Toluene Vapors Kill Lab Employee

A laboratory used for analyzing rock samples in the oil and gas industry was the scene of a fatal chemical exposure.

Two baskets of ore samples were being bathed for several days in vapors of the solvent toluene. They were contained in a piece of lab equipment known as a vapor phase extractor. The cooling system of the extractor had been shut off, allowing a high concentration of vapors to accumulate under the lid. The worker was exposed to a fatal concentration of toluene vapors when he opened the lid of the extractor. He was not wearing proper respiratory protection equipment for work in the extractor room.

About an hour and a half after the normal end of his shift, co-workers making a security check noticed his vehicle in the parking lot. They went looking for him and through the window of the lab door saw him lying unconscious on the floor. The worker was pronounced dead at the scene.

The toxicology report showed the worker had been exposed to a concentration of greater than 10,000 parts per million toluene, resulting in severe depression to the central nervous system. After this fatality, the employer reviewed safe working procedures for the area. The room containing the extractor was treated as a confined space and workers were required to wear respiratory protective equipment at all times. Also, the vapor extractor was redesigned to prevent the lid from being opened when there is a concentration of vapors in the top.

Do you always wear the PPE (personal protective equipment) required for your safety and health? If you work alone, do you participate in an effective person-check system so someone will know if you get into trouble?