40 CFR 50.1(e). 1971. Definitions https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-50/section-50.1

40 CFR 70.2. 1992. 70.2 Definitions
https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-70/section-70.2#p-70.2(Fugitive%20emissions)

49 CFR 171.15. 2003. Immediate notice of certain hazardous materials incidents.
https://www.ecfr.gov/current/title-49/subtitle-B/chapter-I/subchapter-C/part-171/subpart-B/section-171.15

59 FR 6289. 1994. Subpart O – Ethylene Oxide Emissions Standards for Sterilization Facilities.: United States Environmental Protection Agency. https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-63/subpart-O

ACC. 2019a. The economic benefits of ethylene oxide and the potential cost of deselection. American Chemistry Council.
https://www.americanchemistry.com/industry-groups/ethylene-oxide/resources/the-economic-benefits-of-ethylene-oxide

ACC. 2019b. "EtO Product Tree." American Chemistry Council.
https://www.ecfr.gov/current/title-49/subtitle-B/chapter-I/subchapter-C/part-171/subpart-B/section-171.15.

ACC. 2022. "EtO webpage." American Chemistry Council.
https://www.americanchemistry.com/chemistry-in-america/chemistries/ethylene-oxide.

ACC. 2023a. Ethylene Oxide Powering Electric Vehicles and Global Sustainability Efforts. American Chemistry Council.
https://www.americanchemistry.com/content/download/12546/file/Ethylene-Oxide-Powering-Electric-Vehicles-and-Global-Sustainability-Efforts.pdf

ACC. 2023b. Ethylene Oxide Product Stewardship Guidance Manual. American Chemistry Council.
https://www.americanchemistry.com/content/download/12874/file/Ethylene-Oxide-Product-Stewardship-Manual-%282023%29.pdf

ACGIH. 2018a. "Ethylene Oxide Documentation.". American Conference of Governmental Industrial Hygienists.
https://www.acgih.org/ethylene-oxide-2/.

ACGIH. 2018b. "TLV/BEI Guidelines." American Conference of Governmental Industrial Hygienists.
https://www.acgih.org/science/tlv-bei-guidelines/.

ACGIH. 2023. "Ethylene Oxide (BEI)." American Conference of Governmental Industrial Hygienists.
https://www.acgih.org/ethylene-oxide/.

ACS. 2019. "Molecule of the Week Archive, Ethylene oxide." American Chemical Society.
https://www.acs.org/content/acs/en/molecule-of-the-week/archive/e/ethylene-oxide.html.

ADEM. 2022. Alabama Department of Environmental Management – Community Engagement. Alabama Department of Environmental Management. https://adem.alabama.gov/moreinfo/pubs/ADEMCommunityEngagement.pdf

African American Registry. 2022. "Lloyd A. Hall, Chemist Born."
https://aaregistry.org/story/lloyd-hall-a-brilliant-chemist-born/.

American Cancer Society. 2022. "Lifetime Risk of Developing or Dying from Cancer."
https://www.cancer.org/cancer/risk-prevention/understanding-cancer-risk/lifetime-probability-of-developing-or-dying-from-cancer.html.

ASTM. 2016. "Standard Test Method for Determination of Ethylene Oxide in Workplace Atmospheres (HBr Derivatization Method)." https://www.astm.org/d5578-04r15.html.

ATSDR. 2022a. "ATSDR Clinician Brief: Ethylene Oxide.". Agency for Toxic Substances and Disease Registry.

https://www.atsdr.cdc.gov/emes/health_professionals/clinician-brief-ethylene-oxide.html.

ATSDR. 2022b. “Environmental Justice Index.” Agency for Toxic Substances and Disease Registry. https://www.atsdr.cdc.gov/placeandhealth/eji/index.html.

ATSDR. 2022c. “ToxFAQs for Ethylene Oxide.” Agency for Toxic Substances and Disease Registry. https://wwwn.cdc.gov/TSP/ToxFAQs/ToxFAQsDetails.aspx?faqid=733&toxid=133.

ATSDR. 2022d. “Toxicological Profile for Ethylene Oxide.”. Agency for Toxic Substances and Disease Registry. https://wwwn.cdc.gov/TSP/ToxProfiles/ToxProfiles.aspx?id=734&tid=133.

Batelle. 2020. EPA Method TO-15A: Important Updates for the NATTS Network and Ambient Air Measurements. edited by Batelle: United States Environmental Protection Agency. https://www.epa.gov/sites/default/files/2020-06/documents/to-15a_webinar_slidedeck.pdf

Beyer, E. M. 1984. “Why Do Plants Metabolize Ethylene?,” pp. 65-74 in Ethylene: Biochemical, Physiological and Applied Aspects, An International Symposium, Oiryat Anavim, Israel held January 9–12 1984, Springer Netherlands, eds. Yoram Fuchs and Edo Chalutz. https://doi.org/10.1007/978-94-009-6178-4_7

Bolt, H.M. 1996. “Quantification of endogenous carcinogens: The ethylene oxide paradox.” Biochemical Pharmacology 52: 1-5. https://doi.org/10.1016/0006-2952(96)00085-8.

Bolt, H.M., H. Peter, and U. Fost. 1988. “Analysis of macromolecular ethylene oxide adducts.” International Archives of Occupational and Environmental Health 60: 141-144. https://doi.org/10.1007/BF00378688.

Broadgate, W. J., G. Malin, F. C. Küpper, A. Thompson, and P. S. Liss. 2004. “Isoprene and other non-methane hydrocarbons from seaweeds: a source of reactive hydrocarbons to the atmosphere.” Marine Chemistry 88: 61-73. https://doi.org/10.1016/j.marchem.2004.03.002.

