

1. Product and Company Identification: (I)

Product Identification:

ENERGY+[®] Brand Lithium Primary (Metal) Battery B9593T, 3.6V 2.6Ahr

Company Identification:

Fedco Electronics, Inc.
1363 Capital Drive
Fond du Lac, WI 54937

Tel: 1-920-922-6490
Fax: 1-920-922-6750
www.fedcoelectronics.com

Emergency Contact Information:

INFOTRAC
In the United States call 1-800-535-5053
Outside the United States call collect 1-352-323-3500

The batteries referenced herein are defined as exempt "articles" and are not subject to the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard 29 CFR § 1910.1200(g). This information is provided as a service to our customers.

2. Composition / Identification of Ingredients (II)

ENERGY+[®] brand Lithium Primary (Metal) battery packs contain only cells that have been proven to meet the requirements of the UN Manual of Tests and Criteria, Part III, sub-section 38.3, Tests T1 – T6 & T8.

This battery is built with a single Saft Lithium-Thionyl Chloride LS14500 cell which contains 0.70g Lithium; it is considered to be a "small" battery under UN 3090 and does NOT require Class 9 hazardous shipping by Air or Ground; it is non-rechargeable and the U.L. File Number for this cell is MH12609.

Lithium-Thionyl Chloride		Li-SOCl ₂	
Common Chemical Name	Chemical Formula	CAS Number	Content - % Weight
Lithium	Li	7439-92-2	<5%
Thionyl Chloride	SOCl ₂	7719-09-7	<46%
Carbon	C _n	1333-86-4	<4%
Aluminum Chloride (Anhydrous)	AlCl ₃	7746-70-0	<5%

3. Hazard Identification (II)

Under normal condition of use a Lithium metal battery, which is sealed, presents no risk of exposure. Risk of exposure occurs only if the battery pack is physically abused.

Skin contact: No effect under routine handling and use.

Skin absorption: No effect under routine handling and use.

Eye contact: No effect under routine handling and use.

Inhalation: No effect under routine handling and use.

Ingestion: No effect under routine handling and use.

4. First Aid Measures (VI)

Inhalation: Not anticipated. If battery is leaking, contents may be irritating to respiratory passages. Remove to fresh air and seek medical attention if necessary.

Skin contact: Not anticipated. If battery is leaking, wash exposed skin with copious quantities of water for 15 minutes. If irritation or pain persists, seek medical attention.

Eye contact: Not anticipated. Do not rub one's eyes. Immediately flush eyes with copious amounts of water for at least 15 minutes. Seek medical attention immediately.

Ingestion: Not anticipated. Seek medical attention if necessary.

5. Fire Fighting Measures (IV)

Extinguishing media: Lithium metal batteries are in sealed steel cans and are only flammable if punctured or crushed. CO₂ extinguishers or, even preferably, copious amounts of water or water-based foam can be used to cool down burning Lithium metal batteries, as long as the extent of the fire has not progressed to the point that the Lithium metal they contain is exposed (marked by deep red flames). Halon type extinguishers are not effective. Use only Class D Extinguisher (Lith-X) on raw lithium.

Firefighting equipment: For large-scale fires, use NIOSH/MSHA approved full-face self-contained breathing apparatus (SCBA) with full protective gear.

6. Accidental Release Measures

Place damaged batteries that have cooled into suitable containers or sealed plastic bags.

7. Handling and Storage (VII)

Handling:

Do not crush, pierce or expose the battery to excessive physical shock or vibration. Do not short circuit the (+) and (-) terminals with conductive materials such as metal coins, jewelry, metal tables or other cells and batteries. Accidental short-circuiting for a few seconds may reduce the service life of the battery; and batteries with internal fuses will no longer be functional. Prolonged short circuits will cause the battery to rapidly lose energy, could generate enough heat to burn skin or explode. To minimize risk of short-circuiting, use the packaging with the battery or cover the terminals with tape when transporting or storing the battery. Do not disassemble the battery. Lithium metal batteries are not designed to be recharged.

Storage:

Store Lithium metal cells and batteries in a dry, well-ventilated place between temperatures of -20°C and +85°C and at a relative humidity of 45% to 85%. Storing at temperature above +70°C can result in reduced service life.

8. Exposure Controls and Personal Protection (VIII)

Respirator: Not required during normal operations. SCBA required in the event of a fire.

Eye/Face Protection: Not required beyond safety practices of employer.

Gloves: Not required for handling of battery.

Foot Protection: Steel toed shoes recommended for handling large pallets.

9. Physical and Chemical Properties (III)

This section is not applicable. Batteries are contained in sealed solid metal cases.

10. Stability and Reactivity (V)

Stability: Product is stable under the conditions described in Section 7.

Conditions to avoid: None during normal operation. Avoid exposure to heat above +85° C, open flame, crushing, piercing, deforming, mutilating, short circuit and exposure to long periods of high humidity.

