**Fire Prevention Plan**

**29 CFR 1910.39—Fire Prevention Plan**

***Scope/Application:***  *This standard applies if another OSHA standard requires a fire prevention plan or if fire extinguishers are provided at the worksite but they are not intended for employee use.*

*The following standards reference having a fire prevention plan:*

* *29 CFR 1910.1047—Ethylene Oxide*
* *29 CFR 1910.1050—Methylenedianiline*
* *29 CFR 1910.1051—1,3-Butadiene*

***Standard Requirements for*** [***29 CFR 1910.39***](https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.39)***—Fire Prevention Plan:***

* ***Programs/Plans:*** *Fire Prevention Plan*
* ***Procedures/Practices/Controls:*** *Emergency procedures (Include in your Fire Prevention Plan)*
* ***Training:*** *Initially, refresher*
* ***Inspections:*** *None required*
* ***Recordkeeping:*** *Plan*

***Example Plan:*** *The following example plan may be modified to be site-specific to the organization. Please reference 29 CFR 1910.39—Fire Prevention Plan to ensure that all requirements are being met.*

**Fire Prevention Plan**

The primary goal of this fire prevention plan is to reduce or eliminate fires in the workplace by heightening the fire safety awareness of all employees. Another goal of this plan is to provide all employees with the information necessary to recognize hazardous conditions and take appropriate action before such conditions result in a fire emergency.

This plan details the basic steps necessary to minimize the potential for fire occurring in the workplace. Prevention of fires in the workplace is the responsibility of everyone employed by the company but must be monitored by each supervisor overseeing any work activity that involves a major fire hazard. Every effort will be made by the company to identify those hazards that might cause fires and establish a means for controlling them.

The fire prevention plan will be administered by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_who will compile a list of all major workplace fire hazards, the names or job titles of personnel responsible for fire control and prevention equipment maintenance, names or job titles of personnel responsible for control of fuel source hazards, and locations of all fire extinguishers in the workplace. The plan administrator or safety and health officer must also be familiar with the behavior of employees that may create fire hazards as well as periods of the day, month and year in which the workplace could be more vulnerable to fire.

This fire prevention plan will be reviewed periodically and updated as needed to maintain compliance with applicable regulations and standards and remain state of the art in fire protection. Workplace inspection reports and fire incident reports will be maintained and used to provide corrections and improvements to the plan. This plan will be available for employee review at any time during all normal working hours.

**Classification**

Fires are classified into four groups according to sources of fuel: Class A, B, C and D based on the type of fuel source. Table 1 below describes the classifications of fire that can be used in making a hazard assessment.

**TABLE 1**

|  |  |
| --- | --- |
| **Class A** | Ordinary combustible materials such as paper, wood, cloth, and some rubber and plastic materials. |
| **Class B** | Flammable liquids, flammable gases, greases and similar materials, and some rubber and plastic materials. |
| **Class C** | Energized electrical equipment and power supply circuits and related materials. |
| **Class D** | Combustible metals such as magnesium, titanium, zirconium, sodium, lithium and potassium. |

**Determining Fire Hazards**

This section consists of two steps: first, identifying the existing fire hazards in the workplace and second, taking action to resolve them. The inspection checklist (located at end of program) provides a guide for precise fire-safe practices that must be followed. The location of these major fire hazards are denoted in the table found at the end of this program. Also found is a listing of the personnel responsible for the maintenance of the equipment and systems installed to prevent or control fires.

Material hazards will be identified, as evident on the specific safety data sheets (SDS), and labeled on containers as soon as they arrive in the workplace. The identification system will also be incorporated into the company’s Hazard Communication Program.

**Storage and Handling Procedures**

The storage of material will be arranged such that adequate clearance is maintained away from heating surfaces, air ducts, heaters, flue pipes and lighting fixtures. All storage containers or areas will prominently display signs to identify the material stored within. Storage of chemicals will be separated from other materials in storage, from handling operations and from incompatible materials. All individual containers will be identified as to their contents.

Only containers designed, constructed and tested in accordance with the U.S. Department of Transportation specifications and regulations are used for storage of compressed or liquefied gases. Compressed gas storage rooms will be areas reserved exclusively for that purpose with good ventilation and at least one hour fire resistance rating. The gas cylinders will be secured in place and stored away from any heat or ignition source. Pressurized gas cylinders will never be used without pressure regulators.

