SAFETY DATA SHEET

VALVE REGULATED LEAD ACID BATTERY, NON-SPILLABLE

Document No. SSB-SDS-01, Version 1.2

1. IDENTIFICATION

Product Name:	Fusion AGM, Fusion Gel, Fusion EV, Fusion Solar, SSB Dry Cell, SSB iStart, SSB Vspec, SSB XR Series
Other Name:	Valve Regulated Lead Acid (VRLA), AGM, Non-Spillable, Dry Cell
Proper Shipping Name:	Sealed Lead Acid, Battery Non-Spillable
Use:	Battery for: Starting, Deep Cycle, Solar, Back-up, Electrical Storage

Details of the supplier of the product

Company:	Super Start Batteries Pty Ltd (A.C.N. 101 683 694)
Address:	Unit 30 / 76 Hume Highway LANSVALE NSW 2166
Telephone Number:	(02) 9755 7851
Fax Number:	(02) 9755 7852
Email:	batteries@superstart.com.au
Website:	https://superstart.com.au/
Emergency Number:	1300 558 521

2. HAZARD INFORMATION

WHS and ADG Hazard Classification:
Hazardous Chemical, Dangerous Goods

Poisons Schedule:
Not Applicable

GHS Classification:
Metal Corrosion Category 1
Chronic Aquatic Hazard Category 1
Serious Eye Damage Category 1
Skin Corrosion/Irritation Category 1A
Reproductive Toxicity Category 1A
Carcinogen Category 1A
Acute Toxicity (Inhalation) Category 3
Acute Toxicity (Oral) Category 4

GHS Label Elements:

Signal Word:
DANGER

Hazard statements:

H301	Toxic if swallowed
H314	Causes severe skin burns and eye damage

H335	May cause respiratory irritation
H351	May cause cancer
H360	May damage fertility or the unborn child
H362	May cause harm to breast-fed children
H372	May cause damage to organs through prolonged or repeated exposure

Precautionary Statements - Prevention:

P201	Obtain instructions prior to use
P260	Do not breathe dust/fume/gas/mist/vapours/spray
P263	Avoid contact during pregnancy/while nursing
P270	Do not eat, drink or smoke when using this product
P281	Use personal protective equipment as required

Precautionary Statements - Response:

P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or physician/doctor
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P303+P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P363	Wash contaminated clothing before reuse.
P308+P313	IF exposed or concerned: Get medical advice/attention.

Precautionary Statements - Storage:

P405	Store locked up

Precautionary Statements - Disposal:

P501	Dispose of contents/container to an approved waste disposal facility in accordance with local regulations/laws

3. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENTS	Weight %	CAS Number
Lead / Lead Compounds	65%-75%	7439-92-1
Tin	<0.5%	7440-31-5
Calcium	<0.1%	7440-70-2
Sulfuric Acid	~20%	7664-93-9
Fiberglass Separator	~ 5%	--
Case Material: Acrylonitrile Butadine Styrene (ABS) or Polypropylene (PP)	~5%	9003-56-9 9003-07-0

4. FIRST AID MEASURES

In case of battery rupture, evacuate personnel from contaminated area and provide maximum ventilation to clear out fumes and pungent odours.

In all cases, seek immediate medical attention:

First Aid Measures:

Eye contact: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do.
Continue rinsing with plenty of water (eyelids-held open) for at least 15 minutes.
Consult a physician.

Skin contact: Remove/Take off immediately all contaminated clothing.
Flush affected areas with plenty of water and soap for at least 15 minutes.
Wash contaminated clothing before reuse.
If Irritation develops seek medical attention.

Ingestion: Immediately call a POISON CENTER. Seek urgent medical attention
Do NOT induce vomiting
Rinse mouth. Dilute by giving water or milk
Assure that mucus does not obstruct the airway
Do not give anything by mouth to an unconscious person

Inhalation: Remove to fresh air immediately and keep at rest in a position comfortable for breathing
Give oxygen or artificial respiration if needed
Ventilate the contaminated area

Chronic Health Hazards:
Sulfuric acid: Possible scarring of the cornea, inflammation of the nose, throat and bronchial tubes, possible erosion of tooth enamel.
Lead Compounds: May cause anaemia, damage to kidneys and nervous system, and damage to reproductive system in both males and females.

