



ACR ELECTRONICS, INC.

Material Safety Data Sheet

MSDS 16

Revision N

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Product and Company Identification

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EMERGENCY 24-HOUR TELEPHONE NUMBERS: CHEM-TEL, INC, Inside U.S. (800) 255-3924, Outside U.S. (813) 248-0585 and FAX (813) 248-0582 see www.chemtelinc.com for more information about Chem-Tel, Inc.

Primary Batteries SHIPPING NAME LITHIUM BATTERIES

- 1078 Battery (LiSO2) RLB-35MC and Data Cable Class1, Authorized Service Center Only
- 1096 Battery (Lithium) for Satellite₂406™, RapidFix™ Cat I&II Class 1 and Thunderbird S.S.A.S. System
- 1098 Battery (Lithium) for GlobalFix™ & Satellite 406™ Class 1, (Replaces #1094 & 1095)
- 1098.1 Battery (LiSO2) GlobalFix™ Class 1, (RLB-35) Authorized Service Center Only

Batteries contained in Equipment SHIPPING NAME LITHIUM BATTERIES CONTAINED IN EQUIPMENT

- 2742 GlobalFix™ 406 EPIRB, w/ Integral GPS, Cat I; FCC, MED
- 2744 GlobalFix™ 406 EPIRB, Integral GPS & Bracket, Cat II; FCC, MED
- 2774 Satellite₂ 406™ EPIRB Cat I; FCC, MED
- 2775, S1115 Satellite₂ 406™ EPIRB Cat II; FCC, MED
- 2775.5 Satellite₂ 406™ EPIRB Cat II w/ Bracket; FCC, MED
- 2776 RapidFix™ 406 EPIRB, w/GPS Interface Cat I; FCC, MED
- 2777.5 RapidFix™ 406 EPIRB GPS Interface, Cat II w/Bracket; FCC, MED
- 2754, 2756, 2758, 2759 Satellite 406 & Rapid 406 EPIRBs (Customer Service Only)
- 2800 Thunderbird S.S.A.S. System

Transport Information

Transportation in the United States

Primary lithium batteries and lithium batteries contained in equipment are excluded from Dangerous Goods Classification based on US/DOT CFR 49 Section 173.185 and Special Provision 190. The listed primary lithium battery pack was tested per UN Document ST/SG/AC. 10/11. This Exclusion will expire October 1st, 2008.

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.

International Air Transportation

Effective January 1, 2003, primary lithium batteries and lithium batteries contained in equipment require Class 9 markings, labeling and shipping papers. The outer packaging (shipping box) for **Battery Packs only** must meet Group II test criteria. Please consult with your local authorities for additional requirements.

| International Transportation (IATA) | Primary Batteries | Batteries Contained in Equipment |
|-------------------------------------|-------------------------|--|
| UN Number | UN3090 | UN3091 |
| Shipping Name | Lithium Batteries | Lithium Batteries Contained in Equipment |
| Hazard Classification | Class 9 (Miscellaneous) | Class 9 (Miscellaneous) |
| Packing Group | II | N/A – Requires Strong Outer Packaging |

Composition / Hazardous Ingredients

Equipment contains THREE D size Lithium Sulfur Dioxide Cells

| Ingredient | OSHA PEL | ACGIH TLV | Other Limits Recommended | CAS Number | % (optional) (typically) per cell | % (typically) per Battery Pack |
|-----------------|----------|-----------|--------------------------|------------|-----------------------------------|--------------------------------|
| LITHIUM | N/A | N/A | N/A | 7439-93-2 | 2.4 grams | 7.2 grams |
| SULFUR DIOXIDE | 5ppm | 5 ppm | N/A | 7446-09-5 | < 25% | < 25% |
| ACETONITRILE | 40ppm | 40ppm | N/A | 75-05-8 | < 6% | < 6% |
| ACETYLENE BLACK | N/A | 3.5 ppm | N/A | 1333864 | < 5% | < 5% |

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Physical and Chemical Properties

N/A

Fire-and Explosion Data

Extinguishing Media: Use water or CO₂ on burning equipment 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 equipment may vent when subjected to excessive heat-exposing battery contents. Hazardous combustion products are Carbon Monoxide and Carbon Dioxide and Lithium Oxide fumes.

Reactivity Data

Stability: Batteries and Batteries contained in Equipment are 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.

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 IARC Monograph: None OSHA Regulated: 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.

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.

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.

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.

Document Information

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