



U.S. Department
of Transportation

**Pipeline and
Hazardous Materials
Safety Administration**



Sampling and Testing Program for Unrefined Petroleum-Based Products

Guide to Section 173.41 Requirements
Effective July 7, 2015

In new regulations adopted in the Hazardous Materials Regulations (49 CFR Parts 100-180) on May 8, 2015 (80 FR 26643), PHMSA established requirements for shippers in all modes of transportation to develop and carry out a sampling and testing program for all unrefined petroleum-based products.

Considering the challenges posed by materials with variable composition and potentially variable properties—such as crude oil—providing criteria for sampling and testing of unrefined petroleum-based products is a critical first step in the safe transportation of these materials. Proper classification and the assignment of a packing group for a hazardous material (hazmat) plays a key role in the selection of an appropriate packaging for hazmat.

Requirements

The physical and chemical properties of unrefined petroleum-based products are complex and can vary by region, time of year, and method of extraction. In accordance with §173.41, shippers in all modes of transportation must develop and carry out a sampling and testing program for all unrefined petroleum-based products by:

- Sufficiently testing and documenting the physical and chemical characteristics of hazmat to ensure proper classification;
- Certifying that the sampling and testing program is in place, and ensuring this information is available to DOT personnel upon request; and
- Properly classing and describing unrefined petroleum-based products offered for transportation as prescribed in §173.22 (shippers' responsibility).

A person may offer hazmat for transportation in a packaging or container required by §173.22 if that person:

- Classes and describes the hazmat in accordance with parts 172 and 173 of the subchapter, and
- Determines that the packaging or container is an authorized packaging including part 173 requirements.

Components of the Sampling and Testing Plan

The shipper must properly classify unrefined petroleum-based products based on the following minimum requirements:

- Frequency—
 - History,
 - Temperature,
 - Method of extraction (including chemical use),
 - Location of extraction,
 - Time of year, and
 - Length of time between shipments.
- Sampling prior to the initial offering for transportation and when changes that may affect the properties of the material occur (i.e., mixing of the material from multiple sources);
- Sampling methods that ensure a representative sample of the entire mixture;
- Testing methods that enable classification of the material;
- Quality control of measure sample frequencies;
- Duplicate sampling methods for quality assurance;
- Criteria for modifying the sampling; and
- Testing or other methods used to identify properties of the mixture relevant to packaging requirements.

Certification

When certifying a shipment, the shipper is stating that the requirements in §173.41 have been met. The shipper must enter the certification on the shipping paper and sign either manually, by typewriter, or by other mechanical means. An acceptable certification (see §172.204) is as follows:

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation according to the applicable regulations of the U.S. Department of Transportation.

Shipper's signature

Date

Documentation

Persons required to develop and implement a sampling and testing program must:

- Maintain a copy of the sampling and testing program documentation in writing;
- Retain documentation as long as the program is in effect (minimum of one year);
- Revise or update as necessary;
- Review annually;
- Make the most recent version (changes) available to employees responsible for implementing the plan; and
- Make documentation available, upon request, to authorized official(s).

Responsibility

As stated in §173.1(b), shipments of hazmat not prepared for shipment in accordance with this subchapter may not be transported by air, rail, highway, or water.

It is the responsibility of the hazmat employer to ensure that each hazmat employee is trained in accordance with the requirements of this subchapter.

It is the responsibility of the offeror to instruct each of his officers, agents, and employees—having any responsibility for preparing hazmat for shipment—on the applicable HMR requirements.

Failure to comply with these regulations may result in civil penalty actions. Federal law has set \$75,000 as the maximum civil penalty that may be assessed for a violation.

For more information on the Sampling and Testing Program for Unrefined Petroleum-Based Products, please contact:



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