

SECTION 1 Identification

Product Identifier

Product/Trade Name	Ethium Battery
Other means of Identification	Ethium BBR, Ethium Lithium-Ion Battery, Ethium Battery Pack

Recommended use and restrictions on use

Relevant identified uses	Rechargeable battery pack, energy storage battery pack
---------------------------------	--

Name, address and telephone number of the manufacturer, importer, or other responsible party

Registered Company Name	Ethium, LLC
Address	5757 Farinon Drive, San Antonio TX 78249 United States
Telephone	+1 210 495 9772
Website	www.ethium.com
Email	sales@ethium.com

Emergency Phone Number

Association	CHEMTREC, LLC
Emergency Phone Numbers	+1 800 424 9300 (within the USA) +1 703 527 3887 (International)

SECTION 2 Hazard(s) identification

Classification of the substance or mixture

Chemical materials are contained in a sealed metal case; the toxic properties of the materials are hazardous only if the materials are released by damaging the internal cells or if exposed to fire. The sealed battery is not hazardous in normal use. The chemical hazards are related to the leaked battery contents.

Classification	Acute toxicity, oral (Category 4) Skin corrosion/irritation (Category 2) Serious eye damage/eye irritation (Category 2A) Specific target organ toxicity, single exposure; Respiratory tract irritation (Category 3)
-----------------------	--

Label Elements

Hazard pictogram(s)	
Pictogram GHS reference(s)	GHS07
Signal Word	WARNING

Hazard statement(s)

H302	Harmful if swallowed
H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation

Safety Data Sheet
Product/Tradename: Ethium Lithium-Ion Battery

Hazard(s) not otherwise classified

There are no other hazards not otherwise classified that have been identified.

Precautionary statement(s) – Prevention

P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash skin and clothing thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statement(s) – Response

P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P330	Rinse mouth.
P302+P352	IF ON SKIN: Wash with soap and water.
P321	Specific treatment (See additional emergency instructions)
P332+P313	If skin irritation occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P305+P351+P338	IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.
P304+P340	IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.

Precautionary statement(s) – Storage

P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

Precautionary statement(s) – Disposal

P501	Dispose of contents/container to approved hazardous or special waste collection point in accordance with any local regulation.
-------------	--

SECTION 3 Composition/information on ingredients

Substances

See section below for composition of mixtures

Mixtures

CAS No	%(weight)	Component(s) Name
15365-14-7	26~38	Ferrous Phosphate Lithium
7439-89-6	22~33	Iron
21324-40-3	1.4~1.7	Phosphate (1-), hexafluoro-, lithium
24937-79-9	0.9~1.1	Polyvinylidene fluoride resin
7440-50-8	9.0~10.0	Copper
7429-90-5	3.9~4.4	Aluminum
9000-11-7	0.15~0.25	Cellulose, carboxymethyl ether
1333-86-4	14~15.5	Carbon black
9003-55-8	0.35~0.45	Styrene-butadiene rubber 1500
9003-07-0	2~3	Polypropylene
616-38-6	2.8~3.4	Carbonic acid, dimethyl ester
623-53-0	4.5~6.5	Carbonic acid, ethyl methyl ester
96-49-1	2.3~2.7	1,3-Dioxolan-2-one

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4 First-aid measures

Description of first aid measures

Eye Contact	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none">- Wash out immediately with fresh running water for twenty minutes.- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.- Seek medical attention without delay; if pain persists or recurs seek medical attention.- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	<p>If skin contact occurs:</p> <ul style="list-style-type: none">- Immediately remove all contaminated clothing, including footwear.- Flush skin and hair with running water (and soap if available).- Seek medical attention in event of irritation.
Inhalation	<p>If product is inhaled:</p> <ul style="list-style-type: none">- Remove patient to fresh air, and seek medical attention if irritation occurs.- Provide oxygen treatment if affected person has difficulty breathing.- In case of irregular breathing or respiratory arrest provide artificial respiration.

