

# Material Safety Data Sheet (MSDS) Flitecell Nano

Product	Lithium Battery Pack
Type/Model	Flitecell Nano, 50.4V, 16Ah, 806Wh
Issue Date	2023-1-5
Validity	2023-01-05 – 2023-12-31
Contact	Simon Axmann

## Section 1

### Chemical And Company Identification

Product	Lithium Battery Pack
Type/Model	Flitecell Nano
Parameter	50.4V, 16Ah, 806Wh
Usage	- Used in Portable Equipment - Used in Electric Vehicle - Others
Company	Fliteboard Pty Ltd
Address	156 Jonson Street, Byron Bay, New South Wales, Australia
Zip Code	2481
Email	simon@fliteboard.com
Emergency Number	+61 2 66943186

## Section 2

### Hazards Identification

#### Classification

This chemical is not considered hazardous by the Regulation (EC) No 1272/2008 (CLP). This product is an article which is a sealed battery and as such does not require an SDS per the Regulation (EC) No 1272/2008 (CLP) unless ruptured. The hazards indicated are for a ruptured battery. (EC)No.1272/2008(CLP), SDS (EC), No.1272/2008 (CLP).

Acute toxicity - Oral	Category 4
Acute toxicity - Dermal	Category 4
Skin corrosion/irritation	Category 1B
Serious eye damage/eye irritation	Category 2
Carcinogenicity	Category 1
Skin sensitisation	Category 2
Specific target organ toxicity (repeated exposure)	Category 1

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**Hazard Statements**

H302	Harmful if swallowed
H312	Harmful in contact with skin
H332	Harmful if inhaled
H318	Causes serious eye damage
H317	May cause an allergic skin reaction
H350	May cause cancer
H371	May cause damage to organs
H355	May cause respiratory irritation



**GHS08**



**GHS05**



**GHS07**

This product is an article which contains a chemical substance. Safety information is given for exposure to the article as solid. Intended use of the product should not result in exposure to the chemical substance, This is a battery. In case of rupture: the above hazards exist.

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**Precautionary Statements - Prevention**

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P281	Use personal protective equipment as required.
P264	Wash face, hands and any exposed skin thoroughly after handling.
P272	Contaminated work clothing should not be allowed out of the workplace.
P210	Keep away from heat/sparks/ open flames/ hot surfaces - no smoking.
P270	Do not eat, drink or smoke while using this product.

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**Precautionary Statements - Response**

<b>P301 +P330 +P308</b>	If exposed, get medical advice/attention. Specific treatment (see supplemental first aid/ instruction on this label).
<b>Skin</b>	If on skin: wash with plenty of soap and water. Take off contaminated clothing and water before reuse, if skin irritation or rash occurs: get medical advice/attention if you feel unwell.
<b>Eye</b>	If in eyes: Rinse cautiously with water for several minutes, remove contact lenses, if present and easy to do, continue rinsing. Call a POISON CENTRE or doctor/physician if you feel unwell.
<b>Inhalation</b>	If inhalation: if breathing is difficult, move victim to an open area and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTRE or doctor/physician if you feel unwell.
<b>Ingestion</b>	If swallowed: rinse mouth, do not induce vomiting. Call a POISON CENTRE or doctor/physician if you feel unwell.

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**Precautionary Statements - Storage**

**P405** Store locked up.

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**Precautionary Statements - Disposal**

**P501** Dispose of contents/container at an approved waste disposal plant.

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**Hazards not otherwise classified (HNOC)**

- Not applicable.

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**Other Information**

- Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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**Interactions with other chemicals**

- Consumption of alcoholic beverages may enhance toxic effect.

