Ammonia Kills Worker

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A simple broken weld seam caused the death of a 68-year-old man, when an anhydrous ammonia tank ruptured.

Anhydrous ammonia is a fertilizer, injected into the soil from steel cylinders called nurse tanks. The ammonia is compressed from gas into liquid for transport in cylinders. These are tough tanks, withstanding internal pressures of 250 pounds per square inch (1. 75 MPa.)

The victim and his co-worker were filling tanks with anhydrous ammonia at a refilling station. He had just finished and disconnected the nurse tank, when the tank seam split. Caustic gas exploded outward. He quickly shut off the refilling station valve and ran to help his co-worker who had been slammed against a pickup truck and knocked out.

An emergency response team stabilized them, but both suffered chemical burns to more than 50 percent of their bodies, plus eye and respiratory injuries. The co-worker survived, but the victim died 13 days later from pneumonia caused by inhalation burns.

The workers should have headed upwind when the release of anhydrous ammonia occurred, moving at least 200 feet (60 meters) from the source. A life might have been saved if they had had emergency response training. Their employers should have been doing periodic testing to ensure their anhydrous ammonia tanks were structurally sound.

Source: Iowa, Fatality Assessment and Control Evaluation (FACE) Program, Case Report 031A027