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SDS

Safety Data Sheet

Sapphire USB

1. PRODUCT & COMPANY IDENTIFICATION

Product Identifier

Product Name Lithium Polymer Battery
Chemical Name Lithium Iron

Other Means of Identification

Product Code SDL-451225-80mAh 3.7V

Recommended Use of the Chemical and Restrictions on Use

Recommended Use Power Supply
Uses Advised Against No Information Available

Details of the Supplier of the Safety Data Sheet

Supplier Shida Battery Technology Co., LTD
Address No.30 Xingye Road, Shishan Industrial Park, Nanhani District,
Foshan City, Guangdong, PR. China
Postal Code 528225
Phone 0086-757-8668 8555
Fax 0086-757-8668 8199
E-mail luo@shida-batteries.com (Chemical)

Emergency Telephone Number 0086-757-8668 8555

2. HAZARDS IDENTIFICATION

GHS Classification

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Label Elements

Symbols/Pictograms	None
Signal Word	None
Hazard Statements	None
Precautionary Statements	None
Prevention	None
Response	None
Storage	None
Disposal	None

Hazards Not Otherwise Classified (HNOC)

No information available

Unknown Acute Toxicity

.?% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS NO.	Weight (%)
Lithium Cobalt Oxide (LiCoO ₂)	12190-79-3	30 – 50
Carbon/Graphite (C)	7782-42-5	15 – 25
Aluminum (Al)	7429-90-5	3 – 10
Copper (Cu)	7440-50-8	7 – 14
PVDF (Polyvinylidene fluoride) (CH ₂ -CF ₂) _n	24937-79-9	3-8
Organic Electrolyte	21324-40-3	10 - 20

4. FIRST AID MEASURES

Description of First Aid Measures

General Advice	No hazards which require special first aid measures.
Inhalation	Not an expected route of exposure.
Skin Contact	No special technical protective measures are necessary.
Eye Contact	Not an expected route of exposure.
Ingestion	Rinse mouth. Get medical attention. Never give anything by mouth to an unconscious person.

Most Important Symptoms and Effects, Both Acute and Delayed

No information available.

Indication of Any Immediate Medical Attention and Special Treatment Needed

Treat symptomatically.

5. FIRE FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable Extinguishing Media	No information available.

Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating and toxic gases and vapors.
Keep product and empty container away from heat and sources of ignition.
In the event of fire and/or explosion, do not breathe fumes.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Ensure adequate ventilation, especially in confined areas.
ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).

Methods and Material for Containment and Cleaning Up

Pick up and transfer to properly labeled containers.

Should not be released into the environment.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Handle in accordance with good industrial hygiene and safety practice.

Ensure adequate ventilation, especially in confined areas.

Keep away from heat, sparks, flame and other sources of ignition.

Do not eat, drink or smoke when using this product.

Conditions for Safe Storage, Including Any Incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place.

Keep away from heat.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH	Denmark	European Union
Lithium Cobalt Oxide (LiCoO ₂) (CAS #: 12190-79-3)	TWA: 0.02 mg/m ³			TWA: 0.02 mg/m ³	-
Aluminum (CAS #: 7429-90-5)	TWA: 1 mg/m ³ respirable fraction	TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 15 mg/m ³ total dust (vacated) TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 5 mg/m ³ Al Aluminum	TWA: 10 mg/m ³ total dust TWA: 5 mg/m ³ respirable dust TWA: 5 mg/m ³ Al	TWA: 5 mg/m ³ TWA: 2 mg/m ³	-

Chemical Name	Latvia	France	Finland	Germany	Italy
Aluminum (CAS #: 7429-90-5)	TWA: 2 mg/m ³	TWA: 10 mg/m ³ TWA: 5 mg/m ³	TWA: 1.5 mg/m ³	TWA: 4 mg/m ³ TWA: 1.5 mg/m ³	-

Chemical Name	Poland	Portugal	Spain	Switzerland	Netherlands
Aluminum (CAS #: 7429-90-5)	TWA: 2.5 mg/m ³ TWA: 1.2 mg/m ³	TWA: 10 mg/m ³ TWA: 5 mg/m ³	TWA: 10 mg/m ³ TWA: 5 mg/m ³	TWA: 3 mg/m ³	TWA: 0.05 mg/m ³

Chemical Name	Norway	United Kingdom	Australia	Austria	Belgium
Lithium Cobalt Oxide (LiCoO ₂) (CAS #: 12190-79-3)	-	-	0.02 mg/m ³	-	-
Aluminum (CAS #: 7429-90-5)	TWA: 5 mg/m ³ STEL: 10 mg/m ³	STEL: 30 mg/m ³ STEL: 12 mg/m ³ TWA: 10 mg/m ³ TWA: 4 mg/m ³	10 mg/m ³ 5 mg/m ³	STEL: 20 mg/m ³ TWA: 10 mg/m ³	-

Appropriate Engineering Controls

Ensure adequate ventilation, especially in confined areas.

Remove all sources of ignition.

Individual protection measures, such as personal protective equipment

Respiratory Protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided.

Hand Protection

No special technical protective measures are necessary.

Eye/Face Protection

No special technical protective measures are necessary.

