

Handout for Workers

Combustible dust and your right to refuse unsafe work

In 2012, two British Columbia mills suffered devastating explosions, killing four workers and injuring many others.

To prevent this from happening again, we must all do our part to minimize the risk of combustible dust fires or explosions.

The Occupational Health and Safety Regulation states that a person must not carry out work, or cause others to carry out work, if that person has reasonable cause to believe that to do so would create an undue hazard to the health and safety of any person.

Wood dust is considered an undue hazard if it creates the potential for an explosion.

Some of the conditions that may indicate potential for an explosion are as follows:

- A dust cloud in the air
- Dust accumulations on floors and other surfaces, which are one-eighth of an inch thick and cover more than five percent of a contained area

Remember, all fine wood dust is potentially explosive — even dust generated from “wet” wood can create potential for explosion once it settles and has had time to dry.

Regular monitoring and cleaning of dust must be performed not only in primary areas where dust accumulates, such as on production floors, but also in secondary areas which include cable trays, duct work, false ceilings, and behind equipment and other hidden areas.

You must also remember that manual cleaning, such as the use of compressed air, if done incorrectly, can disperse combustible dust in the air. If that occurs near an ignition source in an enclosed area, an explosion can occur.

You must also observe proper hot work policies and procedures to ensure activities like cutting, welding, and grinding will not ignite combustible material.

From dust cloud to lethal fireball

All it takes is a handful of fine wood dust, a contained area, and an ignition source.

If a high concentration of wood dust becomes airborne and contacts an ignition source in a contained area, an explosion will likely occur.

How to spot an explosion in the making

If you spot a scene like this, report it immediately....

A handful of fine wood dust can be enough to fuel an explosion: all it takes is an eighth of an inch of accumulated dust, covering as little as five percent of the surface in a contained area.

Or, if you see something like this....

If dust contacts a heat source in a contained area, there is a high risk of explosion. Report this hazard to your supervisor immediately.



Work areas must be kept clear of wood dust accumulations.



You have the right to refuse unsafe work

As a worker, you play a key role in your own safety — as well as the safety of your fellow workers. That's why, under the OHSR, you have the right and the duty to refuse work that presents an undue hazard.

If your workplace produces large quantities of wood dust, it is considered an undue hazard to allow that dust to accumulate in a contained area near a source of heat or ignition.

Should you see an accumulation of dust you believe could lead to a fire or explosion, you must refuse to continue working. And, you must immediately report the undue hazard to your supervisor or employer.

If you refuse to work under conditions that could lead to a combustible dust explosion, you're doing the right thing. Remember, you cannot be disciplined or fired from your job for putting safety first.

The role of your supervisor

Once you have reported the hazard, your supervisor or employer must investigate it immediately. They will need to ensure the hazard is removed — without delay.

In most cases, your supervisor or employer will be able to fix the problem. But, in instances where they decide no undue hazard exists, they are obliged to let you know. At that point, they are required to investigate the issue with you and one of the following other people:

- A worker who is a member of your joint occupational health and safety committee
- A worker selected by your union
- Or, if you do not have a joint occupational health and safety committee or a union, any other worker that you select

What to do next

If the issue remains unresolved after the joint investigation, you and your supervisor or the employer must report the matter immediately to WorkSafeBC.

Find out more

Contact WorkSafeBC's Information Prevention Line at 604.276.3100 or 1.888.621.7233. For more information on protection against combustible dust hazards, visit [worksafebc.com](https://www.worksafebc.com) or [fipibc.ca](https://www.fipibc.ca).