*Ordinary Combustibles*

* Wooden pallets will not be stacked over 6 feet tall. If feasible, extra pallets will be stored outside or in separate buildings to reduce the risk of fire hazards.
* Piles of combustible materials will be stored away from buildings and located apart from each other sufficiently to allow fire-fighting efforts to control an existing fire.

*Flammable Materials*

* Flammable liquids must be stored and used in accordance with 29 CFR 1910.106*—*Flammable Liquids or the most current NFPA 30*—*Flammable and Combustible Liquids Code.

*Potential Ignition Sources*

* Ensure that utility lights always have some type of wire guard over them.
* Never install a fuse rated higher than specified for the circuit.
* Investigate any appliance or equipment that smells strange. Space heaters, microwave ovens, hot plates, coffee makers and other small appliances will be rigidly regulated and closely monitored.
* The use of extension cords to connect heating devices to electric outlets will be prohibited.
* If a hot or under-inflated tire is discovered, it should be moved well away from the vehicle. As an alternative, the driver should remain with the vehicle until the tire is cool to the touch and then make repairs. If a vehicle is left with a hot tire, the tire might burst into flames and destroy the vehicle and load.

*Welding and Cutting*

Welding and cutting are not permitted unless authorized by management. If practical, welding and cutting operations will be conducted in well-ventilated rooms with a fire-resistant floor. If this practice is not feasible, contact \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_to ensure that the work areas have been surveyed for fire hazards, the necessary precautions taken to prevent fires, and issue a hot work permit. This hot work permit will only encompass the area, item and time that are specified on it.

If welding is to be performed over wooden or other combustible type floors, the floors will be swept clean, wetted down, and covered with either fire-retardant blankets, metal or other noncombustible coverings.

Welding will not be permitted in or near areas containing flammable or combustible materials (liquids, vapors or dusts). Welding will not be permitted in or near closed tanks that contain or have contained flammable liquids unless they have been thoroughly drained, purged, and tested free from flammable gases or vapors and the company’s permit required confined spaces (PRCS) program is being followed. Welding will not begin until all combustible materials have been removed at least 35 feet from the affected areas, or if unable to relocate, covered with a fire-retardant covering. Openings in walls, floors or ducts will be covered if located within 35 feet of the intended work area. Welding will not be permitted on any closed containers.

Fire extinguishers will be provided at each welding or cutting operation. A trained watcher will be stationed at all times during the operation and for at least 30 minutes following the completion of the operation. This person will ensure that no stray sparks cause a fire and will immediately extinguish fires that do start.

*Open Flames*

No open flames will be permitted in or near spray booths or spray rooms. If indoor spray painting work may be performed outside of standard spray-painting booths, adequate ventilation will be provided. All potential ignition sources will also be eliminated.

Gasoline or alcohol torches will be placed so that the flames are at least 18 inches away from wood surfaces. They will not be used in the presence of dusts, vapors, flammable liquids, paper or similar materials. Torches will never be left unattended while they are burning.

The company has a specific policy regarding cigarette/cigar/pipe smoking in the workplace. Smoking and no smoking areas will be clearly delineated with conspicuous signs. Rigid enforcement will be maintained at all times. The plan administrator will enforce observance of permissible and prohibited smoking areas for employees and outside visitors to the workplace. Fire safe metal containers will be provided where smoking is permitted. No smoking areas will be checked periodically for evidence of discarded smoking materials.

*Static Electricity*

The company recognizes that it is impossible to prevent the generation of static electricity in every situation, but the company realizes that the hazard of static sparks can be avoided by preventing the buildup of static charges. One or more of the following preventive methods will be used: grounding, bonding, maintaining a specific humidity level (usually 60–70 percent), and ionizing the atmosphere.

Where a static accumulating piece of equipment is unnecessarily located in a hazardous area, the equipment will be relocated to a safe location rather than attempt to prevent static accumulation.

**Hot Work Permits**

By OSHA’s definition, "Hot work permit" means the employer's written authorization to perform operations (for example, riveting, welding, cutting, burning, and heating) capable of providing a source of ignition.These operations create heat, sparks and hot slag that have the potential to ignite flammable and combustible materials in the area surrounding hot work activities. To ensure employee safety during hot work operations in a permit space, hot work permits will need to be issued to authorize work before work is performed.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_is responsible for issuing hot work permits and will inspect hot worksites prior to the start of such operations.

