

DICHLOROTETRAFLUOROETHANE (C₂Cl₂F₄)

also known as F-114

Chemical Abstracts Service (CAS) Number: 76-14-2

General Information

Dichlorotetrafluoroethane is a colorless gas that turns into a liquid at temperatures below 38 degrees Fahrenheit. Dichlorotetrafluoroethane has an ether-like odor and is nonflammable. Breathing the gas form can cause dizziness, drowsiness, lightheadedness, and passing out. Contact with the liquid form can cause frostbite and burning of the eyes and skin.

Sources

- Dichlorotetrafluoroethane is used as refrigerant in air conditioning systems, as a blowing or foaming agent for aerosols, in fire extinguishers, and in medicine for skin freezing.
- Exposure may occur through breathing in the gas form or contact with the liquid form.

Indiana Emissions

Dichlorotetrafluoroethane 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 the majority of 2015 and each historical 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 dichlorotetrafluoroethane for the monitors analyzed from 2006-2015 was 33.1%. This detection rate is too low for IDEM to draw any conclusions about concentration trends of

dichlorotetrafluoroethane. IDEM did not perform a trend analysis for any pollutant with a detection rate less than 50%.