

Combustible Dust – Know The Laws of Your Province



Understanding the laws related to combustible dust in the workplace is vital for ensuring safety and compliance. Combustible dust can pose significant hazards, leading to fires and explosions if not properly managed. Canadian regulations outline specific requirements for identifying, assessing, and controlling dust hazards, as well as implementing effective safety measures and training for employees.

Understanding Canadian Provincial Worker Safety Standards

ALBERTA

Employers in Alberta have requirements to manage and mitigate the risks associated with combustible dust in the workplace. These requirements are primarily guided by the [Alberta Occupational Health and Safety \(OHS\) Code](#). **Sections 165(3) to 165(6)** pertain to Combustible dust.

An employer must ensure that in a hazardous location:

- (a)** Equipment used will not ignite a flammable substance, and
- (b)** Static electricity is controlled.

(i) In the case of conductive containers for flammable or combustible liquids while the contents are being transferred, by electrically bonding the containers to one another and electrically grounding them, and

(ii) In other cases, by some other effective means. **Section 165(3)**

An **employer** must ensure that, if a work area is determined to be a hazardous location, the boundaries of the hazardous location are:

(a) Clearly identified to warn workers of the nature of the hazards associated with the presence of the flammable substance in that work area, or

(b) Fenced off to prevent workers or equipment from entering the area without authorization. **Section 165(4)**

If reasonably practicable, an **employer** must ensure that procedures and precautionary measures are developed for a hazardous location that will prevent the inadvertent release of:

(a) A flammable substance, or

(b) Oxygen gas if it can contact a flammable substance. **Section 165(5)**

Despite subsection (5), if it is not reasonably practicable to develop procedures and precautionary measures that will prevent release, an **employer** must develop procedures and precautionary measures that will prevent an explosive atmosphere from igniting in a hazardous location. **Section 165(6)**

Further details on the **Alberta Occupational Health And Safety Code** can be found at Alberta.ca.

BRITISH COLUMBIA

WorkSafeBC outlines steps for employers to address the hazards of combustible wood dust, principally in sawmills, pulp, and paper mills, and similar industrial settings.

Duties of Employers:

- Conduct a risk assessment to identify hazards.
- Ensure the program is fully implemented.
- Educate **employees** about the program.
- Develop and implement a combustible wood dust management program.
- Review the program annually.
- Perform an audit of the program.
- Comply with the program.

Combustible Dusts – Risk Controls

An **employer** must ensure that, in areas where combustible dust is handled or generated, competent ignition sources are:

(a) Removed, or

(b) If removal is not practicable, controlled to minimize combustion risks.

An **employer** must ensure that:

(a) All machinery and equipment directly exposed to a combustible dust is selected, located, installed, maintained, and operated to minimize the risk of friction becoming a competent ignition source;

(b) A person does not engage in hot work or use machinery or equipment that gives off flames or sparks or handles hot material unless the person does so in accordance with work procedures, developed by the **employer**, in consultation with a qualified person, that minimize combustion risks;

(c) The risk of the accumulation of electrostatic charge in

machinery or equipment becoming a competent ignition source is minimized through grounding, bonding, or other effective methods, and

(d) Mobile equipment is selected, located, maintained, and operated to minimize the risk of the mobile equipment becoming a competent ignition source.

(2) An **employer** must ensure that the machinery or equipment is inspected and tested with sufficient frequency.

Employers in British Columbia have specific obligations and requirements to manage and mitigate the risks associated with combustible dust in the workplace. These obligations are primarily guided by the [Occupational Health and Safety Regulation \(OHSR\)](#). **Section (5.54), (5.71), and [Part 6, Substance Specific Requirements](#)** sections (6.135(1), 6.136, 6.141, 6.142, 6.147) which pertains to combustible dust:

Occupational Health and Safety Regulation

Employers must assess the workplace for the presence of combustible dust, considering areas where dust can accumulate and create explosion hazards.