When required, an employee will be designated to serve as a fire watch. The fire watch will monitor the safety of hot work operations and watch for fires. Fire watches are posted during hot work and for at least 30 minutes after work has been completed.

Prior to beginning work, a hot work permit will be filled out and will be posted in the area where hot work is to be performed.

***Note:*** *An example hot work permit and fire prevention checklist are located in Section 6—Forms.*

**Retention of Records**

Canceled permits and other documentation will be retained by the company not less than one year following the date of entry. Permits will then be retained as an employee exposure record if applicable.

**Housekeeping and Fire Prevention Techniques**

The following are housekeeping techniques and procedures to prevent occurrences of fire:

* Keep storage and working areas free of trash.
* Place oily rags in covered containers and dispose of daily.
* Do not use gasoline or other flammable solvent or finish to clean floors.
* Use noncombustible oil-absorptive materials for sweeping floors.
* Dispose of materials in noncombustible containers that are emptied daily.
* Remove accumulation of combustible dust.
* Don’t refuel gasoline powered equipment in a confined space, especially in the presence of equipment such as furnaces or water heaters.
* Don’t refuel gasoline powered equipment while it is hot.
* Don’t refuel plastic gasoline containers in the back of a truckbed.
* Follow proper storage and handling procedures.
* Ensure combustible materials in areas are present only in quantities required for the work operation.
* Clean up any spill of flammable liquids immediately.
* Ensure that if a worker’s clothing becomes contaminated with flammable liquids, the individual changes clothes before continuing to work.
* Post “No Smoking” caution signs near the storage areas.
* Report any hazardous condition such as old wiring, worn insulation and broken electrical equipment to the supervisor.
* Keep motors clean and in good working order.
* Don’t overload electrical outlets.
* Ensure equipment is turned off at the end of the workday.
* Maintain the right type of fire extinguisher available for use.
* Use the safest cleaning solvents (nonflammable and nontoxic) when cleaning electrical equipment.
* Ensure that all passageways and fire doors are unobstructed. Stairwell doors must never be propped open, and materials must not be stored in stairwells.
* Periodically remove over-spray residue from walls, floors and ceilings of spray booths and ventilation ducts.
* Remove contaminated spray booth filters from the building as soon as replaced or keep immersed in water until disposed.
* Don’t allow material to block automatic sprinkler systems or to be piled around fire extinguisher locations. To obtain the proper distribution of water, a minimum of 18 inches of clear space must be maintained below sprinkler deflectors. If there are no sprinklers, a 3-foot clearance between piled material and the ceiling must be maintained to permit use of hose streams. These distances must be doubled when stock is piled higher than 15 feet.
* Check daily for any discarded lumber, broken pallets or pieces of material stored on site and remove properly.
* Repile immediately any pile of material that falls into an aisle or clear space.
* Use weed killers that are not toxic and do not pose a fire hazard.

**Fire Protection Equipment**

Every building will be equipped with an electrically managed, manually operated fire alarm system. When activated, the system will sound alarms that can be heard above the ambient noise levels throughout the workplace. The fire alarm will also be automatically transmitted to the fire department. Any fire suppression or fire detection system will automatically actuate the building alarm system.

The automatic sprinkler system, if applicable, will adhere to NFPA 13*—* Standard for the Installation of Sprinkler Systems. The sprinkler system and components will be electrically supervised to ensure reliable operation. This includes gate valve tamper switches with a local alarm at a constantly attended site when the valve is closed. If a single water supply is provided by a connection to the city water supply, a low pressure monitor will be included. If pressure tanks are the primary source of water, air pressure, water level and temperature will be supervised. If fire pumps are provided to boost system pressure, supervision will monitor loss of pump power, pump running indication, low system pressure and low pump suction pressure.

Portable fire extinguishers will be kept fully charged and in their designated places. The extinguishers must not be obstructed or obscured from view. The fire extinguishers must be inspected at least monthly to make sure that they are in their designated places, have not been tampered with or actuated, and are not corroded or otherwise impaired. The attached inspection tags on fire extinguishers will be initialed and dated each month.

The location of all hydrants, hose houses, portable fire extinguishers or other fire protective equipment will be properly marked with arrows and signs painted on the pavement. Painted arrows and signs will be repainted as necessary to ensure readability.

