



Trichloroethylene (TCE)

Office of Land Quality – Science Services Branch

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Description

- Trichloroethylene (TCE) is a manufactured chemical (chlorinated solvent) used in metal cleaning, vapor degreasing operations, and spot cleaning at dry cleaners. It was used previously in hospitals and in food production. Common household products like fabric cleaners, adhesives, paint removers, and gun cleaners may contain TCE.

Potential Sources

- TCE from a spill or leak can move through the soil and mix with groundwater, contaminating the water that people use.
- TCE can evaporate from soil and groundwater, and the gas (vapor) can then get into buildings by moving through soil, or even inside sewer lines. This movement is known as vapor intrusion.
- Even with special equipment, it can be difficult for environmental professionals to figure out if TCE in the indoor air are from vapor intrusion, or if they are from our everyday product use.

Routes of Exposure and Potential Health Impacts

- You can be exposed to TCE in two ways:
 - Drinking water that contains TCE; and
 - Breathing air that contains TCE gas.
- Potential health effects from TCE depend on how much, how long, how often, and in what way(s) you are exposed.
- The United States Environmental Protection Agency (U.S. EPA) classifies TCE as “likely carcinogenic to humans.”
- Breathing and/or drinking high levels of TCE can cause health effects other than cancer.
- Exposure to TCE at concentrations greater than the Indiana Department of Environmental Management (IDEM) published levels may not necessarily lead to adverse health effects. If you suspect your health has been impacted by TCE, please first consult your primary healthcare provider.
- For additional information on TCE’s potential health impacts, please contact the Center for Disease Control’s (CDC) Agency for Toxic Substances and Disease Registry (ATSDR) or visit their website (see below).

Reduce Exposure

There are things you may be able to do to reduce your exposure to TCE:

- If you use a private well for your home water supply, have the water tested regularly to make sure it is safe to drink. While IDEM does not regulate private water wells, information is available on testing and health-based recommendations (see below).
- Follow the label instructions when you use and get rid of products containing TCE.
- Choose products that are TCE- “free”.
- Choose a dry cleaning business that uses “green” cleaners instead of chlorinated solvents like TCE.
- If you choose a dry cleaner that uses TCE, consider leaving your clothes in a sheltered area outdoors for a few hours when you bring clothes home from the dry cleaners. This allows the clothing to release remnant TCE into the outdoor air where it can dissipate rather than into an enclosed area.

IDEM’s Role and Responsibility

- IDEM is responsible for protecting public health and the environment while providing for safe industrial, agricultural, commercial, and governmental operations vital to a prosperous economy. IDEM’s published levels are calculated to protect human health of all populations including young children, the elderly, and people with chronic health conditions, who may be more at risk when exposed to PCE.

- IDEM's Office of Water Quality enforces the federal limit on how much TCE is allowed in drinking water supplied by cities or corporations.
- IDEM's Office of Air Quality regulates the amount of TCE that businesses can release into the outdoor air.
- IDEM's Office of Land Quality (OLQ) regulates the disposal and cleanup of TCE.
- IDEM OLQ provides cleanup recommendations for TCE and other chlorinated solvents based on potential health effects (see additional information below).
- IDEM OLQ works with U.S. EPA to make sure that facilities are following the rules for TCE use and that they collect groundwater samples when they are cleaning up TCE.

Additional Information

- For more information on TCE, please visit the Agency for Toxic Substances and Disease Registry's (ATSDR) website at atsdr.cdc.gov/toxfags/TF.asp?id=172&tid=30.
- Alternatively, you can call the CDC-INFO line for ATSDR's information on TCE: 800-232-4636 or TTY 888-232-6348. (Monday through Friday, 8 a.m.–8 p.m. ET. Information is available in English or Spanish)
- Center for Disease Control (CDC) also has information on TCE at www.cdc.gov/TSP/PHS/PHS.aspx?phsid=171&toxid=30.
- For more information on vapor intrusion please visit IDEM's website at idem.IN.gov/cleanups/2357.htm. IDEM has included more specifics in three fact sheets on Vapor Intrusion, Vapor Intrusion Sampling, and Vapor Mitigation at idem.IN.gov/fact-sheets/.
- IDEM does not regulate private wells. However, if you use a private well, it is still important to be aware of health-based recommendations: idem.IN.gov/cleanwater/2452.htm.
- For more information on certified laboratories, please visit the Indiana State Department of Health's website at isdh.IN.gov/24859.htm.
- IDEM has a list of household products that contain TCE at IDEM website idem.IN.gov/cleanups/resources/technical-guidance-for-cleanups. IDEM has provided this information for both vapor intrusion investigation and consumer informational purposes.
- For questions and concerns about TCE contamination or environmental cleanup, contact IDEM's Office of Land Quality at 317-233-6593 or 800-451-6027, ext. 2-3215.
- To report an accidental release or spill, call IDEM's 24-Hour Spill Line at 888-233-7745 (toll free).