

**MINAMATA
CONVENTION
ON MERCURY**

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**Conference of the Parties to the
Minamata Convention on Mercury
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Item 4 (k) of the provisional agenda**

**Matters for consideration or action by the
Conference of the Parties: effectiveness evaluation****The first effectiveness evaluation of the Minamata Convention
on Mercury****Draft report on mercury trade, supply and demand****Note by the secretariat**

1. The Conference of the Parties to the Minamata Convention on Mercury, in decision MC-3/10 on the arrangements for the first effectiveness evaluation of the Convention, requested the secretariat to advance work in drafting a report on trade, supply and demand, including information on mercury waste flows and stocks.
2. At its fourth meeting, in decision MC-4/11, the Conference of the Parties agreed to begin the first effectiveness evaluation of the Convention and adopted the framework for the effectiveness evaluation, as contained in annex I to the decision. The adopted framework outlined the development, by the Secretariat, of the trade, supply and demand report in two stages during the intersessional period prior to the fifth meeting of the Conference of the Parties – one stage for the development of a plan and another for the development of the report proper, with a review by parties foreseen at each stage.
3. To give effect to the decisions, the secretariat engaged the services of a consultant to draft a plan and then work with an additional consultant for the development of the report.
4. In August 2022, the Executive Secretary informed parties¹ that the Secretariat had begun the development of the report and invited national focal points of parties and other States, as well as relevant organizations, to indicate one or more experts on the subject matter, including themselves, whom the secretariat would contact for feedback on the draft plan. In September 2022, the Secretariat reached out to the 81 experts who had been identified, among whom 50 were from parties, 9 from five other States² and 22 from organizations. Comments on the draft plan were received from four parties, one other State and five organizations.
5. The comments received on the draft plan were taken into account in the development of the report and, in June 2023, parties and other stakeholders were invited to provide feedback on a draft version of the full report. At the time of writing of the present note, comments had been received from

* Reissued due to technical reasons on 28 September 2023.

** UNEP/MC/COP.5/1.

¹ Through communication MC/ES/2022/109 of 26 August 2022.

² Since that date, one of these States has become a party to the Convention.

14 parties and 4 organizations. All comments received, as well as an overview of how the comments were considered during further development of the draft report, are available online.³

6. The key findings of the resulting draft report on mercury trade, supply and demand to support the first effectiveness evaluation is set out in the annex to the present note, without formal editing. The full report is available on the Convention website.⁴

³ <https://minamataconvention.org/en/intersessional-work-and-submissions-cop-5#sec1565>.

⁴ Ibid.

Annex*

Draft report on mercury trade, supply and demand**Key findings****A. Background**

The Conference of the Parties to the Minamata Convention on Mercury, in its [decision MC-3/10](#), on the arrangements for the first effectiveness evaluation of the Convention, requested the Secretariat to advance work in drafting a report on trade, supply and demand, including information on mercury waste flows and stocks.

At its fourth meeting, in [decision MC-4/11](#), the Conference of the Parties agreed to begin the first effectiveness evaluation of the Convention and adopted a framework, as contained in annex I to the decision. The adopted framework outlined the development, by the Secretariat, of the report on trade, supply and demand of mercury in two stages during the intersessional period prior to the fifth meeting of the Conference of the Parties: one stage for the development of a plan and another for the development of the full report, with one opportunity for review by Parties foreseen at each stage.

The following are the key findings of the report.

B. Trade of mercury and mercury compounds

Mercury trade is addressed primarily under Article 3 of the Convention. Paragraphs 6 and 8 provide that Parties shall not allow the export or import of mercury, respectively, unless under specific conditions. For the export of mercury, the conditions include obtaining consent from the importing country, either a Party or a non-Party to the Convention, and for a use that is allowed to a Party or for environmentally sound interim storage. For import, the Convention sets out that Parties shall not allow the import of mercury from a non-Party unless the non-Party has provided certification that the mercury is not from primary mercury mining or excess mercury from the decommissioning of chlor-alkali facilities. Furthermore, each Party is obliged to designate a national focal point for exchange of information under the Convention, including for the consent to import mercury; and each Party must include, in its national reports, information showing that the requirements of Article 3 have been met.

