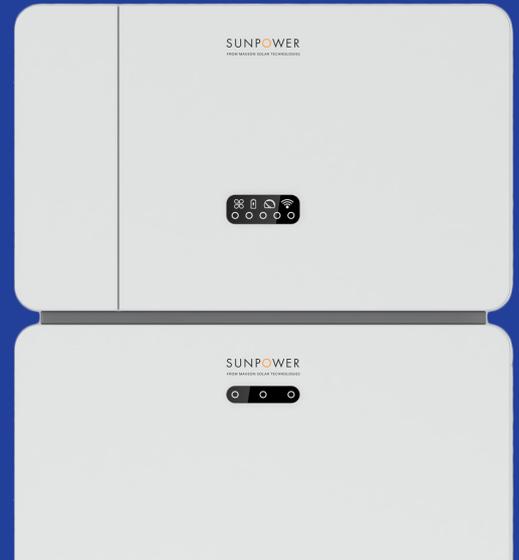


SunPower Reserve

Home energy storage system



Safety Datasheet: Battery (AU) (RESERVE-BAT-1-DC-10.1-INT)

SDS023 (AU) Revision A
Published January 2023

1. Product Identification

Product name	Rechargeable Lithium-ion Battery
Models	RESERVE-BAT-1-DC-10.1-INT
SDS number	SDS023
Synonyms	Lithium Iron Phosphate (LiFePO ₄ , LFP)
Proper shipping name (ADG code)	Lithium-ion Battery
UN/ID number	UN3480
Recommended use	Energy Storage; Battery Packs
Manufacturer details	SunPower Corporation Australia Pty Limited Suite 207, 28 Riddell Parade Elsternwick Victoria 3185 Australia
Emergency phone number	1800 786 769

2. Hazards Identification

Classification of the hazardous chemical	Exempt from hazard classes and categories according to Australian GHS.	
Label elements, including precautionary statements	No signal word, pictograms, hazard or precautionary statements have been allocated according to GHS, but there is other label for Transport of Dangerous Goods on package:	
Other hazards	<p>This product is a Lithium Iron Phosphate Battery with certified compliance under the UN Recommendations on Transport of Dangerous Goods, Manual of Tests and Criteria, Part III, sub-section 38.3. For the battery cell, chemical materials are stored in a hermetically sealed metal case, designed to withstand temperatures and pressures encountered during normal use. As a result, during normal use, there is no physical danger of ignition or explosion and chemical danger of hazardous materials' leakage. However, if exposed to a fire, added mechanical shocks, decomposed, added electric stress by misuse, the gas release vent will be operated. The battery cell case will be breached at the extreme. Hazardous materials may be released. Moreover, if heated strongly by the surrounding fire, acrid or harmful fume may be emitted.</p>	

3. Composition & Information on Ingredients

Chemical Name	CAS No	Weight [%]
SPCC-Fe	7439-89-6	20-25
Lithium Iron Phosphate (Lifepo4)	15365-14-7	18-20
Iron	7439-89-6	13-16
Lithium Hexafluorophosphate	21324-40-3	10-12
Copper Metal	7440-50-8	8-12
Carbon	7440-44-0	5-8
Aluminum Metal	7429-90-5	3-7
Polyester Resin	63148-65-2	3-5
Acrylonitrile-butadiene-styrene (ABS)	9003-56-9	1-3
Polyvinylidene Fluoride	24937-79-9	1-3
Polyvinylidene Fluoride	25037-45-0	1-3
Nickel	7440-02-0	0-1

4. First Aid Measures

In case of	Necessary first aid measures
Eye contact	Rinse eyes with flowing water for 15 minutes and seek medical attention.
Skin contact	Wash the affected area thoroughly with soap and water for 15 minutes and seek medical attention.
Inhalation	If internal contents are inhaled, evacuate the contaminated area, and seek medical attention.
Ingestion	If ingestion of internal contents occurs, rinse mouth thoroughly with water. Do not induce vomiting. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration and continue to rinse mouth with water. Seek medical attention immediately.
Additional information for treatment of symptoms	Adverse effects not expected from this product. Exposure to battery contents may cause irritation and potential burns. If medical or special attention is required, physician should treat symptomatically.

5. Fire-fighting Measures

Suitable extinguishing media	In case of fire suitable extinguishing media: carbon dioxide or dry chemical. Use Novec 1230, FM-200, or dioxide extinguisher. ABC extinguishers are not effective when the battery pack is on fire.
Special hazards arising from chemical	Contents react with water. May explode if exposed to high temperatures due to pressure build up in battery casing. Lithium may burn in a fire situation and may be ejected from the battery. Damaged cells may evolve toxic and flammable vapours.
Specific protective equipment and precautions for firefighters	<p>Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) and protective gear in compliance with the Directive on Personal Protective Equipment 89/686/EEC when combating fire. Use water fog to cool intact containers and nearby storage areas.</p> <p>Hazchem code: 4: Dry Agent (water MUST NOT be allowed to contact substance). W: Risk of violent reaction or explosion. Wear liquid-tight chemical protective clothing and breathing apparatus. Contain spill and run-off.</p>

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures	For details on Personal Protective Equipment (PPE), see Section 8.
Environmental precautions	For ecological information, see Section 12.
Methods and materials for containment and cleaning up	<p>If spilt, collect and reuse where possible. If battery is broken or damaged, absorb liquid with sand or similar. Contain spillage, then collect and place in suitable containers for disposal. CAUTION: Avoid exposure to contents.</p> <p>For waste disposal, see Section 13.</p>

7. Handling and Storage

Precautions for safe handling	Before use carefully read the product manuals Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.
Conditions for safe storage, including any incompatibilities	Store tightly sealed in a cool, dry, well-ventilated area, removed from water, incompatible substances, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills. Store within the recommended limit of -10°C to 50°C. Do not expose to high temperature (55°C). Since short circuit can cause burn hazard or safety vent to open, do not store with metal jewelry, metal covered tables, or metal belt.