## Section 3

### Composition/Information

Ingredient	Molecular formula	CAS Number	Weigh
Contains Electrolyte salt and solvents			5-20%
Lithium Hexafluorophosphate	LiPF <sub>6</sub>	21324-40-3	1-5%
Ethylene Carbonate	C <sub>3</sub> H <sub>4</sub> O <sub>3</sub>	96-49-1	5-20%
Propylene Carbonate	C <sub>4</sub> H <sub>6</sub> O <sub>3</sub>	108-32-7	
Diethyl Carbonate	C <sub>5</sub> H <sub>10</sub> O <sub>3</sub>	105-58-8	
Dimethyl Carbonate	C <sub>3</sub> H <sub>6</sub> O <sub>3</sub>	616-38-6	
Ethyl Methyl Carbonate	C <sub>4</sub> H <sub>8</sub> O <sub>3</sub>	623-53-0	
Polyvinylidene Fluoride	(C <sub>2</sub> H <sub>2</sub> F <sub>2</sub> ) <sub>n</sub>	24937-79-9	
Copper	Cu	7440-50-8	9-18%
Aluminium	Al	7429-90-5	17-27%
Positive Electrode			20-50%
Lithium Cobalt Dioxide	LiCoO <sub>2</sub>	12190-79-3	20-50%
Manganese	Mn	7439-96-5	
Nickel	Ni	7440-02-0	
Aluminium	Al	7429-90-5	
Negative Electrode			13-18%
Graphite	C <sub>24</sub> X <sub>12</sub>	7782-42-5	13-18%
Graphite /Acetylene Black	C	1333-86-4	
Steel,Nickel & inert components	-	-	Balance

## Section 4

### First Aid Measures

<b>Eye Exposure</b>	In case of contact with eyes, flush with large amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.
<b>Skin Exposure</b>	If the internal battery materials of an opened battery cell come into contact with skin, immediately flush with plenty of water or soap.
<b>Inhalation Exposure</b>	If vomiting occurs from inhalation, seek Immediate medical attention.
<b>Ingestion Exposure</b>	If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

## Section 5

### Fire-Fighting Measures

<b>Danger Characteristic</b>	Exposure to excessive heat can cause venting of the electrolyte. Battery may burst and release hazardous decomposition products when exposed to a fire situation.
<b>Hazardous Combustion Products</b>	Corrosive and toxic gas may be emitted during a fire.
<b>Fire-Fighting Method</b>	<p>The staff must equipped with a filter mask (full mask) or isolated breathing apparatus.</p> <p>The staff must wear protective clothing that can defend against an upwind direction.</p> <p>Move the container to the open space as soon as possible.</p> <p>Spray water on the containers that are on fire to keep them cool until they are extinguished</p>
<b>Fire-Fighting Media</b>	Plenty of water.

## Section 6

### Accidental Release Measures

<b>Emergency Treatment</b>	<p>If any of the battery material is released, remove personnel from area until the batteries cool down and fumes dissipate.</p> <p>Provide maximum ventilation to clear out hazardous gases and avoid skin and eye contact or inhalation of vapors.</p> <p>Remove spilled liquid materials.</p>
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## Section 7

### Handling and Storage

<b>Handling</b>	
1	Do not allow battery terminals to contact each other, or make contact with any other metals.
2	Do not put the cell or battery into a fire or heat it. Do not solder the cell directly. Do not use or leave the cell or battery in a place near fire or heat sources.
3	Do not expose the battery to excessive physical shock or vibration.
4	Do not immerse, throw, and wet a battery in water.

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**Handling**

- 5 Short-circuiting must be avoided. A short circuit will reduce the life of the battery and can lead to ignition of surrounding materials. Physical contact with a short-circuited battery can cause skin burn.

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- 6 The batteries must 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.

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- 7 Do not allow children near the battery unsupervised.

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- 8 Do not connect the battery directly to an electric outlet or cigarette socket in a car.

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- 9 Be sure to use the specified charger for battery, and follow the charging instructions correctly.

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- 10 Do not mix old and new batteries together.

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**Storage**

- 1 Batteries should be separated from other materials and stored in a noncombustible, well ventilated, sprinkler-protected structure with sufficient clearance between walls and battery stacks.

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- 2 Keep the sample in the cool, dry and well-ventilated area (temperature: -10~30C, humidity: 45~85%). Do not allow exposure to direct sunlight for long periods. Keep away from fire and heating sources.

