

401 KAR 53:005. General provisions.

NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
Department for Environmental Protection Division for Air Quality

Relates to: KRS Chapter 224

Pursuant to: KRS 13.082, 224.033

Necessity and Function: KRS 224.033 requires the Natural Resources and Environmental Protection Cabinet to prescribe regulations for the prevention, abatement, and control of air pollution. This regulation is to provide for the establishment of general provisions, definitions and time schedules as they pertain to this chapter.

Section 1. Purpose and intention.

- (1) The purpose of the primary ambient air quality standards is to define levels of air quality which the department judges are necessary, with an adequate margin of safety, to protect the public health. Secondary ambient air quality standards define levels of air quality which the department judges necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
- (2) In the establishment of these standards, it is the intention of the department to prohibit further significant and avoidable deterioration of air quality in areas where air quality presently exists which is numerically equal to or less than the standards expressed herein.
- (3) Except as provided in 401 KAR 51:010, no person shall violate, or interfere with the attainment or maintenance of, ambient air quality standards as specified in 401 KAR 53:010.

Section 2. Applicability.

- (1) The primary and secondary ambient air quality standards stated in 401 KAR 53:010 shall apply at any single point location.
- (2) The secondary standard for odor shall be applicable only when the department receives a complaint with respect to odors from a source.

Section 3. Definitions. As used in this chapter, all terms not defined herein shall have the meaning given them in 401 KAR 50:010.

- (1) "Ambient air" means that portion of the atmosphere, external to buildings, to which the general public has access.
- (2) "Reference method" means a method of sampling and analyzing for an air pollutant as specified by Appendices A through K of 40 CFR 50, filed by reference in 401 KAR

50:015.

- (3) "Equivalent method" means any method of sampling and analyzing of an air pollutant which can be demonstrated to the department's and the U.S. Environmental Protection Agency's satisfaction to have a consistent relationship to the reference method.
- (4) "Ambient air quality standard" means a numerical expression of a specified concentration level for a particular air contaminant and the time averaging interval over which that concentration level is measured and is a goal to be achieved in a stated time through the application of appropriate preventive and/or control measures.
- (5) "Annual mean" means an average determined on the basis of any consecutive twelve (12) month interval.
- (6) "Three (3) hour average" means an average determined on the basis of any consecutive three (3) hour interval.
- (7) "Eight (8) hour average" means an average determined on the basis of any consecutive eight (8) hour interval.
- (8) "Twelve (12) hour average" means an average determined on the basis of any consecutive twelve (12) hour interval.
- (9) "One (1) week average" means an average determined on the basis of any consecutive seven (7) day interval.
- (10) "Maximum" means an ambient air quality standard which shall not be exceeded more than once per year providing that the averages exceeding the standard do not contain any common hourly data points.
- (11) "Odor" means the property of an air contaminant that can be detected by the sense of smell.
- (12) "Standard condition" means a reference temperature of twenty-five (25) degrees Celsius and a reference pressure of 760 millimeters of mercury.
- (13) "Year" means any consecutive twelve (12) month period.

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to EPA

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1st Revision	JUL 07, 1988	FEB 07, 1990	55 FR 4169

401 KAR 53:010. Ambient air quality standards.

NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
Department for Environmental Protection Division for Air Quality

Relates to: KRS 224.320, 224.330, 224.340, 40 C.F.R. Parts 50, 51, 52, 53, 58, 75, 81, 42 U.S.C. 7401-7671g.

Pursuant to: KRS 224.033, 42 U.S.C. 7401-7671g.

Necessity and Function: KRS 224.10-100(5) requires the cabinet to promulgate regulations for the prevention, abatement, and control of air pollution. This regulation establishes ambient air quality standards necessary for the protection of the public health, the general welfare, and the property and people in the Commonwealth of Kentucky.

Section 1. Ambient air quality standards. The primary and secondary ambient air quality standards for sulfur oxides, particulate matter, carbon monoxide, ozone, hydrocarbons, nitrogen dioxide, lead, hydrogen sulfide, gaseous fluorides, total fluorides, and odors are specified in Appendix A of this regulation. Measurements shall be made by methods and frequency specified in Section 2.

Section 2. Methods of Measurement. For those air contaminants for which there are state ambient air quality standards that are the same as the national ambient air quality standards, measurements shall be made in accordance with 40 C.F.R. Parts 50 and 53. For other air contaminants for which there are state ambient air quality standards, measurements shall be made according to methods established in 40 KAR 50:014, this administrative regulation, or as prescribed by the department. The frequency of measurements for all air contaminants shall be prescribed by the department, in accordance with 40 C.F.R. Parts 50 and 53, 401 KAR 50:015, or this administrative regulation.

