

Particulate Matter/Clean Air Act National Ambient Air Quality Standard: U.S. Environmental Protection Agency Final Rule Tightening Standard



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The United States Environmental Protection Agency (“EPA”) announced today a final rule which will tighten the National Ambient Air Quality Standards (“NAAQS”) for fine particulate matter.

EPA previously:

- Stated on June 10, 2022, that it was reconsidering the Trump Administration’s prior decision to retain the PM2.5 NAAQS
- Announced on January 9, 2023, a proposed rule which would tighten the NAAQS

Particulate matter (“PM”) is a generic term for a broad class of chemically and physically diverse substances that exist as discrete particles (liquid droplets or solids) over a wide range of sizes. It is composed of two major components.

Primary particulates or soot are emitted directly into the atmosphere. Secondary particulates can also be formed through a secondary process. They might be formed from condensation of high-temperature vapor from vapors generated as a result of chemical reactions involving gas-based precursors.

Larger particulates (“PM10”) are generally the result of mechanical, evaporative, and suspension processes. Particles designated PM2.5 typically consist of sulfates, nitrates, elemental carbon, organic carbon, compounds and metals. Because of their small size, these particulates can remain in the air for significant periods of time.

Sections 108 and 109 of the Clean Air Act require EPA to identify air pollutants utilizing certain criteria and set NAAQS (an ambient standard) for each. Particulates are one of the six air pollutants currently designated as criteria air pollutants and subject to NAAQS. Section 109 requires that EPA promulgate primary NAAQS for the pollutants identified under Section 108.

Section 109(b)(1) defines a primary standard as one “the attainment and maintenance of which, in the judgment of the Administrator, based on the criteria and allowing an adequate margin of safety, are requisite to protect the public health.” The margin of safety requirement addresses the uncertainties associated with the inconclusive scientific and technical information available, as well as to provide a reasonable degree of protection against the adverse effects that may not have been discovered.

Section 109(d)(1) of the Clean Air Act mandates a periodic review of each NAAQS. Depending on the results of the review, EPA must determine whether the existing air quality criteria and NAAQS must be revised.

EPA's review of the PM and PM2.5 is an example of this review process.

The February 7th final rule tightens the level of the PM2.5 standard to 9.0 micrograms per cubic meter. The previous PM2.5 standard was 12.0 micrograms per cubic meter.

EPA is not revising the current:

- Primary and secondary (welfare-based) 24-hour PM2.5 standards
- Secondary annual PM2.5 standard
- Primary and secondary PM2.5 standards

EPA did not consider either economics or cost in either setting or revising a NAAQS. United States Supreme Court caselaw interprets Section 109 to prohibit such consideration.

The final rule also makes revisions to monitoring related to PM2.5.

The federal agency is modifying the PM2.5 monitoring network design criteria. It is directing state and tribal monitoring agencies to consider the proximity of populations at increased risk of PM2.5-health effect to air pollution sources when placing monitors.

The stated objective is to obtain and improve data collection in what are described as "overburdened areas" to provide information for future NAAQS reviews.

Additional changes include:

- Revisions to data calculations whose stated objective is to improve the quality of data used in regulatory decision-making and better characterize air quality in at-risk communities
- Revision of breakpoints in the PM2.5 Air Quality Index whose objective is stated to reflect the revised level of the primary annual PM2.5 standard and incorporate recent health science on PM2.5.

Note that the states are primarily responsible for ensuring attainment and maintenance of a NAAQS once the EPA has established or revised them. Each state is then required to formulate, subject to EPA approval, an Implementation Plan (i.e., "SIP") designed to achieve each NAAQS.

The SIPs will contain the measures and actions the state proposes to undertake to attain each NAAQS. These measures or actions must be enforceable through state regulations and typically include emission limits applicable to certain types of stationary sources. The states are generally free to make their own choices as to how they will attain NAAQS through their SIPs.

A link to the final rule can be found [here](#).