General Duty. If a dust is handled or generated at a workplace, the employer must:

- (a) Minimize the combustion risks, if any, for the dust, and
- (b) Without limiting paragraph (a):
 - (i) Identify whether the dust is a combustible dust,
 - (ii) if the dust is a combustible dust, prepare and update a combustion risk assessment for the dust, and
 - (iii) if the combustion risk assessment identifies a combustion hazard in relation to the dust;
- (A) Prepare and update a combustible dust management program

under **section 6.140** for the dust, and

(B) provide instruction and training under **section 6.142** in relation to the combustion hazard.

(2) The **employer** must consult on the preparation and updating of a combustion risk assessment and a combustibile dust management program, and the provision of instruction and training, required under subsection (1) (b) (ii) and (iii) with:

(a) The joint committee,

(b) The worker health and safety representative, or

(c) If there is no joint committee or worker health and safety representative, a representative sample of the workers at the workplace. **Section 6.135**

For More Information See:

- Flammable Air Contaminants **Section 5.71**
- Identification of Combustible Dust **Section 6.136**
- Instruction and Training **Section 6.142**
- Suspension Control **Section 6.147**
- Periodic Review of Combustible Dust Management Program **Section 6.141**
- Exposure Control Plan **Section 5.54**

Further details on regulations under the **BC Occupational Health and Safety Act (OHSA)** can be found at [WorkSafeBC.com](https://www.worksafebc.com).

MANITOBA

Employers in Manitoba have specific obligations and requirements to manage and mitigate the risks associated with combustibile dust in the workplace. These obligations are primarily guided by the [Workplace Safety and Health Act and Regulation](#). Part 19 **Section (19.1) to (19.10)** which pertain to

combustible dust:

PART 19: FIRE AND EXPLOSIVE HAZARDS

This part applies to every workplace where:

(a) Combustible liquids, flammable liquids, or flammable substances are present; or

(b) Hot work is performed. **(Section 19.1)**

SAFE WORK PROCEDURES

An employer must

(a) Develop and implement safe work procedures for fire and explosive hazards in the workplace, including hot work if hot work is performed in the workplace;

(b) Train workers in the safe work procedures; and

(c) Ensure that workers comply with the safe work procedures.

Section 19.2

FLAMMABLE OR EXPLOSIVE SUBSTANCES IN THE ATMOSPHERE

An **employer** must ensure that a worker does not enter a workplace where a flammable or explosive substance is present in the atmosphere at a level that is more than 10% of the lower explosive limit of that substance. **Section 19.8(1)**

Subsection (1) does not apply to a firefighter engaged in an emergency operation that is subject to Part 42 (Firefighters).

Section 19.8(2)

Hot work

An **employer** must ensure that hot work is performed in accordance with the Manitoba Fire Code. **Section 19.9(1)**

Before any hot work begins, an **employer** must ensure that a container or piping that contains or has contained a flammable

substance is purged using an effective removal method. **Section 19.9(2)**

An **employer** must ensure that welding or cutting of metal that has been cleaned with a flammable or combustible liquid or flammable gases does not take place until the metal has thoroughly dried. **Section 19.9(3)**

Compressed gas equipment

An **employer** must ensure that all compressed gas cylinders are stored in accordance with the Manitoba Fire Code. **Section 19.10**

For more information see:

- Fire Protection Equipment Fire Extinguishers **Section 19.3(1), Section 19.3(2)**
- Container for Contaminated Materials **Section 19.4**
- Container for Combustible or Flammable Liquids **Section 19.5, Section 19.6(1), Section 19.6(2)**
- Control of Ignition Sources Static Charges **Section 19.7**

Further details on the **Manitoba Workplace Safety and Health Act and Regulation** can be found at <https://www.gov.mb.ca>.

NEW BRUNSWICK

Employers in New Brunswick have specific obligations and requirements to manage and mitigate the risks associated with combustible dust in the workplace. These obligations are primarily guided by the [Occupational Health and Safety Act](#). **Sections (25.2), (227), 216(2), 275(1), and 275(2)** pertain to combustible dust.

