

EXECUTIVE
SUMMARY

Mercury in the Amazon:

Transnational Criminal Networks, Socioenvironmental Vulnerability, and Governance Challenges

October 2025



FÓRUM BRASILEIRO DE
SEGURANÇA PÚBLICA



instituto
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MINISTÉRIO DO
MEIO AMBIENTE E
MUDANÇA DO CLIMA

GOVERNO DO
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DO LADO DO POVO BRASILEIRO



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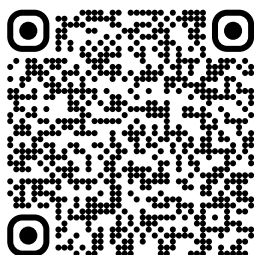
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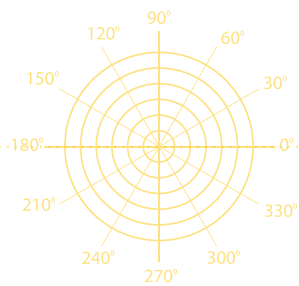
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Mercury: Effects and Use

Mercury (Hg) is highly toxic to health and is listed among the 10 substances of greatest public health concern by the World Health Organization (WHO).

Human exposure occurs mainly through the ingestion of contaminated food, especially fish. Traditional Amazonian populations—Indigenous and riverside communities—are particularly affected, as their diets are based on fish consumption. **Evidence shows that exposure of humans and animals to methylmercury can result in severe adverse effects on the nervous, cardiovascular, digestive, and renal systems.**

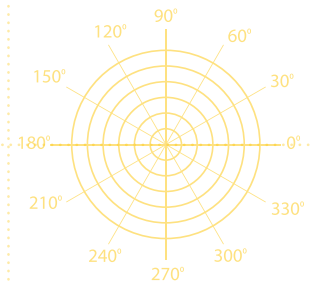
Even with regulation and access control, mercury remains easily obtainable through the parallel market, enabling small-scale miners to operate without high initial costs. The liquid metal is also easy to transport and is required only in small quantities for gold extraction.

Use of Mercury

Mercury is widely used in artisanal and small-scale mining activities. This occurs due to its ease of acquisition and use by miners, as well as due to commercial and coercive mechanisms that ensure continued use. The sector's informality allows large suppliers to advance mercury sales, with the cost to be compensated later by the gold production of their clients—artisanal miners.

Where Mercury Comes From: Production, Import, and Export

Brazil is not a producer of mercury, as there are no minable cinnabar deposits within its territory. Almost all mercury in the country is imported. Official mercury imports to Brazil are mainly destined for chlorine and soda production (the chlor-alkali industry). Meanwhile, mercury that supplies gold mining operations usually enters the country through smuggling from other South American nations.



