EPOCH BATTERIES

16-SECTION GHS FORMAT

SAFETY DATA SHEET

LITHIUM IRON PHOSPHATE (LiFePO4) RECHARGEABLE BATTERIES

33 MODELS · 12 V TO 72 V CLASS

This Safety Data Sheet covers every Epoch Batteries lithium iron phosphate (LiFePO4) battery listed on epochbatteries.com, from 12 V to 72 V class (Table 1). The batteries are sealed articles: under normal conditions of use their cells release no hazardous chemicals. The hazards described here apply if a battery is damaged, abused or involved in a fire, and during transport.

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ADVANCED LITHIUM BATTERY SYSTEMS

EMERGENCY OVERVIEW

DETAILS IN SECTIONS 2, 4, 5, 6 AND 14

LiFePO4	UN3480	147	> 100 Wh
CHEMISTRY	TRANSPORT	ERG GUIDE	EVERY MODEL
Sealed article with integrated BMS	Class 9 · UN3481 with equipment	Lithium ion batteries (ERG 2024)	Fully regulated for transport

DANGER

Short-circuit and fire hazard. Never connect the terminals together or let tools or jewelry bridge them: a short circuit can release extremely high current and cause arcing, burns or fire. Do not puncture, crush, open, incinerate or immerse the battery.

FIRST AID (OPENED CELL)

- **Eyes:** flush with lukewarm, gently flowing water for at least 30 minutes; get emergency care.
- **Skin:** remove contaminated clothing; flush with water for at least 30 minutes.
- **Inhalation:** move to fresh air; obtain medical advice.
- **Ingestion:** rinse mouth; do not induce vomiting; get emergency care.

FIRE, VENTING OR LEAKING BATTERY

- **Isolate** the area for at least 25 m (75 ft) in all directions; stay upwind.
- **Small fires:** dry chemical, CO2, water spray or regular foam.
- **Large fires:** water spray, fog or regular foam.
- **Responders:** self-contained breathing apparatus (SCBA) and full protective gear.

Emergency	Poison Help (U.S.)	Epoch Batteries support
Call 911	**1-800-222-1222**	**1-888-501-1846**
Fire, injury or a leaking battery	Exposure to cell contents	Monday–Friday, 9 AM–4 PM Eastern · support@epochbatteries.com

SECTION 01

IDENTIFICATION

PRODUCT IDENTIFIER, USES AND SUPPLIER

Product identifier	Lithium iron phosphate (LiFePO4) rechargeable battery
Other names	LiFePO4 battery; lithium-ion battery (LiFePO4 chemistry)
Product type	Sealed battery (article) built from prismatic LiFePO4 cells with an integrated battery management system (BMS)
Products covered	The Epoch models listed in Table 1: the Elite, Pro, Essential, Eco, Big Box and GC2 series, and other models
Recommended use	Rechargeable deep-cycle energy storage for RV, marine and trolling-motor, golf cart and utility vehicle, off-grid, solar and backup power systems. Dual-purpose models also start engines.
Restrictions on use	Use only as described in the model's user manual and within its published ratings, with a charger or charging system set for LiFePO4.
Supplier	Epoch Batteries 3075 Chastain Meadows Pkwy, Marietta, GA 30066, USA 954 Ponce de Leon Ave, Suite 401, San Juan, PR 00907, USA
Telephone	1-888-501-1846 (Monday–Friday, 9 AM–4 PM Eastern) · Text 1-678-846-3948
Email · website	support@epochbatteries.com · epochbatteries.com
Emergency telephone	Fire, injury or a leaking or burning battery: call **911** or local emergency services. Poison Help (U.S.): **1-800-222-1222**.

TABLE 1 · PRODUCTS COVERED 33 models listed on epochbatteries.com, September 2026

