

## BRAZIL'S COMMENTS ON THE DRAFT SCIENTIFIC REPORT OF THE OPEN-ENDED SCIENTIFIC GROUP (OESG)

### **Comment on lines 71–74**

Brazil welcomes the report's recognition of challenges related to data availability, comparability and standardization. In addition to environmental monitoring data, future effectiveness evaluations may benefit from greater consideration of relevant regulatory and administrative datasets, including mining cadastres, declared production records, commercialization data and other national information systems. Integrating multiple data sources may help strengthen monitoring frameworks and improve the robustness of source attribution analyses.

### **Comment on lines 90–123**

Brazil welcomes the report's identification of artisanal and small-scale gold mining (ASGM) as a major global source of mercury emissions and releases. Brazil suggests further emphasizing that, in several regions, including parts of Latin America, a significant share of mercury emissions associated with ASGM is linked to illegal and unregulated mining activities. Such activities frequently occur outside existing regulatory and monitoring frameworks, creating additional challenges for emissions estimation and implementation of mitigation measures.

Brazil further notes that information recently produced under the development of its National Action Plan for ASGM, including the 2025 Inventory of Mercury Emissions and Releases, was not available when much of the information used in the report was compiled. Consideration of such data in future assessments may contribute to a more comprehensive understanding of ASGM-related emissions and releases in tropical regions.

The report may also benefit from recognizing that the effectiveness of mercury reduction measures in ASGM contexts is closely linked to broader governance conditions, including regulatory oversight, enforcement capacity and traceability mechanisms within gold supply chains.

### **Comment on lines 150–180 and 204–208**

Brazil agrees with the report's identification of significant monitoring gaps in Latin America, Africa and parts of Asia. Given the importance of tropical ecosystems and ASGM-affected regions for understanding mercury cycling and exposure pathways, Brazil suggests emphasizing the need for integrated monitoring approaches that combine environmental data with regulatory information and territorial intelligence.

Brazil also notes that persistent monitoring gaps in several developing regions may partly reflect limitations in technical, institutional and financial capacities available for long-term monitoring programmes. Future effectiveness evaluations may therefore benefit from explicitly

considering how disparities in monitoring capacity influence data availability and geographical representativeness.

Despite the relevance of the Amazon region for global mercury cycling and human exposure assessments, available monitoring data remain geographically limited and unevenly distributed. Future effectiveness evaluations may benefit from greater representation of monitoring data from tropical ecosystems, including Indigenous territories and ASGM-affected regions.

#### **Comment on lines 209–210**

Brazil welcomes the report's recognition of the importance of the knowledge, sciences and practices of Indigenous Peoples. Brazil recommends expanding this reference to include local communities, given their important role in environmental stewardship and their vulnerability to mercury exposure in many regions. Indigenous Peoples and local communities often possess valuable long-term observations regarding environmental changes, fish availability and ecosystem health that may contribute to future effectiveness evaluations.

#### **Comment on lines 278–294**

Brazil supports the report's finding that Indigenous freshwater fish-consuming populations are among the groups most highly exposed to mercury globally. Scientific evidence from the Brazilian Amazon similarly indicates elevated levels of exposure among Indigenous Peoples and traditional riverside communities living in areas affected by ASGM activities.

At the same time, Brazil considers it important that assessments of health impacts associated with mercury exposure take into account broader environmental, nutritional and social determinants. Available evidence suggests that health outcomes may be influenced by multiple factors, including co-exposure to other contaminants, nutritional conditions, food insecurity and dietary characteristics.

Brazil therefore suggests clarifying that observed exposure patterns associated with fish consumption should not be interpreted as a basis for generalized recommendations to reduce fish consumption. Risk management approaches should consider species consumed, trophic level, seasonality, nutritional benefits and locally available dietary alternatives, particularly in Indigenous and traditional communities for whom fish constitutes a critical source of food security and cultural identity.

#### **Comment on lines 315–320, 332–336 and 403–438**

Brazil welcomes the report's discussion of environmental processes relevant to mercury cycling and source attribution. In tropical river basins such as the Amazon, mercury

concentrations observed in environmental media may reflect a combination of contemporary anthropogenic emissions, remobilization of historically deposited mercury and naturally occurring geological sources.

Recognition of these interacting processes is important for strengthening source attribution analyses and improving interpretation of monitoring results. Consideration of these dynamics does not diminish the importance of controlling mercury releases from ASGM, but rather contributes to a more comprehensive understanding of mercury behaviour in tropical environments.

#### **Comment on lines 343–350**

Brazil notes the report's observation that available freshwater monitoring data remain limited and that methylmercury measurements are particularly scarce. This constitutes a significant knowledge gap, especially in tropical regions where human exposure occurs predominantly through fish consumption.

Given the central role of methylmercury in human exposure pathways, future effectiveness evaluations may benefit from increased attention to methylmercury monitoring in freshwater ecosystems, including its formation, trophic transfer and relationship with fish consumption patterns.

#### **Comment on lines 402–409 and 442–444**

Brazil welcomes the report's discussion of uncertainties associated with source attribution. In ASGM contexts, source attribution may be particularly challenging where mining activities occur outside regulatory frameworks and monitoring systems.

Future assessments may benefit from considering additional information sources capable of strengthening source attribution analyses, including regulatory datasets, production records and traceability systems associated with mineral supply chains. Such information may complement environmental monitoring efforts and contribute to reducing uncertainties related to mercury emissions and releases.

#### **Comment on lines 445–448**

Brazil agrees with the report's conclusion that available observations and models remain insufficient to provide robust quantitative source attribution for several environmental media and exposure pathways.

In this regard, future assessments may benefit from considering additional information sources capable of strengthening source attribution analyses, including regulatory datasets and traceability systems associated with mineral production chains. Such information may complement environmental monitoring efforts and contribute to reducing uncertainties related to mercury emissions and releases associated with ASGM.

## **Dental amalgam**

Brazil notes the report's identification of dental amalgam as a potential source of mercury releases to the environment. At the same time, the report highlights the limited availability of quantitative information regarding releases and human exposure associated with dental amalgam use.

Brazil suggests further acknowledging the methodological limitations of currently available studies, including limited sample representativeness and simplified exposure indicators. Additional monitoring and research may be needed to improve understanding of the contribution of dental amalgam to environmental releases and human exposure pathways.