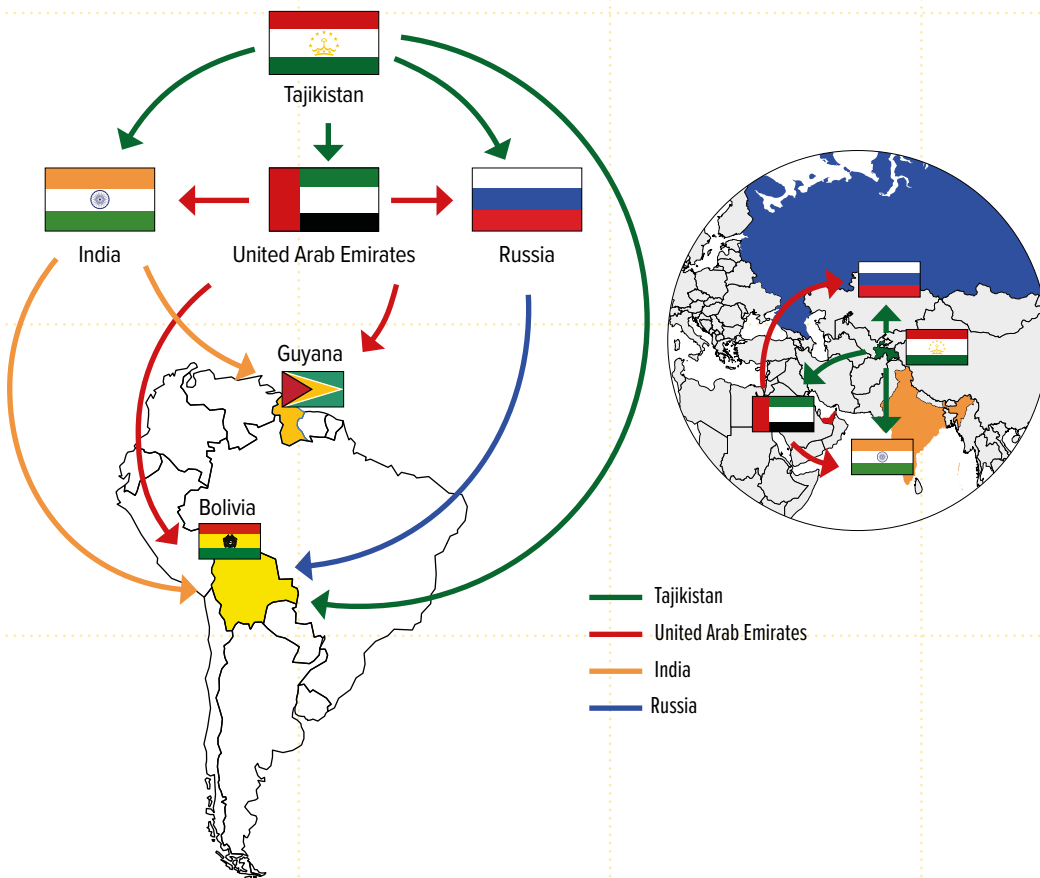
Global Context

Since the signing of the Minamata Convention on Mercury in 2013, mercury transactions have become increasingly concealed, with triangulations often carried out—likely to obscure the precise accounting of the global flow of this metal.

Triangulation occurs between mercury-producing countries and gold-purchasing nations in the global mercury trade, with the United Arab Emirates (UAE) standing out as both the main importer and exporter of mercury in recent years (serving as an intermediary country). Since 2021, all mercury acquired by the UAE has originated from Tajikistan, one of the world’s main producers of the metal.

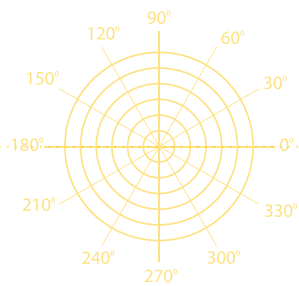
The continuous flow between Tajikistan and the UAE precedes the metal’s entry into other countries. The UAE purchases mercury from Tajikistan and resells it mainly to India and Russia, which in turn resell the metal to other countries, including Bolivia and Guyana—both of which serve as entry points for smuggled mercury into Brazil. In this sense, Russia, India, and especially the UAE act as intermediaries and major distribution centers of mercury for other nations.

Main mercury trade flow to South American countries between 2019 and 2023 ⁽¹⁾



Source: Prepared by the Brazilian Intelligence Agency (ABIN), with data from UN Comtrade.

(1) Only mercury that is not used by the chlor-alkali industry is considered.



The Mercury Trade in South American Countries

Between 2011 and 2022, **Mexico** played the most significant role in supplying mercury to South American countries. During this period, the country exported 1.86 thousand tons of mercury to the subcontinent (about 53% of the total imported into the region between 2011 and 2022), mainly to Colombia, Peru, and Bolivia. Since 2023, the country has not officially recorded exports of the metal; however, informal extraction operations carried out by hundreds of independent miners continue.

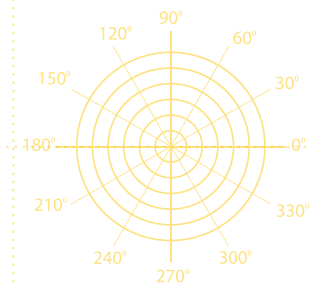
Peru is the largest producer, and holds the largest known gold reserves in South America, with the mining production chain playing an important role in the country's formal economy. Due to its mining activities, Peru used to be one of the main importers of mercury in South America. However, the formal trade of the liquid metal decreased considerably after the country ratified the Minamata Convention on November 25, 2015, and established controls over its commercialization. The new regulations had an immediate impact on the internalization of the substance in the country, causing formal imports to fall by 89% between 2014 and 2015.

