U.S. Department
of Transportation
**Research and
Special Programs
Administration**

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

MAR - 8 2004

Mr. Cliff Jacobson
Spray Chem Chemical Company
705 Keenan Court
Durham, CA 95938

Ref No.: 04-0031

Dear Mr. Jacobson:

This responds to your January 24, 2004 letter and subsequent telephone conversation, requesting additional clarification of our January 23, 2004 letter regarding segregation requirements under the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180). Your questions are paraphrased and answered as follows:

Q1. What is the definition of the term "truckload" as used in the segregation and separation requirements specified in § 177.848 of the HMR?

A1. The table in section 177.848(d) provides that Class 8 liquids may not be loaded above or adjacent to Class 5 materials. Section 177.848(e)(3) also states that shippers may load truckload shipments of such materials together when it is known that the mixture of contents would not cause a fire or a dangerous evolution of heat or gas. The term "truckload" as used in this section means a shipment of hazardous materials loaded into a transport vehicle by a single shipper. Shipments of hazardous materials offered to a carrier by different shippers and loaded into a transport vehicle are not considered to be truckload shipments.

Q2. May a shipper of a truckload shipment of empty containers that contain the residues of Division 5.1 and Class 8 liquid hazardous materials transport the empty containers adjacent to each other in the same transport vehicle when it is known by that shipper that the mixture of contents would not cause a fire or dangerous evolution of heat or gas?

A2. The answer is yes. Although , as noted above, Class 8 liquids generally may not be loaded above or adjacent to Class 5 materials, § 177.848(e)(3) permits shippers to load truckload shipments of such materials together when it is known that the mixture of contents would not cause a fire or a dangerous evolution of heat or gas.

Q3. If the shipper knows that commingling of the residue in the empty containers would not cause a fire or dangerous evolution of heat or gas, would the term "incompatible hazardous materials transported in the same vehicle" be an improper term to use?

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177.848

A3. Truckload shipments maybe offered for transportation and transported in accordance with § 177.848(e)(3). In such instances, the Class 8 liquid and Class 5 material would not be considered incompatible hazardous materials.

Q4. You asked if the following scenario would be considered proper separation:

> Two empty 330 gallon Intermediate Bulk Container (IBC) stored adjacent to each other, drained of all material except residue, and tightly sealed with shut off valves and safety caps and properly secured in accordance with the HMR.

A4. The answer is no. In accordance with § 173.29, an empty packaging containing only the residue of a hazardous material generally must be offered for transportation and transported in the same manner as when it previously contained a greater quantity of that hazardous material. In the scenario you describe, if the IBCs contain the residue of incompatible hazardous materials, then they must be transported in accordance with the segregation requirements in §177.848(d).

Several inches of air space between containers of incompatible liquid hazardous materials does not satisfy the requirements of § 177.848(d). Air space would not prevent commingling of the liquid hazardous materials in the event of failure of the containers. Moreover, merely placing the packages on pallets to elevate them above the vehicle floor does not satisfy the separation requirements. Separation must be accomplished by a means of physical separation, such as by placing non-permeable barriers, non-reactive freight, or non-combustible, non-reactive absorbents between the packagings, or by elevating the freight in a manner that prevents commingling of the liquid hazardous materials required to be separated.

Q5. If a packaging that previously contained a Class 8 liquid and a Class 5 material are rinsed and contain only the residue of the rinse water and minimal hazardous material residue to the point where the shipper knows the residues may still be classified as hazardous materials, but are much to diluted too cause any fire or dangerous evolution of heat or gas, may the shipper of truckload shipments ship these empty IBC's adjacent to each other in the same transport vehicle when properly placarded and manifested?

A5. See answer A2 above.

Q6. Under the above example, would there be a difference between the requirements of a "truck load" shipment and a "non-truckload" shipment of hazardous material?

A6. The exception in § 177.848(e)(3) applies to truckload shipments only. Non-truckload shipments containing residues of class 8 liquids and class 5 materials must be shipped in accordance with the requirements of § 177.848(d) and (e).

Q7. Are empty 55 gallon drums that contain only the residue of a hazardous material considered nonregulated, for shipment back to the manufacturer for reuse or disposal?

A7. The answer is no, unless cleaned and purged to the extent provided in § 173.29(b)(2)(ii). A packaging that is sufficiently cleaned of residue and purged of vapor to remove any potential hazard is not regulated under the HMR. An empty packaging is not subject to the HMR if it: 1) is unused; 2) is sufficiently cleaned of residue and purged of vapors to remove any potential hazard; 3) is filled with a material that is not hazardous to such an extent that any residue remaining in the packaging no longer poses a hazard; or 4) contains the residue of certain hazardous materials specified in § 173.29.

