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?

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.

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 mission of Moms Clean Air Force is to protect children from air pollution and climate change. We envision a safe, stable, and equitable future where all children breathe clean air. We fight for Justice in Every Breath, recognizing the importance of equitable solutions in addressing air pollution and climate change. www.momscleanairforce.org

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.

Benefits of the Mercury and Air Toxics Standards include:

Decreased emissions:
Between 2011-2017, mercury emissions from coal-fired power plants declined by 86%.

Safer babies:
Between 2000 and 2018, the number of children born in the US who had been exposed to unhealthy levels of methylmercury during their mothers’ pregnancies decreased by half.

Health benefits:
The EPA estimates that MATS saves up to 11,000 lives per year, and prevents thousands of heart attacks, asthma attacks, hospital visits, and other health problems each year too.

Economic benefits:
The EPA has estimated that the economic benefits of MATS in terms of human health alone may be as high as $90 billion per year, far outweighing the cost of fixing the problem.

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 January 2022, EPA Administrator Michael Regan proposed that the EPA reinstate the “appropriate and necessary” finding, which would restore the standards’ legal foundation. This will shore up pollution protections that have helped to dramatically reduce mercury and other forms of toxic air pollution.

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