

Insert Company Logo Here



Name, Job title
Company name
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Combustible Dust

# Combustible Dust Plan

This Combustible Dust Safety Program is intended to establish uniform requirements designed to safeguard the safety of employees and protect property from combustible dust fires and explosions. This program also ensures that dust, ignition, and injury/damage control measures are carried out to minimize the possibility of injury to employees or damage to property. It is our intent to comply with the requirements of all local, state, and federal codes, laws, regulations, or standards.

This program applies to all work operations in our company where combustible dust hazards exist. Company-specific combustible dusts are listed in the Dust and Ignition Sources section of this program.

Our employees will be informed of the hazardous properties of combustible dusts at this facility and the measures to take to protect themselves from combustible dust fires and explosions. Our program ensures that employees are aware of, understand, and follow our combustible dust safety procedures and restrictions.

If after reading this program, you find that improvements can be made, please contact the site manager. We encourage all suggestions because we are committed to the success of our written Combustible Dust Safety Program. We strive for clear understanding, safe behavior, and involvement in the program from every level of the company.

**DOSH Directive 12.85**

**http://www.lni.wa.gov/safety/rules/policies/pdfs/wrd1285.pdf**

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# Administrative Duties

(Company site manager or designee), hereafter referred to as the Site Manager or designee, is our Combustible Dust Safety Program Administrator, who has overall responsibility for the program. Our Site Manager has full authority to make necessary decisions to ensure the success of this program. Copies of this written program may be obtained from:

* Company Contact Person: (address and phone number)
* The Site Manager: (phone number)

# Dust and Ignition Sources

The technical definition of combustible dust is a combustible particulate solid that presents a fire or deflagration hazard when suspended in air or some other oxidizing medium over a range of concentrations, regardless of particle size or shape. Simply put, combustible dusts are fine particles that present a fire or explosion hazard when suspended in air in certain conditions.

Because dust fires and explosions can be triggered by a variety of ignition sources, we have listed the combustible dusts as well as potential ignition sources known to be present in our workplace in the table below:

|  |  |  |  |
| --- | --- | --- | --- |
| **Dust type:** | **Dust-generating process(es), if any:** | **Affected departments and the locations where dust accumulates:** | **Potential ignition source(s) in the location(s):** |
| Wood |  |  | Electrical, Hotwork |
| Metal |  |  | Electrical, Hotwork |
|  |  | Add additional lines as necessary |  |

# Hazard Assessment

Before existing and potential dust hazards can be controlled to prevent combustible dust fires and explosions, dust hazards must be identified and assessed. It is critical that this be done for the entire workplace. The site manager or designee is responsible for performing hazard assessments annually or when processes change.

### Facility Analysis

During each assessment, the site manager or designee carefully identifies the following in order to assess their potential for dust fires and explosions: processes that produce combustible dust and potential ignition sources.

### Dust Combustibility and Testing

The site manager or designee will determine if any potential dusts identified during the hazard assessment are, in fact, combustible. One possible source for information on combustibility is the safety data sheet (SDS) for the material. It should be noted that the U.S. Chemical Safety and Hazard Investigation Board has stated that a 2006 study of SDSs of 140 known combustible dusts or powders found that only 59 percent mentioned the explosive nature of the dust, but most of that information was either not specific or placed in a poor location on the SDS. Therefore, the SDS itself may not be the best or sole source for making a determination on combustibility. However, according to the Hazard Communication Standard at 29 CFR 1910.1200, SDSs provided on or after June 1, 2015, in the U.S. must indicate, in Section 2, Hazard(s) identification, that the hazardous chemical "may form combustible dust concentrations in air," if that is the case.

In some cases, additional information such as test results will be available from chemical manufacturers. Also, the American Society for Testing and Materials provides testing methods for dust ignition and explosion characteristics for some industrial situations.

### Hazardous Locations

The site manager or designee will identify hazardous locations. These include places where dust is concentrated, such as dust collectors, and places where dust can settle, both in occupied areas and in hidden spaces. A thorough analysis will consider all possible scenarios in which dust can be disbursed, both in the normal process and potential failure modes.

### Electrical Classification

The site manager or designee will identify areas requiring special electrical equipment classification due to the presence (or potential presence) of combustible dust. Once an area is classified as hazardous for the purposes of electrical equipment, our company will meet the OSHA requirements for electrical installations in hazardous areas.

It should be noted that the overall dust hazard designation for electrical requirements is Class II, according to National Fire Protection Association (NFPA) standards. This is further broken down into Divisions which represent the probability of dust being present at any given time. Additionally, each dust is assigned a group (E, F, or G), representing the dust types (metal, carbonaceous, and other, respectively) with different properties. For instance, group E dusts are electrically conductive and electric current can pass through a layer of such dust under favorable circumstances causing short circuits or arcs.

# Control Measures

Fortunately, the threat of injury, fatality and property damage due to combustible dust fires and explosions can be reduced or eliminated with a variety of measures that control dust accumulations, ignition sources and the extent of any fire or explosion that occurs.

### Housekeeping

The primary control measure is housekeeping. We strive to keep our workplace clean in accordance with 29 CFR 1910.22, and this includes the removal of combustible dust accumulations. While each dust has different explosion thresholds, the NFPA warns that more than 1 / 32 of an inch of dust over five percent of a room's surface area presents a significant explosion hazard. Therefore, good housekeeping to prevent accumulation of combustible dust can, in turn, prevent fires and explosions.

We follow these housekeeping schedules for combustible dust accumulation:

|  |  |  |  |
| --- | --- | --- | --- |
| **Location:** | **Surface(s) to be cleaned:** | **Housekeeping frequency and method:** | **Person(s) responsible:** |
| Site | All with combustible dust Accumulation | Quarterly | Site Manger or Designee |

Our cleaning methods do not generate dust clouds, if ignition sources are present.

