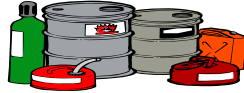




FIRE – SPECIFIC HAZARDS



Flammable or Combustible Liquids

- In 1998, there were 4,700 gasoline fires in U.S. homes, resulting in 86 deaths, 463 injuries and \$92 million in direct property damage.
- 53% of home gasoline fires each year between 1994 and 1998 were categorized as incendiary or suspicious.
- When working with flammable or combustible liquids, be sure that the area where you are working is well ventilated. When air is kept moving through the area vapor levels are reduced, and are less likely to reach dangerous concentrations. Make sure there are no ignition sources such as electric motors or pilot lights.
- Don't use gasoline for cleaning purposes or for lighting barbecues. Gasoline vaporizes much too fast at room temperature to be safe. It can easily cause a fire or an explosion. It is much safer to use a commercial product designed for cleaning. Don't apply barbecue starter fluid to hot briquettes, or any fire once it has been lit.

Spontaneous Heating

- Some materials, under certain conditions, can produce heat by themselves, and will burst into flame. This is commonly called spontaneous combustion. This is the accumulation of heat around a material due to oxidation at a rate sufficiently high to ignite it. Oxidation, which causes the problem, takes place around us all the time.
- Oxidation is the process that causes steel to rust or turn paper yellow over a long period of time. Heat is given off in the process of oxidation, but generally at such a low rate that the air currents are able to dissipate it before it raises the temperature of the material that is oxidizing. When heat produced is greater than can be carried away, the material can heat to the point that it reaches its own ignition temperature. You can prevent spontaneous heating by keeping air away from materials, as in a closed container, or by spreading the material out sufficiently that the heat produced by oxidation is carried away by the air.

Smoke

The best way to deal with smoke is to avoid it. A smoke filled hallway can be as dangerous as one filled with flames. Most fire fatalities involve smoke. If you must go through a smoky area,

- Stay low and crawl on your hands and knees.
- Keep your head down. Some poisonous gases, being heavier than air, accumulate at floor level. The best air is at the height your face will be when you are on your hands and knees. The best choice may be to avoid the smoke and find another way out.

Clothing Fires

When a person's clothing is on fire, death or serious injury is only seconds away. The “**Stop, Drop and Roll**” procedure that is taught in the schools is a good response in most situations.

- “**Stop**” is to keep you from running. Running increases the amount of air moving through the clothing and speeds the fire's progression.

- **“Drop”** is to get you into a horizontal position. Being in a vertical position will cause the fire to move up your body rapidly, toward your face. Tests have shown a fire might travel from the hem of a woman’s cotton dress to the collar in as little as ten seconds. By getting down into a horizontal position, you’ve changed the direction of the fire and stopped the fire’s progress. The most vulnerable portion of your body to heat is your respiratory tract. A single inhalation of flame into the delicate tissue of the lungs can be fatal.
- **“Rolling”** may smother the fire between your body and the floor surface, but even when this is not completely successful, it often reduces the amount of flame and slows the fire. If the fire does not go out, grab whatever is handy to help cover and extinguish the fire, or try to remove the burning clothing.

Upholstery Fires

An upholstery fire poses two main dangers. The materials used to make furniture and mattresses allow fire to penetrate deeply and smolder for a long time. The most common problems with this type of fire are associated with slow burning materials, and difficulty in extinguishing.

- Smoke inhalation is the cause of most mattress and upholstery fatalities. One of the gases that effects people early in the fire is carbon monoxide. You may quickly become disoriented and soon unconscious. One percent of carbon monoxide in your system is considered to be fatal.
- Rekindle is another problem with fires in upholstery. Very often people will try to attempt to extinguish a small fire and succeed in eliminating the open flame, however, this may not be the end of the fire. There may still be fire deep inside the burning material. To be sure that the fire is completely out, it is necessary to cut into the material and remove all of the charred smoldering and discolored stuffing. If even a small piece is missed, the fire can grow again. This is an extremely dangerous situation, particularly at night, because the smell of the first fire hides the smell of the second fire. The proper thing to do is to call the Fire Department to check it out. In any case the burnt upholstery should never be left inside the building.

Use common sense and a little foresight. Preparation and planning is the key to home fire safety.