An initial analysis of the global trade of mercury was based on information provided by Parties in their national reports submitted to the Secretariat in accordance with Article 21 of the Convention.

However, since national reports give information primarily on whether consent was received by the exporting Party rather than a comprehensive picture of global mercury flows, the analysis of the trade of mercury had to be based primarily on information in the United Nations (UN) Comtrade database. The UN Comtrade contains trade data, including for mercury, submitted by countries and compiled by the United Nations Statistics Division.

Based on an analysis of the UN Comtrade data for the years 2018-2020, the analysis underpinning these findings identified a continued decline in reported import of elemental mercury. Briefly, the report identified a yearly average of approximately 770 metric tons of reported mercury import between 2018-2020, down from the previously reported global import of mercury of approximately 1200 metric tons in 2015 and 2600 metric tons in 2010. While the declining trend in trade is encouraging, it should be noted that there are gaps and inaccuracies in the UN Comtrade. Furthermore, the reported data did not include amounts related to undocumented or illegal trade of mercury.¹

According to the analysis performed, Bolivia, Switzerland and India were the major importers in terms of the volume of mercury imported. The vast majority of mercury imported into Switzerland was subsequently stabilized for environmentally sound disposal.

* The present annex has not been formally edited or formatted.

¹ The term undocumented or illegal trade (or UI trade) has been used in the report as an umbrella term to refer to any form of trade of mercury that is not done in accordance with the requirements of the Convention or that are deemed illegal, informal, undocumented, and unauthorized as per national legislation.

Mexico, Tajikistan, the Russian Federation, UAE, Türkiye, and India appeared as key mercury exporters and/or trading hubs. Bolivia received a large volume of mercury exported by Mexico, as well as from India, United Arab Emirates (UAE) and Türkiye.²

India has emerged as a prominent trading hub for mercury, both for domestic consumption and export to other countries. Similarly, the UAE and Türkiye also continued to report significant imports and exports of mercury from and to various countries.

With regard to mercury compounds, an analysis of the UN Comtrade data carried out by the Observatory of Economic Complexity (OEC) also confirmed an annual decline in trade. The analysis for 2019 indicated that Germany, France, Vietnam, USA and Italy were the main importers, while Argentina, Germany, India, Belgium, and Thailand were the major exporters of mercury compounds.³

Based on information provided by various international organizations, in some regions undocumented or illegal trade may account for a significant share of the total trade of mercury. For example, a large quantity of mercury formally imported by Bolivia was subsequently transferred to neighbouring countries such as Peru without proper customs documentation, especially for use in artisanal and small-scale gold mining (ASGM).⁴ In recognition that illegal trade of mercury is a global challenge, in 2022, at the occasion of the fourth meeting of the Conference of the Parties, the government of Indonesia spearheaded the non-binding Bali Declaration on Combating Illegal Trade of Mercury that focuses on encouraging international cooperation and coordination to combat illegal mercury trade.

C. Mercury supply sources

The Convention in subparagraph (i) of article 2 defines “primary mercury mining” as “mining in which the principal material sought is mercury”. The Convention does not differentiate between formal and informal mining. Paragraphs 3 and 4 of Article 3 outline the restrictions on primary mercury mining within Parties’ territory. Existing mines are to be phased out, new mines are not permitted, and mercury from primary mines shall only be used for permissible uses (manufacturing of mercury-added products in accordance with Article 4, or manufacturing processes in accordance with Article 5), or be securely disposed of in accordance with Article 11.

Regarding other potential sources of mercury supply, paragraph 5 of Article 3 requires Parties to endeavour to identify within their territory individual stocks of mercury or mercury compounds exceeding 50 metric tons, as well as sources of mercury supply generating stocks exceeding 10 metric tons per year. In addition, paragraph 5 requires Parties to take measures to dispose of any excess mercury from the decommissioning of chlor-alkali facilities in accordance with the guidelines for environmentally sound management.

