

Idle Does Not Mean Safe

November 2022



▲ An explosion at an ink and paint manufacturing facility caused significant damage to the nearby community. Image courtesy of the U.S. Chemical Safety and Hazard Investigation Board.

At 2:46 AM on Nov. 22, 2006, a violent explosion occurred at an ink and paint manufacturing facility in Danvers, MA. The explosion destroyed the facility, destroyed or damaged nearby homes and businesses, and shattered windows as far as two miles (3.2 km) away.

On Nov. 21, at about 1 PM, employees began mixing a 2,000-gal batch containing flammable solvents. The production manager opened the steam valve at about 3 PM to begin heating the mixture to 90°F (32°C). At 5 PM, the production manager returned and found the mixture at ~90°F and left the mixer on to prevent undissolved resin from settling. At 6 PM, the last employee turned off the dust collector fans, exhaust fans, and fresh air supply fan, locked the building, and left for the night. As the tank continued to heat, flammable vapors escaped and accumulated in the building due to the inactive ventilation systems. At 2:46 AM, the explosion occurred. Officials ordered an evacuation of about 300 residents and ten businesses within the incident area. Read the U.S. Chemical Safety and Hazard Investigation Board (CSB) Report No. 2007-03-I-MA for more information.

The end of the year brings holidays to many parts of the world. Units or parts of operations may be shut down to reduce inventories or allow employees time off. This could mean a unit may not be in operation but still holds hazardous materials like the tank in this incident.

Did You Know?

- Process materials remain hazardous even when stored in the correct process equipment.
- Equipment that is shut down or idled still needs to be monitored, and alarms need to be addressed.
- Reactive materials in process equipment may continue to react even below the specified reaction temperatures. The materials should be stored where they are safest.
- Conditions can change during a shutdown. Valves can leak or process drains can be left open.
- Plants may use idle time to conduct maintenance, which can also cause changes to equipment or process conditions.
- When employees take vacation to celebrate holidays, crew size may be reduced and people may be performing tasks they have not done in a while.
- The “holiday atmosphere” can be a distraction to those who are running the plant.

What Can You Do?

- When equipment is shut down or idle, continue to monitor process data and alarms.
- Field rounds should be conducted with the same diligence as when the unit is in full operation to ensure safe conditions.
- If process materials are left in the equipment, note the material and inventory in the shift logbook.
- Double-check that any drains and vents opened when emptying equipment are closed and all caps and plugs are reinstalled.
- If crew assignments require you to do a task that you haven't performed in a while, take extra time to read the procedure thoroughly. Watch for steps or personal protective equipment (PPE) requirements that may have changed since you last did the task.
- Do not allow yourself or others to be distracted by holiday activities. Stay focused on your work and celebrate later.

Ensure that your operations remain safe during the holidays.