Critical Issues for Safer Dryer Operations

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ABSTRACT

Drying is a potentially hazardous operation that requires special consideration. To make this operation safer, it is critical to identify the hazards associated with decomposition, fire, and explosion including worst-case scenarios resulting from operational and control failures at elevated temperature. Choosing the right tests will recognize and more importantly quantify hazards, conducting a process hazard analysis identify/evaluate operational problems, and using a risk assessment technique quantifies the hazards in engineering terms. This approach allows for the right level of safeguards because there is a fundamental understanding magnitude and probability of an adverse event. This approach allows in part for compliance regulations with Occupational Safety & Health Administration (OSHA) Process Safety Management (PSM), OSHA Combustible Dust National Emphasis Program (Reissued), OSHA Grain handling facilities standard [29 CFR 1910.272], and good engineering practices in general. Additional issues include the application of a variety of specific National Fire and Protection Association (NFPA) standards, e.g., NFPA 654: Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particles Solids.