MODEL / SKU	PRODUCT	SERIES	NOMINAL VOLTAGE	CAPACITY	ENERGY
12 V CLASS 12.8 V nominal · 13 models					
1250A-ES	12V 50Ah Essential Series	Essential	12.8 V	50 Ah	640 Wh
12100-ECO	12V 100Ah Eco Series	Eco	12.8 V	100 Ah	1,280 Wh
12105A-H	12V 105Ah Essential Series, heated	Essential	12.8 V	105 Ah	1,344 Wh
DP12120H	12V 120Ah Cranking & Deep Cycle (Dual Purpose)	Pro	12.8 V	120 Ah	1,536 Wh
12172A-DP	12V 172Ah Cranking & Deep Cycle (Dual Purpose)	Essential	12.8 V	172 Ah	2,202 Wh
12300A-H	12V 300Ah Essential Series, heated	Essential	12.8 V	300 Ah	3,840 Wh
DP12300H	12V 300Ah Cranking & Deep Cycle (Dual Purpose)	Pro	12.8 V	300 Ah	3,840 Wh
12314-ECO	12V 314Ah Eco Series	Eco	12.8 V	314 Ah	4,019 Wh
12334A-H	12V 334Ah Essential Series, heated	Essential	12.8 V	334 Ah	4,275 Wh
12334A-MC	12V 334Ah MC Essential Series, heated	Essential	12.8 V	334 Ah	4,275 Wh
12460A-H	12V 460Ah Essential Series, heated	Essential	12.8 V	460 Ah	5,888 Wh
C12460A	12V 460Ah V2 Elite Series	Elite	12.8 V	460 Ah	5,888 Wh
C12460A-A	12V 460Ah V2-T Elite Series	Elite	12.8 V	460 Ah	5,888 Wh
24 V CLASS 25.6 V nominal · 5 models					
DP2460H	24V 60Ah Pro Series	Pro	25.6 V	60 Ah	1,536 Wh
B24100A-C	24V 100Ah, heated	—	25.6 V	100 Ah	2,560 Wh

MODEL / SKU	PRODUCT	SERIES	NOMINAL VOLTAGE	CAPACITY	ENERGY
24230A-H	24V 230Ah Essential Series, heated	Essential	25.6 V	230 Ah	5,888 Wh
C24230A	24V 230Ah V2 Elite Series	Elite	25.6 V	230 Ah	5,888 Wh
C24230A-A	24V 230Ah V2-T Elite Series	Elite	25.6 V	230 Ah	5,888 Wh
36 V CLASS 38.4 V nominal · 3 models					
3650A-H	36V 50Ah Essential Series, heated	Essential	38.4 V	50 Ah	1,920 Wh
B36100A-A	36V 100Ah, heated	—	38.4 V	100 Ah	3,840 Wh
BB38100A-Kit	36V 100Ah Golf Cart Battery Complete Kit Also listed as BB38105A-Kit-1; configuration suffixes such as -TXT	Big Box	38.4 V	100 Ah	3,840 Wh
48 V CLASS 51.2 V nominal · 11 models					
48V-30AH-GC2	48V 30Ah GC2 golf cart module	GC2	51.2 V	30 Ah	1,536 Wh
48V-60Ah-GC2-Kit	48V 60Ah GC2 kit (two 30Ah modules)	GC2	51.2 V	30 Ah	1,536 Wh per module, × 2
48V-90Ah-GC2-Kit	48V 90Ah GC2 kit (three 30Ah modules)	GC2	51.2 V	30 Ah	1,536 Wh per module, × 3
BB5165A-Kit-1	48V 65Ah Golf Cart Battery Complete Kit	Big Box	51.2 V	65 Ah	3,328 Wh
SR48100H	48V 100Ah Self-Heating Server Rack	—	51.2 V	100 Ah	5,120 Wh
C48100A	48V 100Ah V2 Elite Series	Elite	51.2 V	100 Ah	5,120 Wh
C48100A-A	48V 100Ah V2-T Elite Series	Elite	51.2 V	100 Ah	5,120 Wh
BB51105A-Kit	48V 105Ah Golf Cart Battery Complete Kit	Big Box	51.2 V	105 Ah	5,376 Wh
BB51105A_MINI-Kit-1	48V 105Ah MINI Golf Cart Battery Complete Kit	Big Box	51.2 V	105 Ah	5,376 Wh
BB51150A-Kit-1	48V 150Ah Golf Cart Battery Complete Kit	Big Box	51.2 V	150 Ah	7,680 Wh
BB51230A-Kit-1	48V 230Ah Golf Cart Battery Complete Kit	Big Box	51.2 V	230 Ah	11,776 Wh
72 V CLASS 70.4 V nominal · 1 model					
BB72105A-Kit	70.4V (72V) 105Ah Golf Cart Battery Complete Kit	Big Box	70.4 V	105 Ah	7,392 Wh

Energy is the watt-hour rating used for transport classification (Section 14): nominal voltage × rated capacity. GC2 kits contain two or three separate 30Ah modules; the rating shown is per module. Complete kits also contain accessories such as a charger, battery gauge and 12 V converter; this SDS covers the battery.