California Department of Health Services. 1991. Ethylene Oxide (EtO) Fact Sheet. https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/OHB/HESIS/CDPH%20Document%20Library/eto.pdf

California EPA. 2023. Ethylene Oxide Cancer Inhalation Unit Risk Factor, Technical Support Document for Cancer Potency Factors Appendix B. In Air Toxics Hot Spots Program: Office of Environmental Health Hazard Assessment, Air and Site Assessment and Climate Indicators Branch. https://oehha.ca.gov/media/downloads/crnr/etocanceriurdraft040723.pdf

CDC. 2019. “Cancer and Tobacco Use.” Centers for Disease Control and Prevention. https://www.cdc.gov/vitalsigns/cancerandtobacco/index.html#:~:text=People%20who%20use%20tobacco%20or,cancers%20linked%20to%20tobacco%20use.

CDC. 2020. “NIOSHTIC-2 Publications Search.” Centers for Disease Control and Prevention. https://www2a.cdc.gov/nioshtic-2/BuildQyr.asp?s1=ethylene+oxide&f1=%2A&Startyear=&Adv=0&terms=1&EndYear=&Limit=10000&sort=&D1=10&View=b&PageNo=2.

CDC. 2022. What’s New? Updated Ethylene Oxide Hemoglobin Adduct Data Tables Published. Centers for Disease Control and Prevention. https://www.cdc.gov/exposurereport/whats_new_060622_1.html

Connolly, M., G. Eisenstark, and A. Hummel. 2020. New Jersey’s First in the Nation State Environmental Justice Law. JDSUPRA. https://www.jdsupra.com/legalnews/new-jersey-s-first-in-the-nation-state-10124/

Conway, Richard A., Gene T. Waggy, Milton H. Spiegel, and Ronald L. Berglund. 1983. “Environmental fate and effects of ethylene oxide.” Environmental Science & Technology 17: 107-112. https://doi.org/10.1021/es00108a009.

Corn Refiners Association. 2006. Corn Starch. Washington, DC: Corn Refiners Association. https://corn.org/wp-content/uploads/2009/12/Starch2006.pdf

Council on Environmental Quality. 2022. “Climate and Economic Justice Screening Tool.” Executive Office of the President. https://screeningtool.geoplatform.gov/en/about#3/33.47/-97.5.

De Bont, J. A. M., C. G. Van Ginkel, J. Tramper, and K. Ch A. M. Luyben. 1983. “Ethylene oxide production by immobilized Mycobacterium Py1 in a gas-solid bioreactor.” Enzyme and Microbial Technology 5: 55-59.

https://doi.org/10.1016/0141-0229(83)90065-0.

Dever, J.P., K.F. George, W.C. Hoffman, and H. Soo. 2000. “Ethylene Oxide,” pp. in Kirk-Othmer Encyclopedia of Chemical Technology, eds. https://onlinelibrary.wiley.com/doi/abs/10.1002/0471238961.0520082504052205.a01

atDove.org. 2020. Operating an Ethylene Oxide Gas Sterilizer. https://www.youtube.com/watch?v=wNlKflMx8xM

Department of Energy. “Environmental Justice History.” US Department of Energy, Office of Legacy Management, accessed October 22, 2023. https://www.energy.gov/lm/environmental-justice-history.

Eckert, E., K. Schmid, B. Schaller, K. Hiddemann-Koca, H. Drexler, and T. Göen. 2011. “Mercapturic acids as metabolites of alkylating substances in urine samples of German inhabitants.” International Journal of Hygiene and Environmental Health 214: 196-204. https://doi.org/10.1016/j.ijheh.2011.03.001.

Ehrenberg, L., and M. Törnqvist. 1995. “The research background for risk assessment of ethylene oxide: aspects of dose.” Mutation Research/Fundamental and Molecular Mechanisms of Mutagenesis 330: 41-54. https://doi.org/10.1016/0027-5107(95)00035-H.

Executive Order 12898. 1994. Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. https://www.archives.gov/files/federal-register/executive-orders/pdf/12898.pdf

Executive Order 14008. 2021. Tackling the Climate Crisis at Home and Abroad. https://www.federalregister.gov/documents/2021/02/01/2021-02177/tackling-the-climate-crisis-at-home-and-abroad

Faveere, W. H., S. Van Praet, B. Vermeeren, K. N. R. Dumoleijn, K. Moonen, E. Taarning, and B. F. Sels. 2021. “Toward Replacing Ethylene Oxide in a Sustainable World: Glycolaldehyde as a Bio-Based C2 Platform Molecule.” Angewandte Chemie International Edition 60: 12204-12223. https://doi.org/10.1002/anie.202009811.

FDA. 2019a. “FDA Innovation Challenge 1: Identify New Sterilization Methods and Technologies.” US Food & Drug Administration. https://www.fda.gov/medical-devices/general-hospital-devices-and-supplies/fda-innovation-challenge-1-identify-new-sterilization-methods-and-technologies.

FDA. 2019b. “FDA Innovation Challenge 2: Reduce Ethylene Oxide Emissions.” US Food & Drug Adminstration. https://www.fda.gov/medical-devices/general-hospital-devices-and-supplies/fda-innovation-challenge-2-reduce-ethylene-oxide-emissions.

FDA. 2019c. Reduction of Ethylene Oxide Sterilization Emissions for Medical Devices and Potential for Utilizing Other Sterilization Modalities. United States Food and Drug Administration. https://public4.pagefreezer.com/browse/FDA/02-02-2023T23:41/https:/www.fda.gov/media/132186/download

FDA. 2022. “FDA Continues Efforts to Support Innovation in Medical Device Sterilization.” United States Food and Drug Administration. https://www.fda.gov/news-events/press-announcements/fda-continues-efforts-support-innovation-medical-device-sterilization.

