



U.S. Department  
of Transportation

**Research and  
Special Programs  
Administration**

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

JUN 28 1999

Mr. Bradford A. Gagnon  
Transportation Manager  
PWN Environmental  
2462-C South Santa Fe  
Vista, California 92084

Ref. No. 99-0145

Dear Mr. Gagnon:

This responds to your two letters, dated June 3, 1999, concerning requirements in the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) for shipping hazardous wastes and radioactive materials. Your specific questions are paraphrased and answered below.

- Q1. May a material, such as Benzaldehyde, listed with a "+" in column 1 of the Hazardous Materials Table (HMT) be lab packed as permitted by § 173.12(b) and described with a generic name instead of the specific chemical name?
- A1. No. A generic description may not be used in place of the specific chemical name because the "+" shown in Column 1 of the HMT fixes the proper shipping name. A fixed shipping name may not be replaced with a generic name. The material may be lab packed with other materials, as permitted by § 173.12(b), but the name of the material must appear separately on the shipping paper and package markings.
- Q2. California regulates certain materials as hazardous wastes that are not regulated by DOT nor by the Environmental Protection Agency. The materials are described on a California Uniform Hazardous Waste Manifest as "Non-RCRA hazardous waste." May "non-RCRA hazardous waste" be listed first on a shipping paper when regulated materials are included on the same shipping paper, but not specifically identified as required by § 172.201(a)(1) of the HMR?
- A2. No. Such a waste material is not subject to the requirements of the HMR. When a hazardous material and a material not subject to the requirements of the HMR are described on the same shipping paper, § 172.201(a)(1) requires the hazardous material to be listed first if it is not otherwise specifically identified as a hazardous



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material, such as by entry in a contrasting color or marking with an "X" before the proper shipping name in a column captioned "HM."

- Q3. The placarding table in § 172.504 shows that a POISON INHALATION HAZARD placard must be used for shipments of Division 6.1 inhalation hazard materials in either Zone A or B. What are the placarding requirements for inhalation hazard materials in Zone C or D?
- A3. All materials that are poisonous by inhalation require placarding. Gases that are poisonous by inhalation (Division 2.3 materials) have four levels of hazard (Zone A, Zone B, Zone C, or Zone D). Liquids that are poisonous by inhalation (Division 6.1 materials) have two levels of hazard (Zone A or Zone B). As indicated in Table 1 of § 172.504, Division 2.3 materials must be placarded POISON GAS; Division 6.1 materials with an inhalation hazard must be placarded POISON INHALATION HAZARD.
- Q4. What is the proper placarding for one pound of Bromine? Am I correct in placarding Class 8 with a subsidiary 6.1, even though the shipment has only one pound of Table 2 material?
- A4. Yes. Bromine is poisonous by inhalation in Hazard Zone A. Section 172.505(a) of the HMR requires the shipment to be placarded with a POISON INHALATION HAZARD placard in addition to any other placard required by § 172.504. The placarding exception in § 172.504(c) for fewer than 454 kilograms (1,001 pounds) of Table 2 materials does not apply to materials subject to § 172.505. Thus, a one-pound shipment of bromine must be placarded with both CORROSIVE and POISON INHALATION HAZARD placards.
- Q5. In Appendix A to the HMT, in what context is the word "unlisted" used for the entries D001 through D043?
- A5. Appendix A to the HMT incorporates materials that are designated as hazardous substances under section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or materials that have been determined to be hazardous substances by the Administrator of the Environmental Protection Agency (EPA). "Listed" hazardous substances are those that are specifically designated as hazardous substances in CERCLA. "Unlisted" hazardous substances are hazardous wastes that exhibit characteristics of ignitability, corrosivity, reactivity, or toxicity and have been designated hazardous substances by

the EPA Administrator. These definitions are in EPA's regulations at 40 CFR § 302.4.

Q6. Since § 172.203(j) is now "Reserved," does this mean that the requirement to include the entry "Dangerous When Wet" on the shipping paper is no longer required?

A6. Yes. In a final rule published May 6, 1997 (62 FR 24689), that became effective October 1, 1997, we removed the requirement in paragraph (j) that the words "Dangerous When Wet" be annotated on shipping papers. The "Dangerous When Wet" hazard is adequately communicated through an indication of the Division 4.3 hazard class as part of the basic description on shipping papers.

Q7a. Under the following scenario, how do I determine which entry in Appendix A to use for deciding when a hazardous waste is also a hazardous substance? The most appropriate shipping name for a material is Waste Toxic Liquid, inorganic, n.o.s. It contains 1,1,1-Trichloroethane and Trichloroethylene. The appropriate EPA wastes codes are F001 and F002. The actual concentrations of each constituent are known to be a certain percentage. When using the F001 and F002 entries, it is my understanding that if the actual concentration of a particular constituent is less than the reportable quantity of that constituent, then it is not a hazardous substance. If the actual concentration is not known, then the reportable quantity for the entry F001 or F002 would be the threshold for determining if the material is a hazardous substance. Is this correct?

