



Air Quality Limit Values for Particulate Matter

Category	Size (µm)	EU Annual Limit	EU Daily Limit	U.S. Annual Limit	U.S. Daily Limit	WHO Annual Limit	WHO Daily Limit
Ultrafine particles	< 0.1	—	—	—	—	—	>20,000 particles/cm ³ considered high (WHO)
Particulate Matter PM2.5	≤ 2.5	25 µg/m ³ (EU)	20 µg/m ³ (proposed 2030 target) (EU)	9 µg/m ³ (EPA)	35 µg/m ³ (EPA)	5 µg/m ³ (WHO)	15 µg/m ³ (WHO)
Particulate Matter10	≤ 10	40 µg/m ³ (EU)	50 µg/m ³ (35 exceedances/year) (EU)	—	150 µg/m ³ (EPA)	15 µg/m ³ (WHO)	45 µg/m ³ (WHO)

Notes –

- These limits indicate how much particulate matter can be present in the air and are measured in micrograms per cubic meter (µg/m³) - a unit of concentration. It's important to distinguish this from micrometers (µm), which refer to the size of the particles themselves.
- The annual limits are lower than the daily limit because the annual value is an average over the entire year, targeting long-term exposure effects, while the daily limit allows for occasional short-term pollution spikes as long as they don't occur too frequently.

References

- [European Union Ambient Air Quality Directive 2008/50/EC and amendments; European Commission Zero Pollution Action Plan.](#)
- [U.S. Environmental Protection Agency \(EPA\), National Ambient Air Quality Standards \(NAAQS\)](#), revised February 2024.
- [World Health Organization \(WHO\), Air Quality Guidelines \(2021 update\)](#). WHO has not set official limit values for ultrafine particles or PM10–2.5 but provides guidance values and recognizes health risks associated with high exposures.