FDA. 2023a. “Standards and Conformity Assessment Program.” US Food & Drug Administration. https://www.fda.gov/medical-devices/premarket-submissions-selecting-and-preparing-correct-submission/standards-and-conformity-assessment-program.

FDA. 2023b. “Sterilization for Medical Devices.” United States Food and Drug Administration, Last Modified 04/11/2023. https://www.fda.gov/medical-devices/general-hospital-devices-and-supplies/sterilization-medical-devices.

Filser, J. G., B. Denk, M. Törnqvist, W. Kessler, and L. Ehrenberg. 1992. “Pharmacokinetics of ethylene in man; body burden with ethylene oxide and hydroxyethylation of hemoglobin due to endogenous and environmental ethylene.” Archives of Toxicology 66: 157-163. https://doi.org/10.1007/BF01974008.

Frigerio, G., R. Mercadante, L. Campo, E. Polledri, L. Boniardi, L. Olgiati, P. Missineo, W. J. Nash, W. B. Dunn, and S. Fustinoni. 2020. “Urinary biomonitoring of subjects with different smoking habits. Part II: an untargeted metabolomic approach and the comparison with the targeted measurement of mercapturic acids.” Toxicology Letters 329: 56-66.

https://doi.org/10.1016/j.toxlet.2020.03.020.

Georgia Environmental Protection Division. 2019. “Georgia EPD to Monitor Air Quality in Covington and Smyrna for Ethylene Oxide.” Georgia Environmental Protection Division. https://epd.georgia.gov/press-releases/2019-08-16/georgia-epd-monitor-air-quality-covington-and-smyrna-ethylene-oxide-0.

Gray, D., S. B. Harris, and J. Santodonato. 1985. “Health Assessment Document for Ethylene Oxide.” Environmental Protection Agency. https://cfpub.epa.gov/ncea/iris_drafts/recordisplay.cfm?deid=41115.

HHS. 2021. Ethylene Oxide. In 15th Report on Carcinogens: Department of Health and Human Services National Toxicology Program. https://ntp.niehs.nih.gov/ntp/roc/content/profiles/ethyleneoxide.pdf

IARC. 1987. “Ethylene oxide (Group 2A),” pp. in IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, Overall Evaluations of Carcinogenicity: An Updating of IARC Monographs Volumes 1 to 42, 7, International Agency for Research on Cancer, International Agency for Research on Cancer, IARC Working Group on the Evaluation of Carcinogenic Risks to Humans, eds. https://www.ncbi.nlm.nih.gov/books/NBK533589/

IARC. 2012. “Ethylene oxide,” pp. 379-400 in IARC Monographs on the Evaluation of Carcinogenic Risks to Humans: Chemical Agents and Related Occupations, 100F, International Agency for Research on Cancer, eds. https://monographs.iarc.fr/wp-content/uploads/2018/06/mono100F-28.pdf

Imaseki, H. 1999. “Chapter 9 – Control of ethylene synthesis and metabolism,” pp. 209-245 in New Comprehensive Biochemistry, 33, Elsevier, eds. P. J. J. Hooykaas, M. A. Hall and K. R. Libbenga. https://www.sciencedirect.com/science/article/pii/S0167730608604895

ITRC. 2017a. Compiled Glossary. Interstate Technology and Regulatory Council. https://higherlogicdownload.s3-external-1.amazonaws.com/ITRC/9b5784ab-2013-4380-903f-4d7249e63f5d_file.pdf?AWSAccessKeyId=AKIAVRDO7IEREB57R7MT&Expires=1695850226&Signature=XJk3vUQy1J%2B3OAV2NYSFvbNTpZc%3D

ITRC. 2017b. “Risk Communication Toolkit (2017, November).” Interstate Technology and Regulatory Council, accessed June 29. https://rct-1.itrcweb.org/1-introduction/.

ITRC. 2021. ITRC & Environmental Justice; A Commitment to our Values. Interstate Technology and Regulatory Council. https://higherlogicdownload.s3.amazonaws.com/ITRC/30712bbd-9178-4982-802c-8b2ec92a1073/UploadedImages/ITRC_Forms/EJ_Final.pdf

ITRC. 2022. Ethylene Oxide Emissions Team State Survey. Interstate Technology and Regulatory Council. https://connect.itrcweb.org/HigherLogic/System/DownloadDocumentFile.ashx?DocumentFileKey=5399f039-ebbf-d391-69da-7556ea43f70d&forceDialog=0

International Union of Pure and Applied Chemistry. 2001. “Selectivity in Analytical Chemistry (IUPAC Recommendations 2001).” Pure Appl. Chem 78: 1318-1386. http://dx.doi.org/10.1351/pac200173081381.

Jacob, Peyton, III, A. H. Abu Raddaha, D. Dempsey, C. Havel, M. Peng, L. Yu, and N. L. Benowitz. 2013. “Comparison of Nicotine and Carcinogen Exposure with Water Pipe and Cigarette Smoking.” Cancer Epidemiology, Biomarkers & Prevention 22: 765-772. https://doi.org/10.1158/1055-9965.Epi-12-1422.

Jain, R. B. 2020. “Associations between observed concentrations of ethylene oxide in whole blood and smoking, exposure to environmental tobacco smoke, and cancers including breast cancer: data for US children, adolescents, and adults.” Environmental Science and Pollution Research 27: 20912-20919. https://doi.org/10.1007/s11356-020-08564-z.

Kirman, C. R., and S. M. Hays. 2017. “Derivation of endogenous equivalent values to support risk assessment and risk management decisions for an endogenous carcinogen: Ethylene oxide.” Regulatory Toxicology and Pharmacology 91: 165-172. https://doi.org/10.1016/j.yrtph.2017.10.032.

