

**§ 148.325**

(c) During the voyage, the temperature of the tankage must be monitored often enough to detect spontaneous heating.

**§ 148.325 Wood chips; wood pellets; wood pulp pellets.**

(a) This part applies to wood chips and wood pulp pellets in bulk that may oxidize, leading to depletion of oxygen and an increase in carbon dioxide in the cargo hold.

(b) No person may enter a cargo hold containing wood chips, wood pellets, or wood pulp pellets, unless—

(1) The atmosphere in the cargo hold has been tested and contains enough oxygen to support life; or

(2) The person entering the cargo hold is wearing the appropriate self-contained breathing apparatus.

**§ 148.330 Zinc ashes; zinc dross; zinc residues; zinc skimmings.**

(a) The shipper must inform the cognizant Coast Guard Captain of the Port in advance of any cargo transfer operations involving zinc ashes, zinc dross, zinc residues, or zinc skimmings (collectively, “zinc material”) in bulk.

(b) Zinc material must be aged by exposure to the elements for at least one year before shipment in bulk.

(c) Before loading in bulk, zinc material must be stored under cover for a period of time to ensure that it is as dry as practical. No zinc material that is wet may be accepted for shipment.

(d) Zinc material may not be loaded in bulk if its temperature is greater than 11.1 °C (52 °F) in excess of the ambient temperature.

(e) Paragraphs (e)(1) through (e)(5) of this section apply only when zinc materials are carried by a cargo vessel:

(1) Zinc material in bulk must be stowed in a mechanically ventilated hold that—

(i) Is designed for at least one complete air change every 30 minutes based on the empty hold;

(ii) Has explosion-proof motors approved for use in Class I, Division 1, Group B atmospheres or equivalent motors approved by the vessel’s flag state administration for use in hydrogen atmospheres; and

(iii) Has nonsparking fans.

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(2) Combustible gas detectors capable of measuring hydrogen concentrations of 0 to 4.1 percent by volume must be permanently installed in holds that will carry zinc material. If the concentration of hydrogen in the space above the cargo exceeds 1 percent by volume, the ventilation system must be run until the concentration drops below 1 percent by volume.

(3) Thermocouples must be installed approximately 6 inches below the surface of the zinc material or in the space immediately above the zinc material. If an increase in temperature is detected, the mechanical ventilation system required by paragraph (d) of this section must be used until the temperature of the zinc material is below 55 °C (131 °F).

(4) Except as provided in paragraph (e)(5) of this section, the cargo hatches of holds containing zinc material must remain sealed to prevent the entry of seawater.

(5) If the concentration of hydrogen is near 4.1 percent by volume and increasing, despite ventilation, or the temperature of the zinc material reaches 65 °C (150 °F), the cargo hatches should be opened provided that weather and sea conditions are favorable. When hatches are opened take care to prevent sparks and minimize the entry of water.

**Subpart F—Additional Special Requirements**

**§ 148.400 Applicability.**

Unless stated otherwise, the requirements of this subpart apply only to the shipment or loading of materials, listed in Table 148.10 of this part, for which Table 148.10 contains a reference to a section or paragraph of this subpart.

**§ 148.405 Sources of ignition.**

(a) Except in an emergency, no welding, burning, cutting, chipping, or other operations involving the use of fire, open flame, sparks, or arc-producing equipment, may be performed in a cargo hold containing a Table 148.10 material or in an adjacent space.

(b) A cargo hold or adjacent space must not have any flammable gas concentrations over 10 percent of the LFL