Fire Protection & Fire Prevention

29 CFR 1910.39

29 CFR 1910.157-165

29 CFR 1920.252

Written Fire Prevention Program

- For locations with 10 or more employees personnel must be provided with the written Fire Prevention Plan.

29 CFR 1910.157-165
29 CFR 1920.252

Written Program

- Plan must contain the following elements:
  - A list of the major workplace fire hazards and their proper handling and storage procedures
  - potential ignition sources and control procedures
  - type of fire protection equipment
  - Names or regular job titles of those personnel responsible for maintenance of equipment
  - Names or regular job titles of those personnel responsible for control of fuel source hazards

Responsibility

- The company Safety Officer is solely responsible for all facets of this plan and has full authority to make necessary decisions to ensure success of this plan.
- This authority includes both determining personnel activities and equipment purchases necessary to implement and operate this plan.
- The Safety Officer will audit the Fire Prevention Plan as necessary to ensure its effectiveness.

Responsibility

- Our employees have the most important role in our Fire Prevention Plan.
- The items required by this role are:
  - Attend the fire prevention training sessions,
  - Remain aware of any potential fire hazards in your work area and follow the proper fire prevention procedures,
  - Be familiar with any applicable emergency procedures and evacuation procedures,
  - Practice good housekeeping procedures.

Housekeeping Procedures

- In our facility and on job sites, flammable and combustible materials are controlled so that they do not contribute to a fire emergency.

Housekeeping

- While accumulations of waste and scrap materials may not by themselves cause a fire, they do present an invitation to serve as fuel for a fire. Below is a list of controls:
- Provide a program of adequate disposal of all combustible wastes and rubbish designed specifically for the operations or processes involved.
- Provide safe containers for all substances subject to spontaneous heating, also for prompt and regular disposal of their contents.
- Store large amounts of wastepaper or combustible waste, which cannot be removed immediately, in fire resistive vaults. If possible, the waste should be baled and a sprinkler system installed in the vault.

Housekeeping

- Provide for regular inspections of the waste storage area.
- Provide a program of internal housekeeping which will prevent any accumulation of waste and which will provide safe, clean work areas.
- Use nonflammable cleaning solvents.
- Provide a program of external housekeeping to prevent accumulation of waste, brush, or high grass around buildings.

Housekeeping
Flammable Liquids

- Flammable liquids do not by themselves cause fire, but they are dangerous because of their low flash points and low ignition temperatures. Some common precautions are:
  - Avoid use of highly flammable liquids, where possible, by substituting a nontoxic and nonflammable or less flammable liquid in their place.

Housekeeping
Flammable Liquids

- Keep flammable liquids in closed metal containers or safety cans, never in glass containers.
- Limit the amount of flammable liquid in the work area to that needed for one shift.
- Provide safe operating procedures, including local exhaust Systems, for all processes.
- Remove or control all ignition sources, such as static electricity, smoking, and open flames.

Housekeeping
Flammable Liquids

- Provide for adequate clearances between flammable liquid containers or safety cans and any heat sources.
- Provide adequate ventilation for all operations involving the use or storage of flammable liquids.
- Store large amounts of flammable liquids in a separate fire resistive building or vault which conforms to the recognized standards. Storage tanks should be properly vented and placed in diked areas, and supported by masonry or poured concrete supports.

Housekeeping
Flammable Liquids

- Provide suitable gas free testing equipment and personal protective equipment for the safe operating procedures in cleaning and repairing tanks.
- Provide for the safe disposal of flammable liquid waste; e.g. by burning the waste at an isolated safe location. Never dump flammable liquid waste into sewers.

Housekeeping
Flammable Liquids

- Anticipate flammable liquid spills and provide means to control and limit spillage, as well as suitable absorptive material for use in cleaning up spills.
- Always use and handle flammable liquids with extreme caution, no matter how familiar they are to you.

Major Workplace Fire Hazards

- All major workplace fire hazards, their proper handling and storage procedures, potential ignition sources such as welding, smoking, and forklifts, control procedures such as hot work permit, and the type of fire control equipment to be utilized shall be documented and kept on file.

Hot Work Control

- Hot work will be controlled through implementation of Hot Work Safety Procedures.
- Hot work is any operation that produces heat or sparks.
- Fire Watch

Smoking Control

- Smoking is allowed only in certain areas.
- Smoking is prohibited in all NEW Organics plant locations.
- It is important that all employees realize the importance of not smoking in any areas around the production process.
- Certain job sites may not allow smoking

Exit Doors

- All doors should swing out with the exit travel.
- On stairwells and other exits, doors should be used to protect the route from smoke and fire during an emergency.

