Chemical name / Synonyms	Product identifier	%
Cobalt lithium manganese nickel oxide	Lithium cobalt manganese nickel oxide / Cobalt lithium manganese nickel oxide	CAS-No.: 182442-95-1	30 – 50
Graphite	C.I. Pigment Black 10 / C.I. 77265 / graphite	CAS-No.: 7782-42-5	10 – 30
1,3-Dioxolan-2-one	Ethylene carbonate / Carbonic acid, cyclic ethylene ester / Cyclic ethylene carbonate / Ethylene glycol carbonate / Glycol carbonate / ETHYLENE CARBONATE / 2-Oxo-1,3-dioxolan / 2-Dioxolanone	CAS-No.: 96-49-1	10 – 20
Copper Foil	C.I. 77400 / C.I. Pigment Metal 2 / Copper, elemental / CI 77400 / Copper metal / Copper, metallic / Pigment Metal 2 / Granulated copper / copper	CAS-No.: 7440-50-8	2 – 10
Aluminum	aluminium powder (stabilised) / Aluminium / Aluminium metal / Aluminium, metal / Aluminum metal / Aluminum, elemental / Aluminum, metal / C.I. 77000 / CI 77000 / Aluminium powder (stabilised) / Aluminium powder (stabilized) / Aluminium powder / Pigment Metal 1 / Aluminum powder / Aluminium metal, powder / Aluminium powder (pyrophoric) / aluminum	CAS-No.: 7429-90-5	2 – 10
Phosphate(1-), hexafluoro-, lithium	Lithium hexafluorophosphate(1-) / Lithium phosphohexafluoride / Phosphate(1-), hexafluoro-, lithium (1:1) / Lithium hexafluorophosphate	CAS-No.: 21324-40-3	0 – 5
1,1-Difluoroethylene polymer	Ethene, 1,1-difluoro-, homopolymer / Homopolymer, ethene, 1,1-difluoro- / Polyvinylidene fluoride / Polyvinylidene fluoride resin / Poly(vinylidene fluoride) / Poly(1,1-difluoroethene) / POLYVINYLIDENE DIFLUORIDE / Vinylidene fluoride homopolymer / Polymer of 1,1-difluoroethene	CAS-No.: 24937-79-9	0 – 5
Styrene-butadiene copolymer	Benzene, ethenyl-, polymer with 1,3-butadiene / Butadiene-styrene copolymer / 1,3-Butadiene-styrene copolymer / Butadiene-styrene polymer / 1,3-Butadiene-styrene polymer / Butadiene-styrene resin / Butadiene-styrene rubber / Styrene-1,3-butadiene copolymer / STYRENE/BUTADIENE COPOLYMER / Styrene-butadiene polymer / Styrene-butadiene rubber / Styrene/butadiene copolymers / Polymer of styrene and 1,3-butadiene / 1,3 Butadiene/styrene copolymers / Styrene homopolymer and 1,3-butadiene homopolymer, block copolymer / Polymer of buta-1,3-diene/styrene / Polymer mainly composed of styrene/butadiene	CAS-No.: 9003-55-8	0 – 1

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SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Wash skin with plenty of water.
First-aid measures after eye contact	: Rinse eyes with water as a precaution.
First-aid measures after ingestion	: Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

No additional information available

4.3. Immediate medical attention and special treatment, if necessary

Note to physician : : Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam.

5.2. Unsuitable extinguishing media

No additional information available

5.3. Specific hazards arising from the hazardous product

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.4. Special protective equipment and precautions for fire-fighters

Protective equipment for firefighters : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

No additional information available

6.2. Methods and materials for containment and cleaning up

Methods for cleaning up	: Mechanically recover the product.
Other information	: Dispose of materials or solid residues at an authorized site.

