

Frequently Asked Questions (FAQs)
Criteria Air Pollutants
Wisconsin Environmental Public Health Tracking
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What is a criteria air pollutant?

These are air pollutants for which the United States Environmental Protection Agency (USEPA) has established National Ambient Air Quality Standards (NAAQS) and for which the State of Wisconsin has established air quality standards for industrial emissions. These air pollutants are also known as criteria pollutants.

What are the criteria air pollutants?

The following are criteria air pollutants:

- carbon monoxide (CO),
- nitrogen oxides (NO_x),
- particulate matter (PM),
- particulate matter under 10 microns (PM₁₀),
- Volatile Organic Compounds (VOC),
- sulfur dioxide (SO₂), and
- Lead (Pb). Although this is a criteria pollutant, there are no significant lead emission sources in Wisconsin and so lead emissions are not included for EPHT activities.

What is the relationship between criteria air pollutants and human health?

How air pollution affects your health depends on the particular pollutant, its concentration in the air, the length of time your lungs are exposed to it, and your own health conditions. Air pollutants can also indirectly affect our health. Air pollutants deposited in lakes or rivers affect the quality of the water we drink and pollutants deposited on land or water enter the food chain and increase their concentration levels (bioaccumulate) in foods we eat. Criteria pollutants are regulated primarily for their short term effects. They can cause respiratory or other health problems which vary with the pollutant.

It is generally believed that environmental contaminants in the air play a role in a variety of health effects. The health effect varies based on the amount of exposure and the length

of time exposed. While the data presented here cannot be used to measure links between specific health effects and the environment, they can be used to help prioritize emission sources that are of the greatest concern, identify locations of interest for further study, provide a starting point for local-scale assessments and inform monitoring programs.

What are the related health effects and symptoms?

Specific health effects and symptoms of exposure for individual pollutants can be reviewed at:

Compound	Information Link
carbon monoxide	http://www.epa.gov/air/urbanair/co/hlth1.html
nitrogen oxides	http://www.epa.gov/air/urbanair/nox/hlth.html
particulate matter	http://www.epa.gov/air/particlepollution/health.html
volatile organic compounds	http://www.epa.gov/iaq/voc.html#Health%20Effects
sulfur dioxides	http://www.epa.gov/air/urbanair/so2/hlth1.html

How do you determine the health effects from criteria air pollutants?

Measuring the link between disease and criteria air pollutants is a very complex issue. The data presented here cannot be used to measure links between specific health effects and the environment because they are only part of the many steps that can help determine these links. The health effect varies based on the amount of exposure and the length of time exposed.

Also, the data are based on what industries report as total emissions over a one year time period. They do not allow for finding emissions on a specific day or over a short time period. Additionally, these data cannot be used to identify individual risk, but they can be used to identify changes in emissions over time and place. This information can then be used to better examine potential linkages between the emissions and human health.

How am I exposed to criteria air pollutants?

People are exposed to air pollutants in many ways that can pose health risks, such as by:

- **Breathing contaminated air, which is the most likely route of exposure.**
- Eating contaminated foods, such as fish from contaminated waters; meat, milk, or eggs from animals that fed on contaminated plants; and fruits and vegetables grown in contaminated soil on which air toxics have been deposited.
- Drinking water contaminated by air pollutants.
- Ingesting contaminated soil. Young children are especially vulnerable because they often ingest soil from their hands or from objects they place in their mouths.
- Touching (making skin contact with) contaminated soil, dust, or water (for example, during recreational use of contaminated water bodies).

What can I do to protect myself from criteria air pollutants?

The first step is to view detailed data about your region. By contacting your regional Department of Natural Resources representative, you may be able to obtain more specific data results from samples taken in your region recently. The following website includes

information about statewide emissions over time

http://www.dnr.state.wi.us/air/emission/historical_emissions/index.htm.

What are some limitations on interpreting criteria air pollutant data?

Below are the limitations to consider when interpreting the criteria air pollutant data on the WI EPHT website

- The values presented are totals for a full year. They do not have any information for emission levels for any specific point in time.
- The values represent levels emitted from specific facilities and are not the same as individual human exposures.

How can tracking criteria air pollutants improve public health?

The development of standardized analytic methods for carcinogenic emissions among residents in each state will inform multiple users at the national, state, and local levels. These measures will assist in the identification of high risk groups, as well as inform efforts for program planning and evaluation.

Where can I find out more about criteria air pollutants?

Additional information about criteria air pollutants can be found at the following websites:

<http://www.epa.gov/air/urbanair/>

<http://www.epa.gov/oar/data/netemis.html>

<http://des.nh.gov/organization/commissioner/pip/factsheets/ard/documents/ard-41.pdf>

http://www.scorecard.org/env-releases/def/cap_gen.html

<http://www.dnr.state.wi.us/air/aq/health/>

References:

1. U.S. Environmental Protection Agency, “What are the six common air pollutants?”, <http://www.epa.gov/air/urbanair/>
2. Wisconsin Department of Natural Resources, “Air Quality and Health,” <http://www.dnr.state.wi.us/air/aq/health/>