

MERCURY 101

What is mercury?

Mercury is a naturally occurring, highly toxic heavy metal. In the US, the biggest source of mercury pollution is coal-fired power plants.

Mercury occurs naturally in coal in small quantities, and when coal is burned for energy, mercury is released into the air. From there, mercury falls onto waterways like rivers and lakes and enters the food chain.

In aquatic ecosystems, microbes convert some mercury into a form called methylmercury, and this is the kind of mercury that accumulates in fish. Methylmercury concentrations in fish can be up to 100 million times greater than the concentration in water. When humans eat fish, mercury gets into our bodies, too.

How does mercury affect our health?



Mercury can have a wide range of impacts on human health. Mercury is especially dangerous for developing babies and children: it can cross the blood-brain and placental barriers after ingestion, leading to toxic effects on fetal and infant brains. When pregnant women eat contaminated fish, mercury can cause impaired motor function, learning impairments, and behavioral problems in their children.

Additional health harms linked to mercury exposure include cardiovascular problems, including increased risk of heart attacks. There is no safe level of mercury consumption.

Mercury protections also limit the release of other toxic air pollutants from power plants, helping to prevent exposure to air pollution that has been linked to cancer, respiratory illnesses (like asthma), premature death, and other dangerous health problems. Because communities of color and low-income communities bear the heaviest burden of air pollution, reducing mercury and air toxics pollution is an issue of environmental justice.

What
you need
to know about
mercury and
health



Mercury and fish consumption

Most mercury exposure happens through the consumption of fish.

Although fish can be a healthy, low-cost source of protein and nutrients, there may be long-term health harms from eating fish contaminated by methylmercury.

People who eat fish more frequently, like recreational or subsistence fishers, are at higher risk for experiencing health impacts from mercury.

There are many fish consumption advisories due to mercury contamination for water bodies across the United States.

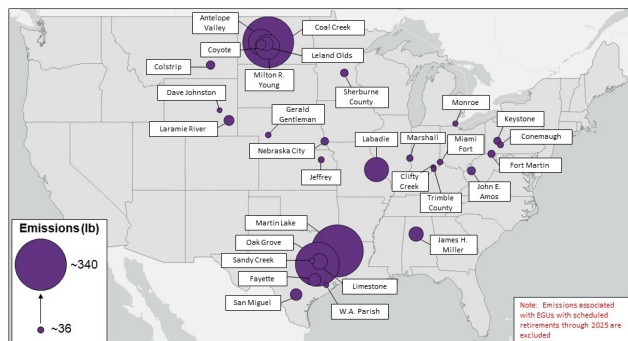
The history of mercury protections in the United States

Congress began protecting families from coal-plant mercury pollution from electric utilities through the 1990 Amendments to the Clean Air Act, and in 2011, the Environmental Protection Agency (EPA) introduced the Mercury and Air Toxics Standards (MATS).

MATS put in place national pollution standards for coal- and oil-fired power plants, and the standards have been highly effective in reducing mercury pollution and protecting human and ecosystem health. MATS also regulates other hazardous air pollutants, like lead, arsenic, dioxin, acid gases, and cancer-causing chromium, nickel, and selenium. Some states began implementing mercury protections before 2011, in anticipation of the EPA mercury standards. Since MATS was implemented, mercury emissions are down 86%, acid gas hazardous air pollutants have been cut by 96%, and non-mercury metal hazardous air pollutants have been reduced by 81%, according to EPA data.

While mercury controls have been successful, much work remains to be done. There are still many coal plants in the US releasing significant amounts of mercury into the air and putting families' health at risk. Lignite coal plants in Texas and North Dakota are among the worst mercury offenders.

2020 Mercury Emissions from the Most Polluting Coal Plants (in pounds)



Source: EDF

The Trump administration worked to undermine mercury standards, and in late 2020, President Trump's EPA finalized a change to MATS that withdrew the legal justification for the rule, known as the "appropriate and necessary finding," putting the standards at risk.

In early 2023, EPA Administrator Michael Regan announced that the "appropriate and necessary" finding had been restored. Shortly afterwards, EPA proposed strengthening MATS in the most significant update since the rule was first issued in 2012. The proposed new protections will help continue to reduce mercury and other forms of toxic air pollution.

Benefits of the Mercury and Air Toxics Standards include:

Cleaning up dirty lignite coal plants: The standards would dramatically reduce emissions from lignite coal, an especially polluting form of coal found primarily in North Dakota and Texas.

Strengthening protection from non-mercury toxics covered by MATS, such as lead, arsenic, and chromium. These toxic heavy metals are known to cause significant health impacts including heart attacks, cancer and developmental delays in children.

Reducing emissions from other health-harming air pollutants, including fine particle pollution (also known as soot), sulfur dioxide, nitrogen oxides, and carbon dioxide.

Require continuous monitoring for coal plants, which means that facilities will be required to track their pollution at all times—rather than just for short, periodic emissions tests that don't necessarily reflect the pollution going into the air most of the time.



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Full list of sources:
momscleanairforce.org/sources-mercury-101