

The Minamata Convention on Mercury

and its implementation in the
Latin America and Caribbean Region









Basel Convention Coordinating Centre
Stockholm Convention Regional Centre

URUGUAY



Table of contents

-  1 The Impact of Mercury on Health and Environment
-  2 International Action on Mercury
-  3 The Minamata Convention on Mercury
-  6 Situation of Mercury in Latin America and the Caribbean
-  9 Examples of actions and strengths in the region
-  10 Regional Challenges

The brochure herein provides basic information on the **Minamata Convention on Mercury** and its implementation in the region of Latin America and the Caribbean. For greater accuracy and detail on the provisions and scope of the Convention, please consult the original text thereof, which is available at the official website: www.mercuryconvention.org.

This educational material was developed by the Basel Convention Coordinating Centre, the Stockholm Convention Regional Centre for Latin America and the Caribbean, based in Uruguay, within the framework of an agreement with the United Nations Environment Programme / Regional Office for Latin America and the Caribbean (UNEP/ROLAC). The contents of this document do not necessarily reflect the views or stated policies of UNEP or its member states.

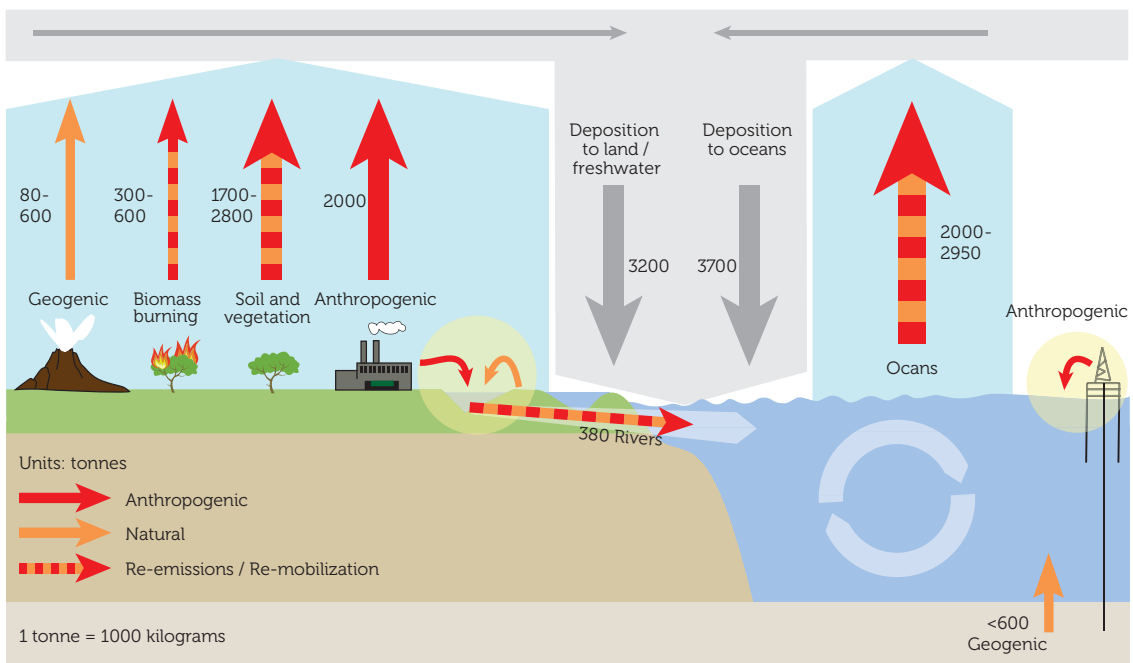
The Impact of Mercury on Health and Environment

Mercury is a metal characterized by being an odorless liquid at room temperature and easily volatilized. Owing to its physicochemical properties, mercury has been widely used historically in many applications and as a catalyst in several production processes, including, but not limited to the production of electrical and electronic equipment and measuring devices, as well as for the extraction of metals and dental amalgams. In **Latin America and the Caribbean (LAC)** it has been mainly used for extracting gold and silver for centuries.

Once mercury enters the environment as a pollutant it is extremely harmful, given its persistence, its mobility (in the atmosphere, it can be transported over long distances), its ability to form organic compounds and to bio-accumulate (it accumulates in living organisms) and to its bio-magnification (i.e., the concentration of mercury increases as it goes up through the food chain), and because of its adverse effects on human health.

Damage to health includes permanent changes in the nervous system, particularly impairing the developing nervous system. Because of this, and the fact that mercury can be transferred from a mother to her child during pregnancy, infants, children and pregnant women are considered the most vulnerable populations.

Mercury Cycling



Source: UNEP Global Mercury Assessment, 2013.

