



SAFETY INCENTIVE PROGRAM
 950 Keynote Circle, Suite 10
 Cleveland, Ohio 44131-1802
 Telephone (216) 398-9860

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SIP TIP: EXTINGUISHERS – WILL THEY WORK?

FIRE TRIANGLE

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 a fire to exist, the following four elements must be present at the same time:

- Enough **oxygen** to sustain combustion,
- Enough **heat** to raise the material to its ignition temperature,
- Some sort of **fuel** or combustible material, and
- The **chemical reaction** that is fire.


HOW A FIRE EXTINGUISHER WORKS

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, it opens an inner canister of high-pressure gas that forces the extinguishing agent from the main cylinder through a siphon tube and out the nozzle. A fire extinguisher works much like a can of hair spray.

TYPES OF FIRE 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 extinguishers, CO2 (carbon dioxide) extinguishers, Dry chemical extinguishers.

The letters (A, B, and C) represent the type(s) of fire for which the extinguisher has been approved.

Letter	Symbol	Type of Material	Examples of Materials
A		Common Combustibles	Wood, Paper, Cloth, etc.
B		Flammable Liquids and Gases	Gasoline, Propane and Solvents
C		Live Electrical Equipment	Computers, Fax machines, etc.
D		Combustible Metals	Magnesium, Lithium, Titanium

The number in front of the A rating indicates how much water the extinguisher is equal to and represents 1.25 gallons of water for every unit of one. For example, a 4-A rated extinguisher would be equal to five (4 x 1.25) gallons of water. The number in front of the B rating represents the area in square feet of a class B fire that a non-expert user should be able to extinguish. Using the above example, a non-expert user should be able to put out a flammable liquid fire that is as large as 10 square feet.

REMINDER: AN EMPLOYEES PRIMARY RESPONSIBILITY IN A FIRE IS TO GET OUT SAFELY!