BRAZIL'S COMMUNICATION REGARDING THE DECISION MC-6/1 AND THE CALL FOR INFORMATION ON SUPPLY SOURCES AND TRADE

Brazil has the honor to submit the attached information in response to the Secretariat's call for information contained in Letter MC/ES/2026/37 on experiences in preventing and combating the illegal trade in mercury, as well as on measures to address the supply and trade of mercury inconsistent with Article 3 of the Minamata Convention. To prepare this submission, the Ministry of the Environment and Climate Change conducted consultations with relevant federal authorities. While no information was identified regarding Global Environment Facility (GEF) projects in Brazil specifically focused on preventing and combating the illegal trade in mercury, valuable contributions were received from the Federal Highway Police (PRF), the Brazilian Intelligence Agency (ABIN), and the Brazilian Institute of Environment and Renewable Natural Resources (IBAMA). These contributions contain relevant experiences, achievements, challenges, and lessons learned in addressing illicit mercury supply and trade and are presented below for the Secretariat's consideration in the preparation of the report to be submitted to the seventh meeting of the Conference of the Parties (COP-7).

From 15 February 2024 to 28 June 2026, the Federal Highway Police (PRF) alone seized 1,362.56 kg of mercury. According to the PRF, the inspection and seizure of mercury pose specific operational challenges to public security agencies, arising mainly from the metal’s high toxicity and the particularities of its handling in the context of road inspections. The following difficulties were highlighted:

> **a)** exposure of police officers to mercury vapors, especially during inspections carried out in confined spaces, such as cabins, cargo compartments and hidden compartments of vehicles, without the teams having instruments for detecting or measuring vapors in the field;
>
> **b)** lack of specific packaging for the storage and transportation of the seized material, which is frequently found in improvised, fragile or inadequate containers, increasing the risk of breakage, spillage and contamination in vehicles, yards and storage facilities;
>
> **c)** shortage of appropriate places for temporary storage, since seized-goods storage facilities of police units generally do not have the structure required for storing hazardous chemicals, with adequate ventilation, secondary containment and segregation; and
>
> **d)** difficulty in identifying and quantifying the product during police inspections, since mercury is commonly transported in fragmented or concealed form, or associated with other inputs intended for illegal mining.

Considering the importance of combating the illegal trade in mercury as a mechanism, at the same time, for combating illegal gold mining and protecting human health, in October 2025, the Brazilian Intelligence Agency (Abin) published the study “Mercury in the Amazon: transnational criminal networks, socio-environmental vulnerability and governance challenges”, together with the Brazilian Public Security Forum and the Ministry of the Environment and Climate Change (MMA).

From the perspective of federal environmental enforcement carried out by the Brazilian Institute of Environment and Renewable Natural Resources (Ibama), the contribution that Brazil has to offer to the Secretariat is not that of a country that has improved the control of a lawful market. It is that of a country that, **by improving control, discovered that the lawful market had ceased to exist** in the segment that consumes the substance the most. All mercury currently used in gold processing in the national territory is, with a high degree of certainty, of illicit origin, according to Ibama. From this finding derives the central thesis that the Brazilian regulatory model is a **control model**, which presupposes a lawful universe to be registered, authorized and tracked. When the lawful fraction of the market tends toward zero and the illicit fraction accounts for the entirety of consumption, the control instrument ceases to fulfill a preventive function and begins to operate, involuntarily, as a **legitimization mechanism**: it gives an appearance of regularity to operations whose origin cannot be verified and shifts to the State the burden of demonstrating, on a case-by-case basis, the illegality of each kilogram.

As Brazil does not carry out primary extraction or processing of metallic mercury, there is no operating mercury mine or primary production unit in the national territory. Consequently, **all** of the metal in circulation in the country originates from imports or recovery from waste. Since the lawful universe is **closed and fully documentable,** every kilogram of legal origin must be included in an import or recovery record and, as of Ibama Normative Instruction No. 26 of 10 December 2024, circulate exclusively between previously authorized agents, through a Document of Operations with Metallic Mercury (DOMM) issued for each operation. In other words, **what is not in the record cannot be lawful and,** once the absence of documentary support has been demonstrated, the only materially possible explanation for the physical presence of the metal is smuggling or diversion from a declared operation.