6.3. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection"

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: Ensure good ventilation of the work station. Wear personal protective equipment.
Hygiene measures	: Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	: Store in a well-ventilated place. Keep cool.
Suitable container	: PE bag, carton

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Graphite (7782-42-5)	
Canada (Quebec) - Occupational Exposure Limits	
VEMP (OEL TWA)	2 mg/m ³ (containing no Asbestos and <1% Crystalline silica, except Graphite fibres-respirable dust)
Canada (British Columbia) - Occupational Exposure Limits	
Local name	Graphite - All forms except graphite fibres
OEL TWA	2 mg/m ³ (all forms except Graphite fibres-respirable)
Regulatory reference	OHS Guidelines Part 5: Chemical Agents and Biological Agents (WorkSafe BC)
Canada (Manitoba) - Occupational Exposure Limits	
Local name	Graphite (all forms excepte graphite fibers)
OEL TWA	2 mg/m ³ (all forms except Graphite fibers-respirable particulate matter)
Notations and remarks	TLV® Basis: Pneumoconiosis
Regulatory reference	ACGIH 2022
Canada (New Brunswick) - Occupational Exposure Limits	
OEL TWA	2 mg/m ³ (all forms except graphite fibres)
Notations and remarks	Pneumoconiosis
Canada (Newfoundland and Labrador) - Occupational Exposure Limits	
Local name	Graphite (all forms excepte graphite fibers)
OEL TWA	2 mg/m ³ (all forms except Graphite fibers-respirable particulate matter)
Notations and remarks	TLV® Basis: Pneumoconiosis
Regulatory reference	ACGIH 2022
Canada (Nova Scotia) - Occupational Exposure Limits	
Local name	Graphite (all forms excepte graphite fibers)
OEL TWA	2 mg/m ³ (all forms except Graphite fibers-respirable particulate matter)
Notations and remarks	TLV® Basis: Pneumoconiosis
Regulatory reference	ACGIH 2022
Canada (Nunavut) - Occupational Exposure Limits	
Local name	Graphite, natural-all forms except graphite fibres
OEL TWA	2 mg/m ³ (natural, all forms, except Graphite fibres-respirable fraction)
OEL STEL	4 mg/m ³ (natural, all forms, except Graphite fibres-respirable fraction)
Regulatory reference	Occupational Health and Safety Regulations, Nu Reg 003-2016 (Amendment R-044-2021)

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Graphite (7782-42-5)

Canada (Northwest Territories) - Occupational Exposure Limits

OEL TWA	2 mg/m ³ (natural, all forms, except Graphite fibres-respirable fraction)
OEL STEL	4 mg/m ³ (natural, all forms, except Graphite fibres-respirable fraction)
Regulatory reference	Occupation Health and Safety Regulations R-039-2015 (R-013-2020)

Canada (Ontario) - Occupational Exposure Limits

OEL TWA	2 mg/m ³ (except Graphite fibres-respirable particulate matter)
Regulatory reference	Ontario Occupational Exposure Limits under Regulation 833

Canada (Prince Edward Island) - Occupational Exposure Limits

Local name	Graphite (all forms excepte graphite fibers)
OEL TWA	2 mg/m ³ (all forms except Graphite fibers-respirable particulate matter)
Notations and remarks	TLV® Basis: Pneumoconiosis
Regulatory reference	ACGIH 2022

Canada (Saskatchewan) - Occupational Exposure Limits

Local name	Graphite, natural-all forms except graphite fibres
OEL TWA	2 mg/m ³ (natural, except Graphite fibres-respirable fraction)
OEL STEL	4 mg/m ³ (natural, except Graphite fibres-respirable fraction)
Regulatory reference	The Occupational Health and Safety Regulations, 2020. Chapter S-15.1 Reg 10

Canada (Yukon) - Occupational Exposure Limits

OEL TWA	20 mppcf 30 mppcf (synthetic) 10 mg/m ³ (synthetic)
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Copper Foil (7440-50-8)

Canada (Alberta) - Occupational Exposure Limits

Local name	Copper
OEL TWA	0.2 mg/m ³ (fume) 1 mg/m ³ (dust and mist)
Regulatory reference	Alberta Regulation 191/2021