11. Toxicological Information

This product does not emit toxicological properties during routine handling and use. If battery ruptures, overexposure to internal contents and corrosive fumes may irritate eyes, mucous membranes, skin and lungs. See Section 4.

12. Ecological Information

Lithium metal battery packs pose no risks to persons, plants or animals.

13. Disposal Considerations

The United States EPA has determined that Lithium metal cells and batteries pose no threat to the environment and may be disposed of in a sanitary landfill. However, discharged Lithium cells and batteries may still contain a significant amount of unused electrical energy and must be packed for disposal by electrically isolating in plastic bags or other type of insulation. Do not compact for disposal and do not dispose of in fire. Contact Fedco for instructions if disposing large numbers. Do not incinerate or subject battery cells to temperatures above +85°C.

14: Transportation Information:

Lithium metal batteries are classified in the International Air Transportation Association (IATA) 52nd Edition of the Dangerous Goods Regulations as UN3090. Lithium metal batteries shipped with equipment or contained in equipment are classified as UN3091.

The Lithium metal batteries described in this MSDS are of a type proven to meet the requirements of the UN Manual of Tests and Criteria, Part III, sub-section 38.3, Tests T1 – T6 & T8 and may be shipped aboard cargo aircraft and meet the requirements as stated in the International Air Transportation Association (IATA) 52nd Edition of the Dangerous Goods Regulations, Packing Instructions 968, including packaging, special marking and personnel training requirements⁽¹⁾. Small cells and batteries, in the United States, may be shipped by air and ground as provided under Section II of the Packing Instructions and Special Provision

188⁽²⁾ described in the United States Code of Federal Regulations, 49 CFR § 172.102(c)(1). Medium cells and batteries, in the United States, may be shipped by ground as provided under Special Provision 189⁽²⁾. The chart below describes the weight limitations, regulations, documentation and markings for shipping this battery.

Lithium Metal batteries: UN3090

Chemistry Type UN Designation & Packing Instructions	Size and Content		Passenger Air		Cargo Air		Ground	
	Size	Lithium Content	Regulation & Gross Weight	Carton Markings	Regulation & Gross Weight	Carton Markings	Regulation & Gross Weight	Carton Markings
Lithium Metal - Batteries UN3090 Packing Instructions 968	"Small"	≤ 2g	Forbidden	N/A	Un-Reg - 2.5Kg 2.5kg (5.5lb)	Document 7.4.1	Un-Regulated 30kg (66lb)	Document
	"Medium"	> 2g & ≤ 25g	Forbidden	N/A	CLASS 9 35kg (77lb)	CLASS 9 LABEL KIT	Un-Regulated 30kg (66lb)	Document SP189
	"Large"	> 25g	Forbidden	N/A	CLASS 9 35kg (77lb)	CLASS 9 LABEL KIT	CLASS 9 35kg (77lb)	CLASS 9 LABEL KIT

Note:

1. The Packing Instructions are described in detail in the 52nd Edition of the IATA Dangerous Goods Regulations.
2. The Special Provisions are described in the United States Code of Federal Regulations, 49 CFR § 172.102(c)(1).

Markings:

- **CLASS 9 LABEL KIT:** Kit includes the Black & White Class 9 “Diamond” label; the Orange “Cargo Aircraft Only” label and a marking that the package contains are “UN3090 Lithium Metal Batteries”.
- **DOCUMENT:** This is a statement that the package contains batteries that are proven to meet the test requirements, that they are packaged in accordance with the Packing Instructions, that a flammability hazard may exist if the package is damaged, and, if damaged, it must be quarantined. A phone number for additional information is also included.
- **7.4.1:** 120mm x 110mm Lithium or Lithium-ion Red bordered CAUTION label complaint to IATA DGR 7.4.1.
- **SP189:** “Lithium Batteries Forbidden for Transport aboard Aircraft and Vessel” label for ground shipments only.

Batteries shipped with equipment or contained in equipment are regulated under IATA Packing Instructions 969 and 970, respectively.

15. Regulatory Information

Non-hazardous and containing no Cd, Hg or Pb.
OSHA Hazard Communication Standard 29 CFR § 1910.1200 (g)

16. Other Information

The information contained in this Safety data sheet is based on the present state of knowledge and current legislation. This safety data sheet provides guidance on health, safety, environmental and transportation aspects of the product and should not be construed as any guarantee or warranty, either expressed or implied, of technical performance or suitability for particular applications.

The format of this Material Safety Data Sheet (MSDS) is in compliance with the American National Standard Institute (ANSI) standard Z400.1-1993, which is intended to help develop consistent, understandable MSDSs that will provide useful information to a cross-section of educational levels, from the average person to the chemist. The roman numerals after the section titles refer to the sections in the U.S. Department of Labor Occupational Safety and Health MSDS for OMB No. 1218-0072. For more information about ANSI, or to obtain a copy of this standard, please contact:

American National Standards Institute
11 West 42nd Street
New York, NY 10036