



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety Administration**

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

MAR 29 2007

Mr. Ismat Jahan
Test Engineer
Tyco Electronics Battery Systems
1245 East Diehl Road
Naperville, IL 60563

Ref. No.: 06-0281

Dear Mr. Jahan:

This is in response to your December 15, 2006 letter regarding transportation requirements for lithium batteries under the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180). According to your letter, your company ships a shrink-wrapped unit containing two lithium-ion battery packs. Each of the battery packs contains 5.94 grams of equivalent lithium content. You ask whether the two lithium-ion battery packs shrink-wrapped together are considered independent batteries for the purpose of classification and testing.

The answer is yes. As described in your letter, two battery packs with independent circuits are shrink-wrapped together forming an "overpack". An overpack, as defined in § 171.8, means an enclosure used by a single consignor to provide protection or convenience in handling of a package or to consolidate two or more packages. When overpacked, batteries must be packaged in such a manner that prevents short circuits.

I hope this information is helpful. If you have further questions, please do not hesitate to contact this office.

Sincerely,

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



060281

173.185
171.8

Pollack
\$173.185
\$173.25

Gale, John <PHMSA>

From: Jahan, Ismat [jjahan@tycoelectronics.com]
Sent: Friday, December 15, 2006 9:31 AM
To: Gale, John <PHMSA>
Cc: Ke, Charles <PHMSA>
Subject: RE: UN/DOT regulation on Li ion pack

Batteries "Packagings"
06-0281

John

Can you please forward my email to someone who will be able to address this issue? If you have a phone number that will be immensely helpful.

Thanks

*Ismat Jahan
Test Engineer
Tyco Electronics Battery Systems
1245 E Diehl Road
Naperville IL 60563*

*Tel: 630 328 1965
Fax: 630 328 1977
Cell: 630 965 6489*

From: charles.ke@dot.gov [mailto:charles.ke@dot.gov]
Sent: Wednesday, December 13, 2006 8:27 AM
To: john.gale@dot.gov
Cc: Jahan, Ismat; charles.ke@dot.gov
Subject: FW: UN/DOT regulation on Li ion pack

John,

Please have someone discuss this issue with Mr. Jahan. Thanks

Charles Ke

From: Jahan, Ismat [mailto:jjahan@tycoelectronics.com]
Sent: Tuesday, December 12, 2006 10:26 AM
To: Ke, Charles <PHMSA>
Subject: UN/DOT regulation on Li ion pack

Dear Dr. Ke

12/28/2006

We are Li ion battery pack manufacturer. We have come across this question in a new battery pack design. Is a battery unit considered to be class 9 if there are 2 packs in very close proximity (no barrier between them), each pack having 3S 3P configuration, each pack with its own electronic circuitry (Cells are 18650 cylindrical cells, 2.2 Ah).

According to my calculation, a pack with 2.2Ah cells, in 3S 3P configuration has 5.94 gm of equivalent Li content. This is below 8gms to make it class 9.

When I shrink wrap 2 packs like this (2 independent electronic protection circuit) to make my unit, do I cross the limit of 8 gms. In other words can I still consider each pack as an independent pack?

Please advice.

Thanks

*Ismat Jahan
Test Engineer
Tyco Electronics Battery Systems
1245 E Diehl Road
Naperville IL 60563*

*Tel: 630 328 1965
Fax: 630 328 1977
Cell: 630 965 6489*

12/28/2006