In order to evade the oversight established in Peru, the organizations operating there relocated their activities to **Bolivia**, maintaining from that country their mercury supply structure for the Amazon region. Between 2014 and 2015, Bolivia's mercury imports skyrocketed, reaching a historic peak of 238.3 gross tons in 2016, with Mexico as the main supplier. This demonstrates a strong correlation between the decline in Peruvian mercury imports, and the increase in Bolivian imports of the metal.

Although the volume of mercury imported by Peru declined after 2015, criminal groups continued to operate from Bolivia as a regional hub for the distribution of illegal mercury, a role previously carried out in Peru. Smuggling diversions can occur through retail resellers or directly by importers, particularly those operating near the border in local commercial centers.

The absence of restrictive legislation for the internalization of mercury in Bolivia facilitated the importation of large quantities of the metal. Most of the mercury entering Bolivia was acquired through lawful imports made by local companies, supported by permissive legislation regarding mercury trade control, even after the Bolivian government signed the Minamata Convention in 2015.

Since September 2023, however, there have been no recorded mercury imports by Bolivian companies. The abrupt decline in the official trade of the metal is a consequence of restrictions imposed by new legislation in the country. Nevertheless, reducing mercury smuggling from Bolivia depends on the effectiveness of enforcement in the Andean nation. Without it, it will be difficult to monitor and combat other methods of mercury internalization used by smugglers and to effectively curb the export of "reserves" of mercury that have already entered the country.



Another relevant country for analyzing mercury importation in South America is **Guyana**. For over a decade, the mercury used in mining activities in Roraima has originated from the port of the capital, Georgetown. In 2021 and 2022, all mercury legally imported by Guyana came from India, while in 2023 and 2024, imports came exclusively from the UAE. In previous years, suppliers included China, India, Russia, the United Kingdom, and Turkey. **It is noteworthy that, since September 2023, Guyana has been the only South American country in which mining use is still indicated as the declared purpose for mercury importation.**

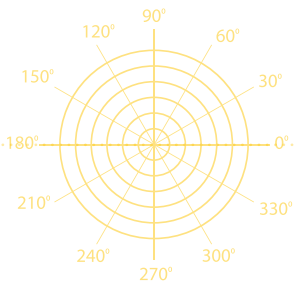
Since 2014, with Guyana’s ratification of the Minamata Convention and the adoption of new legal restrictions, there has been a downward trend in the volume of legal mercury imports into the country, despite annual fluctuations. The annual average of about 92 tons maintained between 2009 and 2013 decreased to about 16 tons per year between 2020 and 2024. Despite the sharp drop in imports after 2014, mercury availability in Guyana has remained high. In addition to the regular market for products imported from the UAE, the Guyanese market is dominated by *azougue* (mercury) of Chinese origin imported clandestinely and entering through the port of Georgetown.