Kirman, C. R., A. A. Li, P. J. Sheehan, J. S. Bus, R. C. Lewis, and S. M. Hays. 2021. “Ethylene oxide review: characterization of total exposure via endogenous and exogenous pathways and their implications to risk assessment and risk management.” Journal of Toxicology and Environmental Health, Part B 24: 1-29. https://doi.org/10.1080/10937404.2020.1852988.

Kono Kogs. 2022. “Regenerative Thermal Oxidizer.” https://www.konokogs.com/regenerative-thermal-oxidizers-rto/.

Liteplo, R. G., M. E. Meek, and M. Lewis. 2003. Ethylene oxide. edited by World Health Organization International Programme on Chemical Safety. Geneva: World Health Organization. https://iris.who.int/handle/10665/42639

McClenny, W. A., S. M. Schmidt, and K. G. Kronmiller. 1999. “Variation of the Relative Humidity of Air Released from Canisters after Ambient Sampling.” J Air Waste Manag Assoc 49: 64-69. https://doi.org/10.1080/10473289.1999.10463774.

Merriam-Webster. 2023. “Moisture Definition “. https://www.merriam-webster.com/dictionary/moisture.

MI EGLE. 2019. Format for Submittal of Source Emission Test Plans and Reports. Michigan Department of Environment, Great Lakes, and Energy Air Quality Division. https://www.michigan.gov/egle/-/media/Project/Websites/egle/Documents/Programs/AQD/emissions/test-plans-format.pdf?rev=efc43a8e69ed4aadb0dd88cdddee1c05

MI EGLE. 2023. “MiEJScreen: Environmental Justice Screening Tool (DRAFT).” MI Department of Environment, Great Lakes, and Energy. https://www.michigan.gov/egle/maps-data/miejscreen.

Morgott, D. A. 2015. “Anthropogenic and biogenic sources of Ethylene and the potential for human exposure: A literature review.” Chemico-Biological Interactions 241: 10-22. https://doi.org/10.1016/j.cbi.2015.08.012.

NEJAC. 2019. Recommendation to regulate Ethylene Oxide to protect public health and to use the findings and conclusions of the EPA Integrated Risk Information System chemical assessments in regulatory determinations. National Environmental Justice Advisory Council.

NIOSH. 2019. “Ethylene Oxide.” Center for Disease Control and Prevention, The National Institute for Occupational Safety and Health, Last Modified 2019. https://www.cdc.gov/niosh/npg/npgd0275.html.

NIOSH. 2022. “Ethylene Oxide.” Centers for Disease Control and Prevention. https://www.cdc.gov/niosh/topics/ethyleneoxide/default.html.

NWE. 2017. “Ethylene oxide.” New World Encyclopedia. https://www.newworldencyclopedia.org/entry/Ethylene_oxide.

OSHA. 2002. OSHA Fact Sheet – Ethylene Oxide. Occupational Safety and Health Administration, US Department of Labor. https://www.osha.gov/sites/default/files/publications/ethylene-oxide-factsheet.pdf

OSHA. 2023a. “About OSHA.” Occupational Safety and Health Administration. https://www.osha.gov/aboutosha.

OSHA. 2023b. “Appendix B to § 1910.1047 – Substance Technical Guidelines for Ethylene Oxide (Non-Mandatory).” Occupational Safety and Health Administration. https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.1047AppB.

OSHA. 2023c. “Ethylene Oxide.” Occupational Safety and Health Administration. https://www.osha.gov/ethylene-oxide.

OSHA. 2023d. “Permissible Exposure Limits – Annotated Tables.” US Department of Labor, accessed October 22, 2023. https://www.osha.gov/annotated-pels.

OSHA. 2023e. “Sampling and Analytical Methods.” US Department of Labor, Occupational Safety and Health Administration, accessed October 20, 2023. https://www.osha.gov/chemicaldata/sampling-analytical-methods.

Pattyn, J., J. Vaughan-Hirsch, and B. Van de Poel. 2021. “The regulation of ethylene biosynthesis: a complex multilevel control circuitry.” New Phytologist 229: 770-782. https://doi.org/10.1111/nph.16873.

PHMSA. 1998. “Appendix A to 49 CFR 172.101 – List of Hazardous Substances and Reportable Quantities.” Pipeline and Hazardous Materials Safety Administration. https://www.phmsa.dot.gov/international-program/49-cfr-172101-appendix.

Piazza, M. 2019. Using EPA’s EJSCREEN A Step by Step Guide to Finding Demographic Information. https://www.ezview.wa.gov/Portals/_1988/Documents/Documents/EJ_HowToUseEPA_EJ_Screen_2019.pdf

Plettner, I., M. Steinke, and G. Malin. 2005. “Ethene (ethylene) production in the marine macroalga Ulva (Enteromorpha) intestinalis L. (Chlorophyta, Ulvophyceae): effect of light-stress and co-production with dimethyl sulphide.” Plant, Cell & Environment 28: 1136-1145. https://doi.org/10.1111/j.1365-3040.2005.01351.x.

Reitjens, I.M.C.M., A. Michael, H.M. Bolt, B. Simeon, A. Hartwig, H. Nils, K. Christine, M. Angela, P. Gloria, R. Daniel, T. Natalie,

and E. Gerhard. 2022. “The role of endogenous versus exogenous sources in the exposome of putative genotoxins and consequences for risk assessment.” Archives of Toxicology 96: 1297-1352. https://doi.org/10.1007/s00204-022-03242-0.

Rubinstein, M. L., K. Delucchi, N. L. Benowitz, and D. E. Ramo. 2018. “Adolescent Exposure to Toxic Volatile Organic Chemicals From E-Cigarettes.” Pediatrics 141. https://doi.org/10.1542/peds.2017-3557.

