



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

May 19, 2020

Mark B. Hawk
Packaging Management Council Coordinator
8116 Villa Grande Lane
Knoxville, TN 37938

Reference No. 20-0031

Dear Mr. Hawk:

This letter is in response to your April 9, 2020, letter requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to Class 7 (radioactive) materials not listed in the §§ 173.435 or 173.436 tables.

We have paraphrased and answered your questions as follows:

- Q1. You ask whether the name of each radionuclide needs to be listed on the shipping paper when none of the radionuclides are found on the §§ 173.435 or 173.436 tables.
- A1. The answer is no, unless the Class 7 (radioactive) material is a mixture. In accordance with § 172.203(d)(1), the name of each radionuclide listed in the § 173.435 table must be displayed on the shipping paper. Furthermore, § 172.203(d)(1) requires that if the Class 7 (radioactive) material is a mixture of radionuclides, the names of the radionuclides that need to be displayed on the shipping paper are to be determined in accordance with § 173.433(g). Therefore, if the shipment is not a mixture of radionuclides, and the radionuclide is not found on the § 173.435 table, the name of the radionuclide is not required to be on the shipping paper. However, it is permissible to list the radionuclide on the shipping paper even if it is not listed on the § 173.435 table.
- Q2. You ask whether the name of each radionuclide needs to be listed on the label when none of the radionuclides are found on the §§ 173.435 or 173.436 tables.

A2. The answer is no, unless the Class 7 (radioactive) material is a mixture. In accordance with § 172.403(g)(1), except for LSA-1 material, the name of each radionuclide listed in the § 173.435 table must be displayed on the label. Furthermore, § 172.403(g)(1) requires that if the Class 7 (radioactive) material is a mixture of radionuclides, with consideration of space available on the label, the radionuclides that must be shown must be determined in accordance with § 173.433(g). Therefore, if the shipment is not a mixture of radionuclides, and the radionuclide is not found on the § 173.435 table, the name of the radionuclide is not required to be on the label. However, it is permissible to list the radionuclide on the label even if it is not listed on the § 173.435 table.

I hope this information is helpful. Please contact us if we can be of further assistance.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Dirk Der Kinderen', with a stylized, cursive script.

Dirk Der Kinderen
Chief, Standards Development Branch
Standards and Rulemaking Division

April 9, 2020

Standards and Rulemaking Division
Pipeline and Hazardous Materials Safety Administration (PHMSA)
U.S. Department of Transportation (DOT)
East Building
1200 New Jersey Avenue, SE
Washington, CE 20590-0001

Subject: Request for Clarification Concerning Unlisted Isotopes in 49 CFR 173.435

Dear Sir/Madam:

A clarification is requested as to what isotopes or default values are to be listed on shipping papers and labels when the unlisted isotopes are the within the 95% of isotopes being shipped or when they are the only isotope in the shipment.

Background:

DOT regulations have provisions in 49 CFR 173.433 for determining radionuclide values and for the listing of radionuclides on shipping papers and labels. Paragraph (b) of this section allows the use of Tables 7 and 8 for individual radionuclides which are not listed in the tables in 173.435 or 173.436. In addition, paragraph (g) of the same section gives the formula for determining the radionuclides which must be listed on the shipping papers and labels in accordance with Sections 172.203 and 172.403.

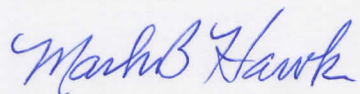
- Section 172.203 states that the description for a shipment of Class 7 material must include the name of each radionuclide in the Class 7 material that is listed in 173.435.
- Section 172.403 (g) (1) states that for the contents, except for LSA-I, the names of the radionuclides are taken from the listing of radionuclides in the 173.435 table. For mixtures, the radionuclides that must be listed must be determined in accordance with Paragraph 173.433.

Examples of shipments of radioactive material with constituents which are not listed in the table and for which there appears to be no provisions on what to list on shipping documents papers and labels are:

- Example 1: A shipment that has recently occurred includes Einsteinium and Fermium that were previously listed in 173.435; however, around 2004 when the Q system was introduced, Einsteinium and Fermium were removed from the table.
- Example 2: A shipment that includes Po-209 for which Po-209 has never been in the table.

Question: What provision(s) provide guidance required to meet shipping paper and labeling requirements identified above and if there are no provisions, what does DOT require of shippers to address this issue?

Your clarification of this issue will be appreciated.
Respectfully,



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