## **Ambient Air Quality Standards**

Ozone (O <sub>3</sub> )   1 Hour   0.09 ppm (180 μg/m²)   Ultraviolet Photometry   0.075 ppm (147 μg/m²)   Primary Standard   Photometry   0.075 ppm (147 μg/m²)   Primary Standard   Photometry   0.075 ppm (147 μg/m²)   Primary Standard   Photometry   Photometry   0.075 ppm (147 μg/m²)   Primary Standard   Photometry   Photometry   150 μg/m²   Same as Primary Standard   Photometry   Ph								
Time	Pollutant		California Standards <sup>1</sup>		Federal Standards <sup>2</sup>			
Respirable   24 Hour   50 μg/m³   Photometry   150 μg/m³   Same as Primary Standard   Photometry   150 μg/m³   Non-Dispersive   Infrared Photometry   150 μg/m³   Non-Dispersive   Infrared Photometry   150 μg/m³   Non-Dispersive   150 μg/m³   Non-Dispers			Concentration <sup>3</sup>	Method <sup>4</sup>	Primary <sup>3,5</sup>	Secondary <sup>3,6</sup>	Method <sup>7</sup>	
Respirable Particulate Matter (PM10)	, 57	1 Hour	0.09 ppm (180 µg/m³)		_		Ultraviolet Photometry	
Particulate Matter (PM10)  Fine Particulate Matter (PM2.5)  Fine Particulate Separa and Gravima Analysis  Fine Particulate Matter (PM2.5)  Fine Particulate Separa and Gravima Analysis  Fine Particulate Manalysis  Fine Particulate		8 Hour	0.070 ppm (137 μg/m³)		0.075 ppm (147 μg/m³)			
Matter (PM10)         Annual Arithmetic Mean         20 μg/m³         Beta Attenuation         — Primary Standard         Analysis           Fine Particulate Particulate Matter (PM2.5)         24 Hour         No Separate State Standard         35 μg/m³         Same as Primary Standard         Inertial Separan and Gravime Analysis           Carbon Monoxide (CO)         8 Hour         9.0 ppm (10 mg/m³)         Non-Dispersive Infrared Photometry (NDIR)         9 ppm (10 mg/m³)         Non-Dispersive Infrared Photometry (NDIR)           Nitrogen Dioxide (NO₂)         Annual Arithmetic Mean         0.030 ppm (57 μg/m³)         Gas Phase Chemilluminescence         O.053 ppm (100 μg/m³)         Same as Primary Standard         Gas Phase Chemilluminescence           Sulfur Dioxide (SO₂)         Annual Arithmetic Mean         —         Ultraviolet Fluorescence         Ultraviolet Fluorescence         O.030 ppm (80 μg/m³)         —         Spectrophotor (Pararosanii Method)           Lead <sup>8</sup> 1 Hour         0.25 ppm (655 μg/m³)         Atomic Absorption         Atomic Absorption         Atomic Absorption         Same as Sampler and Atomic Absorption	Particulate Matter	24 Hour	50 μg/m³	T	150 μg/m³	1	Inertial Separation and Gravimetric Analysis	
Particulate   Matter (PM2.5)			20 μg/m³		_			
Matter (PM2.5)   Annual Arithmetic Mean   12 μg/m³   Beta Attenuation   15.0 μg/m³   Primary Standard   Analysis	Particulate Matter	24 Hour	No Separate St	ate Standard	35 μg/m <sup>3</sup>		Inertial Separation and Gravimetric Analysis	
Carbon   Monoxide (CO)   1 Hour   20 ppm (23 mg/m³)   Non-Dispersive   Infrared Photometry (NDIR)   35 ppm (40 mg/m³)   None   Infrared Photometry (NDIR)			12 μg/m³		15.0 μg/m <sup>3</sup>			
Monoxide (CO)   1 Hour   20 ppm (23 mg/m³)   Infrared Photometry (NDIR)   35 ppm (40 mg/m³)   (NDIR)   (NDIR)	Monoxide	8 Hour	9.0 ppm (10mg/m <sup>3</sup> )	Infrared Photometry	9 ppm (10 mg/m³)	None	Non-Dispersive Infrared Photometry (NDIR)	
Nitrogen Dioxide (NO₂)			20 ppm (23 mg/m³)		35 ppm (40 mg/m <sup>3</sup> )			