Official import records for the substance classified under NCM 2805.40.00 (metallic mercury) reveal a trajectory of accelerated reduction, culminating in the extinction of the legal inflow. Between 2022 and 2025, the legal import of metallic mercury was directed only to use in chlor-alkali industries and laboratory use, with the majority of the quantity intended for chlor-alkali production. The total volume imported in the years 2022 to 2024 by the chlor-alkali industry, whose mercury electrolytic cells were still operating, was: 15,016 kg in 2022; 12,006 kg in 2023; 12,006 kg in 2024 and zero in 2025. All authorized imports followed the procedure established in Article 3 of the Minamata Convention, which includes the consent of the importing Party through the completion of Form A (Form for Written Consent by a Party to the Import of Mercury), as well as the national procedure for documentary analysis and issuance of an authorization document by Ibama. The three national plants that still depended on the technology shut down their last cells on 31 December 2025, so that, since January 2026, there has been no legal industrial use of metallic mercury in the production of chlorine and caustic soda in the country. Ibama monitored the process for three years, requesting information on the forecast of imports and carrying out technical inspections at all plants. In this regard, the current regular uses of the substance in its elemental form are laboratory, research and equipment calibration activities, in addition to others for which there are no substitutes and which are indicated in Annex A of Decree No. 9,470/2018. The regularity requirements established by Ibama Normative Instruction No. 26/2024, associated with the legal prohibition on the use of mercury in chlor-alkali production, led Ibama not to issue authorization for the import of metallic mercury for use in Brazil in 2025 and 2026. Thus, currently, there remain (i) the stock of approximately 175 tonnes of surplus generated by the decommissioning of the

chlor-alkali sector, requiring disposal; (ii) the volume recovered from waste by authorized facilities; and (iii) material seized in enforcement actions.

Ibama Normative Instruction No. 26/2024, in force since 2 January 2025, made the development of any activity involving metallic mercury, including its use, conditional upon the prior authorization of the enterprise by the Institute, through an administrative process supported by a valid environmental operating license and, in the case of artisanal and small-scale gold mining (understood as *garimpo* in Brazil), with an Artisanal Mining Permit (PLG) issued by the National Mining Agency (ANM). After more than 18 months in force, Ibama finds that **there is no gold mining enterprise authorized to use metallic mercury**. Thus, the irregularity is widespread in the sector, since every gold-processing operation that currently uses the substance in the national territory operates in non-compliance with the regulation, regardless of whether it holds a valid environmental license or mining title.

Monitoring of the movements declared in Ibama's systems records, for the entire period from 2018 to June 2025, approximately **640 kg** of legal sales of metallic mercury with a declared destination for gold mining. This is the accumulated lawful universe over seven and a half years for a sector that produces dozens of tonnes of gold per year. On the demand side, the official diagnosis published by the Ministry of Mines and Energy (MME) in 2025 estimates that mercury emissions and releases associated with gold mining in Brazil range from **11.4 to 12.1 tonnes per year**, with approximately 26% of national gold production still dependent on this type of extraction and an estimated 200,000 miners, more than 90% concentrated in the Legal Amazon. On the other hand, the Federal Public Prosecutor's Office (MPF), in a technical note submitted to the National Congress, observes that approximately **185 tonnes** of mercury of unknown origin allegedly entered the country illegally between 2018 and 2022 through border routes with Bolivia, Peru and Guyana, with emphasis on the Riberalta (Bolivia)–Rondônia–Pará/Amazonas corridor, and records the estimate that, for every kilogram of gold extracted, up to eight kilograms of mercury are released into the environment. In short, even if a wide margin of error is admitted for each of the estimates, the disproportion is two to three orders of magnitude, leading to the conclusion that **Brazilian gold mining is supplied by an illicit chain**, and not by remaining lawful stocks.

As examples of prevention and combating the illegal trade in mercury, Ibama highlighted six experiences, starting in 2018:

(i) Customs control and the Joinville seizure (2018)

> In 2018, a joint operation by Ibama and the Federal Revenue Service of Brazil (RFB) in the municipality of Joinville (SC), involving a company exporting metallic mercury, resulted in the largest seizure ever carried out by Ibama; approximately 1.7 tonnes of metallic mercury, part of which was destined for mining operations in the Amazon. The operational lesson extracted was methodological rather than quantitative: the seizure did not result from a flagrante delicto in a mining area, but from cross-checking customs records and environmental records. It was from this material that the joint investigation with the Federal Police (PF) was structured, which would subsequently lead to the Hermes Operations.