SECTION 02

HAZARD(S) IDENTIFICATION

CLASSIFICATION, LABEL ELEMENTS AND OTHER HAZARDS

Classification	Not classified. The battery is an article under 29 CFR 1910.1200 and is not subject to the OSHA Hazard Communication Standard. The sealed cells are not hazardous when used according to the manufacturer's recommendations and as long as their integrity is maintained.
Signal word	None required (article). Safety messages in this SDS use ANSI Z535 signal words (DANGER, WARNING) to mark hazards during handling, installation and emergencies.
Hazard pictograms	None required (article). For transport labels, see Section 14.
Precautionary statements	Do not short-circuit, puncture, incinerate, crush, immerse in water, force-discharge or expose to temperatures above the declared operating temperature range of the product.

If the enclosure is breached	The active materials and liquid electrolyte are not exposed under normal conditions. If a cell is mechanically, thermally or electrically abused to the point of compromising its enclosure, exposure to the electrolyte can occur by inhalation, ingestion, and eye and skin contact.
Physical hazards	The cells contain a flammable liquid electrolyte that may vent, ignite and produce sparks when subjected to high temperatures (above 150 °C / 302 °F), or when damaged or abused, for example by mechanical damage or electrical overcharge. Burning cells can ignite other batteries in close proximity.
Interactions with other chemicals	Immersion in high-conductivity liquids may cause corrosion and breaching of the cell enclosure.

⚠ DANGER

Short-circuit hazard. Never connect the terminals together or let tools or jewelry bridge them. A short circuit can release extremely high current and cause arcing, burns or fire.

Potential health effects (contents of a ruptured cell)

ROUTE	EFFECT
General	The electrolyte in a ruptured cell is corrosive and can cause burns to skin and eyes.
Inhalation	Not an expected route of exposure from a sealed cell. Vapors or mists from a ruptured cell may cause respiratory irritation.
Ingestion	Not an expected route of exposure from a sealed cell. Swallowing the contents of an open cell can cause serious chemical burns of the mouth, esophagus and gastrointestinal tract.
Skin	Contact with the battery causes no harm. Contact with the contents of an open cell can cause severe irritation or burns.
Eyes	Contact with the battery causes no harm. Contact with the contents of an open cell can cause severe irritation or burns.

SECTION 03

COMPOSITION / INFORMATION ON INGREDIENTS

CELL MATERIALS AND CAS NUMBERS

The product is an article (a sealed battery). As a solid, manufactured article, exposure to hazardous ingredients is not expected with normal use. The cells contain the materials below.

COMPONENT	CAS NO.	CONTENT IN THE CELLS
Lithium iron phosphate (LiFePO4)	15365-14-7	25–50%
Carbon (graphite)	7782-42-5	10–30%
Aluminum	7429-90-5	1–15%
Copper	7440-50-8	1–15%
Electrolyte: lithium hexafluorophosphate (LiPF6) in flammable organic solvent	Mixture (LiPF6: 21324-40-3)	5–15%

Other components	Battery management system (BMS) electronics, busbars, wiring and the battery enclosure (metal or plastic, depending on model).
USA	This battery is an article pursuant to 29 CFR 1910.1200 and, as such, is not subject to the OSHA Hazard Communication Standard requirements.

European Union	This product is an article according to the REACH Regulation (EC) No 1907/2006.

SECTION 04

FIRST-AID MEASURES

EXPOSURE TO THE CONTENTS OF AN OPENED CELL

First aid is needed only if the contents of an opened or damaged cell are released. Contact with an intact battery causes no harm.

