

**MARICOPA COUNTY
AIR POLLUTION CONTROL REGULATIONS
REGULATION V - AIR QUALITY STANDARDS AND AREA CLASSIFICATION**

**RULE 510
AIR QUALITY STANDARDS**

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SECTION 100 - GENERAL

- 101 PURPOSE:** To establish maximum limiting levels for pollutants existing in the ambient air which are necessary to protect human health and public welfare.
- 102 AVAILABILITY OF INFORMATION:** Copies of materials referenced in Sections 310, 401.1, and 401.2 of this rule currently enforced by the department are available electronically at <http://www.gpo.gov/fdsy/browse/collectionCfr.action?collectionCode=CFR>; at the Maricopa County Air Quality Department, 1001 N. Central Ave., Suite 125, Phoenix, AZ, 85004; or by calling (602) 506-6010 for information.

SECTION 200 - DEFINITIONS: For the purpose of this rule, the following definitions shall apply, in addition to those definitions found in Rule 100 (General Provisions and Definitions) of these rules. In the event of any inconsistency between any of the Maricopa County air pollution control rules, the definitions in this rule take precedence.

- 201 PRIMARY AMBIENT AIR QUALITY STANDARDS** - The ambient air quality standards which define levels of air quality necessary, with an adequate margin of safety, to protect the public health, as determined by the Arizona Department of Environmental Quality and United States Environmental Protection Agency, and specified in this rule.
- 202 SECONDARY AMBIENT AIR QUALITY STANDARDS** - The ambient air quality standards which define levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant, as determined by the Arizona Department of Environmental Quality and United States Environmental Protection Agency, and specified in this rule.

SECTION 300 - STANDARDS: The following are established as the primary and secondary ambient air quality standards for Maricopa County:

- 301 PARTICULATE MATTER - 2.5 MICRONS OR LESS (PM_{2.5}):**
- 301.1 Primary and Secondary Ambient Air Quality Standards for PM_{2.5} Annual Arithmetic Mean Concentration:** The annual arithmetic mean concentration shall be 12 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). The standard shall be considered attained when the annual arithmetic mean concentration, as determined in accordance with 40 CFR 50, Appendix N, is less than or equal to $12 \mu\text{g}/\text{m}^3$.
- 301.2 Primary and Secondary Ambient Air Quality Standards for PM_{2.5} 24-hour Average Concentration:** The 24-hour average concentration shall be $35 \mu\text{g}/\text{m}^3$. The standard shall be considered attained when the 98th percentile 24-hour concentration, as determined in accordance with 40 CFR 50, Appendix N, is less than or equal to $35 \mu\text{g}/\text{m}^3$.
- 302 PARTICULATE MATTER - 10 MICRONS OR LESS (PM₁₀):**
- Primary and Secondary Ambient Air Quality Standard for PM₁₀ 24-hour Average Concentration:** The 24-hour average concentration shall be $150 \mu\text{g}/\text{m}^3$. This concentration shall not be exceeded more than once per calendar year at any one location. The standard shall be considered attained when the expected

number of days per calendar year with a 24-hour average concentration above $150 \mu\text{g}/\text{m}^3$, as determined in accordance with 40 CFR 50, Appendix K, is less than or equal to one.