DUST

Where work is carried out in an area where dust may create a hazard to the health of **employees**, an **employer shall** take such

measures with respect to the dust as are sufficient to protect **employees** from the risk of damage to health. **Section 25.2**

Hazard Created by Dust

Where work with powered mobile equipment is carried out in an area where dust may create a hazard to **employees** because of poor visibility, an **employer and a contractor**, if any, **shall** each take such measures with respect to the dust as are sufficient to protect **employees** from the risk of injury. **Section 227**

Industrial Lift Trucks

Industrial lift trucks may not be operated near areas containing explosive dusts. **Section 216(2)**

Welding, Cutting, Burning, And Soldering

No welding, cutting, burning, or soldering may be conducted until the surrounding area has been inspected to ensure that all combustible, flammable, or explosive materials (including dust) have been removed. **Section 275(1), Section 275(2)**

Employer Responsibilities

Employers are required to maintain an MSDS in the workplace for each hazardous chemical that they use.

All **employers** must develop a written hazard communication program and provide information and training to workers about the hazardous chemicals in their workplace.

Further details on the **NB Occupational Health and Safety Act** can be found at <https://laws.gnb.ca> and <https://www.osha.gov>.

NEWFOUNDLAND & LABRADOR

Employers in Newfoundland have specific obligations and requirements to manage and mitigate the risks associated with

combustible dust in the workplace. These obligations are primarily guided by the [Occupational Health and Safety Act](#). **Sections (446) and 446(1)** pertain to Combustible dust.

Combustible substances

This section requires effective dust control equipment in any enclosed area where combustible dust is present. **Section 446**

Where a work process releases finely-divided combustible dust within an enclosed area where **workers** are employed, effective dust control equipment **shall** be used.

A collector of combustible dusts, other than that of the liquid spray type, **shall** be:

(a) Located outside or in isolated enclosures removed from or protected against sources of ignition; and

(b) provided with explosion relief vents.

(2) Electrical wiring and equipment in a combustible dust collector and associated rooms or enclosures **shall** be of the explosion-proof type.

(3) Where combustible dust collects in a building, structure, machinery, or equipment, it **shall** be removed before the accumulation of the dust creates a fire or explosion hazard.

Section 446(1)

Further details on the **Occupational Health and Safety Act** can be found at [Assembly.NL.ca](#).

[NOVA SCOTIA](#)

Employers in Nova Scotia have specific obligations and requirements to manage and mitigate the risks associated with combustible dust in the workplace. These obligations are primarily guided by the [Occupational Health and Safety Act](#). Part 10, **sections (109) to (112)** which pertain to combustible

dust.

Part 10: Welding, Cutting, Burning, And Soldering

Before undertaking hot work, the person operating the equipment must ensure that all hazardous materials or processes that could produce combustible dust are removed from the area. **Section 111**

General Provisions

In this Part, “welding or allied process” means any specific type of electric or oxy fuel gas welding or cutting process including those processes referred to in Appendix A of the latest version of CSA standard CSA W117.2, “Safety in Welding, Cutting, and Allied Processes”, and includes:

- (a) Arc welding, brazing, solid-state welding, soldering, resistance welding, and other welding; and
- (b) Allied processes such as arc cutting, oxygen cutting, thermal spraying, thermal adhesive bonding and other cutting.

(2) An **employer shall**, where reasonably practicable, comply with the requirements of the latest version of CSA standard CSA-W 117.2, “Safety in Welding, Cutting and Allied Processes”. **Section 109(1)(2)**

An **employer shall** ensure that welding or allied process equipment is erected, installed, assembled, started, operated, used, handled, stored, stopped, inspected, serviced, tested, cleaned, adjusted, carried, maintained, repaired, and dismantled in accordance with the manufacturer’s specifications.

(3) An **employer shall** ensure that a welding or allied process is performed by a competent person. **Section 110(1)(2)**

An **employer shall** ensure that, before a welding or allied process is commenced, the person who is to operate the

equipment has inspected the area surrounding the operation to ensure that adequate precautions have been taken:

(a) To remove from the area all hazardous material or processes that produce combustible, flammable, or explosive material, dust, gas, or vapour; and

(b) To prevent fire or explosion.

