

Program Name

Ethylene Oxide: New Toxicity Information for Consideration by the ATSAC

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Webinar (Sue MacMillan, DEQ)

Ethylene Oxide: Uses and Characteristics

- Used for/by:
 - 1) Sterilization at commercial facilities and hospitals
 - 2) Fumigation of foods and spices
 - 3) Surfactant manufacturing facilities (also ethylene glycol, glycol ethers, ethanoamines production)
 - 4) Ethylene oxide distribution facilities

- 2014 EI for Oregon = 0.48 tons emitted statewide; relatively low.

- EO is highly flammable, very chemically reactive.

Ethylene Oxide: current ABC vs new information

Current ABC: 0.01 ug/m^3 (based on 1987 OEHHA Unit Risk Estimate of 8.8×10^{-5} per ug/m^3).

Dec. 2016 EPA IRIS URE = 3.0×10^{-3} per ug/m^3 .

Adult-based URE, total cancer risk based on human data – **lymphoid cancer** incidence and **breast cancer** incidence in females.

ABC would be 0.0003 ug/m^3 .

Dec. 2016 EPA IRIS URE = 5.0×10^{-3} per ug/m^3 .

Full lifetime URE, including age-dependent adjustment factors, or ADAFs. AT SAC policy is to not use ADAFs in ABCs.

ABC would be 0.0002 ug/m^3 .

Ethylene Oxide: Other Toxicity Values

OEHHA values have not changed (as of March 2016).

ATSDR intermediate inhalation value = 0.09 ppm (162 ug/m³).
1990 value, still current.

No PPRTVs available.

May 2014 OAQPS table refers to the OEHHA value.

May 2016 EPA RSLs based on OEHHA value.

Documents can be provided upon request in an alternate format for individuals with disabilities or in a language other than English for people with limited English skills. To request a document in another format or language, call DEQ in Portland at 503-229-5696, or toll-free in Oregon at 1-800-452-4011, ext. 5696; or email deqinfo@deq.state.or.us.