



Intec Industries Co., Ltd.
Room 2703, Well Tech Centre
9 Pat Tat Street, San Po Kong, Hong Kong
Tel : (852) 2885 1100
Fax : (852) 2947 0588

SAFETY DATA SHEET

1. Product and Company Identification

Product identifier

Product Name: Rechargeable Lithium Iron Phosphate cell or battery pack

Other means of identification

Synonyms: None

Recommended use of the chemical and restrictions on use

Recommended Use: Lithium Ion (LiIon) Battery

Uses advised against: No information available

Details of the supplier of the safety data sheet

Supplier Name: Intec Industries Co., Ltd.

Supplier Address: Rm 2703, Well Tech Centre
9 Pat Tat Street
Sanpokong
Hong Kong

Supplier Phone Number: Phone: 852 28851100
Contact Phone: 852 60530300

Supplier Email: intecind@biznetvigator.com

Emergency telephone number: 852 60530300

2. Hazards Identification

Emergency Overview

In case of rupture harmful by inhalation, in contact with skin and if swallowed.

Corrosive.

The product causes burns of eyes, skin and mucous membranes.

May produce an allergic reaction.

May cause adverse kidney effects.

Appearance: Metallic

Physical state: Solid

Odor: Odorless

OSHA Regulatory Status: This product is an article which contains a sealed battery and as such does not require an SDS per the OSHA Hazard Communication Standard. While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.



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Potential Health Effects

Principle Routes of Exposure Eye contact. Skin contact.

Acute Toxicity:

Eyes	May cause irritation.
Skin	No known effect based on information supplied.
Inhalation	No known effect based on information supplied May be harmful if inhaled
Ingestion	No hazard from product as supplied.

Chronic Effects:

Avoid repeated exposure. Prolonged exposure may cause chronic effects and may cause adverse liver effects.

Aggravated Medical Conditions:

None known Pre-existing eye disorders. Kidney disorders. Liver disorders. Skin disorders. Respiratory disorders. Central Vascular System (CVS).

Environmental Hazard:

See Section 12 for additional Ecological Information Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

3. Compositions/ Information

CAS No.	Chemical	Weight/ Percent *
7782-42-5	Graphite	12 – 14
7429-90-5	Aluminum foil	3 – 5
7440-50-8	Copper	8 – 10
24937-79-9	1,1-Difluoroeth	1 – 1.5
21324-40-3	Lithium Hexafluorophosphate	2.5 – 3
623-53-0	Carbonate	10 – 12
616-38-6	Dimethyl	10 – 12
94-49-1	Ethylene	12
15365-14-7	Phosphoric acid, iron (2+) Lithium salt (1:1:1)	28 – 32

* The exact percentage (concentration) of composition has been withheld as a trade secret.

Weight of Lithium metal per cell: 0g.

4. First Aid Measures

General Advice:

First aid is upon rupture of sealed battery. Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Eye contact:

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Do not rub affected area. Seek immediate medical attention/advice.

Skin contact:

Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists. Remove and isolate contaminated clothing and shoes.

Inhalation:

Remove to fresh air. Get medical attention immediately if symptoms occur. If not breathing, give artificial respiration. If breathing is difficult, (trained personnel should) give oxygen.



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Ingestion: Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a physician.

Notes to Physician: Treat symptomatically.

Self-protection of the first aider: Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wear personal protective clothing (see section 8). Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

5. Fire-Fighting Measures

Flammable Properties: This article contains flammable electrolytes and therefore can cause a fire hazard if ruptured and chemicals are leaked out. May burn rapidly with flare-burning effect.

Flash Point: Not determined.

Suitable Extinguishing Media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Dry chemical, CO₂, water spray or regular foam. Move containers from fire area if you can do it without risk.

Large Fire: Move containers from fire area if you can do it without risk.

Hazardous Combustion Products: Carbon oxides.

Explosion Data

Sensitivity to Mechanical Impact: Not sensitive.

Sensitivity to Static Discharge: Not sensitive.

Protective equipment and precautions for firefighters: Move containers from fire area if you can do it without risk.

NFPA Health Hazards 1 Flammability 0 Stability 0 Physical and Chemical Hazards -

6. Accidental Release Measures

Personal precautions: Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material.

Environmental precautions: Prevent further leakage or spillage if safe to do so.



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- Methods for containment:** Prevent further leakage or spillage if safe to do so. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.
- Methods for cleaning up:** Pick up and transfer to properly labeled containers.
- Other Information:** Refer to protective measures listed in Sections 7 and 8. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).

7. Handling and Storage

- Handling:** In case of rupture. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.
- Storage:** Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children.