(4) Where a welding or allied process is performed above an area where a person may be present, an **employer shall** ensure that adequate means of protection are taken to protect a person below the operation from sparks, debris, and other falling hazards. **Section 111(1)(2)**

Except where an **employer** has demonstrated that a person at or near a welding or allied process is not excessively exposed to radiation or reflection, the **employer shall** provide adequate screens or prevent a person from entering the work area.

(5) Where screening is used in accordance with subsection (1), the **employer shall** ensure that the screening is adequate to prevent radiation and reflection from affecting a person at or near the workplace. **Section 112(1)(2)**

Further details on the **Occupational Health and Safety Act** can be found at NovaScotia.ca,

ONTARIO

Employers in Ontario have specific obligations and requirements to manage and mitigate the risks associated with combustible dust in the workplace. These obligations are primarily guided by the [*Occupational Health and Safety Act*](#), Part **Sections (36) and (63)** and other [*Combustible Dust and OSHA Regulations*](#).

Explosive-actuated fastening tools should not be used in an atmosphere containing flammable dusts. **Section 36**

Precautions must be taken before performing any processes likely to produce dust capable of forming an explosive mixture with air.

A process that is likely to produce gas, vapour, dust, or fumes, to such an extent as to be capable of forming an explosive mixture with air, **shall** be carried out in an area which has provision for safe disposal by burning under controlled conditions or in an area which:

- (a) Is isolated from other operations;
- (b) Has a system of ventilation adequate to ensure that the gas, vapour, dust or fumes do not reach a hazardous concentration;
- (c) Has no potential sources of ignition;
- (d) Has provision for explosion venting; and
- (e) Has, where applicable, baffles, chokes, or dampers to reduce the effects of any explosion. **Section 63**

Ignition Sources Prohibited

Smoking **shall** not take place and open flames/spark-producing equipment **shall** not be used in areas containing combustible dust producing operations. **Section 5.10.1.14**

Combustible Dust and OSHA Regulations

29 CFR 1910.22 is the general industry standard that requires **employers** to maintain a clean and orderly workplace to prevent hazards, including those related to combustible dust.

29 CFR 1910.307 sets the standard for general industry safety related to hazardous locations, including those where combustible dust is present. It outlines safety measures, equipment requirements, and training for workers in such environments.

29 CFR 1910.272 sets the grain handling standard to address dust hazards in grain handling facilities, mandating the use of dust control measures and safety procedures to protect workers.

Further details on the **Occupational Health and Safety Act** can be found at [Ontario.ca](https://www.ontario.ca) and [Dustsafetyscience.com](https://dustsafetyscience.com).

PRINCE EDWARD ISLAND

In Prince Edward Island (PEI), **employers** have responsibilities regarding the management of combustible dust.

1. Hazard Identification and Risk Assessment

- **Employers** must identify any **combustible** dust hazards in the workplace by conducting risk assessments.

2. Control Measures

- Implement appropriate control measures to mitigate the risk of fire or explosion. This may include dust collection systems, proper ventilation, and **housekeeping** practices to minimize dust accumulation.

3. Workplace Safety Procedures

- Develop and implement safe **work** procedures that specifically address the hazards associated with combustible dust.

4. Emergency Preparedness

- **Employers** must develop an emergency response plan that includes specific actions to take in the event of a combustible dust incident, such as a fire or explosion.
- Ensure that all **employees** are trained on emergency procedures and conduct regular drills.

5. Inspection and Maintenance

- Regular inspection and maintenance of dust control systems, equipment, and other safety measures are required.

6. Communication and Training

7. Reporting and Record-Keeping

- **Employers** must keep detailed records of hazard assessments, control measures implemented, and provide training.

Employers in Prince Edward Island have specific obligations and requirements to manage and mitigate the risks associated with combustible dust in the workplace. These obligations are primarily guided by the [Occupational Health and Safety Act General Regulations](#) including **Sections (37.14) and (40.2)** which pertain to combustible dust.

Dust

Where work is carried out in an area where dust may create a hazard to the health of workers, the **employer shall** take adequate measures to minimize the release of dust to protect workers from the risk of damage to their health.