Canada (Quebec) - Occupational Exposure Limits

VEMP (OEL TWA)	0.2 mg/m ³ (fume) 1 mg/m ³ (dust and mist)
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Canada (British Columbia) - Occupational Exposure Limits

Local name	Copper, as Cu
OEL TWA	1 mg/m ³ (dust and mist) 0.2 mg/m ³ (fume)
Regulatory reference	OHS Guidelines Part 5: Chemical Agents and Biological Agents (WorkSafe BC)

Canada (Manitoba) - Occupational Exposure Limits

Local name	Copper, as Cu
OEL TWA	0.2 mg/m ³ (fume)
Notations and remarks	TLV® Basis: Irr; GI; metal fume fever

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Copper Foil (7440-50-8)	
Regulatory reference	ACGIH 2022
Canada (New Brunswick) - Occupational Exposure Limits	
OEL TWA	0.2 mg/m ³ (fume) 1 mg/m ³ (dust and mist)
Notations and remarks	Irr; GI; metal fume fever
Canada (Newfoundland and Labrador) - Occupational Exposure Limits	
Local name	Copper, as Cu
OEL TWA	0.2 mg/m ³ (fume)
Notations and remarks	TLV® Basis: Irr; GI; metal fume fever
Regulatory reference	ACGIH 2022
Canada (Nova Scotia) - Occupational Exposure Limits	
Local name	Copper, as Cu
OEL TWA	0.2 mg/m ³ (fume)
Notations and remarks	TLV® Basis: Irr; GI; metal fume fever
Regulatory reference	ACGIH 2022
Canada (Nunavut) - Occupational Exposure Limits	
Local name	Copper, (as Cu)
OEL TWA	0.2 mg/m ³ (fume) 1 mg/m ³ (dust and mist)
OEL STEL	3 mg/m ³ (dust and mist) 0.6 mg/m ³ (fume)
Regulatory reference	Occupational Health and Safety Regulations, Nu Reg 003-2016 (Amendment R-044-2021)
Canada (Northwest Territories) - Occupational Exposure Limits	
OEL TWA	0.2 mg/m ³ (fume) 1 mg/m ³ (dust and mist)
OEL STEL	3 mg/m ³ (dust and mist) 0.6 mg/m ³ (fume)
Regulatory reference	Occupation Health and Safety Regulations R-039-2015 (R-013-2020)
Canada (Ontario) - Occupational Exposure Limits	
OEL TWA	0.2 mg/m ³ (fume) 1 mg/m ³ (dust and mist)
Regulatory reference	Ontario Occuational Exposure Limits under Regulation 833
Canada (Prince Edward Island) - Occupational Exposure Limits	
Local name	Copper, as Cu
OEL TWA	0.2 mg/m ³ (fume)
Notations and remarks	TLV® Basis: Irr; GI; metal fume fever
Regulatory reference	ACGIH 2022
Canada (Saskatchewan) - Occupational Exposure Limits	
Local name	Copper, (as Cu)

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Copper Foil (7440-50-8)

OEL TWA	0.2 mg/m ³ (fume) 1 mg/m ³ (dust and mist)
OEL STEL	0.6 mg/m ³ (fume) 3 mg/m ³ (dust and mist)
Regulatory reference	The Occupational Health and Safety Regulations, 2020. Chapter S-15.1 Reg 10

Canada (Yukon) - Occupational Exposure Limits

OEL TWA	0.2 mg/m ³ (fume) 1 mg/m ³ (dust and mist)
OEL STEL	0.2 mg/m ³ (fume) 2 mg/m ³ (dust and mist)

Aluminum (7429-90-5)

Canada (Quebec) - Occupational Exposure Limits

VEMP (OEL TWA)	10 mg/m ³
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Canada (New Brunswick) - Occupational Exposure Limits

OEL TWA	10 mg/m ³ (metal dust)
Notations and remarks	Pneumoconiosis; LRT irr

Canada (Nunavut) - Occupational Exposure Limits

OEL STEL	20 mg/m ³ (metal-dust)
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Canada (Northwest Territories) - Occupational Exposure Limits