(ii) Hermes Hg I and II Operations – fraud involving the control system

The Hermes (Hg) I Operation, launched on 1 December 2022, originated from an investigation into a company based in Paulínia (SP) that used its authorized recycling activities to **produce false mercury credits** in the Ibama system. The analysis of thousands of documentary sources and electronic devices, over more than ten months, made it possible to identify an extensive organized chain of individuals and legal entities dedicated to the illegal trade in mercury and gold extracted from mining operations in the Amazon, and resulted in the removal of **7 tonnes of mercury credits** from Ibama's systems.

The Hermes (Hg) II Operation, launched on 8 November 2023, with the participation of 170 federal officials, deepened the investigation. Thirty-four search and seizure warrants were executed in the states of Amazonas, Mato Grosso, Rio de Janeiro and São Paulo, with a judicial order for the seizure and freezing of assets amounting to more than R$ 2.9 billion, intended to repair environmental damage. Among the conduct investigated were the illegal use of Ibama's systems to give an appearance of legality to the circulation of an exorbitant quantity of mercury and the use of an international airport to transport the substance.

The central finding of the Hermes operations is what can be called "**facade traceability**": smuggled mercury did not circulate outside the official system, but **through it**. Credits fraudulently generated from fictitious recycling operations were used to "launder" smuggled shipments, which, once entered into the registry, began to display formally perfect documentation. The final buyers identified were not informal miners, but large-scale mining companies, some with annual production exceeding one tonne of gold.

The criminal developments of the Hermes operations were consolidated in 2026. On 13 August 2026, the MPF announced that **more than 70 people became defendants** for being part of a scheme involving the clandestine sale of mercury destined for illegal mining operations in the Amazon between 2019 and 2022, with approximately **5.4 tonnes** purchased and resold during the period and profits exceeding R$ 5 million, also being charged with criminal organization and smuggling. The same investigations gave rise to charges against another 56 individuals and legal entities that acquired the metal, with the opening of 14 criminal proceedings for smuggling, usurpation of federal property and environmental crimes — which confirms, at the criminal level, the shift in the repressive focus toward the demand link.

The modus operandi described in the indictment is directly relevant to the design of controls. The organization falsified the description of the goods in declarations and invoices — identifying mercury as iron balls, scrap or electrodes —, injected the metal inside hollow parts manufactured for this purpose, such as gym weights, hammers and sledgehammers, adapted vehicles with hidden compartments and packaged the cargo in a way that made it appear to be machinery parts. At the documentary level, it generated fictitious credits in Ibama's systems from alleged recycling activities and made use of a legitimate authorization to import encapsulated dental mercury, from which it extracted the substance for bulk supply to the parallel market. The routes combined the land border between San Matías (Bolivia) and Cáceres (MT), shipments by air mail from suppliers in China and Mexico to Viracopos International Airport (SP), and purchases from domestic suppliers, with a family group in Mato Grosso coordinating a broad network of shell companies responsible for generating credits, storing and directly selling the material to mining operations. The transferable lesson to other Parties is that **no control based exclusively on the declared description of the goods and documentary verification is capable of intercepting this flow**: physical inspection of the input and analysis of compatibility between the declared cargo and specific weight become indispensable.

(iii) Almadén Operations – documentary cross-checking and accountability of the purchaser

The Almadén Operation 2025, carried out between 2 and 6 June 2025 in the municipalities of Poconé and Sinop (MT), inaugurated a distinct phase: instead of starting from the

physical seizure and moving toward documentary investigation, it started from the **documentary void and moved toward field inspection**. Licensed enterprises whose production profile indicated the use of amalgamation and for which there was no record whatsoever of lawful acquisition of the substance were selected. The result was the issuance of 14 infraction notices against **licensed** mining companies that operated illegally with mercury, with fines totaling R$ 19,447,500.00 for the use of mercury without lawful origin and for operating in violation of the environmental license, in addition to the seizure of approximately one tonne of the substance. The applicable provisions combine Articles 66 and 63 of Decree No. 6,514/2008 and the measures of seizure and destruction under Articles 25 and 111. This line of action continued in 2026, with Operation Almadén CA and with the task force for the investigation of administrative violations, provided for in the Annual National Environmental Protection Plan (PNAPA), whose work includes the review of previous infraction notices in light of the absence of evidence of origin and the initiation of new sanctioning proceedings.