Safety requirement

The **employer shall** ensure that a fuel fired heating device, including a temporary furnace:

(a) Shall be placed on the ground or on a non-combustible floor, but it may be placed upon a wooden floor if it is separated therefrom by 76 mm (3 in.) of non-combustible material covered by sheet metal and extending 600 mm (23.6 in.) beyond all sides of the device;

(b) Shall be so located, protected, and used that it will not ignite:

- (i) Tarpaulins or similar temporary enclosures, or
- (ii) wood or other combustible materials;
- (c) **Shall** be provided with a securely supported short metal pipe to discharge the products of combustion outdoors where necessary;
- (d) **Shall**, where specified by the manufacturer, be vented to the outside atmosphere to remove harmful or noxious fumes;
- (e) **Shall** be used only where there is adequate general ventilation while workers are in the building or structure.

Cleansing

When the **employer** is unable so to certify in writing to the officer, welding or cutting operations on any container or pipe that has held explosive or flammable substances **shall** only be undertaken after the container has been thoroughly cleansed by steam or other effective means; found, by air tests, to be completely free from combustible gases or vapours; or the air in the container has been replaced by inert gas. **Section 37.14**

Prohibitions

The **employer shall** ensure that no burning, welding, or other hot work **shall** be done on any vessel that has contained a highly combustible substance until such vessel has been thoroughly cleaned and suitable tests made to indicate that the vessel is in a condition that the work may be safely performed. **Section 40.2**

Further details on the **Occupational Health and Safety Act General Regulations** can be found at PrinceEdwardIsland.ca.

QUÉBEC

Employers in Québec have specific obligations and requirements to manage and mitigate the risks associated with combustible dust in the workplace. These obligations are primarily guided by the [Regulation Respecting Occupational Health and Safety](#). **Sections (54) to (59.1), and (313)** pertain to combustible dust.

Employer Standards

Employers are responsible for identifying sources of dust in their plant, assessing associated risks, and implementing appropriate prevention and control measures to create a safe and healthy working environment.

Risk assessment and dust control

Employers are required by law to regularly evaluate the hazards associated with dust in their facilities.

COMBUSTIBLE DUSTS AND DRY MATERIALS

Preventive cleaning

All rooms where combustible dusts are generated **shall** be cleaned as often as necessary to prevent the accumulation of dust on floors, beams, equipment, and machines, in quantities that can present a fire or explosion hazard. **Section 54**

Static electricity

In areas where combustible dust is present, all metallic equipment must be grounded and non-metallic equipment must be built and installed to prevent static electricity. **Section 55**

Flammable source

No flammable source is permitted in areas where combustible dusts present a fire or explosion hazard. Smoking is prohibited. **Section 56**

Fire or explosion hazard

Machines and equipment presenting a fire or explosion hazard due to combustible dusts **shall** be so located, constructed, enclosed, or purged as to protect **employees** near such machines or equipment. **Section 57**

For more information see:

- Collection and processing systems **Section 58**
- Enclosed Dust Collectors **Section 59**
- Open Dust Collectors **Section 59.1**
- Prohibitions **Section 313**

Further details on the **Regulation Respecting Occupational Health and Safety** can be found at [Legisquebec.gouv.QC.ca](http://legisquebec.gouv.qc.ca).

SASKATCHEWAN

Employers in Saskatchewan have specific obligations and requirements to manage and mitigate the risks associated with combustible dust in the workplace. These obligations are primarily guided by the [*Occupational Health and Safety Regulations*](#). Part 25, **sections (363), (367) and (370)** which pertain to combustible dust.

Fire and explosion hazards

Saskatchewan's definition of flammable substance includes "dust that is capable of creating an explosive atmosphere when suspended in air in concentrations within the explosive limit of the dust." **Part 25**

Procedures for flammable substances

Employers must develop written procedures for handling flammable substances and ensure that all workers who perform hot work are trained in these procedures. **Section 363**

Control of ignition sources, static charges

Suitable procedures must be developed and implemented to prevent the ignition of explosive dusts. **Section 367**

Hot work

No hot work should be performed until the atmosphere has been tested to confirm it's safe. **Section 370**

Further details on the **Occupational Health and Safety Regulations** can be found at Saskatchewan.ca.