SCDHEC. 2019. “Ethylene Oxide (EtO).” South Caroline Department of Health and Environmental Control. https://scdhec.gov/environment/air-quality/ethylene-oxide-eto.

Scientific Control Laboratories. 2019. “Form R – Toxic Chemical Release Inventory Report.” https://www.sclweb.com/environmental/form-r-toxic-chemical-release-inventory-report/.

Semmari, H., A. Filali, S. Aberkane, R. Feidt, and M. Feidt. 2020. “Flare Gas Waste Heat Recovery: Assessment of Organic Rankine Cycle for Electricity Production and Possible Coupling with Absorption Chiller.” Energies 13: 2265. https://doi.org/10.3390/en13092265.

Smith, A.M. 1976. “Ethylene in Soil Biology.” Annual Review of Phytopathology 14: 53-73. https://doi.org/10.1146/annurev.py.14.090176.000413.

Stahl. 2023. “Transitioning to Renewable Feedstocks from Fossil Carbon.” https://www.stahl.com/strategy/renewable-feedstocks.

Steenland, K., L. Stayner, and J. Deddens. 2004. “Mortality analyses in a cohort of 18 235 ethylene oxide exposed workers: follow up extended from 1987 to 1998.” Occup Environ Med 61: 2-7.

Steenland, K., E. Whelan, J. Deddens, L. Stayner, and E. Ward. 2003. “Ethylene oxide and breast cancer incidence in a cohort study of 7576 women (United States).” Cancer Causes & Control 14: 531-9. https://doi.org/10.1023/a:1024891529592.

TCEQ. 2020a. Ethylene Oxide Carcinogenic Dose-Response Assessment. Texas Commission on Environmental Quality. https://www.tceq.texas.gov/downloads/toxicology/dsd/final/eto.pdf

TCEQ. 2020b. Ethylene Oxide Carcinogenic Dose-Response Assessment, CAS Registry Number: 75-21-8.

Törnqvist, M., B. Gustafsson, A. Kautiainen, M. Harms-Ringdahl, F. Granath, and L. Ehrenberg. 1989. “Unsaturated lipids and intestinal bacteria as sources of endogenous production of ethene and ethylene oxide.” Carcinogenesis 10: 39-41. https://doi.org/10.1093/carcin/10.1.39.

Tullo, A.H. 2017. Haldor Topsoe, Braskem investigate biobased ethylene glycol. Chemical & Engineering News 95 (46). https://cen.acs.org/articles/95/i46/Haldor-Topsoe-Braskem-investigate-biobased.html

UDHHS. 2022. “BD Medical Sterilization Facility.” Utah Department of Health and Human Services. https://appletree.utah.gov/bd-medical-sterilization-facility/.

USDOT. 2019. “Incident Reporting.” US Department of Transportation, Pipeline and Hazardous Materials Safety Administration. https://www.phmsa.dot.gov/hazmat-program-management-data-and-statistics/data-operations/incident-reporting#:~:text=Hazardous%20Materials%20Regulations%20(49%20CFR,%2D800%2D424%2D8802.

USEPA. 1999. Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. United States Environmental Protection Agency. https://www.epa.gov/sites/default/files/2019-11/documents/tocomp99.pdf

USEPA. 2000. “Chapter 4 Monitors.” United States Environmental Protection Agency. https://www3.epa.gov/ttncatc1/dir1/cs2ch4.pdf.

USEPA. 2002. Guidance for Developing Quality Systems for Environmental Programs.: United States Environmental Protection Agency. https://www.epa.gov/sites/default/files/2015-08/documents/g1-final.pdf

USEPA. 2003a. “Air Pollution Control Technology Fact Sheet – Regenerative Incinerator.” United States Environmental Protection Agency. https://www3.epa.gov/ttncatc1/dir1/fregen.pdf.

USEPA. 2003b. “Air Pollution Control Technology Fact Sheet – Spray-Chamber/Spray-Tower Wet Scrubber.” United States

Environmental Protection Agency. https://www3.epa.gov/ttncatc1/dir1/fsprytwr.pdf.

USEPA. 2003c. “Air Pollution Control Technology Fact Sheet – Thermal Incinerator.” United States Environmental Protection Agency. https://www3.epa.gov/ttncatc1/dir1/fthermal.pdf.

USEPA. 2016a. “Ethylene Oxide, CASRN 75-21, DTXSID0020600.” US Environmental Protection Agency, Last Modified December 16, 2016. https://iris.epa.gov/ChemicalLanding/&substance_nmbr=1025.

USEPA. 2016b. Evaluation of the Inhalation Carcinogenicity of Ethylene Oxide (CASRN 75–21–8) in Support of Summary Information on the Integrated Risk Information System. United States Environmental Protection Agency. https://cfpub.epa.gov/ncea/iris/iris_documents/documents/toxreviews/1025tr.pdf

USEPA. 2016c. “Method Detection Limit – Frequent Questions.”. United States Environmental Protection Agency. https://www.epa.gov/cwa-methods/method-detection-limit-frequent-questions.

USEPA. 2018. 2014 National Air Toxics Assessment: Fact Sheet. United States Environmental Protection Agency. https://www.epa.gov/sites/default/files/2018-08/documents/2014_nata_overview_fact_sheet.pdf

USEPA. 2019a. “2017 AirToxScreen Emissions.” US Environmental Protection Agency. https://www.epa.gov/AirToxScreen/2017-airtoxscreen-assessment-results.