Exit Routes

- Exit routes should be kept free from obstruction and constructed of noncombustible materials.
- The travel distance to exit requirements depends upon the occupancy hazard classification listed below:
  - In a High Hazard industry a person must be within 75 feet of an exit.
  - In an Ordinary Hazard industry with no sprinklers, a person must be within 200 feet of an exit.
  - In an Ordinary Hazard industry with sprinklers, a person must be within *250* feet of an exit

Exit Signs

- All exit routes and other escapes should be readily accessible and so arranged that the path of escape is well indicated.
- Signs showing the direction of travel to exits should be conspicuously posted.
- Lighted exit signs should be clearly visible at all times and they should be regularly inspected.

Fire Exit Drills

- Proper fire drills insure controlled exiting of people and prevent panic.
- They should be held regularly as a test for evacuation.
- Order and control are the primary purposes, with speed of evacuation secondary.

Alarms/Signs

- Sprinkler systems with more than 20 sprinklers must be provided with alarms.
- The facility must ensure that the fire detection system and its components are in proper working condition after each test or alarm.
- Fire detectors and detection systems must be tested and adjusted as often as needed to maintain proper reliability and operating condition.

Alarms/Signs

- Pneumatic and hydraulic-operated detection systems must be equipped with supervised systems.
- A trained person knowledgeable in the operations and functions of that system must perform all inspection and maintenance.

Alarms/Signs

- All fire detectors must be cleaned of dirt, dust, or other matter on a regular basis in order to be fully operational.
- Alarm system must be seen and heard above ambient noise and light levels, and must be distinctive and recognizable as a signal to evacuate.

Alarms/Signs

- Emergency telephone numbers must be posted near telephones that would be used to report emergencies.
- The facility must ensure that employee alarm systems are restored to normal operating condition as soon as possible after each test or alarm.

Training

- As part of our Fire Prevention Plan, employees are provided documented training under the following circumstances:
  - At the time of initial assignment, and annually thereafter; whenever new fire hazards are introduced into their work area; and for any existing fire hazard when transferred to new work areas.

Training

- Training topics include:
  - Potential fire hazards in their work area and the proper storage and handling procedures,
  - general housekeeping procedures associated with fire prevention, and
  - any specific housekeeping procedures for highly combustible or flammable materials in their work area.

Training

- Employees must be apprised of the fire hazards of the materials and processes to which they are exposed.
- Employees expected to use portable fire extinguishers must be properly trained.

Fire Extinguishers

- Portable fire extinguishers must be properly mounted and identified.
- Only approved portable fire extinguishers must be used, and must be mounted and identified so they can be readily located without injury.
- All portable fire extinguishers must be maintained in a fully charged and operable condition, and kept in their designated places expect during use.

Fire Extinguishers

- Portable fire extinguishers must be appropriately selected and distributed in the workplace.
- Portable fire extinguishers must be selected and distributed based on the class of fire and degree anticipated in the work area.

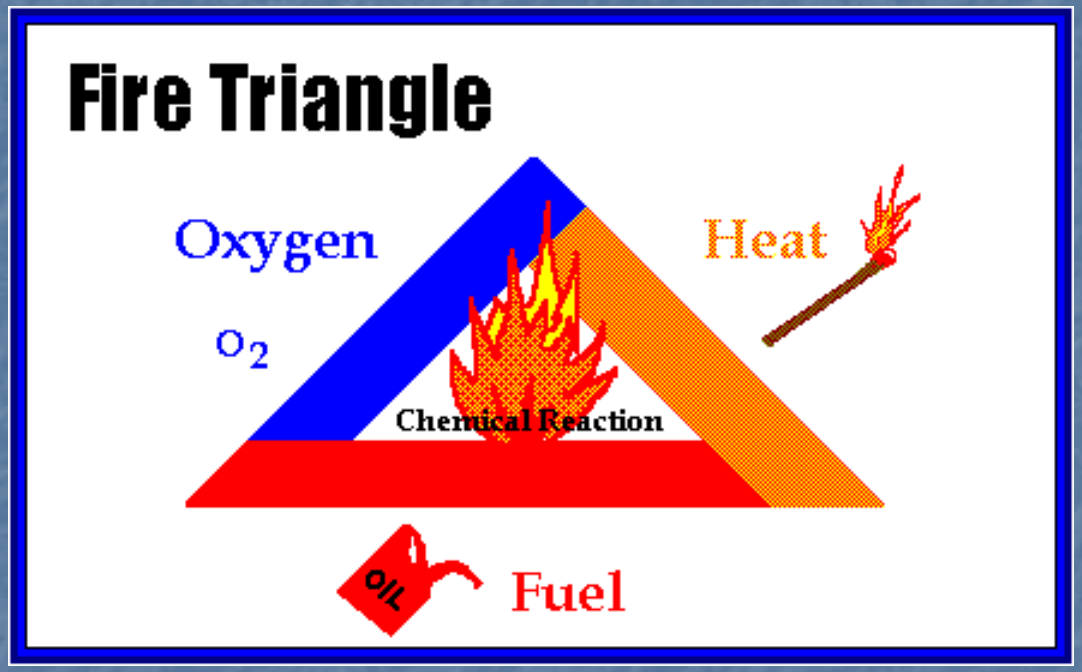
Fire Extinguishers

- Extinguishers for Class A and D fires must be located within a travel distance of 75 ft or less of the hazard. (Class D extinguishers are required in those combustible metal working areas where combustible metal powders, flakes, shavings, or similarly sized products are generated at least once every 2 weeks.)

