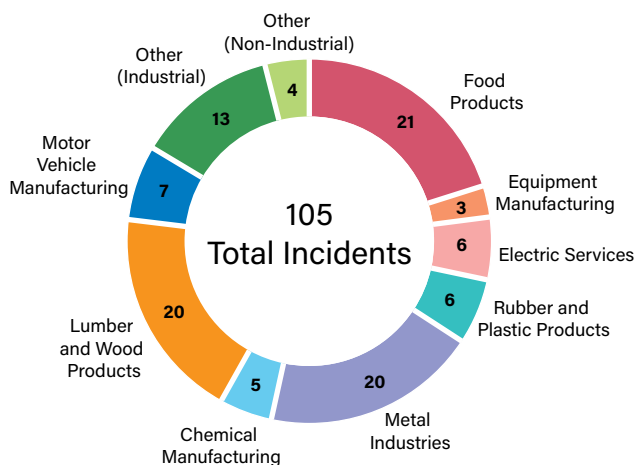


Combustible Dust Hazards Are Everywhere

June 2021



▲ **Figure 1.** Dust explosion incidents occurred across many industries from 2006 to 2017. Figure adapted from the U.S. Chemical Safety Board.

The U.S. Chemical Safety Board (CSB) collected data from 105 dust explosions that occurred from 2006 to 2017, including incidents that did not have an official CSB review. The incidents were then categorized by industry type (Figure 1).

The figure shows that combustible dust explosions occur across many industries and operations. A fraction of the explosions occurred in the chemical manufacturing industry.



▲ **Figure 2.** Ensure that explosion relief panels are properly labeled.

Did You Know?

- Solids are handled throughout production processes, from raw material to final product.
- Dust explosions require combustible dust that is dispersed and confined, an oxidant, and an ignition source.
- Combustible dusts are present in many industries and throughout plants. Combustible dusts may even be present in unexpected locations, such as in utilities or waste handling equipment. Unattended areas may also accumulate combustible dust that can go unseen.
- Dust collectors are a frequent source of dust explosions, because they trap small particles that have the greatest explosion potential. Collectors are typically equipped with an explosion relief panel to relieve overpressure.
- Combustible metal dust may be present in maintenance or fabrication operations, such as in grinding and polishing equipment.

What Can You Do?

- To prevent dust explosions, prevent dust accumulation through good housekeeping, use effective dust collection to reduce dust at the source, and identify and eliminate potential ignition sources.
- Follow housekeeping requirements for the company or production unit. If you see dust accumulating, report it to your supervisor. Read the January 2020 Beacon for more information on housekeeping.
- When working near dust collectors, know where the explosion relief panel is located and avoid it when possible. The relief panel should be labeled (Figure 2).
- Areas around relief panels should be free of obstructions, such as piping or conduit. Other materials should not be stored in the relief zone.
- If you handle solids in your area, understand their properties and follow guidance on procedures and safety data sheets (SDSs).
- If you see dust leaking from equipment, report it to your supervisor.
- Watch the CSB dust hazards video:
www.csb.gov/videos/combustible-dust-an-insidious-hazard

Be aware of the potential for dust explosions!