Medical Conditions Generally Aggravated by Exposure:
Inorganic lead and its compounds can aggravate chronic forms of kidney, liver, and neurological diseases. Contact of battery electrolyte (acid) with the skin may aggravate skin diseases such as eczema and contact dermatitis. Overexposure to sulfuric acid mist may cause lung damage and aggravate pulmonary conditions.

5. FIRE FIGHTING MEASURES

Fire and explosion hazard:	Non-combustible. Not considered to be a significant fire risk. Acids may react with metals to produce hydrogen, a highly flammable and explosive gas. Heating may cause expansion or decomposition leading to violent rupture of containers.
Extinguishing media:	Suitable : Water Spray or Fog Dry chemical Powder Foam BCF Carbon Dioxide Unsuitable : Nil Known
Advice for Fire Fighters:	Alert Fire brigade to the nature of the hazard and location Cool fire exposed containers with water spray from a protected location If safe to do so, remove containers from path of fire Use water delivered as a fine spray to control fire and cool adjacent area Prevent spillage from entering drains or water ways Do not approach containers suspected to be hot Slight hazard when exposed to flames and oxidisers Use fire fighting procedures suitable for surrounding area
Special protective equipment:	Use self-contained breathing apparatus to avoid breathing irritant fumes. Wear full protective gear and equipment Equipment should be thoroughly decontaminated after use

6. ACCIDENTAL RELEASE MEASURES

The material contained within the batteries would only be expelled under abusive conditions. Using shovel or broom, cover battery or spilled substances with dry sand or vermiculite, place in approved container (after cooling if necessary) and dispose in accordance with local regulations.

7. HANDLING AND STORAGE

The batteries should not be opened destroyed or incinerated since they may leak or rupture and release in the environment the ingredients they contain.

Handling: Do not crush, pierce, short (+) and (-) battery terminals with conductive (i.e. metal) material. Do not directly heat or solder. Do not throw into fire. Do not mix batteries of different types and brands. Do not mix new and used batteries. Keep batteries in non-conductive (i.e. plastic) trays.

Storage: Store in a cool (preferably below 30°C) and ventilated area away from moisture, sources of heat, open flames, food and drink. Keep adequate clearance between walls and batteries. Temperature above 90°C may result in battery leakage and rupture. Since short circuit can cause burn, leakage and rupture hazard, keep batteries in original packaging until use and do not jumble them.

Other: Manufacturer recommendations regarding maximum recommended currents and operating temperature range. Applying pressure or deforming the battery may lead to disassembly followed by eye, skin and throat irritation.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits:

Material Name	Air Exposure Limits (µg/m$^{3)}$			LD50 ORAL (mg/kg)
	ACGIH TLV	OSHA	NIOSH	
Lead	150	50	10	500
Tin	2000	2000	--	--
Sulfuric Acid	1000	1000	1000	2.14

Engineering Controls:
Store and handle in well-ventilated area. If mechanical ventilation is used, components must be acid resistant.

Personal Protection and Equipment:
None needed under normal conditions. However, if battery case is damaged:
- Protective gloves: use rubber or plastic acid-resistant gloves with elbow-length gauntlet.
- Eye protection: use chemical goggles or face shield.
- Other protection: Acid-resistant apron. Under severe exposure or emergency conditions, wear acid – resistant clothing and boots.
- In areas where sulfuric acid is handled in concentrations greater than 1%, emergency eyewash stations and showers should be provided, with unlimited water supply.

