

DuPage County Environmental, Safety, Health & Property Loss Control Program Battery (Wet Cell) Safe Handling Procedure

Purpose: As lead acid batteries contain hydrogen-oxygen gases that can be explosive and sulfuric acid that can cause serious burns this procedure, if followed, can prevent injuries when maintaining lead-acid batteries.

Policy: Work on lead-acid batteries should always be performed in a well ventilated area.
Personal protective equipment described below must be worn.
Safety precautions described below must be followed.

Personal Protective Equipment: The following must be worn when checking/filling acid levels.

1. Safety shoes/boots with steel toe protection
2. Full chemical face shield
3. Non-vented chemical safety goggles
4. Long sleeve shirt and pants
5. Heavy Duty Chemical Resistant Gloves

Safety Precautions:

1. When filling a lead-acid battery always remember that acid shall be poured into water; water shall not be poured into acid
2. Never lean over battery while boosting, testing or charging
3. Never allow open flames, smoking material or sparks in vicinity of battery
4. Follow manufacturer's instructions
5. Keep vent caps tight and level after testing/filling
6. Only use prescribed moving devices when moving a battery
7. When changing or charging a battery still in a vehicle be certain vehicle is properly positioned and brake applied before attempting to change or charge batteries
8. Don't add tap water as it may contain minerals that will contaminate the electrolyte only use distilled water
9. Never allow a battery being charged to get hot to the touch or acid boiling in its cells

Environmental:

Batteries must be placed in a metal pan with a minimum of 1 inch high sides or a spillpad to contain any acid leakage. This prevents property and / or environmental damage from leaked acid and allows for proper collection and disposal of the electrolyte.

Charging Stations:

Batteries release oxygen and hydrogen gases when they are charging. This effect, called "out gassing" is more noticeable if the battery is being overcharged. In the right concentrations, these gases can be highly explosive. Due to this "out gassing" effect, charging stations should be located in well-ventilated areas, to prevent concentrations of hydrogen and oxygen from reaching volatile levels. General or local ventilation can be provided by a fume hood or an exhaust fan. If an on-board charging system is used, the vehicle itself should be parked in a location where there is adequate ventilation.

Signage for the station should read:



Acid Spill Cleanup:

Sulfuric acid is a common and hazardous component in a battery. In the event of a battery acid spill, neutralizing agents should be spread on the spill. These cleanup materials should be on hand at all times. After the spill is neutralized, it can be safely cleaned up and disposed of in accordance with Facilities Hazardous Waste removal procedure.

Only properly trained and authorized employees should perform an acid cleanup.