needed within the laboratory, the cylinders may be temporarily installed in the laboratory, provided no more than one (1) cylinder of each gas is in the laboratory simultaneously. When transporting compressed gas cylinders to, from, or within the vessel, the cylinder valves shall be capped or otherwise protected in accordance with 49 CFR 173.301(g).

(b) Cylinders temporarily installed in the laboratory shall be securely stowed for sea. Appropriate safety signs shall be displayed and safety precautions observed.

(c) Oxygen and acetylene cylinders for use in ship’s maintenance shall not be stored in the laboratory.

(d) Systems providing gas for bunsen burners or similar semipermanent/permanent installations shall be installed in accordance with subpart 195.03 of part 195.

§ 194.20–19 Electrical.

(a) All electrical equipment located within 18 inches of the deck of the chemical laboratory shall be in accordance with the applicable requirements of Subchapter J (Electrical Engineering) of this chapter for Class I, Division 2, hazardous locations. Electrical equipment located 18 inches or more above the deck may be of a type suitable for wet or dry locations in accordance with Subchapter J.

§ 194.20–3 Responsibility.

(a) With the knowledge and approval of the master the senior member of the scientific party embarked may supervise the safety and operation of the chemical storerooms.

(b) The chemical storeroom supervisor shall:

(1) Maintain the highest standards of safe working conditions.

(2) Provide safeguards against hazardous undertakings.

(3) Educate personnel working in, and near, the storeroom to be alert for hazards.

§ 194.20–5 Ventilation.

(a) Chemical storerooms shall be equipped with a power ventilation system of exhaust type. The system shall have a capacity sufficient to effect a complete change of air in not more than 4 minutes based upon the volume of the compartment.

(1) Power ventilation units shall have nonsparking impellers and shall not produce a source of vapor ignition in either the compartment or the ventilation system associated with the compartment.

(2) This ventilation system shall be independent of any other ventilation system. It shall serve no other space in

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§ 194.20–7 Fire protection.

(a) Each chemical storeroom shall be protected by a fixed automatic carbon dioxide extinguishing system installed in accordance with subpart 193.15 of part 193 of this subchapter.

(b) Portable fire extinguishers are required in accordance with Table 193.50–10(a) of this subchapter.

§ 194.20–9 Storage.

(a) Chemical stores shall be stored in the chemical storeroom as prescribed in §194.05–1(b).

(b) All items stored in the storeroom shall be secured against shifting and with due consideration for chemical compatibility and safety standards.

(1) Items shall not be stowed on the deck.

(2) Shelving shall be so constructed as to provide a clear space of at least 4 inches between the bottom shelf and the deck.

§ 194.20–11 Flushing systems.

(a) Provision shall be made for flushing away chemical spills.

(b) If a drainage system is installed, it shall be separate from any other drainage system.

§ 194.20–15 Chemical stores other than compressed gases.

(a) Flammable liquids are excluded from the storeroom unless contained in properly marked and labeled metal safety cans not in excess of 5 gallons of each kind. Refer to subpart 194.05 for applicable requirements governing quantities greater than 5 gallons.

(b) Combustible liquids in approved portable drums, barrels or containers not in excess of 55 gallons of each kind may be stored in the storeroom. Refer to subpart 194.05 for applicable requirements governing quantities greater than 55 gallons.

(c) Containers when used for dispensing flammable and combustible liquids shall be equipped with automatic closing valves.

(d) Poisons listed in 49 CFR part 172 may be stored in approved containers in the chemical storeroom.

(e) Explosives and oxidizing materials not for use in the chemical laboratory shall not be stored in the chemical storeroom.

(f) Chemical stores specifically mentioned in 49 CFR part 172 may be carried in the chemical storeroom.


§ 194.20–17 Compressed gases.

(a) Nonflammable compressed gases (excluding oxygen) may be securely stowed in the storeroom: Provided, That no more than eight (8) cylinders total are stowed simultaneously in the same chemical storeroom.

(b) Flammable compressed gases and oxygen shall be stowed in accordance with 49 CFR part 176, subpart H.

(c) Compressed gas cylinders shall have valve protection in accordance with 49 CFR 173.301(g) and shall be safely stowed in a vertical position in suitable racks.


§ 194.20–19 Piping and electrical requirements.

(a) Piping, electrical equipment, and wiring shall not be installed within or