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RECENT DEATHS BY CHEMICAL ASPHYXIATION UNDERSCORES NEED FOR CHEMICAL RISK ASSESSMENT, CHEMICAL HAZARD PLANNING, AND EMERGENCY RESPONSE.



Houston, Texas. May 27, 2015 – Juler Group Incorporated identifies chemical risk assessment and emergency response as an acute need for HSE professionals.

Four people lost their lives after a lethal exposure to toxic Methyl Mercaptan gas upon opening a drain on a vent line. The worker who opened the vent succumbed instantly to this toxic chemical, and when three others came to their aid they also succumbed to the toxic agent one by one.

Methyl Mercaptan is a chemical asphyxiate with an OSHA ceiling limit of 10ppm. OSHA defines the ceiling limit as “An employee's exposure to any substance in Table Z-1, the exposure limit of which is preceded by a "C", shall at no time exceed the exposure limit given for that substance. If instantaneous monitoring is not feasible, then the ceiling shall be assessed as a 15-minute time weighted average exposure which shall not be exceeded at any time during the working day.”

The OSHA C-limit of 10ppm is a factor of 20 greater than the NIOSH C-limit of 0.5ppm, which indicates that it is a greater health risk than intimated by OSHA limits. Risk assessment personnel would have noted this dramatic difference and planned accordingly for “potential” hazard events including initiators. After reviewing one manufacturer's safety data sheet it was not apparent that this chemical could result in a catastrophic death by toxic chemical asphyxiation, but only a extreme fire hazard. Understanding the danger requires due diligence.

HSE professionals should view this event as a reminder of the need for proper risk assessment for all chemicals and hazardous agents in their work place. This event underscores several key needs:

- The completion of a thorough chemical risk assessment that includes regulated limits as well as limits set forth by NIOSH, ACGIH, and the manufacturer of the product or chemical. The incident reveals that incomplete process safety practices were in place,
- The hazard analysis should include all “potential” hazards or hazard initiators in the process stream. The incident revealed the gas was released from the drain unexpectedly indicating a potential hazard was overlooked.
- The completion of the documented risk assessment including a hazard control plan that outlines detection needs, and emergency response procedures.

For the occupational health professional the importance of this activity and the need to craft a deliberate plan that incorporates all chemicals and hazardous agents for all “potential” hazards must be recognized to avoid a tragedy.

Juler Group Incorporated is a professional and technical services company offering total solutions for the occupational health and safety professional. Juler Group provides risk assessment services, industrial hygiene support, safety culture/program design and implementation, HSE audits, process safety services, leadership and ethics services, and unequalled training development and delivery.

For further information regarding our chemical risk assessment services contact Robert Juler at 800.698.2826.