Public Health
Prevent. Promote. Protect.
Linn County, Iowa

Air Quality Guide for Sulfur Dioxide in Tait Cummins Memorial Park

Linn County Public Health (LCPH) monitors and regulates air pollution in Linn County. One of the pollutants LCPH monitors is called sulfur dioxide, or SO_2. Sulfur Dioxide is a gas in the air that can be harmful to human health. For more information about SO_2, please see the backside of this guide.

The Environmental Protection Agency (EPA) recently revised the health standard for SO_2. This new 1-hour standard will protect public's health by reducing exposure to high short-term (5-minutes to 24-hours) concentrations of SO_2. LCPH installed an SO_2 monitor at Tait Cummins Memorial Park because it is next to Interstate Power and Light's (IPL) Prairie Creek Generating Station, which is the largest source of SO_2 emissions in Linn County. This facility burns coal and natural gas to generate electricity and provides steam to nearby industrial customers. The operations at this facility have not recently changed. Rather, LCPH is now monitoring at this location to demonstrate compliance with the new SO_2 standard.

The SO_2 monitor at Tait Cummins Memorial Park began collecting data on January 1, 2014. Data collected since then have shown a correlation between strong southerly winds (greater than 10 MPH) and elevated SO_2 levels in the park. As a result, wind direction can be used as an indicator of when people should be prepared to protect themselves. To see what the current (real-time) SO_2 values are in the park, visit www.linncleanair.org and click "Search by Station", select "Tait Cummins", and choose "Sulfur Dioxide" as the pollutant. Please use the chart below to estimate the health effects associated with monitored pollutant levels and actions that will help protect your health.

For more information about the Air Quality Index visit www.airnow.gov/index.cfm?action=aqibasics.aqi.

Air Quality Index Value*	SO_2 Value (ppb)	Color	Actions to Protect Your Health
Good (0-50)	0-35		None. Get outside and be active!
Moderate (51-100)	36-75		Unusually sensitive people should not plan strenuous outside activities, but wait until air quality is better.
Unhealthy for Sensitive Groups (101-150)	76-185		Active children and people with asthma should cut back or reschedule strenuous outside activities.
Unhealthy (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_2 standard stops at 200. The EPA set the new 1-hour standard at 75 parts per billion.

Key Facts to Know About SO_2 Pollution:

- People with asthma are the most susceptible to health effects from SO_2 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_2 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_2 monitoring data available at http://www.linncleanair.org/Air-Monitoring/Search-By-Station.aspx to see current SO_2 levels in the park.

What is SO_2?

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_2 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_2 pollution a health problem?

Short-term exposure (5 minutes to 24-hours) to SO_2 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_2 levels or breathing rates increase. When exposure to SO_2 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_2 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 more information regarding SO_2 as an air pollutant?

Technical information regarding SO_2 regulations and potential health impacts can be found at http://www.epa.gov/airquality/sulfurdioxide/actions.html.

For additional information regarding this SO_2 monitor, contact the Linn County Public Health Air Quality Branch through our website at www.linncleanair.org or by phone at 319-892-6000.