Regarding primary mining of mercury, data was reported by Mexico and China. In its full national report (2021), Mexico reported mining 0.5 metric tons in 2018, as compared with 442 metric tons of mercury mined in 2017, according to its short national report of 2019. In its short report (2019), Mexico reported that 189 concessions were in place and 34 mining permits issued. Of the 34 mining permits, 31 have expired leaving three permits with a valid authorization to mine in 2019, while in its full report (2021) it explained that only two primary mining concessions (4 mines) had valid authorization to mine until 2020. The status of the mining concessions reported in 2019 without a valid mining license is not clear. In its full national report (2021) China reported the amount of extracted mercury ore for the period of 2017 to 2020, with an anticipated closure date set for August 2032. It is important to note that the reported amount by China pertains to the quantity of extracted ore, not the amount of mercury produced. At its fourth meeting in 2022, the Conference of the Parties of the Minamata Convention clarified in decision MC-4/8 that the basis for reporting is the total amount of mercury mined, not the extracted ore. This clarification will guide Parties in their future submissions of national reports. In its communication with the Secretariat during the review of the report, China further noted that according to data from China Statistical Annals on Ecological Environment, its primary mercury mining output was approximately 250 metric tons in 2020.

Information from Kyrgyzstan, where primary mercury mining has been reported in past years (UNEP, 2017), was not available for analysis. In its short national report (2019), Indonesia stated that it had no primary mercury mines operating within its territory during the reporting period, but that there were mining sites in the country that could be sources of mercury and that “required close supervision in

² Data from China has not been included in the analysis due to an ongoing discussion with the Chinese authorities to acquire validated data.

³ Based on the analysis of HS code 2852.10.

⁴ See Project Identification Form for [Global Environment Facility project 11047](#) (and national action plans pursuant to article 7.3)

order to not be used for illegal mining and other activities". Later, in its full national report (2021), Indonesia added that the government has never issued any permit for cinnabar mining business either prior to, or after the date of entry into force of the Convention for Indonesia.

The amount of by-product mercury that is recovered or reclaimed from processes or wastes in which mercury is present as a trace metal or contaminant (typically from non-ferrous mining and processing operations) is challenging to estimate due to lack of data on disposal, environmental release, and commercial capture during refining operations.

Crude oil and natural gas contain varying concentrations of mercury, with higher levels found in certain regions and wells. Within ranges of uncertainty, Qa³ Limited has estimated that approximately 300 tons of by-product mercury were mobilized by the oil and gas sector in 2020,⁵ of which roughly 125 metric tons were recovered from the gas sector for either resale or disposal.⁶ Thailand has reported the recovery and sale of tens of tons of mercury from its oil and gas industry.

In terms of mercury recovered for commercialization, including recycled mercury (mercury recycled or recovered from mercury-added products or processes) and by-product mercury, the analysis underpinning these findings estimated that a total of 550-1000 metric tons of recycled mercury and 750-1400 metric tons of by-product mercury were recovered and subsequently commercialized in 2019.

D. Sectoral demand for mercury

According to the Global Mercury Assessment 2018, ASGM was the sector with the largest consumption of mercury, resulting in over 2000 metric tons being released into the air, water and soil each year and accounting for almost 38% of the global total. Using different calculation methods, the study behind the present findings estimated that the amount of mercury used in the ASGM sector in 2019 ranged between 1400 and 2800 metric tons (with an average of approximately 2100 metric tons) suggesting that the amount of mercury that was used and subsequently emitted and released from the sector has not declined in relation to previous years. As more countries prepare their National Action Plan (NAP) for ASGM as required by the Minamata Convention, a more updated estimate on their mercury use can be provided in the future. As of this writing, 27 Parties and 3 non-Parties had submitted their NAPs to the Secretariat of the Minamata Convention.

