



U.S. Department
of Transportation

**Pipeline and
Hazardous Materials Safety
Administration**

400 Seventh Street, S.W.
Washington, D.C. 20590

MAR 8 2005

Mr. Thomas A. Greenacre
President, Seacom Division
Dukane Corporation
2900 Dukane Drive
St. Charles, IL 60174

Reference No.: 04-0139

Dear Mr. Greenacre:

This is in response to your letter, product safety data sheet, and recent telephone conversation with a member of my staff concerning whether or not your company's single-cell, solid-cathode lithium battery, described as "Lithium battery, 9 (miscellaneous), UN 3090, PG II," meets the requirements of Special Provision A45 of the International Civil Aviation Organization (ICAO) Technical Instructions for the Transport of Dangerous Goods by Air (Technical Instructions). The product safety data sheet you provided states the single-cell battery contains 1.3 grams (0.046 ounces) of lithium metal.

Based on the information you provided, the lithium content in your company's battery exceeds the amount permitted in a cell under Special Provision A45 of the ICAO Technical Instructions and may not be transported under this exception. Special Provision A45 requires a lithium metal cell to have a lithium content of 1 gram (0.035 ounces) or less.

You also asked how the words "cell" and "battery" are defined under the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180). The definitions that apply to lithium batteries under the HMR are located in the UN Manual of Tests and Criteria. The third edition of the manual defines a cell as a single encased electrochemical unit that exhibits a voltage differential across its two terminals and defines a battery as two or more cells that are electrically connected together by a permanent means. The fourth edition of the UN Manual of Tests and Criteria further clarifies that an encased electrochemical unit meets the definition of a cell and not a battery, and defines a battery as one cell and also includes its case, terminals, and markings. Under the 2005-2006 Edition of the ICAO Technical Instructions, these revisions became effective on January 1, 2005 (see "Manual of Tests and Criteria" in Section 3.1.1). On December 20, 2004, we published a final rule in the Federal Register that incorporates by reference into the HMR the fourth Edition of the UN Manual of Tests and Criteria under § 171.7(a)(3) (see Docket No. RSPA-04-17036 (HM-215G); 69 FR 76044). This final rule, entitled "Harmonization with the United Nations Recommendations, International Maritime Dangerous Goods Code, and International Civil Aviation Organization's Technical Instructions," became effective on January 1, 2005, and has a mandatory compliance date of January 1, 2006.

Also, please note for your information that on December 15, 2004, we published an interim final rule (Docket No. RSPA-04-19886 (HM-224E), 69 FR 75208) imposing a limited prohibition on



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the transportation of primary (non-rechargeable) lithium cells and batteries as cargo aboard passenger-carrying aircraft and equipment containing or packed with large lithium batteries. We have enclosed a copy for your reference.

I hope this satisfies your request.

Sincerely,

A handwritten signature in cursive script that reads "Hattie L. Mitchell". The signature is written in black ink and is positioned below the word "Sincerely,".

Hattie L. Mitchell,
Chief, Regulatory Review and Reinvention
Office of Hazardous Materials Standards

Enclosure

Edmonson
\$172,102 SP A54
Special Provision/Seacom Lithium Batteries
04-0139

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May 24, 2004

Mr. Ed Mazzullo
Office of Hazardous Materials Safety, DHM-10
400 Seventh Street SW
Washington, DC 20590

Dear Mr. Mazzullo:

This letter is to request an interpretative statement from RSPA. The statement is regarding the application of Special Provision A45 relative to the transportation of the DK100 Series Underwater Acoustic Beacon containing the 810-2007 lithium battery and the transportation of the 810-2007/K replacement battery kit manufactured by Dukane Corporation. The DK100 Series Beacon containing the 810-2007 battery is carried on all flight data and cockpit voice recorders for commercial aircraft and has been qualified to TSO-C121.

The 810-2007 is a single cell lithium battery, with a solid cathode containing 1.3 grams of lithium. The battery has been proven to meet the requirements of each test in the UN Manual of Tests and Criteria, Part III, sub-section 38.3.

This request is a result of several major airlines requesting a clarification of the shipping status of our DK100 series beacons and the battery replacement kit for these beacons. Would you please provide an interpretative statement as to whether this battery meets Special Provision A45?

If you have any other questions or need additional information please contact me at the following address.

Sincerely,



Thomas A. Greenacre / President Seacom Division
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