International Action on Mercury

In response to the international concern about mercury, the first global assessment of mercury and its compounds was published in 2002. Given the evidence of the overall impact of this substance, the **UNEP Global Mercury Partnership** was created in 2005, which currently includes the following priority areas:

- Reducing mercury in artisanal and small-scale gold mining.
- Mercury control from coal combustion.
- Mercury reduction in chlor-alkali.
- Mercury reduction in products.
- Mercury air transport and fate research.
- Mercury waste management.
- Mercury supply and storage.
- Mercury reduction from cement industry.

As a result of the various assessments, and recognizing the urgent need for international action, in February 2009 the UNEP Governing Council decided to initiate the **negotiation process** of a legally binding instrument on mercury.

This process took place over a three-year period (2010-2013), until the **Intergovernmental Negotiating Committee (INC)**, created for this purpose, agreed upon the text of the Minamata Convention on Mercury in January 2013. The name refers to the pollution episode that occurred in the Japanese town of Minamata.

The text was formally adopted during the Conference of Plenipotentiaries that took place in Japan in October 2013.

By the end of 2013, the Convention had already been ratified by one country (USA) and signed by 94 countries, including many countries of Latin America and the Caribbean.



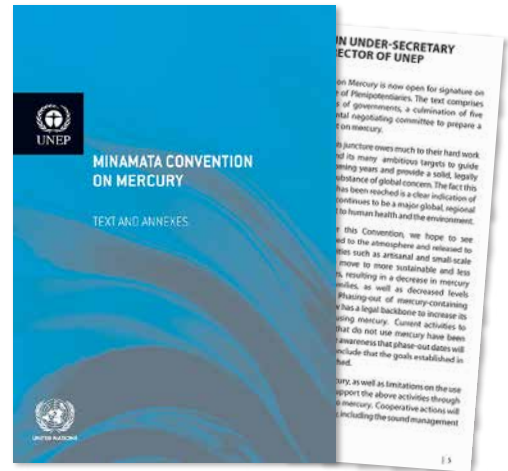
The official website of the Convention (www.mercuryconvention.org) provides further information about the negotiation process, text content, and the countries that have signed and ratified it.



The Minamata Convention on Mercury

The Minamata Convention seeks to **protect the human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds**. To this end, the Convention includes a range of measures, which are summarized below, aimed to control emissions and releases of mercury throughout its life cycle.

Some of the highlights of the Minamata Convention include a ban on new mercury mines, the phase out of existing ones, control measures on air emissions, and the international regulation of the informal sector for artisanal and small-scale gold mining.



Mercury Supply Sources and (Art. 3 of the Convention)

The Convention provides that upon its entry into force:

- New primary mercury mining shall not be allowed
- Existing primary mining of mercury shall only be allowed for a period of up to 15 years.
- Mercury from primary mining shall only be allowed for permitted uses in some products and manufacturing processes (as per Art 4 and 5 of the Convention, respectively), or disposed of as waste (in accordance with Art 11 of the Convention).

No exports or imports of mercury shall be allowed, except as agreed between the Parties to the Convention, and only for permitted uses.



Mercury-added products (Art. 4 of the Convention)

The manufacturing, imports and exports of **products containing mercury** listed in Part I of Annex A of the Convention shall be banned after 2020. The list of these products includes - but is not limited to - batteries, light bulbs, thermometers and cosmetics.



Processes in which mercury is used (Art. 5 of the Convention)

For manufacturing **processes in which mercury or mercury compounds are used**, the Minamata Convention establishes two categories:

- Processes with a phase-out date (chlor-alkali production, with a phasing out deadline in 2025, and the acetaldehyde production, with a deadline in 2018).
- Processes for which measures shall be taken to restrict the use of mercury or mercury compounds (production of vinyl chloride monomers; sodium or potassium methylate or ethylate; and production of polyurethane using mercury-containing catalysts).



Artisanal and small-scale gold mining (Art. 7 of the Convention)

Parties in whose territory mining and processing of artisanal and small-scale gold mining is carried out using mercury amalgam **shall take steps to reduce and where feasible eliminate, the use of mercury and mercury compounds**. They must also develop **national action plans** within three years after the entry into force of the Convention.

Air Emissions (Art. 8 of the Convention)

Parties with relevant or significant sources (coal-fired power plants, coal-fired industrial boilers, smelting and roasting processes used in the production of non-ferrous metals, waste incineration facilities, cement clinker production facilities) **shall take measures to control - and where feasible to reduce - mercury emissions from these sources**.



Releases to water and land (Art. 9 of the Convention)

The Parties shall control and, where feasible, reduce releases of mercury and mercury compounds to soil and water from relevant point sources not considered in other provisions of this Convention.

Environmentally sound interim storage of mercury, other than waste mercury (Art. 10 of the Convention)

Each Party shall take measures to ensure that the interim storage of mercury and mercury compounds intended for a use allowed to a Party under the Convention is undertaken in an **environmentally sound manner**.