### Ignition Controls

Dust fires and explosions can be triggered by sources of ignition. Therefore, controlling our sources of ignition is another factor in preventing dust fires and explosions. We have listed our company's potential ignition sources for each location in the “Dust and Ignition Sources” section of this program. The table below provides our control measures for each type of ignition source:

|  |  |
| --- | --- |
| **Ignition source type:** | **Control method:** |
| Hotwork | Housekeeping |
| Electrical | Housekeeping and Grounding |
|  | Add additional rows as needed |

Site manager or designee is responsible for ensuring that these ignition controls are in place. Also, employees will be trained in ignition controls that depend on proper work practices. Proper ignition control practices will be enforced.

### Fire and Explosion Protection

Fire protection equipment, selected and purchased by the site manager or designee, in use at this company includes the following extinguishers:

|  |  |
| --- | --- |
| **Fire extinguisher type available:** | **Location(s):** |
| ABC | Throughout Site |
|  | Add additional rows as needed |

In addition, the following equipment is also present to control fires:

|  |  |
| --- | --- |
| **Fire protection available:** | **Location(s):** |
| Fire Alarms | Throughout Site |
| Fire Sprinklers | Throughout Site |
|  | Add additional rows as needed |

We do not have explosion protection systems.

### Operating Procedures and Work Practices

Operating procedures and work practices reduce the likelihood of combustible dust fires and explosion by addressing the manner in which a task is performed. When operating equipment and systems the operating procedures must be used to prevent combustible dust fires and explosions.

Control measures we have implemented include:

|  |  |
| --- | --- |
| **Control:** | **Location(s):** |
| Emergency Action Plan | Throughout Site |
| Housekeeping Plan | Effected Area |
|  | Add additional rows as needed |

# Inspection

The site manager or designee ensures that inspections are performed as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| **Inspection item:** | **Inspection frequency:** | **Person(s) who perform inspection:** | **Inspection procedure:** |
| Effected Area | Monthly | Site manager or designee | Walk-a-round |
|  |  | Add additional rows as needed |  |
|  |  | Add additional rows as needed |  |

However, all employees must also perform a visual inspection of their work area daily. This inspection must cover dust accumulations and ignition sources.

All inspection results are collected by or sent to site manager or designee, who will then recommend to site manager or designee any necessary corrective steps to prevent combustible dust fires and explosions. Any approved corrective actions will be implemented by site manager or designee.

# Maintenance

The site manager or designee ensures that work area(s) meet or exceed the manufacturer's specified routine preventive maintenance schedule for servicing and checking of safety-related equipment.

Where no manufacturer recommendation is made or where legal or best practices (including those found in applicable NFPA consensus standards) provide more stringent maintenance frequencies, we follow the appropriate legal requirement or best practice. Additionally, the site manager or designee ensures that equipment and systems are serviced immediately after we are notified of a recall.

Scheduled maintenance and repairs are performed by site manager or designee. They have determined that site manager or designee is qualified for performing such maintenance and repair.

The site manager or designee is also responsible for regularly replacing equipment and systems according to the following procedure: as needed by priority and if budget allows.

Our equipment and system breakdown procedures have been developed to ensure the safety of our employees, the protection of property, and the facilitation of expedient repair. All company employees are expected to follow these procedures in the event of an equipment or system breakdown, notify site manager or designee.

# Information and Training

Employees and contractors are the first line of defense in preventing and mitigating dust fires and explosions. If the people closest to the source of the hazard are trained to recognize and prevent hazards associated with combustible dust in our facility, they can be instrumental in recognizing unsafe conditions, taking preventive action, and/or alerting management. For this reason, all employees and contract employees are trained in combustible dust. The training includes dust mitigation, ignition sources and housekeeping.

This training is conducted initially and when processes change. Also, training includes adult learning techniques.

At this time training is performed (in-house and/or outside company). Site manager or designee is responsible for conducting training. Our instructor is qualified by the company.

After an employee or contract employee has completed combustible dust safety training, the instructor will determine whether the employee or contract employee can safely perform the job. This is documented on a training sign-in sheet.

If the instructor determines that the employee or contract employee is lacking the appropriate skills and knowledge, the employee or contract employee is retrained. Also, when an employee or contract employee has an incident or near miss or some unsafe operating procedure is identified, we retrain that employee or contract employee.

In addition to the above information and training, we ensure the combustible dust safety awareness of employees by posting the following signs and notices:

|  |  |
| --- | --- |
| **Sign/Notice:** | **Location(s):** |
| Visually Inspect Dust Accumulation | Combustible Dust Areas |
| No Smoking | Entrance |
| Explosive Atmospheres  | Entrance to areas with this danger |
|  | Add additional rows as needed |

Moreover, it should be noted that training under our Hazard Communication Program prepares employees to recognize and understand combustible dust container labels, tags, and other markings and to spot combustible dust hazard entries on SDSs, which are readily available in the workplace. See our written Hazard Communication Program for more information.

# Incident Investigation

A combustible dust incident is a negative occurrence that caused or could have caused combustible dust to catch fire or explode, which in turn caused or could have caused injury, illness or property damage. The site manager or designee will investigate to find the root cause(s) of a reported incident and whether or not the incident was preventable. Understanding the root causes of incidents and why they are happening, regardless of fault, forms the basis for eliminating them in the future.

The site manager or designee will then recommend corrective steps to prevent any repeat incidents. Any approved corrective actions will be implemented by the site manager or designee.