

**The North Carolina Department of Environmental Quality
and The Department of Health & Human Services
Secretaries' Science Advisory Board**

Subject: The Secretaries' Science Advisory Board's Final recommendations on the Department of Environmental Quality Division of Waste Management's Trichloroethylene (TCE) Indoor Air Inhalation Immediate Action Levels and Response Guidance

The NC DEQ and DHHS Secretaries' Science Advisory Board (SSAB) has heard presentations by agency staff and the USEPA Region 4 staff, and has reviewed materials submitted by the agencies concerning their proposal for protection of sensitive populations subject to trichloroethylene ("TCE") indoor air inhalation exposures. The Board also considered comments submitted during a 30-day public comment period. **The charge to the SSAB** is to review the public health aspects of the DEQ implementation guidance for TCE to determine if it is protective and appropriate and to provide recommendations to DEQ and DHHS on the action levels and implementation of the proposed guidance.

The objective of the TCE action levels and the response guidance is the protection against fetal cardiac effects for women exposed to TCE above the inhalation action level concentrations during the first trimester of pregnancy. The DEQ TCE residential and non-residential inhalation action levels and response guidance are summarized in Table 1.

The SSAB commends the agencies for their thorough assessment of the science pertaining to this issue and their response to concerns presented by persons and organizations potentially impacted by these action levels and the response guidance. The SSAB also commends the agencies on their comprehensive approach to working in concert with the affected entities and persons, and with regional, state and local environmental and public health agencies, to rapidly and effectively facilitate the reduction of TCE inhalation exposures to the population of concern and are hopeful and confident that effort will continue in future responses to this concern.

On the basis of the information provided to the SSAB concerning the current trichloroethylene toxicological and risk science, the specified short-term inhalation action levels and the response guidance and the response time-line components, the SSAB recommends their implementation by DEQ and DHHS for the protection of public health.

The SSAB proposes DEQ and DHHS re-evaluate these action levels and response guidance protective of the fetal cardiac endpoint should additional validated science relevant to this endpoint become available, including but not limited to final results of the rat oral TCE cardiac toxicity assessment sponsored by the Halogenated Solvents Industry Alliance (recently submitted to the SAB in draft) and updated health values released by the USEPA or ATSDR in response to new studies or the re-assessment of the existing science.

Table 1. Division of Waste Management (DWM) Immediate Action Levels for Trichloroethylene (TCE) Inhalation Exposures

The TCE-sensitive population for short-term exposures is women of child-bearing age, defined as women of age 15–50 years, although site-specific consideration of the appropriate age range should be evaluated in concert with the exposed women and NC Division of Waste Management (DWM). When it is identified that TCE-sensitive populations may be exposed to concentrations greater than the DWM action levels found in Table 1, immediate steps are to be taken to eliminate the exposure or reduce the exposure concentration to less than the action level.

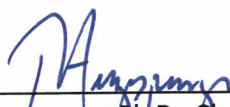
Exposure Scenario	TCE Action Level - Inhalation	Required Action by the State-Lead Contractor, Consultant or Remediation Party ¹
Residential	2.1 µg/m ³ (0.39 ppbv)	1. Notify DWM within 1 business day 2. Immediately provide fact sheets to potentially affected individuals and involve DWM 3. Initiate measures to reduce exposure below the action level immediately.
Non-residential	8.8 µg/m ³ (1.6 ppbv)	

TCE sensitive populations are defined as: Women of child-bearing age (15 to 50 years of age) ²

¹ The required action time frame begins when the remediating party, DWM State-Lead Program or Brownfields Program applicant's receives the validated laboratory data

² A site-specific evaluation of the appropriate age range for women of child-bearing age should be made in consultation with the exposed women and DWM

TCE = trichloroethylene (trichloroethene, CASN 79-01-6)



 Tom Augspurger, Ph.D., Chair
 N.C. Secretaries' Science Advisory Board

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