

Forklift Batteries and Propane

About 8 minutes to deliver

Charging makes hydrogen, batteries carry acid and enough current to weld a ring to your hand, and a propane cylinder gets changed outside.

The battery room and the propane rack are where forklift injuries happen that have nothing to do with driving.

CHARGING MAKES HYDROGEN

A lead-acid battery on charge gives off hydrogen, and hydrogen ignites at a very low concentration from a very small spark.

1910.178(g) requires charging in a designated area with adequate ventilation to disperse fumes from gassing batteries, plus facilities for flushing and neutralising spilled electrolyte and for fire protection.

- No smoking, no open flame, no grinding or welding in a charging area. Signed and meant.
- Ventilation runs. If the extract is off, charging stops.
- Turn the charger off before you connect or disconnect. Breaking a connection under load arcs, and that arc is in the hydrogen.
- Keep the vent caps in place while charging.

THE ACID

- Eye protection and a face shield, apron and gauntlets when handling electrolyte or topping up.
- Water into acid, never acid into water. Reversed, it boils and throws acid out of the container.
- Top up after charging, not before. The level rises as it charges and it will overflow.
- An eyewash and drench facility within the area — 1910.151(c) requires it, and this is exactly the case it was written for.
- Spill neutraliser on hand, and know where it is.

THE CURRENT

A forklift battery will deliver hundreds of amps into a short.

- No metal on the battery. Never lay a wrench or a bar across the terminals.
- Rings, watches, chains and bracelets come off before you go near one. A ring across a terminal heats to red in seconds and cannot be got off — this is one of the ugliest injuries in the trade.
- Use insulated tools.
- Batteries weigh as much as a small car. 1910.178(g)(4) requires a hoist, conveyor or equivalent for handling them, and the truck gets braked and blocked while a battery is changed.

PROPANE

- Change cylinders outdoors or in a well-ventilated area, engine off, no ignition sources. LP gas is heavier than air and settles into pits, trenches and floor drains.
- Close the service valve and let the engine run out of fuel before disconnecting where the manufacturer says to.
- Check the hose and connector every change. Soapy water for leaks, never a flame.
- Cylinder mounted the right way round — the locating pin engaged, the pressure relief valve in the correct position. A cylinder fitted upside down discharges liquid propane.
- If you smell gas, shut it off and get clear. Do not start the truck to move it.

AND THE GENERAL RULE

1910.178(p)(1): a truck found to be in need of repair, defective, or in any way unsafe is taken out of service until it is put right.

ASK THE CREW

- Is the charging area ventilated, and does anyone charge outside it?
- Does anyone here wear a ring while changing a battery?
- Where do we change propane cylinders, and is there a drain or a pit near it?

29 CFR 1910.178 · 29 CFR 1910.110

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ATTENDANCE RECORD

Forklift Batteries and Propane

About 8 minutes to deliver · 29 CFR 1910.178 · 29 CFR 1910.110

Date

Job / site

Delivered by

Company

#	Print name	Signature	Date
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I delivered this talk and determined it was suitable for this crew and this work.

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