



TRICHLOROETHYLENE

What is TRICHLOROETHYLENE?

Trichloroethylene is a colorless liquid chemical with a sweet odor and a sweet, burning taste. It evaporates easily. Trichloroethylene is also called TCE, ethylene trichloride and trichloroethene.

Where can trichloroethylene be found and how is it used?

Trichloroethylene does not occur naturally. It is made for use in industry. In the past, trichloroethylene was used as a solvent, a refrigerant and in dry cleaning fluid. Today the main use of trichloroethylene is as an industrial degreaser to remove grease from metals.

How can people be exposed to trichloroethylene?

You could be exposed to trichloroethylene through:

Breathing it if you work where trichloroethylene is made or used. You can be exposed from breathing air near a factory where trichloroethylene is made or used.

Drinking water containing trichloroethylene. Trichloroethylene can enter ground water from spills or factory releases. It can also enter the water from hazardous waste sites.

How does trichloroethylene work and how can it affect my health?

Breathing trichloroethylene for brief periods can affect the central nervous system. Symptoms of exposure are headache, dizziness, tiredness and short-term memory loss. When exposure is stopped, these symptoms usually go away. The short-term effects of drinking water with trichloroethylene are not well known. Drinking large amounts affects the central nervous system.

Animal studies show that long-term, repeated exposure to trichloroethylene may damage the liver and kidney. Trichloroethylene has been named as a probable human cancer-causing substance. Breathing trichloroethylene is linked to liver and kidney cancers. Other data shows that drinking trichloroethylene increases the risk of non-Hodgkin's lymphoma, a type of cancer.

How is trichloroethylene poisoning treated?

There is no treatment just for trichloroethylene exposure. In all cases of poisoning, seek prompt medical treatment. A doctor will treat the symptoms depending on circumstances of the poisoning.

What should I do if exposed to trichloroethylene?

Anyone who may have been exposed to high levels of trichloroethylene should immediately leave the source of exposure. Clothing that contacted trichloroethylene should be removed and discarded. Skin and eyes contaminated with trichloroethylene should be flushed with clean water. Seek medical attention immediately.

What factors limit use or exposure to trichloroethylene?

Where possible, enclose operations and use local exhaust ventilation at the site of chemical release. If local exhaust ventilation or enclosure is not used, wear respirators. Wear protective work clothing. Wash thoroughly immediately after exposure to trichloroethylene and at the end of the work shift. Post hazard and warning information in the work area. In addition, as part of an ongoing education and training effort, communicate all information on the health and safety hazards of trichloroethylene to potentially exposed workers.



Frequently Asked Questions

Is there a medical test to show whether I've been exposed to trichloroethylene?

Trichloroethylene can be detected in breath, blood or urine if a person was recently exposed. The breath test, if performed soon after exposure, is the most accurate and can detect small levels. Blood and urine tests assess exposure to larger amounts by detecting trichloroethylene and many of its breakdown products for up to a week after exposure. However, exposure to other similar chemicals can produce the same breakdown products, so their detection is not absolute proof of exposure to trichloroethylene. These tests are not available at most doctors' offices, but can be done at specially equipped laboratories.

Technical information for trichloroethylene

CAS Number: 79-01-6

Chemical Formula: C_2HCl_3

Carcinogenicity (EPA): carcinogenic to humans by all routes of exposure.

MCL (Drinking Water): 0.005 mg/L (5 ppb)

OSHA Standards: 100 ppm 8-hour time-weighted average (TWA)

NIOSH Standards: Carcinogen - lowest feasible concentration. 10-hour time-weighted average: 25 ppm

ACGIH: 50 ppm 8-hour time-weighted average; 15-minutes short term exposure limit (STEL) 100 ppm.

References and Sources

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