

Trichloroethene (TCE)

Trichloroethene, also known as trichloroethylene or TCE is a colourless liquid industrial chemical that is used widely in industry for metal cleaning and in the manufacturing of products such as adhesives, lacquers, dyes, perfumes and soaps.

In the past, TCE was also used in many other applications such as removing caffeine from coffee beans in the production of decaffeinated coffee, in dry cleaning and as an anaesthetic for surgery.

What happens when TCE enters the body or the environment?

If TCE is taken into the body, it is metabolised (broken down) and eliminated from the body within days. In the environment TCE breaks down rapidly in air and surface water but much more slowly in soil and groundwater.

How can contact with TCE occur?

Contamination of soil and groundwater by TCE can be a consequence of past disposal practices and/or spills and leaks from storage tanks at industrial sites. In some cases contaminated groundwater and soil vapour can move off industrial sites and may be present under residential properties.

Contact, or exposure, can occur if contaminated groundwater is consumed or used in cooking, or used in showers, swimming pools or watering gardens. If sufficient concentrations are present in soil or groundwater, TCE vapours can also penetrate through the soil, building foundations and underground service infrastructure and contaminate the indoor air that we breathe.

Why is TCE harmful?

Trichloroethene is associated with a range of adverse health effects. The health effects depend on a number of factors such as how long you have been exposed to the chemical, to what degree or level the chemical is present in air or water, along with how old you are and whether you have any other illnesses.

Much of what is known about the health effects of TCE is based on long-term exposure at high level in workplaces.

What are the health risks?

Inhaling or ingesting large amounts of TCE over short periods of time may result in dizziness or feeling sleepy. Inhaling moderate amounts may also result in headaches.

TCE exposure may pose a potential human health hazard to the central nervous system, kidney, liver, immune system and male reproductive system. If pregnant women are exposed to TCE at high enough levels in indoor air through their pregnancy there is an increased risk of congenital heart defects in newborns.



Long term exposure to elevated TCE air levels may also increase the potential risk of developing specific cancers including non-Hodgkin lymphoma, kidney or liver cancer.

These health effects are rare in the population and the increase in risk due to environmental exposures is small. However ongoing and long term exposure to TCE can be harmful and it is safest to avoid exposure where possible.

Can household products result in exposure to TCE?

Exposure to TCE may occur in the general community, for example it is found in some household products such as correction fluid and paint or spot removers.

These types of exposures are referred to as “background exposures” and are unlikely to harm anyone.

As exposures to chemicals occur from many sources in our everyday life, it is important that when there is an opportunity to reduce or prevent exposure, action should be taken.

How can I reduce my exposure to TCE?

Limit the use of TCE containing consumer goods in your household. You may be able to identify whether consumer goods contain TCE by reviewing the ingredient list or obtaining an ingredient list from the manufacturer or distributor of the product.

If you live over a soil or groundwater plume containing TCE, a short-term way to improve air quality in your home may be to ventilate your house

by opening windows and doors. Long term measures may include environmental mitigation and remediation.

We also recommend that people do not extract groundwater (bore water) where the groundwater is contaminated with TCE.

Concerned about your health due to environmental exposure to TCE?

You are encouraged to discuss any concerns with your regular GP. Your GP can contact Public Health Services for further advice on TCE exposure.

If you would like to inquire whether there is soil and groundwater contamination containing TCE near where you live, please contact the Site Contamination Branch of the Environment Protection Authority by telephoning general enquiries on 8204 2004

Translation service

For information in languages other than English, call the Interpreting and Translating Centre and ask them to call the Department for Health and Ageing.

This service is available at no cost to you by telephoning 8226 1990.

For more information

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www.health.sa.gov.au/pehs/envirom-health-index.htm



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