Mercury wastes (Art. 11 of the Convention)

Each Party shall take **appropriate measures so that mercury waste is managed in an environmentally sound manner**, taking into account the guidelines developed under the Basel Convention. It also states that the **mercury recovery and recycling activities should be limited to the allowed uses**, and that mercury waste shall not be transported across countries except for its environmentally sound disposal.

Contaminated Sites (Art. 12 of the Convention)

Each Party shall endeavor to develop **appropriate strategies for identifying and assessing sites contaminated** by mercury or mercury compounds.

Health-related Issues (Art. 16 of the Convention)

The development and implementation of **strategies and programs** to identify and protect populations at risk, particularly vulnerable populations, is promoted.



Situation of Mercury in the region of Latin America and the Caribbean (LAC)

Supply Sources and Trade

In the LAC region, secondary production of mercury has been reported in some countries as a by-product from large-scale gold mining or from historical waste (tailings) of silver mining. Formal primary mercury mining has not been reported. According to trade statistics, the trends observed indicate that the total imports of elemental mercury have decreased in recent years, while exports continued to rise. The share of intra-regional trade has notably increased in recent years, especially after the ban on the export of mercury in the European Union (2011) and the United States of America (2013).

Mercury-Added Products and Processes

Usually, the mercury-added products are imported but not produced in the region. It has been estimated that the products consumed in the region account for about 10 % of the mercury used in products worldwide, mainly in dental applications and measuring devices.

Regarding manufacturing processes covered by the Convention, only chlor-alkali production has been identified in the region. According to the information of the countries and UNEP global inventory of chlor-alkali plants, by 2012 there were 11 plants with mercury cell technology in seven countries in the region, which accounted for about 13% of the global chlorine production with mercury cells. Many of these facilities have plans to convert to mercury-free technology by 2020.

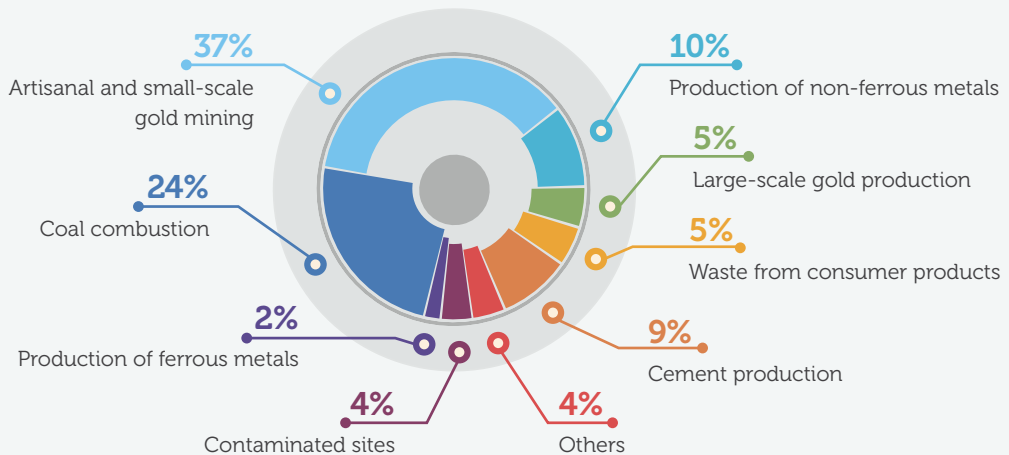
Chlor-alkali plants with mercury cells in Latin America and the Caribbean



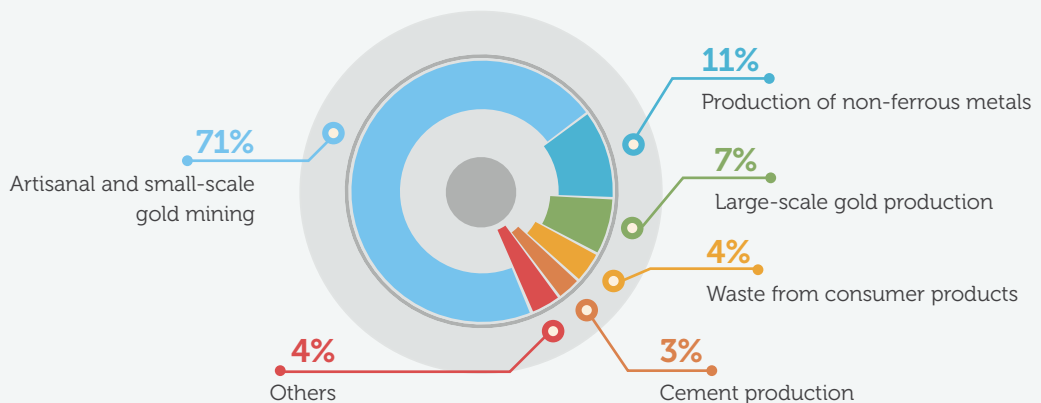
Air emissions and releases to water and soil

In 2010, the LAC region accounted for about 15% of the global anthropogenic emissions of mercury to air, versus 48 % emitted by Asia, 17% by Africa, 11 % by Europe and 3 % by North America.

