

(d) The spacing between letters must be:

- (1) 1.3 cm (½ in.) between letters of the same word on the sign;
- (2) 5.1 cm (2 in.) between words;
- (3) 5.1 cm (2 in.) between lines; and
- (4) 5.1 cm (2 in.) at the borders of the sign.

(e) The words “No Smoking” and “No Open Lights” may be omitted when the cargoes on board a vessel are not flammable.

(f) When a vessel carries or transfers vinyl chloride, the warning sign under paragraph (b) of this section must also have the words “Cancer Suspect Agent.”

**§ 154.1831 Persons in charge of transferring liquid cargo in bulk or preparing cargo tanks.**

(a) The owner and operator of the vessel, and his or her agent, and each of them, shall ensure that—

(1) Enough “Tankerman-PICs” or restricted “Tankerman-PICs”, and “Tankerman-Assistants”, authorized for the classification of cargo carried, are on duty to safely conduct a transfer of liquid cargo in bulk or a cool-down, warm-up, gas-free, or air-out of each cargo tank;

(2) Each transfer of liquid cargo in bulk, and each cool-down, warm-up, gas-free, or air-out of a cargo tank, is supervised by a person designated as a person in charge of the transfer that possesses the qualifications required by 33 CFR 155.710;

(3) On each foreign tankship, the person in charge of either a transfer of liquid cargo in bulk or a cool-down, warm-up, gas-free, or air-out of a cargo tank possesses the qualifications required by 33 CFR 155.710;

(4) When cargo regulated under this part is being transferred, the person in charge of the transfer has received special training in the particular hazards associated with the cargo and in all special procedures for its handling; and

(5) On each foreign vessel, the person in charge understands his or her responsibilities as described in this subchapter.

(b) Upon request by the Officer in Charge, Marine Inspection, in whose zone the transfer will take place, the owner and operator of the vessel, and

his or her agent, and each of them, shall provide documentary evidence that the person in charge has received the training specified by paragraph (a)(4) of this section and is capable of competently performing the procedures necessary for the cargo.

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**§ 154.1834 Cargo transfer piping.**

The person in charge of cargo transfer shall ensure that cargo is transferred to or from a cargo tank only through the cargo piping system.

**§ 154.1836 Vapor venting as a means of cargo tank pressure and temperature control.**

When the vessel is on the navigable waters of the United States, the master shall ensure that the cargo pressure and temperature control system under §§154.701 through 154.709 is operating and that venting of cargo is unnecessary to maintain cargo temperature and pressure control, except under emergency conditions.

**§ 154.1838 Discharge by gas pressurization.**

The person in charge of cargo transfer may not authorize cargo discharge by gas pressurization unless:

(a) The tank to be offloaded is an independent tank type B or C;

(b) The pressurizing medium is the cargo vapor or a nonflammable, nontoxic gas that is inert with the cargo; and

(c) The pressurizing line has:

(1) A pressure reducing valve that has a setting that is 90 percent or less of the tank’s relief valve setting; and

(2) A manual control valve between the pressure reducing valve and the tank.

**§ 154.1840 Protective clothing.**

The person in charge of cargo transfer shall ensure that each person involved in a cargo transfer operation, except those assigned to gas-safe cargo control rooms, wears protective clothing.

**§ 154.1842 Cargo system: Controls and alarms.**

The master shall ensure that the cargo emergency shut-down system