Section 1.

Identification: Product identifier and chemical identity

Product identifier	Rechargeable Lithium Iron Phosphate (LFP) Battery
Other means of identification	Model number: TROPPO ULTRA-5156 Synonyms: LiFePO4, LFP, Lithium-ion battery Classification (UN/ID No.): UN3480
Recommended use of the chemical and restrictions on use:	Energy storage systems and battery systems
Details of Manufacturer:	RedEarth Energy Storage Ltd 15 Fienta Place, Darra, Brisbane, QLD 4076, Australia 1800 733 637 support@redearth.energy www.redearth.energy
Emergency phone number:	1800 733 637 Option '0'

Section 2.

Hazards Identification

This product is a battery. Intended use of the product should not result in exposure to the chemical substance. In case of rupture the hazards listed below exist.

Classification of hazardous chemical:

- 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

Signal word: WARNING

Hazard statements

H302 Harmful if swallowed. H315 Causes skin irritation.
H319 Causes serious eye irritation. H355 May cause respiratory irritation.

Precautionary statements

Prevention:

P264 Wash skin and clothing thoroughly after handling
P261 Avoid breathing dust, fume, gas, mist, vapours, spray.

Response:

P314	Get medical advice/attention if you feel unwell.
P301 + P312	IF SWALLOWED: Call a POISON centre if you feel unwell.
P302 + P353	IF ON SKIN: Wash with plenty of water
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage
P403 + P235 Store in a well-ventilated place. Keep cool.

Disposal
P501 Dispose of contents to approved waste treatment plants

Label elements, including precautionary statements

The packaging includes labels for Transport of Dangerous Goods

Other hazards
Physical and chemical hazards: See Section 10
Human health hazards: See Section 11
Environmental hazards: See Section 12.

Section 3.

Composition and information on ingredients

Chemical Name	CAS No	Weight (%)
Lithium Iron Phosphate (LiFePO4)	15365-14-7	34
Iron	7439-89-6	17
Carbon black	1333-86-4	0.5
Lithium hexafluorophosphate (1-)	21324-40-3	2
Copper	7440-50-8	7
Aluminum	7429-90-5	4
Polyvinylidene fluoride	24937-79-9	1
Nickel	7440-02-0	0.1
Graphite	7782-42-5	20
Sodium carboxymethyl cellulose	9000-11-7	0.2
Styrene butadiene rubber	9003-55-8	0.5
Polypropylene	9003-07-0	2.5
Ethylene Carbonate	96-46-1	2
Methyl-Ethyl Carbonate	623-53-0	1
Dimethyl Carbonated	616-38-6	8
Carbon nanotubes	308068-56-6	0.2

Section 4.

First aid measures

Description of necessary first aid measures

After eye contact:	Flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Get medical attention if irritation persists.
After skin contact:	Remove contaminated clothing and shoes. Immediately wash with water and soap and rinse thoroughly for 15 minutes. Wash clothing and shoes before reuse. If irritation occurs get medical attention.
After inhalation:	Remove victim to fresh air area. Administer artificial respiration if breathing is difficult. Seek medical attention.
After swallowing:	Drink at least 2 glasses of water. Induce vomiting unless patient is unconscious. Rinse mouth thoroughly with water. Get medical attention.

Symptoms caused by exposure

Symptoms:	Exposure to battery contents may cause irritation and potential burns

Medical attention and special treatment

Notes to physician:	Treat symptomatically

Section 5.

Firefighting measures

Suitable extinguishing media

Large amounts of water (for cooling) intact and or burning battery packs and Carbon dioxide (CO_2) extinguishers for knockdown/smothering. ABC extinguishers are not effective when the battery pack is on fire.

Specific hazards arising from the chemical

Contents react with water if cell case is broken.
Battery may burst and release hazardous decomposition products when exposed to a fire situation. The battery contains flammable electrolyte that may vent, ignite, and produce sparks when subjected to high temperatures (>150degC), when damaged or abused (e.g., mechanical damage or electrical overcharging).
May burn rapidly with flare-burning effect. May ignite other batteries in close proximity.

Specific protective equipment and precautions for firefighters

Wear positive-pressure self-contained breathing apparatus (SCBA) and protective firefighting clothing.
Hazchem code: **4W**

Section 6.

