

July 14, 2023 Virtual Meeting

ACC Participants

- Joanna Klapacz, Molecular and Genetic Toxicologist, The Dow Chemical Company, Chair American Chemistry Council Ethylene Oxide Panel Technical Research Task Group
- Elliott Zenick, American Chemistry Council Ethylene Oxide Panel
- Abby Li, Toxicology and Risk Assessment, Exponent
- Jane Teta, Epidemiology, Biostatistics and Risk Assessment, Exponent
- B. Bhaskar Gollapudi, Genotoxicity and Carcinogenicity, Editor-in-Chief, Environmental and Molecular Mutagenesis (Official Journal of the U.S. Environmental Mutagenesis and Genomics Society), Independent Toxicology Consultant
- Christopher R. Kirman, Toxicology and Risk Assessment, SciPinion
- James Bus, Toxicology, Metabolism and Pharmacokinetics, Risk Assessment, Exponent
- Patrick Sheehan, Toxicology and Risk Assessment, Exponent
- Steave Su, Toxicology and Risk Assessment, Exponent

Selected ethylene oxide publications of interest:

Bogen KR, Sheehan PM, Valdez-Flores C, Li AA. 2019. Reevaluation of historical exposures to ethylene oxide among U.S. sterilization workers in the National Institute of Occupational Safety and Health (NIOSH) Study Cohort. *Int J Environ Res Public Health* 16: 1738.

Gollapudi, B. B., Su, S., Li, A. A., Johnson, G. E., Reiss, R., & R.J. Albertini. 2020. Genotoxicity as a toxicologically relevant endpoint to inform risk assessment: A case study with ethylene oxide. *Environmental and molecular mutagenesis*, 61(9), 852–871. <https://doi.org/10.1002/em.22408>

Kirman CR, Hays SM. 2017. Derivation of endogenous equivalent values to support risk assessment and risk management decisions for an endogenous carcinogen: Ethylene oxide. *Regul Toxicol Pharmacol* 91: 165–72.

Kirman CR, Li AA, Sheehan PJ, Bus JS, Lewis RC, Hays SM. 2021. Ethylene oxide review: Characterization of total exposure via endogenous and exogenous pathways and their implications to risk assessment and risk management. *J Toxicol Environ Health Part B Crit Rev* 24: 1–29.

Lewis RC, Sheehan PJ, DesAutels CG, Watson HN, Kirman CR. 2022. Monitored and modeled ambient air concentrations of ethylene oxide: Contextualizing health risk for potentially exposed populations in Georgia. *Int J Environ Res Public Health* 19: 3364.

Manjanatha MG, Shelton SD, Chen Y, Parsons BL, Myers MB, McKim KL, Gollapudi BB, Moore NP, Haber LT, Allen B, Moore MM. 2017. Dose and Temporal Evaluation of Ethylene Oxide-Induced Mutagenicity in the Lungs of Male Big Blue Mice Following Inhalation Exposure to Carcinogenic Concentrations. *Environ Mol Mutagen* 58:122-13

Sheehan PJ, Lewis RC, Kirman CR, Watson HN, Winegar ED, Bus JS. 2021. Ethylene oxide exposure in U.S. populations residing near sterilization and other industrial facilities: Context based on endogenous and total equivalent concentration exposures. *Int J Environ Res Public Health* 18: 607.

Swaen GM, Burns C, Teta JM, Bodner K, Keenan D and Bodnar CM. 2009. Mortality study update of ethylene oxide workers in chemical manufacturing: A 15 year update. *J Occup Environ Med* 51(6): 714–723. 10.1097/JOM.0b013e3181a2ca20.

Teta MJ, Benson LO, Vitale JN. 1993. Mortality study of ethylene oxide workers in chemical manufacturing: A ten year update. *Br J Indust Med* 50:704-709.

Valdez-Flores C, Sielken RL, Teta MJ. 2010. Quantitative cancer risk assessment based on NIOSH and UCC epidemiological data for workers exposed to ethylene oxide. *Regul Toxicol Pharmacol* 56:2010 312-320.