

## MARINE SAFETY MANUAL

- 11.D.2. Combustible Or Flammable Determinations. If the cargo is carried as "packaged," use the definitions in 49 CFR 173.115; 46 CFR 30.10-15 and 30.10-22 apply to bulk shipments.
3. Cargo Or Passenger Vessel Designation. Vessel type definitions for the carriage of packaged cargo are contained in 49 CFR 171.8. Offshore supply vessels (OSV's) are interpreted as cargo vessels for the purpose of packaged cargo regulations.
  4. Cargo. Oil and other combustible or flammable liquids are considered cargo when transported to, and offloaded at, a destination. Fuel oil carried by a vessel in its own integral tanks and for its own use, is not subject to the requirements of 46 CFR 30.01-5. Exceptions to this definition include OSV's and some fishing vessels.
  5. Deadweight Tonnage (DWT). DWT is a measure of a vessel's carrying capacity. It is the difference in displacement between the vessel's "deepest load waterline" and its "lightweight" conditions. Deadweight capacity includes: crew and effects, passengers and luggage, provisions and stores, fresh water, fuel, ballast, and cargo. The "lightweight" condition is defined in 46 CFR 170.055(i). The vessel's "deepest load waterline" is the deepest draft permitted by the applicable regulations for the vessel.
  6. Limited Quantity. Flammable and combustible cargo carried in bulk in an amount not to exceed 20 percent of the vessel's DWT is considered limited quantity. For Grade E drilling fluids (mud), the 20 percent volume may be computed using a specific gravity of 1.0.
  7. Principal Purpose. When it is deemed that the principal purpose of the vessel is to carry combustible or flammable liquids in bulk in either MPT's or independent tanks, the vessel must be certificated under Subchapter D. Generally, a vessel carrying less than 20 percent of its DWT is not deemed to be principally carrying bulk combustible or flammable cargo.
- E. Portable Tanks. These tanks are approved containers designed to be loaded into, on, or temporarily attached to a vehicle or vessel. The tank is designed with approved handling arrangements, such as skids, lifting lugs, or intermodal container castings. Portable tanks may be handled or lifted full or empty and are treated as "packaged" containers. Transfer, fill, discharge, or recirculation of cargo to portable tanks other than MPT's, while on board a vessel, is prohibited. Portable tanks for flammable and combustible liquids fall into four primary categories:
1. Department Of Transportation (DOT) Specification Tanks. These are DOT-51, DOT-57, IM-101, and IM-102 tanks regulated under 49 CFR 178.
  2. Special Tanks. These are approved by Commandant (G-MTH) under 49 CFR 176.340, and are issued a Coast Guard letter of authorization for combustible liquids shipped as packaged cargo. One example is a tank approved for combustible oil based drilling mud, with an open lid top which can be shut gastight.

- 11.E.3. DOT-E (Exemption) Tanks. Also called non-specification portable tanks, these may be used to transport regulated commodities when authorized by a Materials Transportation Bureau (MTB) exemption. These tanks are for packaged shipments only. Exemption procedures are outlined in 49 CFR 107. Although exemptions are issued by the MTB, the Coast Guard is consulted if the shipment involves marine transportation.
4. MPT's. Constructed and inspected in accordance with 46 CFR 64, MPT's are designed to be lifted full of cargo (up to 55,000 pounds) and may be considered "packaged." MPT's are also approved for "bulk" shipments and are designed for the transfer of cargo while on board the vessel. Pumping and piping equipment associated with filling or discharging an MPT must meet the applicable requirements of Subchapter F. Endorsement of the Certificate of Inspection (COI) is required for bulk shipments (see paragraph 11.I.2 below). [NOTE: Approval of portable tanks constructed and inspected under 46 CFR 98.35 expired on 1 October 1984. No extensions or waivers are authorized.]

F. Independent Tanks. These are authorized on miscellaneous vessels and OSV's for the carriage of Grade B and lower petroleum products. They are approved by the Marine Safety Center (MSC) and the cognizant officer in charge, marine inspection (OCMI) for Grades D and E. Requests for the carriage of cargo classed higher than Grade D must be forwarded through the cognizant OCMI and district commander (m) to Commandant (G-MVI) for approval. There are no size limitations, except for a 20 percent deadweight capacity limitation. Independent tanks may only be loaded or offloaded empty, and are always considered bulk shipments. The following is a list of conditions for the approval of fixed independent tanks:

1. Design. Tank structure and design arrangements must be submitted to the MSC for approval. The tank may be designed as a gravity tank.
2. Vessel Admeasurement. Fixed independent tanks, regardless of their contents, are subject to inclusion in gross tonnage when permanently installed. Tanks welded, through-bolted, or otherwise substantially secured to the deck or connected to the vessel's piping or electrical system are considered to be permanent installations for tonnage measurement purposes.
3. Stability And Loading. The vessel's owner or operator must submit stability and deck loading calculations to the MSC showing that the intact stability and structural arrangements of the vessel are adequate with the tank on board. The calculations must cover all intended loading conditions of the tank for the route specified on the vessel's COI. The vessel's stability letter must be amended to indicate any limitations on the carriage of the tank based on stability considerations.
4. Venting. The tank must be fitted with a flame screen and pressure vacuum relief valve, or other suitable pressure relief device.
5. Inspection. The tank must be gas-freed for internal inspection, and hydrostatically tested at least every 4 years.