

Introduction to Fire Safety

This section provides general information regarding precautions that can be taken to prevent fire hazards in your manufacturing facility. In addition, some of the most common rules regarding fire exits and provision of portable fire extinguishers are explained. The applicable regulation is Title 29, Part 1910, Subparts E and L of the Code of Federal Regulations, which is enforced by the Indiana Occupational Safety and Health Administration (IOSHA).

General Fire Safety Precautions

To eliminate hazards, look for potential sources of fire ignition which may exist in your facility, such as:

- **Electrical Failures and Misuse of Electrical Equipment**
You can reduce these hazards by ensuring proper installation, maintenance, and use; conducting regular inspections; and, providing job training to employees. Also, be sure to replace worn electrical cords and avoid overloading electrical circuits.
- **Friction**
You can lessen the potential for friction through proper maintenance, lubrication, and frequent inspections of your equipment.
- **Housekeeping and Maintenance**
You can reduce the potential for fires through attention to housekeeping. Immediately dispose of flammable wastes and scrap in metal containers with metal lids. Avoid excessive stockpiling, and put trash and paper in proper containers.

Fire Exits

Employers must provide a means of egress for employees' use in case of fire, explosion, or natural disaster. A means of egress refers to the route your employees are to follow through the building, the exit door, and away from the building.

- **Exit Doors**
A door designated as a means of egress must be maintained so that employees can easily exit.



Chapter 21 Fire Safety

IOSHA requires that these rules also be followed:

- Do not lock exit doors; doing so prevents escape from inside the building. Doors shall never be chained, barred, bolted, or latched when the building is occupied.
- Prohibit the use of locking devices that are difficult to open against door pressure (e.g., slide bolts, hasps, hooks and eyes).
- Prevent the door from being blocked by debris, surplus stock, mechanical equipment, or ice and snow.
- Maintain all door components in working condition.
- **Exit Signs**
Be sure that exits are designated by a sign that is readily visible and identifiable from the distance that employees will have to travel. Exit signs must have letters at least six inches high and three-fourths (3/4) of an inch wide and must be illuminated by a light source or internally illuminated.
- **Path of Travel**
Do not store flammable material in any part of a means of egress. If the path that your employees must travel to leave the building is not immediately apparent from any point, mark the route with directional signs.

Portable Fire Extinguishers

These rules establish the minimum requirements for provision and maintenance of portable fire extinguishers. Different types of extinguishers are required based on the type of hazard at the location. As the employer, you must be aware of circumstances in your workplace that determine whether unique conditions exist that create a greater fire hazard. Contact your local fire department or fire marshal to obtain additional information or assistance with this determination.

The type of fire extinguisher needed depends on the type of fire hazard present. A fire is classified based on what fuels it. Extinguishers are rated by which types of fire they can put out, as follows.

Fire Extinguisher Classes	
Class A	For use on wood, paper, cloth
Class B	For use on gasoline, paints, oil
Class C	For use on electrical wiring, fuse boxes
Class ABC	For use in extinguishing fires from a variety or combination of fuel types

Fire extinguishers must be located where they can be easily seen and readily accessible along a normal path of travel. If the view of an extinguisher is blocked and the obstruction cannot be moved, you must install a sign, color symbol, or other means to indicate the location of the fire extinguisher.

■ Maintaining Extinguishers

Portable fire extinguishers must be maintained in proper working order. OSHA requires that:

- Extinguishers and hoses be inspected monthly, or at more frequent intervals if required, to be sure the extinguisher is in its proper location; has not been used or tampered with; and does not have obvious damage (e.g., physical damage, external corrosion, or other impairments).
- Extinguishers be thoroughly inspected at least once a year to ensure working order and have a tag attached showing the inspection date.
- Defective extinguishers be removed from service and repaired before being put back into service.
- Extinguishers are properly recharged with recharging material of the class specified on the extinguisher nameplate or recommended by the manufacturer.

Employee Training

Train employees on evacuation procedures to follow in case of a fire or other emergency. Also, provide directions on proper use of fire extinguishers, if employees will be expected to use them. Most fire extinguishers follow this technique:

1. **PULL** the pin or release other locking device.
2. **AIM** the extinguisher nozzle (horn or hose) at the base of the fire.
3. **SQUEEZE** or press the handle.
4. **SWEEP** from side to side at the base of the fire. Watch for reflash.
Discharge the contents of the extinguisher.

Check the instructions for the extinguishers in your facility, as foam and water extinguishers require slightly different action.

Fixed Fire Equipment

The standards under Title 29, Part 1910, Subpart L of the Code of Federal Regulations set forth general rules which apply to the installation, use, maintenance, and testing of fixed fire extinguishing systems in, around, or about a place of employment. Manufacturing establishments should be familiar with the requirements and the employer and employee responsibilities therein.

Employer Sample Checklist

■ Fire Protection

- Is your local fire department familiar with your facility, its location and specific hazards?
- If you have a fire alarm system, is it certified as required and tested annually?
- If you have interior standpipes and valves, are they inspected regularly?
- If you have outside private fire hydrants, are they flushed at least once a year and on a routine preventive maintenance schedule?
- Are fire doors and shutters in good operating condition?
- Are fire doors and shutters unobstructed and protected against obstructions, including their counterweights?
- Are fire door and shutter fusible links in place?
- Are automatic sprinkler system water control valves, air and water pressure checked periodically as required?
- Is the maintenance of automatic sprinkler systems assigned to responsible persons or to a sprinkler contractor?
- Are sprinkler heads protected by metal guards if exposed to potential physical damage?
- Is proper clearance maintained below sprinkler heads?
- Are portable fire extinguishers provided in adequate number and type and mounted in readily accessible locations?
- Are fire extinguishers recharged regularly with this noted on the inspection tag?
- Are employees periodically instructed in the use of fire extinguishers and fire protection procedures?

Free Technical Assistance

For assistance with occupational safety and health questions or to request free, professional, on-site consultation services, contact a safety or health consultant with the Indiana Department of Labor's INSafe division by e-mailing insafe@dol.IN.gov or by calling (317) 232-2688. Visit INSafe's website at www.IN.gov/dol/insafe.htm for more information.