



Top 5 Reasons to Continuously Monitor Ethylene Oxide, Hydrogen Peroxide and Peracetic Acid

Sterilant chemicals, such as Ethylene Oxide (EtO), Hydrogen Peroxide (H₂O₂), and Peracetic Acid (PAA), are essential to the delivery of safe and effective healthcare. Unfortunately, exposure to these chemicals pose significant risks.

The most effective way to protect workers from sterilant chemicals is continuous, around-the-clock gas monitoring systems, and here is why:

1 Sterilant chemicals are highly toxic and pose serious health risks.

The sterilant chemicals used to reprocess medical equipment are designed to kill all microorganisms, including resistant spores in certain bacteria. If they were not toxic, they would not be effective. Many studies have associated a variety of adverse health conditions - cancer, asthma, dermatitis, and reproductive difficulties, such as miscarriage - to the exposure of these chemicals.

OSHA penalties can range from \$5,000 to \$70,000 per violation.

Source: Section 17 of OSH Act

“ It is unacceptable that the workers who have dedicated their lives to caring for our loved ones when they are sick are the very same workers who face the highest risk of work-related injury and illness. These injuries can end up destroying a family’s emotional and financial security. ”

Dr. David Michaels
Assistant Secretary of Labor Occupational
Safety and Health Administration

More than 250,000 health care workers are injured every year at work.

Source: Hospital & Health Networks



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It is the law to provide a safe work environment.

The Occupational Safety and Health Act (OSHA) outlines legalized regulations and standards for chemical sterilization, including a clause that permits them to prosecute employers who are complacent. Employers are also required to alert employees of any leaks. Employers should reference and take into consideration permissible exposure limits (PELs) outlined by OSHA, threshold limit values (TLVs) put in place by the American Conference of Government and Industrial Hygienists (ACGIH), NIOSH recommended exposure limits and the EPA's acute exposure guideline levels (AEGs). Creating the safest work environment is key to avoiding penalties and greater insurance premiums considering OSHA can conduct random inspections and act in response to employee complaints.

3

It pays to monitor.

In fact, one dollar spent on safer workplace conditions can deliver a \$3 return on investment. Patient care cannot be successful when healthcare workers are absent due to illness or injury. Oftentimes, the cost involved with employee turnover is overlooked, especially when it comes to properly training a sterile processing technician. Employees who feel valued and protected will perform better and are less likely to resign.

Sources: International Agency for Research on Cancer, National Toxicology Program, Occup. Environ. Med, Sangyo Eiseigaku, OSH Act of 1970, EPA, ACGIH, NORA, The American Society of Safety Engineers, Liberty Mutual

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Medical sterilization equipment fails.

Just as a car can suddenly break down and fail at any time, so too can sterilization equipment - especially the more it's used. Even with the best intentions, busy workers are human and make mistakes that lead to failed cycles, chemical residue and vapor exposure.

5

Smell is not a reliable detection method.

Our sense of smell is great for determining if a piece of fish is fresh, but not for determining if the peracetic acid vapor concentration exceeds 0.4 ppm. In fact, EtO and H₂O₂ vapors have no smell until far above safe levels.

There is no such thing as a harmless sterilant chemical. They are designed to kill all life. Healthcare facilities must protect themselves and their workers by putting forth maximum efforts dedicated to safety. Facilities that proactively and continuously monitor their working environment for hazardous chemical leaks and vapors, while instituting employee training, engineering controls and regular equipment maintenance, are setting the standard for protecting workers.

About ChemDAQ

ChemDAQ is a leading advocate for regulations and worker safety. The company is dedicated to protecting workers from toxic gas and chemical exposure by providing best-in-class monitoring products for ethylene oxide, hydrogen peroxide, and peracetic acid.

