Electric Vehicle Safety

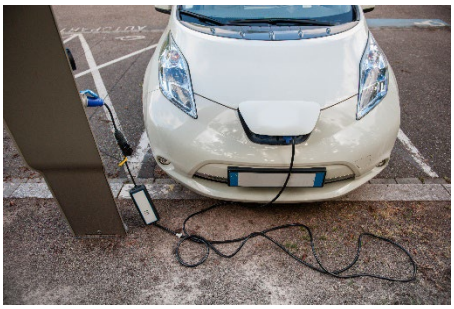
The number of Electric Vehicles (EV) on the road is rapidly increasing. EVs offer advantages but also some unique dangers, particularly their batteries. In the event of damage or fire, an electric vehicle battery can produce **electrical shock, toxic gases, and extreme heat**.

Hybrid (HEV), Plug-in Hybrid (PHEV), and Battery Electric (BEV) vehicles typically have a lithium-ion battery, which can be dangerous. Fuel Cell Electric Vehicles (FCEV) are less common and do not present the same potential battery hazards.

Identifying an electric vehicle

If you are present at an accident, it is important to be able to identify an electric vehicle. Here's how:

1. Ask the driver or passengers if possible.
2. Most EVs have exterior emblems that identify the car as a hybrid or electric.
3. EVs may have a charging port or may be missing a front grille or exhaust pipe.



Hybrid emblem

Notice the charging port just above the front tire

Safety

In the event of damage to or fire involving an Electric Vehicle:

- Always assume the battery and related parts are energized and fully charged.
- Exposed electrical components, wires, or batteries present potential shock hazard.
- Venting/off-gassing battery vapors are potentially toxic and flammable.
- Release of toxic and/or flammable gases and fire may be immediate or delayed.
- Follow local standard operating procedures (SOPs) including use of proper personal protective equipment (PPE) by someone who is trained to disconnect the battery power from the components and confirm stored energy has been dissipated before approaching the vehicle.
- Detailed guidance for First Responders can be found in the resources below.

Sources/Resources

National Highway Traffic Safety Administration https://www.nhtsa.gov/staticfiles/nvs/pdf/811575-InterimGuideHEV-HV-Batt_LawEnforce-EMS-FireDept-v2.pdf

The Fire Protection Research Foundation
https://www.energy.gov/sites/prod/files/2014/02/f8/final_report_nfpa.pdf

National Transportation Safety Board https://www.ntsb.gov/safety/safety-studies/Documents/SR2001.pdf

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