

## Dust did This ????



Photograph courtesy of The U. S. Chemical Safety and Hazard Investigation Board.  
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### Here's What Happened:

This facility produced automotive insulation and handled combustible solids as a raw material. While a part of the plant was down for cleaning a thick cloud of dust was generated. It somehow ignited causing a pressure wave strong enough to disturb and suspend more dust. When this new dust ignited, it caused an even stronger secondary explosion.

The result...tragically, there were 7 fatalities, more than 30 people injured and the building was destroyed.

### Combustible Dusts: What You Can Do to be Safe !

- ✓ If your facility handles materials that generate dust, find out if they are combustible and know their hazards. If unsure, **DON'T ASSUME!** Find out.
- ✓ Dust accumulation on equipment, building support steel, duct work and in suspended ceilings could contribute to a secondary explosion. Review cleaning procedures and find out what you can do to keep dust from accumulating.
- ✓ Pay attention to "small" dust leaks. They can be more than just a house-keeping problem. They can be a major safety issue.
- ✓ Be aware of any unsealed or hidden areas where dust might accumulate.
- ✓ Take care not to generate a dust cloud when working in or cleaning an area or equipment.
- ✓ Do what you can to identify and control ignition sources. Closely follow your Hot Work procedures and maintain electrical equipment to proper code classifications.



### How Did This Happen?

- Employees did not understand the explosive hazards of dust. This dust explosion pentagon shows the components necessary for a dust explosion to occur:



**fuel+ oxygen+ dispersion+ confinement+ ignition =** 

- Dust control measures were inadequate and ignition sources were present.
- The first explosion may have been minor, but it caused dust on other equipment and hidden locations, such as building support steel, suspended ceilings, and duct work, to be air borne. When this second wave of dust ignited, it generated a much stronger explosion.



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***Dust can be MUCH more than just a housekeeping problem !***