

BATTERY CHARGING & STORAGE

REFERENCE: 29 CFR, §1910.178(g); §1910.151(c); §1910.303(j)(6); OSHA Instruction STD 1-8.2.

SUMMARY

Regulations (mostly contained in the forklift standard) provide charging and storage safety rules, as well as provisions for personal protection. Of particular concern are hazards associated with potential exposure to electrolyte and guarding against the possibility of explosion.

OSHA will evaluate the potential circumstances for employee exposure to electrolyte in electric storage battery handling, charging and maintenance areas. The amount of protection required is a subjective judgement based on several factors: (1) personal protective equipment, (2) concentration of electrolyte, (3) job function and extent of employee exposure, (4) types and sizes of batteries, and (5) special guards and equipment.

Note: Hazard Communication requirements apply (MSDS, labeling, training, personal protection, and incidental spill response.)

Caution: Charging batteries generate hydrogen gas. Appropriate precautions must be taken to prevent ignition sources.

SAFETY RULES

At a minimum, your safety rules should provide for the following:

- Designated area(s) for charging.
- Fire protection and ventilation.
- Material handling equipment for handling batteries.
- Proper position and installation in vehicle.
- Carboy tilter or siphon for handling electrolyte.
- Acid poured into water, **not** water into acid.
- Vent cap inspection. Vent caps open while charging.
- **No smoking** in charging area.
- Precautions to prevent sparks, electric arcs, other ignition sources.
- Tools and other metallic objects kept away from top of uncovered batteries.
- Emergency medical care, eye wash, and body wash equipment.

ELECTROLYTE EXPOSURE

OSHA deems use of effective personal protective equipment in combination with an eye wash and body flushing station in near proximity to the work area(s), as providing adequate minimum protection for employees.

Small exposure

In areas where the extent of possible exposure to electrolyte is small, (i.e., such as auto garages, service stations and in certain industrial and construction situations), a specially designated pressure controlled and identified water hose equipped with a proper face and body wash nozzle which will provide copious amounts of low velocity potable water, or an appropriate portable eye wash device containing not less than one gallon of potable water which is readily available and mounted for use, is considered to provide minimum employee protection when proper personal protective equipment is used.

In addition to emergency eye and/or face wash procedures, the employer must ensure that adequate provisions have been established for the emergency care of employees exposed to eye or face contact with electrolytes.

ROUTINE CHARGING

Routine battery recharging does not require emergency facilities unless potential exposure to electrolyte is substantiated.

IMPORTANT CITATIONS

- 29 CFR 1910.151(b) A person or persons adequately trained to render first aid shall be readily available in the absence of an infirmary, clinic, or hospital in near proximity to the workplace which is used for the treatment of all injured employees.
- 29 CFR 1910.151(c) Where the eyes or body of any person may be exposed to injurious corrosive materials, suitable facilities for quick drenching or flushing of the eyes and body shall be provided within the work area for immediate emergency use.
- 29 CFR 1910.132(a) Personal protective equipment for eyes, face, head, and extremities, protective clothing and protective shields and barriers, shall be provided, used and maintained in a sanitary and reliable condition wherever it is necessary by reason of chemical hazards encountered in a manner capable of causing injury or impairment in the function of any part of the body through absorption, inhalation or physical contact.