9. PHYSICAL & CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Solid containing liquid	**Odour**	No data
Appearance	Sealed Rectangular plastic casing with exposed terminals for electrical connections	**Odour Threshold**	No data
Colour	Clear		

pH	No Data	**Specific Gravity**	1.2 to 1.3 @ 25°C
Melting point/freezing point	-7 to -70°C	**Water solubility**	100%
Boiling point / boiling range	95 °C - 95.555 °C	**Solubility in other solvents**	No Data
Flash point	No Data	**Partition coefficient**	No Data
Evaporation rate	No Data	**Autoignition temperature**	No Data
Flammability (solid, gas)	No Data	**Decomposition temperature**	No Data
Flammability Limit in Air		**Kinematic viscosity**	No Data
Upper flammability limit:	No Data	**Dynamic viscosity**	No Data
Lower flammability limit:	No Data	**Explosive properties**	No Data
Vapor pressure	13 to 22 mmHg @ 25°C	**Oxidizing properties**	No Data
Vapor density	1		

Other Information

Softening point	No Data
Molecular weight	No Data
VOC Content (%)	No Data
Density	75.8523-
Bulk density	No Data

10. STABILITY AND REACTIVITY

Reactivity:
Not reactive under normal conditions

Chemical stability:
Stable at normal temperatures and pressures

Possibility of Hazardous Reactions:
None under normal processing

Hazardous polymerization Hazardous polymerization does not occur.

Conditions to avoid:
Prolonged overcharge
Sources of ignition
Keep out of reach of children

Incompatible materials:
Sulfuric acid: Contact with combustible and organic materials may cause fire and explosion. Also reacts violently with strong reducing agents, metals, sulfur trioxide, strong oxidizers and water. Contact with metals may product toxic sulfur dioxide fumes and may release flammable hydrogen gas.

Lead compounds: Avoid contact with strong bases, acids, combustible organic materials, halides, halogenates, potassium nitrate, permanganate, peroxides, nascent hydrogen, reducing agents, and water.

Hazardous Decomposition Products:
Lead compounds exposed to high temperatures will likely produce toxic metal fume, vapor or dust; contact with strong acid/base or presence of nascent hydrogen may generate highly toxic arsine gas.

Sulfuric acid: Sulfur trioxide, carbon monoxide, sulfuric acid mist, sulfur dioxide, and hydrogen.

11. TOXILOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation: (Acute): Under normal conditions of use, no health effects are expected. Contents of an open battery can cause respiratory irritation.
(Chronic): Repeated and prolonged exposure may cause irritation.

Eye contact (Acute): Under normal conditions of use, no health effects are expected. Exposure to dust may cause irritation.
(Chronic): No data available.

Skin Contact (Acute): Under normal conditions of use, no health effects are expected.
(Chronic): No data available.

Ingestion (Acute): Under normal conditions of use, no health effects are expected. Lead ingestion may cause abdominal pain, nausea, vomiting, diarrhoea and severe cramping.
(Chronic): No data available.

Acute Effects

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Arsenic 7440-38-2	= 15 mg/kg (Rat) = 763 mg/kg (Rat)	-	-
Sulfuric Acid 7664-93-9	= 2140 mg/kg (Rat)	-	= 510 mg/m^3 (Rat) 2 h
Tin 7440-31-5	= 700 mg/kg (Rat)	-	-

Information on toxicological effects

Symptoms

Symptoms of lead toxicity include headache, fatigue, abdominal pain, loss of appetite, muscular aches and weakness, sleep disturbances and irritability. Lead absorption may cause nausea, weight loss, abdominal spasms, and pain in arms, legs and joints. Effects of chronic lead exposure may include central nervous system (CNS) damage, kidney dysfunction, anemia, neuropathy particularly of the motor nerves with wrist drop, and potential reproductive effects.

Acute exposure to sulfuric acid causes severe irritation, burns and permanent tissue damage to all routes of exposure. Chronic exposure to sulfuric acid may cause erosion of tooth enamel, inflammation of nose, throat and respiratory system.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	Not available.
Serious eye damage/eye irritation	Not available.
Irritation	Severe burns.
Corrosively	Not available.
Sensitization	Not available.

