



CHEMICAL MANUFACTURING FACILITY CONTAMINATION

Case Study

Incident

At a chemical manufacturing facility, an employee attempted to redistribute 2,000 pounds of a powdered chemical into four 500-pound containers. The hopper used was not properly cleaned and therefore, the chemicals reacted with each other causing a fire and chemical cloud to engulf the facility. While the main damage of the fire was isolated to one area, the fire released a corrosive gas, which began to cause corrosion of varying degrees throughout the entire production and packaging floor. A large amount of steel began to rust and/or oxidize. Additionally, the electronics had a fine layer of soot in most cabinets.



Challenges & Logistics

A large amount of equipment, including packaging and production equipment, mixing tanks, electrical controls/distribution equipment and blow molding machines were affected. In addition, much of the electrical distribution equipment suffered from years of lack of maintenance, making the decontamination efforts more difficult.

In order to develop a plan for the equipment decontamination, AREPA was required to perform three separate site inspections. As the factory was still in production, the AREPA team had to alter plans daily to accommodate the production needs.

Outcome

As most of the equipment was custom, equipment restoration was the more cost- and time-effective solution. AREPA was able to restore all of the equipment that was deemed restorable.

Highlights

- An employee attempted to redistribute 2,000 pounds of a powdered chemical into four 500-pound containers.
- The hopper was not properly cleaned causing the chemicals to react with each other, which resulted in a fire and chemical cloud to engulf the facility.
- While the main damage of the fire was isolated to one area, the fire released a corrosive gas, which began to cause corrosion of varying degrees throughout the entire production and packaging floor.
- A large amount of steel began to rust and/or oxidize and the electronics had a fine layer of soot in most cabinets.
- Much of the electrical distribution equipment suffered from years of lack of maintenance, making the decontamination efforts more difficult.
- To develop a plan for equipment decontamination, AREPA was required to perform three separate site inspections.
- The factory was still in production so the AREPA team had to alter plans daily to accommodate the production needs.
- As most of the equipment was custom, equipment restoration proved to be more cost and time-effective.
- AREPA was able to restore all of the equipment that was deemed restorable.