303 SULFUR OXIDES (SULFUR DIOXIDE):

303.1 Primary Ambient Air Quality Standards for Sulfur Oxides (Measured as Sulfur Dioxide):

- a. **Annual Arithmetic Mean Concentration:** The annual arithmetic mean concentration shall be 0.030 parts per million (ppm) ($80 \text{ g}/\text{m}^3$). This concentration shall not be exceeded more than once in a calendar year. The annual arithmetic mean shall be rounded to three decimal places (fractional parts equal to or greater than 0.0005 ppm shall be rounded up).
- b. **24-hour Concentration:** The maximum 24-hour concentration shall be 0.14 ppm ($365 \text{ g}/\text{m}^3$). This concentration shall not be exceeded more than once per calendar year at any one location. The 24-hour averages shall be determined from successive nonoverlapping 24-hour blocks starting at midnight each calendar day and shall be rounded to two decimal places (fractional parts equal to or greater than 0.005 ppm shall be rounded up).
- c. **1-hour Concentration:** The maximum 1-hour concentration shall be 75 parts per billion (ppb) 75 parts per billion (ppb). The one-hour primary standard is met at an ambient air quality monitoring site when the three-year average of the annual 99th percentile of the daily maximum one-hour average concentrations is less than or equal to 75 parts per billion, as determined according to 40 CFR 50, Appendix T.
- d. The standards in Sections 303.1(a) and (b) of this rule shall apply:
 - (1) In an area designated nonattainment for the standard in Sections 303.1(a) and (b) of this rule as of August 23, 2011, and areas not meeting a state implementation plan call for a standard in Sections 303.1(a) and (b) of this rule until the state submits pursuant to section 191 of the Act, and the Administrator approves, a state implementation plan providing for attainment of the standard in Section 303.1(c) of this rule in that area.
 - (2) In areas other than those identified in Section 303.1(d) of this rule, until the effective date of the designation of that area, pursuant to section 107 of the Act, for the standard in Section 303.1(c) of this rule.

303.2 Secondary Ambient Air Quality Standard for Sulfur Oxides (Measured as Sulfur Dioxide) 3-Hour Concentration: The maximum 3-hour concentration shall be 0.5 ppm ($1300 \text{ g}/\text{m}^3$). This concentration shall not be exceeded more than once per calendar year at any one location. The 3-hour averages shall be determined from successive non-overlapping 3-hour blocks starting at midnight each calendar day and shall be rounded to 1 decimal place (fractional parts equal to or greater than 0.05 ppm shall be rounded up).

304 OZONE:

Primary and Secondary Ambient Air Quality Standards for Ozone Eight-hour Average Concentration:

The daily maximum eight-hour average concentration shall be 0.075 ppm. The standard shall be considered attained at an ambient air quality monitoring site when the three-year average of the annual fourth-highest daily maximum eight-hour average ozone concentration, as determined in accordance with 40 CFR 50, Appendix P, is less than or equal to 0.075 ppm.

305 CARBON MONOXIDE:

305.1 Primary Ambient Air Quality Standards for Carbon Monoxide:

- a. **One-hour Average Concentration:** The maximum one-hour average concentration shall be 35 ppm ($40 \text{ mg}/\text{m}^3$). This concentration shall not be exceeded more than once per year at any one location.

b. **Eight-hour Average Concentration:** The maximum eight-hour average concentration shall be 9 ppm (10 mg/m³). This concentration shall not be exceeded more than once per year at any one location. An eight-hour average shall be considered valid if at least 75% of the hourly averages for the eight-hour period are available. In the event that only six or seven hourly averages are available, the eight-hour average shall be computed on the basis of the hours available using 6 or 7 as the divisor.

305.2 When summarizing data for comparison with the standards, averages shall be stated to one decimal place. Comparison of the data with the levels of the standards in ppm shall be made in terms of integers with fractional parts of 0.5 or greater rounding up.

306 NITROGEN OXIDES (NITROGEN DIOXIDE):

306.1 The primary ambient air quality standards for oxides of nitrogen, measured in the ambient air as nitrogen dioxide, are:

- a. **Annual Concentration:** 53 parts per billion. The annual primary standard is met when the annual average concentration in a calendar year is less than or equal to 53 ppb, as determined in accordance with 40 CFR, Appendix S for the annual standard.
- b. **One Hour Concentration:** 100 parts per billion. The one-hour primary standard is met when the three-year average of the annual 98th percentile of the daily maximum one-hour average concentration is less than or equal to 100 parts per billion, as determined in accordance with 40 CFR 50, Appendix S.

306.2 The secondary ambient air quality standard for oxides of nitrogen is 0.053 parts per million (100 micrograms per cubic meter) – annual arithmetic mean.