OEL STEL	20 mg/m ³ (metal-dust)
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Canada (Ontario) - Occupational Exposure Limits

OEL TWA	1 mg/m ³ (respirable particulate matter)
Regulatory reference	Ontario Occupational Exposure Limits under Regulation 833

8.2. Appropriate engineering controls

Appropriate engineering controls	: Ensure good ventilation of the work station.
Environmental exposure controls	: Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: No data available
Colour	: No data available
Odour	: No data available
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Relative evaporation rate (ether=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Viscosity, kinematic	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

Reactivity	: The product is non-reactive under normal conditions of use, storage and transport.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: No dangerous reactions known under normal conditions of use.
Conditions to avoid	: None under recommended storage and handling conditions (see section 7).
Incompatible materials	: No additional information available
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hardening time:	: No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation)	: Not classified (Based on available data, the classification criteria are not met)
Skin corrosion/irritation	: Not classified (Based on available data, the classification criteria are not met)
Serious eye damage/irritation	: Not classified (Based on available data, the classification criteria are not met)
Respiratory or skin sensitization	: Not classified (Based on available data, the classification criteria are not met)
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity	: Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met)
STOT-single exposure	: Not classified (Based on available data, the classification criteria are not met)

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STOT-repeated exposure : Not classified (Based on available data, the classification criteria are not met)
Aspiration hazard : Not classified (Based on available data, the classification criteria are not met)

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute) : Based on available data, the classification criteria are not met
Hazardous to the aquatic environment, long-term (chronic) : Based on available data, the classification criteria are not met

2.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Ozone : Not classified

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

In accordance with TDG / DOT / IMDG / IATA

TDG	DOT	IMDG	IATA
14.1. UN number			
UN3481	3481	3481	3481
14.2. Proper Shipping Name			
LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT	Lithium ion batteries contained in equipment	LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT	Lithium ion batteries contained in equipment
14.3. Transport hazard class(es)			
9	9	9	9A
			

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TDG	DOT	IMDG	IATA
14.4. Packing group			
Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards			
Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No
No supplementary information available			

