

FIRE AND RESCUE STATION
GANDHINAGAR



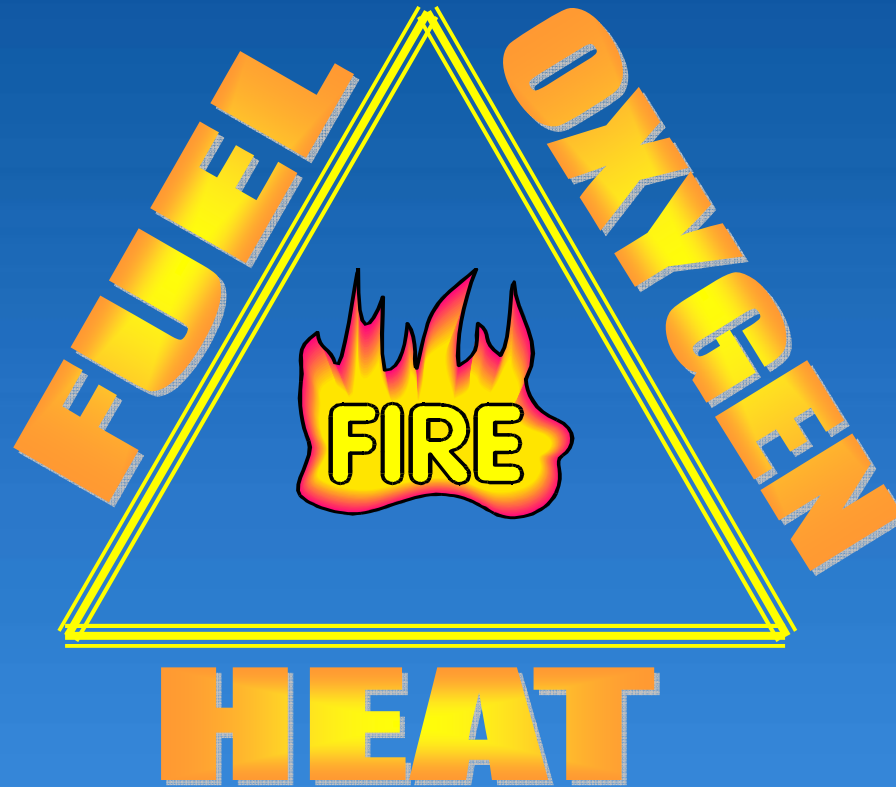
**FIRE PREVENTION AND
SAFETY TIPS**

KERALA FIRE AND RESCUE SERVICES

What is fire

A rapid chemical reaction in which substances combine with oxygen from the air and typically give out bright light, heat, and smoke.

Fire Science – *The Triangle of Fire*



• Extinguishment Theory

- Removing Heat
- Removing Fuel
- Reducing Oxygen



- **Fire Safety, at its most basic, is based upon the principle of keeping fuel sources and ignition sources separate.**

Types of fire

- **Class A Fires** - Caused by solid Combustibles such as wood, cloth, rubber
- **Class B Fires** - Caused by Flammable Liquids such as petrol, diesel, kerosene, grease and oil
- **Class C Fires** - Caused by Flammable Gases such as Acetylene and LPG
- **Class D Fires** - Caused by The Flammable Metals such as sodium, potassium and lithium
- **Class E Fires** - Caused By Electrical Equipments

FIRE EXTINGUISHERS

Sl no	Type of Extinguisher	Class	Material involved in Fire	Extinguishing methods	Warning
1	Water (CO ₂)Type	A	Organic Solids. Wood, Paper, Cloth	Penetrates, cools	Don't use on live electrical equipments.
2	Mechanical Foam (AFFF)	B	Inflammable Liquid	A thick foam blanket over the burning liquid	Don't use on live electrical equipments.
3	Carbon Dioxide(CO ₂)	B, C	Inflammable Liquids, gases and Electrical appliances	Aim at the base of fire from close range.	cause asphyxiation in confined space
4	Dry Chemical Powder	B,C	Inflammable Liquids and gases	Chemically interferes	Don't use in confined area - cloud of powder reduces visibility
5	ABC Power (Pressure Type)	A,B,C	Organic Solids, Inflammable Liquids and gases	Chemically interferes	

Its your first line of defense!

