

TOLUENE

What is toluene?

Toluene is a clear, colorless liquid with a sweet, strong odor. Toluene evaporates easily. This chemical can be detected in air, water, and soil.

Where is toluene found and how is it used?

Toluene occurs naturally in crude oil and in the tolu tree. Mostly, it is found in the environment due to human activities. Toluene is added to gasoline with benzene and xylene to improve combustion and reduce “knocking” in engines. It is also a solvent used to make paints, paint thinner, perfume, fingernail polish, lacquers, adhesives, and other chemical products.

How can people be exposed to toluene?

You could be exposed to toluene through:

- **Breathing** toluene vapors where toluene is processed. You can also be exposed from automobile exhaust and from paint and adhesive vapors that build up in indoor air. Tobacco smoke contains toluene. Some people are harmed by sniffing or inhaling toluene vapors to get “high.”
- **Drinking** water containing toluene. Liquid toluene can enter water from spills or factory releases. It can also enter groundwater from leaks in underground storage tanks.

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

Short-term exposure to airborne toluene affects the central nervous system. Symptoms are tiredness, dizziness, confusion, headache, and impaired hand coordination. Toluene can irritate the eyes, skin, nose, and throat.

Breathing very high levels can cause a person to lose consciousness. It can be deadly. Long-term, repeated exposure to airborne toluene affects the nervous system. Symptoms are spasms, tremors, hearing loss, diminished vision, and memory loss. The short-term and long-term effects of drinking water with high levels of toluene are thought to be like the effects of breathing the vapors. It is not known if toluene causes cancer.

How is toluene poisoning treated?

There is no treatment for toluene poisoning. Treatment depends on the type of exposure. A physician will treat the symptoms.

Poison Control Center 24/7 Emergency Contact Number: 1-800-222-1222
DPH 24/7 Contact Number: 1-888-295-5156



Frequently Asked Questions

What should I do if exposed to toluene?

- **If toluene gets on your skin**, remove contaminated clothing, and wash thoroughly with soap and water. Get medical attention.
- **If you get toluene in your eyes**, flush with large amounts of water for 15 minutes. Get medical help right away.
- **If you breathe toluene**, move to fresh air. Get medical help right away.
- **If you swallow toluene**, get medical help right away.

What factors limit use or exposure to toluene?

At work, reduce exposure by following health and safety rules. Wear respirators and other personal protective equipment. Follow label directions when using products containing toluene and use them in well ventilated areas.

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

Tests of exhaled breath, urine, and blood can measure the level of exposure to toluene and its breakdown products.

Technical information for toluene

CAS Number: 108-88-3

Chemical Formula: C₇H₈

Carcinogenicity (EPA): inadequate information to assess the carcinogenic potential.

MCL (Drinking Water): 1 mg/L (1 ppm)

OSHA Standards: 200 ppm 8-hour Time Weighted Average; 300 ppm ceiling

NIOSH Standards: 100 ppm 8-hour Time Weighted Average. IDLH – 500 ppm

ACGIH: 50 ppm 8-hr Time Weighted Average.

Resources

Agency for Toxic Substances and Disease Registry (ATSDR). 1995. *Toxicological profile for Toluene*. Atlanta, GA: U.S. Department of Health and Human Services. June 2017. <https://wwwn.cdc.gov/TSP/ToxProfiles/ToxProfiles.aspx?id=161&tid=29>

National Institute for Occupational Safety and Health. *NIOSH Pocket Guide to Chemical Hazards*. On-line version, www.cdc.gov/niosh/npg/npgd0619.html

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