

Health and Safety

AMBIENT AIR QUALITY STANDARDS

Both the State and the Bay Area Air Quality Management District (BAAQMD) have established ambient air quality standards for common pollutants. These ambient air quality standards are levels of contaminants, which represent safe levels that avoid specific adverse health effects associated with each pollutant. The ambient air quality standards cover what are called “criteria” pollutants because the health and other effects of each pollutant are described in criteria documents.

The State and BAAQMD standards are summarized in **Table B.1** for important pollutants.

TABLE B.1
STATE AND BAAQMD AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards ¹		National Standards ²	
		Concentration	Attainment Status	Concentration ³	Attainment Status
Ozone	8 Hour	0.070 ppm (137 μ g/m ³)	U9	0.08 ppm	N4
	1 Hour	0.09 ppm (180 μ g/m ³)	N		5
Carbon Monoxide	8 Hour	9.0 ppm (10 mg/m ³)	A	9 ppm (10 mg/m ³)	A6
	1 Hour	20 ppm (23 mg/m ³)	A	35 ppm (40 mg/m ³)	A
Nitrogen Dioxide	1 Hour	0.18 ppm (338 μ g/m ³)	A		
	Annual Arithmetic Mean	0.030 ppm (56 μ g/m ³)		0.053 ppm (100 μ g/m ³)	A
Sulfur Dioxide	24 Hour	0.04 ppm (105 μ g/m ³)	A	0.14 ppm (365 μ g/m ³)	
	1 Hour	0.25 ppm (655 μ g/m ³)			
	Annual Arithmetic Mean			0.030 ppm (80 μ g/m ³)	

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Pollutant	Averaging Time	California Standards		National Standards	
		Concentration	Attainment Status	Concentration ³	Attainment Status
Particulate Matter (PM10)	Annual Arithmetic Mean	20 $\mu\text{g}/\text{m}^3$)	N7		
	24 Hour	50 $\mu\text{g}/\text{m}^3$)	N	150 $\mu\text{g}/\text{m}^3$)	U
Particulate Matter - Fine (PM2.5)	Annual Arithmetic Mean	12 $\mu\text{g}/\text{m}^3$	N7	15 $\mu\text{g}/\text{m}^3$	A
	24 Hour			35 $\mu\text{g}/\text{m}^3$ See Footnote 10	U
Sulfates	24 Hour	25 $\mu\text{g}/\text{m}^3$	A		
Lead	Calendar Quarter			1.5 $\mu\text{g}/\text{m}^3$	A
	30 Day Average	1.5 $\mu\text{g}/\text{m}^3$	A		
Hydrogen Sulfide	1 Hour	0.03 ppm (42 $\mu\text{g}/\text{m}^3$)	U		
Vinyl Chloride (chloroethene)	24 Hour	0.010 ppm (26 $\mu\text{g}/\text{m}^3$)	No Information Available		
Visibility Reducing Particles	8 Hour (1000 to 1800 PST)	See Footnote 8	A		
A = Attainment N= Nonattainment U = Unclassified					
mg/m ³ = milligrams per cubic meter		ppm = parts per million		$\mu\text{g}/\text{m}^3$ = micrograms per cubic meter	

NOTES

- California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, suspended particulate matter - PM10, and visibility reducing particles are values that are not to be exceeded. The standards for sulfates, Lake Tahoe carbon monoxide, lead, hydrogen sulfide, and vinyl chloride are not to be equaled or exceeded. If the standard is for a 1-hour, 8-hour or 24-hour average (i.e., all standards except for lead and the PM10 annual standard), then some measurements may be excluded. In particular, measurements are excluded that ARB determines would occur less than once per year on the

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average. The Lake Tahoe CO standard is 6.0 ppm, a level one-half the national standard and two-thirds the state standard.

