



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

JAN 15 2008

1200 New Jersey Avenue, SE
Washington, D.C. 20590

Mr. Mark Krippel
Tronox, LLC
800 Weyrauch St.,
West Chicago, IL 60185

Ref. No. 07-0205

Dear Mr. Krippel,

This responds to your October 11, 2007 email requesting clarification of the applicability of hazardous substance requirements to the transportation of non-hazardous materials containing radionuclides under the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180). Specifically, you ask whether the HMR apply to the bulk transport of non-hazardous material containing naturally-occurring radionuclides that exceed the reportable quantity (RQ) threshold.

You indicate in your example that soil from a remediation site containing 10 pCi/g of thorium-232 is transported in a 103-ton capacity rail car and is subject to the HMR as a Class 9 hazardous substance because the total quantity in curies (Ci) in the rail car exceeds the RQ for thorium-232 (0.001 Ci).

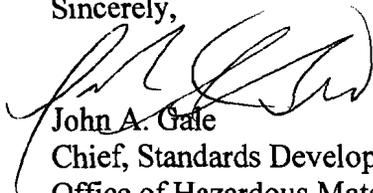
Your understanding is correct. By definition, your example would qualify as a hazardous substance and be subject to the HMR. A hazardous substance (as defined in § 171.8) means a material, including its mixtures and solutions, that is listed in Appendix A to § 172.101 of the HMR; is in a quantity, in one package, that equals or exceeds the reportable quantity (RQ) listed in Appendix A to §172.101 of the HMR; and for radionuclides, when in a mixture or solution, conforms to paragraph 7 of Appendix A to §172.101.

The Superfund Amendments of 1986 require PHMSA to list and regulate as hazardous materials those hazardous substances listed or designated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980. The intent of the requirement is to enable transporters of hazardous materials to identify CERCLA hazardous substances and to make the required notification if a release occurs. Additionally, based on guidance from the EPA Office of Solid Waste and Emergency Response, a release

of naturally-occurring radionuclides from the transportation of soil removed from a remediation site is subject to reporting under 40 CFR 302.6(c). Please consult 40 CFR 302.6(c) for categories of releases that are exempt from the EPA notification requirements.

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

Sincerely,

A handwritten signature in black ink, appearing to read "John A. Gale", is written over the typed name.

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

Der Kinderen
§172.101 Table 2, App. A
RAM

Drakeford, Carolyn <PHMSA>

07-0205

From: INFOCNTR <PHMSA>
Sent: Thursday, October 11, 2007 3:02 PM
To: Drakeford, Carolyn <PHMSA>
Subject: FW: Information Center Comments/Questions

Carolyn,

Could you process this as a formal request for interpretation? Thanks buddy!

Erin

-----Original Message-----

From: mark.krippel@tronox.com [mailto:mark.krippel@tronox.com]
Sent: Thursday, October 11, 2007 12:59 PM
To: INFOCNTR <PHMSA>
Subject: Information Center Comments/Questions

Below is the result of your feedback form. It was submitted by Mark Krippel (mark.krippel@tronox.com) on Thursday, October 11, 2007 at 12:59:24.

Email: mark.krippel@tronox.com

Name: Mark Krippel

Category: Hazardous Materials Table, Special Provisions, Hazardous Materials Communications

Organization: Tronox LLC

Street: 800 Weyrauch St

City: West Chicago

State: Illinois

Zip Code: 60185

Phone: 630-293-6331

Comments: I am in need of a technical contact to discuss the applicability of radionuclide RQ shipping requirements for near background concentrations of natural thorium.

Specifically, bulk shipments by rail or barge of materials below the 27 pCi/g thorium threshold for a radioactive materials shipment, but because of the bulk volume of the conveyance requires shipment as a Class 9 RQ hazardous material.

The extreme example is a bulk barge shipment where, many commodities like coal and depending on capacity, even limestone, would seem to require shipment as a Class 9 RQ hazardous materials shipment because of the thorium content typically found in these materials.

In my particular case, we are being required based on a reading of DOT regulations, to ship 10 pCi/g (Th-232) soil from a remediation site as a Class 9 RQ hazardous material because the 103 ton capacity railcar results in a total curie content greater than the 0.001 Ci RQ for Th-232. A barge quantity of background concentration coal or limestone could also exceed this threshold. It does not seem this situation is one that the law was intended to regulate.

As a side note, I found in my review of the 1989 background technical document for the RQ

rulemaking, that EPA used what is now outdated radiation dosimetry guidance to derive the RQ for thorium and that use of the currently accepted EPA/ICRP radiation dosimetry guidance would raise the RQ to 0.01 Ci or higher and eliminate this issue entirely.

Getting EPA to initiate new rulemaking would likely take years. I am hoping that a DOT regulatory interpretation may exist that would allow these low concentration materials to be shipped as non-hazardous.

Thank you for your assistance,

Mark Krippel