The shift in the repressive focus from the informal miner to the **licensed corporate purchaser** can be considered the main Brazilian methodological contribution to the international discussion on Article 3. The demand that sustains smuggling is not diffuse: it is concentrated among a small number of large purchasers, identifiable through documents and subject to environmental licensing and mining titles.

(iv) Xapiri Operations – targeting the logistics chain

In parallel with repression against the input, Ibama maintains a line of action targeting the logistics chain that enables mining in Indigenous Lands. The Xapiri Mebêngôkré Operation, concluded in June 2026 in the Kayapó and Kuruaya Indigenous Lands, in the Xingu Basin (PA), generated estimated losses of R$ 33 million for criminal organizations, with the destruction of 45 hydraulic excavators, 81 engines and one barge, as well as vehicles, generators, fuel, satellite internet equipment, weapons and support structures. Although it was not specifically aimed at mercury, this front directly affects demand for the substance: the destruction of sediment-processing capacity interrupts the amalgamation cycle and, consequently, the consumption of the metal. This is a strategy of **suppression of demand by material means**, complementary to the suppression of supply by documentary means.

(v) Regulatory re-engineering of control – Ibama Normative Instruction No. 26/2024

The regulatory response to the fraud revealed by the Hermes operations came with Ibama Normative Instruction No. 26/2024, published on 12 December 2024, which repealed Normative Instruction No. 8/2015 and reconstructed the environmental control framework for the metal, regulating import, export, trade, transfer, recycling, recovery, use, transportation and disposal of waste. Among the innovations relevant to enforcement are the mandatory prior authorization of all agents in the chain (individuals and legal entities), the DOMM as authorization per operation, the requirement that operations take place exclusively between authorized parties, the obligation to declare losses by producers, recyclers and users — a mechanism that makes it possible to close the balance between what enters and what is actually consumed — and the express provision that environmental sanctions apply in the event of irregular conduct in registration or loss declarations.

Authorization is not an authorization to operate with metallic mercury; for this purpose, the individual or legal entity authorized must request authorization from Ibama to trade, import, export, recover, transfer and use mercury. Approval of the authorization request will generate the Document of Operations with Metallic Mercury (DOMM), which must accompany the mercury until its final destination.

> In line with the administrative obligations generated by Ibama Normative Instruction No. 26/2024, Ibama is developing a new Computerized Metallic Mercury Control System that will assist in the design of a chain of custody for all mercury present in the national territory and for quantities that may potentially be nationalized. It is important to highlight that both the regulatory instrument and the computerized system aim to develop a pathway for the traceability of legal mercury entering the national market, as well as the consolidation of a registry of individuals and legal entities authorized to use the substance.
>
> Thus, although IN No. 26/2024 has corrected procedural vulnerabilities exploited by the criminal organization and substantially increased the cost of fraud, it is not, however, capable of reaching those who simply **do not register**. For the agent who operates entirely outside the system, improvement of the system is irrelevant.

(vi) Interinstitutional cooperation and judicial action

> The most consistent Brazilian experience is that of networked action. The operations described resulted from coordination among Ibama, PF, MPF, RFB, Federal Highway Police (PRF), Funai and ICMBio, with evidence shared in both directions — from the investigation to the administrative sanctioning proceeding and from the latter to the criminal investigation. At the judicial and extrajudicial levels, the MPF has acted on peripheral links in the chain with relevant results: obtaining a decision ordering the National Agency of Petroleum (ANP) to monitor the sale of aviation fuel to aircraft supplying mining operations; requesting the restructuring of enforcement at the Port of Guajará-Mirim (RO), identified as the main entry point for smuggled mercury; plans to destroy more than one thousand clandestine airstrips; an agreement with a satellite internet provider; and action against the supply of mercury on social networks and e-commerce platforms. The transferable lesson is that **mercury should not be combated in isolation**. The input is part of a logistical package — fuel, aircraft, connectivity, machinery, gold transportation — and action on any link in this package reduces demand for the metal.

