

What is combustible wood dust?

Most wood dust is combustible, which means it can easily catch fire and burn. If fine wood dust particles catch fire when suspended in air, the fire can spread rapidly. Under some conditions, this may result in an explosion.

Combustible wood dust explosions

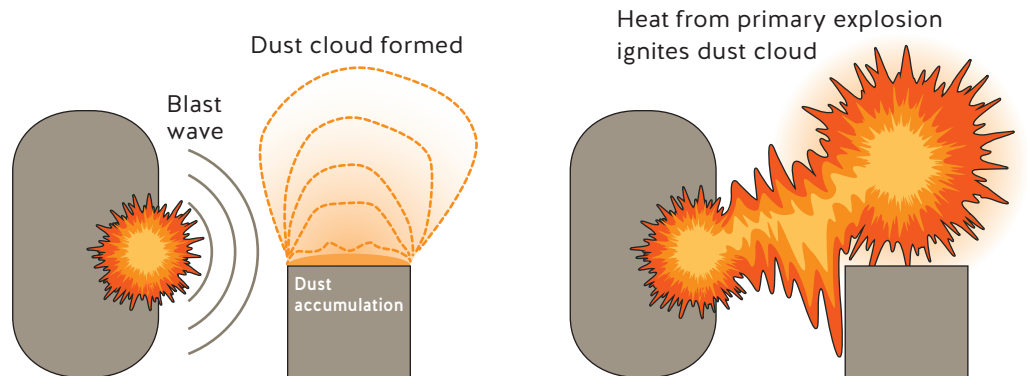
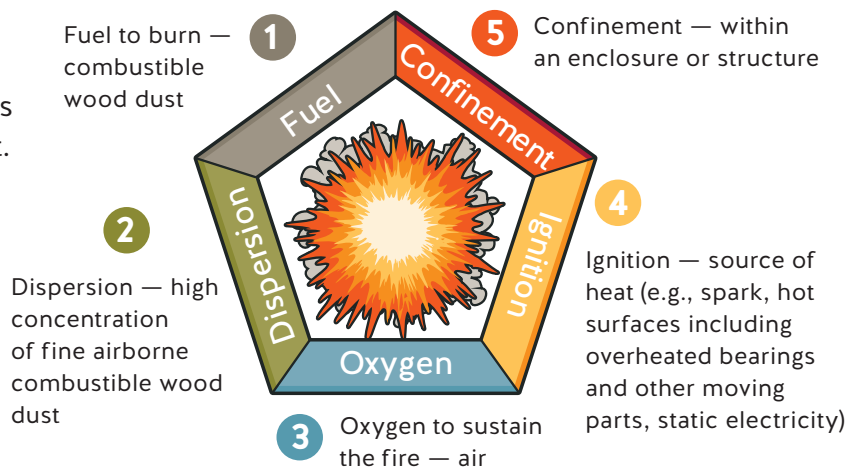
A combustible wood dust explosion is the very rapid burning of dust suspended in air. Heat and pressure build up very quickly. An explosion can occur when the five conditions of the “dust explosion pentagon” are present.

A handful of fine wood dust can be enough to fuel an explosion. All it takes is about 3 mm (1/8 in.) of built-up dust, covering as little as five percent of the surface in an enclosed or contained area.

Secondary explosions

The first or primary explosion disturbs built-up combustible wood dust on surrounding surfaces. Then this dust ignites in a secondary explosion. Secondary explosions are often more powerful than primary explosions. This is because of the increased amount of combustible wood dust. An arc flash is an example of a small explosion that could trigger a larger secondary explosion.

Dust explosion pentagon



Primary explosion

Secondary explosion

Reproduced from the OSHA Fact Sheet, Hazard Alert: Combustible Dust Explosions, U.S. Department of Labor.

Project				
Address		City	Province	Postal code
Employer		Supervisor		
Date (yyyy-mm-dd)	Time		Shift	
Number in crew		Number attending		

Other safety issues or suggestions made by crew members

Record of those attending

Name (please print)	Signature	Company
1.		
2.		
3.		
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Manager's remarks	
Manager's signature	Supervisor's signature