Safety Data Sheet
Product/Tradename: Ethium Lithium-Ion Battery

Ingestion	If product is swallowed: <ul style="list-style-type: none">- If swallowed do NOT induce vomiting.- Never give liquid to a person showing signs of being sleepy or with reduced awareness, i.e., becoming unconscious.- Give water to rinse out mouth, then provide liquid slowly and as much as patient can comfortably drink.- Seek medical advice.
------------------	---

Most important symptoms and effects, both acute and delayed

See Section 11.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 Fire-fighting measures

Suitable Extinguishing media	<ul style="list-style-type: none">- Dry chemical powder (ABC dry chemical fire extinguishers)- Carbon dioxide (CO₂ fire extinguishers)- Excess water spray- Regular foam
-------------------------------------	--

Special protective equipment and precautions for fire-fighters

Fire Fighting	<ul style="list-style-type: none">- Alert Fire Brigade and tell them location and nature of hazard.- Wear breathing apparatus plus fully protective suit.- Prevent, by any means available, spillage from entering drains or water courses.- Use firefighting procedures suitable for surrounding area.- DO NOT approach containers suspected to be hot.- Cool fire exposed containers with water spray from a protected location.
Fire/Explosion Hazard	<ul style="list-style-type: none">- Noncombustible- Not considered to be a significant fire risk- Battery cells may burst and release hazardous decomposition products when exposed to a fire situation.- May emit acrid smoke, May emit poisonous fumes.

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

See Section 8

Environmental precautions

See Section 12

Methods and material for containment and cleaning up

Spills	<ul style="list-style-type: none"> - Wear protective equipment. - ELIMINATE all ignition sources (no smoking, flares, sparks, or flames in immediate area). - Do not touch or walk through spilled material. - As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. - Keep unauthorized personnel away. - Stay upwind, uphill, and/or upstream. - Ventilate closed spaces before entering. - Large Spill: Consider initial downwind evacuation for at least 100 meters (330 feet). - Absorb with earth, sand or other non-combustible material. - Leaking batteries and contaminated absorbent material should be placed in appropriate containers for disposal. - Dispose of leaking batteries and contaminated absorbent to approved hazardous or special waste collection point in accordance with any local regulation.
---------------	---

SECTION 7 Handling and storage

Precautions for safe handling

Safe handling	<ul style="list-style-type: none"> - Keep away from open flames or temperatures exceeding manufacturer's ratings. - Avoid short-circuiting the battery. - Avoid mechanical damage of the battery. - DO NOT attempt to open sealed cells or batteries. - The battery may explode or cause burns if disassembled, crushed, or exposed to fire or high temperatures. - Do not short or install with incorrect polarity. - Avoid all personal contact, including inhalation. - Wear protective clothing when risk of exposure occurs. - Use in a well-ventilated area. - Prevent concentration in hollows and sumps.
Other information	<ul style="list-style-type: none"> - Observe manufacturer's storage and handling recommendations contained within this SDS.

Conditions for safe storage, including any incompatibilities


Safe Storage	<ul style="list-style-type: none"> - Store batteries only in approved packaging. - Store in a cool, dry well-ventilated space. - Keep away from heat. - Store out of direct sunlight. - Store at temperatures between -20 and +50°C (-4 and +122°F). Contact the manufacturer for storage temperature impacts on product life.
Storage incompatibility	Avoid reaction with oxidizing agents, acid, or base.

SECTION 8 Exposure controls / personal protection

Controls Parameters

CAS No	Component(s) name	ACGIH (TLV-TWA)	US NIOSH (REL-TWA)	US OSHA (PEL-TWA)
15365-14-7	Ferrous Phosphate Lithium	N/A	N/A	N/A
7439-89-6	Iron	N/A	N/A	N/A
21324-40-3	Phosphate (1-), hexafluoro-, lithium	N/A	N/A	N/A
24937-79-9	Polyvinylidene fluoride resin	N/A	N/A	N/A
7440-50-8	Copper	0.2 mg/m ³ 1 mg/m ³	0.1 mg/m ³ 1 mg/m ³	0.1 mg/m ³ 1 mg/m ³
7429-90-5	Aluminum	1 mg/m ³	2 mg/m ³ 5 mg/m ³ 10 mg/m ³	5 mg/m ³ 15 mg/m ³
9000-11-7	Cellulose, carboxymethyl ether	N/A	N/A	N/A
1333-86-4	Carbon black	3 mg/m ³	3.5 mg/m ³	3.5 mg/m ³
9003-55-8	Styrene-butadiene rubber 1500	N/A	N/A	N/A
9003-07-0	Polypropylene	N/A	N/A	N/A
616-38-6	Carbonic acid, dimethyl ester	N/A	N/A	N/A
623-53-0	Carbonic acid, ethyl methyl ester	N/A	N/A	N/A
96-49-1	1,3-Dioxolan-2-one	N/A	N/A	N/A

