

## Summary Points: Fire Prevention

- Fires are divided into five different "classes"—A, B, C, D, and LFG. These classes indicate either the type of fuel involved or special dangers. The class also indicates the type of extinguishing agent to use and certain techniques that should or should not be used on that fire.
- Class A includes fires in solids such as paper, canvas, wood, rubber, etc. You normally fight these fires by removing the heat by cooling or quenching. The most common agent used in fighting this type of fire is water in its various forms.
- You should fight fires in mattresses and bedding materials with a solid stream of water. This breaks up the bedding material and allows the water to reach deeply embedded pockets of combustion. A "solid stream" of water also has the greatest "reach" or effective distance when you cannot get close enough to the fire to be effective with other agents.
- High-velocity fog is a better cooling agent than solid stream water. Use it when you do not need a long reach or the "breaking-up force" of a solid stream.
- On large fires on an open deck, Aqueous Film Forming Foam (AFFF), also known as "light water," is best suited when it is available.
- Fog is effective when used in closed spaces. High-velocity fog has a longer reach than low-velocity fog. However, low-velocity fog is a better heat absorber and often is used as a heat shield for firefighters.
- Class B fires refer to fires in liquids. These fires are most commonly extinguished by smothering or blanketing. This cuts off the supply of oxygen to the fire. Breaking the chain reaction is also used on Class B fires. Water fog can be used as well on Class B fires.
- Foam, CO<sub>2</sub>, dry chemical, and Halon can also be used on a Class B fire. However, CO and Halon should only be used in enclosed spaces since they are both gases and will dissipate (i.e., be spread too thinly to be of value) in an open area.
- Never direct a solid stream of water on burning Class B liquids since it splashes the burning liquid and causes many burning liquids to float and spread the fire.
- Class C fires are those in or around electrical equipment, gear, or wiring. The reason these fires are placed in a separate class is that they add the danger of electrical shock to persons in the area. Water-based agents cannot be used on this type of fire because water conducts electrical current. However, low-velocity fog can be used.
- CO<sub>2</sub>, Halon, and dry chemicals can be used on Class C fires. CO<sub>2</sub> and Halon are the preferred agents since they leave no residue.
- The first step in fighting a Class C fire is to secure (i.e., turn off) electrical power to the equipment or circuits on fire.
- Burning electrical insulation gives off toxic fumes. This is one reason why you must be especially careful around burning motors, generators, and transformers and wear full respiratory protection.
- Class D fires. Burning metals, such as magnesium, sodium, potassium, and aluminium constitute Class D fires. Since ships usually are not equipped to fight this type of fire, allow these fires to burn out while you protect the surrounding area.

- Liquefied Flammable Gases, (LFG) is the fifth type of fire. LFG includes Liquefied Natural Gas (LNG) and Liquefied Petroleum Gas (LPG). These gases are stored under pressure to liquefy them. When a cargo leak develops the liquid vaporizes to a gas in the atmosphere.
- You must fight LFG fires by first removing the fire's fuel by shutting it off the gas supply to the leak. Then you can extinguish the fire.