

## Preventing battery-related accidents.

Most battery-related accidents occur when charging, installing, removing, or maintaining batteries. You can be protected from serious injury if you wear personal protective equipment (PPE), such as chemical resistant rubber gloves, aprons, and face shields when working with batteries.

- Batteries contain acid and can explode and/or catch on fire.
  - In the event of a battery explosion or fire, acid and toxic fumes are released. When acid contacts the skin, extremely painful burns and scarring result.
  - When breathed in, the lungs can burn from the toxic chemicals present in fumes.
  - Blindness will most likely result if battery acid contacts the eye.
- These physical injuries are irreversible. Therefore, when working with batteries, it is important to prevent exposure by wearing PPE and following the proper guidelines.
- When lead-acid batteries are being charged, hydrogen gas is produced. Hydrogen gas can explode if in a high enough concentration (between 4% and 75% by volume in air). Heat and sparks can ignite the gas causing a fire or explosion. All smoking, open flames and spark producing items such as grinders, welders or other electrical equipment, should be kept well clear of batteries.
- When jump starting a vehicle, making the final connection to the negative terminal of the dead vehicle's battery can create a spark that may ignite any hydrogen gas that has built up. The final connection should be made to the dead vehicle's frame or engine block instead.

**Follow these steps when jump starting a vehicle using booster cables:**

