

power-xtra

MATERIAL SAFETY DATA SHEET

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This sheet is provided as technical information only. The information and recommendations set forth are made in good faith and are believed to be accurate as of the date of preparation. However, *Power-Xtra* makes no warranty expressed or implied.

Section 1 - Product and Company Identification

Product Name: All Cylindrical and Prismatic Lithium-ion/Polymer Batteries	TEL: +86-755- 82581455
Power-Xtra GROUPE INTERNATIONAL LTD.	FAX: (+86) 755-61624235

Section 2 – Composition / Information on Ingredients

Components	CAS#	Content (wt%)
Lithium Cobalt Dioxide (LiCoO ₂)	12190-79-3	less than 6wt%
Lithium Hexafluorophosphate (LiPF ₆)	21324-40-38	less than 5wt%
Polyvinylidene fluoride	24937-79-9	less than 7wt%
Carbonate Organic solvent	-	less than 18wt%
Graphite (C)	7782-42-5	less than 32wt%
Lead (Pb)*	7439-92-1	less than 0.1wt%(1000ppm)
Mercury (Hg)*	7439-97-6	less than 0.0005wt%(5ppm)
Steel		less than 42wt%
seal ring		less than 6wt%

*: Content information of banned or restricted material.

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Section 3 – Hazards Identification Including Emergency Overview

A lithium ion cell is normally stable under appropriate handling and storage conditions. If a lithium ion cell generates abnormal heat, leave away from the cell to avoid inhaling internal-materials. Chemicals which are contained in lithium ion cells, have some toxicity and it may cause irritation.

Section 4 - First Aid Measures

First-aid method for different exposure routes:

Inhalation: Not anticipated. If battery is leaking, contents may be irritating to respiratory passages. Remove to fresh air. Contact physician if irritation persists.

Skin: Not anticipated. If battery is leaking, immediately flush skin with plenty of water for at least 15 minutes. If irritation, injury or pain persists, consults a physician.

Eyes: Immediately flush eye with plenty of water for at least 15 minutes. Consult a physician

Ingestion: If swallowing a battery, consult a physician immediately.

If contents come into mouth, immediately rinse by plenty of water and consult a physician.

Section 5 - Fire Fighting Measures

Extinguishing Media: Plenty of water, Water fog spray, Dry chemical powder or Carbon dioxide. For incipient fires, carbon dioxide extinguishers are more effective than water.

Flammable Limits: N/A

Section 6 - Accidental Release Measures

Steps to be taken in case material is released or spilled:

Leave from contaminated area.

Near ignition source should be promptly removed.

Remove spilled electrolyte and batteries with absorbent not to contact with electrolyte.

Section 7- Handling and Storage

Never swallow. Never charge. Never heat. Never expose to open flame. Never disassemble. Never reverse the positive and negative terminals when mounting. Never short-circuit the battery. Never weld the terminal or wire to the body of the battery directly. Never use different batteries together. Never touch the liquid leaked out of battery. Never bring fire close to battery liquid. Store in cool, dry place.

Section 8 - Exposure Controls, Personal Protection

Respiratory Protection: SCBA (fire); Full-face respirator with particulate/organic cartridge(spill).

Ventilation: Natural or Butyl rubber gloves.

Eye Protection: Chem workers goggles

Work Hygienic Practices: Avoid exposure, wash hands after handling.

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Section 9 – Physical/Chemical Characteristics

Note: The following points are not applicable unless in case of leaking or damaged batteries with exposed internal components.

Appearance:

Cylindrical or prismatic shape

Odour:

Odourless (unless in case of damaged product with leaking electrolyte)

Flashpoint:

Not applicable

Flammability:

Not applicable

Relative density:

> 2 g/cm³

Solubility (water):

Not applicable unless individual components exposed

Solubility (other):

Not applicable

Section 10 - Stability and Reactivity

Product is stable under conditions described in Section 7.

Conditions to avoid:

Heat above 70° or incinerate. Deform. Mutilate. Crush. Pierce. Disassemble.

Short circuit. Expose over a long period to humid conditions.

