



Weekly Safety Meeting

Ethylene Oxide Safety

Ethylene Oxide is a flammable, colorless gas with a faintly sweet odor that smells like ether at toxic levels. Above its boiling point of 51.3°F, it is a gas, but below that temperature it is a liquid. It is mainly used to make other chemicals. Large amounts are used in the production of plastics, solvents, antifreeze, textiles, detergents, adhesives, and polyurethane foam. Smaller amounts are used to sterilize devices such as medical and dental equipment and food products like dried seeds, nuts, vegetables and spices. According to the FDA, about half of all sterile medical devices are treated with EtO.

EtO Gas is Toxic

Ethylene oxide is a known carcinogen; it is dangerous to breathe. Per OSHA, the permissible exposure level (PEL) for airborne concentrations is one (1) part EtO per million parts of air (1 ppm) as an 8-hour time-weighted average. The action level (AL) for EtO is just .5 ppm. Breathing in EtO is known to cause cancer, specifically leukemia, lymphoma, and breast cancer. Anyone working with airborne EtO at or higher than these levels should have a NIOSH-approved supplied-air respirator or a full-facepiece or continuous flow respirator with an EtO-approved canister.

Recent Protections

On January 14, 2025, the US EPA took steps to decrease the levels of EtO that workers in many industries are exposed to, because insufficient protections are currently in place for many workers. Currently the use of EtO is regulated as a pesticide, but the Interim Decision includes protections for commercial sterilizers and healthcare facilities.

Employer Responsibilities

When workers process, use, or handle EtO or products containing EtO, employers should conduct compliance activities such as air monitoring, medical examinations, labeling, and providing employees information and training about EtO.

Employers should conduct initial monitoring to determine EtO concentrations, then periodic exposure monitoring, and additional monitoring if any changes have occurred in the workplace conditions.

Affected employees should be able to observe TWA monitoring and be advised of the results within 15 days of the receipt of the results. Employers should make every effort to remove airborne EtO

through use of engineering controls and work practices to limit employee exposure. Employers are required to keep medical records for 30 years concerning employee exposures to EtO.

Employee Responsibilities

Employees should protect against exposure from EtO by following some basic safety precautions. When working with liquid EtO, (below 51.3°F), employees should always wear goggles and skin protection where there is a risk of splashes. When working with airborne EtO, proper respiratory protection should be used as well as other PPE and protective clothing. Any clothing degraded by EtO should be disposed of. Employees should see a doctor if exposed to EtO. Lastly, employees should never eat, drink, or smoke while working with EtO.

ADVOCATE FOR YOUR HEALTH...LEARN ALL ABOUT EtO!

Safety Meeting Sign-In Sheet

Supervisor:	Subject:
Location:	Date:
Conducted By:	Trainer Signature:

Name (print clearly)	Signature	Comments / Safety Concerns / Training Requests