Fire Extinguishers

- The travel distance from a Class B hazard area to a Class B extinguisher must be 50 ft. or less.
- Extinguishers for Class C hazards must be distributed on the basis of the appropriate pattern for existing Class A or Class B hazards.

The Fire Triangle



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

The Fire Triangle

1. Enough OXYGEN to sustain combustion
2. Enough HEAT to reach ignition temperature
3. Some FUEL or combustible material

Together, they produce the CHEMICAL REACTION that is fire

Take away any of these things 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 class of fire, you might make matters worse.
- Its very important to understand the four different fire (fuel) classifications...

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.

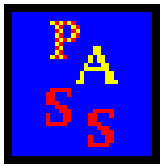
Fuel Classifications

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…

…which means it should only be used on Class A fires.

How to Use a Fire Extinguisher



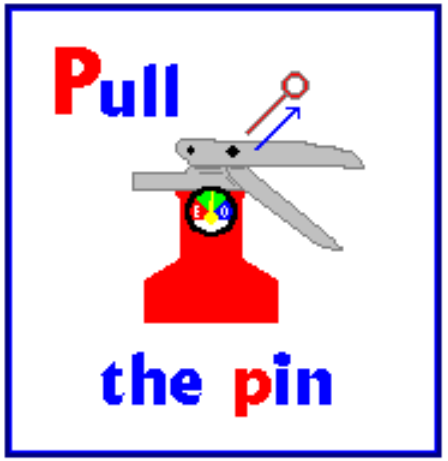
It's easy to remember how to use a fire extinguisher if you remember the acronym **PASS**:

- **P**ull
- **A**im
- **S**queeze
- **S**weep

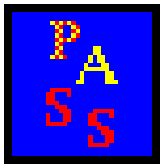
How to Use a Fire Extinguisher

Pull the pin...

This will allow you to discharge the extinguisher



How to Use a Fire Extinguisher



Aim at the base of the fire...

Hit the fuel.

If you aim at the flames…

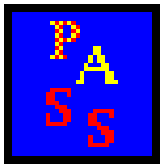
… the extinguishing agent will fly right through and do no good.

How to Use a Fire Extinguisher

Squeeze the top handle...

This depresses a button that releases the pressurized extinguishing agent.

How to Use a Fire Extinguisher



Sweep from side to side...

.. until the fire is completely out.

Start using the extinguisher from a safe distance away, then slowly move forward.

Once the fire is out, keep an eye on the area in case it re-ignites.

Rules for Fighting Fires

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

For this reason, when a fire is discovered…

1. Assist any person in immediate danger to safety, if it can be accomplished without risk to yourself.
2. Call 911 or activate the building fire alarm. The fire alarm will notify the fire department and other building occupants and shut off the air handling system to prevent the spread of smoke.

If the fire is small (and Only after having done these 2 things), you may attempt to use an extinguisher to put it out. **However . . . .**

Rules for Fighting Fires

. . . before deciding to fight the fire, keep these things in mind:

1. **Know what is burning.** If you don't know what's burning, you won't know what kind of extinguisher to use.
2. Even if you have an ABC fire extinguisher, there may be something in the fire that is going to explode or produce toxic fumes.

Chances are you *will* know what's burning, or at least have a pretty good idea, but if you don't, let the fire department handle it.

Rules for Fighting Fires

. . . before deciding to fight the fire, keep these things in mind:

3. **Is the fire spreading** rapidly beyond the point where it started? The time to use an extinguisher is at the beginning stages of the fire.
4. If the fire is already spreading quickly, it is best to simply evacuate the building.

As you evacuate a building, close doors and windows behind you as you leave. This will help to slow the spread of smoke and fire.

Rules for Fighting Fires

Do not fight the fire if:

- ✓ **You don't have adequate or appropriate equipment.** If you don't have the correct type or large enough extinguisher, it is best not to try fighting the fire.
- ✓ **You might inhale toxic smoke.** When synthetic materials such as the nylon in carpeting or foam padding in a sofa burn, they can produce hydrogen cyanide, acrolein, and ammonia in addition to carbon monoxide. These gases can be fatal in very small amounts.
- ✓ **Your instincts tell you not to.** If you are uncomfortable with the situation for any reason, just let the fire department do their job.

Rules for Fighting Fires

The final rule is to always position yourself with an exit or means of escape at your back before you attempt to use an extinguisher to put out a fire.

In case the extinguisher malfunctions, or something unexpected happens, you need to be able to get out quickly. You don't want to become trapped.

Questions?