

## Ambient Standards

### CHAPTER 2

#### Section 2. Ambient standards for particulate matter.

(a) PM<sub>10</sub>: The ambient air standards for PM<sub>10</sub> particulate matter are:

(i) 150 micrograms per cubic meter — 24-hour average concentration with not more than one expected exceedance per year.

(A) Attainment of the 24-hour standard is determined in accordance with Appendix K of 40 CFR part 50.

(ii) 50 micrograms per cubic meter — annual arithmetic mean.

(A) Attainment of the annual standard is determined in accordance with Appendix 1 of this chapter.

(iii) For the purpose of determining attainment of the standards, particulate matter shall be measured in the ambient air as PM<sub>10</sub> (particles with an aerodynamic diameter less than or equal to a nominal 10 micrometers), by a reference method based on 40 CFR part 50, Appendix J and designated in accordance with 40 CFR part 53 or an equivalent or alternate method designated in accordance with 40 CFR part 53.

(b) PM<sub>2.5</sub>: The primary ambient air quality standards for PM<sub>2.5</sub> particulate matter are:

(i) 12.0 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) annual arithmetic mean concentration and 35  $\mu\text{g}/\text{m}^3$  24-hour average concentration measured in the ambient air as PM<sub>2.5</sub> (particles with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers) by either:

(A) A reference method based on 40 CFR part 50, Appendix L, and designated in accordance with 40 CFR part 53; or

(B) An equivalent method designated in accordance with 40 CFR part 53.

(ii) The primary annual PM<sub>2.5</sub> standard is met when the annual arithmetic mean concentration, as determined in accordance with 40 CFR part 50, Appendix N, is less than or equal to 12.0  $\mu\text{g}/\text{m}^3$ .

(iii) The primary 24-hour PM<sub>2.5</sub> standard is met when the 98th percentile 24-hour concentration, as determined in accordance with 40 CFR part 50, Appendix N, is less than or equal to 35 µg/m<sup>3</sup>.

(c) PM<sub>2.5</sub>: The secondary ambient air quality standards for PM<sub>2.5</sub> particulate matter are:

(i) 15 micrograms per cubic meter (µg/m<sup>3</sup>) annual arithmetic mean concentration and;

(ii) 35 micrograms per cubic meter (µg/m<sup>3</sup>) — 98th percentile 24-hour average concentration.

(iii) Attainment of the annual and 24-hour standards is determined in accordance with Appendix N of 40 CFR part 50.

(iv) For the purpose of determining attainment of the standards, particulate matter shall be measured in the ambient air as PM<sub>2.5</sub> (particles with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers), by a reference method based on 40 CFR part 50, Appendix L and designated in accordance with 40 CFR part 53, or an equivalent or alternate method designated in accordance with 40 CFR part 53.

(d) Ambient air, for the area bounded by Townships 40 through 52 North, and Ranges 69 through 73 West, inclusive, of the Sixth Principal Meridian, Campbell and Converse Counties, in the Powder River Coal Basin, is defined as that portion of the atmosphere, external to buildings, to which the general public has access. For surface mining operations, the application of this definition will be limited to only those lands that are necessary to conduct mining operations as determined by the Administrator of the Wyoming Air Quality Division.

### Section 03. Ambient standards for nitrogen oxides.

## **FOR INCLUSION IN WYOMING STATE IMPLEMENTATION PLAN FROM WYOMING AIR QUALITY STANDARDS AND REGULATIONS**

### **Ambient Standards CHAPTER 2 Section 3. Ambient standards for nitrogen oxides.**

(a) The level of the primary annual ambient air quality standard for oxides of nitrogen is 53 parts per billion (ppb, which is 1 part in 1,000,000,000), annual average concentration, measured in the ambient air as nitrogen dioxide.

(b) The level of the primary 1-hour ambient air quality standard for oxides of nitrogen is 100 ppb, 1-hour average concentration, measured in the ambient air as nitrogen dioxide.

(c) The level of the secondary ambient air quality standard for nitrogen dioxide is 0.053 parts per million (ppm, which is 1 part in 1,000,000), annual arithmetic mean concentration.

(d) The levels of the standards shall be measured by:

(i) A reference method based on 40 CFR part 50, Appendix F; or CFR part 53.

(ii) A Federal equivalent method (FEM) designated in accordance with 40

(e) 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 Appendix S of 40 CFR part 50 for the annual standard.

(f) The 1-hour primary standard is met when the three-year average of the annual 98th percentile of the daily maximum 1-hour average concentration is less than or equal to 100 ppb, as determined in accordance with Appendix S of 40 CFR part 50 for the 1-hour standard.

(g) The secondary standard is 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 (fractional parts equal to or greater than 0.0005 ppm must be rounded up). To demonstrate attainment, an annual mean must be based upon hourly data that are at least 75 percent complete or upon data derived from manual methods that are at least 75 percent complete for the scheduled sampling days in each calendar quarter.

