Combustible Dusts Safety Policy



1. **PURPOSE**

ABC Company recognizes that some machining and processing activities involving metals, woods, plastics and other materials may have the potential to generate combustible dusts. It also recognizes the potential for flash fire and explosion when these combustible dusts reach hazardous levels of concentration and are exposed to a source of ignition. The purpose of this Policy is to establish basic safety rules to prevent combustible dusts fires and explosions in accordance with [*province name*] *Occupational Health and Safety Regulations* ("OHS Regulations"), the *Occupational Health and Safety Act* ("Act"), the ABC Company Occupational Health and Safety Program ("OHS Program"), and other applicable requirements and standards.

2. **DEFINITION OF COMBUSTIBLE DUSTS**

For purposes of this Policy, "combustible dusts" means any finely divided solid material that presents a fire or explosion hazard when dispersed and ignited in air. Note that many different materials can be combustible when finely divided, including dusts generated from the machining/processing of wood, plastics, and combustible metals, e.g., aluminum, titanium, and iron.

For greater certainty, combustible dust hazards will be

assessed in accordance with recognized industry standards such as NFPA 652 (Standard on the Fundamentals of Combustible Dust), NFPA 654, NFPA 484 (for combustible metals), and any CSA or fire code requirements applicable in the jurisdiction.

3. **SCOPE OF POLICY**

This Policy applies to all operations with the potential to generate combustible dusts. Its purpose is to ensure that **all workers** engaged to work at ABC Company work sites where combustible dusts hazards actually or potentially exist are protected from fire and explosion regardless of who pays or employs those workers, including:

- Full- or part-time workers employed by ABC Company;
- Temporary employees placed by an outside agency to work at the site;
- Contract labourers engaged to perform work at the site;
- Volunteers who work at the site for free; and
- Workers employed by constructors, contractors, and subcontractors to perform work at the site under a contract with ABC Company.

4. **ROLES & RESPONSIBILITIES**

4.1. Employer

Owners, corporate officers and directors, upper managers, and other representatives of ABC Company who may be defined as an "employer" under the Act are responsible for overall implementation of this Policy, including furnishing the resources necessary to perform the required hazard assessments and implement reasonably practicable controls to eliminate or minimize combustible dusts hazards.

4.2 Department Managers & Area Supervisors

Department Managers and Area Supervisors are responsable for identifying and controlling combustible dust hazards in their operations, and ensuring that all affected personnel are aware

of not only the combustible dust hazards but also the safety measures in place to control them and that they comply with said measures.

4.3 Environmental Health and Safety Coordinator

The ABC Company EHS Coordinator is responsible for helping implement this Policy, including but not limited to assisting with the evaluation of combustible dust hazards, selection of appropriate controls, overseeing the conducting of safety training, and conducting or overseeing combustible dust hazard assessment, inspection and incident investigations.

5. HAZARD ASSESSMENT

Department Managers and Area Supervisors must conduct a hazard analysis of their work activities and work areas to identify dust explosion hazards, i.e., any area where combustible dust accumulation may create a fire or explosion hazard, including accumulations approaching or exceeding 1/8 inch (0.317 cm), or as otherwise identified through risk assessment or applicable standards. In assessing combustible dust hazards, Department Managers and Area Supervisors must use approved methods and equipment and evaluate:

- Open areas where combustible dusts may build up, including floors and horizontal surfaces like girders and beams;
- Enclosed and hidden areas where combustible dusts may accumulate, including dust collectors, ductwork, plenums, and enclosed ceiling spaces;
- Equipment, mechanisms, systems and operations that may disperse dust in air and create a potentially explosive concentration, e.g., ventilation systems, air guns and dry sweeping; and
- Potential ignition sources such as grinding, welding, open flames and electrical equipment.

5.1 Dust Hazard Analysis (DHA)

ABC Company will conduct and document a formal Dust Hazard Analysis (DHA) for processes and facilities where combustible dust hazards are present or reasonably foreseeable. The DHA will:

- Identify materials capable of deflagration or explosion;
- Assess potential fire and explosion scenarios;
- Evaluate existing safeguards;
- Recommend additional engineering or administrative controls;
- Be reviewed and updated periodically or when processes change.

