# For**OSHA on Forklift Battery Changing Stations and Workplace Safety**

[June 6, 2018](https://na.bhs1.com/osha-on-forklift-battery-changing-stations-and-workplace-safety/)

The Occupational Safety and Health Administration (OSHA) addresses industrial battery changing in Parts [1910](https://www.osha.gov/pls/oshaweb/owasrch.search_form?p_doc_type=STANDARDS&p_toc_level=1&p_keyvalue=1910) and [1926](https://www.osha.gov/pls/oshaweb/owasrch.search_form?p_doc_type=STANDARDS&p_toc_level=1&p_keyvalue=1926). More specifically, [29 CFR 1910.178(g)](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9828) and [29 CFR 1910.305(j)(7)](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9882) address changing and storage of industrial batteries while [29 CFR 1926.441](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10742) lists required safety measures during charging. Here’s a summary of the federal code.

**The Battery-Changing Procedure**

The change-out itself can be a dangerous process if safety procedures aren’t followed. [29 CFR 1910.178(g)(8)](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9828#1910.178(g)(8)) reminds operators to position the truck properly and apply brakes before beginning the change-out. This allows staff to safely remove the drained battery from the lift truck.

The most serious danger comes from the forklift battery itself. Industrial batteries are extremely heavy and can cause everything from [musculoskeletal disorders](https://www.cdc.gov/niosh/programs/msd/default.html) to grievous injuries if the proper equipment isn’t used. [29 CFR 1910.178(g)(4)](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9828#1910.178(g)(4)) mandates using a lifting beam or other material handling equipment that will securely lift the battery without requiring awkward movements from workers. OSHA prohibits the use of a chain with two hooks since the uneven forces will cause distortion and internal damage to the battery.

OSHA also mandates that there be a designated battery-charging area, and that area has a number of safety requirements.

**The Battery-Charging Area**

OSHA requires a blend of preventive and response equipment in all battery-charging areas. A [fire extinguisher](https://na.bhs1.com/products/accessories/safety-alarms-response/fire-extinguisher-cabinet/), phone, [eyewash station](https://na.bhs1.com/products/accessories/eye-safety-stations/shower-eye-wash/) (with at least 15 minutes of flow), and [neutralization materials](https://na.bhs1.com/products/accessories/battery-spill-kits/) must be readily available in this area. Smoking should be prohibited and [no smoking signs](https://na.bhs1.com/products/accessories/signage-posting/) must be posted to prevent accumulated hydrogen from exploding. [29 CFR 1910.305(j)(7)](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9882) requires adequate [ventilation](https://na.bhs1.com/products/ventilation/) in storage areas to disperse flammable hydrogen gas.

On top of all of these safety measures, OSHA requires that battery chargers be protected from collisions by lift trucks. [Protective Rails](https://na.bhs1.com/products/accessories/structural-barrier/protective-rails/) and [Structural Bollards](https://na.bhs1.com/products/accessories/structural-barrier/structural-bollards/) are popular options for protecting chargers.

**The Battery-Charging Procedure**

We mentioned that smoking is prohibited in battery-charging areas, but there are even more preventive measures required by OSHA for eliminating hydrogen gas explosions. [29 CFR 1910.178(g)(11-12)](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9828#1910.178(g)(11)) warns workers to keep any sparks or open flames from the area. The code specifically mentions removing any metallic jewelry and keeping metal tools away from the tops of uncovered batteries to prevent sparks.

Furthermore, [29 CFR 1910.178(g)(7)](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9828#1910.178(g)(7)) reminds workers to never pour water into acid; rather, it is safer to pour acid into water. Staff should also ensure that vent caps are functioning properly and that battery covers are open to facilitate heat dispersal.

To prevent boilovers, staff should add distilled or deionized water *after* charging. Using a [Water Gun](https://na.bhs1.com/products/accessories/battery-watering-devices/water-guns/) with an automatic shutoff is the easiest way to ensure a properly filled battery. Per [29 CFR 1926.441](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10742), operators should wear acid-resistant goggles, gloves, aprons, and boots while adding water to batteries to prevent exposure to sulfuric acid.

**Compliance with OSHA requirements may seem overwhelming at times.**

However, there are many resources to help. Besides the code itself, OSHA offers eTools, [like this one](https://www.osha.gov/SLTC/etools/pit/forklift/electric.html), which convey their standards in layman’s terms. Managers can also contact a [local OSHA office](https://www.osha.gov/html/RAmap.html) for more help with compliance.

**References:**

“[29 CFR 1910.178(g)](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9828#1910.178(g)(4))*.*” *OSHA*. Occupational Safety and Health Administration, United States Department of Labor, n.d. Web. 17 Apr. 2018.

“[29 CFR 1910.305(j)(7)](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9882)*.*” *OSHA*. Occupational Safety and Health Administration, United States Department of Labor, n.d. Web. 17 Apr. 2018.

“[29 CFR 1926.441](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10742).” *OSHA*. Occupational Safety and Health Administration, United States Department of Labor, n.d. Web. 17 Apr. 2018.

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