8. Exposure Control/ Personal Protection

8.1 Exposure Control Measures

- Exposure Limit Values:** Airborne exposures to hazardous substances are not expected when the cells or batteries are used for their intended purposes. Exposure standards are not applicable to the sealed articles.
- Biological Monitoring:** Not applicable.
- Control Banding:** Not applicable.
- Recommended monitoring Procedures:** Follow standard monitoring procedures.
- Derived no-effect level (DNEL):** Not applicable.
- Derived minimal effect level (DMEL):** Not applicable.
- Predicted no-effect concentrations (PNECs):** Not applicable.

8.2 Engineering Controls

- Engineering Controls:** Special ventilation is not required when using these products in normal use scenarios. Ventilation is required if there is leakage from the cell or battery.
- Individual Protection Measures Eye and Face protection:** Eye protection is not required when handling cells or batteries during normal use. Wear safety glasses/goggles if handling a leaking or ruptured cell or battery.



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- Skin (Hand) protection:** Hand protection is not required when handling the cell or battery during normal use. PVC gloves are recommended when dealing with a leaking or ruptured cell or battery.
- Skin (clothing) protection:** Skin protection is not required when handling the cell or battery during normal use. Wear long sleeved clothing to avoid skin contact if handling a leaking or ruptured cell or battery. Soiled clothing should be washed with detergent prior to re-use.
- Respiratory protection:** During routine operation, a respirator is not required. However, if dealing with an electrolyte leakage and irritating vapors are generated, an approved half face inorganic vapor and gas/acid/particulate respirator is required.
- Thermal Protection:** Not applicable.
- Other Protective Equipment:** Have a safety shower or eye wash station readily available.
- Hygiene Measures:** Do not eat, drink or smoke in work areas. Avoid storing food, drink or tobacco near the product. Practice and maintain good housekeeping.
- Environmental exposure controls:** Avoid release to the environment.

9. Physical and Chemical Properties

Appearance	Metallic.	Odor	Odorless.
Odor Threshold	No information available	Physical state	Solid
pH	No information available	Autoignition Temperature	No information available
Flash Point	No information available	Boiling point / boiling range	No information available
Decomposition temperature	No information available	Flammability Limits in Air	No information available
Melting Point/Range	No information available	Solubility	No information available.
Explosion Limits	No information available	Vapor pressure	No data available
Water Solubility	Insoluble		
Evaporation Rate	No information available		
Vapor density	No data available		

10. Stability and Reactivity

- Stability:** Stable under recommended storage conditions.
- Incompatible Products:** Strong acids. Strong oxidizing agents. Strong bases.
- Conditions to avoid:** None known based on information supplied.
- Hazardous Decomposition Products:** None known based on information supplied.
- Hazardous Polymerization:** Hazardous polymerization does not occur.



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11. Toxicological Information

11.1 Acute Toxicity

Product Information:	Product does not present an acute toxicity hazard based on known or supplied information.
LD50 Oral VALUE:	In case of rupture: 54518.52 mg/kg (rat) Estimated
LC50 Inhalation (DUST) VALUE:	6095.238 mg/L (mist) (dust) mg/m ³ Estimated
Inhalation:	Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.
Eye contact:	Specific test data for the substance or mixture is not available. Expected to be an irritant based on components. Severely irritating to eyes. Causes serious eye damage. May cause burns. May cause irreversible damage to eyes.
Skin contact:	Specific test data for the substance or mixture is not available. Expected to be an irritant based on components. Irritating to skin. Prolonged contact may cause redness and irritation.
Ingestion:	Specific test data for the substance or mixture is not available. Ingestion may cause irritation to mucous membranes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

11.2 Chronic Toxicity

Chronic Toxicity:	Avoid repeated exposure. Prolonged exposure may cause chronic effects. May cause adverse liver effects.
Target Organ Effects:	Central Vascular System (CVS). Eyes. Kidney. Liver. Respiratory system. Skin. Lungs.

12. Ecological Information

Ecotoxicity:	The sealed cell or battery does not pose an Ecotoxicity hazard. Cells or batteries under normal use conditions pose no ecotoxicity hazard. In the case of a broken or damaged cell or battery and leakage of the electrolyte, it will react with water and potentially cause damage to flora and fauna if not disposed of properly. See Section 13 of this SDS for proper disposal considerations.	
Persistence and degradability:	There is currently no data available.	
Bio accumulative potential:	There is currently no data available. Partition coefficient n-octanol/water (log Kow): Bio concentration factor (BCF):	Not applicable. Not available.
Mobility in soil:	There is currently no data available.	



