

FACT SHEET



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Recommended Actions for Ozone and Fine Particulate Matter (PM_{2.5}) Air Quality Action Days (AQADs)

Office of Air Quality – Air Programs Branch

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Air Quality Action Days (AQADs) are days when ground-level ozone and fine particulate matter, known as PM_{2.5}, can build up to unhealthy levels in the outdoor air. This fact sheet provides background information on AQADs and precautions for affected groups, as well as the role citizens play in improving air quality.

Background:

- IDEM meteorologists work daily to examine concentrations of air pollutants in the outdoor air, monitor weather conditions, and coordinate with air quality professionals from local metropolitan areas and neighboring states to issue air quality forecasts.
- IDEM issues AQAD advisories when AQI values are above 100.
- Indiana collects ground-level ozone data from March 1 through Oct. 31 each year, when the pollutant is most likely to form. IDEM monitors for PM_{2.5} year around.
- The public can find daily air quality forecasts at <https://apps.idem.in.gov/smogwatch/Current.aspx>.
- **AQAD advisories specify the groups most likely to be affected based on recommendations from the United States Environmental Protection Agency (U.S. EPA) Air Quality Index (AQI).**
- AQI categories are provided in the table below. Sensitive groups are often the first to experience ill health effects. Sensitive groups include the elderly, young children, and individuals with a heart or lung condition. More groups within the population may be affected as AQI levels increase, as explained in *Description of Air Quality*.

| Daily AQI Color | Level of Concern | AQI Value | Description of Air Quality and Groups Likely To Be Affected |
|-----------------|--------------------------------|----------------|---|
| Green | Good | 0 to 50 | Air quality is good and air pollution poses little or no risk |
| Yellow | Moderate | 51 to 100 | Air quality is acceptable. However, there may be a risk for some people, particularly those who are unusually sensitive to air pollution. |
| Orange | Unhealthy for Sensitive Groups | 101 to 150 | Members of sensitive groups may experience health effects. The general public is less likely to be affected. |
| Red | Unhealthy | 151 to 200 | Some members of the general public may experience health effects; members of sensitive groups may experience more serious health effects. |
| Purple | Very Unhealthy | 201 to 300 | Health alert: the risk of health effects is increased for everyone. |
| Maroon | Hazardous | 301 and higher | Health warning of emergency conditions: everyone is more likely to be affected. |

Potential Health Effects of Ozone and PM_{2.5}

Groups likely to be affected by poor air quality are advised to reduce or avoid exertion and heavy work outdoors during an AQAD.

- Ground-level ozone and PM_{2.5} are pollutants of particular concern in Indiana and across the nation.
- Ozone at ground level is a lung irritant that can cause coughing and breathing difficulties for anyone. It can be particularly harmful for sensitive populations including those with heart or lung conditions, the elderly, and young children.
- Fine particulate matter is made up of microscopic dust, soot, liquid droplets, and smoke particles that are 2.5 micrometers wide or smaller. Because PM_{2.5} is so small, it can settle deep into the lungs and is difficult to exhale. PM_{2.5} can adversely affect anyone and is especially harmful for sensitive populations. People at risk are particularly vulnerable after several days of high PM_{2.5} exposure, which can cause coughing, aggravated asthma, decreased lung function, irregular heartbeat, heart attacks or premature death.

Wildfire Smoke

- The smoke from any fire, including wildfires, is unhealthy to breathe and may contain harmful particles and toxic pollutants.
- Wildfire smoke can contribute to the buildup of unhealthy ground-level ozone and PM_{2.5}.
- When wildfire smoke contributes to a buildup of ozone and PM_{2.5} in Indiana, IDEM will issue an AQAD advisory for affected regions.

Air Release Events

- Examples of air release events may include a fire, a release from an environmental spill, or a release of contaminants to the air.
- IDEM monitors the anticipated duration of an air release event, material(s) burned or released, wind and weather conditions, potential downwind population exposure, and ambient air monitors being impacted.
- IDEM coordinates with other federal, state and local officials (such as local health departments) on alerts when air quality can become unhealthy due to a fire, spill, or other release of pollutants to the air.
- **The smoke from any fire, including a wildfire, is unhealthy to breathe.**

Citizen's Role

- Take appropriate health precautions on AQADs by reducing or avoiding exertion or heavy work outdoors.
- Follow the pollution prevention tips below for ozone and PM_{2.5}.
- Follow advisories from appropriate authorities, including local health departments.

Pollution Prevention Tips for Ozone AQADs

Ground-level ozone is a gas that forms near earth's surface when pollutants in vehicle exhaust, factory emissions, and gasoline vapors chemically react on hot, sunny days. Ground level ozone can affect the community where it forms and is carried long distances by wind. To reduce ozone:

- Drive less: carpool, use public transportation, walk, bike, work from home when possible, and combine errands.
- Avoid refueling your vehicle or using gasoline-powered lawn equipment until after 7 p.m.

- Keep your engine tuned, avoid idling at the drive-thru, and properly inflate tires.
- To conserve energy, turn off lights and set the thermostat to $\geq 75^{\circ}$ in the summer; look for ENERGY STAR® label for home/office equipment and appliances.

Pollution Prevention Tips for PM_{2.5} AQADs

PM_{2.5} is emitted by many types of combustion sources, from industrial boilers to gasoline and diesel engines. It can also form from chemicals including sulfur dioxide and nitrogen oxides from power plants, industries and cars. To reduce PM_{2.5}:

- Avoid unnecessary fires and wood burning in fireplaces or wood-fired boilers.
 - *Remember, Indiana's open burning laws make it illegal to burn trash and generally prohibit open burning.*
- Drive less: carpool, use public transportation, walk, bike, work from home when possible, and combine errands.
- Avoid using gasoline-powered lawn or snow removal equipment or gas-powered recreational vehicles.
- Keep your engine tuned, avoid idling at the drive-thru, and properly inflate tires.
- To conserve energy, turn off lights and set the thermostat $\leq 70^{\circ}$ in winter and $\geq 75^{\circ}$ in summer; look for ENERGY STAR® label for home/office equipment and appliances.

Additional Information:

- Indiana's SmogWatch website and daily forecasts: SmogWatch.IN.gov
- Indiana's air monitoring data and reports: idem.IN.gov/airmonitoring
- Open burning and recycling information for Indiana: idem.IN.gov/openburning
- U.S. EPA's AirNow and AQI information: airnow.gov
- U.S. EPA information about smoke and health effects: epa.gov/burnwise/wood-smoke-and-your-health
- ENERGY STAR® certified products: ENERGY STAR.gov