2. National standards other than for ozone, particulates and those based on annual averages are not to be exceeded more than once a year. The 1-hour ozone standard is attained if, during the most recent three-year period, the average number of days per year with maximum hourly concentrations above the standard is equal to or less than one. The 8-hour ozone standard is attained when the 3-year average of the 4th highest daily concentrations is 0.08 ppm or less. The 24-hour PM10 standard is attained when the 3-year average of the 99th percentile of monitored concentrations is less than 150 $\mu\text{g}/\text{m}^3$. The 24-hour PM2.5 standard is attained when the 3-year average of 98th percentiles is less than 65 $\mu\text{g}/\text{m}^3$.

Except for the national particulate standards, annual standards are met if the annual average falls below the standard at every site. The national annual particulate standard for PM10 is met if the 3-year average falls below the standard at every site. The annual PM2.5 standard is met if the 3-year average of annual averages spatially-averaged across officially designed clusters of sites falls below the standard.

3. National air quality standards are set at levels determined to be protective of public health with an adequate margin of safety.
4. In June 2004, the Bay Area was designated as a marginal nonattainment area of the national 8-hour ozone standard.
5. The national 1-hour ozone standard was revoked by U.S. EPA on June 15, 2005.
6. In April 1998, the Bay Area was redesignated to attainment for the national 8-hour carbon monoxide standard.
7. In June 2002, CARB established new annual standards for PM2.5 and PM10.
8. Statewide VRP Standard (except Lake Tahoe Air Basin): Particles in sufficient amount to produce an extinction coefficient of 0.23 per kilometer when the 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 nominal visual range.

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9. This standard was approved by the Air Resources Board on April 28, 2005 and became effective on May 17, 2006.
10. U.S EPA lowered the 24-hour PM_{2.5} standard from 65 µg/m³ to 35 µg/m³ in 2006. EPA is required to designate the attainment status of BAAQMD for the new standard by December of 2009.

AMBIENT AIR QUALITY

The Bay Area Air Quality Management District (BAAQMD) monitors air quality in the City of San Pablo. Existing air quality conditions in Pinole and Contra Costa County can be characterized by monitoring data collected at the monitoring station in San Pablo, which monitors for ozone and carbon monoxide. PM₁₀ and PM_{2.5} is not monitored in the County. Table B.2 summarizes air quality data from this monitoring site for June 2004, 2005, 2006 and 2007 for Contra Costa County and Pinole. As presented in **Table B.2**, Contra Costa County exceeded the State and Federal air quality standards almost all days in 2004, 2005 and 2006.

**TABLE B.2
AMBIENT AIR QUALITY MONITORING DATA FOR
CONTRA COSTA COUNTY & PINOLE**

Pollutant Standards	June 2004	June 2005	June 2006	June 2007
San Pablo (Rumrill)				
Ozone (O₃)				
Maximum 1-hour concentration (ppm)	.43	.030	.041	.033
Maximum 8-hour concentration (ppm)	.40	.027	.030	.030
Number of days standard exceeded				
CAAQS -1 hour (>0.09ppm)	23	10	12	0
CAAQS 8-hour (>0.07 ppm)	23	10	12	0
NAAQS 8-hour (>0.08 ppm)	23	10	12	0
Carbon Monoxide				
Maximum 24-hour concentration (ppm)	8	4	6	2
Annual average concentration (ppm)	6	2	4	2

Source: Bay Area Air Quality Management District Air Pollution Summaries 2004, 2005, 2006 and 2007.

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NOTES:

CAAQS = California ambient air quality standards. NAAQS = national ambient air quality standards. Highlighted cells indicate an exceedance.

- a An exceedance is not necessarily a violation. It should be noted that the federal ozone 1 hour standard has been revoked by EPA.
- b Measurements usually are collected every 6 days.
- c National statistics are based on standard conditions data. In addition, national statistics are based on samplers using federal reference or equivalent methods.
- d State statistics are based on local conditions data, except in the South Coast Air Basin, for which statistics are based on standard conditions data. In addition, state statistics are based on California-approved samplers.
- e State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.
- f Mathematical estimate of how many days concentrations would have been measured as higher than the level of the standard had each day been monitored.