Arithmetic Mean   0.030 ppm (57 μg/m³)   Gas Phase   Chemilluminescence   Chemilluminescen			6 ppm (7 mg/m <sup>3</sup> )		_	_	_	
NO <sub>2</sub>   1 Hour   0.18 ppm (339 μg/m³)   Chemiluminescence   —   Primary Standard   Chemiluminescence   —   Primary Standard   Chemiluminescence   —   Primary Standard   Chemiluminescence   —     Chemiluminescence   —     Primary Standard   Chemiluminescence   —     Chemiluminescence   —	Dioxide		0.030 ppm (57 μg/m3)		0.053 ppm (100 μg/m <sup>3</sup> )		Gas Phase Chemiluminescence	
Arithmetic Mean   —			0.18 ppm (339 μg/m <sup>3</sup> )		_			
Sulfur Dioxide (SO <sub>2</sub> )   24 Hour   0.04 ppm (105 μg/m³)   Ultraviolet Fluorescence   0.14 ppm (365 μg/m³)   — (Pararosanil Method)   — 0.5 ppm (1300 μg/m³)   — (Pararosanil Method)   — 0.5 ppm (1300 μg/m³)   — — — —   — — — — — — — — — — — — —	Dioxide		_		0.030 ppm (80 μg/m³)	_	Spectrophotometry	
(SO <sub>2</sub> ) 3 Hour — 0.5 ppm (1300 μg/m³) — 0.5 ppm (1300 μg/m³) — — — — — — — — — — — — — — — — — — —		24 Hour	0.04 ppm (105 μg/m <sup>3</sup> )		0.14 ppm (365 μg/m³)	_	(Pararosaniline	
Lead <sup>8</sup> 30 Day Average 1.5 µg/m <sup>3</sup> Atomic Absorption  Calendar Quarter  Calendar Quarter  Calendar Quarter  Atomic Absorption  1.5 µg/m <sup>3</sup> Same as Sampler and A		3 Hour	_		_	0.5 ppm (1300 µg/m <sup>3</sup> )		
Lead <sup>8</sup> Atomic Absorption  Calendar Quarter  Calendar Quarter  Atomic Absorption  1.5 µg/m <sup>3</sup> Same as Sampler and A		1 Hour	0.25 ppm (655 μg/m <sup>3</sup> )		_	_	_	
Calendar Quarter — Lack Sampler and A	Lead <sup>8</sup>	30 Day Average	1.5 μg/m <sup>3</sup>	Atomic Absorption	_	_	_	
Primary Standard Absorption		Calendar Quarter	_		1.5 μg/m <sup>3</sup>		High Volume Sampler and Atomic Absorption	
Visibility Reducing Particles  8 Hour  8 Hour  Returation coefficient of 0.23 per kilometer — visibility of ten miles or more (0.07 — 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.	Reducing	8 Hour	visibility of ten miles or r miles or more for Lake 1 particles when relative h 70 percent. Method: Be	more (0.07 — 30 Fahoe) due to umidity is less than ta Attenuation and	No			
Sulfates 24 Hour 25 μg/m³ Ion Chromatography	Sulfates	24 Hour	25 μg/m <sup>3</sup>	Ion Chromatography	Federal			
Hydrogen Sulfide 1 Hour 0.03 ppm (42 µg/m³) Ultraviolet Fluorescence Standards		1 Hour	0.03 ppm (42 μg/m³)			Standards		
Vinyl Chloride <sup>8</sup> 24 Hour     0.01 ppm (26 μg/m³)     Gas Chromatography	•	24 Hour	0.01 ppm (26 μg/m <sup>3</sup> )					

See footnotes on next page ...

- 1. California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter—PM10, PM2.5, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
- 2. National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calender year with a 24-hour average concentration above 150 μg/m³ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current federal policies.
- 3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
- 4. Any equivalent procedure which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
- 5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
- 6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
- 7. Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.
- 8. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

California Air Resources Board (06/26/08)