

Cal OSHA Standards

California Code of Regulations - General Industry Safety Orders

Subchapter 7 Group 9 Compressed Gas and Air Equipment Article

4650. Storage, Handling, and Use of Cylinders

(a) Cylinders of compressed gas shall be stored in areas where they are protected from external heat sources such as flame impingement, intense radiant heat, electric arc, or high temperature steam lines.

(b) Inside of buildings, cylinders shall be stored in a well-protected, well-ventilated, dry location, at least 20 feet from highly combustible materials such as oil or excelsior. Assigned storage spaces shall be located where cylinders will not be damaged by passing or falling objects, or subject to tampering by unauthorized persons. Note: Cylinders should be stored in definitely assigned places away from elevators, stairs, or gangways.

(c) Cylinders shall not be kept in unventilated enclosures such as lockers and cupboards.

Exception: Cylinders of fire suppressant gases.

(d) Oxygen cylinders in storage shall be separated from fuel gas cylinders or combustible materials (especially oil or grease) a minimum distance of 20 feet or by a non-combustible barrier at least 5 feet high, or a minimum of 18 inches (46 centimeters) above the tallest cylinder and having a fire-resistance rating of at least one hour.

(e) Compressed gas cylinders shall be stored or transported in a manner to prevent them from creating a hazard by tipping, falling or rolling. Liquefied fuel-gas cylinders shall be stored or transported in a position so that the safety relief device is in direct contact with the vapor space in the cylinder at all times.

(f) All cylinders which are designed to accept valve protection devices shall be equipped with such devices when the cylinders are not in use or connected for use.

(g) Unless cylinders are secured on a special truck or rack, regulators shall be removed and valve-protection devices, when provided for, shall be put in place before cylinders are moved.

(h) Compressed gas cylinders in portable service shall be conveyed by suitable trucks to which they are securely fastened; and all gas cylinders in service shall be securely held in substantial racks or secured to other rigid structures so that they will not fall or be knocked over.

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Exception: When it is not practicable to transport cylinders by truck, nor to bring in racks to point of operation, as in some construction work, cylinders may be carried in, and properly secured in an adequate manner. For short distances, cylinders may be moved by tilting and rolling them on their bottom edges.

(i) Gas cylinders transported by crane, hoist or derrick must be handled in suitable cradles, nets or skip boxes, and shall never be lifted by magnet or by slings, unless the slings are designed and constructed to prevent accidental release of the cylinders.

(j) Valve protection devices shall not be used for lifting cylinders.

Exception: Valve protection devices may be used for manual lifting if they were designed for that purpose.

Bars shall not be used under valves or valve protection caps to pry cylinders loose when frozen to the ground or otherwise fixed; the use of warm (not boiling) water is recommended. Note: Valve protection devices are designed to protect cylinder valves from damage.

(k) Cylinder valves shall be closed before moving cylinders.

(l) Cylinder valves shall be closed when work is finished.

(m) Valves of empty cylinders shall be closed.

(n) Cylinders shall not be dropped or struck or permitted to strike each other violently.

(o) Cylinder valves not provided with fixed handwheels shall have keys or handles on valve spindles or stems while cylinders are in service. In multiple cylinder installations only one key or handle is required for each manifold.

(p) Leaking regulators, cylinder valves, hose, piping systems, apparatus and fittings shall not be used. Note: (1) Cylinder valves shall not be tampered with nor should any attempt be made to repair them. If trouble is experienced, the supplier should be sent a report promptly indicating the character of the trouble and the cylinder's serial number. Supplier's instructions as to its disposition shall be followed. Note: (2) Complete removal of the stem from a diaphragm-type cylinder valve shall be avoided.

(q) Cylinders shall never be used as rollers or supports, whether full or empty.

(r) Cylinders must not be placed where they might form part of an electric circuit.

(s) No one shall use a cylinder's contents for purposes other than those intended by the supplier.

(t) Acetylene shall never be brought into contact with unalloyed copper, except in a blowpipe or torch.

(u) When flammable gas lines or other parts of equipment are being purged of air or gas, open lights or other sources of ignition shall not be permitted near uncapped openings

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<http://www.dir.ca.gov/samples/search/query.htm>

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