

Reference

OSHA <https://www.osha.gov/laws-regs/standardinterpretations/2005-01-19>

Question: Regarding OSHA's construction standards for securing compressed gas cylinders, I remember being told that the standard was intended to prevent explosive venting of a cylinder if it fell. This was because the cylinder could become a dangerous flying projectile if the valve was damaged. I have enclosed an article by a former Compressed Gas Association official stating that, by design, a cylinder with a broken valve would spin but have insufficient thrust to become airborne. Does this render OSHA's standard for securing these cylinders unnecessary?

Answer: OSHA's construction standard for storing compressed gas cylinders (for welding) are addressed in §1926.350(a), which states in part:

§1926.350 Gas welding and cutting.

(a) *Transporting, moving, and storing compressed gas cylinders.*

(1) **Valve protection caps shall be in place and secured.**

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(6) Unless cylinders are firmly secured on a special carrier intended for this purpose, **regulators shall be removed and valve protection caps put in place before cylinders are moved.**

(7) A suitable cylinder truck, chain, or other steadying device shall be used to keep cylinders from being knocked over while in use.

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(9) **Compressed gas cylinders shall be secured in an upright position at all times except, if necessary, for short periods of time while cylinders are actually being hoisted or carried.**

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(11) **Inside of buildings,** cylinders shall be stored in a well-protected, well-ventilated, dry location, at least 20 feet (6.1 m) from highly combustible materials such as oil or excelsior. Cylinders should be stored in definitely assigned places away from elevators, stairs, or gangways. Assigned storage places shall be located where cylinders will not be knocked over or damaged by passing or falling objects, or subject to tampering by unauthorized persons. Cylinders shall not be kept in unventilated enclosures such as lockers and cupboards.

(12) The in-plant handling, storage, and utilization of all compressed gases in cylinders, portable tanks, rail tankcars, or motor vehicle cargo tanks shall be in accordance with Compressed Gas Association Pamphlet P-1-1965.

The provisions in §1926.350(a) are derived from the 1967 American National Standards Institute, Z49.1-1967, Safety in Welding and Cutting, consensus standard. One of the most significant hazards addressed in that consensus standard and the OSHA provisions set out above is the potential of fire and/or explosion. Consequently, there is a strong basis for the standard irrespective of whether there is a hazard of a compressed gas cylinder that falls and breaks off its valve to become an airborne projectile. ¹