



U.S. Department  
of Transportation

**Pipeline and Hazardous  
Materials Safety  
Administration**

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

**SEP 26 2012**

Mr. Terry M. Thompson  
SGS North America  
8701 New Trails Drive, Suite 175  
The Woodlands, TX 77381

Ref. No. 12-0128

Dear Mr. Thompson:

This responds to your June 4, 2012 letter requesting clarification of the small quantity exceptions under § 173.4 of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180). Your understanding is that petroleum crude oil (UN1267) may be shipped under the conditions outlined in § 173.4. Additionally, in your letter, you describe plans to package an article (i.e., a pyncnometer) consisting of a metal cylinder that has a capacity of 10 mL and will be used to transport the crude oil for research analysis. You request clarification of the meaning of “prototype testing” as used in § 173.4(a)(6). Specifically, you ask whether the packaging must be independently tested using your inner receptacles or whether you can use a commercially produced outer packaging already tested for loads greater than 64 pounds.

Your understanding of the eligibility of crude oil for the small quantity exceptions is correct. Class 3 (flammable liquid) material such as petroleum crude oil (UN1267) may be transported under the conditions of § 173.4. The phrase “prototype testing” is not defined in the HMR. Its common meaning refers to an original model on which something is patterned; or a first full-scale and usually functional form of a new type or design of a construction. Finally, the completed package (as prepared for transportation) must be capable of sustaining the testing in § 173.4(a)(6). A successfully tested commercially available packaging similar to your intended completed package that differs only in minor respects may be used without undergoing further testing provided this difference would not affect its performance under requirements specified in § 173.4(a)(6). For example, you could switch out the inner metal receptacles of a successfully tested packaging with your pyncnometers.

I hope this information is helpful. If you have further questions, please contact this office.

Sincerely,

Robert Benedict  
Chief, Standards Development Branch  
Standards and Rulemaking Division

U.S. DOT  
PHMSA Office of Hazardous Materials Standards  
Attn: PHH-10  
East Building  
1200 New Jersey Avenue, SE.  
Washington, DC 20590-0001

Der Kinderen  
§173.4  
Small Quantities  
12-0122

Dear Sir/Madame:

My company performs analytical testing on crude petroleum and petroleum products. My division specializes in analysis on upstream material, specifically crude oil that has been taken directly from a platform/wellhead, or from a research experiment that simulates those types of conditions.

We have developed a specialized pyncnometer that for our analytical use that is a metal cylinder containing a floating piston with valves rated for 15,000 psi on each end. The volume of the cylinder is a nominal 10 mls, and the exact volume (to the nearest 0.001 ml) for each cylinder/valve assembly has been determined/calibrated for our analytical use. I have attached some drawings for your review.

We believe that the limited capacity of the cylinder allows us to take advantage of the small quantity exception described in 49CFR173.4. The principal products transported in this cylinder/pyncnometer will be crude oil or reconstituted crude oil with similar physical and chemical properties (Vapor pressure, density, flammability). Crude Petroleum is defined in the Hazardous Materials Table as a Class 3 material, UN1267. It is our understanding that crude petroleum can be shipped under the conditions described in 49CFR173.4 Can you confirm that our interpretation is correct?

It is our intention to provide inner packaging for the cylinder/pyncnometer consisting of either a plastic or metal container filled with enough absorbent to contain the expected 10 mls of crude petroleum contained in the cylinder/pyncnometer. Multiple inner packaging units can be placed in strong outside packaging. Paragraph (a)(6) describes the physical tests that the strong outer packaging must pass. Can you define "prototype testing" as mentioned in (a)(6)? Will we have to have the packaging independently tested using our inner containers or may we use commercial outer packaging that already has been tested for loads of 64 pounds or higher?

Thank you for your time and attention to this matter.

Terry M. Thompson  
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