



Ethylene Oxide Fact Sheet

for field use with mobile monitoring instruments

This Field Guide provides a summary of the different mobile monitoring comparison values developed by the Toxicology, Risk Assessment, and Research Division for use in evaluating real-time mobile monitoring data in the field.

All derived mobile monitoring comparison values are intended to be used as guidance. Field investigators and mobile monitoring staff should use their own discretion when deciding to mitigate exposure, such as when experiencing health effects or intense odors, regardless of measured concentrations.

What is Ethylene Oxide?

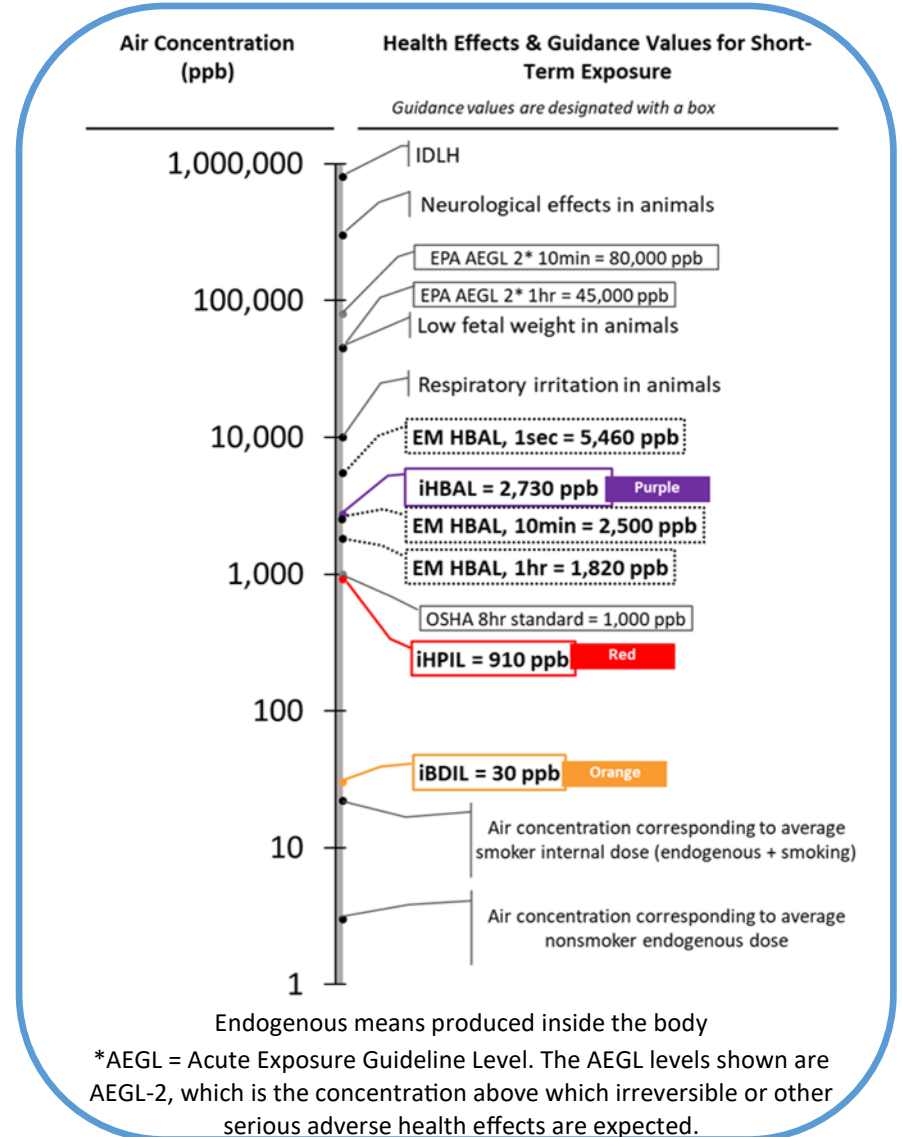
- Ethylene oxide is a clear colorless gas with a sweet odor
- Ethylene oxide is used to make antifreeze, textiles, medicine, and is used to sterilize steam-sensitive items such as medical equipment and spices
- Ethylene oxide is produced naturally in the human body

At What Levels Can Ethylene Oxide Cause Harm?

Breathing high levels of ethylene oxide for a short period of time can affect the central nervous system. Repeated exposure to high levels over several days resulted in reduced fetal weights in rats. Long-term exposure (e.g., many years) to high levels in workers is associated with an increased risk for cancer (i.e., lymphoid cancer).

Mobile Monitoring Comparison Values

iBDIL (ppb)	Orange	30	iBDIL - instantaneous baseline-derived investigation level
iHPIL (ppb)	Red	910	iHPIL - instantaneous health-protective investigation level
iHBAL (ppb)	Purple	2,730	iHBAL - instantaneous health-based action level
^{EM}HBAL_{10min} (ppb)		2,500	^{EM}HBAL_{10min} - 10-minute health-based action level for exposure mitigation
^{EM}HBAL_{1hr} (ppb)		1,820	^{EM}HBAL_{1hr} - 1-hour health-based action level for exposure mitigation
^{EM}HBAL_{1sec} (ppb)		5,460	^{EM}HBAL_{1sec} - 1-second health-based action level for exposure mitigation



For more information on EPA's AEGL values, please see EPA's website.