

Board Administration and Regulatory Coordination Unit

Division 3. Air Resources Board

Chapter 1. Air Resources Board

Subchapter 1.5. Air Basins and Air Quality Standards

Article 2. Ambient Air Quality Standards

§70200. Table of Standards ***

Substance	Concentration and Methods *	Duration of Averaging Periods	Most Relevant Effects	Comments
Ozone	0.09 ppm ** ultraviolet photometry	1 hour	<p>a. Short-term exposures:</p> <p>(1) Pulmonary function decrements and localized lung edema in humans and animals.</p> <p>(2) Risk to public health implied by alterations in pulmonary morphology and host defence in animals.</p> <p>b. Long-term exposures: Risk to public health implied by altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans.</p> <p>c. Welfare effects:</p> <p>(1) Yield loss in important crops and predicted economic loss to growers and consumers.</p> <p>(2) Injury and damage to native plants and potential changes in species diversity and number.</p> <p>(3) Damage to rubber and elastomers and to paints, fabric, dyes, pigments, and plastics.</p>	<p>a. The standard is intended to prevent adverse health effects.</p> <p>b. The standard, when achieved, will not prevent all injury to crops and other types of vegetation, but is intended to place an acceptable upper limit on the amount of yield and economic loss, as well as on adverse environmental impacts.</p>
Carbon Monoxide	9.0 ppm NDIR **	8 hours	<p>a. Aggravation of angina pectoris and other aspects of coronary heart disease.</p> <p>b. Decreased exercise tolerance in persons with peripheral vascular disease and lung disease.</p> <p>c. Possible increased risk to fetuses.</p>	The relevant effects were found to be due to decreased capacity of the blood to carry oxygen, as measured by carboxyhemoglobin content.
	20 ppm NDIR **	1 hour		
Carbon Monoxide (Applicable only in the Lake Tahoe Air Basin)	6 ppm NDIR	8 hours	Will increase COHb by 1-1 ½ %	At altitude the lowered oxygen tension leads to greater absorption of CO. Persons participating in strenuous recreational activities at higher altitudes are often unacclimated.

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Sulfur Dioxide (SO ₂)	0.25 ppm ** fluorescence method	1 hour	a. Bronchoconstriction accompanied by symptoms, which may include wheezing, shortness of breath and chest tightness, activity in persons with asthma.	The standard is designed to protect against adverse effects from short-term (5–10 min.) peak exposures.
	0.04 ppm ** fluorescence method.	24 hours	b. Increased incidence of pulmonary disease and symptoms, decreased pulmonary function, and increased risk of mortality.	
Visibility Reducing Particles	In sufficient **** amount to produce extinction of 0.23 per kilometer due to particle when relative humidity is less than 70 percent. Measurement in accordance with ARB Method V.	8 hour (10 AM–6PM Pacific Standard Time)	Visibility impairment on days when relative humidity is less than 70 percent.	This standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10–mile visual range when relative humidity is less than 70 percent.
Visibility Reducing Particles (Applicable only in Lake Tahoe Air Basin)	In sufficient **** amount to produce extinction of 0.07 per kilometer due to particles when relative humidity is less than 70 percent. Measurement in accordance with ARB Method V.	8 hour (10 AM–6PM Pacific Standard Time)	Reduction in scenic quality on days when the relative humidity is less than 70 percent.	This standard is equivalent to a 30–mile visual range when relative humidity is less than 70 percent.

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Suspended Particle Matter (PM ₁₀)	50µg/m ³ PM ₁₀ **	24 hour sample	Prevention of excess deaths and of exacerbation of symptoms in sensitive patients with respiratory disease. Prevention of excess seasonal declines in pulmonary function, especially in children.	This standard applies to suspended matter as measured by PM ₁₀ sampler, which collects 50% of all particles of 10 µm aerodynamic diameter and collects a declining fraction of particles as their diameter increases and an increasing fraction of particles as their diameter decreases, reflecting the characteristic of lung deposition.
	30µg/m ³ PM ₁₀ ** SSI Method in accordance with ARB Method P	24 hour samples, annual geometric mean		
Lead (Particulate)	1.5µg/m ³ AIHL Method No. 54 (December 1974) (Atomic Absorption) or average equivalent	30 day average	Increased body burden, impairment of blood formation and nerve conduction	
Hydrogen Sulfide	0.03 ppm, cadmium hydroxide STRactant Method	1 hour	Exceeds the odor threshold	
Nitrogen Dioxide	0.25 ppm. Gas Phase Chemiluminescence **	1 hour	a (1). Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups.	a. The standard is intended to prevent adverse health effects.
			a (2). Risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes, which are observed in short-term animal tests at or above concentration of the standard. b Contribution to atmospheric discoloration.	
Sulfates	25µg/m ³ total sulfates, AIHL #61 (Turbidimetric Barium Sulfate)	24 hours	a. Decrease in ventilatory function b. Aggravation of asthmatic symptoms c. Aggravation of cardio-pulmonary disease d. Vegetation damage e. Degradation of visibility f. Property damage	This standard is based on a Critical Harm Level, not a threshold level.

*Any equivalent procedure which can be shown to the satisfaction of the Air Resources Board to give equivalent results at or near the level of the air quality standard may be used.

**These standards are violated when concentrations exceed those set forth in the body of the regulation. All other standards are violated when concentrations equal or exceed those set forth in the body of the regulation.

***Applicable statewide unless otherwise noted.

****These standards are violated when particle concentrations cause measured light extinction values to exceed those set forth in the regulations.

NOTE: Authority cited: Sections 39600, 39601(a) and 39606(b), Health and Safety Code. Reference: Sections 39014, 39606(b), 39701 and 39703(f), Health and Safety Code.

REFERENCE