Spray Painting Safety Fatality File



Painter Dies from Burns Received from Explosion Inside Tank

A 41-year-old male painter (the victim) suffered burn injuries from an explosion which occurred while he was painting the inside of a 1300-gallon tank. He died 5 days later. A 32-year-old male painter (co-worker) stationed outside the tank suffered burns and a broken arm.

The victim and co-worker had been assigned to paint the inside of a recently fabricated 1300-gallon steel tank. The tank measured 68 inches high, 75 inches in diameter and stood vertically with a 22-inch diameter manway opening on the top.

The victim entered the tank by stepping on the mixing blades that had been built into the inside of the tank. He was wearing a supplied air respirator (without an auxiliary escape Self Contained Breathing Apparatus (SCBA)), welders cap, coveralls, rubber gloves, and steeltoe boots. To provide lighting for the victim, the co-worker positioned a 500-watt, non-explosion-proof halogen lamp over the manway opening. The co-worker then sat on top of the tank next to the manway to observe the victim. He (the co-worker) was wearing a dust/mist respirator. Using an airless spray gun, the victim began spray painting the inside of the tank with an epoxy base paint. The victim had completed painting the bottom and sides of the tank, and as he was painting the top when the spray gun nozzle hit the lamp, breaking the sealed beam. This ignited the epoxy vapor which caused a flash fire explosion. The victim was able to climb out of the tank unassisted. He then removed the respirator mask and both the victim and co-worker walked approximately 300 feet to the office. There they explained to office personnel what had happened. Office personnel notified the local Emergency Medical Service (EMS). Police officers who were in the area heard an emergency call concerning the explosion and arrived at the scene in 3 minutes. A rescue squad ambulance arrived 10 minutes after being notified and transported the victim to a local hospital emergency room. The co-worker was taken to the same hospital in another worker’s car. Both workers were fully conscious and able to converse while being transported to the hospital and while medical care was being administered in the emergency room. The victim suffered second and third degree burns on 40% of his body (thighs, hands, arms and chest). The co-worker suffered first and second degree burns on 12% of his body (face and neck), and suffered a broken am from falling off the top of the tank after the explosion. The two workers were transported the same day to a near-by burn center where they were hospitalized. The co-worker recovered sufficiently to be released from the hospital 8 days after the incident. The victim died from burn complications 5 days after the incident.

Cause of Death

The attending physician listed the immediate cause of death as respiratory failure. This was due to respiratory complications because of thermal burns affecting 40% of the victim’s body.