

ii. If the concentration is equal to a breakpoint, then the index is equal to the corresponding index value in Table 2. However, Equation 1 can still be used. The results will be equal. If the concentration is between two breakpoints, then calculate the index of that pollutant with Equation 1. You must also note that in some areas, the AQI based on 1-hour O₃ will be more precautionary than using 8-hour values (see footnote 1 to Table 2). In these cases, you may use 1-hour values as well as 8-hour values to calculate index values and then use the maximum index value as the AQI for O₃.

$$I_p = \frac{I_{Hi} - I_{Lo}}{BP_{Hi} - BP_{Lo}} (C_p - BP_{Lo}) + I_{Lo} \quad (\text{Equation 1})$$

Where:

I_p = the index value for pollutant_p

C_p = the truncated concentration of pollutant_p

BP_{Hi} = the breakpoint that is greater than or equal to C_p

BP_{Lo} = the breakpoint that is less than or equal to C_p

I_{Hi} = the AQI value corresponding to BP_{Hi}

I_{Lo} = the AQI value corresponding to BP_{Lo} .

iii. If the concentration is larger than the highest breakpoint in Table 2 then you may use the last two breakpoints in Table 2 when you apply Equation 1.

EXAMPLE

iv. Using Table 2 and Equation 1, calculate the index value for each of the pollutants measured and select the one that produces the highest index value for the AQI. For example, if you observe a PM₁₀ value of 210 µg/m³, a 1-hour O₃ value of 0.156 ppm, and an 8-hour O₃ value of 0.130 ppm, then do this:

a. Find the breakpoints for PM₁₀ at 210 µg/m³ as 155 µg/m³ and 254 µg/m³, corresponding to index values 101 and 150;

b. Find the breakpoints for 1-hour O₃ at 0.156 ppm as 0.125 ppm and 0.164 ppm, corresponding to index values 101 and 150;

c. Find the breakpoints for 8-hour O₃ at 0.130 ppm as 0.125 ppm and 0.374 ppm, corresponding to index values 201 and 300;

d. Apply Equation 1 for 210 µg/m³, PM₁₀:

$$\frac{150 - 101}{254 - 155} (210 - 155) + 101 = 128.$$

e. Apply Equation 1 for 0.156 ppm, 1-hour O₃:

$$\frac{150 - 101}{0.164 - 0.125} (0.156 - 0.125) + 101 = 140$$

f. Apply Equation 1 for 0.130 ppm, 8-hour O₃:

$$\frac{300 - 201}{0.374 - 0.125} (0.130 - 0.125) + 201 = 203$$

g. Find the maximum, 203. This is the AQI. The minimal AQI report would read:

v. Today, the AQI for my city is 203 which is very unhealthy, due to ozone. Children and people with asthma are the groups most at risk.

BACKGROUND AND REFERENCE MATERIALS

13. What Additional Information Should I Know?

The EPA has developed a computer program to calculate the AQI for you. The program works with Windows 95, it prompts for inputs, and it displays all the pertinent information for the AQI (the index value, color, category, sensitive group, health effects, and cautionary language). The EPA has also prepared a brochure on the AQI that explains the index in detail (The Air Quality Index), Reporting Guidance (Guideline for Public Reporting of Daily Air Quality) that provides associated health effects and cautionary statements, and Forecasting Guidance (Guideline for Developing an Ozone Forecasting Program) that explains the steps necessary to start an air pollution forecasting program. You can download the program and the guidance documents at www.epa.gov/airnow.

[64 FR 42547, Aug. 4, 1999]

PART 59—NATIONAL VOLATILE ORGANIC COMPOUND EMISSION STANDARDS FOR CONSUMER AND COMMERCIAL PRODUCTS

Sec.

Subpart A [Reserved]

Subpart B—National Volatile Organic Compound Emission Standards for Automobile Refinish Coatings

- 59.100 Applicability and designation of regulated entity.
- 59.101 Definitions.
- 59.102 Standards.
- 59.103 Container labeling requirements.
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- 59.108 State authority.
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§ 59.100

TABLE 1 TO SUBPART B—VOLATILE ORGANIC COMPOUND (VOC) CONTENT LIMITS FOR AUTOMOBILE REFINISH COATINGS

Subpart C—National Volatile Organic Compound Emission Standards for Consumer Products

- 59.201 Applicability and designation of regulated entity.
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- 59.203 Standards for consumer products.
- 59.204 Innovative product provisions.
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- 59.208 Charcoal lighter material testing protocol.
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- 59.212 Circumvention.
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TABLE 1 TO SUBPART C—VOC CONTENT LIMITS BY PRODUCT CATEGORY

TABLE 2 TO SUBPART C—HVOC CONTENT LIMITS FOR UNDERARM DEODORANTS AND UNDERARM ANTIPERSPIRANTS

APPENDIX A TO SUBPART C OF PART 59—FIGURES

Subpart D—National Volatile Organic Compound Emission Standards for Architectural Coatings

- 59.400 Applicability and compliance dates.
- 59.401 Definitions.
- 59.402 VOC content limits.
- 59.403 Exceedance fees.
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- 59.409 Addresses of EPA Offices.
- 59.410 State authority.
- 59.411 Circumvention.
- 59.412 Incorporations by reference.
- 59.413 Availability of information and confidentiality.

APPENDIX A TO SUBPART D OF PART 59—DETERMINATION OF VOLATILE MATTER CONTENT OF METHACRYLATE MULTICOMPONENT COATINGS USED AS TRAFFIC MARKING COATINGS

TABLE 1 TO SUBPART D—VOLATILE ORGANIC COMPOUND (VOC) CONTENT LIMITS FOR ARCHITECTURAL COATINGS

AUTHORITY: 42 U.S.C. 7511b(e).

SOURCE: 64 FR 48815, Sept. 11, 1998, unless otherwise noted.

40 CFR Ch. I (7–1–04 Edition)

Subpart A [Reserved]

Subpart B—National Volatile Organic Compound Emission Standards for Automobile Refinish Coatings

§ 59.100 Applicability and designation of regulated entity.

(a) The provisions of this subpart apply to automobile refinishing coatings and coating components manufactured on or after January 11, 1999 for sale or distribution in the United States.

(b) Regulated entities are manufacturers and importers of automobile refinishing coatings or coating components that sell or distribute these coatings or coating components in the United States.

(c) The provisions of this subpart do not apply to automobile refinishing coatings or coating components meeting the criteria in paragraphs (c)(1) through (c)(6) of this section.

(1) Coatings or coating components that are manufactured (in or outside the United States) exclusively for sale outside the United States.

(2) Coatings or coating components that are manufactured (in or outside the United States) before January 11, 1999.

(3) Coatings or coating components that are manufactured (in or outside the United States) for use by original equipment manufacturers.

(4) Coatings that are sold in non-refillable aerosol containers.

(5) Lacquer topcoats or their components.

(6) Touch-up coatings.

§ 59.101 Definitions.

Adhesion promoter means a coating designed to facilitate the bonding of a primer or topcoat on surfaces such as trim moldings, door locks, and door sills, where sanding is impracticable, and on plastic parts and the edges of sanded areas.

Administrator means the Administrator of the United States Environmental Protection Agency (U.S. EPA) or an authorized representative.

Automobile means passenger cars, vans, motorcycles, trucks, and all other mobile equipment.