

TETRAHYDROFURAN (C₄H₈O)

Chemical Abstracts Service (CAS) Number: 109-99-9

General Information

Tetrahydrofuran is a colorless liquid with an ether-like odor. It is very volatile, flammable and only partially soluble in water. Tetrahydrofuran can affect you when breathed in and by passing through your skin. Acute (short-term) inhalation exposure to tetrahydrofuran can cause headache, nausea, and dizziness. Very high exposure can cause unconsciousness and death. Chronic (long-term) oral exposure to tetrahydrofuran may damage the liver and kidneys. There is limited evidence that tetrahydrofuran causes cancer of the liver and kidney in animals. U.S. EPA has not determined a classification for cancer risk from exposure to tetrahydrofuran in humans.

Sources

- Tetrahydrofuran is used as a monomer, a solvent for natural and synthetic resins, and a chemical intermediate.
- Tetrahydrofuran can be released to the atmosphere from factories that manufacture it or use it.

Indiana Emissions

Tetrahydrofuran emissions totals are not available from the National Emission Inventory (NEI) for the 2014 calendar year.

Measured Concentration Trends

Ambient air monitoring data most accurately represents a limited area near the monitor location. All monitors for air toxics sample every sixth day. The monitoring locations by themselves are not sufficient to accurately characterize air toxic concentrations throughout the entire state, however, results from the monitors will provide exposure concentrations with a great deal of confidence at the monitoring locations.

The ambient air monitoring results were analyzed using U.S. EPA recommended statistical methods. IDEM evaluated the data so that a 95% upper confidence limit of the mean (UCL) could be determined. A 95% UCL represents a value which one can be 95% confident that the true mean of the population is below that value.

To learn more about the current monitoring locations, please visit IDEM's Air Toxics Monitor Siting webpage at: <http://www.in.gov/idem/toxic/2337.htm>

Data analysis was performed for each monitor that operated for a significant portion of the analysis period. This analysis determined the detection rate, which is defined as the percentage of valid samples taken statewide that had a quantifiable concentration of the pollutant. The statewide detection rate of tetrahydrofuran for the monitors analyzed from 2006-2015 was

41.9%. This detection rate is too low for IDEM to draw any conclusions about concentration trends of tetrahydrofuran. IDEM did not perform a trend analysis for any pollutant with a detection rate less than 50%.