Exposure controls

Appropriate engineering controls	Under conditions of normal use, batteries do not emit hazardous substances; no engineering controls are required for handling batteries that have not been damaged.
Individual protection measures, such as personal protective equipment	
Hand/feet protection	None under normal conditions - Wear rubber gloves / shoes when dealing with damaged or leaking units.
Skin/Body Protection	Protective work clothing - When dealing with damaged or leaking units, protective clothing may be required.
Eye protection	None under normal conditions - Wear protective safety glasses when dealing with damaged or leaking units.
Respiratory protection	None under normal conditions - When dealing with damaged or leaking units, self-contained breathing apparatus may be advisable.
Other protection	When operators handle a battery with a rating more than 48V, they should review local regulations to ensure proper insulation is worn to protect against electrical shock.

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance & characteristic	Solid (Various shaped battery pack)
Color	Various colors
Odor	None
Odor threshold	Not determined
pH (as supplied)	Not applicable
Melting point / freezing point	Not determined
Boiling point and range	Not determined
Flash point	Not applicable The product is not flammable as supplied.
Flammability	Not applicable
Solubility	Insoluble
Explosion limits	Not determined
Vapor pressure	Not applicable
Vapor density (air = 1)	Not applicable
Density/Relative density	Not determined
Partition coefficient (n-octanol/water)	Not determined
Auto-Ignition Temperature	Not determined
Decomposition Temperature	Not determined
Evaporation rate	Not applicable

SECTION 10 Stability and reactivity

Reactivity	Not considered reactive in storage and use at normal ambient conditions
Chemical Stability	Stable in storage and use at normal ambient conditions
Possibility of hazardous reactions	Hazardous reactions generally occur only with contents of leaking battery.
Conditions to avoid	- Flames, sparks and other sources of ignition - Excessive heat - Incompatible materials
Incompatible materials	Reacts with oxidizing agents and acids
Hazardous decomposition products	Carbon dioxide, carbon monoxide, lithium metal oxides

SECTION 11 Toxicology information

Information on toxicological effects

Inhaled	Vapors or fumes may cause respiratory tract irritation. Not normally considered a hazard due to the physical form of the product.
Ingestion	Considered an unlikely route of entry in commercial/industrial environments. Ingestion may result in nausea, abdominal irritation, pain and vomiting.

Safety Data Sheet
Product/Tradename: Ethium Lithium-Ion Battery

Skin Contact	The electrolyte causes skin irritation. Not normally considered a hazard due to the physical form of the product.
Eye	The electrolyte causes eye irritation and damage. Not normally considered a hazard due to the physical form of the product.
Chronic	The chemicals in this product are contained in a sealed case, and exposure does not occur during normal handling and use. Not normally considered a hazard due to the physical form of the product.

Acute Toxicity

Numerical measures of toxicity	Specific test data for the mixture is not available.
Skin corrosion or irritation	Specific test data for the mixture is not available.
Serious eye damage or irritation	Specific test data for the mixture is not available.
Respiratory or skin sensitization	Specific test data for the mixture is not available.
Germ cell mutagenicity	Specific test data for the mixture is not available.
Carcinogenicity	Specific test data for the mixture is not available.
Reproductive toxicity	Specific test data for the mixture is not available.
STOT – single exposure	Specific test data for the mixture is not available.
STOT – repeated exposure	Specific test data for the mixture is not available.
Aspiration hazard	Specific test data for the mixture is not available.

SECTION 12 Ecological information

The chemicals in this product are contained in a sealed case and exposure does not occur during normal handling and use.

