Safety Data Sheet (SDS)

Revision date: January 7th, 2025

SECTION 1: Identification of the substance/mixture and the company/undertaking

1.1 Product Identifier

Lithium-ion cells and battery packs, $LiFePO_4$

Product brand: Discover Energy Systems

Product Name	Marketing Name	Product Model
AES 210HV	AES 210HV	SLL03C2-D1P52S1R4-A01

Other means of identification:

Discover AES-210HV Advanced Energy System (AES)
Discover AES-210HV Energy Storage Outdoor Cabinet
Discover lithium / lithium ion
Discover system

1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended Use: Electrochemical energy storage - industrial
Uses advised against: Not applicable

1.3 Details of the supplier of the safety data sheet

Company: Discover Energy Systems Corp.
Name: Discover Energy Systems
Address: 13711 International Pl Unit 320, Richmond, BC V6V 2Z8 Canada
Telephone: +1 (604) 242-0350
Website: discoverenergysys.com
Emergency phone: 1-800-535-5053 (Account# 115375)

SECTION 2: Hazards identification

Hazard Label	Class 9A- Lithium batteries 
Explosive risk	This item does not belong to the explosion of dangerous goods
Flammable risk	This item is not flammable, dangerous goods
Oxidation risk	This item is not an oxidizing hazardous substance
Toxic risk	This item is not toxic or dangerous
Radioactive risk	This item is not a radioactive hazardous substance
Corrosion risk	This item is not a corrosive hazardous substance
Other risk	This battery is a lithium-ion battery

SECTION 3: Composition/information on ingredients

Chemical Composition	Content %	CAS No.
Lithium Iron Phosphate Carbon Coated	40.28	15365-14-7
Graphite (C)	20.16	7782-42-5
Ethylene carbonate (EC)	4.74	96-49-1
Ethyl Methyl Carbonate (EMC)	7.19	623-53-0
Diethyl carbonate (DEC)	1.18	105-58-8
Propylene carbonate (PC)	1.18	108-32-7
Dimethyl carbonate (DMC)	2.37	616-38-6
Lithium hexafluorophosphate (LiPF6)	2.76	21324-40-3
Carbon Black	0.62	1333-86-4
Polyvinylidene fluoride resin PVDF	0.79	24937-79-9
Carboxymethyl cellulose (CMC)	0.04	9000-11-7
Polyethylene	2.45	9002-88-4
Copper	6.86	7440-50-8
Aluminum	4.43	7429-90-5

SECTION 4: First aid measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Seek medical attention.
Skin: Remove contaminated clothes and rinse the skin with plenty of water, or shower for 15 minutes. Seek medical attention.
Ingestion: Drink at least two glasses of milk or water. Induce vomiting unless the patient is unconscious. Seek medical attention.
Inhalation: Give at least 2 glasses of milk or water. Induce vomiting unless the patient is unconscious. Seek a physician or emergency services attention.

SECTION 5: Firefighting measures

Flash Point: N/A.
Auto-Ignition Temperature: N/A.
Special firefighting Procedures: Self-contained breathing apparatus.
Extinguishing Media: Water, CO_2
Unusual Fire and Explosion Hazards: Cell may vent when subjected to excessive heat, exposing battery contents.
Hazardous Combustion Products: Carbon monoxide, carbon dioxide, lithium oxide fumes.

SECTION 6: Accidental release measures

Steps to be Taken in Case of Material Release or Spill:

- If the battery material is released, remove personnel from the area until fumes dissipate.
- Provide maximum ventilation to clear our hazardous gases.
- Wipe with a cloth, dispose of it in a plastic bag, and put it into a steel can.
- The preferred response is to leave the area and allow the battery to cool and vapors to dissipate. Provide maximum ventilation.
- Avoid skin and eye contact or inhalation of vapors. Remove spilled liquid with absorbent and incinerate.

Waste Disposal Method:

- It is recommended to fully discharge the battery, to use up the metal lithium inside the battery, immerse it in salt water, and then give it to a professional recycling company for processing or handle in accordance with the local regulations.

SECTION 7: Handling and storage

- The battery should not be opened, destroyed or incinerated, since they may leak or rupture and release to the environment the ingredients that they contain in the hermetically sealed container.
- Do not short circuit the terminals or overcharge the battery, force over-discharge, or throw into fire.
- Do not crush, puncture, or immerse in liquids.

Precautions to be taken in handling and storing:

- Avoid mechanical or electrical abuse.
- Store preferably in a cool, dry, ventilated area, which is subject to little temperature change. Storage in high temperatures should be avoided.
- Do not place the battery near heating equipment, nor expose to direct sunlight for long periods of time.

Other Precautions:

- The batteries may explode or cause burns if disassembled, crushed or exposed to fire or high temperatures. Do not short or install with incorrect polarity.

