



History of Sulfur Dioxide Air Quality Standard

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What is Sulfur Dioxide?

Sulfur dioxide (SO₂) is a gaseous compound of sulfur and oxygen. SO₂ is formed when sulfur-containing fuel is burned by mobile sources, such as locomotives, ships, and off-road diesel equipment. SO₂ is also emitted from several industrial processes, such as petroleum refining and metal processing.

Health Effects from Exposure to Ambient Levels of Sulfur Dioxide

Effects from SO₂ exposures at levels near the one-hour standard include bronchoconstriction accompanied by symptoms, which may include wheezing, shortness of breath and chest tightness, especially during exercise or physical activity. Children, the elderly, and people with asthma, cardiovascular disease or chronic lung disease (such as bronchitis or emphysema) are most susceptible to these symptoms. Continued exposure at elevated levels of SO₂ results in increased incidence of pulmonary symptoms and disease, decreased pulmonary function, and increased risk of mortality.

History of Sulfur Dioxide Air Quality Standard

- In 1955, the Los Angeles County Air Pollution Control District established an air pollution 'first alert' level for sulfur oxides (includes SO₂, sulfur trioxide, and sulfates) at 3 ppm.
- In 1959, the California Board of Public Health adopted air quality standards for SO₂ at the 'adverse' level. These were 0.3 ppm for 8 hours, and 1 ppm for 1 hour.
- In 1969, the ARB adopted SO₂ standards of 0.04 ppm for 24 hours, and 0.5 ppm for 1 hour.
- In 1974, the ARB adopted a 24-hour SO₂ standard of 0.1 ppm. This standard was adjusted to 0.04 ppm in 1975 and then readjusted to 0.05 ppm in 1977.
- In 1991, the ARB adopted the current 24-hour SO₂ standard of 0.04 ppm.
- In 1984, the ARB adopted a 1-hour SO₂ standard of 0.25 ppm, which was reviewed and retained in 1995.

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Ambient Air Quality Standards