Among the lessons learned, Ibama highlighted nine:

(i) Declaratory traceability systems can be compromised. The main lesson from the Hermes operations is that a traceability system fed by declarations from the regulated entity itself, without independent physical verification, **does not distinguish the lawful from the unlawful — it only distinguishes the documented from the undocumented**. Once the source feeding the system is compromised, the registry ceases to be a control instrument and becomes a laundering instrument: it gives a smuggled shipment a documentary trail that will withstand any merely documentary verification. In other words, the existence of a national traceability system **is not, in itself, evidence of compliance with Article 3**. It is necessary to assess the robustness of the point of entry of data, the existence of independent physical verification and the capacity to reconcile mass balances.

(ii) Recycling and recovery constitute the most vulnerable link. It was not importation — subject to prior approval, an exporter-country form and customs verification — that was the breaking point, but **recovery from waste**, whose quantification depends on the operator's declaration and whose raw material (discarded lamps) is difficult to independently measure. It is at this point that the virtual credits were produced. It is therefore recommended that the Secretariat's report treat installed recovery capacity as a **risk variable**, subject to verification of compatibility between the volume of waste processed, the declared technical capacity and the volume of mercury generated.

(iii) An environmental license can operate as a "legitimacy shield". The Almadén operations revealed that **duly licensed** enterprises are among the holders of mercury

without lawful origin. In several cases, the use of amalgamation was included in the methodology approved in the environmental licensing itself — so that the operator could argue, with an appearance of reason, that it used the substance in an authorized manner. This creates here a **practical antinomy between two State instruments**: environmental licensing authorizes a technique whose input environmental control cannot lawfully provide. As long as the use remains legally admissible, enforcement will discuss the origin of each kilogram, instead of discussing the legality of the use. The scale of this problem is known and measured. A consultation carried out by Ibama with State Environmental Agencies (OEMAs) revealed, in several states, the absence of systematic requirements for proof of the operator's authorization, verification of declared balances, analysis of technological alternatives and imposition of conditions regarding the regular origin of the substance; even after the entry into force of Normative Instruction No. 26/2024, operating licenses continued to be issued to operators that were not authorized. The MPF identified **more than 1,800 environmental licenses for gold mining** in the states of the Legal Amazon without verification of the beneficiation method used.

(iv) Monetary sanctions do not interrupt economic activity. A journalistic survey based on public data from Ibama and records of the Financial Compensation for Mineral Exploitation (CFEM) found that mining areas operated by four companies in Mato Grosso recorded **R$ 927 million** in declared gold sales **after** being fined and having mercury seized for use or storage without proof of legal origin. In one case, the rate of declarations more than quintupled after enforcement — from a monthly average of R$ 1.8 million to R$ 10.1 million. There is no formal illegality in this continuation: the infraction notice does not suspend the mining title or license, and administrative defenses are pending judgment. The data, however, precisely exposes the limit of the monetary sanction instrument in the face of an activity whose margin, at the current level of the gold price, comfortably absorbs the amount of the fine, which **becomes an operating cost.** Hence the centrality, in the proposal of this submission, of instruments that affect the **authorization to operate** — and not only the offender's assets. As a response to this insufficiency, the strategy of financial incapacitation adopted in the criminal and civil spheres should be noted: in the complaints arising from the Hermes operations, the MPF seeks compensation in the billions from both sellers and buyers, using the **Mining Impacts Calculator**, a methodology that monetizes the remediation and decontamination of soils, dredging of sediments, reforestation of degraded areas and compensation for damages caused to the health of affected populations. The logic is repeated: when the fine is absorbed as an operating cost, the effective response is to affect the offender's economic capacity and authorization to operate.

