

Fire Hazard Mitigation

As in other areas of preparedness and response, CERT fire safety begins at home and at the workplace. Simple fire prevention measures will go far in reducing the likelihood of fires.

Fire prevention involves:

- Locating potential sources of ignition.
 - Taking steps to eliminate or reduce the hazards.
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Potential Fire Hazards

Many potential fire hazards in the home and workplace fall into three categories:

- Electrical Hazards
 - Natural Gas Hazards
 - Flammable Liquids
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Electrical Hazards

Electrical hazards are often caused by electrical overloads and faulty electrical appliances.

Examples of potential hazards include:

- Overloaded electrical outlets.
 - "Daisy-chained" power strips (one plugged into another).
 - Use of adapters to plug 3-prong cords into 2-prong outlets.
 - Extension cords used as permanent wiring.
 - Electrical cords under carpets or across high-traffic areas.
 - Broken or frayed electrical cords.
 - Electrical appliance left on (e.g., stove, oven, etc.)
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Mitigating Electrical Hazards

Mitigating electrical hazards involves eliminating potentially dangerous situations. The following are examples:

- Maintain electrical appliances properly. Repair or replace faulty appliances. Replace broken or frayed cords.
- Don't run electrical cords under carpets.
- Don't overload outlets.
- Use extension cords only for temporary purposes.

If you have too few outlets for your electrical needs, take the time to use them properly to avoid overloading. If you have other concerns about wiring, you may need an electrician to do a safety inspection and recommend improvements.

Potential Fire Hazards (Continued)

Responding to an Electrical Emergency

Emergencies sometimes occur despite our best efforts. In the event of an electrical emergency, you may have to shut off electricity at the electrical box.

- Know where the main fuse or circuit breaker box is.
 - Label power shutoffs for electrical appliances and different parts of your home so that you can turn off specific items or areas if necessary.
 - If you must shut off power to the building, do so in the proper order (individual switches before the main switch).
 - Never enter a flooded basement to shut off the electrical supply. Water conducts electricity!
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Electrical Shutoff Procedures

Shut off electrical power in this order:

1. Turn off all individual breakers, or unscrew all fuses.
2. Shut off the main circuit or the main fuse switch.

When you are certain that it is safe to turn the power back on, reverse the steps (main power first, then individual circuits.)

Natural Gas Hazards

Natural gas leaking into a home or workplace presents two types of hazards:

- **Asphyxiant:** Gas is an asphyxiant that robs the body of oxygen.
 - **Explosive:** Gas is an explosive that can easily ignite.
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Mitigating Natural Gas Hazards

You can take the following measures to reduce natural gas hazards:

- Install a natural gas detector near the furnace and hot water tank.
 - Test the detector monthly to ensure that it works.
 - Locate and label the gas shutoff valve(s). There may be multiple valves inside a home in addition to the main shutoff.
 - Know how to shut off the gas, and keep a shutoff wrench nearby.
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Gas Shutoff Procedures

Use a wrench to turn the valve clockwise one-quarter turn. Have a wrench stored in a specific location where it will be immediately available.

Potential Fire Hazards (Continued)

Responding to a Natural Gas Emergency

In a disaster, look for the following indicators of a natural gas problem:

- Odor of gas
- Natural gas detector indicates the presence of gas
- Indicator on the gas meter shows that gas is flowing

In these situations, do not use the phone, light switch, or anything that could ignite the gas. Turn off the meter from **outside the building**. Remember your safety and never enter the basement of a structure that is on fire to turn off any utility.

After service is turned off, it can be restored only by a trained technician.

Flammable Liquid Hazards

Many common household and office products are **flammable** or **combustible**. Flammable liquids can ignite with explosive force. The vapors—not the liquid itself—can be ignited by any open flame (a match, cigarette, or pilot light), spark, or even static electricity. The volatility of these products requires special storage and handling.

Examples of Flammable Household Products

For simplicity, we'll refer to flammable and combustible liquids simply as flammable liquids. All of these products require cautious storage and handling regardless of their flashpoint. Examples include:

- Gasoline.
- Kerosene.
- Oil.
- Charcoal lighter.
- Paint thinners and removers.
- Acetone.
- Spot removers, cleaning fluids.
- Solvents.
- Cleaning products.

Products packaged as aerosols (e.g., deodorants, hair sprays, insecticides, spray paint) can also pose a hazard if they become heated because they contain flammable propellants.

Potential Fire Hazards (Continued)

Mitigating Flammable Liquid Hazards

To minimize hazards associated with flammable liquid products:

- Read labels to identify flammable products.
 - Store them properly in approved safety containers, away from living areas.
 - Use flammable liquids in a well-ventilated area.
 - In case of fire, use a portable fire extinguisher rated for Class B fires.
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Storing Flammable Liquids

To ensure safe storage of flammable liquids, remember the acronym L.I.E.S.:

Limit: Limit the amount of flammable liquids in storage.

Isolate: Isolate products in approved containers stored in enclosed cabinets. Protect them from ignition sources. Don't store flammables in a mechanical room. Never bring gasoline indoors.

Eliminate: Eliminate products that are no longer necessary by disposing of them properly. Reduce fumes by practicing good housekeeping—wipe up spills immediately.

Separate: Separate incompatible materials (e.g., don't store flammables near corrosives).

More Fire Prevention Strategies

Eliminating fire hazards associated with electricity, natural gas, and flammable liquids will go a long way toward reducing your fire risk.

There are many other ways to improve fire safety in your home and workplace.

General Fire Prevention Strategies

- **Install smoke alarms** on every level of the home and near all sleeping areas.
 - **Conduct a home hazard hunt.** Many items and conditions around the home and workplace can present fire hazards. Taking time to look for and eliminate hazards will reduce the risk.
 - **Inspect wood stoves and chimneys annually.** Burning wood leaves flammable creosote deposits in the firebox, flue, and chimney. These buildups must be removed professionally to minimize the risk of fire.
 - **Purchase heaters only if they have been laboratory tested and approved.** Follow the manufacturer's directions for use. Plug heaters directly into a wall socket, and unplug them when they are not in use.
 - **Keep combustible materials away from heat sources,** including stoves, heaters, candles, and fireplaces. Materials such as curtains, bedding, furniture, towels, clothing, bags, and boxes can catch fire quickly. Keep them at least 3 feet away.
 - **Keep matches and lighters away from children.** Children are fascinated by fire and will play with matches and lighters if they are available.
 - **Never leave fire unattended.** A controlled fire can quickly become uncontrolled. Never leave a candle, fireplace, or space heater unattended.
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Lesson Summary

- A CERT member's fire safety role begins at home and at the workplace.
 - Electricity, natural gas, and flammable liquids can create fire hazards.
 - Taking the time to look for and eliminate fire hazards will reduce the risk.
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