A7a. Yes.

Q7b. Use the same scenario as in 7(a) above except that the concentrations of each constituent are known to be within a specified range. In this case, would the concentrations be considered "unknown" or would I calculate the highest range limit for each constituent and use that to determine if there is a reportable quantity?

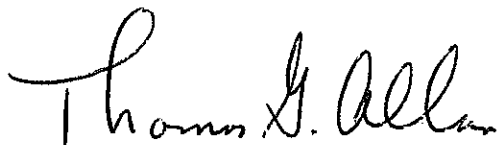
A7b. If the exact concentration of each constituent is not known or is known only approximately or within a specified range, the reportable quantity for the entry F001 or F002 is the threshold for determining if the material is a hazardous substance.

- Q8. Does a transport vehicle used to transport Class 7 materials as an exclusive use shipment under § 173.433(c) need to be surveyed after each use if the level of non-fixed radioactive contamination on the external surface of each package is below the limits set forth in Table 11?
- A8. No. The contamination limits of Table 11 in § 173.443 apply to all non-exclusive use shipments of radioactive material packages. For packages shipped as exclusive-use shipments by rail or highway, the non-fixed radioactive surface contamination at the beginning of transport may not exceed those in Table 11. The non-fixed radioactive surface contamination during transport for exclusive use shipments may not exceed 10 times the limits in Table 11. If non-fixed surface contamination levels on packages in an exclusive use vehicle rise above the Table 11 limits during transportation, the transport vehicle must be surveyed with appropriate radiation detection instruments after each use. The vehicle may not be returned to service until the radiation dose rate at each accessible surface is 0.005mSv per hour and there is no significant non-fixed radioactive surface contamination.

An exception to the vehicle survey requirement applies to closed highway or rail transport vehicles that are dedicated solely to the transportation of radioactive packages and are appropriately marked as dedicated vehicles "For Radioactive Materials Use Only". In such cases, the non-fixed surface contamination on the packages may be as high as 10 times the limits in Table 11 at the beginning of transportation. Paragraphs (b) and (c) of § 173.443 do not apply to a closed highway or rail transport vehicle if a survey of the interior surfaces of the empty vehicle shows that the radiation dose rate at any point does not exceed 0.1mSv per hour at the surface or 0.02 mSv per hour at one meter from the surface (see § 173.443(d)).

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

Sincerely,



Thomas G. Allan  
Acting Director, Office of Hazardous  
Materials Standards



# PWN

## Environmental

A Division of ADCO Services, Inc.

June 3, 1999

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 Director of Hazardous Materials Standards  
 Hazardous Materials Information Center  
 Research and Special Programs Administration  
 FAX (202) 366-3012

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cc: \$ 172.504

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### DOT HOTLINE Questions

1. 49 CFR §173.12(b)..... except for prohibited materials,..... if packaged in accordance with this paragraph.....a generic description from the HMT may be used in place of specific chemical names, when two or more chemically compatible waste materials in the same hazard class are packaged in the same outside packaging.

49 CFR §172.101(b)(1).....(+) fixes the psn etc.

If we package for example, Benzaldehyde a class 9 which lists a + in column 1 of the HMT with other compatible material/waste, does 49 CFR §173.12(b) (if packaged properly) except us from 49 CFR §172.101(b)(1), thereby allowing a generic psn?

2. 49 CFR §172.201(a)(1).....when a hazardous material and a material not subject to the requirements of this subchapter are described on the same shipping paper, the hazardous material description entries required.....etc.....must be first.....and so on.

California has its own Uniform Hazardous Waste Manifest. California regulates materials as hazardous waste that is only regulated in California. These materials are described on the California UHWM basically as, Non RCRA Hazardous Waste. As these materials are not regulated by the DOT as hazardous materials, nor are they regulated by the EPA under RCRA as hazardous waste nor subject to federal manifesting requirements, do the shipping paper requirements of 49 CFR §172.201(a)(1) apply, in that;

Will the DOT consider a "Non RCRA Hazardous Waste" entry, as material not subject to the requirements and in violation of 49 CFR §172.201(a)(1) if first on the UHWM when regulated materials are included on the same manifest but not identified specifically as stated in 49 CFR §172.201(a)(1)? The California Department of Toxic Substances Control has no preference to the sequence on the UHWM.

3. The placarding table in 49 CFR §172.504 Table 1, shows that a Poison Inhalation Hazard placard must be used for any amount of 6.1 inhalation hazard materials in either zone A or B. However, §172.505 (a) states that and material subject to PIH shipping descriptions of §172.203(m)(3) must be placarded PIH or Poison Gas..

