

components such as fuel lines, fuel filters and injectors do not need to be cleaned, drained or purged to be considered empty. The fuel tank does not need to be cleaned or purged;

(4) The vehicle is powered by a flammable gas (liquefied or compressed), the fuel tanks are empty and the positive pressure in the tank does not exceed 2 bar (29 psig), the fuel shut-off or isolation valve is closed and secured, and installed batteries are protected from short circuit;

(5) The vehicle is solely powered by a wet or dry electric storage battery or a sodium battery, and the battery is protected from short circuit; or

(6) The vehicle is powered by a fuel cell engine, the engine is protected from inadvertent operation by closing fuel supply lines or by other means, and the fuel supply reservoir has been drained and sealed.

(j) Except as provided in §173.220(f) of this subchapter, the provisions of this subchapter do not apply to items of equipment such as fire extinguishers, compressed gas accumulators, airbag inflators and the like which are installed in the vehicle if they are necessary for the operation of the vehicle, or for the safety of its operator or passengers.

[82 FR 15893, Mar. 30, 2017]

**§ 176.906 Stowage of engines and machinery.**

(a) Any engine or machinery powered by internal combustion systems, with or without batteries installed, is subject to the following requirements when carried as cargo on a vessel:

(1) Before being loaded on a vessel, each engine or machinery must be inspected for fuel leaks and identifiable faults in the electrical system that could result in short circuit or other unintended electrical source of ignition. Engines or machinery showing any signs of leakage or electrical fault may not be transported.

(2) The fuel tanks of an engine or machinery powered by liquid fuel may not be more than one-fourth full.

(3) Whenever possible, each engine or machinery must be stowed to allow for its inspection during transportation.

(b) All equipment used for handling engines or machinery must be designed

so that the fuel tank and the fuel system of the engines or machinery are protected from stress that might cause rupture or other damage incident to handling.

(c) Two hand-held, portable, dry chemical fire extinguishers of at least 4.5 kg (10 pounds) capacity each must be separately located in an accessible location in each hold or compartment in which engine or machinery is stowed.

(d) “NO SMOKING” signs must be conspicuously posted at each access opening to the hold or compartment.

(e) Each portable electrical light, including a flashlight, used in the stowage area must be an approved, explosion-proof type. All electrical connections for any light must be made to outlets outside the space in which any engine or machinery is stowed.

(f) Each hold or compartment must be ventilated and fitted with an overhead water sprinkler system or fixed fire extinguisher system.

(g) Each hold or compartment must be equipped with a smoke or fire detection system capable of alerting personnel on the bridge.

(h) All electrical equipment in the hold or compartment other than fixed explosion-proof lighting must be disconnected from its power source at a location outside the hold or compartment during the handling and transportation of any engine or machinery. Where the disconnecting means is a switch or circuit breaker, it must be locked in the open position until all engines or machinery has been removed.

(i) *Exceptions.* (1) An engine or machinery is not subject to the requirements of this subchapter if the engine or machinery is empty of liquid or gaseous fuel(s), does not contain other dangerous goods, and installed batteries are protected from short circuit. An engine and machinery is considered to be empty of fuel when:

(i) For liquid fuels, the liquid fuel tank has been drained and the mechanical equipment cannot be operated due to a lack of fuel. Engine and machinery components such as fuel lines, fuel filters and injectors do not need to be cleaned, drained or purged to be considered empty of liquid fuels. In addition,

the liquid fuel tank does not need to be cleaned or purged;

(ii) For gaseous fuels, the gaseous fuel tanks are empty of liquid (for liquefied gases), the positive pressure in the tanks does not exceed 2 bar (29 psig) and the fuel shut-off or isolation valve is closed and secured; or

(iii) The engine or machinery is powered by a fuel cell engine and the engine is protected from inadvertent operation by closing fuel supply lines or by other means, and the fuel supply reservoir has been drained and sealed.

(2) An engine or machinery is not subject to the requirements of this subchapter except for §173.185 of this subchapter and the vessel stowage provisions of column (10) of table §172.101 of this subchapter, if the following are met:

(i) Any valves or openings (*e.g.* venting devices) for liquid fuels must be closed during transport;

(ii) The engines or machinery must be oriented to prevent inadvertent leakage of dangerous goods and secured by means capable of restraining the engines or machinery to prevent any shifting during transport which would change the orientation or cause them to be damaged;

(iii) For UN 3528 and UN 3530:

(A) Where the engine or machinery contains more than 60 L (16 Gal) of liquid fuel and has a capacity of not more than 450 L (119 Gal), it shall be labeled in accordance with subpart E of part 172 of this subchapter;

(B) Where the engine or machinery contains more than 60 L of liquid fuel and has a capacity of more than 450 L (119 Gal) but not more than 3,000 L (793 Gal), it shall be labeled on two opposing sides in accordance with §172.406(e) of this subchapter;

(C) Where the engine or machinery contains more than 60 L (16 Gal) of liquid fuel and has a capacity of more than 3,000 L (793 Gal), it shall be placarded on two opposing sides in accordance with subpart F of part 172 of this subchapter; and

(D) For UN 3530 the marking requirements of §172.322 of this subchapter also apply.

(iv) For UN 3529:

(A) Where the fuel tank of the engine or mechanical equipment has a water

capacity of not more than 450 L (119 Gal), the labeling requirements of subpart E of part 172 of this subchapter shall apply;

(B) Where the fuel tank of the mechanical equipment has a water capacity of more than 450 L (119 Gal) but not more than 1,000 L (264 Gal), it shall be labeled on two opposing sides in accordance with §172.406(e) of this subchapter;

(C) Where the fuel tank of the mechanical equipment has a water capacity of more than 1,000 L (264 Gal), it shall be placarded on two opposing sides in accordance with subpart F of part 172 of this subchapter.

(v) Except for engines or machinery offered in accordance with paragraph (i)(1) of this section, a shipping paper prepared in accordance with part 172 of this subchapter is required and shall contain the following additional statement "Transport in accordance with §176.906." For transportation in accordance with the IMDG Code (IBR, see §171.7 of this subchapter) the following alternative statement is authorized "Transport in accordance with IMDG Code special provision 363."

(j) Except as provided in §173.220(f) of this subchapter, the provisions of this subchapter do not apply to items of equipment such as fire extinguishers, compressed gas accumulators, airbag inflators and the like which are installed in the engine or machinery if they are necessary for the operation of the engine or machinery, or for the safety of its operator or passengers.

[82 FR 15894, Mar. 30, 2017, as amended at 85 FR 83402, Dec. 21, 2020]

#### § 176.907 Polymeric Beads and Plastic Molding Compounds.

(a) When transported in cargo transport units, the cargo transport units must provide an adequate exchange of air in the unit. This adequate exchange of air may be accomplished by utilizing a ventilated container, an open-top container, or a container in one door off operation. When cargo transport units with venting devices are used these devices should be kept clear and operable. If mechanical devices are used for ventilation, they must be explosion-proof.