

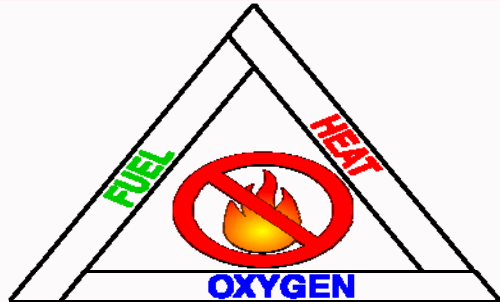
Extinguishment Theory

Smothering: Removal / Reducing oxygen

Starvation : Removal of fuel source

Cooling : Removal of heat

Will inhibit chemical chain reaction of fire...



*The importance of
portable fire extinguisher*

Your first line of defense!

To operate an extinguisher:



Is It Ready To Use ?



1. Check the pressure gauge. The pressure indicator should be in the green zone. (Note:CO2 extinguishers do not have pressure gauges.)
- 2.The extinguisher should have a current inspection tag and updated.
- 3.The pin and handle should be secured with a plastic safety seal.
- 4.The extinguisher and hose should be free of any visible damage.
- 5.Manufacturer maintenance Sticker: Expiration date should not be exceeded from the six month period.



FIRE EXTINGUISHER PRACTICAL TRAINING



Environmental Health & Safety

www.smc.com.sa/ehs

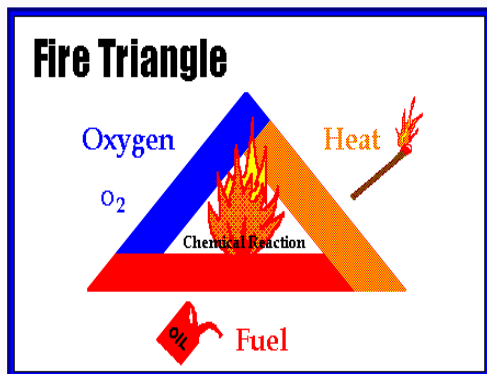
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FIRE EXTINGUISHER TRAINING PROGRAM FOR SMCH STAFF

Portable fire extinguishers have two functions: to control or extinguish small or incipient stage fires and to protect evacuation routes that a fire may block directly or indirectly with smoke or burning/smoldering materials.

To extinguish a fire with a portable extinguisher, a person must have immediate access to the extinguisher, know how to actuate the unit, and know how to apply the agent effectively. Attempting to extinguish even a small fire carries some risk. Fires can increase in size and intensity in seconds, blocking the exit path of the fire fighter and creating a hazardous atmosphere. In addition, portable fire extinguishers contain a limited amount of extinguishing agent and can be discharged in a matter of seconds. Therefore, individuals should attempt to fight only very small or incipient stage fires.



The Fire Triangle

Three things must be present at the same time to produce fire:

1. Enough **OXYGEN** to sustain combustion
2. Enough **HEAT** to reach ignition temperature
3. Some **FUEL** or combustible material, they produce the **CHEMICAL REACTION** that is fire

Take away any of these element and the fire will be extinguished.

Fuel Classifications

- Fires are classified according to the type of fuel that is burning.
- If you use the wrong type of fire extinguisher on the wrong type of fire, you might make situation worse.
- Its very important to understand the four different type



of fire (fuel) classifications...
Class A: Wood, paper, cloth, trash, plastics—solids that are not metals.



Class B: Flammable liquids—gasoline, oil, grease, acetone. Includes flammable gases.



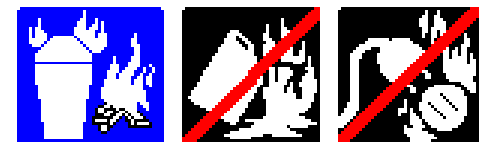
Class C: Electrical—energized electrical equipment. As long as it's "plugged in."



Class D: Metals—potassium, sodium, aluminum, magnesium. Requires Metal-X, foam, and other special extinguishing agents.

Most fire extinguishers will have a pictograph label telling you which types of fire the extinguisher is designed to fight.

For example, a simple water extinguisher might have a label like this...



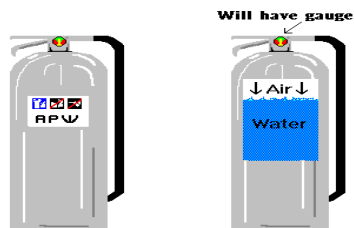
Types of Fire Extinguishers

The 3 most common types of fire extinguishers are:

1. Water (APW)
2. Carbon Dioxide (CO2)
3. Dry Chemical (ABC, BC, DC)

Water (APW) Fire Extinguishers

- Large silver fire extinguishers that stand about 2 feet tall and 25 pounds weigh when full.
- APW stands for "Air-Pressurized Water."
- Filled with ordinary tap water and pressurized air, they are essentially large squirt guns.