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- 3 Ensure the storage area is equipped with the fire fighting media as per section 5.

## Section 8

### Exposure Controls & Personal Protection

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<b>Engineering Control</b>	Keep away from heat and open flame. Store in a cool, dry place.
<b>Respiratory Protection</b>	Not necessary under conditions of normal use. Wear the appropriate breathing apparatus suitable for emergency rescue or evacuation situations.
<b>Eyes Protection</b>	Not necessary under conditions of normal use. Wear protective glasses if handling a leaking or ruptured battery.
<b>Skin &amp; Body Protection</b>	Not necessary under conditions of normal use. Wear fire proof & gas proof PPE clothing in the case of handling a leaking or ruptured battery.
<b>Hands Protection</b>	Not necessary under conditions of normal use. Wear chemical resistant rubber gloves.

## Section 9

### Physical & Chemical Properties

Appearance	Silver & Black
Physical State	Solid
Form	Rectangular Cuboid
Odour	Odourless
Solubility	Insoluble in water

## Section 10

### Stability & Reactivity

Stability	Stable under normal temperature and pressure.
Reactivity	Explosives, inflammables, strong oxidants and corrosives.
Conditions to Avoid	Fire source, heat source, disassembly, external short circuit, physical damage, deformation, high temperature above 100C, direct sunlight and high humidity, immersion in water or overcharging.
Hazardous Polymerization	Will not occur.
Hazardous Decomposition Products	Metal oxides, carboxyl compound such as CO, CO <sub>2</sub> , etc.

## Section 11

### Toxicological Information

Acute Toxicity	No information is available.
Sub-acute and Chronic Toxicity	No information is available.
Irritation Data	The internal battery materials may cause irritation to eyes and skin.
Sensitization	The liquid in the battery may cause sensitization to some person.
Mutagenicity	No information is available.



<b>Carcinogenicity</b>	Cobalt and Cobalt compounds are considered to be possible human carcinogen(s).
<b>Others</b>	Since the materials in this battery are sealed in the case, the potential for exposure to the components of the battery is negligible, when the battery is used as directed. However technical or electrical abuse of the battery may result in the release of battery contents.

## Section 12 Ecological Information

<b>Eco-toxicity</b>	No information is available.
<b>Biodegradable</b>	No information is available.
<b>Mobility in soil</b>	No information is available.
<b>Bio concentration or Biological Accumulation</b>	No information is available.
<b>Other Harmful Effects</b>	Don't dispose of the battery irresponsibly, may cause water and/or soil pollution.

## Section 13 Disposal Considerations

### Appropriate Disposal Methods

The battery should be completely discharged prior to disposal in order to prevent short circuit.

The battery contains recyclable materials, and it is recommended to be recycled.

Refer to national or local regulations before disposal.

Disposal of the battery should be performed by permitted, professional disposal firms knowledgeable in national or local regulations of hazardous waste treatment and hazardous waste transportation.

## Section 14

### Transport Information

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The battery has passed the test items of UN Manual of Test and Criteria Section 38.3

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#### General Packaging Requirement

- 1 The cells or batteries must be protected so as to prevent short circuits.
  - 2 The cells or batteries or equipment must be packed in suitable strong outer packaging.
  - 3 If batteries contained in equipment, equipment must be secured against movement within the outer packaging and be packed so as to prevent accidental activation.
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#### Air transportation, according to IATA-DGR 64th Edition (Effective 1 January-31 December 2023)

UN Number + PSN	UN 3480, Lithium Ion Batteries.
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Hazard Class	Class 9, according to sp230 & sp348
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Packaging Requirement	Packing group II, packaging according to Packing Instruction 965, section IA
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UN Number + PSN	UN 3481, Lithium Ion Batteries contained within equipment
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Hazard Class	Class 9
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Packaging Requirement	Packing Instruction 967, section I
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#### Sea transportation, according to IMO IMDG Code (Amend 40-2020)

