

Basic Fire Safety & Suppression

Let's face it—fire is hazardous. We pay our firefighters good money for the training they undergo to face this extreme hazard and for the extreme risks they take when confronting it, and for good reason: fire suppression is difficult and dangerous.

That being said, in a disaster, firefighters and other emergency personnel may not be able to immediately respond to fires, possibly even for days. Therefore it is critical to know what you, as an average citizen, can and can't safely do when it comes to fire.

Safety First

Remember, when it comes to fire, safety is paramount. If a fire is too big for you to safely put out with water or a fire extinguisher, GET OUT and let the firefighters handle it. Possessions and buildings can be replaced—you can't.

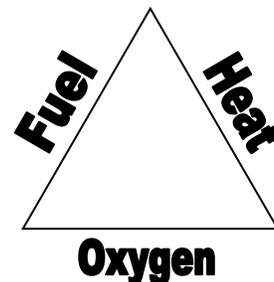
If you have a fire extinguisher on hand and know how to use it, and the fire is small enough for you to safely put it out, do so (see our "Fire Extinguishers" handout.) If you don't have an extinguisher, but you do have a garden hose or buckets and a large water source (such as a pool) available, use that instead.

Remember though, there are limitations on when water can be used to safely put out a fire. For example, gaseous fuels and some liquids, such as propane and gasoline, float on top of water, which will prevent the water from extinguishing the fire. In fact, the water may actually *spread* the fuel out, causing the fire to grow larger. In addition, if any electrically energized items (such as plugged-in televisions or battery-operated radios) are on fire, the water may actually conduct the electricity to you, causing severe injury or even death. Water can **only** be safely used when the fire consists of "ordinary combustibles," such as wood, paper, cloth, some plastics & rubbers, etc.

If you do need to put out a fire yourself, ALWAYS

keep yourself between the fire and a safe exit, so that you can quickly get out if needed. Fire is unpredictable and can grow exponentially in a matter of seconds, so you need to be able to escape.

The Fire Triangle



Fire needs three things to burn: fuel, heat, and oxygen. This is called the "fire triangle." Take away one of the sides, and the triangle collapses.

If a gas leak or propane tank leak is the source of your fire's fuel, shut off the valve to remove the fuel source before beginning active suppression efforts. If a fire starts in a pan on the stove and hasn't moved to a source outside of the pan, put a lid on it to remove the oxygen. If you can't take away the fuel source or the oxygen, you can drop the temperature of some fires by using water (remember the limitations).

Most fire extinguishers work by a combination of oxygen displacement and temperature reduction (such as CO₂ extinguishers), or by simply separating the fuel source from the air (such as dry chemical extinguishers).

Using Water

When using water to put out a fire, remember that the idea is to soak the fuel source, whether it be a wall, a curtain, a table, or anything else, so that the temperature level drops and the fire goes out.

If using a garden hose, turn the spigot all the way open. Aim at the base of the fire and soak the fuel source until the fire goes out, sweeping back and

forth to soak the whole thing. If necessary, put your thumb over the end of the hose to increase the water pressure and spread the water out over a wider area.

For buckets, get a “bucket brigade” going. Have as many people and buckets as you have available forming a line between the fire and the water source, passing empty buckets back and full buckets forward. Since fire can and does boil water and cause it to vaporize, the more buckets and people, the better. The quicker you can soak the fuel source and bring its temperature down below the combustion point, the better chance you’ll have of extinguishing the fire.

Bucket brigades will only work when the buckets can be filled quickly, such as at a pool, lake, creek, water trough, etc. Using the kitchen faucet to fill up a bucket will take too long, allowing the fire to spread beyond the ability of a bucket of water to extinguish.

During a Disaster

Sometimes during disasters we, as average citizens, are required to take action that is normally reserved for emergency personnel. Fire suppression on anything more than a small scale (such as a trashcan) is one such example.

When dealing with a moderate to large scale fire, ask yourself the following questions:

- Is this fire something that I can reasonably control with the help of those around me?
- Is this fire the result of something other than a natural gas or propane leak that I can’t stop by turning off the valve?
- Can I fight this fire from outside the building?
- Will the safety of others remain intact while I fight this fire?

If the answer to any of the above questions is “NO,” then you likely cannot safely control or extinguish the fire. Remember: your safety **MUST** come first, to avoid adding to a list of potential victims.

If the fire is the result of a gas leak, shut off the gas (if you can) and evacuate the building. Shut all doors on your way out to create containment

zones, which will slow down or limit the spread of the fire.

ABSOLUTELY NEVER enter a burning building to save pets or property. Animals are resourceful and are “pre-programmed” to find their way out of danger, including fire, and property can be replaced. You can’t.

Remember that sometimes, in order to do the greatest good and save the most lives and property, it is necessary to let a fire burn and work on protecting the areas around, such as soaking the houses on either side of a fully-engulfed house. If you can’t put out the fire, you may at least be able to limit its spread.

Above all else, stay calm. The excitement of an active fire, on top of the excitement of the disaster that led to it, can overload our brains, causing us to make rash decisions and possibly put ourselves or others in serious danger. If you need to take a moment to think, do it. Don’t rush into fighting a fire only to find out too late that it’s already too big for you to safely suppress. Don’t add your name to the victim list.

For more information, visit the following websites:

Emergency Survival Program:

<http://www.espfocus.org>

National Fire Protection Agency (NFPA), Safety Information for Consumers:

<http://nfpa.org/displaycontent.asp?categoryid=277>

United States Fire Administration (USFA) - Home Fire Prevention:

http://www.usfa.dhs.gov/citizens/all_citizens/home_fire_prev