**Training**

All employees will be instructed initially on the locations and proper use of fire extinguishers in their work areas. Employees will also be instructed as to how to operate the building’s fire alarm system, and be familiar with evacuation routes. The training of all employees will include the locations and types of materials and processes that pose potential fire hazards. Ongoing training will include regularly scheduled fire drills. The training program will also emphasize the following:

* Use and disposal of smoking materials.
* The importance of electrical safety.
* Proper use of electrical appliances and equipment.
* Unplugging heat-producing equipment and appliances at the end of each workday.
* Correct storage of combustible and flammable materials.
* Safe handling of compressed gases and flammable liquids (where appropriate).
* Emergency procedures

Only employees that have been designated to use fire extinguishers to put out fires will use them. All others will evacuate the building. Designated employees will receive initial and annual training on their use.

**How a Fire Extinguisher Works**   
  
Portable fire extinguishers apply an extinguishing agent that will either 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, agent is expelled out the nozzle. A fire extinguisher works much like a can of hair spray.   
  
All portable fire extinguishers must be approved by a nationally recognized testing laboratory to verify compliance with applicable

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, CO2 (carbon dioxide), and dry chemical. The following table provides information regarding the type of fire and which fire extinguisher should be used.

**Types of Fire Extinguishers**

**Ordinary Combustibles***—*Fires in paper, cloth, wood, rubber, and many plastics require a water type extinguisher labeled A.

**Flammable Liquids***—*Fires in oils, gasoline, some paints, lacquers, grease, solvents, and other flammable liquids require an extinguisher labeled B.

**Ordinary Combustibles, Flammable Liquids, or Electrical Equipment***—*Multi-purpose dry chemical is suitable for use on class A, B, and C.

**Metals***—*Fires involving powders, flakes or shavings of combustible metals such as magnesium, titanium, potassium, and sodium require special extinguishers labeled D.

**Emergency Procedures**

Employees who have been designated to use fire extinguishers as part of the emergency action plan, must be trained on how to use the fire extinguishers appropriately in the workplace. This training is a specialized form of education that focuses on developing or improving skills. Training will be provided when employees are first assigned these duties and annually.

The following steps will be followed when responding to incipient stage fire:

* Sound the fire alarm and call the fire department, if appropriate.
* Identify a safe evacuation path before approaching the fire. Do not allow the fire, heat, or smoke to come between you and your evacuation path.
* Select the appropriate type of fire extinguisher.
* Discharge the extinguisher within its effective range using the PASS technique (pull, aim, squeeze, sweep).
* Back away from an extinguished fire in case it flames up again.
* Evacuate immediately if the extinguisher is empty and the fire is not out.
* Evacuate immediately if the fire progresses beyond the incipient stage.

Most fire extinguishers operate using the following P.A.S.S. technique:

* **PULL...** Pull the pin. This will also break the tamper seal.
* **AIM...** Aim low, pointing the extinguisher nozzle (or its horn or hose) at the base of the fire.   
  ***Note:*** *Do not touch the plastic discharge horn on CO2 extinguishers, it gets very cold and may damage skin.*
* **SQUEEZE...** Squeeze the handle to release the extinguishing agent.
* **SWEEP...** Sweep from side to side at the base of the fire until it appears to be out. Watch the area. If the fire re-ignites, repeat steps 2 - 4.

**Identified Fire Hazards and Responsible Personnel**

**Hazard Identification**

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| --- | --- | --- | --- | --- |
| **Type** | **Building** | **Control** | **Extinguisher Location** | **Responsible Personnel** |
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**Fire Extinguisher Location**

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| --- | --- | --- |
| **Type** | **Building** | **Extinguisher Location** |
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**Fire Prevention Checklist**

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| **Electrical Equipment** | | | |
| \_\_\_ | No makeshift wiring | \_\_\_ | Fuse and control boxes clean and closed |
| \_\_\_ | Extension cords serviceable | \_\_\_ | Circuits properly fused or otherwise protected |
| \_\_\_ | Motors and tools free of dirt and grease areas (if required) | \_\_\_ | Equipment approved for use in hazardous |
| \_\_\_ | Lights clear of combustible materials | \_\_\_ | Safest cleaning solvents used |

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| --- | --- | --- | --- |
| **Friction** | | | |
| \_\_\_ | Machinery properly lubricated | \_\_\_ | Machinery properly adjusted and/or aligned |

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| **Special Fire-Hazard Materials** | | | |
| \_\_\_ | Storage of special flammable isolated | \_\_\_ | Nonmetal stock free of tramp metal |