Materials to avoid:

Strong mineral acids, alkali solutions, strong oxidizing materials and conductive materials

Hazardous decomposition products:

HF, CO, CO₂

Section 11 - Toxicological Information

N/A

Section 12 - Ecological Information

Lithium ion cells and batteries can be disposable in accordance with appropriate federal, state and local regulations. However, we recommend recycling, since these cells and batteries contain recyclable material (LiCoO₂).

Section 13 - Disposal Consideration

Do not incinerate or subject cells and batteries to temperatures in excess of 100°C(212°F). Such handling may cause heat generation, explosion, or fire.

Section 14 - Transportation Information

ADR

UN-Number: 3480

Description: Lithium ion batteries

Class: 9

Packaging order: P903

Special provision: 188; 230; 310; 348; 376; 377; 387; 636

Tunnel forbidden code: E

UN-Number: 3481

Description: Lithium ion batteries contained in equipment / packed with equipment

class: 9

packaging order: P903

special provision: 188; 230; 310; 348; 360; 376; 387; 390; 670

Tunnel forbidden code: E

IATA

UN-Number: 3480

Description: Lithium ion batteries

Class: 9

Packaging order: 965

Section: IB, IA

Special provision: A88; A99; A154; A164; A183; A201; A206; A213; A331; A334; A802

UN-Number: 3481

Description: Lithium ion batteries contained in equipment

Class: 9

Packaging order: 967

Section: II, I

Special provision: A48; A88; A99; A154; A164; A181; A185; A206; A213; A220

UN-Number: 3481

Description: Lithium ion batteries packed with equipment

Class: 9

Packaging order: 966

Section: II, I

Special provision: A48; A88; A99; A154; A164; A181; A185; A206; A213; A220

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IMDG-Code

UN-Number: 3480

Description: Lithium ion batteries

Class: 9

Packaging order: P903

Special provision: 188; 230; 310; 348; 377; 384; 387

UN-Number: 3481

Description: Lithium ion batteries contained in equipment / packed with equipment

Class: 9

Packaging order: P903

Special provision: 188; 230; 310; 348; 360; 376; 377; 384; 387; 390

Since 1st of January 2013 it is necessary to produce both, lithium cells and lithium batteries under an existing quality assurance program.

The quality assurance program is detailed in following parts of the international dangerous goods laws:

- ADR (2023): 2.2.9.1.7 (e)
- IATA (65th edition): 3.9.2.6 (e)
- IMDG-Code (Amendment 41-22): 2.9.4 (5.)

Power-Xtra hereby declare that all lithium cells and batteries of the Power-Xtra product range are produced according the above-named quality assurance program.

Section 15 - Regulatory Information

Lithium battery international transportation rules. Based on a United Nations recommendation, the regulation for lithium/lithium ion cells and batteries has been revised in the ICAO technical Instructions for the safe transport of dangerous goods. Each cell or battery pack meets the requirements of each test in the UN Manual of Tests and Criteria III, sub section 38.3. The Cells / Batteries are "Not Restricted" Cargo.

All Power-Xtra Lithium ion batteries can be shipped by air in accordance with International Civil Aviation Organization (ICAO) 2017-2018 edition, Section II or Section 1B or International Air Transport Association (IATA), 65th Edition, Section II or 1B, Packing Instructions (PI) 965 (Batteries), PI 966 (Batteries, packed with equipment) and PI 967 (Batteries, contained in equipment) as appropriate.

If you build any of our lithium ion cells in to a battery pack, you must also assure that they are tested in accordance with the UN Model Regulations, Manual of Test and Criteria. Part III, subsection 38.3,6th revised edition.

Regulations specifically applicable to the product:

- ACGIH and OSHA: see exposure limits of the internal ingredients of the battery in section 3.
- IATA/ICAO (air transportation): UN 3480 or UN 3481
- Transportation within the US-DOT, 49 Code of Federal Regulations (special provision 188
- IMDG (sea transportation): UN 3480 or UN 3481(special provision 188, 230)

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Section 16 - Other Information

This information has been compiled from sources considered to be dependable and is, to the best of our knowledge and belief, accurate and reliable as of the date compiled. However, no representation, warranty (either expressed or implied) or guarantee is made to the accuracy, reliability or completeness of the information contained herein.

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