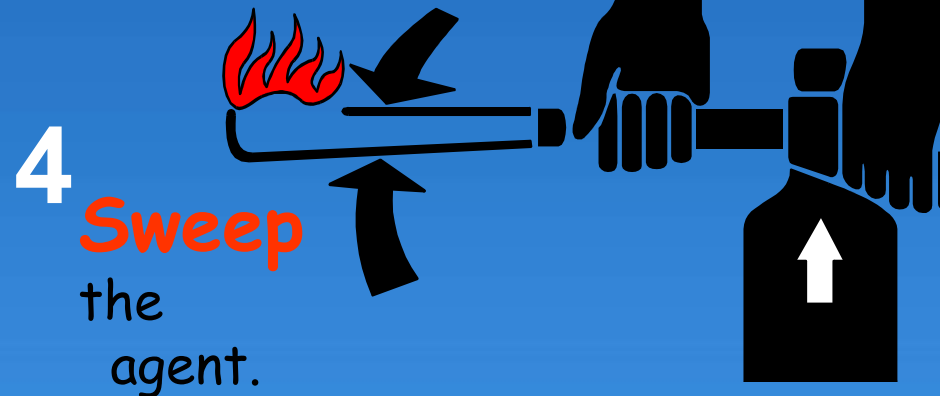
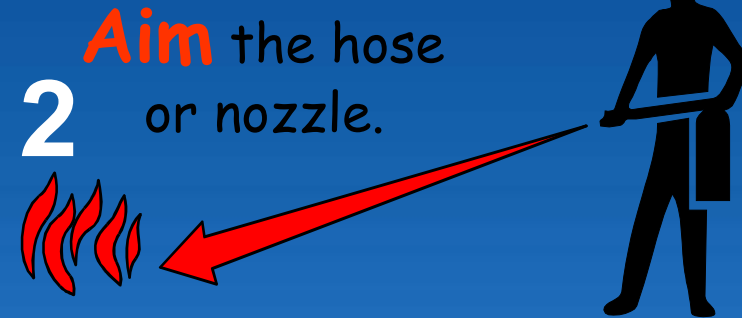
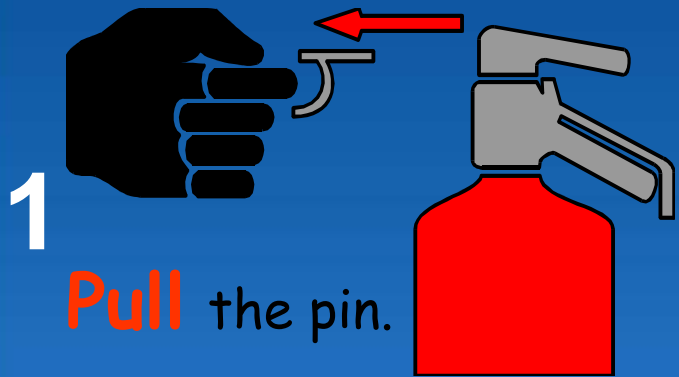


To use a Portable Fire Extinguisher

- You are trained in the use of extinguishers.
- You know what is burning.
- Fire is not spreading rapidly.
- Smoke and heat has not filled the area.
- You have a clear path of escape.
- Follow your instincts

PORTABLE FIRE EXTINGUISHER TRAINING

The P.A.S.S. Method



Things to Know and Do

- Work areas, walkways, stairways, and equipment should be kept clear of loose materials, trash, scraps, etc
- Never block fire exits, emergency equipment, or alarm pull stations with equipment or materials.
- Avoid build up of combustible trash and waste such as paper, wood, cardboard, etc.
- Know the layout of your floor (stair exits, fire alarm pull stations...etc)
- Be familiar with your buildings emergency evacuation plan. It should be posted in your building. Encourage building management to perform a fire drill for your building at least once a year.