The Mercury that reaches Brazil

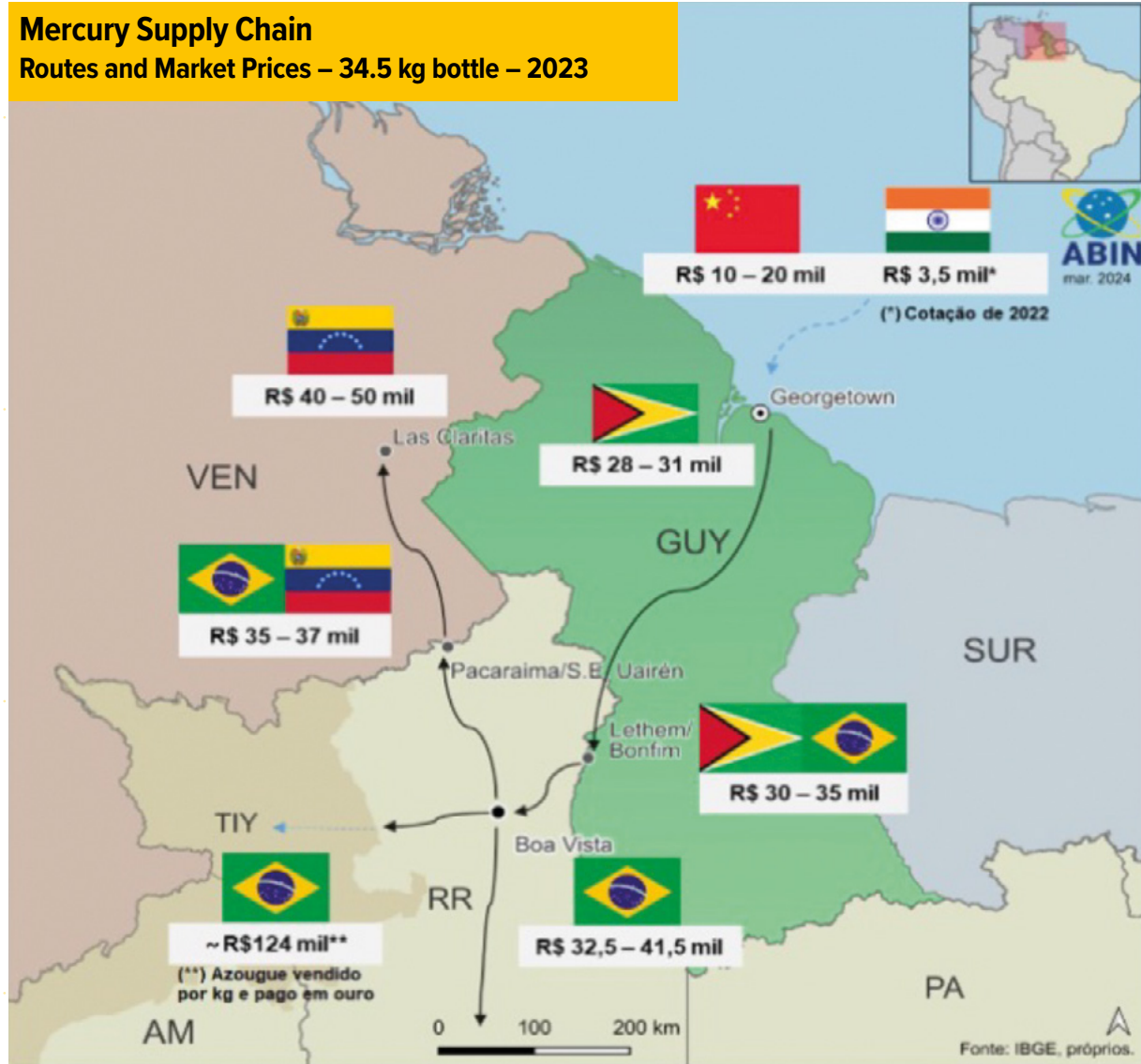
It is estimated that almost all mercury destined for illegal mining operations (*garimpos*) in Brazil is obtained through smuggling or, to a negligible extent, through the diversion of legally imported mercury—considering the strong import regulation of the chlor-alkali sector—or through diversion from the metal recycling sector.

Collected evidence suggests that the mercury used in the Brazilian Amazon originates from Mexico, China, Russia, and Tajikistan, brought into neighboring countries through both legal and illegal means.

Analysis of the seizure data identified in this study indicates that **most of the mercury used in the Brazilian Amazon enters through the dry border, following routes similar to those used for other contraband goods, originating in Bolivia and Guyana.**



Mercury Supply Chain Originating from Guyana with Prices Practiced in each Locality

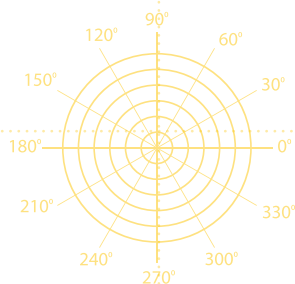


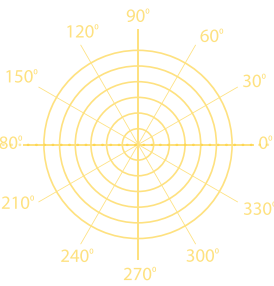
Source: ABIN.

