

ITRC (Interstate Technology & Regulatory Council). 2023. Ethylene Oxide Emissions Guidance EtO-1. Washington, D.C.: Interstate Technology & Regulatory Council, EtO Team. https://eto-1.itrcweb.org/.

Acronyms

ACC	American Chemistry Council
ACGIH	American Conference of Governmental Industrial Hygienists
ACS	American Chemical Society
ADEM	Alabama Department of Environmental Management
AQS	Air Quality System
ASOS	Automated Surface Observing Stations
atm	standard atmospheric pressure
ATSDR	Agency for Toxic Substances and Disease Registry
BEI	Biological Exposure Indices
CAA	Clean Air Act
California EPA	California Environmental Protection Agency
CAS	Chemical Abstracts Service
CDC	United States Centers for Disease Control and Prevention
CEMS	Continuous Emissions Monitoring Systems
CFR	Code of Federal Regulations
CO2	carbon dioxide
CRDS	Cavity Ring Down Spectroscopy or Cavity Ring-Down Spectroscopy
ECH	ethylene chlorohydrin
EJ	environmental justice
ERG	Eastern Research Group
EtO	ethylene oxide
FDA	United States Food and Drug Administration
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FTIR	Fourier-transfer infrared spectrometry
GSH	glutathione
НАР	hazardous air pollutant
НЕМА	short-term urinary mercapturic acid metabolite of EtO
HEV	hemoglobin EtO adducts, specifically 2-hydroxyethylvaline
HHS	United States Department of Health and Human Services
HON	hazardous organic NESHAP
IARC	International Agency for Research on Cancer
inHg	inches of mercury [1 inHg = 0.0334 atmospheres]
IRIS	Integrated Risk Information System

LJidentification of analyte is acceptable; reported value is an estimateLKanalyte identified; reported value may be biased highMACTmaximum achievable control technologyMEG(imono)ethylene glycol, also known as EG or ethylene glycolMI EGLEMichigan Department of Environment, Great Lakes, and Energyµg/m³microgram per cubic meterMONmiscellaneous organic chemicalNAICSNorth American Industry Classification SystemNATANational Air Toxics AssessmentNATTSNational Air Toxics Trends StationsNEINational Emissions InventoryNEJACNational Emission Standards for Hazardous Air PollutantsNHANESNational Institute for Occupational Safety and HealthNWENew World EncyclopediaOELoccupational exposure limitsOSHAOccupational Safety and Health AdministrationPPEpersonal protective equipmentPpmparts per millionPpmparts per millionpptparts per square inch of pressureRTRrisk and technology reviewSCDHECSouth Carolina Department of Health and Environmental ControlTADTechnical Assistance DocumentTCEQTexas Environmental Commission on Environmental QualityTOToxics Release InventoryUDHHSUtab Department of Health and Human ServicesUSEPAUnited States Environmental Protection AgencyVOCvolatile organic compound	ITRC	Interstate Technology and Regulatory Council
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VOC volatile organic compound	USEPA	United States Environmental Protection Agency
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Glossary

Accuracy

[glossary_exclude]Accuracy[/glossary_exclude] of an analytical measurement is how closely the result corresponds to the true value. This normally requires the use of standards to carefully calibrate the analytical methods (ITRC 2017a).

Adduct

In this case, chemical reaction product of EtO with a biological molecule such as a DNA base or protein (Bolt, Peter, and Fost 1988).

Ambient

That portion of the atmosphere, external to buildings, to which the general public has access (40 CFR 50.1(e) 1971).

Analytical Background

Interference or instrument signal or noise that could impede accurate analytical measurement.

Anthropogenic

Activity resulting from human activities (ITRC 2017a).

Background

Natural or baseline air quality at a site that can be characterized by upwind, historical, or sometimes crosswind air quality (modified from ITRC 2017a).

Biogenic Emissions

Biogenic emission sources are emissions that come from natural sources and need to be accounted for in photochemical grid models because most types are widespread and ubiquitous contributors to background air chemistry (USEPA 2022c).

Fugitive Emissions

Emissions that could not reasonably pass through a stack, chimney, vent, or functionally equivalent opening (40 CFR 70.2 1992).

Inhalation Unit Risk (Estimate)

The upper-bound excess lifetime cancer risk estimated to result from continuous exposure to an agent at a concentration of $1 \mu g/m^3$ in air. The interpretation of inhalation unit risk would be as follows: If unit risk = 2×10^{-6} per $\mu g/m^3$, two excess cancer cases (upper-bound estimate) are expected to develop per 1,000,000 people if exposed daily for a lifetime to $1 \mu g$ of the chemical per m³ of air (USEPA 2023I, o).

Method Detection Limit

The minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results (USEPA 2016c).

Method TO-15 and TO-15A

USEPA Methods TO-15 and TO-15A define performance criteria for sampling, measurements, and analysis of volatile compounds in air contained in canisters and are primarily used to monitor airborne pollutants in urban and industrial environments (Whitaker et al. 2019).

Moisture

Liquid diffused or condensed in relatively small quantity (Merriam-Webster 2023).

Nondetect

Nondetects are reported as the sample quantitation limit, defined as three times the standard deviation of seven replicate spiked samples handled as environmental samples, corrected for sample dilution and other sample-specific adjustments (USEPA 2022k).

Precision

[glossary_exclude]Precision[/glossary_exclude] is the reproducibility of multiple measurements, usually described by a standard deviation, standard error, or confidence interval (ITRC 2017a).

Renewable Feedstocks

[glossary_exclude]Renewable feedstocks[/glossary_exclude] entail the elimination of nonrenewable carbon resources such as coal, oil, and natural gas as feedstocks for organic chemistry, otherwise known as defossilization (Stahl 2023).

Repeatability

The degree of agreement between independent test results produced by the same analyst using the same test method and equipment on random aliquots of the same sample within a short time period (USEPA 2002).

Robustness

The ability of a sampling or measurement event to be repeated in varied conditions over a period of time.

Selectivity

The extent to which the method can be used to determine particular analytes in mixtures or matrices without interferences from other components of similar behavior (IUPAC 2001).

Sensitivity

[glossary_exclude]Sensitivity[/glossary_exclude] is the smallest amount of a substance in a sample that can be measured accurately (ITRC 2017a)