

# Tetrachloroethylene (PCE) and Vapor Intrusion

PCE is used for dry cleaning, degreasing metal parts, and in the production of other chemicals. It can be found in consumer products, including some adhesives and sealants, automotive parts cleaners, aerosol lubricants, and stone/stainless steel polish.

## PCE:

- is a nonflammable, colorless liquid or gas
- evaporates easily into air
- smells sweet at high concentrations; at lower levels, there is no odor

## People may breathe PCE from:

- using PCE-containing products
- working at a job that uses PCE
- living or working near dry cleaning facilities or from recently dry-cleaned clothes
- vapors from contaminated soil or groundwater that move into indoor air

By early 2018, all dry cleaners in the Minneapolis stopped using PCE. PCE will be prohibited as a dry cleaning solvent throughout the state in 2026.

## Health concerns from breathing PCE

**Most exposures to PCE in air are to low amounts and not likely to result in a health effects.** The possibility of health effects depends on the amount of PCE in air and how long people breathe it. Once PCE enters the body, some will leave in exhaled air. Much of the PCE breathed in, gets absorbed and distributed throughout the body via the blood and is quickly eliminated in urine.

Exposure to high amounts of PCE can cause neurological effects such as vision changes or reaction time delays. Studies of exposed workers suggest PCE may cause cancer, including bladder cancer, non-Hodgkin’s lymphoma, and multiple myeloma. PCE exposure to rodents also increases liver tumors and leukemias.

It is not known whether children are more susceptible than adults to the effects of PCE. There is not conclusive evidence from human studies that PCE exposure is linked to effects to a developing fetus.

## PCE Intrusion Screening Values

Intrusion Screening Values (ISVs) are developed to indicate when action may be needed to protect health from vapor intrusion. ISVs are an amount that is safe for people to breathe. This level is protective for sensitive people, including children, pregnant women, and people who already have health issues. The ISVs are set well below levels expected to result in health effects. When ISVs are exceeded, MDH recommends steps be taken to reduce exposures.

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To obtain this information in a different format, call: 651-201-4897.

Value	Description
<b>3.4 µg/m<sup>3</sup></b>	Residential ISV - a safe level that protects all people from health effects.
<b>110 µg/m<sup>3</sup></b>	Residential Sub-Slab Value (33X ISV) – a safe level in soil vapor beneath a home
<b>33 µg/m<sup>3</sup></b>	Workplace ISV - a safe level for people who may have exposures in the workplace over many years.
<b>1,100 µg/m<sup>3</sup></b>	Commercial/Industrial Sub-Slab Value (33X ISV) – a safe level in soil vapor beneath a workplace

(measured in micrograms per cubic meter, or µg/m<sup>3</sup>)