Inhalation	If contents of an opened cell are inhaled, remove the source of contamination or move the person to fresh air. Obtain medical advice.
Eye contact	Contact with the contents of an opened cell can cause burns. Immediately flush the eye(s) with lukewarm, gently flowing water for at least 30 minutes while holding the eyelids open. Use neutral saline solution as soon as it is available. If necessary, continue flushing during transport to the emergency care facility. Take care not to rinse contaminated water into the unaffected eye or onto the face. Transport the person quickly to an emergency care facility.
Skin contact	Contact with the contents of an opened cell can cause burns. As quickly as possible, remove contaminated clothing, shoes and leather goods, then immediately flush the skin with lukewarm, gently flowing water for at least 30 minutes. If irritation or pain persists, seek medical attention. Completely decontaminate clothing, shoes and leather goods before reuse, or discard them.
Ingestion	Contact with the contents of an opened cell can cause burns. NEVER give anything by mouth if the person is rapidly losing consciousness, is unconscious or is convulsing. Have the person rinse the mouth thoroughly with water. DO NOT INDUCE VOMITING. If vomiting occurs naturally, have the person lean forward to reduce the risk of aspiration, then rinse the mouth with water again. Transport the person quickly to an emergency care facility.
Most important symptoms	Acute: chemical burns to skin and eyes; irritation of the skin, eyes and respiratory tract. Chronic: repeated exposure to the internal component hexafluorophosphate can cause fluorosis of bones and teeth (Section 11).
Immediate medical attention	Required after eye contact or ingestion. Call 911 or Poison Help (1-800-222-1222).

SECTION 05

FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA, SPECIAL HAZARDS AND PROTECTIVE EQUIPMENT

Lithium-ion batteries contain a flammable liquid electrolyte that may vent, ignite and produce sparks when subjected to high temperatures (above 150 °C / 302 °F), or when damaged or abused (for example, mechanical damage or electrical overcharge). Burning cells can ignite other batteries in close proximity.

CONCEPTUAL DIAGRAM

1 ISOLATE
Keep people at least 25 m (75 ft) away in all directions. Stay upwind and out of low areas.

2 CALL
Call 911. Tell responders it is a lithium-ion (LiFePO4) battery: ERG Guide 147.

3 EXTINGUISH
Small fires: dry chemical, CO2, water spray or regular foam. Large fires: water spray, fog or regular foam.

4 PROTECT
Responders wear SCBA and protective gear. Ventilate closed areas before entering.

Summary of Sections 5 and 6. Follow the instructions of emergency responders.

Suitable extinguishing media	Small fires: dry chemical, CO2, water spray or regular foam. Large fires: water spray, fog or regular foam. Move containers from the fire area if you can do it without risk.
Unsuitable extinguishing media	None specified.
Specific hazards	The interaction of water or water vapor with exposed lithium hexafluorophosphate (LiPF6) may generate hydrogen and hydrogen fluoride (HF) gas. Contact with battery electrolyte may irritate skin, eyes and mucous membranes. Fire produces irritating, corrosive and/or toxic gases, and fumes may cause dizziness or suffocation.
Hazardous combustion products	Hydrogen fluoride (HF), carbon monoxide (CO), hydrogen and other volatile organic compounds (VOCs); see Section 10.
Protective equipment for firefighters	Respiratory: self-contained breathing apparatus (SCBA). Hands: protective gloves. Eyes: full-face breathing apparatus or goggles. Body: protective uniform.
Emergency response guide	Emergency Response Guidebook (ERG 2024), Guide 147 — Lithium Ion and Sodium Ion Batteries (UN3480, UN3481).

SECTION 06

ACCIDENTAL RELEASE MEASURES

LEAKING, VENTING OR DAMAGED BATTERIES

Personal precautions	As an immediate precautionary measure, isolate the spill or leak area for at least 25 meters (75 feet) in all directions. Wear adequate personal protective equipment as described in Section 8.
Emergency procedures	Use protective clothing and protective equipment. Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed areas before entering.
Methods for containment	Stop the leak if it is safe to do so. Contain spilled liquid with dry sand or earth. Clean up spills immediately.
Clean-up procedures	Absorb spilled material with an inert absorbent (dry sand or earth). Scoop the contaminated absorbent into an acceptable waste container, collect all of it and dispose of it as described in Section 13. Scrub the area with detergent and water, and collect all contaminated wash water for proper disposal.
Damaged batteries	Never charge or use a battery that is swollen, leaking, damaged or has been submerged until it has been inspected. Contact Epoch support before shipping it; transport of damaged batteries is restricted (Section 14).

SECTION 07

HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING AND STORAGE

Safe handling	Do not open, disassemble, crush or burn cells. Do not expose cells to temperatures outside the range of −40 °C to 80 °C (−40 °F to 176 °F). Eating, drinking and smoking are prohibited in work areas. Wear personal protective equipment when handling battery packs.
Electrical safety	Remove jewelry, use insulated tools and wear appropriate personal protective equipment when working on the battery. Protect the terminals against short circuits: keep them covered or insulated when the battery is out of service.
Lifting	Larger models are heavy. Use suitable lifting aids and follow the handling instructions in the model's user manual.

