FIRE EXTINGUISHER SAFETY FOR SCHOOLS

If fire extinguishers are available for employee use, it is the employer’s responsibility to educate employees on the principles and practices of using a fire extinguisher and the hazards associated with fighting small or developing fires. To understand how fire extinguishers work, you need to understand a little about fire. Fire is a very rapid chemical reaction between oxygen and a combustible material, which results in the release of heat, light, flames, and smoke.

For fire to exist, the following three elements must be present at the same time:

1. Enough oxygen to sustain combustion,
2. Enough heat to raise the material to its ignition temperature, and
3. Some sort of fuel or combustible material.

This is referred to as the fire triangle. Additionally, there must be a chemical chain reaction between the three elements.

Portable fire extinguishers apply an extinguishing agent that will cool burning fuel, displace or remove oxygen, or stop the chemical reaction so a fire cannot continue to burn. When the handle of an extinguisher is compressed, agent is expelled out the nozzle. A fire extinguisher works much like a can of hair spray.

Types of Extinguishers - Different types of fire extinguishers are designed to fight different types of fire. The three most common types of fire extinguishers are: air pressurized water, CO2 (carbon dioxide), and dry chemical. The following table provides information regarding the type of fire and which fire extinguisher should be used.

<table>
<thead>
<tr>
<th>Extinguisher Type</th>
<th>Type of Fire</th>
<th>Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td><strong>Ordinary Combustibles</strong> - Fires in paper, cloth, wood, rubber, and many plastics require a water type extinguisher labeled A.</td>
<td><img src="A" alt="image" /></td>
</tr>
<tr>
<td>CO2 or Dry Chemical</td>
<td><strong>Flammable Liquids</strong> - Fires in oils, gasoline, some paints, lacquers, grease, solvents, and other flammable liquids require an extinguisher labeled B.</td>
<td><img src="B" alt="image" /></td>
</tr>
<tr>
<td>CO2 or Dry Chemical</td>
<td><strong>Electrical Equipment</strong> - Fires in wiring, fuse boxes, energized electrical equipment, computers, and other electrical sources require an extinguisher labeled C.</td>
<td><img src="C" alt="image" /></td>
</tr>
<tr>
<td>Multipurpose Dry Chemical</td>
<td><strong>Ordinary Combustibles, Flammable Liquids, or Electrical Equipment</strong> - Multi-purpose dry chemical is suitable for use on class A, B, and C. ABC is the most common type of fire extinguisher in a school.</td>
<td><img src="ABC" alt="image" /></td>
</tr>
<tr>
<td>Other</td>
<td><strong>Class K Kitchen</strong> - Fires involving combustible cooking liquids such as oils and fats.</td>
<td><img src="K" alt="image" /></td>
</tr>
<tr>
<td>Other</td>
<td><strong>Class D Metals</strong> - Fires involving powders, flakes or shavings of combustible metals such as magnesium, titanium, potassium, and sodium require special extinguishers labeled D.</td>
<td><img src="D" alt="image" /></td>
</tr>
</tbody>
</table>
Steps to Take When a Fire is Discovered - When deciding to attempt to extinguish a fire, there are several items to consider before proceeding.

1. Make sure everyone is evacuated to a safe location – Protect people first and property second.
2. Direct someone to call 911 and activate the nearest fire alarm pull station.
3. Locate the proper type of fire extinguisher for the fire.
4. Proceed with caution—if the fire appears to be out of control, do not attempt to extinguish the fire.
5. Keep yourself between the escape exit and the fire.
6. Use the entire contents of the extinguisher to ensure the fire is completely out.
7. If the extinguisher fails to extinguish the fire, move to a safe area and wait for help.

Use the PASS method when using a fire extinguisher:

P Pull the pin
A Aim hose at the base of the fire
S Squeeze the handle
S Sweep back and forth

Remember these firefighting tips:

- Call 911 even if it is a small fire and you are able to extinguish it.
- Most fire extinguishers are emptied in less than 10-20 seconds.
- Do not attempt to fight a large fire.
- Stay low and avoid smoke and get out if you can’t see or have difficulty breathing.
- Use the buddy system if possible.
- Approach the fire slowly and from a distance (6’ – 10’) and move closer to fire after squeezing the handle.

Inspection & Maintenance - Portable fire extinguishers must be visually inspected at least once a month and documented on the periodic inspection card attached to the neck or body of the canister. This may be done by just about anyone, but it is typically done by the site custodian or maintenance staff.

Fire Extinguishers where installed, must be mounted on the wall where all room occupants can find it in an emergency. It must be visible from across the room, otherwise, a fire extinguisher sign should be placed above it on the wall.

Extinguishers should be mounted approximately three to five feet above the floor and must be in-service, fully charged, and not blocked. A 3 ft. clearance is required in front of and around all extinguishers. Do not hang items such as coats, hall passes, decorations, backpacks, or bags on fire extinguishers.