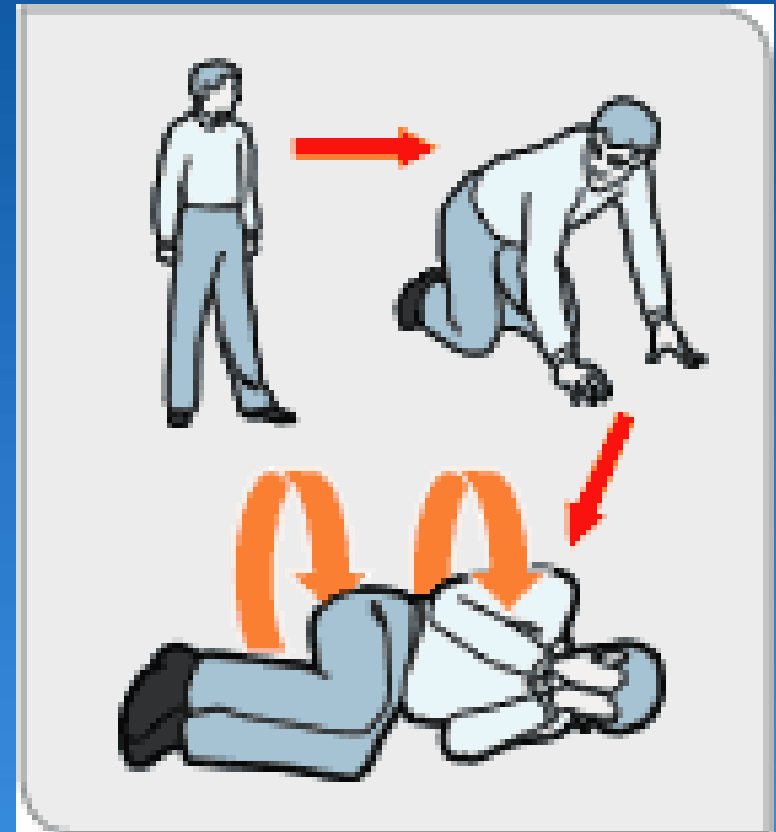
What to do ? In Case of Fire

- Raise Fire Alarm or shout Fire, Fire, Fire.....
- Telephone Fire Service
- Use appropriate Fire Extinguisher
- Immediately exit the building, using the stairs and closing the doors – **DO NOT USE ELEVATORS**

If You Catch Fire

Stop, Drop and Roll

If your clothes catch fire, don't run! Stop where you are, drop to the ground, cover your face with your hands to protect your face and lungs, and roll over and over to smother the flames.



If caught in Smoke !

Crawl low under smoke

- Smoke is dangerous! If you encounter smoke, use an alternate escape route.
- If you must exit through smoke, the cleanest air will be 12 to 24 inches (30 to 60 cm) above the floor.
- Crawl on your hands and knees to the nearest safe exit.
- Breathe shallowly through nose, and use a filter such as shirt or towel.



If Trapped in a room !

- Seal all doors and vents with duct tape or towels to prevent smoke from entering the room.
- Close as many doors as possible between you and the fire.
- Open a window at the top and bottom so fresh air can enter. Be ready to close the window immediately if it draws smoke into the room.
- Be prepared to signal to someone outside.



If Forced to Advance Through Flames

- Hold your breath.
- Cover your head and hair.
- Keep your head down and your eyes closed as much as possible.
- Move quickly.



LPG

Liquefied petroleum gas (LPG) is a combination of propane and butane. LPG is highly inflammable when comes in contact with the source of any ignition in air. So it requires some safe handling procedure to avoid any accident.

- Install the LPG cylinders vertically in uncovered, airy and visible distance
- Prior to turning on the gas cylinder in the morning it should be ensured first that no sign of gas accumulation inside the room
- Apply solution of soap and water in valve or pipe joints to detect gas leaks.
- Spare or replaced cylinder should be kept at the safe distance providing top safety cap, avoiding close contact with the cylinder in use.
- Using LPG suppliers' cylinder regulator will ensure safe performance of LPG

What to do in case of LPG leaking?

- Turn off the regulator valve to stop gas flow.
- Open the doors and windows to exhaust the accumulated gas.
- Do not switch any lights or electrical equipment on or off, as this may cause a spark.
- If it is difficult to control the gas leakage then immediately inform the LPG supplier and Fire services to avoid any fire accident.
- As a precautionary measure it is wise to evacuate everyone from the effected area.

What to do when LPG is on fire?

- **Immediately inform the Fire services**
- Small fire can be extinguished immediately with the help of wet cloth and then turnoff the regulator switch immediately.
- Try to avoid **BLEVE**
- Evacuate everyone from the building.

Electrical Fire Precautions

- Use three pin plug with ISI mark.
- Overloading the socket may cause fire
- Always use the correct Fuse/MCB
- Replace damaged wiring
- Avoid joints in the wiring. All necessary joints should have proper insulation
- Effective earthing should be provided to all electrical appliances.

In case of fire from electrical circuits

- Switch off the supply immediately.
- Use sand, carbon dioxide or dry powder extinguishers.
- Do not use water.
- If it is difficult to control the fire then immediately inform the Fire services

Disaster Management

- **Disaster is a sudden, calamitous event bringing great damage, loss, and destruction to life and property. The damage caused by disasters is immeasurable and varies with the geographical location, climate and the type. This influences the mental, socio-economic, political and cultural state of the affected area.**

TYPES OF DISASTER

- **Water and Climate related disasters**
Cloud Burst, Floods, Cyclones
- **Geologically related disasters**
Landslides and Mudflows, Earthquakes
- **Chemical, Industrial and Nuclear related disasters**
pollution, nuclear weapons

- **Accident related disasters**

Festival Disasters and Fires, Air, Road and Rail Accidents

- **Biologically related disasters**

Pest Attacks, Food Poisoning

PHASES OF DISASTER MANAGEMENT

- **PRE DISASTER**

Planning & preparation, warning

- **DURING DISASTER**

Rescue work, Relief work, Evacuation work

- **POST DISASTER**

Rehabilitation, reconstruction