14.6. Special precautions for user

TDG
UN-No. (TDG) : UN3481

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TDG Special Provisions

- : 34 - (1) These Regulations, except for Part 1 (Coming into Force, Repeal, Interpretation, General Provisions and Special Cases) and Part 2 (Classification), do not apply to the handling, offering for transport or transporting of lithium cells and batteries on a road vehicle, a railway vehicle or a vessel on a domestic voyage if
- (a) for a lithium metal or lithium alloy cell, the lithium content is not more than 1 g, and, for a lithium-ion cell, the watt-hour rating is not more than 20 Wh;
 - (b) for a lithium metal or lithium alloy battery, the aggregate lithium content is not more than 2 g, and for a lithium-ion battery, the watt-hour rating is not more than 100 Wh;
 - (c) lithium ion batteries are marked with the watt-hour rating on the outside case, except for those manufactured before January 1, 2009;
 - (d) each cell and battery type passes each of the tests set out in paragraph 2.43.1(2)(a) of Part 2 (Classification);
 - (e) the cells and batteries are afforded protection against short circuit, including protection against contact with conductive materials within the same packaging that could lead to a short circuit;
 - (f) the cells and batteries are packed in a means of containment that completely encloses the cells and batteries;
 - (g) the gross mass of the cells and batteries does not exceed 30 kg, except when the cells and batteries are installed in or packed with equipment; and
 - (h) the cells and batteries are packed in a means of containment capable of withstanding a 1.2 m drop test in any orientation without damage to the cells or batteries contained inside the means of containment, without the contents shifting so as to allow battery-to-battery or cell-to-cell, contact, and without release of contents.
- (2) Cells and batteries referred to in subsection (1) that are installed in equipment must, unless they are afforded equivalent protection by the equipment in which they are contained,
- (a) be afforded protection against damage and short circuit, including protection against contact with conductive materials within the same packaging that could lead to a short circuit;
 - (b) subject to subsection (3), be fitted to prevent accidental activation; and
 - (c) be packed in a means of containment designed, constructed, filled, closed, secured and maintained so that under normal conditions of transport, including handling, there will be no release of the dangerous goods that could endanger public safety.
- (3) Paragraph (2)(b) does not apply to cells and batteries installed in devices that are intentionally active during transport such as radio frequency identification transmitters, watches and sensors, and that are not capable of generating a dangerous evolution of heat.
- (4) Except for means of containment containing button cell batteries installed in equipment, including circuit boards, or no more than four cells installed in equipment or no more than two batteries installed in equipment, each means of containment must be marked with the appropriate lithium battery mark in accordance with section 4.24.
- (5) Despite subsection (4), except for means of containment containing button cell batteries installed in equipment, including circuit boards, or no more than four cells installed in equipment or no more than two batteries installed in equipment, each means of containment may, until December 31, 2018, be marked with the following:
- (a) "lithium metal", "lithium métal", "lithium ion" or "lithium ionique", as appropriate;
 - (b) an indication that the means of containment must be handled with care and that a flammability hazard exists if the means of containment is damaged;
 - (c) an indication that special procedures must be followed in the event the means of containment is damaged, including inspection and repacking, if necessary; and
 - (d) a telephone number to call for additional information.
- 123 - (1) The testing requirements in subsection 38.3 of Part III of the Manual of Tests and Criteria do not apply to production runs consisting of not more than 100 cells and batteries or to pre-production prototypes of cells and batteries that are transported on a road vehicle, a railway vehicle or a vessel on a domestic voyage if
- (a) the cells or batteries are imported, offered for transport, handled or transported in accordance with Packing Instruction P910 of the UN Recommendations; and
 - (b) the pre-production prototypes of cells and batteries are in transport for the purpose of testing.
- (2) Despite paragraph (1)(b), batteries that have a total mass of 12 kg or more and that have a strong, impact-resistant outer casing, or assemblies of them, may be packed in an outer means of containment or protective enclosure designed, constructed, filled, closed, secured and maintained so that under normal conditions of transport, including handling, there will be no release of the dangerous goods that could endanger public safety. The batteries or battery assemblies must be protected from short-circuit.
- 137 - (1) This shipping name applies to lithium ion cells or batteries, and lithium metal cells or batteries, that are damaged or defective and do not conform to subsection 2.43.1(2) of Part 2 (Classification).
- (2) Lithium ion cells or batteries and lithium metal cells or batteries that are damaged or

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Explosive Limit and Limited Quantity Index	: 0
Excepted quantities (TDG)	: E0
Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index	: 5 kg
Emergency Response Guide (ERG) Number	: 147