(v) Fragmentation of competences produces a regulatory blind spot. The ANM informed the MPF that it does not request data on mercury use when analyzing applications for artisanal mining permits and does not require, in any mining title, a document proving the legal origin of the substance. A recommendation issued in August 2025 characterized the omission as a "serious failure of regulation and enforcement" and set a deadline for the agency to require such proof, deny titles that included the use of mercury and review titles already granted in the Western Amazon. The recommendation was not followed, which led the MPF to request, in June 2026, the inclusion of the agency as a defendant in a public civil action, a request granted by the Court. The ANM maintains that it does not have legal competence to oversee the import, trade, acquisition and use of mercury, a matter it attributes entirely to Ibama. The interpretation is, in itself, technically correct as to the allocation of environmental control over the substance; it produces, however, a dysfunctional result: **the agency that authorizes mining does not ask about the input, and the agency that controls the input does not authorize mining**. The generalizable lesson to other Parties is that compliance with Article 3 cannot be resolved by the environmental agency alone. It requires the **mining authority** to incorporate proof of the origin of the input as a condition for granting and maintaining the title.

(vi) Technological shift to cyanide. A trend toward partial replacement of mercury with cyanide in clandestine mining operations is recorded, associated with the increase in the price of the metal resulting from the enforcement pressure itself. This is a relevant side effect: success in restricting the supply of mercury may shift the damage to an equally harmful substance, subject to a different regulatory framework and one that is less coordinated internationally. It is suggested that the Secretariat's report expressly record this risk of **vector displacement**, so that strategies to address Article 3 are not formulated in isolation from the policy on hazardous chemical substances.

(vii) Digital pulverization of supply. The supply of mercury has partially migrated to e-commerce platforms and social networks, in small lots, which fragments the illicit activity and reduces its visibility to traditional customs control and field enforcement instruments. Addressing this requires cooperation with platforms and treating the advertisement as an autonomous conduct. The scale of the phenomenon was measured by the MPF within the scope of the **Mercury-Free Network Project**, of the 19th Federal Prosecutor's Office in Amazonas, which, from February 2024, identified thousands of active advertisements offering the substance in various digital environments, with broad participation of users who destined the product to regions of intense mining activity in the Amazon.

(viii) Proof of origin is structurally asymmetric. In the sanctioning proceedings underway, it is recurrent for the defense to argue that the acquisition took place from a company that was then regularly registered in the Federal Technical Registry of Potentially Polluting Activities and/or Activities Using Environmental Resources (CTF/APP), with apparently registered stocks and with no indication of irregularity at the time. The argument transfers to the State the burden of retrospectively demonstrating the defect in the origin of material that has already been consumed in the production process or released into the environment. As long as lawful origin is not a **documented condition of possession**, but rather a fact to be proven by the Administration, the sanctioning regime will remain at a structural evidentiary disadvantage.

(ix) Structural illegality of supply. The synthesis of the eight previous lessons has a name of its own, coined by the MPF in the Technical Note on PAN-MAPE: **structural illegality of supply**. This is not a predominantly lawful market with occasional diversions, nor a mixed market. Since 2018, no lawful mercury has entered the official system and no gold-mining user is authorized, so that all enterprises that still employ amalgamation use mercury of illicit origin. The regulatory consequence is the uselessness of strategies built on the assumption of diversion of regular flows: **there is no regular flow to be diverted**. Any policy structured around the management of formal trade and prevention of diversion addresses a nonexistent object and shifts the focus away from the real supply vector, which is smuggling. This can be considered the most relevant lesson to be reported to the Secretariat, as it is directly transferable to any Party whose lawful market share has approached zero.

The challenges reported by Ibama regarding the post-seizure and management of seized mercury were:

(i) Nature and scale of the problem. Considerable quantities of mercury are being seized in various parts of the country and remain under the custody of different bodies combating environmental offenses, with this dispersion representing a relevant socio-environmental risk, especially due to the absence of centralized management and uniform storage and disposal protocols. From an enforcement perspective, the problem has a peculiar outline. Seized mercury is not an ordinary asset: it is **hazardous waste of high economic value**, chemically stable, indestructible by any available process, whose custody is indefinite and whose eventual return reintroduces into the illicit chain exactly what the seizure

intended to remove. Unlike an excavator, which can be rendered unusable on site, and timber, which can be donated, mercury **does not admit any of the ordinary disposal solutions** provided for in environmental sanctioning legislation. With every successful operation, therefore, the State assumes a liability. The success of enforcement produces, as a necessary by-product, the accumulation of a hazardous stock under public custody, without a defined destination. This is currently the main operational bottleneck of the policy to combat illegal mercury in Brazil.

