

A Review of Current TCE Short-Term Indoor Air Standards

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Background/Objectives. To provide a review of various short-term trichloroethylene (TCE) action levels for indoor air, until such time that U.S. Environmental Protection Agency (EPA) Headquarters finalizes their assessment on this topic. Confusion and misinterpretation is the state of the 2017 regulatory environment as it pertains to short-term TCE action levels for indoor air. Despite the controversy surrounding the 2003 Johnson et al. 2003 study, it is apparent that the study is used as the ultimate goal (in the case of the two 2013 ATSDR studies) or the basis of the inhalation reference concentration (RfC) of $2 \mu\text{g}/\text{m}^3$. Different Regions of EPA have developed short-term action levels, which have been adopted by several states, including California, Colorado, Michigan, New Hampshire, New Jersey, New York and Ohio. Other states have established their own TCE indoor air action levels, such as Massachusetts, Minnesota, Connecticut, and Indiana. A comparison of the Federal and State values will be presented and discussed.

Meanwhile, in 2014, ATSDR identified $2 \mu\text{g}/\text{m}^3$ as an intermediate (52-week) and chronic minimal risk level (MRL). ATSDR has not developed an acute MRL, which would be protective of an exposure lasting from 1 – 14 days. The presentation will conclude with recommended short-term TCE action levels protective of an indoor worker are similar (21 and $26.4 \mu\text{g}/\text{m}^3$), which lends confidence in using this concentration range for short-term indoor air action levels for TCE, instead of relying on risk-based concentrations protective of chronic, long-term inhalation exposure.

Approach/Activities. Given the uncertainty around TCE's inhalation RfC, how do we evaluate and manage potential risk from inhalation exposure? Many states and several USEPA Regions have published their health-protective air standards; however, there is significant variability across these air standards. Therefore, how do we know which standards are health protective for our sites? This presentation will walk through the equations used to calculate health-protective air standards for TCE and explain the variability across different environmental regulatory agencies.

Results/Lessons Learned. Based on the information provided in this presentation, the audience will understand how the variability in input assumptions results in a wide range of health-protective air standards for TCE and how to identify the appropriate TCE air standard for their sites.