Would it be necessary to placard for zone C or D materials? Part 172.203(m)(3) requires a special entry on the shipping paper. In a closed van, how would a dock worker for example, know of the potential hazard if not communicated via placarding?

4. What would be the proper placarding for 1 pound of Bromine?

In the HMT, Bromine is a class 8 material with a 6.1 subsidiary and special provision 1. Would I be correct in placarding 8 with a 6.1 subsidiary as I understand §172.505 to require, even though the shipment only has 1 pound of table 2 material?

5. In Appendix A to the HMT in 49 CFR §172.101, in what context is the word "unlisted" used for the entries D001 thru D043?

Does it refer to the fact that the hazardous material is or is not listed in Appendix A, or is the intent taken from EPA/RCRA waste codes, Characteristic (i.e., D codes) vs. Listed (i.e., F, K, P, U codes)?

6. Since 49 CFR §172.203(j) is now *reserved*, does this mean that the requirement to include the entry "Dangerous When Wet" on the shipping paper, is no longer required?
7. Deciding if a hazardous material/waste is also a hazardous substance can be a confusing issue. To best get the help I require, I'll pose two scenarios and hope I've made myself clear without being redundant.

The Uniform Hazardous Waste Manifest will be used as the shipping paper in both examples.

The most appropriate proper shipping name is *Waste Toxic Liquid n.o.s* and contains 1,1,1 Trichloroethane and Trichloroethylene. It has been decided that EPA/RCRA waste codes F001 and F002 are appropriate.

Appendix A to §172.101 Table 1 lists:

1,1,1 Trichloroethane with a corresponding reportable quantity of 1000 pounds  
Trichloroethylene with a corresponding reportable quantity of 100 pounds  
Under the entry for F001 & F002, both individual constituents have a corresponding reportable quantities of 1000 pounds and 100 pounds respectively.  
F001 & F002 in themselves have corresponding reportable quantities of 10 pounds.  
As a mixture, referring to the table in §171.3, a concentration by weight of 2% and 0.2% respectively would be the corresponding reportable quantities.

Scenario 1) I know the actual concentrations of each constituent to be a certain percentage.

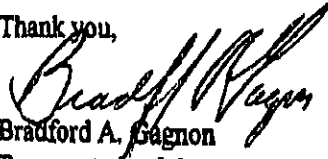
Question: How do I determine when to use which entry? In these scenarios, it seems that there are several different entries to select from and dependent on the concentrations, may or may not meet the definition of a hazardous substance.

Question: When using the F001 & F002 entries, it is my understanding that if the actual concentration is known and the concentration of a particular constituent is less than the corresponding reportable quantity for that constituent, then it is not a hazardous substance. If the concentrations are not known, then the lower corresponding reportable quantity i.e., 10 pounds as the F001 or F002 in themselves, would meet the definition of a hazardous substance. Is this correct?

Scenario 2) I know the concentrations of each constituent to be within a specified range.

Question: If the concentrations are within a specified range, as in the second example, would this be considered "unknown" and therefore the decision would be based on the 10 pound limit or would you calculate the highest range limit for that constituent and base your decision on that worst case scenario?

Thank you,

  
Bradford A. Gagnon  
Transportation Manager



# PWN

## Environmental

A Division of ADCO Services, Inc.

June 3, 1999

Mr. Edward T. Mazzullo  
Director of Hazardous Materials Standards  
Hazardous Materials Information Center  
Research and Special Programs Administration  
FAX (202) 366-3012

Dear Mr. Mazzullo:

I recently phoned the Hotline and confirmed my understanding of Subpart I §173.443, Contamination Control, with regard to surveying a vehicle transporting Class 7 material as an exclusive use shipment on the highway. However, I was instructed that to get confirmation in writing, I would need to put my request in writing.

Please allow me to paraphrase:

(§173.433(d) will not apply)

§173.443 (a)(1) and (2) deals with the levels of non-fixed radioactive contamination on external surfaces of each package and various appropriate methods of assessment within the limits as set forth in Table 11.

§173.443(b) deals with levels up to 10 times the limits set forth in Table 11 at any time when transported as exclusive use.

§173.433(c) states that each transport vehicle used for transporting Class 7 materials as an exclusive use shipment, that utilizes the provisions of paragraph (b), must be surveyed after each use etc.

The first question is:

Does a transport vehicle used for transporting Class 7 materials as an exclusive use shipment but remains within the limits of Table 11, therefore not utilizing the provisions of paragraph (b), need to be surveyed after each use?

The second question is:

Is there another section/part that need be considered other than those mentioned above?

Respectfully,

Bradford A. Gagnon  
Transportation Manager