Accidental release measures

Personal precautions, protective equipment, and emergency procedures
Avoid breathing vapour. Avoid skin contact. Ensure adequate ventilation. Remove all sources of ignition. Use Personal Protective Equipment (PPE)

Environmental precautions
Prevent from entering into soil, diches, sewers, waterways and/or ground water.

Methods and materials for containment and cleaning up
If battery is damaged or ruptured, absorb any liquid with sand or similar dry medium. Contain spillage then collect and place in suitable containers for disposal according to local regulations.

Section 7.

Handling and storage

Precautions for safe handling
Before use, carefully read the product manuals. The batteries are heavy, use correct lifting technique.
Avoid short circuiting the battery or installing with reversed polarity. Avoid mechanical damage of the battery. Do not open or disassemble.

In areas contaminated by damaged batteries, use of safe work practices is recommended, including avoiding eye and skin contact and inhalation. Observe good personal hygiene, including removing contaminated clothing and washing hands before eating.

Conditions for safe storage, including any incompatibilities
Store in a cool, dry well-ventilated area. Keep away from water, heat or ignition sources and foodstuffs. Ensure that batteries are protected from physical damage and include adequate labelling.

Do not stack more than 8 batteries on top of each other, to avoid mechanical damage.

Section 8.

Exposure controls and personal protection

Exposure control measures
This product presents no health hazards to the user when used according to label directions for its intended purposes.

Control banding
Control banding is not applied.

Biological monitoring

CAS No.	ACGIH	NIOSH	OSHA
15365-14-7	N/A	N/A	N/A
7439-89-6	N/A	N/A	N/A
1333-86-4			
21324-40-3	N/A	N/A	N/A
7440-50-8	TLV-TWA 0.2mg/m^3 TLV-TWA 1mg/m^3	REL-TWA 1mg/m^3 REL-TWA 0.1mg/m^3	PEL-TWA 0.1mg/m^3 PEL-TWA 1mg/m^3
7429-90-5	TLV-TWA 1mg/m^3	REL-TWA 2mg/m^3 REL-TWA 5mg/m^3 REL-TWA 10mg/m^3	PEL-TWA 5mg/m^3 PEL-TWA 15mg/m^3
24937-79-9	N/A	N/A	N/A
7440-02-0	TLV-TWA 0.1mg/ m^3 TLV-TWA 1.5 mg/m^3	REL-TWA 0.015 mg/m^3	PEL-TWA 1mg/m^3
7782-42-5	TLV-TWA 2mg/m^3	REL-TWA 2.5mg/m^3	PEL-TWA 15 mg/m^3
9000-11-7	N/A	N/A	N/A
9003-55-8	N/A	N/A	N/A
9003-07-0	N/A	N/A	N/A
96-46-1	N/A	N/A	N/A
623-53-0	N/A	N/A	N/A
616-38-6	N/A	N/A	N/A
308068-56-6	N/A	REL-TWA 1µg/m^3	PEL-TWA 3.5mg/m^3

Engineering controls
Use local exhaust ventilation to control sources of dust, mist, fumes, vapour and condensation.

Individual protection measures (PPE)
Eye and face protection: None required under normal conditions. If battery case and cells are damaged, wear tight-fitting safety googles or face shield.

Hand protection: None required under normal conditions. Wear appropriate gloves if handling damaged battery.

Skin and body protection: None required under normal conditions. If battery is damaged, wear suitable protective clothing to minimise contact with skin.

Respiratory protection: None required under normal conditions. If exposure to fumes from a damaged battery is possible then ventilate or evacuate to a well-ventilated area. SCBA is required for larger leakages.

Thermal hazards: None required under normal conditions. If the battery case is damaged or hot wear protective gloves if handling. Do not handle if the battery is producing sparks or flame.

Electrical protection: None required under normal conditions. If the battery is damaged use avoid touching the battery with conductive material or items.

Section 9.