DOT

UN-No.(DOT)	: UN3481
DOT Special Provisions (49 CFR 172.102)	: 181 - When a package contains a combination of lithium batteries contained in equipment and lithium batteries packed with equipment, the following requirements apply: a. The shipper must ensure that all applicable requirements of §173.185 of this subchapter are met. The total mass of lithium batteries contained in any package must not exceed the quantity limits in columns (9A) and (9B) for passenger aircraft or cargo aircraft, as applicable; b. Except as provided in §173.185(c)(3) of this subchapter, the package must be marked "UN 3091 Lithium metal batteries packed with equipment", or "UN 3481 Lithium ion batteries packed with equipment," as appropriate. If a package contains both lithium metal batteries and lithium ion batteries packed with and contained in equipment, the package must be marked as required for both battery types. However, button cell batteries installed in equipment (including circuit boards) need not be considered; and c. The shipping paper must indicate "UN 3091 Lithium metal batteries packed with equipment" or "UN 3481 Lithium ion batteries packed with equipment," as appropriate. If a package contains both lithium metal batteries and lithium ion batteries packed with and contained in equipment, then the shipping paper must indicate both "UN 3091 Lithium metal batteries packed with equipment" and "UN 3481 Lithium ion batteries packed with equipment." 388 - a. Lithium batteries containing both primary lithium metal cells and rechargeable lithium ion cells that are not designed to be externally charged, must meet the following conditions: i. The rechargeable lithium ion cells can only be charged from the primary lithium metal cells; ii. Overcharge of the rechargeable lithium ion cells is precluded by design; iii. The battery has been tested as a primary lithium battery; and iv. Component cells of the battery must be of a type proved to meet the respective testing requirements of the Manual of Tests and Criteria, part III, subsection 38.3 (IBR, see 171.7 of this subchapter). b. Lithium batteries conforming to paragraph a. of this special provision must be assigned to UN Nos. 3090 or 3091, as appropriate. When such batteries are transported in accordance with 173.185(c), the total lithium content of all lithium metal cells contained in the battery must not exceed 1.5 g and the total capacity of all lithium ion cells contained in the battery must not exceed 10 Wh. 422 - When labelling is required, the label to be used must be the label shown in §172.447. Labels conforming to requirements in place on December 31, 2016 may continue to be used until December 31, 2018. When a placard is displayed, the placard must be the placard shown in §172.560. A54 - Lithium batteries or lithium batteries contained or packed with equipment that exceed the maximum gross weight allowed by Column (9B) of the 172.101 Table may only be transported on cargo aircraft if approved by the Associate Administrator.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 185
DOT Packaging Non Bulk (49 CFR 173.xxx)	: 185
DOT Packaging Bulk (49 CFR 173.xxx)	: 185
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 5 kg
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 35 kg
DOT Vessel Stowage Location	: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

IMDG

Special provisions (IMDG)	: 188, 230, 310, 348, 360, 376, 377, 384, 387
Limited quantities (IMDG)	: 0
Excepted quantities (IMDG)	: E0
Packing instructions (IMDG)	: P903, P908, P909, P910, P911, LP903, LP904, LP905, LP906
EmS-No. (Fire)	: F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE
EmS-No. (Spillage)	: S-I - SPILLAGE SCHEDULE India - FLAMMABLE SOLIDS (REPACKING POSSIBLE)

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Stowage category (IMDG)	: A
Properties and observations (IMDG)	: Electrical batteries containing lithium ion encased in a rigid metallic body. Lithium ion batteries may also be shipped in, or packed with, equipment. Electrical lithium batteries may cause fire due to an explosive rupture of the body caused by improper construction or reaction with contaminants.

IATA

PCA Excepted quantities (IATA)	: E0
PCA Limited quantities (IATA)	: Forbidden
PCA limited quantity max net quantity (IATA)	: Forbidden
PCA packing instructions (IATA)	: 967
PCA max net quantity (IATA)	: 5kg
CAO packing instructions (IATA)	: 967
CAO max net quantity (IATA)	: 35kg
Special provisions (IATA)	: A48, A88, A99, A154, A164, A181, A185, A206, A213, A220
ERG code (IATA)	: 12FZ

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

Not applicable

SECTION 15: Regulatory information

15.1. National regulations

Graphite (7782-42-5)

Listed on the Canadian DSL (Domestic Substances List)

1,3-Dioxolan-2-one (96-49-1)

Listed on the Canadian DSL (Domestic Substances List)

Copper Foil (7440-50-8)

Listed on the Canadian DSL (Domestic Substances List)

Phosphate(1-), hexafluoro-, lithium (21324-40-3)

Listed on the Canadian NDSL (Non-Domestic Substances List)

Aluminum (7429-90-5)

Listed on the Canadian DSL (Domestic Substances List)

1,1-Difluoroethylene polymer (24937-79-9)

Listed on the Canadian DSL (Domestic Substances List)

Styrene-butadiene copolymer (9003-55-8)

Listed on the Canadian DSL (Domestic Substances List)

SECTION 16: Other information

Issue Date	: 2022.03.15
Revision Date	: 2022.03.30

Rechargeable Li-ion Battery Pack

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

Safety Data Sheet (SDS), Canada

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.