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Results of PBT and vPvB assessment: Not a PBT or vPvB substance or mixture.

Other adverse effects: Solid cells and batteries released into the natural environment will slowly degrade and may release harmful or toxic substances. Cells and batteries are not intended to be released into water or on land but should be disposed or recycled according to local regulations. See section 13 of this SDS for Disposal Considerations.

Links to other Sections: For information on accidental release, see Section 6 of this SDS.
For information on disposal, see Section 13 of this SDS.
For information on transport hazard classes, see Section 14 of this SDS.

13. Disposal Considerations

Disposal methods: Should not be released into the environment.

Contaminated Packaging: Do not reuse empty containers.

California Hazardous Waste Codes: 141

This product contains one or more substances that are listed with the State of California as a hazardous waste.

13.1 Waste treatment methods: Cell and battery recycling is encouraged. Cells and batteries should not be released into the environment, do **NOT** dump into any sewers, on the ground or into any body of water. Do not dispose of in fire. Used cells and batteries should be stored in their original packaging, a plastic bag or with their terminals/contacts taped, to minimize the potential for short-circuiting to occur. Cells and batteries should be fully discharged before being sent for recycling. Do not store used cells or batteries near heat sources, chemicals or food. Do not store or transport used lithium-ion cells or batteries with lead acid batteries as they have different regulatory requirements. Do not break open or damage lithium-ion cells or batteries prior to disposal. Care should be taken at all times to ensure that used cells or batteries are not damaged during storage or transport. Store material for disposal as indicated in Section 7 Handling and Storage.

13.2 Classification of the waste to comply with Waste Regulations

USA: Spent cells and batteries are not considered hazardous waste. Cells and batteries involved in a fire may be considered to be hazardous waste. Dispose of in accordance with local, state and federal laws and regulations. Consult universal/hazardous waste regulations for further information regarding disposal of spent batteries. If a cell or battery is leaking/broken open, consult hazardous waste regulations under US Environmental Protection Agency's Resource Conservation and Recovery Act (RCRA). Also, consult state and local regulations for further disposal requirements.



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- Canada:** Spent cells and batteries are not considered hazardous waste. Cells and batteries involved in a fire may be considered to be hazardous waste. Dispose of in accordance with local, provincial and federal laws and regulations. Consult the Canadian Environmental Protection Act for additional details.
- EU:** Waste must be disposed of in accordance with relevant EC Directives and national, regional and local environmental control regulations. For disposal within the EC, the appropriate code according to the European Waste Catalogue (EWC) should be used.
EU Waste Code: 16 06 05 – other batteries and accumulators.
- Japan:** Recycling of spent lithium-ion cells and batteries is regulated by the Wastes Disposal and Public Cleaning Law and the Law for Promotion of Effective Utilization of Resources, cells and batteries should be recycled at a JBRC (Japan Battery Recycling Center) approved facility.
- Australia:** Spent cells and batteries must be taken for recycling or disposal at an appropriate collection depot by suitably licensed contractors in accordance with government regulations.

13.3 Classification of the waste to comply with Transport Regulations:

Spent lithium-ion cells and batteries are not considered hazardous waste. Lithium-ion cells and batteries involved in a fire may be considered to be hazardous waste and should be classified as such. Damaged lithium-ion cells and batteries are explicitly prohibited from transport by air.

13.4 Classification of Packaging materials:

Unsoiled excess packaging should be disposed of according to any applicable recycling regulations and is not considered hazardous waste. Soiled packaging or packaging exposed to the interior of a lithium-ion cell or battery pack should be considered hazardous waste and disposed of according to local hazardous waste rules and regulations.



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14. Transportation Information

The transportation of lithium ion cells and batteries is regulated by the International Civil Aviation Organization, International Air Transport Association, International Maritime Dangerous Goods Code and the US Department of Transportation. The batteries must meet the following criteria for shipment: 1. Air shipments must meet the requirements listed in Special Provision A45 of the International Air Transport Association Dangerous Goods Regulations. 2. Meet the requirements for the US Department of Transportation listed in 49 CFR 173.185. 3. The transport of primary lithium batteries is prohibited aboard passenger aircraft. Refer to the Federal Register December 15, 2004 (Hazardous Materials; Prohibited on the Transportation of Primary Lithium Batteries and Cells Aboard Passenger Aircraft; Final Rule) Lithium batteries shipped as "Lithium batteries", "Lithium batteries packed with equipment", or "Lithium batteries contained in equipment" may not be classified as "Dangerous Goods" when shipped in accordance with "special provision A45 of IATA-DGR" or "special provision 188 of IMO-IMDG Code"

Lithium-ion cells and batteries are regulated for land, sea and air transportation. It is recommended that Lithium-ion cells and batteries should not be fitted to equipment during transportation. Note: Cells and Batteries must always be protected against short-circuiting during transport. Special precautions should be undertaken when damaged or defective cells and batteries are transported. You must contact the manufacturer before transporting damaged or defective cells and batteries. It is prohibited to carry defective or damaged cells and batteries by air.

