



U.S. Department
of Transportation

**Pipeline and
Hazardous Materials Safety
Administration**

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

FEB 28 2007

Ms. Katherine E. Lazarski
Foley & Lardner, LLP
777 East Wisconsin Avenue
Milwaukee, WI 53202-5306

Ref. No.: 07-0007

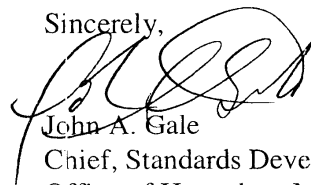
Dear Ms. Lazarski:

This is in response to your December 26, 2006 letter regarding the applicability of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) to the transportation of certain ultracapacitors. In your letter, you state the ultracapacitors consist of activated carbon saturated with a solution of quaternary salt and acetonitrile contained in an aluminum container sealed with a rubber bung. The ultracapacitors are individually packaged in vacuum sealed plastic bags in quantities between 50 and 500 depending on size. The plastic bags are placed in a corrugated fiberboard box surrounded by foam packing peanuts. Individual ultracapacitors contain between 0.09 grams and 6.58 grams of acetonitrile.

You cite a letter of interpretation dated May 20, 2003, in which we provided a determination, based on information provided in that letter, that an ultracapacitor containing 1.5 grams or less of acetonitrile absorbed in activated carbon in a sealed steel container is in a quantity and a form that does not pose a hazard in transportation. An ultracapacitor of a similar construction containing 1.5 grams or less of acetonitrile contained in a sealed aluminum container packaged in individual, vacuum sealed plastic bags is also in a quantity and form that does not pose a hazard in transportation. However, you did not provide information for us to determine if the ultracapacitors referenced in your letter that contain greater than 1.5 grams of acetonitrile are in a quantity and form that does not pose a hazard in transportation. Therefore, the ultracapacitors described in your letter that contain greater than 1.5 grams of acetonitrile, should be described as "Dangerous Goods in Apparatus, 9, UN3363" (see § 173.222). Alternatively, these ultracapacitors may be transported in accordance with the small quantity exceptions, provided the requirements of § 173.4 are met.

I hope this information is helpful. Please contact us if you require additional assistance.

Sincerely,



John A. Gale
Chief, Standards Development
Office of Hazardous Materials Standards



070007

171.1
172.101

Heary
§ 171.1
§ 172.101
Applicability
December 26, 2006
07-0007

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VIA HAND DELIVERY

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U.S. Department of Transportation
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Re: Tecate Industries Ultracapacitors

Dear Mr. Solomey:

I am writing today on behalf of Tecate Industries ("Tecate") to request clarification regarding applicability of the hazardous materials transportation regulations at 49 CFR 171-180 (the "HMR") to small ultracapacitors.

Tecate is a provider of capacitors, ultracapacitors and other materials to the electronics industry. Tecate is currently a distributor for Maxwell Technologies ("Maxwell"), which manufactures small ultracapacitors. In 2003, Maxwell requested a written interpretation that their ultracapacitors were not subject to the HMR, and received such an interpretation by letter dated May 20, 2003. I have attached a copy of the letter for your review.

Tecate has a new line of ultracapacitors called "TPL" ultracapacitors. These ultracapacitors are very similar to the Maxwell ultracapacitors, and for that reason Tecate believes they are also not subject to the HMR. Both the Maxwell and TPL ultracapacitors contain a small quantity of absorbed acetonitrile (a flammable liquid) inside the ultracapacitor, however, the quantity of acetonitrile is very small (see table below) and, for the reasons discussed below, Tecate does not believe they pose a risk in transportation.

The TPL ultracapacitors are manufactured in a variety of sizes, which are listed below (physically, about the same size as a standard C battery or smaller). The ultracapacitors are small aluminum containers that contain activated carbon saturated with a solution of quaternary salt and acetonitrile. The largest of the TPL capacitors contains less than 7 grams of acetonitrile. The aluminum containers are sealed with a rubber bunge. As you will see, the capacitors are durable and will not crush or puncture easily (several samples are enclosed). If a capacitor does leak, the amount would be minimal (no more than a few milliliters) and Tecate has informed me that the acetonitrile would vaporize, leaving a crusty salt on the outside of the capacitor, and that this salt is not harmful to touch, although it should not be ingested.

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The amount of acetonitrile in each TPL capacitor is provided below:


Series	Voltage (V)	Capacitance (F)	Dimension (D*L)	Content of Acetonitrile (g)
TPL	2.7V	100	22*45	6.58
TPL	2.7V	70	20*40	3.48
TPL	2.7V	70	18*45	3.18
TPL	2.7V	70	20*40	3.70
TPL	2.7V	60	18*45	3.36
TPL	2.7V	50	18*40	3.14
TPL	2.7V	30	16*31.5	2.07
TPL	2.7V	25	16*25	1.68
TPL	2.7V	22	12.5*35.5	1.42
TPL	2.7V	10	10*30	0.90
TPL	2.7V	4	10*20	0.38
TPL	2.7V	2	8*16	0.17
TPL	2.7V	1.5	8*14	0.14
TPL	2.7V	0.5	8*12	0.09

The capacitors are packaged in vacuum sealed watertight plastic bags in quantities of between 50 and 500, depending on size. The plastic bags are then placed in corrugated cardboard boxes surrounded by Styrofoam packing peanuts. Therefore, even if an ultracapacitor were to leak, the minimal amount of acetonitrile should be contained in the plastic bag or absorbed by the packing peanuts. Although the TPL ultracapacitors are a new product, Tecate has been shipping the very similar Maxwell ultracapacitors for many years without any incident.

For the above mentioned reasons, Tecate believes that the TPL ultracapacitors do not contain hazardous materials in "an amount and form" that poses an "unreasonable risk to health and safety or property." See 49 U.S.C. § 5103(a). In reviewing the HMR, it is unclear whether the TPL ultracapacitors are subject to the regulations. Ultracapacitors themselves are not listed on the table at 49 CFR 172.101. Acetonitrile is listed on the table as a flammable liquid, however the ultracapacitors appear to meet the exceptions for Class 3 flammable liquids in § 173.150 because the inner packagings contain less than 1.0 L. However, it is unclear to us if this exception applies to all of the HMR or if it is more limited. In addition, these TPL ultracapacitors are very similar to the Maxwell ultracapacitors which DOT has already confirmed are not subject to the HMR.

We are requesting, therefore, your confirmation that the TPL ultracapacitors are not subject to the HMR. If you require any additional information, please do not hesitate to contact me at (414) 297-5657.

Best regards,



Katherine E. Lazarski

Enclosures
cc: Tom Wight