



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue SE
Washington, DC 20590

~~APR 22 2015~~

Mr. Dennis W. Claussen
Nuclear Safety Engineer and
Traffic Manager
Richland Operations Office
U.S. Department of Energy
P.O. Box 550, MS AS-17
Richland, WA 99352

Reference No. 15-0014

Dear Mr. Claussen:

This is response to your January 15, 2014 e-mail requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to classifying non-spillable batteries contaminated with Class 7 (radioactive) material that the DOE is preparing for treatment and disposal. You state these batteries contain sulfuric acid and exceed limited quantity levels for radioactive material. We have paraphrased your questions and answered them in the order you provided.

Q1. If the U.S. Department of Transportation (USDOT) considers the above-described batteries to meet the definition of a "solid" as defined in § 171.8, can these batteries be transported in commerce as a surface-contaminated object (SCO) or a Type A radioactive material?

A1. While the radioactive contamination on the batteries may only be present on the external surfaces, the batteries may not be shipped as SCO-I or SCO-II as the potential exists for the batteries to crack during transport with the inner liquid then mixing with the surface contamination. The definition in § 171.8 of solid is, "*Solid* means a material which is not a gas or a liquid." As the batteries contain liquid, the batteries themselves would not be considered to be solid objects under § 173.403, which defines a surface contaminated object (SCO) as "...a solid object which is not itself radioactive but which has radioactive material distributed on its surface...." If the batteries have less than an A₂ quantity of activity, they may be shipped in a Type A package, provided that the package meets the § 173.412(c) requirements for liquid content. The packages would also need to meet requirements for the subsidiary corrosive hazard presented by the sulfuric acid content in the batteries.

Q2. If the USDOT considers these same batteries to meet the definition of a "liquid," as defined in § 171.8, can these batteries be transported in commerce as a low specific activity (LSA) material?

A2. No. To be considered as a LSA material, the radioactive activity would need to be "distributed throughout." Assuming that the contamination is only on the external surfaces, the batteries could not be properly classified as LSA material.

I hope this satisfies your request.

Sincerely,

A handwritten signature in cursive script that reads "T. Glenn Foster". The signature is written in black ink and is positioned above the typed name.

T. Glenn Foster
Chief, Regulatory Review and Reinvention Branch
Standards and Rulemaking Division

Edmonson
§ 173.159(p)
Batteries
15-0014

Dodd, Alice (PHMSA)

From: Ciccarone, Michael CTR (PHMSA)
Sent: Tuesday, January 20, 2015 9:54 AM
To: Hazmat Interps
Subject: FW: Request for written letter of interpretation

Shante/Alice,

Please submit this for a formal letter of interpretation.

Thanks,

Mike

From: Claussen, Dennis W [<mailto:dennis.claussen@rl.doe.gov>]
Sent: Tuesday, January 20, 2015 9:08 AM
To: Ciccarone, Michael CTR (PHMSA)
Subject: RE: Request for written letter of interpretation

US Department of Energy, Richland Operations Office
P.O. Box 550, MS A5-17
Richland, WA 99352

Street address:
825 Jadwin Ave.
Richland, WA 99352

From: m.ciccarone.ctr@dot.gov [<mailto:m.ciccarone.ctr@dot.gov>]
Sent: Friday, January 16, 2015 9:32 AM
To: Claussen, Dennis W
Subject: RE: Request for written letter of interpretation

Dear Dennis,

We have received your request for a written letter of interpretation regarding the hazardous materials regulations (49 CFR Parts 171-180).

Please include your company's physical address to expedite the submission process.

Sincerely,

Mike, Hazardous Materials Specialist

An e-mail response from this office is considered informal guidance. Formal guidance may be requested in accordance with 49 CFR 105.20. <http://phmsa.dot.gov/hazmat/regs/interps>

From: Claussen, Dennis W [<mailto:dennis.claussen@rl.doe.gov>]
Sent: Thursday, January 15, 2015 6:41 PM
To: INFOCNTR (PHMSA)
Subject: Request for written letter of interpretation

To whom it may concern:

A US Department of Energy facility has some non-spillable batteries [as defined 49 CFR 173.159(f)], which has become contaminated with radioactive material. These batteries exceed limit quantity levels for radioactive material. DOE is preparing these batteries for treatment and disposal.

Several classifications are being considered. Each classification has potential issues.

1. Surface Contaminated Object (SCO): Since the batteries meet DOT requirements for non-spillable batteries, the batteries, which contain sulfuric acid, could be treated as a solid. Thus, these batteries can meet the definition of surface contaminated object.
2. Low Specific Activity (LSA) Material: These batteries can meet the radioactive concentration activity distribution requirement in the definition LSA material for a liquid. The issue with classifying these batteries as LSA is meeting "distributed throughout". These batteries are sealed; thus the sulfuric acid is not contaminated.
3. Type A quantity: If these batteries are considered liquid due the uncontaminated sulfuric acid, these batteries would have to be shipped in Type A packaging meeting the requirements of 49 CFR 173.466. These liquid Type A packaging are rare and expensive.

Would US Department of Transportation (DOT) consider treating these batteries as solid for the purposes for packaging selection/proper shipment name classification? These batteries would be shipped as SCO or Type A.

If DOT considers these batteries as liquid, could these batteries be shipped as LSA material?

Dennis W. Claussen

US Department of Energy, Richland Operations Office

Nuclear Safety Engineer/Traffic Manager

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Email: dennis.claussen@rl.doe.gov

"Get your facts first and then you can distort them as much as you please." Mark Twain