

HEALTH LINK**● Particles in the Air**

Take a deep breath. You have probably just inhaled thousands of tiny specks of dust, pollen, and other particles. These particles, called particulates, are harmless under normal conditions. But if concentrations of particulates get too high or if they consist of harmful materials, they are considered to be a type of air pollution.

Because many particulates are very small, our bodies' natural filters, such as nasal hairs and mucous membranes, cannot filter all of them out. When inhaled, particulates can cause irritation in the lungs. Over time, this irritation can lead to diseases such as bronchitis, asthma, and emphysema. The danger increases as the level of particulates in the air increases.

Where There's Smoke . . .

Unfortunately, dust and pollen are not the only forms of particulates. Many of the particulates in the air come from the burning of various materials. For example, when wood is burned, it releases particles of smoke, soot, and ash into the air. Some of these are so small that they can float in the air for days. The burning of fuels such as coal, oil, and gasoline also creates particulates. The particulates from these sources can be very dangerous in high concentrations. That's why particulate concentrations are one measure of air quality. Large concentrations of particulates are visible in the air. Along with other pollutants, particulates are what make polluted air look brown or yellowish brown. But don't be fooled—even air that appears clean can be polluted.

Eruptions of Particulates

Volcanoes can be the source of incredible amounts of particulates. For example, when Mount St. Helens erupted in 1980, it launched thousands of tons of ash into the surrounding air. The air was so thick with ash that the area became as dark as night. For several hours, the ash completely blocked the light from the sun. When the ash finally settled from the air, it covered the surrounding landscape like a thick blanket of snow. This layer of ash killed plants and livestock for several kilometers around the volcano.

One theory to explain the extinction of dinosaurs is that a gargantuan meteorite hit the Earth with such velocity that the resulting impact created enough dust to block out the sun for years. During this dark period, plants were unable to grow and therefore could not support the normal food chains. Consequently, the dinosaurs died out.

Do Filters Really Filter?

Since the burning of most substances creates particulates, there must be particulates in cigarette smoke. Do some research to find out if the filters on cigarettes are effective at preventing particulates from entering the smoker's body. Your findings may surprise you!