

Highlights of NFPA 652-2019, Standard on the Fundamentals of Combustible Dust

Ensure your Combustible Dust Operations are in order before September 7, 2020

[NFPA 652, Standard on the Fundamentals of Combustible Dust](#), was revised in 2019. The updated standard provides **new requirements** for **industries with combustible dust hazards**.

NFPA 652 states organizations with possible combustible dust hazards need to do the following:

- Determine the combustibility and explosibility hazards of the materials
- Identify and assess any fire, flash fire, and explosion hazards
- Manage the identified fire, flash fire, and explosion hazards
- Communicate the hazards to affected personnel.

These expectations are somewhat different than the previous NFPA 652 requirements because they **apply to existing processes**. Before, existing processes were mostly exempt from these requirements. Read about the highlights of the NFPA 652 to learn more about combustible dust requirements:

HAZARD IDENTIFICATION

The standard lays out acceptable testing methods to assess the combustibility and explosibility characteristics of the materials. A sampling plan needs to be written to comply with hazard identification expectations.

DUST HAZARDS ANALYSIS (DHA)

NFPA 652 explicitly states a DHA is required for **all new processes** and facility compartments going forward. However, the standard provides **September 7, 2020 as a deadline** to ensure a DHA is completed for **existing processes** and facility compartments.

DHAs must be performed by a **qualified person** and **reviewed and updated every 5 years**.

NFPA 652 outlines the methodology to conduct a DHA. The DHA must include identification and evaluation of the process or facility areas where fire, flash fire, and explosion hazards exist.

NFPA 652 defines a combustible dust as:

A finely-divided combustible particulate solid presenting a flash-fire hazard or explosion hazard when suspended in air or the process-specific oxidizing medium over a range of concentrations.

In layman's terms: *any fine material (dust) with the potential to catch fire and explode when mixed with air.*

Examples of possible combustible dust include: **wood, powdered metals**, plastics, rubber, chemical dusts, textiles, sugar, and grains.

If you have any question about whether your dust is combustible, consult with a testing facility regarding the combustibility risk of your dust.

When a hazard exists, the DHA must also include identification of safe operating ranges, safeguards in place to manage the hazards, and recommendations of additional safeguards (when needed) with a plan for implementation.

The qualified person must conduct a critical evaluation of the material(s), process systems, and building or building compartments.

HAZARD MANAGEMENT

With any implemented safeguards, organizations must ensure they promote life safety, plan for failure, and ensure the facility and processes are designed to reduce fire spread and explosions. Be advised OSHA continues to focus on specific industry groups who experienced combustible dust incidents, through the [Combustible National Dust Emphasis Program](#).



COMMUNICATION

Organizations must establish a **training program** for employees, contractors, temporary workers, and visitors to inform them on potential exposures to combustible dust hazards and the possible risks. A tiered approach is expected, including general safety training and hazard awareness training for all affected employees and job-specific training regarding fire and explosion hazards.

NFPA 652 states the need for a **written emergency response plan** for fires and explosions related to combustible dust operations. The plan needs to be reviewed and updated annually.

Organizations must **investigate all incidents** related to combustible dust operations, then use the findings to determine recommendations to avoid further occurrences.

NFPA says organizations need to have **written management of change procedures** in place to manage proposed changes to process materials, staffing, job tasks, technology, equipment, procedures, and facilities.

Organizations need to have **document retention process**. Any supporting files related to combustible dust hazards must be maintained (e.g., training records, equipment inspections and testing, maintenance records, DHAs, contractor records).

Periodic management system reviews must be accomplished to evaluate the effectiveness of the safeguards. Management system reviews need to actively involve affected personnel.

NFPA 652 was created to help you develop a strategy to manage combustible dust hazards. The NFPA does have additional standards related to combustible dust, so be sure to read those too and determine which apply to your organization.

For additional information on the SMCX's services, please visit the SMCX-hosted website at: <https://www.smcx.org/>.

