

Answering Fuel-Specific Questions: Biofuels and Gaseous Fuels

Biofuels

- **Possible question:** Biofuels such as biodiesel and ethanol are usually mixed with petroleum-based products. Doesn't this make them more dangerous than standard gasoline?
- **Recommended response:** No, an accident involving a biofuel vehicle does not present any more hazards than an incident involving conventional vehicles. The hazards may be different depending on the type of fuel, but, thanks to the NAFTC's training, first responders know how to handle these differences.
- **Possible question:** I've heard that biodiesel is made from animal fat and leftover cooking oil. Isn't that for harmful to my car and to the environment?
- **Recommended response:** No, the alcohol esters in biodiesel serve as a natural lubricant for diesel engines, and biodiesel is a cleaner burning fuel than gasoline.
- **Possible question:** Ethanol and its vapors are highly flammable. Are first responders prepared for this when arriving at an accident scene?
- **Recommended response:** Yes. If first responders are properly trained, as they will be after completing the NAFTC's training program, they will be very well prepared. The training teaches first responders how to detect an ethanol fire before even approaching the vehicle.

Gaseous Fuels

- **Possible question:** If natural gas can ignite simply with air, how is it safe to fuel vehicles?
- **Recommended response:** Just as natural gas and propane are safe to use in homes for heating and cooking, they are safe to use as fuel for a vehicle. First responders who complete the NAFTC's training program are properly trained to detect natural gas and propane fires before even approaching the vehicle.
- **Possible question:** If a gaseous fuel vehicle does catch on fire, are the methods of extinguishing the flames different than with a conventional gasoline-powered vehicle?
- **Recommended response:** Yes. During the NAFTC course, first responders learn how to extinguish natural gas and propane fires by using dry chemicals or water spray.
- **Possible question:** LNG has no odor, so how will first responders know if it is present on the scene of an accident involving an LNG vehicle?
- **Recommended response:** In most instances, unless the emergency responder comes on the scene within a few minutes of an incident, leaks from pressure relief devices in vehicles will have already vented the fuel supply, and little danger exists. The responder will listen for the sound of high-pressure gas escaping from the vent or a breach in the container. They also use special devices to detect leaks.

Answering Fuel-Specific Questions: Hydrogen and Electric Drive

Hydrogen

- **Possible question:** Is hydrogen safe as a fuel?
- **Recommended response:** Hydrogen, when handled properly, is considered as safe as gasoline. And, in most cases, it is safer. Hydrogen is comparable to natural gas (despite being odorless) in its properties, and there are many compressed natural gas vehicles on the roads today. Hydrogen fuel cell electric vehicles are safe and have been approved by United States authorities for use on our highways and are currently available for demonstrations.
- **Possible question:** Isn't hydrogen dangerous if it leaks from a tank in a vehicle? Can't it catch on fire?
- **Recommended response:** Hydrogen is stored at the rear of a vehicle, meaning it is separated from anyone in the car should there be a leak. Hydrogen is four times lighter than air, so if it does ignite, the flame will burn straight up and away from the vehicle, causing minimal damage. A hydrogen flame also burns out quickly. First responders are trained to handle these situations during the NAFTC's training.
- **Possible question:** If hydrogen FCEVs are not even commercially viable and average consumers are not driving them, why is it necessary for first responders to participate in this training?
- **Recommended response:** The world's oil supply will not indefinitely sustain all of the demand for petroleum products, so we need to work on sustainable, renewable alternatives for future generations. Hydrogen is one of the best options. Individuals in the automotive industry believe it could be 10-15 years before fuel cell electric vehicles become commercially viable. However, it is impossible to predict when we will begin to see FCEVs become commonplace, and first responders need to be prepared for hydrogen vehicles to be prevalent on the road.

Electric Drive Vehicles

- **Possible question:** Electricity and fuel in a vehicle seem to be a dangerous combination. Don't you think this shows that electric drive vehicles shouldn't be on the road?
- **Recommended response:** No, I don't. Electric drive vehicles are safe. The gasoline-powered and electric components are completely separate.
- **Possible question:** I understand that a hybrid electric vehicle can still be on, even if the gasoline engine is not running. How are first responders prepared to deal with the situation when approaching an accident?
- **Recommended response:** You are referring to "silent mode," which is a distinct characteristic of many hybrid electric vehicles. Through the NAFTC's training, first responders are taught how to handle this scenario without harming anyone.
- **Possible question:** Electric drive vehicles contain high-voltage cables that can do serious harm. How is it safe for people to drive them?
- **Recommended response:** Electric drive vehicles do contain high-voltage cables, but they are isolated, so the driver and the passenger will never come in contact with them. First responders learn, during the NAFTC's training, how to extricate people from electric drive vehicles without causing any harm to themselves or accident victims.