(ii) Absence of environmentally sound final disposal in the national territory. There is no consolidated final disposal solution for metallic mercury in Brazil — neither a permanent storage facility in accordance with the Convention's guidelines nor stabilization and definitive confinement technology in commercial operation. The alternatives under consideration are export to qualified foreign facilities or the construction of a national solution, both dependent on a decision that has not yet been made. Until the decision is made, the only possible measure is **indefinite temporary storage**, a condition that has lasted for years in some cases and that transfers the solution of the liability to the future, without a deadline.

(iii) Dispersed custody and absence of a uniform protocol. Seized material is distributed among Ibama superintendent offices, PF, PRF and RFB units and judicial storage facilities, without a common standard for packaging, labeling, temperature control, ventilation, secondary containment, vapor monitoring or inventory records. Administrative storage facilities of enforcement agencies are not, as a rule, designed to hold volatile hazardous waste. The absence of a uniform protocol has three consequences: occupational risk for public servants; risk of diffuse emissions from inadequate or damaged packaging; and the impossibility of consolidating a reliable national inventory.

(iv) Legal risk of restitution and reintroduction into the illicit chain. Seizure constitutes a provisional administrative measure, under Article 101, item I, of Decree No. 6,514/2008, and Article 105, sole paragraph, of the same Decree provides for restitution of the asset — or corresponding compensation — in the event of annulment, cancellation or revocation of the seizure. Considering that the substance has significant market value, it is natural that the parties fined seek, through administrative and judicial channels, reversal of the measure, and the possibility of judicialization and even a possible judicial order for restitution of the asset cannot be ruled out. In this scenario, the judicial route constitutes another potential form of return of mercury to the sphere of availability of the private party and, consequently, to the circulation of the substance. Thus, every decision ordering the restitution of seized mercury represents, in practice, **the reintroduction into the market of material that had already been removed from circulation by enforcement action**. The situation is aggravated by the absence of a rule that expressly regulates the forfeiture and disposal of seized mercury. The point is illustrated by an ongoing sanctioning proceeding at the Ibama Superintendence in Mato Grosso, in which, after a decision recognized the legality of the seizure and ordered the forfeiture of the metallic mercury in custody, an administrative appeal was subsequently filed seeking reversal and restitution of the input, with a value attributed to the asset of more than R$ 2.6 million — a figure that, if restitution is impossible, becomes a compensation claim against the Authority. It should also be noted that there is a **temporal asymmetry** between the duration of the sanctioning proceeding and that of the custody: the asset remains under custody throughout the administrative and, eventually, judicial dispute, without there being a mechanism for early disposal for environmental reasons, similar to what customs legislation allows for goods that pose a risk.

(v) Absence of metrological standardization and chain of custody. The weighing of seized mercury is carried out in the field, frequently with scales not calibrated for the

density of the substance and with the metal stored in containers with variable tare weights. Differences in mass between the infraction notice, seizure term, inspection report and deposit term are recurrent and constitute a classic basis for nullity and challenges to the chain of custody in administrative defenses. There is also a lack of sampling and characterization protocol — content, presence of contaminants, physical form —, information that is a prerequisite both for valuation of the asset and for defining the disposal route.

(vi) Cost, responsibility and liability of the custodian. Custody generates permanent costs — qualified space, packaging, monitoring, insurance, access control — without a specific budget allocation and without provision for reimbursement by the offender. The seizing body assumes, as custodian, civil and environmental liability for any leakage, reversing the polluter-pays principle: **the party that removed the risk from circulation becomes responsible for it**.

(vii) Specific regulatory gap. Ibama Normative Instruction No. 26/2024 regulates the disposal of mercury waste generated in **regular** activities, presupposing an authorized agent, an operating license and an intact documentary chain. None of these assumptions applies to seized mercury, whose origin is, by definition, undetermined and whose original holder is not authorized. There is currently no rule that answers three elementary questions: who is the national custodian; what is the procedure for transfer between agencies; and what is the mandatory final disposal?

