

What is PM and Why Should You be Concerned?

Exposure to PM can cause serious health problems.

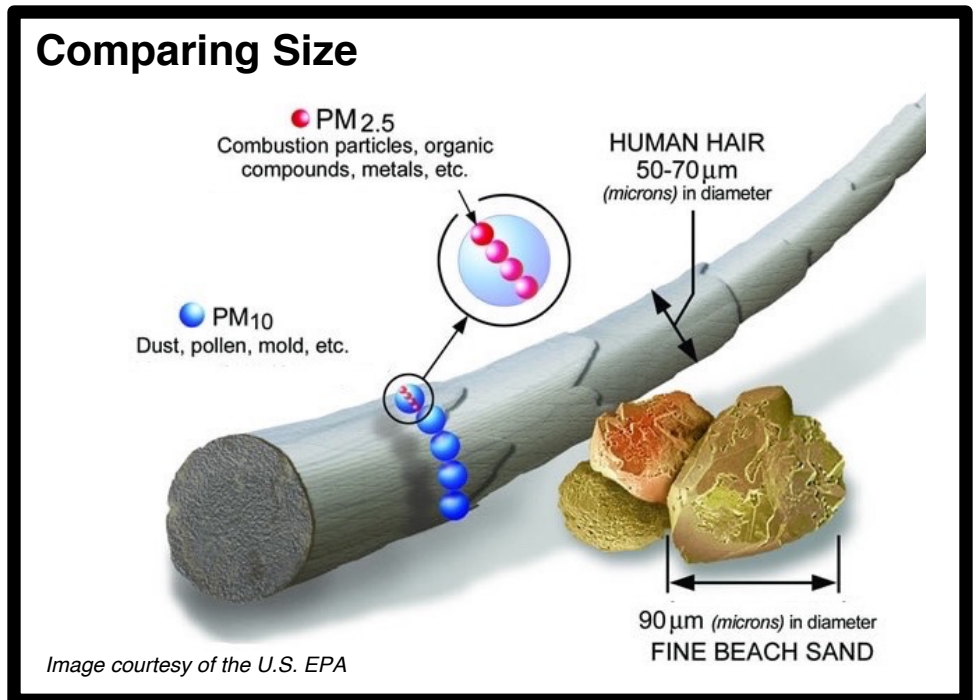
PM stands for “particulate matter”. It consists of tiny particles found in the air we breathe.

- Particles come from a wide range of sources – dirt, pollen, animals, fires, cooking and many industrial sources. They also come in many different sizes. The smaller the size, the more harmful the health effects.

- One common source is diesel exhaust produced by trucks and construction vehicles/ machinery. Unconventional oil and gas development (UOGD) sources such as well pads, compressor stations and processing plants also produce particulate matter.

Why be concerned?

- Exposure to too much PM can impair lung function, aggravate asthma symptoms, cause high blood pressure and heart attacks.



- Particles that are ten micrometers in diameter or smaller (PM₁₀) such as pollen and mold are of concern because they tend to stay in the air for longer periods of time, and can penetrate deep inside the lung.

- Fine PM (2.5 micrometers and smaller) such as airborne chemicals can form from gases emitted from industrial sources.

- Inhaling fine PM near these sites would then also cause inhalation of toxic chemicals such as benzene or formaldehyde.

- Emissions from UOGD sites – like well pads, compressor stations and processing stations - can create intermittent exposures to PM and other chemicals at nearby homes. Exposure levels will vary and health symptoms may come and go. Health effects may be short term and/or long term.

¹ <http://www.epa.gov/pm/health.html>

² <http://www.epa.gov/pm/>

What can you do?

- Monitor the level of Particulate Matter (PM) in your home using a device like the one described below. Particle monitors generally measure the presence of PM_{2.5} - the small particles that are drawn deeper into the lung.
- Use an air filter, such as the Austin Air Health Mate in your home to clear PM from indoor air. Air filters will remove some PM and some chemicals from the air.
- Keep your windows closed at times when wind carries PM from an industrial source towards your home.
- Talk to your healthcare provider if you are concerned about episodic exposures affecting you or your family's health. Potential symptoms include respiratory problems, skin rashes and headaches.
- Keep a health symptom diary.



- The Speck, developed by the Carnegie-Mellon University CREATE Lab, is a low-cost, indoor fine particulate (PM_{2.5}) monitor. This unit costs \$200.00 and can be purchased at <http://store.specksensor.com/products/speck>.



Recommended PM monitors

- The Dylos particle monitor is easy to use in the home. It provides continuous readings of both small (PM_{1.0} and larger) and large (PM_{5.0}) particles and displays particle counts as they occur. This unit costs about \$200.00. Here is a link to a website that offers this product: <http://www.iallergy.com/product1887>.

Recommended air filter

There are many types of air filters for use in the home. We recommend the Austin Air HealthMate HM 400 because it has been shown to remove PM and chemicals as well as odors and dust from inside air. This filter is designed to clean rooms rather than an entire house and can be moved easily from room to room. It works best in homes that are well insulated. Contact EHP for more information.

To talk to our environmental health educator, to schedule an appointment with our nurse practitioner or for additional information, please contact the

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