Safe storage	Store batteries in a dry location. To minimize adverse effects on battery performance, keep the cells at room temperature (25 °C ± 5 °C / 77 °F ± 9 °F); elevated temperatures can shorten cell life. Keep out of reach of children. Protect the storage area from flooding. Long-term storage areas should comply with the appropriate local fire code requirements.
Long-term storage	Extended storage (more than one month) at temperatures outside the recommended range can degrade product lifetime. Store the battery disconnected from loads and chargers, at the state of charge and check interval given in the model's user manual.
Incompatible materials	Keep away from oxidizing agents, reducing agents, acids and alkalis (Section 10).

SECTION 08

EXPOSURE CONTROLS / PERSONAL PROTECTION

CONTROL PARAMETERS AND PROTECTIVE EQUIPMENT

Exposure limit values	Airborne exposures to hazardous substances are not expected when the product is used for its intended purpose.
Engineering controls	Use local exhaust ventilation or other engineering controls to control sources of dust, mist, fume and vapor.
Respiratory protection	Not necessary under normal conditions.
Skin protection	Not necessary under normal conditions. Wear neoprene or natural rubber gloves if handling an open or leaking cell.
Eye protection	Not necessary under normal conditions. Wear safety glasses if handling an open or leaking cell.
Other protective equipment	Not necessary under normal conditions. Where open or leaking cells are handled, have a safety shower and eye-wash fountain readily available in the immediate work area.

SECTION 09

PHYSICAL AND CHEMICAL PROPERTIES

PROPERTIES OF THE SEALED BATTERY

PROPERTY	VALUE	PROPERTY	VALUE
Physical state	Solid (sealed battery article)	**Vapor pressure**	Not applicable
Appearance	Prismatic cells in a sealed battery enclosure	**Vapor density**	Not applicable
Odor	Odorless	**Relative density**	Not available
Odor threshold	Not applicable	**Solubility in water**	Insoluble
pH	Not applicable	**Partition coefficient (water/oil)**	Not applicable
Melting / freezing point	Not applicable	**Auto-ignition temperature**	Not applicable
Boiling point and range	Not applicable	**Decomposition temperature**	Not available
Flash point	Not applicable	**Viscosity**	Not applicable
Evaporation rate	Not applicable	**Oxidizing properties**	Not applicable

PROPERTY	VALUE	PROPERTY	VALUE
Flammability (solid, gas)	Not applicable to the intact article; see Section 5	**Flammability limits**	Not applicable

Nominal voltage	12.8 V to 70.4 V, depending on model (Table 1)
Energy (watt-hour rating)	640 Wh to 11,776 Wh per battery, depending on model (Table 1)

SECTION 10

STABILITY AND REACTIVITY

CONDITIONS TO AVOID AND DECOMPOSITION PRODUCTS

Reactivity	Not considered reactive under normal conditions at ambient temperature.
Chemical stability	Sealed and normally functioning cells are considered stable.
Possibility of hazardous reactions	If cells are damaged, abused, overcharged or exposed to temperatures above 150 °C (302 °F), the flammable electrolyte may vent, ignite and produce sparks (Section 5).
Conditions to avoid	Fire or temperatures above 80 °C (176 °F). Disassembly, crushing, short-circuiting or installation with incorrect polarity. Mechanical or electrical abuse. Immersion in seawater or other high-conductivity liquids.
Incompatible materials	Oxidizing agents, reducing agents, acids and alkalis.
Hazardous decomposition products	Burning, or breaching of the cell enclosure, may release toxic and hazardous fumes, including hydrogen fluoride (HF), carbon monoxide (CO) and other volatile organic compounds (VOCs). Water or water vapor reacting with exposed LiPF6 may produce hydrogen and hydrogen fluoride.