Physical and chemical properties

Information on basic physical and chemical properties:

Colour	Dark grey
Physical state	Rectangular enclosure with handle
Odour	Not determined
Odour threshold	Not determined
Ph	Not determined
Melting point/freezing point	Not determined
Initial boiling point and boiling range	Not available
Flash point	Not determined
Evaporation rate	Not determined
Flammability (solid/gas)	Not available
Explosion limits (vol% in air)	Not determined
Vapour pressure; kPa at 20degC	Not available
Vapour density	Not available
Relative density (water=1)	Not determined
Solubility in water	Not available
Partition coefficient; n-octanl/water	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	Not available
Other information:	
Voltage	51.2Vdc
Electrical energy	5,632 Wh

Section 10.

Stability and reactivity

Reactivity
No hazardous reactions if stored and handled as prescribed/indicated.

Chemical stability
Stable under normal use and recommended storage conditions.

Possibility of hazardous reactions
This product is considered stable if used as prescribed, however avoid misuse (e.g., short-circuiting or connecting with reverse polarity).

Conditions to avoid
Heat above 70°C or mechanical damage or short circuiting of the battery. Avoid all sources of ignition: heat, sparks, open flame.
Avoid all sources of water: rain, condensation, spillage.
Avoid exposure to humid conditions over a long period of time.
Avoid deforming, crushing, disassembling the battery.

Incompatible materials
Strong oxidisers or acids.

Hazardous and decomposition products
No hazardous decomposition products if handled and stored as prescribed/indicated.
May evolve carbon monoxide, carbon dioxide, lithium oxide fumes when heated to decomposition.

Section 11.

Toxicology information

Information on possible routes of exposure
Acute toxicity:
No specific toxicity data exists for this product.
The battery consists of a sealed metallic enclosure containing several chemicals and materials of construction that may be hazardous upon release.

Inhalation: Not a likely route of exposure under normal conditions. Toxicity data and effects of inhalation exposure not available.
Ingestion: Not a likely route of exposure under normal conditions. Toxicity data and effects of ingestion not available.
Skin contact: Not a likely route of exposure under normal conditions. Toxicity data and effects of skin contact exposure not available.
Eye contact: Not a likely route of exposure under normal conditions. Toxicity data and effects of eye contact exposure not available.

CAS No.	LC50/LD50
15365-14-7	No data available.
24937-79-9	No data available.
1333-86-4	No data available.
21324-40-3	No data available.
7440-50-8	No data available.
7429-90-5	No data available.
7439-89-6	No data available.

Early onset symptoms related to exposure
Refer to Section 4.
Exposure to battery contents may cause irritation and potential burns.

Delayed health effects from exposure
No information available.

Exposure levels and health effects
Not determined.

Mixtures of chemicals
No information available.

Other information
No information available.

Section 12.

Ecological information

Ecotoxicity
This product is not classified as environmentally hazardous.

Persistence and degradability
Not determined.

Bio accumulative potential
Not determined.

Mobility in soil
Not determined.

Other adverse effects
Not determined.

Section 13.

Disposal considerations

Disposal methods
Recycling is recommended. Do not allow product to enter water bodies or sewage systems. Dispose of in accordance with current local regulations.
Do not incinerate, or subject cells to temperature in excess of 70C, this can result in loss of seal leakage, and/or cell explosion. Contaminated packaging should be disposed of in accordance with current local regulations.

Section 14.

Transport information

Term	Description
UN number	3480
Proper shipping name	Lithium-ion batteries
Transport hazard class	9
Packing group number	II
Environmental hazards – Marine pollutant	No

The battery State of Charge (SoC) is not to exceed 30% of the rated capacity.
The battery is to be transported in the approved packaging, or in an approved battery system, with the appropriate markings on the outside of the packaging.

The battery has passed the test UN38.3. The battery can be transported by sea or by air.

Section 15.

Regulatory information

Safety, health, and environmental regulations
Other regulatory information on the hazardous chemical that is not provided elsewhere in this SDS.
Refer to:

- Australian Code for the transport of Dangerous Goods by Road and Rail, June 2023
- IATA – International Air Transport Association
- Safe Work Australia – Classifying hazardous chemicals – National guide June 2023

Section 16.

Any other relevant information

Document details
Original Preparation Date: 22nd Sept 2025
Prepared by: RedEarth Energy Storage Ltd.
15 Fienta Place, Darra,
Brisbane, QLD 4076 Australia

Product details
Packaging
Product: TROPPO ULTRA-5156

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