

c-1,2-DICHLOROETHENE (C₂H₂Cl₂)

also known as cis-1,2-Dichloroethene

Chemical Abstracts Service (CAS) Number: 156-59-2

General Information

c-1,2-Dichloroethene is a highly flammable, colorless liquid with a sharp, harsh odor. You can smell very small amounts of it in the air. Acute (short-term) exposure to c-1,2-dichloroethene can make you feel nauseous, drowsy, and tired; acute exposure to very high levels can kill you. Animals that were exposed to doses of c-1,2-dichloroethene had effects on the blood, such as decreased numbers of red blood cells, and also effects on the liver. The human health effects of chronic (long-term) exposure to low concentrations of c-1,2-dichloroethene are unknown. c-1,2-Dichloroethene is not classifiable as to its potential to cause cancer.

Sources

- c-1,2-Dichloroethene is used to produce solvents and in chemical mixtures.
- Exposure to c-1,2-dichloroethene may occur due to leaks from hazardous waste sites and landfills. Exposure may also occur from touching it, or touching contaminated materials in the workplace.
- Most c-1,2-dichloroethene will evaporate into air, but it is possible for groundwater contamination to occur.

Indiana Emissions

c-1,2-Dichloroethene 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 c-1,2-dichloroethene for the monitors analyzed from 2006-2015 was 1.7%. This detection rate is too low for IDEM to draw any conclusions about concentration trends of c-1,2-dichloroethene. IDEM did not perform a trend analysis for any pollutant with a detection rate less than 50%.