UN Number + PSN	UN 3480, Lithium Ion Batteries, Or UN 3481, Lithium Ion Batteries Packed With Equipment
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Hazard Class	Class 9, according to sp230 & sp348
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Packaging Instruction	Packing group II, Packaging in accordance to corresponding requirements of P903
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EmS No.	F-A, S-I
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#### Road transportation, according to ADR-2021

UN Number + PSN	UN 3480, Lithium Ion Batteries, Or UN 3481, Lithium Ion Batteries Packed With Equipment
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Hazard Class	Class 9, according to sp230 & sp348
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Packaging Requirement	Packing group II, Packaging in accordance to corresponding requirements of P903
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## Section 15

### Regulatory Information

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Dangerous Goods Regulation (DGR)

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Recommendations on the Transport of Dangerous Goods Model Regulations

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International Maritime Dangerous Goods (IMDG)

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Occupational Safety and Health Act (OSHA)

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Toxic Substances Control Act (TSCA)

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Code of Federal Regulations (CFR)

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Technical Instructions for the Safe Transport of Dangerous Goods

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California Proposition 65

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Superfund Amendments and Reauthorization Act Title III (302/311/312/313) (SARA)

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Globally Harmonized System of Classification and Labeling of Chemicals(GHS)

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In accordance with all Federal, State and local laws.

## Section 16

### Additional Information

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**According Standard** GB/T 16483-2008 Safety data sheet for chemical products Content and order of sections

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ISO 11014:2009(E) Safety data sheet for chemical products - Content and order of sections

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**New Creation Date** 2022-11-22

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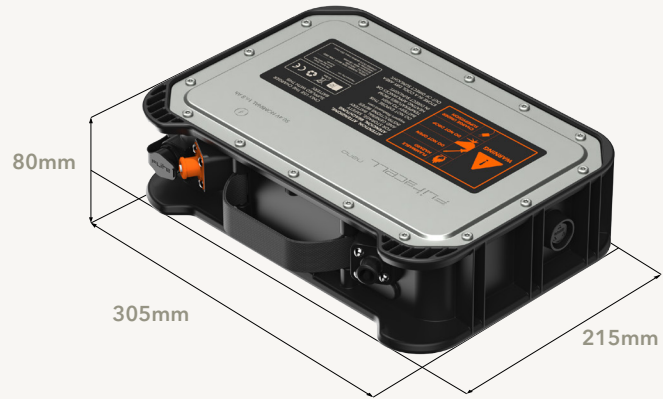
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**Other Information** The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. We make no warranty of merchantability or any other warranty express or implied, with respect to such information, and we assume no liability resulting from its use. Users should conduct their own investigation to determine the suitability of the information for their particular purposes. In no way shall Flite be liable for any claims, losses, or damage of any third party or for lost profits or any special, indirect, consequential or exemplary damages arising from using the above information.

Type/Model

Flitecell Nano, 50.4V, 16Ah, 806Wh



<p><b>WARNING</b></p>	<p><b>FLAMMABLE HAZARD</b></p>	<p><b>ATTENTION, ATTENZIONE, ATENCIÓN, BEACHTUNG</b> FOR STORAGE, SAFETY AND GENERAL BATTERY INSTRUCTIONS REFER support.fliteboard.com</p> <p>DO NOT EXPOSE THIS BATTERY TO HIGH TEMPERATURES FROM HEATING APPLIANCES OR IN DIRECT SUNLIGHT.</p> <p>STORE IN A COOL DRY AREA OUT OF DIRECT SUNLIGHT.</p>	<p>ONLY USE THE CHARGER SUPPLIED WITH THIS BATTERY.</p>
	<p><b>DO NOT OPEN</b></p>		
	<p><b>DO NOT DROP</b></p>		
	<p><b>CHARGE UNDER SUPERVISION</b></p>		
<p>Fliteboard Pty. Ltd. 156 Jonson Street Byron Bay NSW 2481 Australia</p>		<p>SERIAL NUMBER FBPS 083-01 XXXX 1121 FLITECELL - NANO 50.4Vnom/16Ah/ 806Wh 141NR22/71-7 CHARGE CCCV 58.8Vdc (max), 25A (max)</p>	

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