

# IOWA DEPARTMENT OF NATURAL RESOURCES

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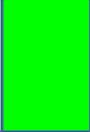
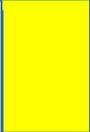
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## Air Quality Guide for Sulfur Dioxide in Muscatine

The city of Muscatine and surrounding area has been designated as not attaining the federal air quality health standard for sulfur dioxide (SO<sub>2</sub>) values over one-hour time periods. When one-hour SO<sub>2</sub> levels exceed the federal health standard people with existing respiratory problems, such as asthmatics, may experience difficulty breathing. The Department of Natural Resources (DNR) is working with community officials and local industries that are sources of SO<sub>2</sub> to develop a control strategy that will ensure the area can attain and maintain the SO<sub>2</sub> health standard in the future. The federal Clean Air Act requires the control strategy to be developed and put in place by spring 2015.

Until the SO<sub>2</sub> control strategy is put in place, asthmatics and other sensitive groups such as children and the elderly, who live in Muscatine may wish to monitor the daily weather forecast, and limit their time spent in areas predicted to be downwind of large industrial complexes. To see what the current (real-time) SO<sub>2</sub> values are in the area, visit [www.shl.uiowa.edu/env/ambient/realtime.xml](http://www.shl.uiowa.edu/env/ambient/realtime.xml) and select a Muscatine monitoring site nearest to your location. Then select the current date. Use the chart below to estimate the health effects associated with monitored pollutant levels and actions that will help protect your health.

Background information about the federal Air Quality Index can be found at [www.airnow.gov/index.cfm?action=aqibasics.aqi](http://www.airnow.gov/index.cfm?action=aqibasics.aqi).

Air Quality Index Value*	SO <sub>2</sub> Value (ppb)	Color	Actions to Protect Your Health
<b>Good</b> (0-50)	0-35		None. Get outside and be active!
<b>Moderate</b> (51-100)	36-75		Unusually sensitive people should not plan strenuous outside activities, but wait until air quality is better.
<b>Unhealthy for Sensitive Groups</b> (101-150)	76-185		Active children and people with asthma should cut back or reschedule strenuous outside activities.
<b>Unhealthy</b> (151-200)	186-304		Everyone should cut back or reschedule strenuous outside activities. Sensitive groups (such as elderly and children) should avoid strenuous outside activities.

\*Calculation of AQI values for the one-hour SO<sub>2</sub> standard stops at 200.

## Key Facts to Know About SO<sub>2</sub> Pollution:

- People with asthma are the most susceptible to health effects from SO<sub>2</sub> pollution, including wheezing, chest tightness and shortness of breath.
- Moderate activity levels that trigger mouth breathing, such as a brisk walk, are needed for SO<sub>2</sub> to cause health effects in most people.
- You can reduce your exposure to pollution and still be active outside! Use daily weather forecasts to help plan your day and check SO<sub>2</sub> monitoring data available at [www.shl.uiowa.edu/env/ambient/realtime.xml](http://www.shl.uiowa.edu/env/ambient/realtime.xml) to see current SO<sub>2</sub> levels near your location.

## What is SO<sub>2</sub>?

Sulfur dioxide is a colorless, reactive gas produced when sulfur-containing fuels such as coal and oil are burned. Generally, the highest levels of SO<sub>2</sub> are found near large industrial complexes that use boilers burning coal or oil to produce steam and heat for electricity and other industrial processes.

## Why is SO<sub>2</sub> pollution a health problem?

Short-term exposure (5 minutes to 24-hours) to SO<sub>2</sub> has been linked to adverse respiratory effects including a narrowing of the airways (called bronchoconstriction). This may be accompanied by wheezing, chest tightness, and shortness of breath. Symptoms increase as SO<sub>2</sub> levels or breathing rates increase. When exposure to SO<sub>2</sub> stops, lung function typically returns to normal within an hour, even without medication.

## Do I need to be concerned?

While anyone can be affected by SO<sub>2</sub> pollution, some people may be at a greater risk. They include:

- People with chronic lung diseases, including asthma
- People with cardiovascular disease (diseases of the heart and blood vessels)
- Children and older adults

## How can I protect myself?

Take these simple steps to reduce your exposure:

- Learn how sensitive you are to air pollution. If you have asthma, note your asthma symptoms when you are physically active. Do they happen more often when the air is more polluted? If so, you may be sensitive to air pollution.
- Plan activities when and where pollution levels are lower. Try to exercise away from busy roads or industrial areas. Think about exercising or conducting activities indoors.
- Change your level of activity. Reschedule activities or shorten their duration.
- Keep your quick-relief medicine on hand when you're active outdoors.

## Where can I get the latest updates regarding SO<sub>2</sub> nonattainment in Muscatine?

Technical information related to the Muscatine SO<sub>2</sub> nonattainment area and notices regarding upcoming public meetings will be posted at [www.iowadnr.gov/InsideDNR/RegulatoryAir/IowaNonattainmentAreas.aspx](http://www.iowadnr.gov/InsideDNR/RegulatoryAir/IowaNonattainmentAreas.aspx).