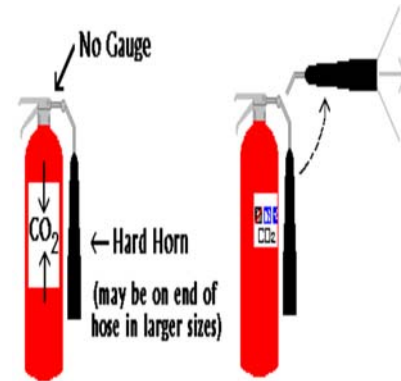


APW's extinguish fire by taking



- *Using water on a flammable liquid fire could cause the fire to spread.*
- *Using water on an electrical fire increases the risk of electrocution. If you have no choice but to use an APW on an electrical fire, make sure the electrical equipment is unplugged or de-energized.*

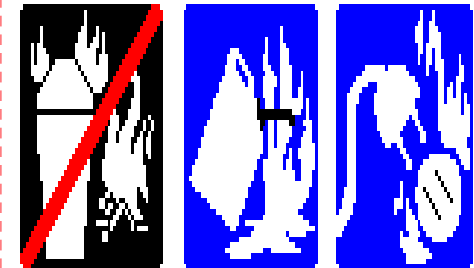
Carbon Dioxide Fire Extinguishers



- *The pressure in a CO2 extinguisher is so great, bits of dry ice may shoot out of the horn!*
- *CO2 cylinders are red. They range in size from 5 lbs to 100 lbs or larger. On larger sizes, the horn will be at the end of a long, flexible hose.*
- *CO2's are designed for Class B & C fires (Flammable liquids and Electrical fires only)*

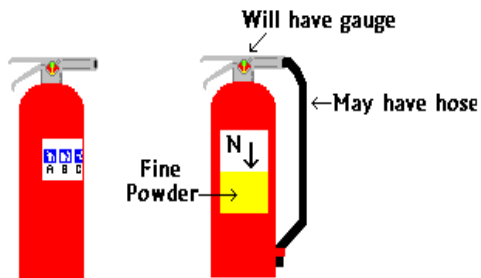
CO2s will frequently be found in laboratories, mechanical rooms, kitchens, and flammable liquid storage areas.

"CO2 is very cold as it comes out of the extinguisher, so it cools the fuel as well."



Carbon dioxide is a non-flammable gas that takes away the oxygen element of the fire triangle. Without oxygen, there is no fire.

Dry Chemical (ABC) Fire Extinguishers



Dry chemical extinguishers put out fire by coating the fuel with a thin layer of dust. This separates the fuel from the oxygen in the air.

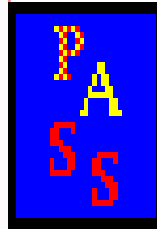
The powder also works to interrupt the chemical reaction of fire. These extinguishers are very effective at putting out fire.

An "ABC" extinguisher will have a label like this, indicating it may be used on Class A, B and C fires.

"ABC" fire extinguishers are filled with a fine yellow powder. The greatest portion of this powder is composed of monoammonium phosphate. The extinguishers are pressurized with ni-

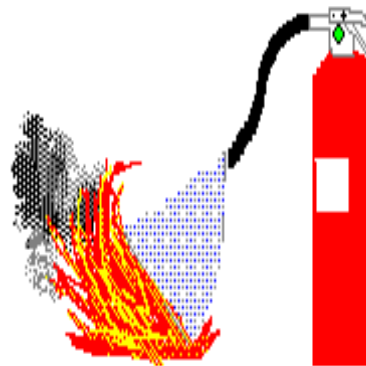


How to Use a Fire Extinguisher?

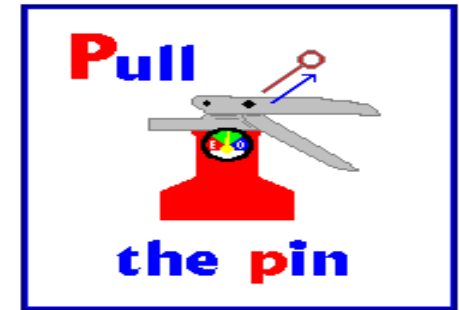
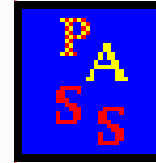


It's easy to remember how to use a fire extinguisher if you remember the acronym PASS:

- Pull
- Aim
- Squeeze
- Sweep



Pull the pin...



This will allow you to discharge the extinguisher

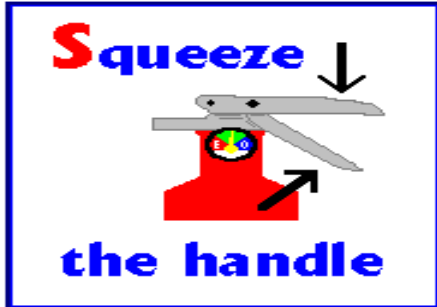
Aim at the base of the fire...

Hit the fuel at its base

If you aim at the flames or middle / high instead of base, extinguishing agent will pass through the flames, but the fire will not put off.



Squeeze the top handle...



This depresses a button that releases the pressurized extinguishing agent.

Sweep from side to side...

.. until the fire is completely out.



Rules for Fighting Fires..

Fires can be very dangerous and you should always be sure that you will not endanger yourself or others when attempting to put out a fire.

- *Always keep a safe exit behind us to extinguish the fire and if you are not confident to evacuate from the area.*
- *3 to 8 feet standard distance should keep away from the fire origin for extinguishment*

Right decision to use a fire extinguisher

1. *You are trained in the use of extinguishers*
2. *You know what is burning*
3. *Fire is not spreading rapidly*
4. *Smoke & heat have not filled in the room*
5. *You have a clear path of escape*
6. *Make sure you are confident to extinguish it*

The available Extinguishers in SMCH can be used for what kind of Fires?

"For Small & Insipient stage of fires"

You are not expected to be fire fighters...

Do not take unnecessary risk..



Different kinds of fire extinguishers using in SMCH.

- Co2
- ABC Dry Chemical

Locations of Fire Extinguishers in SMCH

- Hallway / Corridor
- Nurse Stations
- Exit / Elevator Lobbies
- Stairways