

## COMBUSTIBLE DUST - IS IT AT YOUR FACILITY?

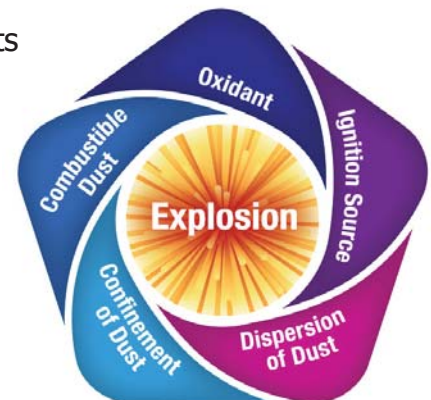
Newspaper headlines relating to heavy fines for violations and revised National Fire Protection Association (NFPA) guidelines are bringing combustible dust hazards to the forefront for many facilities.

The NFPA 652-2019: Standard on the Fundamentals of Combustible Dust has been released. It provides guidelines on the handling of explosion hazards and combustible dust fires. One of the most important revisions sets September 7, 2020 as the new deadline for the completion of a dust hazard analysis (DHA) for existing processes and facility compartments. NFPA 652 requires all facilities that process, handle, convey, or manufacture potentially combustible dust to have their dust tested, even if you've never had a past issue with your type of dust. Every five years a DHA must be reviewed and updated.

## COMBUSTIBLE DUST EXPLOSION PENTAGON

Based on the "Combustible Dust Explosion Pentagon", five elements must be present for an explosion to occur:

- ❖ Combustible dust (fuel source)
- ❖ Oxidant
- ❖ Suspension (dispersion of dust particles in the air)
- ❖ Confinement (vessel, building, process equipment)
- ❖ Ignition source (electrostatic discharge, electric current arc, frictional heat)



Facilities that have had combustible dust explosions include: a sugar factory (food dust), 3D printing company (metal powders), ink manufacturer (ductwork dust accumulation), pet care processing facility (grain dust), power generator plant (poor housekeeping procedures), and food stabilizer facility (malfunctioning hopper).

As defined by NFPA, a combustible dust is "a finely divided combustible particulate solid that presents a flash fire hazard or explosion hazard when suspended in air or the process-specific oxidizing medium over a range of concentrations." Any combustible material and some materials that are normally considered noncombustible can burn rapidly and explode when in a finely divided form. The force from such an explosion has caused employee deaths, injuries, and destruction of entire buildings. These hazards do exist, could exist at your facility, and should not be ignored.

If you have any questions regarding the standards and guidelines or evaluation and procedures, please contact us at 636-343-1300 or visit us at <https://npnenv.com/combustible-dust/>.