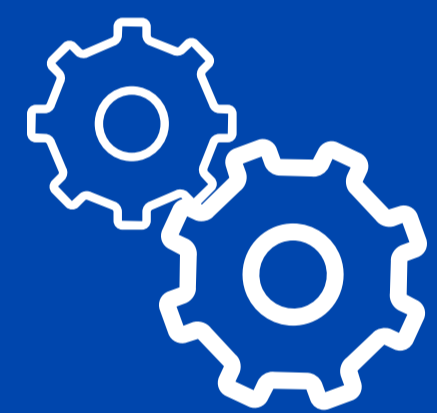


PROCESS SAFETY

AND HOW IT REDUCES YOUR RISK

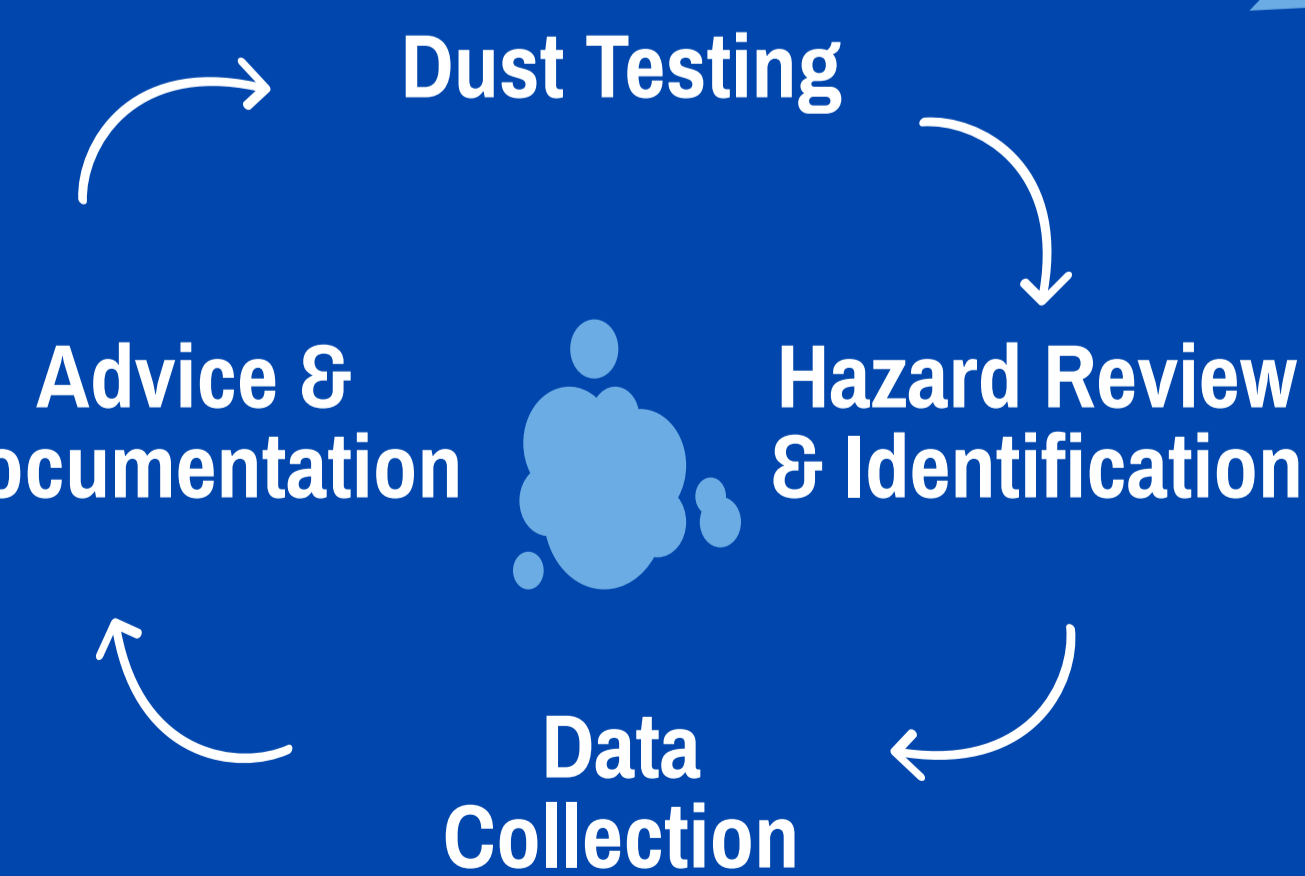
An effective process safety program combines management and engineering efforts to help mitigate accidents and catastrophes involving hazardous materials.

PROCESS SAFETY (PS) IS NOT JUST A RESPONSE TO REGULATORY NEEDS; IT SAVES LIVES AND FINANCIAL COSTS TO A BUSINESS.



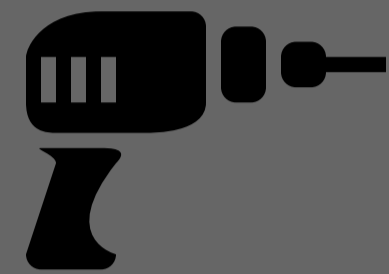
PS IN ACTION: DUST HAZARD ANALYSIS (DHA)

A DHA, one element of a PS program, is a required assessment used to mitigate and prevent the dangers of combustible dusts.

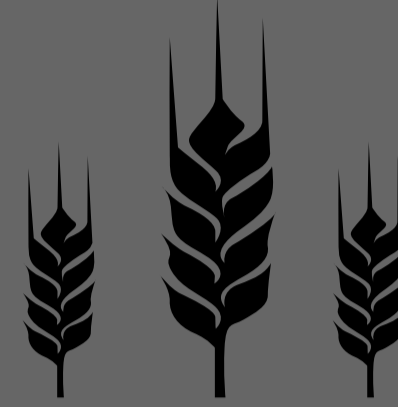


A MULTI-INDUSTRY CONCERN

In addition to general industry, Process Safety (PS) incidents occur in a wide variety of industries including, but not limited to:



Construction



Agriculture



Pharmaceutical



Mining



Chemical, Oil & Gas



Pulp & Paper

DEADLY HAZARDS



In 1984, a toxic chemical release occurred at a plant in Bhopal, India. The incident killed over 2,000 people and exposed over 600,000 to toxic chemical gas. This incident, and others, could have been prevented with an effective process safety program.



The Chemical Safety Board reported that from 1980-2005 281 combustible dust incidents occurred (not including grain incidents), which killed 119 & injured 718.



OSHA's Grain Handling study reported in the last 35 years there were over 500 explosions related to grain dust alone, resulting in 180 deaths and 675 injuries.

WHAT'S INVOLVED

Various types of Process Safety (PS) services typically include:

- ✓ PS transformation & performance improvement
- PS Program Element Development & Support ✓
- ✓ Process Hazard Analysis (PHA) such as HAZOP, What-If, Fault Tree, etc.
- Process Safety Auditing ✓
- ✓ Dust Hazard Analysis (DHA)

"RISK AT THE CORE OF THE ORGANIZATION"



Despite increasing compliance driven and audit based efforts to make processes safer, most companies fail to give a convincing answer as to how safety excellence can be achieved in a proactive & controlled manner. TÜV SÜD GRC believes process safety is an essential contributor to an organization's overall effectiveness.

Sources:
CSB. "Investigation Report: Combustible Dust Hazard Study." United States Chemical Safety Board. Nov. 2006. <https://www.csb.gov/combustible-dust-hazard-investigation/>

OSHA. "Health and Safety Topics: Grain Handling." United States Occupational Health and Safety Administration. <https://www.osha.gov/SLTC/grainhandling/index.html>