8. Exposure Controls & Personal Protection

Exposure control measures	This product presents no health hazards to the user when used according to label directions for its intended purposes.			
Biological monitoring	Ingredient	Determinant	Sampling time	BEI
	Polyvinylidene Fluoride	Fluoride in urine	Prior to shift	2 mg/L
			End of shift	3 mg/L
Reference: ACGIH Biological Exposure Indices				
Control banding	Control banding is not used.			
Engineering controls	Use local exhaust ventilation or other engineering controls to control sources of dust, mist, fume and vapor.			
Personal protective equipment (PPE):	Eye Protection: Not necessary under normal use. Wear safety goggles if handling a ruptured or leaking battery cell. spiratory mask.			

Skin Protection: Not necessary under normal use for hands and body. Wear PVC or rubber gloves if handling a ruptured or leaking battery cell.

Respiratory Protection: Not necessary under normal use. In case of battery or cell rupture, use a self-contained full face respiratory mask.

9. Composition & Information on Ingredients

Appearance	Battery	Physical State	Solid
Colour	Not Determined	Ph	Solid
Odour type	Odourless	Odour threshold	Not Determined
Melting point	Not Determined	Freezing point	Not Determined
Boiling point	Not Determined	Boiling range	Not Determined
Flash point	Not Determined	Evaporative rate	Not Determined
Flammability	Not Determined	Flammability/ explosive limits	Not Determined
Oxidising properties	Not Determined	Viscosity	Not Determined
Relative density	Not Determined	Auto-ignition temperature	Not Determined
Solubility in water	Insoluble	Partition coefficient (n-octanol/water)	Not Determined
Water/oil distribution coefficient	Not Determined	Vapor pressure	Not Determined
Decomposition temperature	Not Determined	Vapor density (air = 1)	Not Determined
Saturated vapor concentration	Not Determined	Specific heat value	Not Determined
Particle size	Not Determined	Release of invisible flammable vapors and gases	Not Determined
Size distribution	Not Determined	Shape and aspect ratio	Not Determined
Crystallinity	Not Determined	Dustiness	Not Determined
Surface area	1.35 m ²	Degree of aggregation or agglomeration, and dispersibility	Not Determined
Redox potential	Not Determined	Biodurability or biopersistence	Not Determined
Surface coating or chemistry	Polyester Resin		

10. Stability & Reactivity

Reactivity	Not available
Chemical stability	Stable under normal use.
Possibility of hazardous reactions	Polymerization will not occur.
Conditions to avoid	Heat above 70°C or incinerate. Deform. Mutilate. Crush. Pierce. Disassemble. Recharge. Short circuit. Expose over a long period to humid conditions.
Incompatible materials	Battery contents are incompatible with water (evolving flammable gas), oxidizing agents (e.g. hypochlorites), acids (e.g. nitric acid), alkalis (e.g. sodium hydroxide), heat and ignition sources.
Hazardous decomposition products	May evolve hydrogen and lithium oxides when heated to decomposition.

11. Toxicological Information

Likely routes of exposure	Acute toxicity Information available for the product: No specific acute toxicity data exists for this product. Batteries consist of a hermetically sealed metallic container containing a number of chemicals and materials of construction that may be hazardous upon release. Over exposure considered unlikely unless battery ruptures and contact with contents occurs. Contents may be harmful.			
	Exposure	Determinant		
	Inhalation	Toxicity data and effects of inhalation exposure are not available. Not a likely route of exposure under normal use.		
	Ingestion	Toxicity data and effects of ingestion exposure are not available. Not a likely route of exposure under normal use.		
	Skin Contact	Toxicity data and effects of skin contact exposure are not available. Not a likely route of exposure under normal use.		
	Eye Contact	Toxicity data and effects of eye contact exposure are not available. Not a likely route of exposure under normal use.		
Component information	Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
	Carbon 7440-44-0	Fluoride in urine	Prior to shift	2 mg/L
Early onset symptoms and delayed health effect from exposure	For symptoms, see Section 4.			
Numerical Measures of Toxicity	Not determined			

12. Ecological Information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Persistence and degradability	Not determined
Bioaccumulative potential	Polymerization will not occur.
Mobility in soil	Not determined
Other adverse effects	Not determined

13. Stability & Reactivity

Disposal of waste	Recycling is encouraged. Do NOT dump into sewage or water bodies. Dispose of in accordance with local, state and federal laws and regulations.
Contaminated Packaging	Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. Transportation Information

URE Product listed in Section 1 is designed to comply with standard international shipping regulations including the UN Recommendations on the Transport of Dangerous Good; the IATA Dangerous Goods Regulations and the International Maritime Dangerous Goods Code.



Environmental hazards for transport purposes	No information provided
Special precautions for user	No information provided
Additional information	No information provided
Hazchem or emergency action code	4W

15. Regulatory Information (Safety, Health & Environmental)

Poison schedule	A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).
Classifications	Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals. The classifications and phrases listed below are based

	on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].
Hazard codes	None allocated.
Risk phrases	None allocated.
Safety phrases	None allocated.
Inventory listings	AUSTRALIA: AICS (Australian Inventory of Chemical Substances) All components are listed on AICS, or are exempt.

16. Other Information

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