- a. The standard shall be considered attained when the annual arithmetic mean concentration in a calendar year is less than or equal to 0.053 ppm, rounded to three decimal places, with fractional parts equal to or greater than 0.0005 ppm rounded up.
- b. To demonstrate attainment, an annual mean shall be based upon hourly data that is at least 75% complete, or upon data derived from the manual methods, that is at least 75% complete for the scheduled sampling days in each calendar quarter.

307 LEAD:

307.1 The primary and secondary ambient air quality standards for lead and its compounds, measured as elemental lead, is 0.15 micrograms per cubic meter – maximum arithmetic mean averaged over a three-month period. The level of the standards shall be measured by a reference method based on 40 CFR 50, Appendix G and designated in accordance with 40 CFR 53, or by an equivalent designated in accordance with 40 CFR 53.

307.2 The national primary and secondary ambient air quality standards for lead are met when the maximum arithmetic three-month mean concentration for a three-year period, as determined in accordance with 40 CFR 50, Appendix R, is less than or equal to 0.15 micrograms per cubic meter.

307.3 The former primary and secondary ambient air quality standards for lead of 1.5 micrograms per cubic meter averaged over a calendar quarter shall apply to an area until one year after the effective date of the designation of that area, pursuant to section 107 of the Act, for the standards in Section 307.1 of this rule.

308 POLLUTANT CONCENTRATION DETERMINATIONS: Pollutant concentrations shall be measured by the following methods:

308.1 **Appendices to 40 CFR 50:** Pollutant concentrations shall be measured by the following appendices to 40 CFR 50:

Pollutant	40 CFR 50
Particulate Matter (PM _{2.5})	Appendix L
	Appendix N

Particulate Matter (PM ₁₀)	Appendix J
	Appendix K
Sulfur Oxides (Sulfur Dioxide)	Appendix A
	Appendix A-1
Ozone	Appendix D
	Appendix P
Carbon Monoxide	Appendix C
Nitrogen Dioxide	Appendix F
	Appendix S
Lead	Appendix G
	Appendix R

308.2 Reference or Equivalent Methods: Pollutant concentrations shall also be measured by:

- a. A method of measurement that has been designated as a reference or equivalent method by the Administrator acting pursuant to 40 CFR 53; or
- b. A method of measurement that, though not designated as a reference or equivalent method, has been approved for use by the Administrator acting pursuant to 40 CFR 58, Appendix C. Such method shall be subject to any restrictions placed on its use by the Administrator.

308.3 Method Withdrawal: The cancellation or supersession of designation of a reference or equivalent method by the Administrator acting pursuant to 40 CFR 53.11 or 53.16, shall also amount to a withdrawal of the authorization for use of that method for purposes of this regulation.

309 ADDITIONAL REQUIREMENTS:

309.1 Quality assurance, monitor siting, and sample probe installation procedures shall be in accordance with the procedures described in the Appendices to 40 CFR 58.

309.2 Unless otherwise specified, interpretation of all ambient air quality standards contained in this rule shall be in accordance with 40 CFR 50.

309.3 The evaluation of air quality data in terms of procedure, methodology, and concept is to be consistent with methods described in 40 CFR 50.

310 INCORPORATIONS BY REFERENCE: The CFR references listed below are incorporated by reference in Appendix G of these rules:

- 40 CFR 50;
- 40 CFR 50, Appendices A through N;
- 40 CFR 53;
- 40 CFR 58.26 and 40 CFR 58.50; and
- 40 CFR 58, all appendices.

SECTION 400 - ADMINISTRATIVE REQUIREMENTS

401 REPORTING OF AMBIENT AIR QUALITY MONITORING DATA:

401.1 Annual Air Quality Monitoring Report: The Control Officer shall submit to the Administrator an annual summary report that at a minimum meets the requirements of 40 CFR 58.26 and 40 CFR 58, Appendix F. The annual report will be made available to the public at the address listed in Section 102 of this rule.

401.2 Daily Air Quality Index (AQI) Report: The Control Officer shall report to the general public an AQI that at a minimum meets the requirements of 40 CFR 58.50 and 40 CFR 58, Appendix G. The AQI will also be made available to the public at the address listed in Section 102 of this rule.

SECTION 500 - MONITORING AND RECORDS (NOT APPLICABLE)