Cornstarch Processing Tank – Confined Space



Fatality File

> ***"Somebody better do something about that [propylene oxide (PO)] gas before someone gets killed in there."***

"*[I]n there*" was a cornstarch processing tank, a tight and dangerously restricted area known as a "confined space." And within hours after these words were uttered, a worker making repairs inside that space succumbed to toxic PO vapors. In a twist of tragic irony, the victim was 54-year-old Jim Beals, the very worker who had sounded the all too prophetic warning to begin with.

How Jim Beals Died in a Confined Space

The tragedy began when Beals and co-worker Jerry Sumner, both mechanics, were ordered to make repairs inside a cornstarch processing tank.

"This was a boilermaker's job," Mr. Sumner recounts "that we'd never done before." But the supervisor reassured them that the vessel was safe and ordered them to go in. And so they did.

The tank met the OHS criteria for a "confined space" requiring special safety measures. Sadly, none of those measures were taken. The two workers had to "worm their way into" the narrow 12" x 18" opening. The crawl space inside measured 24". The insides were "slimy." And the round surface made walking tough.

But the real danger was the one Beals had expressed concern about earlier that day: the toxic PO gas.

Less than 15 minutes after entering the tank, Sumner detected a liquid chemical seeping into the tank from an open vent. "Then we started choking and I realized it was PO," Sumner relates. "We were suffocating, and I told Jim I was getting the hell out of there."

Sumner remembers "going toward the light" and escaping. "I tried going back in for Jim," he continues, "but my eyes were burning too much."

After recovering his vision, Sumner strapped on a Scott air pack and tried to go back in. But he couldn’t get through the opening with the pack on. Ironically, the breakdown in the rescue procedure saved his life. “I later found out there was almost no oxygen in the air pack.”

Beals would never make it out of the tank alive. He was overcome by the PO vapors and died of asphyxiation.