

## **p-DICHLOROBENZENE (C<sub>6</sub>H<sub>4</sub>Cl<sub>2</sub>)**

*also known as 1,4-Dichlorobenzene*

Chemical Abstracts Service (CAS) Number: 106-46-7

### **General Information**

p-Dichlorobenzene is a white solid with a sweet taste and a strong odor. Acute (short-term) exposure to p-dichlorobenzene, via inhalation in humans, results in irritation of the skin, throat, and eyes. Chronic (long-term) p-dichlorobenzene inhalation exposure in humans results in effects on the liver, skin, and central nervous system. No information is available on the carcinogenic effects of p-dichlorobenzene in humans. A National Toxicology Program study reported that p-dichlorobenzene caused kidney tumors in male rats and liver tumors in both sexes of mice by gavage (experimentally placing the chemical in their stomachs). U.S. EPA has classified p-dichlorobenzene as a Group C, possible human carcinogen.

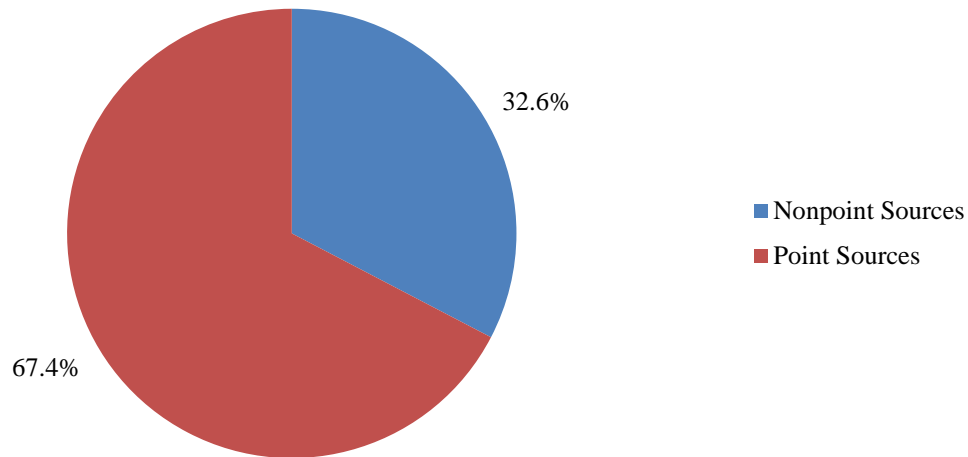
### **Sources**

- p-Dichlorobenzene is used mainly as a fumigant for the control of moths, molds, and mildews, and as a space deodorant for toilets and refuse containers.
- p-Dichlorobenzene is also used as an intermediate in the production of other chemicals, in the control of tree-boring insects, and in the control of mold in tobacco seeds.
- The general population is mainly exposed to p-dichlorobenzene products used in the home, such as mothballs and toilet deodorizer blocks.
- Occupational exposure to p-dichlorobenzene may occur in factories that produce or process p-dichlorobenzene products.

### **Indiana Emissions**

IDEM collects HAP emissions information for the categories of point sources (large stationary sources like power plants and factories), nonpoint sources (aka area sources - smaller stationary sources like gas stations and dry cleaners), and mobile sources (vehicles, airplanes, marine vessels, etc.).\* Estimated statewide emissions of p-dichlorobenzene totaled 0.088 tons in the 2014 calendar year. Of this total, 67.4% were attributed to point sources and 32.6% were attributed to nonpoint sources.

## 2014 Indiana p-Dichlorobenzene Emission Sources



\* For additional examples of types of emission sources, please visit IDEM's Hazardous Air Pollutants page at: <http://www.in.gov/idem/toxic/pages/hap/index.html>. For specific details on industrial sources of air toxics, please visit U.S. EPA's Toxics Release Inventory (TRI) page at: <https://www.epa.gov/toxics-release-inventory-tri-program>.

### 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 p-dichlorobenzene for the monitors analyzed from 2006-2015 was 46.0%. This detection rate is too low for IDEM to draw any conclusions about concentration

trends of p-dichlorobenzene. IDEM did not perform a trend analysis for any pollutant with a detection rate less than 50%.