



# Safety Tip of the Week

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## 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 & Employee 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. Employees should always wear goggles, skin protection, respiratory protection, and PPE when exposure to EtO is possible in any form. Extreme cautions should be taking when working with this toxic substance.

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