Section 3. Within sixty (60) days of promulgation or revision of any primary or secondary ambient air quality standard by the U.S. Environmental Protection Agency, the department shall initiate proceedings to promulgate or review this regulation in conformance with the federal ambient air quality standards.

[SIP Compilation Table After Appendix]

APPENDIX A TO 401 KAR 53:010 AMBIENT AIR QUALITY STANDARDS		
The following air contaminant concentrations shall apply at any single point location:		
Pollutant	Primary Standard	Secondary Standard
Carbon Monoxide Eight (8) hour average	9 ppm ⁽¹⁾ (10 mg/m ³)	

One (1) hour average	35 ppm ⁽¹⁾ (40 mg/m ³)	
Lead Rolling three (3) month mean	0.15 µg/m ³	Same as Primary
Nitrogen Dioxide - ug/m ³ Annual arithmetic mean One (1) hour average	53 ppb (100 µg/m ³) ⁽²⁾ 100 ppb	Same as primary -
Ozone - ug/m ³ One (1) hour average Eight (8) hour average 2015 standard 2008 standard 1997 standard	0.12 ppm ⁽³⁾ 0.070 ppm 0.075 ppm 0.080 ppm ⁽⁴⁾	Same as primary ⁽³⁾ Same as primary Same as primary Same as primary
Particulate Matter, measured as PM ₁₀ Twenty-four (24) hour average	150 ug/m ³	Same as primary
Particulate Matter, measured as PM _{2.5} Annual arithmetic mean 2012 standard 2006 standard 1997 standard Annual arithmetic mean 2012 standard 2006 standard 1997 standard	12.0 µg/m ³ 15.0 µg/m ³ 15.0 µg/m ³ 35 µg/m ³ 35 µg/m ³ 65 µg/m ³	(5) Same as primary Same as primary (5) Same as primary Same as primary
Sulfur Dioxide Annual arithmetic mean One (1) hour average Three (3) hour average Twenty-four (24) hour average	0.030 ppm ⁽¹⁾⁽⁶⁾ 75 ppb - 0.14 ppm ⁽¹⁾⁽⁶⁾	- - 0.5 ppm ⁽¹⁾ -
Gaseous Fluorides - (expressed as HF) Annual Arithmetic Mean, not to exceed One (1) month average One (1) week average Twenty-four (24) hour average Twelve (12)hour average	400 ug/m ³ (0.05 ppm) - - 800 ug/m ³⁽¹⁾ (1.0 ppm)* -	- 0.5 (0.6ppb)* 0.8 (0.97ppb)* 2.86(3.5ppb)* 3.68(4.5ppb)*
Hydrogen Sulfide - ug/m ³ One (1) hour average	-	14 µg/m ³⁽¹⁾ (0.01 ppm)
Odors	-	A mixture of one (1) volume of ambient air and seven (7) volumes of odorless air shall have no detectable odor at any time.
Total Fluorides Dry weight basis (as fluoride ion) in and on	-	

forage for consumption by grazing ruminants:		
Average concentration of monthly samples over growing season (not to exceed six (6) consecutive months)	-	40 ppm
Two (2) month average	-	60 ppm
One (1) month average	-	80 ppm

Footnotes:

¹ Average is not to be exceeded more than once per calendar year.

² The official level of the annual NO₂ standard is 0.053 ppm, equal to fifty-three (53) ppb, which is shown for the purpose of clearer comparison to the one (1) hour standard.

³ The U.S. Environmental Protection Agency revoked the one (1) hour ozone standard in all areas in 2005. However, some areas have continuing obligations under the standard.

⁴ The U.S. Environmental Protection Agency revoked the 1997 eight (8) hour ozone standard in 2015. However, some areas have continuing obligations under the standard.

⁵ The secondary ambient air quality standard was not adjusted from the previously established standard.

⁶ The 1971 sulfur dioxide standards remain in effect until one (1) year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved, in accordance with 40 C.F.R. Part 52, Subpart S.

** This standard is attained when the expected annual arithmetic mean concentration, as determined in accordance with Appendix K to 40 CFR 50, is less than or equal to fifty (50) ug/m³.

+ The standard is attained when the expected number of days per calendar year with a twenty-four (24) hour average concentration above 150 ug/m³, as determined in accordance with Appendix K of 40 CFR 50, is equal to or less than one (1).

++ The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm (ug/m³) is equal to or less than one (1), as determined by Appendix H of 40 CFR 50.

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