USEPA. 2019b. Ethylene Oxide Air Monitoring and Modeling. United States Environmental Protection Agency. https://www.epa.gov/sites/default/files/2019-08/documents/eto_monitoring-ken_mitchell.pdf

USEPA. 2019c. How to Read a Wind Rose. United States Environmental Protection Agency. https://www.epa.gov/sites/default/files/2019-01/documents/how_to_read_a_wind_rose.pdf

USEPA. 2019d. “Secondary Calibration Source Use for Ethylene Oxide Analysis in the National Air Toxics Trends Station Network.” [Technical Note]. US Environmental Protection Agency, Office of Air Quality Planning and Standards. https://www.epa.gov/sites/default/files/2021-04/documents/eto_stability_memo_082219.pdf.

USEPA. 2020a. “Environmental Justice.” United States Environmental Protection Agency, accessed December 7. https://www.epa.gov/environmentaljustice.

USEPA. 2020b. “EPA Continues Action to Address Ethylene Oxide.” United States Environmental Protection Agency. https://www.epa.gov/newsreleases/epa-continues-action-address-ethylene-oxide.

USEPA. 2020c. Memorandum: Ethylene Oxide (EtO). Draft Human Health and Ecological Risk Assessment in Support of Registration Review. United States Environmental Protection Agency Office of Chemical Safety and Pollution Prevention. https://www.epa.gov/sites/default/files/2020-11/documents/d458706-eto-final-dra-nov-3-2020.pdf

USEPA. 2021a. 2017 National Emissions Inventory: January 2021 Updated Release, Technical Support Document (TSD). United States Environmental Protection Agency. https://www.epa.gov/sites/default/files/2021-02/documents/nei2017_tsd_full_jan2021.pdf

USEPA. 2021b. “2019 AirToxScreen Emissions.” United States Environmental Protection Agency. https://www.epa.gov/AirToxScreen/2019-airtoxscreen-assessment-results#emissions.

USEPA. 2021c. Effect of Canister Type on Background Ethylene Oxide Concentrations. Research Triangle Park, NC: US Environmental Protection Agency. https://www.epa.gov/sites/default/files/2021-05/documents/ord-eto-canister-background-memo-05072021.pdf

USEPA. 2021d. “EPA Administrator Determination Extends TRI Reporting Requirements to Certain Contract Sterilization Facilities; Notice of Availability.” US Environmental Protection Agency. https://www.federalregister.gov/documents/2021/12/28/2021-28067/epa-administrator-determination-extends-tri-reporting-requirements-to-certain-contract-sterilization.

USEPA. 2021e. EPA Should Conduct New Residual Risk and Technology Reviews for Chloroprene and Ethylene Oxide-Emitting Source Categories to Protect Human Health. US Environmental Protection Agency, Office of the Inspector General. https://www.epaoig.gov/reports/audit/epa-should-conduct-new-residual-risk-and-technology-reviews-chloroprene-and-ethylene

USEPA. 2021f. EPA's Work to Understand Background Levels of Ethylene Oxide. United States Environmental Protection Agency.
https://www.epa.gov/hazardous-air-pollutants-ethylene-oxide/epas-work-understand-background-levels-ethylene-oxide

USEPA. 2021g. Ethylene Oxide Measurements by TO-15 Method.
https://www.epa.gov/sites/default/files/2021-03/documents/eto-method-for-natts-labs-2019.pdf

USEPA. 2021h. Ethylene Oxide Measurements: Method TO-15/TO-15A Overview, Challenges, Resources and Next Steps.
https://www.epa.gov/sites/default/files/2021-05/documents/eto-technical-webinar-041521-w-qandas.pdf

USEPA. 2021i. Technical Note: The Ethylene Oxide (EtO) Canister Effect. US Enironmental Protection Agency, Office of Air Quality Planning and Standards, Air Quality Assessment Division, Ambient Air Monitoring Group.
https://www.epa.gov/sites/default/files/2021-05/documents/technical-note-on-eto-canister-effect-052521.pdf

USEPA. 2021j. "Use of Stand-Alone Timers for Volatile Organic Compound (VOC) Sample Collection in Canisters."
https://www.epa.gov/sites/default/files/2021-04/documents/use_of_stand-alone_timer_timer_guidance_for_voc_sampling.pdf

USEPA. 2022a. "2018 AirToxScreen Emissions." US Environmental Protection Agency.
https://www.epa.gov/AirToxScreen/2018-airtoxscreen-assessment-results.

USEPA. 2022b. "2019 National Emissions Inventory Technical Support Document: Point Data Category." United States Environmental Protection Agency. https://www.epa.gov/system/files/documents/2023-03/nei2019_tsd_point_feb2022.pdf.

USEPA. 2022c. "Biogenic Emission Sources." United States Environmental Protection Agency.
https://www.epa.gov/air-emissions-modeling/biogenic-emission-sources.

USEPA. 2022d. Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-To-Know Act (EPCRA), Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), and Section 112(r) of the Clean Air Act (CAA). United States Environmental Protection Agency.
https://www.epa.gov/system/files/documents/2022-12/List_of_Lists_Compiled_December%202022.pdf

USEPA. 2022e. "EJ in Air Permitting – Principles for Addressing Environmental Justice Concerns in Air Permitting." US Environmental Protection Agency.
https://www.epa.gov/caa-permitting/ej-air-permitting-principles-addressing-environmental-justice-concerns-air.

USEPA. 2022f. "EPA's Discretionary Authority to Extend TRI Reporting Requirements to Certain EtO Facilities." US Environmental Protection Agency.
https://www.epa.gov/toxics-release-inventory-tri-program/epas-discretionary-authority-extend-tri-reporting-requirements.

USEPA. 2022g. "Ethylene Oxide (EtO) Risks and Your Health." United States Environmental Protection Agency.
https://www.epa.gov/hazardous-air-pollutants-ethylene-oxide/ethylene-oxide-eto-risks-and-your-health.

