

Minamata Convention - UPSC Environment & Ecology Notes

The Minamata Convention on Mercury is an important international treaty intended to protect health and the environment from the adverse effects of mercury. In this article, you can read all about the Minamata Convention for the [UPSC exam](#) GS Paper III, environment and ecology segments.

Minamata Convention

The **Minamata Convention on Mercury** is an international environmental treaty that aims to protect human health and the environment from the harmful effects of mercury and its compounds.

- It addresses specific human activities that are contributing to large-scale mercury pollution.
- It is expected that the implementation of this Convention will reduce mercury pollution over the next few decades.
- The Convention was signed in 2013, and entered into force in 2017.
- It is a UN treaty coming under the United Nations Environment Programme (UNEP).
- 128 countries are signatories to the Convention, and 119 countries are parties to it.
- India is a party to the Minamata Convention and ratified it in 2018.

Minamata Convention Objectives

As per the official definition under the Convention, the objective of the Minamata Convention is *“to protect the human health and the environment from the anthropogenic emissions and releases of mercury and mercury compounds.”*

- The Convention contains, in support of this objective, provisions that relate to the entire life cycle of mercury, including controls and reductions across a range of processes, products and industries where mercury is used, emitted or released.
- The Convention also includes provisions relating to mercury mining, its export and import, storage and disposal.
- The Treaty also covers areas such as identification of at-risk populations, improving healthcare facilities and training healthcare personnel to better tackle mercury-related ailments and diseases.

Areas covered under the Convention:

1. Mercury supply sources and trade
2. Manufacturing processes in which mercury or mercury compounds are used
3. Mercury-added products
4. Emissions to air
5. Artisanal and small-scale gold mining
6. Releases to land and water
7. Mercury wastes
8. Environmentally sound interim storage of mercury, other than mercury waste
9. Health aspects
10. Contaminated sites

Minamata Convention History

Mercury's harmful effects were known to mankind since the 50s, especially because of the infamous Minamata Disease, which was first seen in the city of Minamata, Japan.

- In 2001, the United Nations Environment Programme (UNEP) initiated an assessment of, among others, the health effects of mercury and its compounds.
- In 2003, the Governing Council of the UNEP considered this assessment and decided that there was enough evidence to warrant strong action in this regard by governments.
- In 2005 and 2007, a mercury programme was initiated by governments with the UNEP Global Mercury Partnership, to reduce the adverse effects of mercury on health and environment.
- The UNEP decided to make a legally binding agreement on mercury in 2009, after which an intergovernmental negotiating committee (INC) was established.
- The INC held five sessions from 2010 to 2013.
- After the fifth session, the Convention was agreed upon and adopted. It was opened for signature for one year at a Conference of Plenipotentiaries (Diplomatic Conference) in Kumamoto, Japan.
- The first meeting of the COP to the Convention was held in Geneva in 2017.
- The Convention entered into force in August 2017 after the 50th country ratified it.

About Mercury Pollution

Mercury is a naturally-occurring heavy metal that is found in air, soil and water.

- According to the [World Health Organisation \(WHO\)](#), mercury is one of the top ten chemicals of major public health concern.
- Even small amounts of mercury exposure can be toxic and have serious health impacts.
- Mercury affects the digestive, nervous and immune systems. It also adversely affects the kidneys, lungs, eyes, skin, etc.
- Victims may suffer memory loss or language impairment, and the damage to the brain cannot be reversed.
- Even small amounts can cause health effects and hence, there is no known safe exposure level for elemental mercury in human beings.
- Children, infants and foetuses are the most vulnerable to the harmful effects of mercury.
- Mercury is easily transported worldwide through the environment and so the hazardous effects can reach even remote places.

Why is Mercury present in the environment?

Mercury is released into the atmosphere through natural processes such as weathering of rocks, volcanic eruptions, geothermal activities, forest fires, etc.

Apart from these natural processes, mercury is also released through human activities. Because of its many unique properties, mercury has been used for various purposes for hundreds of years.

In modern times, mercury is used in many industrial processes, in gold mining, etc. It is also used in many products like energy-efficient fluorescent light bulbs, electrical switches, batteries, cosmetics, pharmaceuticals, jewellery, cement production, paint, and as preservatives in vaccines.

It is also produced during the incineration of many kinds of wastes.

Once released, mercury persists in the environment and can be circulated between air, water and the soil. Mercury enters into organisms and converts into methylmercury, which then concentrates up the food chain.

Minamata Disease

In Minamata in Japan, methylmercury was released as part of the industrial wastewater from a chemical factory. This went on for a few decades from 1932 to 1968.

Methylmercury is a highly toxic chemical, and it was bio-accumulated and biomagnified in the fish and shellfish in the Minamata Bay and the Yatsushiro Sea (also called the Shiranui Sea).

The local population, which ate this seafood, suffered from mercury poisoning as a result of this.

Minamata Convention and India

India ratified the Convention in 2018.

- The Convention will be implemented in the context of sustainable development with the objective to protect human health and environment from the anthropogenic emissions and releases of mercury and mercury compounds.
- The Convention will encourage Indian companies to shift to mercury-free alternatives in products and non-mercury technologies in manufacturing processes.
- The Convention also excludes the use of mercury in Ayurvedic, Siddha and Unani medicines.

UPSC Questions related to Minamata Convention

Is the Minamata Convention legally binding?

Yes, it is legally binding.

Is India signatory to the Minamata Convention?

Yes, India is a signatory to the Convention.