Circular Economy Hazards: Re-use, Re-purposed Materials and Unknowns Fatality File



US Department of Labor cites Massachusetts chemical manufacturer for combustible dust, chemical process violations after fatal explosion

What Happened

On May 4, 2023, a worker at PolyCarbon Industries Inc./SEQENS SAS – a pharmaceutical and chemical manufacturing facility in Newburyport, Massachusetts – was fatally injured when a pressure vessel exploded during the production and drying of a chemical product called Dekon 139. The explosion occurred because the combustibility hazards of the materials used in the production process had never been determined – meaning workers were handling a substance whose full hazard profile was unknown to the employer and unaddressed in the facility's safety procedures.

What Went Wrong

OSHA investigators found that PolyCarbon/SEQENS failed to determine the combustibility hazards of the materials in the Dekon 139 process, failed to establish safe temperature limits to prevent decomposition, failed to update the safety data sheet for the product, and failed to act on findings from a compliance audit completed just six months before the fatality. The company had the information it needed to identify the hazard – and did not act on it. OSHA cited the company for 11 violations, including eight serious and two repeat, and proposed $298,254 in penalties.

The Bottom Line

"The requirements of OSHA's Process Safety Management standard are stringent and comprehensive because failure to comply fully can have a severe or catastrophic impact on employees that, in this case, cost a worker their life," said OSHA Area Director Sarah Carle. A chemical whose hazards have not been fully characterized is an uncontrolled hazard – whether it arrives as a new substance,

a repurposed material, or a product in active production. Knowing what a material can do under all foreseeable conditions is not optional. It is the foundation of every control that keeps workers alive.

Source: https://www.dol.gov