(viii) Interface with the surplus from the decommissioning of the chlor-alkali sector. The closure of the chlor-alkali plants will generate approximately **175 tonnes** of surplus metallic mercury to be disposed of in accordance with the Convention. This volume and seized mercury share the same bottleneck — the absence of final disposal — but differ in terms of legal regime: the industrial surplus has an identified holder, an environmental license and defined responsibility; the seized material does not. There is an evident opportunity for **economies of scale,** with the storage and disposal solution to be structured both within the scope of the "Brazil Chlor-Alkali" project, recently approved by the *Global Environment Facility* (GEF), and with the support of converging initiatives by Ibama.

This GEF project, coordinated by MMA, included the environmentally sound management and disposal of the current amount of mercury seized by Ibama and deposited at the state superintendences of the authority, an amount of approximately 2 tonnes of mercury.

And Ibama, through funding from the Amazon Fund, entered into a contract with the Federal University of Rio de Janeiro (UFRJ) through a Decentralized Execution Agreement (TED) for the implementation of two studies:

Specialized technical-scientific study intended to support Ibama in identifying, evaluating and defining the most appropriate alternative(s) for the environmentally sound final disposal of metallic mercury seized by all institutions operating in the national territory, considering environmental safety criteria, technical feasibility, cost-benefit analysis, risks associated with logistics and storage, as well as the compatibility of the alternatives with national circumstances and with the guidelines of the Basel Convention and the Minamata Convention. This study will also present projection strategies for the management and environmentally sound disposal of quantities of mercury that will continue to be seized in enforcement actions against the illegal trade and use of mercury.

Specialized technical-scientific study intended to support Ibama in planning, monitoring and enforcing the decommissioning process of chlor-alkali industrial plants using mercury electrolysis technology in Brazil, as well as the environmentally sound management of the remaining metallic mercury, in accordance with the guidelines of the Minamata Convention and national regulatory requirements.

The extracts of the Work Plans signed with UFRJ are available on the Ibama website through the link: https://www.gov.br/ibama/pt-br/acesso-a-informacao/publicacoes-oficiais/extrato-do-plano-de-trabalho-no-1-2026-firmado-entre-ibama-e-ufrj.

(ix) Absence of a consolidated national inventory. There is no single database that records, by custodial body, the volume, location, packaging conditions and procedural status of mercury seized in the country. The information is dispersed in individual infraction notices, seizure terms and deposit terms, in different systems and decentralized units. Without this inventory, it is not possible to size the disposal solution, negotiate storage capacity, estimate costs or report accurately to the Secretariat.

(x) Absence of a lawful disposal route for the holder. For mercury still dispersed at mining sites, there is currently no lawful way out. The possession and transportation of the substance in violation of the regulations constitute the offense under Article 56 of Law No. 9,605/1998, which turns each holder into a hostage of their own irregularity and creates a direct incentive for **clandestine disposal in rivers, streams and soils**, with greater damage than that which the policy seeks to prevent. The MPF considers that there is a need to establish regulatory support to contemplate the voluntary surrender of mercury, understanding that this idea is supported by previous case law. If the measure is adopted, safeguards capable of preventing its conversion into a channel for laundering smuggled metal would be indispensable, including: prohibition of payment for the material surrendered, with the consideration restricted to covering government logistical costs; registration of the operation in the Institute's systems, identifying the participant and quantities; intelligence screening for atypical quantities, incompatible with waste from an activity in transition; express delimitation that the exception applies only to possession and transportation specifically directed toward return, and does not extend to stocks maintained for continued supply; and preservation of autonomous criminal prosecution for smuggling, usurpation of federal property, illegal extraction of mineral resources, money laundering and criminal organization. Despite the possibilities raised, the establishment of a lawful disposal mechanism for holders of mercury who wish to act in good faith is awaiting a decision by the competent Brazilian authorities.

Another piece of information that deserves to be highlighted is the processing of two Bills of Law (PLs) in the National Congress:

(i) Bill of Law No. 1011/2023, which establishes the National Policy for the Prevention of Mercury Exposure in the Country. This Bill was approved in December 2025 by the Federal Senate and currently awaits a decision by the President of the Chamber of Deputies.

(ii) Bill of Law No. 2417/2024, which prohibits the use of mercury in the exploitation of mineral substances. This Bill currently awaits the rapporteur's opinion in the Health Committee.