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What Cleaning Pros Should Know About Combustible Dust Explosions

Combustible dust explosions are more common and deadly than many people realize. Since 1980, more than 150 American workers have lost their lives to combustible dust explosions, with more than 850 workers injured. But there is a lot the professional cleaning industry can do to help prevent combustible dust explosions.

The Occupational Safety and Health Administration (OSHA) defines combustible dust as fine particles of dust that present a “flash” or explosion hazard when suspended in air under certain conditions.

“Some dust is more prone to explode than other types of dust,” says Daniel Frimml, Technical Service Coordinator for Tornado Industries., manufacturers of professional cleaning equipment. “For instance, OSHA rates wood dust as having “strong explosion” characteristics, but aluminum and magnesium, which might be found in industrial locations, are rated ‘very strong,’ with a much higher possibility of exploding.”

According to Frimml, these are the key elements that must be present for a dust explosion to occur:

- A sufficient concentration of airborne combustible dust
- Confinement of the dust in a specific area within the facility
- Ignition, which could be heat, an electrical charge, or anything that triggers the explosion
- Oxygen

Frimml suggests the following to help prevent dust explosions:

- Conduct a dust-hazard inspection to see if a potential problem exists.
- Know the type of dust in the facility and whether it has a high or low potential for explosion.
- Install dust-collection systems to remove airborne dust.
- Educate all workers on the hazards of combustible dust. “This is very important because workers in a warehouse setting are often the first to detect a potential [dust explosion] hazard.”

In addition, the cleaning industry can play an important role.

- Clean surfaces using industrial vacuum systems specifically designed for dry debris/waste recovery and employ a multistage HEPA-level filtration system.

“HEPA filtration is very important because it contains dust so that it is not released into the air when vacuuming,” says Frimml. “Some systems even have gauges to tell the operator when the filter needs to be cleaned or replaced to make sure the HEPA system is working properly.” **At-Risk Sites for Dust Explosions**

According to OSHA, the following are some of the locations most at risk for having a combustible dust explosion:

- Chemical manufacturing facilities
- Flour and feed mills
- Food-processing plants
- Locations where fertilizer, wood, paper, pulp, rubber, textiles, and pesticides are stored in large quantities
- Metal-processing facilities
- Recycling operations
- Coal-power-generation sites

Tornado Industries Inc, a Tacony Company has been engineering quality cleaning equipment for more than 80 years. They can be reached at 800/822-8867 or email info@tornadovac.com

<http://www.tornadovac.com>



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