

(4) Metal parts of spray booths, exhaust ducts, piping and airless high-pressure spray guns and conductive objects being sprayed shall be grounded.

(5) Electric motors driving exhaust fans shall not be located inside booths or ducts.

(6) Belts shall not enter ducts or booths unless the belts are completely enclosed.

(7) Exhaust ducts shall be made of steel, shall have sufficient access doors to permit cleaning, and shall have a minimum clearance of 18 inches (0.46m) from combustible materials. Any installed dampers shall be fully opened when the ventilating system is operating.

(8) Spray booths shall not be alternately used to spray different types of coating materials if the combination of the materials may spontaneously ignite unless deposits of the first material are removed from the booth and from exhaust ducts before spraying of the second material begins.

[48 FR 30909, July 5, 1983, as amended at 65 FR 40942, June 30, 2000]

#### § 1917.154 Compressed air.

Employees shall be protected by chip guarding and personal protective equipment complying with the provisions of subpart E of this part during cleaning with compressed air. Compressed air used for cleaning shall not exceed a pressure of 30 psi. Compressed air shall not be used to clean employees.

#### § 1917.155 Air receivers.

(a) *Application.* This section applies to compressed air receivers and equipment used for operations such as cleaning, drilling, hoisting and chipping. It does not apply to equipment used to convey materials or in such transportation applications as railways, vehicles or cranes.

(b) *Gauges and valves.* (1) Air receivers shall be equipped with indicating pressure gauges and spring-loaded safety valves. Safety valves shall prevent receiver pressure from exceeding 110 percent of the maximum allowable working pressure.

(2) No other valves shall be placed between air receivers and their safety valves.

#### § 1917.156 Fuel handling and storage.

(a) *Liquid fuel.* (1) Only designated persons shall conduct fueling operations.

(2) In case of spillage, filler caps shall be replaced and spillage disposed of before engines are started.

(3) Engines shall be stopped and operators shall not be on the equipment during refueling operations.

(4) Smoking and open flames shall be prohibited in areas used for fueling, fuel storage or enclosed storage of equipment containing fuel.

(5) Equipment shall be refueled only at designated locations.

(6) Liquid fuels not handled by pump shall be handled and transported only in portable containers or equivalent means designed for that purpose. Portable containers shall be metal, have tight closures with screw or spring covers and shall be equipped with spouts or other means to allow pouring without spilling. Leaking containers shall not be used.

(7) Flammable liquids may be dispensed in the open from a tank or from other vehicles equipped for delivering fuel to another vehicle only if:

(i) Dispensing hoses do not exceed 50 feet (15.24 m) in length; and

(ii) Any powered dispensing nozzles used are of the automatic-closing type.

(8) Liquid fuel dispensing devices shall be provided with an easily accessible and clearly identified shut-off device, such as a switch or circuit breaker, to shut off the power in an emergency.

(9) Liquid fuel dispensing devices, such as pumps, shall be mounted either on a concrete island or be otherwise protected against collision damage.

(b) *Liquefied gas fuels*—(1) *Fueling locations.* (i) Liquefied gas powered equipment shall be fueled only at designated locations.

(ii) Equipment with permanently mounted fuel containers shall be charged outdoors.

(iii) Equipment shall not be fueled or stored near underground entrances, elevator shafts or other places where gas or fumes might accumulate.

(2) *Fuel containers.* (i) When removable fuel containers are used, the escape of fuel when containers are exchanged shall be minimized by:

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(A) Automatic quick-closing couplings (closing in both directions when uncoupled) in fuel lines; or

(B) Closing fuel container valves and allowing engines to run until residual fuel is exhausted.

(ii) Pressure-relief valve openings shall be in continuous contact with the vapor space (top) of the cylinder.

(iii) Fuel containers shall be secured to prevent their being jarred loose, slipping or rotating.

(iv) Containers shall be located to prevent damage to the container. If located within a compartment, that compartment shall be vented. Containers near the engine or exhaust system shall be shielded against direct heat radiation.

(v) Container installation shall provide the container with at least the vehicle's road clearance under maximum spring deflection, which shall be to the bottom of the container or to the lowest fitting on the container or housing, whichever is lower.

(vi) Valves and connections shall be protected from contact damage. Permanent protection shall be provided for fittings on removable containers.

(vii) Defective containers shall be removed from service.

(3) *Fueling operations.* (i) To the extent applicable, fueling operations for liquefied gas fuels shall also comply with paragraph (a) of this section.

(ii) Using matches or flames to check for leaks is prohibited.

(iii) Containers shall be examined before recharging and again before reuse for the following:

(A) Dents, scrapes and gouges of pressure vessels;

(B) Damage to valves and liquid level gauges;

(C) Debris in relief valves;

(D) Leakage at valves or connections; and

(E) Deterioration or loss of flexible seals in filling or servicing connections.

(4) *Fuel storage.* (i) Stored fuel containers shall be located to minimize exposure to excessive temperatures and physical damage.

(ii) Containers shall not be stored near exits, stairways or areas normally used or intended for egress.

(iii) Outlet valves of containers in storage or transport shall be closed. Relief valves shall connect with vapor spaces.

(5) *Vehicle storage and servicing.* (i) Liquefied gas fueled vehicles may be stored or serviced inside garages or shops only if there are no fuel system leaks.

(ii) Liquefied gas fueled vehicles under repair shall have container shut-off valves closed unless engine operation is necessary for repairs.

(iii) Liquefied gas fueled vehicles shall not be parked near open flames, sources of ignition or unventilated open pits.

[48 FR 30909, July 5, 1983, as amended at 62 FR 40202, July 25, 1997; 65 FR 40943, June 30, 2000]

§ 1917.157 **Battery charging and changing.**

(a) Only designated persons shall change or charge batteries.

(b) Battery charging and changing shall be performed only in areas designated by the employer.

(c) Smoking and other ignition sources are prohibited in charging areas.

(d) Filler caps shall be in place when batteries are being moved.

(e) Parking brakes shall be applied before batteries are charged or changed.

(f) When a jumper battery is connected to a battery in a vehicle, the ground lead shall connect to ground away from the vehicle's battery. Ignition, lights and accessories on the vehicle shall be turned off before connections are made.

(g) Batteries shall be free of corrosion buildup and cap vent holes shall be open.

(h) Adequate ventilation shall be provided during charging.

(i) Facilities for flushing the eyes, body and work area with water shall be provided wherever electrolyte is handled, except that this requirement does not apply when employees are only checking battery electrolyte levels or adding water.

(j) Carboy tilters or siphons shall be used to handle electrolyte in large containers.