Skin and Body Protection

Wear suitable protective clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Solid
Color	Silver
Odor	Odorless
Odor Threshold	Not determined
pH	Not determined
Melting Point/Freezing Point	Not determined
Boiling Point/Boiling Range	Not determined
Flash Point	Not applicable
Evaporation Rate	Not determined
Flammability (Solid, Gas)	Not flammable
Flammability Limit in Air	Not determined
Vapor Pressure	Not applicable
Vapor Density	Not determined
Density	Not determined
Relative Density	Not determined
Bulk Density	Not determined
Specific Gravity	Not determined
Water Solubility	Not determined

Partition Coefficient (LogPow)	Not determined
Autoignition Temperature	Not determined
Decomposition Temperature	Not determined
Kinematic Viscosity	Not determined
Dynamic Viscosity	Not determined
Explosive Properties	Not an explosive
Oxidizing Properties	Not determined

10. STABILITY AND REACTIVITY

Reactivity	Stable under recommended storage and handling conditions (see SECTION 7, handling and storage).
Chemical Stability	Stable under normal conditions.
Possibility of Hazardous Reactions	None under normal processing.
Conditions to Avoid	Extremes of temperature and direct sunlight.
Incompatible Materials	None known based on information supplied.
Hazardous Decomposition Products	None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information On Likely Routes of Exposure

Inhalation	Inhalation of vapors in high concentration may cause irritation of respiratory system.
Eye Contact	Contact with eyes may cause irritation.
Skin Contact	Substance may cause slight skin irritation.

Ingestion May Cause Irritation To Mucous Membranes Acute Toxicity

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Iron (CAS #: 7439-89-6)	98.6 g/kg bw (rat)	-	-
Aluminum (CAS #: 7429-90-5)	LD50> 15900 mg/kg bw(rat)	-	LC50> 0.888 mg/L/4 h(rat)
Polypropylene (CAS #: 9003-07-0)	>5 g/kg	-	-

Skin Corrosion/Irritation
Serious Eye Damage/Eye Irritation
Sensitization

Non-irritating to the skin.
 No eye irritation.
 No information available.

**Germ Cell Mutagenicity
Carcinogenicity**

No information available.
This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

**Reproductive Toxicity
STOT – Single Exposure
STOT – Repeated Exposure
Aspiration Hazard**

No information available.
No information available.
No information available.
No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Algae/Aquatic Plants EC50	Fish LC50	Crustacea EC50
Iron (CAS # 7439-89-6)	-	-	> 100 mg/L/48h (Daphnia magna)
Aluminum (CAS #: 7429-90-5)	-	> 50 mg/L/96h	-

**Persistence and Degradability
Bioaccumulative Potential
Mobility in Soil
Other Adverse Effects**

No information available.
No information available.
No information available.
No information 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

Dispose of in accordance with federal, state and local regulations.

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
Aluminum (CAS #: 7429-90-5)	Ignitable Powder

14. TRANSPORT INFORMATION

1. International Air Transport Association (IATA) pursuant to PI 968 Section II.
 2. International Maritime Dangerous Goods Code (IMDG) pursuant to Special Provisions 188 and 230.
 3. U.S. hazardous materials regulations pursuant to 49 CFR 173.185 and Special Provision 188.
- According to the description above, the battery is not regarded as dangerous goods.

DOT/IMDG/IATA

UN/ID No.

Not regulated.

Proper Shipping Name

Not regulated.

Hazard Class

Not regulated.

Packing Group

Not regulated.

Special Precautions

No information available.

Marine Pollutant

Not applicable.

15. Regulatory Information

International Inventories

Component	AICS	DSL/NDSL	EINECS/ELINCS	ENCS	IECSC	KECL	PICCS	TSCA
Iron 7439-89-6 (15-40)	X	X	X	-	X	X	X	X
Aluminum 7429-90-5 (5-10)	X	X	X	-	X	X	X	X
Lithium 7439-93-2 (3-7)	X	X	X	X	X	X	X	X
Polypropylene 9003-07-0 (1-5)	X	X	-	X	X	X	X	X

"-" Not Listed

"X" Listed

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the code of Federal Regulations, Part 372.

Chemical Name	SARA 313 – Threshold Values %
Aluminum – 7429-90-5	1.0

SARA 311/312 Hazard Categories

Does not apply.

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional or state level pertaining to release of this material.

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product may contain substances regulated by state right-to-know regulations.

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Aluminum 7429-90-5	X	X	X
Lithium 7439-93-2	X	X	X

16. OTHER INFORMATION

Revision Note

Issue Date	21 July 2016
Revision Date	21 July 2016
Revision Note	Not applicable

Key or Legend to Abbreviations and Acronyms Used in the Safety Data Sheet:

TWA – Time Weighted Average

STEL – Short Term Exposure Limit

Ceiling – Maximum Limit Value

TSCA – United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL – Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS – European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS – Japan Existing and New Chemical Substances

IECSC – China Inventory of Existing Chemical Substances

KECL – Korean Existing and Evaluated Chemical Substances

PICCS – Philippines Inventory of Chemicals and Chemical Substances

AICS – Australian Inventory of Chemical Substances

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

--- End of Safety Data Sheet ---