Hazardous Materials Bulletin

MARKING REQUIREMENTS FOR BULK PACKAGES

Revised December 2005

Bulk packages are those packages that have a capacity of more than 119 water gallons (See definitions, Section 171.8). The requirements for package markings are found in Subpart D of Part 172.

General Requirements and Size of Markings (§172.302)
The **identification number** is the only basic marking requirement for all bulk packages (see below). If the package has a capacity of less than 3,785 L (1,000 gallons), it must appear on two opposing sides. If it has a capacity of 3,785 L (1,000 gallons) or more, the identification number must appear on both sides and both ends. For cylinders mounted on a tube trailer, the trailer must be marked on both sides and both ends.

For portable tanks under 3,785 L (1,000 gallons) and intermediate bulk containers (IBCs), markings must have a width of at least 6.0 mm (0.24") and a height of at least 25 mm (1"). For cargo tanks and other bulk packages, they must be at least 6.0 mm (0.24") wide by 50 mm (2") high.

All bulk packages must retain all of their required markings, even when empty, unless cleaned and purged of all vapors, or refilled with a different hazardous material or a non-hazardous material.

Requirements and Prohibitions
Markings for bulk packages must be durable, in English, and printed on the package or affixed with a tag or sign and must be displayed on a contrasting background, be unobscured, and located away from other markings(§172.304). .Abbreviations must be authorized by the regulations (§172.308).

Marine Pollutants (§172.322)
For highway transportation, only bulk packages of marine pollutants are regulated (see §171.4). Bulk packages of marine pollutants must be marked with the marine pollutant symbol on two opposing sides if a capacity of 3,785 L (1,000 gallons) or both sides and both ends if a capacity of 3,785 L (1,000 gallons) or more (marine pollutants are determined by the list in Appendix B of Section 172.101). Packages or vehicles that are already marked or placarded do not need to add this marking (§172.322(d)(3)).

Liquefied Petroleum Gases (LPG)
NON-ODORIZED marking on cargo tanks containing LPG. After September 30, 2006, no person may offer for transportation or transport a cargo tank containing liquefied petroleum gas (LPG) that is un-odorized as authorized in Sec. 173.315(b)(1) unless it is legibly marked NON-ODORIZED or NOT ODORIZED on two opposing sides near the marked proper shipping name or near the placards.

Elevated Temperature Materials (§172.325)
Elevated temperature materials (see definitions, §171.8) must be marked with the word "HOT" in black or white Gothic lettering on a contrasting background. The marking may be displayed on the packaging itself or on a white square-on-point configuration and must be displayed on two opposing sides. The identification number may be displayed on the same white square-on-point configuration or may be displayed separately but must be on two opposing sides. In addition, bulk packages of molten aluminum or molten sulfur must be marked "MOLTEN ALUMINUM" or "MOLTEN SULFUR," respectively.

Portable Tanks (§172.326)
In addition to the identification number marking (see below), USDOT specification portable tanks must be marked with the shipping name on two opposing sides and the owner's name or lessee's name must be displayed on the tank.

Gases in Cargo Tanks (§172.328(b))
In addition to the identification number marking (see below), cargo tanks containing gases (except nurse tanks-see §173.315(m)) must be marked with the proper shipping name or an appropriate common name on both sides and both ends. Additionally, each MC330 or MC331 cargo tank must be marked near the specification plate with "QT" if the tank is made of quenched and tempered steel, or "NQT" if it is not. After October 3, 2005, each on-vehicle manually-activated remote shutoff device must be identified by the marking "Emergency Shutoff" (§172.328(d)).

One-Ton Cylinders (§172.330(a)(2) and (b))
One-ton cylinders are typically used to transport chlorine. These tanks must be marked on two opposing sides with the proper shipping name or an appropriate common name, in addition to the identification number. The identification number must be displayed on both sides and both ends of the transport vehicle, even if the tank markings are visible.

Identification Numbers (§172.332)
For bulk packages, the identification number must be displayed on an orange panel, placard, or white square-on-point configuration. Materials that do not require a placard may only display the identification number on an orange panel or white square-on-point configuration. Identification numbers may not appear on any Class 1, Class 7, dangerous, or subsidiary hazard placard (§172.334).

The offeror of the material must affix the markings on the package and must offer proper markings and placards to the carrier. If the identification number marking on the package is not visible (e.g., an IBC in a closed transport vehicle), then the transport vehicle must be marked on both sides and both ends with the identification number. The identification number must be proper for the material carried and no symbols or words can be added to the marking (§172.334).

Identification numbers are not required on the ends of a tank having more than one compartment (just the sides) or on a cargo tank of gasoline or diesel fuel if marked with the words "Gasoline" or "Fuel Oil". If different liquid petroleum distillate fuels are transported in one compartmentalized cargo tank, only the identification number for the fuel with the lowest flashpoint need be displayed (§172.336(c)).

Radioactive Materials
In addition to other marking requirements, packages of radioactive materials with a gross mass over 110 lbs. (50 kg.) must have the gross mass marked on the outside of the package. In addition, each radioactive material package must be marked "TYPE A" or "TYPE B", be marked "USA" if destined for export, and Type B packages must have the trefoil symbol as shown in Appendix B of Part 172 (§172.311). Additionally, effective 10/1/2004 additional markings may be required, including the words TYPE IP-1, TYPE IP-2, TYPE IP-3, as appropriate. Each package which conforms to an IP-1, IP-2, IP-3 or a Type A package design must be legibly and durably marked on the outside of the package with the international vehicle registration code of the country of origin of the design. Also each Type B(U) and Type B(M) or fissile material package designed for export must be marked "USA" in conjunction with the specification marking, or other package certificate identification. (See §173.471, §173.472, and §173.473 of this subchapter.)

Poison Inhalation Hazards (§172.313)
Packages of materials that meet the definition of poison inhalation hazard (PIH), are required to be marked "Inhalation Hazard" on two opposing side. The PIH label or placard suffices for this marking requirement.

Fumigant Marking (§173.9)
A vehicle or package that has been fumigated or is undergoing fumigation, with a hazardous material, must display the fumigation mark, or, for domestic transportation, the EPA warning label under CFR 40, Part 156, in a prominent location. If the package has been "sufficiently aerated so that it does not pose an unreasonable risk to health and safety," the mark is not required (§173.302(g) and §173.9).

Infectious Substances (§172.323)
A bulk packaging containing regulated medical waste must be marked with the BIOHAZARD marking. It must be on two opposing sides or ends other than the bottom, for a packaging less then 1,000 gallons, and each side and each end if the packaging is more then 1,000 gallons.

EMPTY PACKAGINGS (§173.29)
Generally empty bulk packages which contained hazardous material must me offered for transportation in the same manner as when it previously contained a greater quantity of hazardous material.

Exemption Marking (§172.302)
Exemption markings are required if USDOT/RSPA has issued an exemption from one or more of the package specifications. The outside of the package must be marked plainly and durably with "DOT-E", followed by the number assigned by RSPA. It is the responsibility of the offeror to ensure that the package is authorized by the regulations and compatible for that hazardous material.

This document may be republished or distributed without prior permission. Specific statutes should be consulted before implementing any program. Questions should be addressed to your local motor carrier hazardous materials investigator, or contact Sgt Susan Fries at 517/336-6580.