SECTION 11

TOXICOLOGICAL INFORMATION

ROUTES OF EXPOSURE AND HEALTH EFFECTS

Routes of exposure	Risk of irritation occurs only if the cell is mechanically, thermally or electrically abused to the point of compromising the enclosure. If this occurs, irritation to the skin, eyes and respiratory tract may occur.
Acute effects of overexposure	Battery (module) internal components can cause chemical burns to skin and eyes.
Chronic effects of overexposure	Repeated exposure to the battery (module) internal component hexafluorophosphate can cause fluorosis of bones and teeth.
Numerical measures of toxicity	Not available for the article.
Carcinogenicity	Normal safe handling of this product will not result in exposure to substances considered human carcinogens by IARC (International Agency for Research on Cancer), ACGIH (American Conference of Governmental Industrial Hygienists), OSHA or NTP (National Toxicology Program).

SECTION

12 ECOLOGICAL INFORMATION

ENVIRONMENTAL EFFECTS

Ecotoxicity	No data available.
Persistence and degradability	No data on environmental degradation.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Other adverse effects	Solid cells released into the natural environment will slowly degrade and may release harmful or toxic substances. Cells are not intended to be released into water or onto land; dispose of or recycle them according to local regulations.

SECTION 13 DISPOSAL CONSIDERATIONS

RECYCLING AND DISPOSAL

Disposal methods	Do not dispose of in fire or submerge in water. Battery disposal regulations vary on national, state/provincial and local bases; dispose of batteries in accordance with the applicable laws and regulations. These batteries contain recyclable materials, and recycling is encouraged over disposal.
Before recycling	Turn the battery off where it has a switch, disconnect it, and tape or cap the terminals to prevent short circuits.
United States (businesses)	Lithium-ion batteries may be managed under the EPA Universal Waste regulations (40 CFR Part 273). State rules may be more stringent.
Transport to recycling	Batteries shipped for recycling or disposal remain regulated for transport (49 CFR 173.185(d); Section 14).

SECTION 14 TRANSPORT INFORMATION

CLASSIFICATION AND SHIPPING REQUIREMENTS

Epoch lithium-ion batteries are designed to comply with the applicable shipping regulations, including the UN Recommendations on the Transport of Dangerous Goods, the IATA Dangerous Goods Regulations, the U.S. DOT Hazardous Materials Regulations (49 CFR) and the International Maritime Dangerous Goods (IMDG) Code.

TRANSPORT DATA	ALL MODES: U.S. DOT (49 CFR), IATA / ICAO (AIR), IMDG (SEA)
UN number	UN3480 — batteries shipped on their own. UN3481 — batteries packed with equipment, or contained in equipment.
Proper shipping name	Lithium ion batteries (including lithium ion polymer batteries); Lithium ion batteries packed with equipment; Lithium ion batteries contained in equipment
Transport hazard class	9 — Miscellaneous dangerous goods
Packing group	None assigned. Where specification packaging is required, it must meet the Packing Group II performance level.
Hazard label	Class 9 lithium battery label (below). By air, UN3480 packages also need the Cargo Aircraft Only label.

TRANSPORT DATA	ALL MODES: U.S. DOT (49 CFR), IATA / ICAO (AIR), IMDG (SEA)
Emergency response	ERG Guide 147 — Lithium Ion and Sodium Ion Batteries

CONCEPTUAL DIAGRAM

- **Upper half:** seven vertical black stripes on white.
- **Lower half:** a group of batteries, one broken and emitting flame, above the class number 9, underlined.
- **Placement:** on the package, next to the UN number and proper shipping name.

Class 9 lithium battery hazard label, shown for identification. Use labels that meet the size, color and placement requirements of the applicable regulations.

What applies to Epoch batteries

Watt-hour rating	Every model in Table 1 exceeds 100 Wh. The small-battery exceptions (49 CFR 173.185(c); IATA Section II) do not apply: shipments are fully regulated Class 9 dangerous goods.
UN 38.3 testing	Each cell and battery type must pass the tests in the UN Manual of Tests and Criteria, Part III, subsection 38.3 before transport. The UN 38.3 test summary for each model is available from Epoch Batteries on request.
Air (IATA / ICAO)	UN3480 is forbidden on passenger aircraft; it may be shipped on cargo aircraft only, at a state of charge (SoC) of no more than 30% (Packing Instruction 965). Since 1 January 2026, batteries packed with equipment (UN3481, Packing Instruction 966) must also be at no more than 30% SoC. Check package mass limits and operator variations before shipping large batteries by air.
Ground (U.S. DOT)	Package the batteries as required by 49 CFR 173.185(b), protected against short circuits and movement, with the required marks, labels and shipping papers. Shipping papers must show a 24-hour emergency response telephone number (49 CFR 172.604).
Damaged or defective batteries	Forbidden for air transport. Ground shipment requires the packaging in 49 CFR 173.185(f). Contact Epoch support before returning a damaged battery.
Training	The regulations contain very specific packaging, labeling, marking and documentation requirements, and require anyone who prepares dangerous goods for transport to be trained to package, label, mark and prepare shipping documents.