#### Section 4. Ambient standards for sulfur oxides.

(a) The ambient air standards for sulfur oxides measured by the pararosaniline (West-Gaeke) method given in

40 CFR § 50.11, Appendix A, or an equivalent method are:

(i) 60 micrograms per cubic meter (0.02 ppm)-annual arithmetic mean;

(ii) 260 micrograms per cubic meter (0.10 ppm)-maximum 24-hour concentration not to be exceeded more than once per year;

(b) The level of the primary 1-hour annual ambient air quality standard for oxides of sulfur is 75 parts per billion (ppb, which is 1 part in 1,000,000,000), measured in the ambient air as sulfur dioxide (SO<sub>2</sub>).

(i) The 1-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 1-hour average concentrations is less than or equal to 75 ppb, as determined in accordance with Appendix T of 40 CFR part 50.

(ii) The level of the standard shall be measured by a reference method based on 40 CFR part 50, Appendix A or A-1, or by a Federal Equivalent Method (FEM) designated in accordance with 40 CFR part 53.

(c) The level of the secondary 3-hour ambient air quality standard for oxides of sulfur is 0.5 parts per million (ppm, which is 1 part in 1,000,000), not to be exceeded more than once per calendar year. 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).

(i) Sulfur oxides shall be measured in the ambient air as sulfur dioxide by the reference method described in Appendix A of 40 CFR part 50 or by an equivalent method designated in accordance with 40 CFR part 53.

(ii) To demonstrate attainment, the second-highest 3-hour average must be based upon hourly data that are at least 75 percent complete in each calendar quarter. A 3-hour block average shall be considered valid only if all three hourly averages for the 3-hour period are available. If only one or two hourly averages are available, but the 3-hour average would exceed the level of the standard when zeros are substituted for the missing values, subject to the rounding rule of paragraph (c) of this section, then this shall be considered a valid 3-hour average. In all cases, the 3-hour block average shall be computed as the sum of the hourly averages divided by 3.

#### Section 5. Ambient standards for carbon monoxide.

(a) The ambient air standard for carbon monoxide, measured by nondispersive infrared spectrometry, as described in 40 CFR § 50.11 Appendix C, or by an equivalent method is:

(i) 10 milligrams per cubic meter (9 ppm)-maximum 8-hour concentration not to be exceeded more than once per year;

(ii) 40 milligrams per cubic meter (35 ppm)-maximum 1-hour concentration not to be exceeded more than once per year.

#### Section 6. Ambient standards for ozone.

(a) The level of the 8-hour primary and secondary ambient air quality standards for ozone (O<sub>3</sub>) is 0.070 parts per million (ppm, which is 1 part in 1,000,000), daily maximum 8-hour average, measured by a reference method based on Appendix D to 40 CFR part 50 and designated in accordance with 40 CFR part 53 or an equivalent method designated in accordance

with 40 CFR part 53.

(b) The 8-hour primary and secondary standard ozone ambient air quality standards are met at an ambient air quality monitoring site when the 3-year average of the annual fourth-highest daily maximum 8-hour average ozone concentration is less than or equal to 0.070 ppm, as determined in accordance with 40 CFR part 50, Appendix P.

#### [Section 8. Ambient standards for suspended sulfates.](#)

(a) The ambient air standards for suspended sulfate measured as a sulfation rate by the lead peroxide method are:

(i) 0.25 milligrams SO<sub>3</sub> per 100 square centimeters per day, maximum annual average;

(ii) 0.50 milligrams SO<sub>3</sub> per 100 square centimeters per day, maximum 30-day value.

#### [Section 10. Ambient standards for lead.](#)

(a) The primary and secondary ambient air quality standards for lead (Pb) and its compounds are 0.15 micrograms per cubic meter, arithmetic mean concentration over a month period, measured in the ambient air as Pb either by:

A reference method based on 40 CFR part 50, Appendix G (Reference Method for the Determination of Lead in Suspended Particulate Matter Collected From Ambient Air), and designated in accordance with 40 CFR part 53 or;

An equivalent method designated in accordance with 40 CFR part 53.

(b) The primary and secondary ambient air quality standards for Pb are met when the maximum arithmetic 3-month mean concentration for a 3-year period, as determined in accordance with Appendix R (Interpretation of the National Ambient Air Quality Standards for Lead) of 40 CFR part 50, is less than or equal to 0.15 micrograms per cubic meter.

#### [Section 12. Incorporation by reference.](#)

(a) Code of Federal Regulations (CFR). All Code of Federal Regulations (CFRs) cited in this chapter, including their Appendices, revised and published as of July 1, 2017, not including any later amendments, are incorporated by reference. Copies of the Code of Federal Regulations are available for public inspection and can be obtained at cost from the Department of Environmental Quality, Division of Air Quality, Cheyenne Office. Contact information for the Cheyenne Office can be obtained at: <http://deq.wyoming.gov>. Copies of the CFRs can also be obtained at cost from Government Institutes, 15200 NBN Way, Building B, Blue Ridge Summit, PA 17214, or online at:

<http://www.gpo.gov/fdsys/browse/collectionCfr.action?collectionCode=CFR>.