Ecological toxicity	Specific test data for the mixture is not available.
Persistence and degradability	Specific test data for the mixture is not available.
Bio accumulative potential	Specific test data for the mixture is not available.
Mobility in soil	Specific test data for the mixture is not available.
Other adverse effects	Specific test data for the mixture is not available.
General notes	Do not allow product to reach ground water, water course or sewage system. Must not reach bodies of water or drainage ditch. Danger to drinking water if even small quantities leak into the ground.



SECTION 13 Disposal considerations

Waste treatment methods




Product / Packaging disposal	<p>Recycle and dispose of material waste to an approved waste disposal facility in accordance with local, state, and federal requirements. Do not release to sewer or waterways.</p> <p>Following local, state, and federal regulations applicable to end-of-life characteristics will be the responsibility of the end-user.</p>
-------------------------------------	---

SECTION 14 Transport information

Land transport (DOT)



UN number	UN3480	
Label(s) required	 	
UN proper shipping name	Lithium-ion batteries	
Transport hazard	Class	9
	Subsidiary risk	Not applicable
Packaging group	This UN number is not assigned a packaging group. Packaging must meet requirements outlined in 49 CFR 173.185(b), contact manufacturer for copy of UN 38.3 testing summary.	
Environmental hazard	Not applicable	
Special precautions for user	State of charge (SoC) should be <30% when shipped.	

Air transport (ICAO/IATA)

UN number	UN3480	
Label(s) required	  	
UN proper shipping name	Lithium-ion batteries	
Transport hazard	ICAO/IATA Class	9
	ICAO/IATA Sub risk	Not applicable
	ERG code	12FZ
Packaging group	This UN number is not assigned a packaging group. Packaging must meet requirements outlined in 49 CFR 173.185(b), contact manufacturer for copy of UN 38.3 testing summary.	
Environmental hazard	Not applicable	
Special precautions for user	State of charge (SoC) should be <30% when shipped.	

Safety Data Sheet
Product/Tradename: Ethium Lithium-Ion Battery

Sea transport (IMDG)

UN number	UN3480		
Label(s) required			
UN proper shipping name	Lithium-ion batteries		
Transport hazard	IMDG Class	9	
	Subsidiary risk	Not applicable	
	EMS Number	F-A, S-I	
Packaging group	This UN number is not assigned a packaging group. Packaging must meet requirements outlined in 49 CFR 173.185(b), contact manufacturer for copy of UN 38.3 testing summary.		
Environmental hazard	Not applicable		
Special precautions for user	State of charge (SoC) should be <30% when shipped.		

SECTION 15 Regulatory information

Safety, health, and environmental regulations / legislation specific for the substance or mixture

Chemicals subject to the Emergency Planning and Community Right-To-Know Act (EPCRA), Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), and Section 112(r) of the Clean Air Act (CAA)

CAS No	Name	Section 302 (EHS) TPQ	Section 304 (EHS) RQ	CERCLA RQ	Section 313	RCRA Code	CAA 122(r) TQ
7440-50-8	Copper	N/A	N/A	5,000	313	N/A	N/A
7429-90-5	Aluminum	N/A	N/A	N/A	313	N/A	N/A

Proposition 65 (California)

Chemicals known to cause cancer	1333-86-4 Carbon Black
Chemicals known to cause developmental toxicity (birth defects, or other reproductive harm)	None of the ingredients listed

Toxic Substances Control Act (TSCA) Chemical Substance Inventory

All chemical as listed or exempt

SECTION 16 Other Information

Version	Revision E1
Revision Date	March 11 th , 2026

The information and recommendations set forth are made in good faith and accurate at the date of preparation. Ethium, LLC makes no warranty expressed or implied with respect to this information and recommendations and disclaims all liability (including without limitation, all direct, indirect, incidental, punitive or consequential liability) from reliance upon it. The information relates to specific materials designated and may not be valid for such materials used in combination with any other materials or in any process. Each party using products and materials must determine the suitability and completeness of this information for their intended use.

This information is furnished upon condition that the person receiving it shall make their own determination of the suitability of the material for their particular purpose.