



U.S. Department
of Transportation

**Research and
Special Programs
Administration**

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

MAY 16 2000

Ms. Joyce Stratis
FMC Corporation
Chemical Products Group
1735 Market Street
Philadelphia, PA 19103

Ref. No: 00-0102

Dear Ms. Stratis:

This is in response to your letter of April 12, 2000, requesting clarification on the packaging requirements for materials poisonous by inhalation under the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180).

The packaging requirements of § 173.227(b)(ii) state that the closure must be physically held in place by any means capable of preventing back-off or loosening of the closure by impact or vibration during transportation. You ask whether using a bead of silicone caulk around the bung closure meets the provisions of § 173.227(b)(ii).

The means you have described for physically holding a bung closure in place is acceptable. I hope this information is helpful.

Sincerely,

Delmer F. Billings
Chief, Standards Development
Office of Hazardous Materials Standards



000102

173.227(b)(ii)

FMC Corporation

Chemical Products Group
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215 299 6000

REVISED LETTER & REQUEST

April 12, 2000

Mr. Edward T. Mazzullo
Director, Office of Hazardous Materials Standards
U.S. Department of Transportation
Research and Special Programs Administration (DHM10)
400 Seventh Street, S.W.
Washington, DC 20590-0001

RE: EMERGENCY REQUEST FOR INTERPRETATION & GUIDANCE
- PENDING ENFORCEMENT ACTION

Dear Mr. Mazzullo:

We are requesting an interpretation of the intent of 49 CFR 173.227 (b) (2) on an emergency basis. This involves drum shipments of PIH materials. **We are ceasing shipment of these drums until we are compliant with DOT regulations** and need direction to ensure that we are following the intent of the regulations and that these shipments are not interrupted for a lengthy period of time.

On April 4, 2000, Mr. Chris Michalski, Hazardous Materials Enforcement Specialist visited the Nitro, WV plant of Great Lakes Chemical Corporation (formerly FMC Corporation).

Although the facility in Nitro, WV is now owned by Great Lakes Chemicals, FMC still owns the Phosphorus Trichloride (6.1 (8) – UN 1809 – PG I – Hazard Zone B) and Phosphorus Oxychloride (8 (6.1) - UN 1810 - PG II – Hazard Zone B) produced at the facility. Great Lakes acts as a toller for FMC Corporation relative to these materials.

Mr. Michalski found the following issues with our 1A1 Steel drums (used for Phosphorus Trichloride) and our 1H1 Plastic drums (used for Phosphorus Oxychloride):

- The plant was not using torque wrenches to tighten the drum bungs
- The plant did not possess the closure instructions from the drum manufacturer
- Questioned whether our cap seals were capable of holding an internal pressure of 15 psig
- **The bungs were not held in place by a positive means to prevent backing off or loosening due to impact or vibration during transit**

Our Plant is obtaining appropriate closure instructions from the manufacturer, will use torque wrenches to the appropriate torque specified by the manufacturer and is obtaining documentation from our cap seal vendor that it is capable of withstanding an internal pressure of at least 15 psig, all per 49 CFR 173.227 (b) (2).

We are not certain, however, how to ensure that the closures are **physically held in place by any means capable of preventing back-off or loosening of the closure by impact or vibration during transportation.** We contacted both drum manufacturers (Russell Stanley and Republic Steel) as well as Rieke (fittings manufacturer) and they could not provide us with an appropriate means of physically holding the closures in place. We also contacted others in our industry and requested their methods and they also could not provide us with options since they were not physically holding closures in place.

In a previous request to the DOT for interpretation/guidance, we proposed using tape as a means of physically holding the closures in place. **We have since revised our thinking. We feel that using a bead of silicone caulk around the bung closure, which will then be subsequently covered by the cap seal, will ensure that closures are physically held in place and prevent back-off or loosening of these closures by either impact or vibration in transit.**

We also believe that by following the appropriate drum closure instructions provided by the manufacturers, using torque wrenches to the prescribed torque and ensuring the cap seals can withstand at least an internal pressure of 15 psig would ensure proper closure. We have been shipping these drums for many years with no transportation incidents relative to these non-bulk shipments.

I respectfully request the DOT's guidance relative to the above situation.

We wish to be in compliance and need this help as soon as possible to avoid further delay of our shipments.

Very truly yours,



Joyce A. Stratis
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