

## Particulate Matter NAAQS/Clean Air Act: U.S. Environmental Protection Agency Retains Current Standard



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The United States Environmental Protection Agency ("EPA") announced it is proposing to retain the current Clean Air Act National Ambient Air Quality Standard ("NAAQS") for particulate matter ("PM").

The PM standard includes both fine particles (PM<sub>2.5</sub>) and coarse particles (PM<sub>10</sub>).

Particulate matter 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 (PM<sub>10</sub>) are generally the result of mechanical, evaporative, and suspension processes. Particulates designated PM<sub>2.5</sub> 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 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 at the determined NAAQS, as well as to provide a reasonable degree of protection against the adverse effects that may not have been discovered.

The states are primarily responsible for ensuring attainment and maintenance of NAAQS once the EPA has established them. Each state is, therefore, 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 the NAAQS through their SIPs.

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 PM<sub>2.5</sub> is an example of this review process.

EPA states, by way of summary, that:

. . . after carefully reviewing the most recent available scientific evidence and technical information, and consulting with the Agency's independent scientific advisors, the EPA is proposing to retain, without revision, the existing primary (health-based) and secondary (welfare-based) National Ambient Air Quality Standards (NAAQS) for particulate matter.

The rationale for EPA's conclusion for PM<sub>2.5</sub> is a reference to "uncertainties in the evidence" for adverse health effects below the current standards and in the potential public health impacts of reducing ambient PM<sub>2.5</sub> concentrations below those standards.

As to PM<sub>10</sub>, EPA states that "while the available effects evidence has expanded, recent studies are subject to the same type of uncertainties that were judged important in the last review."

A link to the 186-page proposed rule can be found [here](#).