NORTHWEST TERRITORIES & NUNAVUT

Employers in Northwest Territories and Nunavut have specific obligations and requirements to manage and mitigate the risks associated with combustible dust in the workplace. These obligations are primarily guided by the [Occupational Health and Safety Regulations](#). **Sections (23) to (29), (70), (167), (194), (102)** which pertain to combustible dust.

Sections 23 to 29 – General Housekeeping Requirements

23. A floor, platform, stair, and walkway used by workers **shall** be maintained in a state of good repair and **shall** be kept free of hazards.
24. Where work processes result in the spillage of liquids on the floor of a work area and where the spillage could create a slipping or other hazard, floor drains **shall** be installed or other suitable means **shall** be adopted to control the hazard.
25. No person **shall** allow refuse or waste material to accumulate so as to constitute a hazard.
26. (1) No person **shall** use compressed air or steam for blowing dust, chips, or other substances from equipment, materials, or structures if a person could be exposed to the jet or the material expelled or propelled by the jet.
- (2) No person **shall** use compressed air for blowing dust or

other substances from clothing being worn by workers unless:

- (a) It is in an area designated for that purpose;
- (b) The air supply is limited to a pressure not greater than 68.9 kPa (10 P.S.I.); and
- (c) Appropriate protection is worn.

- 27. Material or equipment must be so placed, stored, or stacked so as not to constitute a hazard to workers.
- 28. Stacked materials or containers must be stabilized where necessary by interlocking strapping or other effective means of restraint.
- 29. An area in which materials may be dropped, dumped, or spilled must be barricaded and designated by warning signs to prevent the inadvertent entry of a person.

For more information see:

- Mechanical Ventilation **Section 70**
- Welding and Burning **Section 167**
- Explosive – Actuated Tools **Section 194,102**

Further details on the **Occupational Health & Safety Regulations** can be found at <https://www.justice.gov.nt.ca>.

YUKON

Employers in Yukon have specific obligations and requirements to manage and mitigate the risks associated with combustible dust in the workplace. These obligations are primarily guided by the [Workplace Health Regulations](#). **Sections 8(1)(2)(3)(4)(5)(6)(7)**, and **Section 18(1)(2)(3)(4)** which pertain to combustible dust.

8)(1) Airborne contaminants **shall** be controlled at their source by use of an effective local exhaust system, or where this is not practical, general ventilation systems, or a combination of the two **shall** be used.

(2) Local exhaust ventilation systems **shall** be designed so that under normal work procedures, a worker is not located between the source of contamination and the exhaust intake.

(3) Where an exhaust system is installed, provision **shall** be made for an adequate supply of tempered make-up air. The opening of windows and doors is not adequate for this purpose.

(4) Ventilation systems **shall** be designed so that contaminated exhaust air is not recirculated to the work area or other work sites.

(5) Material or equipment, which will affect the efficiency of the ventilation system, **shall** not be piled or stored in front of ventilation openings.

(6) Wherever an operation or work process produces combustible or flammable dusts, vapours, smoke, fumes, or gases in concentrations that may exceed the lower explosive limit of that substance, such operation or work process **shall** be provided with an appropriate separate exhaust ventilation system.

(7) When there is a change in a work process, operation, machinery, or equipment, the ventilation system **shall** be modified as required to maintain the concentration of airborne contaminants below the levels prescribed in Tables 8 to 13 below. **Section 8(1) to (7)**

(1) Flammable substances **shall** be stored:

- (a) away from areas with high fire hazards, and
- (b) away from oxidizing substances.

(2) Spontaneously combustible substances **shall** be kept:

- (a) in an inert liquid,
- (b) in an inert atmosphere,

(c) in airtight containers.

(3) Substances that react with water **shall** be stored:

(a) in closed containers,

(b) away from moisture sources, an

(c) away from sweating or dripping pipes.

(4) Unstable substances subject to detonation by heat, shock, vibration, or sound waves **shall** be stored separately and well protected. **Section 18(1) to (4)**

Further details on the **Workplace Health Regulations** can be found at wcb.yk.ca.