Intec cells and batteries comply with all applicable shipping regulations as prescribed by industry and legal standards which include compliance with the UN Recommendations on the Transport of Dangerous Goods, IATA Dangerous Goods Regulations, U.S. DOT regulations for the safe transport of lithium-ion batteries, the International Maritime Dangerous Goods Code and the Canadian Transport of Dangerous Goods regulations.

UN Number:	3480 or 3481
UN Proper Shipping Name:	3480 – Lithium Ion Batteries 3481 – Lithium Ion Batteries Contained in Equipment 3481 – Lithium Ion Batteries Packed with Equipment
Transport Hazard Class(es):	Class 9 Subsidiary Risk - Label(s) 9 Hazard No. (ADR) - Tunnel Restriction code E

Environmental hazards Marine Pollutant: No

Emergency Response Guide Number: 147

DOT NOT REGULATED

TDG Not regulated

MEX Not regulated

ICAO Not regulated

IATA Not regulated

IMDG/IMO Not regulated



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15. Regulatory Information

15.1 International Inventories

TSCA: Complies
DSL: Not determined

15.2 US Federal Regulations

OSHA: These products do not meet criteria as per Part 1910.1200, manufactured article.

15.3 SARA 311/312 Hazard Categories:

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act): These products contain one or more substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

These products contain one or more substances which are listed hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act:

CERCLA RQ: None

15.4 US State Regulations

California Proposition 65

These products do not contain any Proposition 65 chemicals.

Canadian Federal Regulations

These products have been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.

WHMIS Classification: Not Controlled, manufactured article.

New Substance Notification Regulations: Lithium hexafluorophosphate is listed on the Non-Domestic Substance List (NDSL). All other ingredients in the product are listed, as required, on Canada's Domestic Substances List (DSL).

National Pollutant Release Inventory (NPRI) Substances: These products do not contain any NPRI chemicals.

WHMIS Hazard Class: Non-controlled

EC Classification for the Substance/Preparation:

These products are not classified as hazardous according to Regulation (EC) No. 1272/2008.

Keep out of the reach of children.

EU Regulations:

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I: Not listed.

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex II: Not listed.

Regulation (EC) No. 850/2004 on persistent organic pollutants, Annex I as amended: Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 1 as amended: Not listed.



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Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 2 as amended: Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 3 as amended: Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex V as amended: Not listed.

Regulation (EC) No. 166/2006, REACH Article 59(10) Candidate List as currently published by ECHA: Not listed.

EU Authorizations:

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended: Not listed.

EU Restrictions on use:

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended:

Aluminium (CAS 7429-90-5)

Directive 2004/37/EC: on the safety and health of pregnant workers and workers who have recently given birth or are breastfeeding: Not listed.

Other EU Regulations

Directive 96/82/EC (Seveso II) on the control of major accident hazards involving dangerous substances: Not listed.

Directive 94/33/EC on the protection of young people at work: Not listed.

This Safety Data Sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Japanese Regulations

Japanese Industrial Standards (JIS) JIS Z 7253:2012

Waste disposal and public cleaning law

Law for Promotion of Effective Utilization of Resources

Australia and New Zealand

SUSMP Not applicable

AICS All ingredients are on the AICS list.

HSNO Approval number Not applicable

HSNO Group Title Not applicable

NOHSC:10008 Risk Phrases R34 - Causes Burns.

NOHSC:1008 Safety Phrases

S1 – Keep locked up.

S2 – Keep out of reach of children

S23 – Do not breathe vapor.

S24/25 – Avoid contact with skin and eyes.

S26 – In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S27/28 – After contact with skin, take off immediately all contaminated clothing and wash immediately with plenty of water.

S36/37/39 – Wear suitable protective clothing, gloves and eye/face protection.

S56 – Dispose of this material and its container at hazardous waste or special waste collection point.

S62 – If swallowed, DO NOT induce vomiting: seek medical advice immediately and show this container or label.

S64 – If swallowed, rinse mouth with water (Only if the person is conscious).



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16. Other Information

NFPA Health Hazards 1 Flammability 0 Instability 0 Physical and Chemical Hazards –
HMIS Health Hazards 0 Flammability 0 Physical Hazard 0 Personal Protection X

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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