Carcinogenicity Chemical Name	ACGIH	IARC	NTP	OSHA
Arsenic 7440-38-2	A1	Group 1	Known	X
Sulfuric Acid 7664-93-9	A2	Group 1	–	X
Powdered Lead 7439-92-1	A3	Group 2A	Reasonably Anticipated	X

12. ECOLOGICAL INFORMATION

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Sulfuric Acid 7664-93-9	–	500: 96 h Brachydanio rerio mg/L LC50 static	–	29: 24 h Daphnia magna mg/L EC50
Powdered Lead 7439-92-1	–	0.44: 96 h Cyprinus carpio mg/L LC50 semi-static 1.32: 96 h Oncorhynchus mykiss mg/L LC50 static 1.17: 96 h Oncorhynchus mykiss mg/L LC50 flow-through	–	600: 48 h water flea µg/L EC50

Persistence and degradability
Lead is persistent in soils and sediments

Bioaccumulation
Not available

Mobility
Not available

Other adverse effects
Not available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION

Labels Required:

Marine Pollutant: No
Hazchem: 2R

ADG: Non-spillable batteries are not subject to Dangerous Goods Transport requirements if conditions specified in the applicable Special provisions are met. Applicable special provisions: 238

UN Number: UN2800
Proper shipping name BATTERIES, WET, NON-SPILLABLE
Hazard Class 8
Packing Group Not Applicable
Environmental Hazard Not Applicable
Special Provisions 238

DOT:	These batteries have been tested and meet the non-spillable criteria listed in CFR49,173.159 (d) (3) (i) and (ii). Non-spillable batteries are excepted from CFR 49, Subchapter C requirements, provided that the following criteria are met: 1.) The batteries must be protected against short circuits and securely packaged. 2.) The batteries and their outer packaging must be plainly and durably marked "NON-SPILLABLE" or "NONSPILLABLE BATTERY". Batteries, wet, non-spillable
ICAO / IATA:	Super Start and Fusion batteries have been tested and meet the non-spillable criteria listed in IATA Packing Instruction 872 and Special Provision A67. These batteries are accepted from all IATA regulations provided that the battery terminals are protected against short circuits. The words "Not Restricted, as per Special Provision A67" must be included in the description on the Air Waybill.
UN Number:	UN2800
Proper shipping name	Batteries, Wet, Non-Spillable
Hazard Class	8
Subsidiary hazard class	Not Applicable
ERG Code:	8L
Packing Instructions	872
Special Provisions	A48, A67, A164, A183

IMDG:	Super Start and Fusion batteries have been tested and meet the non-spillable criteria listed in IMDG Code Special Provision 238.1 and .2; therefore, are not subject to the provisions of the IMDG Code provided that the battery terminals are protected against short circuits when packaged for transport.
UN Number:	UN2800
Proper shipping name	Batteries, Wet, Non-Spillable
Hazard Class	8
Subsidiary hazard class	Not Applicable
Packing Group	Not Applicable
Environmental Hazard	Not Applicable
Special Provisions	238
EmS:	F-A, S-B

15. REGULATORY INFORMATION

The regulations following are specifically applied to the safe usage, production, storage, transport and load and unload for dangerous chemicals.

- IATA Lithium Battery Guidance Document (2021)
- International Maritime Organization (IMO) International Maritime Dangerous Goods (IMDG) Code, 2022 Edition (inc. Amendment 41-22)
- SafeWork Australia Workplace Exposure Standards for Airborne Contaminants (19 December 2019)

Batteries are exempt from The Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)

CONTACT INFORMATION

Australian Poisons Information Centre (24 Hour Service)
Telephone: 13 11 26
Police or Fire Brigade (24 Hours)
Telephone: 000
Ambulance (24 Hours)
Telephone: 000

16. ADDITIONAL INFORMATION

Version 1.2 Revision Date: 28th June 2024

Version 1.1 Initial Date: 1st December 2015

Disclaimer:
The information in the SDS was obtained from selected sources/publications which we believe are reliable but are beyond our direct supervision or control. Super Start Batteries Pty Ltd makes no Warranty of merchantability, fitness for any particular purpose or any other warranty, expressed or implied, with respect to such information and we assume no liability resulting from its use. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. It is the obligation of each user of this product to determine the suitability of this product and comply with the requirements of all applicable laws regarding use and disposal of this product. For additional information concerning Super Start Batteries Pty Ltd's products or questions concerning the content of this SDS please contact your Super Start Batteries representative. Super Start Batteries Pty Ltd reserves the right to revise this Safety Data Sheet as information becomes available. The user has the responsibility, by contacting this company or otherwise, to make certain the Safety Data sheet being consulted is the latest issued.

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