* Gold market prices in 2023.

**Azougue sold by the kilo and paid for in gold.

While mercury smuggled from Guyana appears to be more common in the Yanomami Indigenous Land (TI Yanomami), mercury originating from Bolivia is more frequently used on dredges along the Madeira River and in mining sites in Mato Grosso near the border, such as the Sararé Indigenous Land (TI Sararé).





There is also evidence of mercury entering from Colombia, Peru, and French Guiana, supplying mining operations in Brazil near the borders with those countries. Although there is no evidence of mercury smuggling originating from Venezuela, the country's non-adherence to the Minamata Convention, combined with the intensity of gold extraction activity within its territory, makes it a potential location of interest for the purchase and sale of the liquid metal.

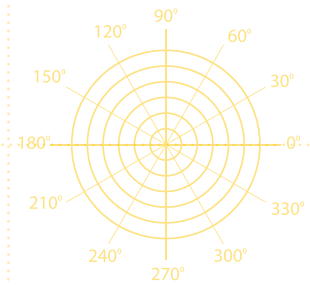
Highlights and Perspectives for Building a Regional Solution

Among the main findings of the report, the following stand out:

- The demonstration that Indigenous and riverside populations are among the most affected by mercury contamination, with alarming levels of exposure;
- The identification of cross-border mercury smuggling routes, with emphasis on flows originating from Bolivia and Guyana;
- The finding that Brazil is one of the main destinations for smuggled mercury in South America, used mostly in illegal mining operations;
- The analysis of the criminal structures involved in the mercury supply chain, which operate with high adaptability and regional coordination;
- The observation that the Minamata Convention has succeeded in curbing the legal trade of mercury among signatory countries, although major challenges remain in controlling illegal flows;
- The emphasis on the need for coordinated actions among Amazonian countries to contain the illicit flow of the metal and mitigate its socioenvironmental impacts.

The data presented throughout this work reveal the existence of a regional mercury circulation system, which is closely related to the illegal gold extraction circuit. **The irregular entry of mercury from Brazil's neighboring countries has been, for at least ten years, the main source of the liquid metal used in Amazonian mining operations, highlighting the need for strategies that take into account the regional context of the issue.**

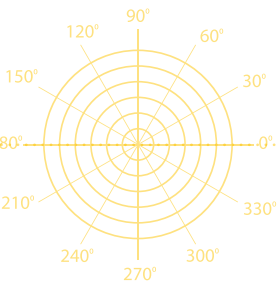
The process of transferring the function of the main regional entry point for mercury from Peru to Bolivia shows that the criminal networks involved quickly readapt to control and inspection measures connected to the im-



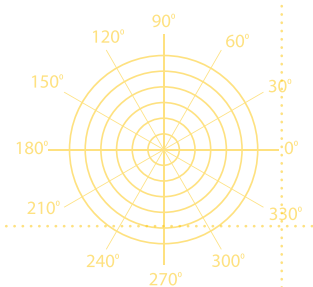
plementation of the Minamata Convention. The smuggling networks demonstrate a great capacity to relocate regionally, and continue supplying the profitable market for illegally sourced mercury in the Amazon.

Considering the regional and cross-border nature of mercury smuggling, the proposed solutions must include coordination among the security and Intelligence agencies of the countries sharing this problem. Although nearly all nations in the region have adhered to the Minamata Convention, the criminal groups operating around the Amazon have succeeded in identifying locations where oversight remains weak, using these points to establish networks capable of sustaining regional mercury demand circuits.

In this context, Intelligence Activity serves as an essential mechanism in supporting public policies aimed at addressing the problem. Its integrating role enables the exchange of data and information across various national and international levels, providing a more comprehensive view of the phenomenon, which can reveal patterns or lead to the identification of trends. Sharing this knowledge with the State and civil society allows for a broader and more democratic debate on solutions, which is essential for promoting sustainable development.



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