



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

The Southwest Indianapolis Air Toxics Study

Ambient Air Background

www.idem.IN.gov

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Background:

The Indiana Department of Environmental Management (IDEM) recently concluded a two-year study of air toxics in the Southwest quadrant of Indianapolis. IDEM studied one-hundred-sixty-eight (168) pollutants to determine whether any of them were present in the air in concentrations that would warrant further attention to reduce potential health risks.

Description:

While conducting the Southwest Indianapolis Air Toxics Study, IDEM attempted to be as thorough as possible when identifying sources of air toxics. However, there are many sources of air toxics that IDEM cannot account for directly. These include:

- Natural sources (e.g., fires);
- Long range transport (e.g., pollutants coming into Southwest Indianapolis from outside the study area); and,
- Very small residential sources (e.g., lawnmowers, weed-eaters, household chemicals, etc.).

When the pollutants produced from these sources are combined, this is referred to as “background.” In other words, background is all the pollution that could not be directly counted by IDEM.

Why it was needed:

IDEM needed background concentrations to get a more complete picture of air toxics in the study area. IDEM conducted a detailed modeling analysis that looked at emissions from local industries, the interstates, major roads and the Indianapolis International Airport. This was only part of the picture though. Background concentrations combined with the modeling results helped to give the most complete picture possible of air toxics in the study area.

How it was used:

Background concentrations were added to the concentrations calculated from the model to allow IDEM to conduct a more realistic comparison of modeling results to monitoring results. This comparison is a simple way to judge the overall accuracy of the model. This also gives a more complete picture of air toxics in the study area.

Where it comes from:

IDEM used background concentrations that came from the 2002 National Air Toxics Assessment (NATA). NATA is a national modeling study the U.S. Environmental Protection Agency (USEPA) conducts every three (3) years to assess overall air quality around the country. It was the 1996 and 1999 NATAs that first brought the Southwest Indianapolis area to IDEM's attention. The 2002 NATA is the most recent NATA released by USEPA. The 2005 NATA is due for release in mid-2010 and is expected to use the same, or similar, background concentrations as the 2002 NATA.

Things to keep in mind:

Even the cleanest air has small amounts of pollutants in it. The term “background” can sometimes be used to describe “clean” air coming into an area before it is impacted by local sources of pollution. This type of background is most useful when trying to determine the impact that an area has on air quality,

rather than the other way around. This type of background should not be confused with the type of background used by IDEM for the study.

More Information:

- For more information on the Southwest Indianapolis Air Toxics Study, please visit the study's Web site at <http://www.idem.IN.gov/programs/air/workgroups/swindyairtox>.
- For questions and concerns, please call IDEM's Office of Air Quality Project Management Section at (317) 234-3499.