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| **Welding and Cutting** | | | |
| \_\_\_ | Area surveyed for fire safety | \_\_\_ | Combustible removed or covered |
| \_\_\_ | Permit issued |  |  |

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| **Open Flames** | | | |
| \_\_\_ | Kept away from spray rooms and booths | \_\_\_ | Portable torches clear of flammable surfaces |
| \_\_\_ | No gas leak |  |  |

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| **Portable Heaters** | | | |
| \_\_\_ | Set up with ample horizontal and overhead clearances | \_\_\_ | Safely mounted on noncombustible surfaces |
| \_\_\_ | Secured against tipping or upset | \_\_\_ | Use of steel drums prohibited |
| \_\_\_ | Combustibles removed or covered | \_\_\_ | Not used as rubbish burners |

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| **Hot Surfaces** | | | |
| \_\_\_ | Hot pipes clear of combustible materials | \_\_\_ | Soldering irons kept off combustible surfaces |
| \_\_\_ | Ample containers available and serviceable | \_\_\_ | Ashes in metal containers |

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| **Smoking and Matches** | | | |
| \_\_\_ | No smoking” and “smoking” areas clearly marked areas | \_\_\_ | No discarded smoking materials in prohibited |
| \_\_\_ | Discarded cigarette containers available and serviceable | \_\_\_ | Ashes in metal containers |

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| --- | --- | --- | --- |
| **Spontaneous Ignition** | | | |
| \_\_\_ | Flammable waste material in closed metal containers | \_\_\_ | Piled material kept dry and well ventilated |
| \_\_\_ | Flammable waste material containers emptied frequently | \_\_\_ | Trash receptacle emptied daily |

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| **Static Electricity** | | | |
| \_\_\_ | Flammable liquid dispensing vessels grounded and bonded | \_\_\_ | Proper humidity maintained |
| \_\_\_ | Moving machinery grounded |  |  |

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| --- | --- | --- | --- |
| **Housekeeping** | | | |
| \_\_\_ | No accumulation of rubbish | \_\_\_ | Premises free of unnecessary combustible materials |
| \_\_\_ | Safe storage of flammables | \_\_\_ | No leaks or dripping of flammables and floor free of spills |
| \_\_\_ | Passageways clear of obstacles freely | \_\_\_ | Fire doors unblocked and operating |
| \_\_\_ | Automatic sprinklers unobstructed |  |  |

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| **Fire Protection** | | | |
| \_\_\_ | Proper type of fire extinguisher | \_\_\_ | Extinguishing system in working order |
| \_\_\_ | Fire extinguisher in proper location | \_\_\_ | Service date current |
| \_\_\_ | Access to fire extinguishers unobstructed | \_\_\_ | Personnel trained in use of equipment |
| \_\_\_ | Access to fire extinguishers clearly marked | \_\_\_ | Personnel exits unobstructed and maintained |
| \_\_\_ | Fire protection equipment turned on |  |  |

**Free Outreach Resources:**

[*Safety and Health Programs and Plans*](https://www.labor.nc.gov/safety-and-health/publications/example-programs) *(i.e., Example Programs to be Made Site-Specific)*

[*A - Z Safety and Health Topics*](https://www.labor.nc.gov/safety-and-health/occupational-safety-and-health/occupational-safety-and-health-topic-pages) *(i.e., Learn More About Safety and Health Topics)*

[*Which Standards Apply?*](https://www.labor.nc.gov/which-osha-standards-apply) *(Identify the Standards Applicable to Your Worksite)*

[*Safety and Health Presentations*](https://www.labor.nc.gov/document-collection/osh-presentations) *(Downloadable Presentations to be Made Site-Specific)*

[*OSH Training Calendar*](https://www.labor.communications.its.state.nc.us/OSHPublic/ETTA/class_regist/calendar.cfm) *(i.e., Register for Webinars, In-Person Classroom Training, Virtual Events)*

[*Streaming Video Services*](https://www.labor.nc.gov/safety-and-health/library/how-borrow-dvds-and-videos#are-your-videos-online) *(On-Demand Training)*

[*Request Outreach Services*](https://www.labor.communications.its.state.nc.us/OSHPublic/ETTA/Outreach/Outreach_Request_Form.html) *(i.e., Request Training, Booths, Guest Speaker)*

[*AskOSH*](https://www.labor.nc.gov/safety-and-health/occupational-safety-and-health/ask-osh) *(Interpretations)*