COMBUSTIBLE DUST ROADMAP

This Roadmap is a high-level summary of steps for a process owner to consider if combustible dust may be produced or handled in their facility. The process owner’s final selection of dust collectors and risk mitigation strategies should be based on outcomes of a Dust Hazard/Process Hazard Analysis performed by the facility owner. Although early engagement of a dust collector supplier provides helpful insights on the availability and features of various products, facility owners should consult with a combustible dust expert and/or a process safety expert before making actual product and mitigation strategy selections.

Dust Hazard Analysis [DHA]:
A Dust Hazard Analysis allows a process owner to determine potential combustion risks for dusts produced or handled in their facility.

Dust and Process Hazard Analysis [DHA & PHA]:
A Dust and Process Hazard Analysis allows the process owner to review combustion risks in their processes, and assists the process owner in determining if additional testing and/or mitigation activities are needed to reduce their combustion risks.

Important Information:
It is the process owner’s responsibility to understand the risks in their processes and to mitigate those risks in accordance with all applicable laws, regulations and standards, including consideration of those published by the NFPA. However, this Roadmap may not identify all potential mitigation strategies or do not cover the commissioning and on-going testing and maintenance required for various mitigation strategies. This Roadmap is a high-level summary of steps for a process owner to consider and is not intended as a replacement for full-scale risk assessments of applicable laws, regulations, and standards. Equipment suppliers can assist process owners in understanding what products are available to help mitigate those risks but they are not regulatory experts. If you need assistance selecting or implementing options in the field, please contact us and we will assist you in finding resources on a case-by-case basis. Please note that various strategies can help mitigate, but not eliminate the risks of fire and explosion.

Dust and Process Hazard Analysis [DHA & PHA]:
Completed and Maintained by the Process Owner

Dust Combustibility/ Data and/or Tests

Dust is Not Combustible

If Dust is confirmed as Not Combustible, additional testing and mitigation may not be required.

Dust Not Combustible

On/Off Screening
Dust is Combustible

Gather samples and forming are representative. Samples may require special handling to ensure they only represent (e.g. avoid oxidation during transmission and storage).

Dust Combustibility Testing:

Determines if dust can burn in a pile

Exposability Testing:

Determines if dust can propagate an explosion

Consider Dust Prevention

If Dust is confirmed as Combustible, additional testing and mitigation may be required.

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Consider Explosion Prevention

Dust Prevention

Prevention

Coolant

A recognized fire control expert may define mitigation

PREVENTION: Ignition Source Mitigation Strategy Considerations

The results below reflect common situations, however, mitigation strategies are influenced by variables not included in this simplified chart. Process owners should use the outcome of their DHA/PHA and discussions with mitigation strategy experts before making actual strategy selections.

Dust Reaction

No – However, sparks and activities may represent potential ignition sources.

Embers How to Extinguish

DHA/PHA may indicate dust Mitigation is acceptable and no action need be taken except for dust storage or other areas where dust may accumulate.

Sparks How to Extinguish

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