Distribution of global emissions of mercury in 2010



Distribution of LAC emissions of mercury in 2010



Within the region, about 263 tons of mercury (90%) were emitted in South America. The main source of emissions in the region is the use of mercury in artisanal and small-scale gold mining, which represents 71% of total emissions in the region, followed by non-ferrous metals production (11%) and large-scale gold production (7%). Releases to water are more difficult to calculate, but it is estimated that artisanal gold mining is a major source of pollution of aquatic environments.

Artisanal and small-scale gold mining

As indicated, this sector represents the largest source of emissions and releases of mercury in the region. The artisanal and small-scale gold mining is practiced in at least a dozen countries in the region, mainly in the andean-amazonian countries and the Amazon basin, but also in Central America; at least 500,000 artisanal miners are involved in this activity.

This sector has a significant impact on the current demand and trade of mercury in the region.



Interim storage of mercury

No facilities specifically designed for the interim storage of elemental mercury have been identified in the region.

Mercury Waste

Separate collection of discarded mercury-added products and recycling of mercury in the region is scarce. These products are often mixed with other municipal waste disposed of in landfills. Some countries have hazardous waste sites authorized to receive mercury waste.

Contaminated sites

Many LAC countries do not have databases of contaminated sites.

Examples of Actions and Strengths in the region

Mercury-free Hospitals

Many countries in the region are in the process of phasing-out mercury from health care centers. Campaigns were conducted in several health centers for the collection of mercury-containing measuring devices, and replacement for mercury-free devices, as well as training the staff on the subject (associated risks, and how to act in case of mercury spills). Inventories of equipment, kits for the proper handling of spills and waste, as well as guidelines for temporary storage of waste have been developed.

Inventories of Mercury Emissions and Releases

Mercury Inventories and Risk Management Planning have been developed in different countries in the region such as Argentina, Chile, Costa Rica, Ecuador, Honduras, Mexico, Nicaragua, Panama, Dominican Republic and Uruguay. While the studies pose different levels of uncertainty and many of the inventories are not comprehensive, these studies help to identify those key sectors where actions need to be undertaken.

Conversion of chlor-alkali plants

In recent years, the chlor-alkali plants have improved their practices to reduce emissions and consumption of mercury. In addition, several plants have already made the conversion to mercury-free technology, or intend to do so in the coming years.

National Regulations and Plans

Some countries have already made progress in regulating mercury. For example, ***the new national legislation on the use of mercury in Colombia*** (Law 1658/2013) sets provisions for the trade and use of mercury in a range of industrial activities of the country and sets requirements and incentives for its reduction and elimination. On the other hand, since January 2013 Ecuador has been implementing the ***Zero Mercury Plan***, which is aimed at phasing out the use of mercury in a wide range of products and processes, as well as mercury emissions, releases and generation of waste.

Reducing the use of mercury in artisanal and small-scale gold mining

A number of projects have been implemented to promote techniques and regulations to reduce the use and pollution of mercury in the artisanal and small-scale gold mining sector. For example, the United Nations Industrial Development Organization (UNIDO) worked in the Tapajos region in Brazil, one of the largest artisanal mining areas in the world, achieving a 10% reduction of mercury emissions. Processes have also been initiated to formalize the sector in several countries, such as Peru and Suriname, although further efforts are still required in this area.

Regional Challenges

The Minamata Convention is a key tool for the global protection of human health and the environment from mercury pollution. To this end, and to facilitate its implementation in the region, Latin America and the Caribbean countries should take additional actions to address the needs below:

- Promote **the strengthening of the institutional, technical and legal capacities** for the sound management of mercury throughout its life cycle, from its generation and usage, to the final disposal of its waste.
- Prepare or improve the **assessments and inventories** on the use and trade of mercury, its emissions and releases, contaminated sites, waste, etc.
- Reduce, and where feasible eliminate, the **use of mercury in artisanal gold and small-scale mining**, since most of the mercury emissions (71%) in the region come from this sector.
- Promote the **phase out of the use of mercury in products and processes**, and identify and regulate the contents of mercury in products.
- Promote the **reduction and sound management of mercury waste**.
- Promote and implement the use of best available techniques (BAT) and best environmental practices (BEP) **to minimize emissions and unintentional releases of mercury to the environment**.
- Adopt protective measures to **minimize or eliminate exposure to mercury** among workers and vulnerable populations.
- **Raise awareness and inform the public** on the issue of mercury exposure, use, production, trade, release and disposal.