Managing Grain Dust Stats and Facts

FACTS

1. Grain and flour dusts can form explosive clouds and have caused some of the worst industrial accidents.
2. Dusts from wheat and other grains, as well as from flour, ignite and propagate flames readily because the source of heat required is relatively small.
3. Grain dust is highly combustible, so a fire or an explosion can happen at a large grain-handling facility or in a grain-storage area on a local farm or ranch.
4. Four basic elements must be present for a grain dust explosion to occur: fuel, oxygen, confinement, and an ignition source.
5. As well as causing asthma, working with grain dusts can also worsen symptoms in people who already have asthma. It is much better to prevent respiratory disease by using good working practices.
6. Eye and skin irritation are frequent reactions to grain dust exposure.

STATS

- Statistics of dust explosions in the United States show that more than 50% of all explosions of combustible dusts have occurred in grain elevators and flour mills.
- In the agricultural industry, grain dust explosions are a hazard that must be addressed. According to a report from Purdue University, grain dust explosions have occurred at a constant rate over the last ten years, with little change in the number of explosions, injuries, and fatalities. They report an average of 9.3 explosions each year over the past decade.
- From 2007 to 2016, there were 91 dust explosions, and 52 of

those were caused by corn dust. The second most hazardous type was mixed feed, which probably includes corn quite often, with 19 explosions. 20 explosions out of 91 were caused by other types of dust.

- In 2017, there were 7 grain dust explosions, slightly below the ten-year average of 9. The locations included a pet food plant, a grain mill, and 5 grain elevators.
- In the last ten years, there have been 101 injuries and 15 fatalities due to grain dust explosions. 55 of the explosions occurred in grain elevators, with feed mills a distant second at 18.