USEPA. 2022h. Ethylene Oxide from Commercial Sterilizers and Risk in Communities. US Environmental Protection Agency.

USEPA. 2022i. "Monitoring by Control Technique – Catalytic Oxidizer." United States Environmental Protection Agency.
https://www.epa.gov/air-emissions-monitoring-knowledge-base/monitoring-control-technique-catalytic-oxidizer.

USEPA. 2022j. Reconsideration of the 2020 National Emissions Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing Residual Risk and Technology Review. United States Environmental Protection Agency.
https://www.federalregister.gov/documents/2022/12/21/2022-27522/reconsideration-of-the-2020-national-emission-standards-for-hazardous-air-pollutants-miscellaneous#:~:text=On%20February%204%2C%202022%2C%20the%20EPA%20proposed%20the,the%20two%20issues%20for%20which%20we%20granted%20reconsideration

USEPA. 2022k. "Regional Guidance on Handling Chemical Concentration Data Near the Detection Limit in Risk Assessments.". United States Environmental Protection Agency.
https://www.epa.gov/risk/regional-guidance-handling-chemical-concentration-data-near-detection-limit-risk-assessments.

USEPA. 2022l. "Registration Review Process." US Environmental Protection Agency.
https://www.epa.gov/pesticide-reevaluation/registration-review-process#:~:text=EPA%20reviews%20each%20registered%2

0pesticide,human%20health%20and%20the%20environment.

USEPA. 2022m. Status of Ethylene Oxide Source Measurements. United States Environmental Protection Agency. https://www.epa.gov/system/files/documents/2022-10/Kariher_Peter_Thurs_0900.pdf

USEPA. 2022n. Technical Assistance Document for the National Air Toxics Trends Stations Program Revision 4. Research Triangle Park, NC. https://www.epa.gov/system/files/documents/2022-08/NATTS-TAD-Revision-4-Final-July-2022-508.pdf

USEPA. 2022o. Technical Assistance Document for the National Air Toxics Trends Stations Program Revision 4. United States Environmental Protection Agency. https://www.epa.gov/system/files/documents/2022-08/NATTS-TAD-Revision-4-Final-July-2022-508.pdf

USEPA. 2022p. "TRI National Analysis, Ethylene Oxide Releases Trend." United States Environmental Protection Agency. https://www.epa.gov/trinationalanalysis/ethylene-oxide.

USEPA. 2023a. "Additional Questions about Ethylene Oxide." United States Environmental Protection Agency. https://www.epa.gov/hazardous-air-pollutants-ethylene-oxide/frequent-questions-about-ethylene-oxide-eto.

USEPA. 2023b. "Air Data: Air Quality Data Collected at Outdoor Air Monitors Across the US." United States Environmental Protection Agency. https://www.epa.gov/outdoor-air-quality-data.

USEPA. 2023c. "Air Data: Air Quality Data Collected at Outdoor Monitors Across the US." https://www.epa.gov/outdoor-air-quality-data.

USEPA. 2023d. "Air Emission Measurement Center (EMC)." US Environmental Protection Agency. https://www.epa.gov/emc.

USEPA. 2023e. "Air Quality Dispersion Modeling." US Environmental Protection Agency. https://www.epa.gov/scram/air-quality-dispersion-modeling.

USEPA. 2023f. "Air Quality Dispersion Modeling – Preferred and Recommended Models." US Environmental Protection Agency. https://www.epa.gov/scram/air-quality-dispersion-modeling-preferred-and-recommended-models#aermod.

USEPA. 2023g. "Air Toxics Ambient Monitoring." US Environmental Protection Agency. https://www.epa.gov/amtic/air-toxics-ambient-monitoring.

USEPA. 2023h. "Air Toxics Screening Assessment." US Environmental Protection Agency. https://www.epa.gov/AirToxScreen.

USEPA. 2023i. "AirToxScreen Mapping Tool." US Environmental Protection Agency. https://www.epa.gov/AirToxScreen/airtoxscreen-mapping-tool.

USEPA. 2023j. "AirToxScreen Overview." US Environmental Protection Agency. https://www.epa.gov/AirToxScreen/airtoxscreen-overview.

USEPA. 2023k. "AQS Code List." US Environmental Protection Agency. https://www.epa.gov/aqs/aqs-code-list.

USEPA. 2023l. "Basic Information about the Integrated Risk Information System.". United States Environmental Protection Agency, Last Modified January 2023. https://www.epa.gov/iris/basic-information-about-integrated-risk-information-system.

USEPA. 2023m. "Community Engagement on Ethylene Oxide (EtO)." US Environmental Protection Agency. https://www.epa.gov/hazardous-air-pollutants-ethylene-oxide/forms/community-engagement-ethylene-oxide-eto.

USEPA. 2023n. "Elements of a Quality Assurance Project Plan (QAPP) For Collecting Identifying and Evaluating Existing Scientific Data/Information." United States Environmental Protection Agency. https://www.epa.gov/osa/elements-quality-assurance-project-plan-qapp-collecting-identifying-and-evaluating-existing.

USEPA. 2023o. "Exposure Assessment Tools by Routes – Inhalation." United States Environmental Protection Agency. https://19january2017snapshot.epa.gov/expobox/exposure-assessment-tools-routes-inhalation_.html.

USEPA. 2023p. "Grantee Research Project Results." US Environmental Protection Agency. https://cfpub.epa.gov/ncer_abstracts/index.cfm/fuseaction/outlinks.sbir/.

USEPA. 2023q. "Guidance on Systematic Planning Using the Data Quality Objectives Process, EPA QA/G-4."

https://www.epa.gov/quality/guidance-systematic-planning-using-data-quality-objectives-process-epa-qag-4.

