

Tony Evers
Governor

Karen E. Timberlake
Secretary



State of Wisconsin
Department of Health Services

DIVISION OF PUBLIC HEALTH

1 WEST WILSON STREET
PO BOX 2659
MADISON WI 53701-2659

Telephone: 608-266-1251
Fax: 608-267-2832
TTY: 711 or 800-947-3529

June 6, 2022

Christine Haag
Program Director
Remediation and Redevelopment Program
Wisconsin Department of Natural Resources
101 S. Webster Street
Madison, WI 53707-7921

Subject: DHS response to Request for Assistance: Clarification of single exposure for trichloroethylene (TCE)

Dear Ms. Haag:

The Wisconsin Department of Health Services (DHS) received an email on October 18, 2021, from Vapor Intrusion Team Leader, Jennifer Borski, requesting clarification of what constitutes a *single exposure* for Wisconsin's trichloroethylene (TCE) vapor action level (VAL) of $2.1 \mu\text{g}/\text{m}^3$ for residential exposures and $8.8 \mu\text{g}/\text{m}^3$ for small and large commercial and industrial exposures. This information is sought to support DHS immediate action recommendations for TCE provided in a letter dated March 25, 2021.

DHS response:

Environmental Protection Agency (EPA) regional screening levels for air are based on inhalation unit risk (IUR) for carcinogenic toxicological endpoints and reference concentration (RfC) for non-cancer endpoints. These toxicological values are based on a daily oral slope factor (cancer) or reference dose (RfD) (non-cancer) exposure parameter (in $(\text{mg}/\text{kg}\cdot\text{day})^{-1}$). The current environmental assessment levels are also based on a daily assessment of eight-hour samples for occupational settings and 24-hour samples for residential scenarios.

Based on these observations, the optimally resolved values achievable are daily (8-hour for occupational, 24-hour for residential) exposure and assessment values, and these values constitute a single exposure for TCE for risk evaluation purposes.

Thank you for the opportunity to provide feedback on this topic. Please contact me at (608) 266-6677, or curtis.hedman@wisconsin.gov if you have any follow up questions or comments about this response.

Sincerely,

A handwritten signature in cursive script that reads "Curtis G. Hedman".

Curtis Hedman, Ph.D.
Toxicologist, Bureau of Environmental and Occupational Health

Cc: Jennifer Borski, Vapor Intrusion Team Leader, DNR R&R Program
Judy Fassbender, NR Program Manager, DNR R&R Program
Roy Irving, Chief, DHS Hazard Assessment Section, BEOH
Mark Werner, Chief, DHS BEOH

References:

Wisconsin Vapor Quick Look-Up Table, Indoor Air Vapor Action Levels and Vapor Risk Screening Levels, <https://dnr.wi.gov/DocLink/RR/RR0136.pdf>, February 2022.

DNR RR 800, Addressing Vapor Intrusion at Remediation & Redevelopment Sites in Wisconsin, <https://dnr.wi.gov/DocLink/RR/RR800.pdf>, January 2018

US EPA Regional Screening Levels (RSLs) – Generic Tables, <https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables>, May 2022.

US EPA Region V VI Handbook, https://rrt5.org/Portals/0/images/thumb_VI.png?ver=2021-05-19-101609-580, March 2020.