



深圳市飞狮电池有限公司 **Camelion Battery Co., Ltd.**
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Material Safety Data Sheet

Revision B

2011-01-05

Section 1 - Product and Company Identification

PRODUCT NAME: Camelion Battery Co., LTD.

TYPE: FR6(AASIZE)

VOLTAGE: 1.5V

TRADE NAME: Lithium Iron Disulfide Battery

CHEMICAL SYSTEM: Lithium Iron Disulfide

DESIGNED FOR RECHARGE: No

ADDRESS: Unit 705-708, Cyber Timers Tower A, Tian'an Cyber Park, Shenzhen, China

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Section 2 - Composition / Hazardous Ingredients

Main content of AA LITHIUM IRON DISULFIDE BATTERIES

Ingredient	Chemical name	Content of per cell	Remark
Active material:			
Iron disulfide	FeS ₂	32~34%	Anode
Lithium metal	Li or Li-Al alloy	4~5.75%	Cathode
Lithium salts	LiClO ₄ or LiI	10~12.0%	Electrolyte
Water	H ₂ O	0.01%	
Inert material:			
Acetylene black	C	1.1~1.3%	
Graphite	C	1.1~1.3%	
Adhesive	CMC	0.5~0.6%	
Polypropylene	PP	3.3~3.5%	Seal loop
Iron	Fe	35.0~37.0%	Steel body
Nickel-plate	Ni	0.15~2.0%	
Aluminium	Al	3.0~4.0%	
Heavy metal:			
Hydrargyrum	Hg	<0.0001%	
Lead	Pb	<0.0001%	
Cadmium	Cd	<0.0001%	
Average weight of finished battery:14.5g			

Section 3 - Physical and Chemical Properties

N/A

Section 4 – Fire and Explosion Data

Extinguishing Media: Use water or CO₂ on burning product or lithium batteries. Use a class D fire extinguishing agent only on a raw lithium fire.

Special Fire-Fighting Procedures: Use self-contained breathing apparatus.

Unusual Fire and Explosion Hazards: Battery or battery in product may vent when subjected to excessive heat-exposing battery contents. Hazardous combustion products are Carbon Monoxide and Carbon Dioxide and Lithium Oxide fumes.

Section 5 – Reactivity Data

Stability: Product is stable.

Conditions to Avoid: Battery contains hermetically sealed cells and is non-reactive provided the battery integrity is maintained and the cell seal remains intact.

Conditions to Avoid: Heating, mechanical abuse and electrical abuse (such as recharging, voltage reversal and short-circuiting) may result in venting.

Section 6 - Health Hazard Data

Routes of Entry: Inhalation - Yes Skin - Yes

Health Hazards (Acute and Chronic): These chemicals are contained in a sealed can. Risk of exposure occurs only if the battery is mechanically or electrically abused. Contact of electrolyte and extruded lithium with skin and eyes should be avoided.

Carcinogenicity: No NTP: None

Signs / Symptoms of Exposure: A shorted Lithium battery can cause thermal and chemical burns upon contact with the skin.

Medical Conditions Generally Aggravated by Exposure: An acute exposure will not generally aggravate any medical condition.

Emergency and First Aid Procedures: In case of skin contact with contents of battery, flush immediately with water. For eye contact, flush with copious amounts of water for 15 minutes. Do not inhale leaked material. If irritation persists, get medical help.

Section 7 – Precautions for Safe Handling and Use

Handling Precautions: AVOID MECHANICAL OR ELECTRICAL ABUSE.

If Battery Material is released: Remove personnel from area until fumes dissipate. Provide maximum ventilation to clear out hazardous gases. Batteries will not release hazardous gases under normal operating conditions.

Batteries are capable of long term storage at temperatures as high as 160°F (71°C). Storage at lower temperatures will not affect the product. Temperatures above 160°F (71°C) and storage at elevated temperatures should be avoided.

Waste Disposal Method: Follow applicable Federal, state, and local regulations for disposal/recycling of products with Lithium Batteries.



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Section 8 – Disposal

Lithium batteries are best disposed of as a non-hazardous waste when fully or mostly discharged. The Federal Environmental Protection Agency (EPA) (governed by the Resource Conservation and Recovery Act (RCRA)) do not list or exempt Lithium as a hazardous waste. However, if waste lithium batteries are still fully charged or only partially discharged, they can be considered a reactive hazardous waste because of significant amounts of unreacted lithium in the battery. The batteries must be neutralized through an approved secondary treatment facility prior to disposal as a hazardous waste (as required by the U.S. Land Ban Restrictions for the hazardous and Solid Waste Amendments of 1984.) Secondary treatment centers receive these batteries as manifested hazardous waste under code "D003 - reactive." Use a professional disposal firm for disposal of mass quantities of undischarged lithium batteries.

DO NOT INCINERATE or subject battery cells to temperatures in excess of 212°F. Such treatment can cause cell rupture.

Section 9 - Exposure Controls / Personal Protection

Ventilation: in case of battery venting, provide as much ventilation as possible. Avoid confined areas with venting batteries.

Respiratory Protection is not necessary under conditions of normal use.

Personal Protection is recommended for venting batteries: Respiratory Protection, Protective Gloves, Protective Clothing and safety glasses with side shields.

Section 10- Transport Information

Each of the products listed in section 1 contains two Camelion AA Lithium Iron Disulfide Batteries with 1.0 grams of Lithium each 2.0 gram total).

These Lithium batteries are excluded from dangerous goods regulations and meet the exceptions of 49CFR Part 173.185(b).

They are considered non-dangerous goods by the International Civil Aviation Organization (ICAO) and the International Air Transport Association (IATA) because they meet all requirements of Special Provision A51.

Separate Lithium batteries when shipping to prevent short-circuiting. They should be packed in strong packaging for support during transport.

The cells and packaging meet the requirements of IMDG-Code 34. Amendment, special requirement No. 188.

Passenger Aircraft Ban (for batteries only)

Effective December 29, 2004, all primary lithium batteries are banned as cargo on passenger aircraft. In addition this rule requires that the outside of each package that contains primary lithium batteries, regardless of size or number of batteries, be labeled with the following statement: "PRIMARY LITHIUM BATTERIES-FORBIDDEN FOR TRANSPORT ABOARD PASSENGER AIRCRAFT". See DOT 49 CFR 173.185 for more information.

Document Information

Prepared By: Camelionbattery Co.,LTD.

Disclaimer: The information included herein is believed to be accurate and represents the best information available to us. However, we



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