6.0 HAZARD CONTROLS

After identifying and assessing the combustible dust hazards, Department Managers, Area Supervisors, the EHS Coordinator and other ABC Company personnel will select appropriate controls to eliminate or control identified combustible dust hazards in accordance with the following principles.

6.1 General Dust Control Selection Principles

Where reasonably practicable, ABC Company will eliminate combustible dust hazards by using substitute safer materials that do not generate combustible or other dangerous dusts. Where substitution is not reasonably practicable, ABC Company will use reasonably practicable engineering controls, such as mechanical dust collection systems, etc. and administrative/work controls, such as routine cleaning, inspection, maintenance to control combustible dust hazards. Such measures may include:

- Use of devices, systems or equipment to minimize the escape of dust from dust control equipment and ventilation systems;
- Use of approved and properly designed dust collection systems and filters;
- Use of work surfaces that minimize dust accumulation and

facilitate cleaning;
- Providing safe access to enclosed/hidden spaces to permit inspection for combustible dust buildup;
- Routinely evaluating dust buildup in both open and hidden areas;
- Cleaning combustible dust residues at regular intervals to prevent dust buildup beyond 1/8 inch (0.317 cm).;
- Avoiding cleaning methods that may créate dust clouds where combustible dusts may be present; and
- Developing and implementing a more extensive combustible dust inspection, testing, housekeeping, and control program.

6.2 Control of Ignition Sources

Steps will also be taken to control ignition sources, such as open flames, grinding, hot equipment, electrical equipment, and static electricity that may be present or exposed to combustible dust concentrations. When operating, servicing, and maintaining equipment, steps will be taken to ensure that proper grounding is in place, e.g., hoses, ducts and nozzles used to collect, convey, or blow combustible dusts may need to be bonded and grounded to safely dissipate static electricity.

Electrical equipment installed in areas where combustible dust may be present shall comply with applicable electrical code requirements for hazardous locations, including proper classification, bonding, grounding, and explosion-proof or dust-ignition-proof design where required.

6.3 Housekeeping

The following measures will be taken to ensure proper housekeeping with regard to areas containing combustible dusts:

- Creation and use of a checklist that identifies all areas in which combustible dust may accumulate;
- Establishment and implementation of a routine cleaning

schedule to remove combustible dust from floors, ledges, beams, equipment, and other surfaces;
- Establishment and implementation of a cleaning frequency that is sufficient to prevent significant buildup of combustible dust;
- Where reasonably practicable, use of cleaning methods that do not generate dust clouds; and
- Use of proper equipment and safety procedures for cleaning elevated spaces/surfaces.

7. **CONSTRUCTORS, CONTRACTORS & SUBCONTRACTORS**

When constructors, contractors, or subcontractors are hired to work at an ABC Company work site, before the work begins ABC Company will:

- Notify those constructors, contractors, and subcontractors of the combustible dusts hazards posed to their workers;
- Notify them about this Policy and the other safety measures in place at the work site to control combustible dusts hazards; and
- Require them to comply with this Policy and cooperate with all safety measures.

Constructors and contractors in control of work at an ABC Company site in which actual or potential combustible dusts hazards are present will be required to ensure that workers involved in such work are protected from those hazards by either:

- Directly applying this Policy and assuming all of the employer obligations this Policy assigns to ABC Company; or
- Establishing and implementing an equivalent policy that meets all regulatory requirements, and which is coordinated with and provides at least the same level of protection as this Policy.

8. **EVALUATION**

This Policy will be reviewed, in consultation with the workplace Joint Health and Safety Committee, Health and Safety Representative, or, where no Committee or Representative exists, directly with workers at the site, at least once a year and more frequently in response to changes and developments affecting workers' health and safety, including introduction of new equipment, operations or conditions, incidents, complaints or other indications that the current Policy may not be effective and needs review.

1. **TRAINING**

All workers exposed to combustible dust hazards will receive training that includes:

- Recognition of combustible dust hazards;
- Fire triangle and explosion pentagon principles;
- Proper housekeeping procedures;
- Safe cleaning methods;
- Ignition source control;
- Emergency response procedures.

Training will be documented and refreshed periodically or when changes occur.

1. **EMERGENCY RESPONSE**

Emergency procedures for combustible dust fires or explosions will include:

- Immediate shutdown procedures where safe;
- Activation of fire suppression systems;
- Evacuation procedures;
- Notification of emergency services;
- Incident investigation.