SECTION 8: Exposure controls / personal protection

Respiratory Protection: In case of battery venting, provide as much ventilation as possible. Avoid confined areas with venting cell cores. Respiratory protection is not necessary under normal use.
Ventilation: Not necessary under conditions of normal use.
Protective Gloves & Clothing: Not necessary under conditions of normal use.
Other Protective Clothing or Equipment: Not necessary under conditions of normal use.
Personal Protection is Recommended for Venting Battery: Respiratory protection, protective gloves and clothing, and safety glasses with side shields.

SECTION 9: Physical and Chemical Properties

Appearance: Quadrate shape.
Odor: If leaking, smells of medical Ether.
pH: Not applicable as supplied.
Flash Point: Not applicable unless individual components exposed.
Flammability: Not applicable unless individual components exposed.
Solubility (Water): Not applicable unless individual components exposed.
Solubility (other): Not applicable unless individual components exposed.
Stability: Product is stable under conditions described in Section 7.

SECTION 10: Stability and reactivity

Stability: Product is stable under conditions described in Section 7.
Conditions to avoid: Heat above 70°C or incinerate. Deform. Mutilate. Crush. Disassemble. Overcharge. Short circuit. Expose over a long period to humid conditions.
Materials to avoid: Oxidising agents, alkalis, water.
Hazardous Decomposition Products: Toxic fumes and may form peroxides.
Hazardous Polymerization: If leaked, contact with strong oxidizers, mineral acids, strong alkalises, and halogenated hydrocarbons is forbidden.

SECTION 11: Toxicological information

Signs & symptoms: None, unless battery ruptures. In the event of exposure to internal contents, vapor and fumes may be very irritating to the eyes and skin.
Inhalation: Lung irritant.
Skin contact: Skin irritant.
Eye contact: Eye irritant.
Ingestion: Poisoning if swallowed.

Medical conditions are generally aggravated by exposure. In the event of exposure to internal contents, moderate to severe irritation, burning, and dryness of the skin may occur. Target organs, nerves, liver and kidneys.

SECTION 12: Ecological information

Mammalian Effects: None known at present.
Eco-toxicity: None known at present.
Bioaccumulation Potential: Slowly biodegradable.
Environmental Fate: No known environmental hazards at present.

SECTION 13: Disposal considerations

Do not incinerate or subject cells to temperatures in excess of 70°C. Such abuse can result in loss of seal leakage, and/or cell explosion. Dispose of in accordance with appropriate local regulations.

SECTION 14: Transport information

Label for Conveyance: Class 9A Hazard Label
UN Number: UN3480
Proper Shipping Name: Lithium ion batteries
Hazard Class: 9
Packing Group: None
IMDG Code/TDG: 230, 310, 348, 376, 377, 384, 387
IMDG Code/TDG Special Provisions: 230, 310, 348, 376, 377, 384, 387
IMDG Code/TDG: P903
IMDG Code/TDG Packing Instructions: P903
IATA DGR Packing Instructions: Section IA of 965
EmS: F-A, S-I
EmS No: F-A, S-I
Marine Pollutant: No
IMGD Code (Amdt. 42-24), P903, UN38.3
Hazard Classification: The goods shall comply with the requirements of the Packaging Instructions TDG 23rd

Edition, the Packaging Instructions P903, and the IMDG Code (Amdt. 42-24), including passing the UN38.3 test.

SECTION 15: Regulatory information

The laws and regulations applicable to the transportation of lithium batteries are as follows:

- The UN Model Regulations, United Nations ST/SG/AC.10/1/Rev 23. Recommendations of the Safe Transport of Dangerous Goods.
- The International Civil Aviation Organization (ICAO) Technical Instructions for the Safe Transport of Dangerous Goods by Air Transport
- The International Air Transport Association (IATA) Dangerous Goods Regulations (66th Edition 2025)
- International Maritime Organization (IMO International Maritime Dangerous Goods Code (IMDG Code) (Amdt. 42-24)
- Agreement concerning the International Carriage of Dangerous Goods by Road (ADR 2023)
- JT/T 617-2018 Regulations concerning road transportation of dangerous goods.

SECTION 16: Other information

This document is only effective to the batteries (model: SLL03C2-D1P52S1R4-A01) provided by commissioner which manufactured by Quzhou Great Power Energy & Technology Co. Ltd. The commissioner provides the composition information of the batteries and promises its integrity and accuracy.

Users should read this file carefully and use the batteries in correct method. GUANGZHOU CUSTOMS DISTRICT TECHNOLOGY CENTER doesn't assume responsibility for any damage or loss because of misuse of batteries.

16.1 Revision summary

January 7th, 2025.	New document

16.2 Manufacturer disclaimer

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