"Cleaned and purged" means that no residual material and no residual vapor remains in the interior of a container. The methods used are intentionally not defined because they vary greatly depending on the nature of the hazardous material and the type of packaging. In some instances, a packaging can be totally emptied of hazardous material, including residue, without undergoing a cleaning process, and may be considered to have been cleaned and purged. In other instances, an active cleaning process may be necessary to purge a packaging of hazardous residue. Therefore, unless your packaging meets any of these criteria, you must transport it as if it contained a greater quantity of hazardous material.

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

Sincerely,

Susan Gorsky
Senior Transportation Regulations Specialist
Office of Hazardous Materials Standards

cc: Paul Hogan, CHP

Referred
§177.848
Segregation
04-0031

Spray Chem Chemical Co. Inc.
705 Keenan Court
Durham, CA 95938

1/24/2004

Susan Gorsky
Senior Transportation Regulations Specialist
Office of Hazardous Materials Standards
U. S. Department of Transportation

Dear Ms. Gorsky:

On Nov. 25Th. 2003 I sent your department a letter asking for an interpretation and further clarification on an interpretation letter that your office had sent to an officer George Barber of the California Highway Patrol. (ref. # 03-0120).
You responded to my request on 1/23/2004 (ref.# 03-0300).

After reading your response I called your office and you and I discussed your response in some detail.

Based on our conversation we mutually agreed that further clarification would be appropriate and you suggested that I should draft an additional letter restating my position more clearly.
In Officer Barber's letter he states "if a barrier is placed between the materials, can the shipper load the 5.1 and class 8 liquids adjacent to each other? The shipment was not a truck-load shipment".

Question: If the entire truckload was loaded at my facility would Officer Barber's statement "the shipment was not a truck-load shipment" be incorrect?

Question: Can the shipper of truck load quantities of hazardous materials and empty containers that contain only the residue of hazardous materials, ship these empty containers adjacent to each other in the same transport vehicle, when it is known by that shipper that the mixture of contents from these empty containers would not cause a fire or dangerous evolution of heat or gas?.

Question: If the shipper knows commingling of the residue in the empty containers would not cause a fire or dangerous evolution of heat or gas, would the term "incompatible hazardous materials transported in the same vehicle" be an improper term to use?

Section 177.848e of the Code of Federal Regulations provides that a class 8 corrosive liquid and a division 5.1 oxidizer may not be loaded, transported, or stored together in the same transport vehicle or stored together during the course of transportation unless separated in a manner that, in the event of leakage from packages under conditions

normally incident to transportation, commingling of the hazardous materials would not occur.
Question: Would two empty IBC containers which were stored adjacent to each other, that are designed to transport 330 Gallons of hazardous material and are currently inspected, permitted, drained of all material except non pour able residue and tightly sealed with shut off valves and safety caps and which were load locked securely meet the standards stated in the above paragraph?

Question/Comment:
The author of this letter knows, as does your office, the rigorous testing required of these IBC containers to become certified by the department of transportation for the transporting of hazardous materials. Is it reasonable to assume that these containers could not be shipped adjacent to each other with only the residue of class 8 and 5.1 materials when the separation requirements for 660 gallons of the same material only need be separated by four feet?

In your letter to me you stated "in accordance with 173.29(b) (ii), a packaging that has been sufficiently cleaned of residue and purged of vapor to remove any potential hazard is not regulated under the HMR".
Question: If the packaging is rinsed and then contains only the residue of the rinse water and minimal hazardous material residue to the point where the shipper knows the residue may still be classified as hazardous material but is much to dilute to cause any fire or dangerous evolution of heat or gas, may the shipper of truck load shipments ship these empty IBC's adjacent to each other in the same transport vehicle when properly placarded and manifested?

Question: Under the above example, why would there be a difference between the requirements of a "truck load shipper and any properly permitted carrier that had shipping documents correctly describing the above conditions?

Question: Are empty 55 gallon drums that contain only the residue of a hazardous material considered no regulated, for shipment back to the manufacturer for reuse or disposal?

Question/Comment: Does the department of transportation view the transport of empty 55 gallon drums containing the residue of hazardous materials more secure that the transport of empty IBC containers containing the residue of hazardous material? Does this seem logical or reasonable to you?

Thank you

Clifford L. Jacobson

Spray Chem Chemical Co.

Cc: Paul Hogan, CHP