SECTION 15 REGULATORY INFORMATION

SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS

OSHA Hazard Communication (USA)	Article under 29 CFR 1910.1200; not subject to the Hazard Communication Standard. This SDS contains information critical to the safe handling and proper use of the product and should be retained and made available to employees and other users.
TSCA (USA)	All ingredients in the product are listed on the TSCA inventory.
EPA Universal Waste (USA)	40 CFR Part 273; see Section 13.

REACH (EU)	Article according to Regulation (EC) No 1907/2006.
CLP (EU)	Not classified as hazardous according to Regulation (EC) No 1272/2008.
Transport	49 CFR (U.S. DOT Hazardous Materials Regulations), IATA Dangerous Goods Regulations and ICAO Technical Instructions, IMDG Code; see Section 14.
Product certification	Certain models are available with UL certification. Each certified model shows its certificate on its product page at epochbatteries.com.
Other	Keep out of the reach of children.

SECTION 16

OTHER INFORMATION

REVISION, ADDITIONAL SAFETY INFORMATION AND ABBREVIATIONS

Date of preparation	September 2026 (Revision 2). Supersedes the January 2025 edition.
Changes in this revision	Product list updated to the models on epochbatteries.com, with watt-hour ratings (Table 1); supplier addresses updated; content reorganized into the 16-section GHS format; transport information expanded (watt-hour threshold, air state-of-charge limits, damaged batteries, UN 38.3 test summary, ERG Guide 147); incompatible materials moved to Section 10. First-aid, fire-fighting, handling and storage guidance is unchanged in substance.
Additional safety	Modules may only be operated with the designated battery. Do not short-circuit or deep-discharge. Do not damage or perforate. Do not tear down. Do not heat above the allowed limits. Cells in lithium-ion batteries are sealed and are not hazardous as long as all of the manufacturer's instructions are followed. Violation of the manufacturer's instructions may lead to a release of cell ingredients: in case of damage to a cell, corrosive and poisonous liquid can be released, and in case of fire, corrosive and poisonous vapors and gases may be released.

Abbreviations

ACGIH
American Conference of Governmental Industrial Hygienists

BMS
Battery management system: electronics that protect the cells against overcharge, over-discharge, overcurrent, short circuit and temperature extremes

CAS No.
Chemical Abstracts Service registry number

CFR
U.S. Code of Federal Regulations

DOT
U.S. Department of Transportation

ERG
Emergency Response Guidebook, used by first responders in transportation incidents

GHS
Globally Harmonized System of Classification and Labelling of Chemicals

HF
Hydrogen fluoride, a toxic, corrosive gas

IARC
International Agency for Research on Cancer

IATA / ICAO
International Air Transport Association / International Civil Aviation Organization

IMDG Code
International Maritime Dangerous Goods Code

LiFePO4
Lithium iron phosphate, the cathode material of the cells

LiPF6
Lithium hexafluorophosphate, the salt in the electrolyte

NTP
U.S. National Toxicology Program

OSHA
U.S. Occupational Safety and Health Administration

SCBA
Self-contained breathing apparatus

SoC
State of charge, the charge remaining as a percentage of full

TSCA
U.S. Toxic Substances Control Act

UN 38.3
The transport safety tests every lithium cell and battery type must pass

VOC
Volatile organic compound

Wh
Watt-hour: nominal voltage × rated capacity; the energy rating used in transport rules

Disclaimer

This Safety Data Sheet was prepared by Epoch Batteries in accordance with the OSHA standard 29 CFR 1910.1200. The information and recommendations it contains are made in good faith and are believed to be accurate at the date of preparation. Confirm that you have the latest edition at epochbatteries.com/resources.

Revision history

REV.	DATE	CHANGE
1	January 2025	Standard Safety Data Sheet (SDS) for Epoch LiFePO4 batteries.
2	September 2026	Rebranded to the current Epoch design system; product list updated to the models on epochbatteries.com with watt-hour ratings; supplier addresses updated; reorganized into the 16-section GHS format; transport information expanded.