USEPA. 2023r. “Integrated Risk Information System (IRIS).” US Environmental Protection Agency, Last Modified October 16, 2023. https://www.epa.gov/iris.

USEPA. 2023s. “Learn to Use EJScreen.” US Environmental Protection Agency. https://www.epa.gov/ejscreen/learn-use-ejscreen.

USEPA. 2023t. “Miscellaneous Organic Chemical Manufacturing: National Emissions standards for Hazardous Air Pollutants (NESHAP).” United States Environmental Protection Agency. https://www.epa.gov/stationary-sources-air-pollution/miscellaneous-organic-chemical-manufacturing-national-emission.

USEPA. 2023u. “National Emission Standards for Hazardous Air Pollutants Compliance Monitoring.” US Environmental Protection Agency. https://www.epa.gov/compliance/national-emission-standards-hazardous-air-pollutants-compliance-monitoring.

USEPA. 2023v. “National Emissions Inventory (NEI).” https://www.epa.gov/air-emissions-inventories/national-emissions-inventory-nei.

USEPA. 2023w. “National Emissions Standards for Hazardous Air Pollutants Compliance Monitoring.” United States Environmental Protection Agency. https://www.epa.gov/compliance/national-emission-standards-hazardous-air-pollutants-compliance-monitoring.

USEPA. 2023x. “National Tribal Caucus.” US Environmental Protection Agency. https://www.epa.gov/tribal/national-tribal-caucus.

USEPA. 2023y. “Overview of Socioeconomic Indicators in EJScreen.” United States Environmental Protection Agency. https://www.epa.gov/ejscreen/overview-socioeconomic-indicators-ejscreen.

USEPA. 2023z. “Proposal to Reduce Ethylene Oxide Emissions from Commercial Sterilization Facilities.” US Environmental Protection Agency. https://www.epa.gov/hazardous-air-pollutants-ethylene-oxide/proposal-reduce-ethylene-oxide-emissions-commercial.

USEPA. 2023aa. “Regulation of Ethylene Oxide (EtO) Under the Federal Insecticide, Fungicide, and Rodenticide Act.” US Environmental Protection Agency. https://www.epa.gov/ingredients-used-pesticide-products/regulation-ethylene-oxide-eto-under-federal-insecticide#:~:text=In%20April%202023%2C%20EPA%20also,health%20as%20quickly%20as%20possible.

USEPA. 2023ab. “Regulation of Ethylene Oxide (EtO) Under the Federal Isecticide, Fungicide, and Rodenticide Act.” United States Environmental Protection Agency. https://www.epa.gov/ingredients-used-pesticide-products/regulation-ethylene-oxide-eto-under-federal-insecticide#:~:text=EtO%20is%20also%20used%20to,as%20Salmonella%20and%20Escherichia%20coli.

USEPA. 2023ac. “Sampling Schedule Calendar.” US Environmental Protection Agency. https://www.epa.gov/amtic/sampling-schedule-calendar.

USEPA. 2023ad. “Small Business Innovation Research (SBIR) Program.” US Environmental Protection Agency. https://www.epa.gov/sbir.

USEPA. 2023ae. “Synthetic Organic Chemical Manufacturing Industry: Organic National Emission Standards for Hazardous Air Pollutants (NESHAP) – 40 CFR 63 Subparts F, G, H, I.” United States Environmental Protection Agency. https://www.epa.gov/stationary-sources-air-pollution/synthetic-organic-chemical-manufacturing-industry-organic-national.

USEPA. 2023af. “Title VI and Environmental Justice.” United States Environmental Protection Agency. https://www.epa.gov/environmentaljustice/title-vi-and-environmental-justice#:~:text=Title%20VI%20prohibits%20recipients%20of,in%20their%20programs%20or%20activities.

USEPA. 2023ag. “Toxics Release Inventory (TRI) Program.” https://www.epa.gov/toxics-release-inventory-tri-program.

USEPA. 2023ah. “TRI Reporting Criteria.” https://www.epa.gov/toxics-release-inventory-tri-program/basics-tri-reporting#first.

USEPA. 2023ai. “What is EPA Doing to Address Ethylene Oxide (EtO) and to Learn More About the Chemical.” United States Environmental Protection Agency. https://www.epa.gov/hazardous-air-pollutants-ethylene-oxide/what-epa-doing-address-ethylene-oxide-eto-and-learn-more#EtO%20use%20and%20emissions.

Van Ginkel, C. G. , H. G. J. Welten, and J. A. M. De Bont. 1987. “Oxidation of Gaseous and Volatile Hydrocarbons by Selected Alkene-Utilizing Bacteria.” Applied and Environmental Microbiology 53: 2903-2907. https://doi.org/10.1128/aem.53.12.2903-2907.1987.

Whitaker, D., K. Oliver, D. Turner, I. MacGregor, and D. Shelow. 2019. Method TO-15A: Determination of Volatile Organic Compounds (VOCs) in Air Collected in Specially. https://cfpub.epa.gov/si/si_public_record_report.cfm?Lab=NERL&dirEntryId=348850

Wiegant, W. M., and J. A. M. De Bont. 1980. “A New Route for Ethylene Glycol Metabolism in Mycobacterium E44.” Microbiology 120: 325-331. https://doi.org/10.1099/00221287-120-2-325.

Ya’acov, Y. L., A.H. Halevy, and C. Frenkel. 1986. “Chapter 2 – Ethylene as a Senescence Factor.” Developments in Crop Science 8: 23-44. https://doi.org/10.1016/B978-0-444-42521-8.50006-8.

Zechmeister-Boltenstern, S., and K. A. Smith. 1998. “Ethylene production and decomposition in soils.” Biology and Fertility of Soils 26: 354-361. https://doi.org/10.1007/s003740050388.