Regarding vinyl chloride monomer (VCM) production, two Parties reported on the use of mercury compounds in their national reports. China reported the estimated annual consumption of mercury during 2019–2020 as 670 to 790 metric tons. India reported its annual consumption of mercury in VCM as around 4 metric tons for the reporting period of 2017-2020. A mercury inventory for Russia developed in a UNEP project in 2017 noted the existence of a few VCM production facilities that employ mercury compounds.⁷

Mercury consumption for chlor-alkali production, which has been defined as the quantity of mercury added to the production cells to keep the mercury in the cells at the necessary level, was greatly impacted by the ban of the European Union on mercury-based chlor-alkali production in December 2017, leading to the closure of many such plants. Using information from national reports pursuant to article 21, as well as data provided by the World Chlorine Council (WCC) and other publicly available data sources (UNEP 2017), the study underpinning the present findings estimated that the annual demand for mercury in this sector was approximately 94 metric tons for 2019.

Estimates of the consumption of mercury for mercury-added products faced major challenges due to the lack of reliable information. The consumption of mercury in the dental amalgam sector for 2019 was estimated to be in the range of 200 – 500 metric tons. The consumption of mercury in batteries for 2019 was estimated to be 10 – 15 metric tons, as batteries containing mercury have been largely phased out. For other mercury-added products, quantitative information on the remaining use of mercury has not been estimated.

⁵ Qa3. 2021. "Unconsidered Mercury Emissions from the Oil and Gas Industry." https://www.qa3.co.uk/images/pdfs/Unconsidered_Mercury_Emissions_from_the_Oil_and_Gas_Industry_July_2021.pdf.

⁶ Maxson, Peter. 2019. "Mercury in natural gas (and oil)." International Conference on Mercury as a Global Pollutant, Krakow.

⁷ A.V. Romanov, Y.S. Ignatieva, I.A. Morozova, O.A. Speranskaya, O.Y. Tsitser, 2017. "Mercury pollution in Russia: Problems and recommendations." http://www.ecoaccord.org/pop/Rtutnoe_zagryaznenie_English_25-08.pdf.

E. Waste flows

The analysis behind the present findings initially focused on information contained in the national reports pursuant to article 21 and other published sources. The paucity of data to quantify the amount of mercury in wastes was evident and rendered a global analysis unfeasible. In addition, an analysis of the flow and quantity of mercury in waste was attempted based on data obtained from national reporting under the Basel Convention, but there were also a number of limitations associated with this approach. These efforts emphasized the important need for improved data collection.

F. Stocks

The analysis presented in the report focused on information contained in the national reports pursuant to article 21 and other sources of information. Quantitative data was available from only nine countries. The paucity of data to quantify the amount of mercury held in stocks rendered a global analysis based on data reported to the Secretariat unfeasible.

G. Concluding remarks

Numerous significant milestones pertaining to the Minamata Convention have either recently passed or are rapidly approaching. For example, phase-out dates for various mercury-added products, including certain batteries, switches, relays, lamps, cosmetic products, pesticides, biocides, and topical antiseptics, occurred in 2020. Additionally, manufacturing processes utilizing mercury compounds as a catalyst for acetaldehyde production had a phase-out date of 2018, while chlor-alkali production using mercury is set for phase-out in 2025. Other products, such as strain gauges, mercury vacuum pumps, tire balancers and wheel weights, photographic film and paper, and propellant for satellites and spacecraft, are also scheduled for phase-out in 2025. The phase-out of products and processes using mercury is expected to reduce the trade, supply and demand of mercury. On the other hand, it may also lead to increased transboundary movement of mercury waste (e.g., mercury waste from the decommissioning of chlor-alkali plants), to be disposed of in an environmentally sound manner. Hence, it needs to be emphasized that an improved and comprehensive understanding of the quantitative aspects of mercury trade, supply, and demand is essential going forward.

The analysis underpinning these findings recognized a number of positive trends and results, despite the remaining gaps in our understanding of mercury trade, supply and demand, which are noted in the following:

- (a) The amount of mercury that was traded globally from 2018 to 2020 (as per the UN Comtrade database) was significantly less than the amount traded in earlier years. However, trade of mercury that is considered illegal under national law, particularly for the purpose of ASGM, remains a significant concern and has not been adequately quantified.
- (b) Trade that is not compliant with the requirements of article 3, e.g., unreported, informal or illegal trade of mercury according to national legislation, has been raised as an issue by some Parties in parts C or E in their short (2019) and full (2021) national reports. The current reporting format does not have a direct question on such trade, although two Parties shared their concerns over informal trade in the short national reports (2019). It is worthwhile to note the efforts of some Parties to share their concerns and report on measures taken to address trade that is not in compliance with the requirement of article 3, and such efforts may serve as examples to other Parties. One Party had concerns on falsified or incomplete consent forms, while the other Party provided a recommendation for optimizing the written consent procedure for the import of mercury, including the provision of information on transit countries, re-export points and the role of free-trade zones, and the establishment of a deadline for receipt of responses from Parties concerned. The Party also raised the need to improve identification of the intended uses of traded mercury, strengthen the capacities of border control agents, and develop protocols to identify, seize, transport, handle, and label mercury. In the full reports (2021), a Party noted “illegal” mercury trade to be occurring within its national context, and also regionally. The Party called for enhanced cooperation among Parties “to create innovative solutions in preventing illegal mercury trading”. Furthermore, some Parties in another region noted that there were known informal flows of mercury also in their region and illegal imports into their national territories.
- (c) Also, on the topic of illegal exports, in its full national report (2021), Canada provided information on exports in 2017 (50.27 metric tons) and 2018 (91.03 metric tons) which they deemed were illegal under their national law. Canada reported measures it took in response to the illegal export and further reported on possible illegal export to another country which it is currently resolving. Information on measures taken at national level to prevent trade that is not in compliance with the requirements of article 3 provide a good example for other Parties who may be facing similar

challenges, in particular considering the above-mentioned concerns reported by Parties on the presence of unreported, informal or illegal trade of mercury in their territories.

(d) Although there is a very high level of national reporting by the Parties pursuant to article 21, in most cases the information provided in those reports is not sufficient to support precise quantitative analyses of the trade, supply and demand of mercury. The inclusion of questions, in the reporting format, that call for the submission of quantitative information related to trade, supply and demand would be useful as a means to fill the identified gaps.

(e) Specifically with regard to trade, the overall level of reporting was found to be insufficient, though certain countries have demonstrated good record-keeping practices. For example, Switzerland reported to the Secretariat their import for 2019 of 290 metric tons of mercury, mostly for treatment and environmentally sound disposal. Japan submitted consent forms for all of its mercury exports. Meanwhile, initiatives like STRIKE⁸ hold the potential to enhance data gathering efforts and address existing limitations more effectively.

(f) According to the information provided in the first full report pursuant to article 21, measures to control mercury-added products have been taken by many Parties and mercury use in some products has gradually decreased, but more information is needed for other products.

(g) The number of chlor-alkali facilities using mercury has decreased significantly as per the information contained in the national reports. Excess mercury from decommissioned chlor-alkali plants is expected to be disposed of in an environmentally sound manner and reported on.

(h) Switzerland's imports of 290 metric tons of mercury from Belgium, Argentina, Italy, Slovakia, Peru and Afghanistan in 2019 were identified as coming from natural gas production, the chlor-alkali industry, and non-ferrous metals mining and processing. Virtually all of the mercury imported by Switzerland was "waste" mercury destined for environmentally sound disposal.⁹ Information on trade of mercury waste is largely missing as many countries still lack capacity to carry out environmentally sound mercury waste management.

H. Suggested actions to improve data availability

The report, which is the basis for the present findings, recognized significant gaps in the available data with regard to mercury trade, supply, and demand. Consequently, the results of the analysis underpinning the report may not be sufficient to support a comprehensive evaluation of the effectiveness of the Convention, particularly in relation to the second policy question aimed at supporting the effectiveness evaluation,¹⁰ namely "*Have the actions taken [by Parties] resulted in changes in mercury supply, use, emissions and releases into the environment?*" Nevertheless, the data shows promising trends, and it is the view of the authors that significant progress is evident since the entry into force of the Convention. In order to further build on the progress, the report identified the following possible future actions to improve the availability of data to support the effectiveness evaluation of the Convention:

(a) Prioritizing the improvement of data availability and reliability by encouraging data sharing, and supporting Parties to the Convention in establishing reliable data sources. This may be achieved by revising the reporting format to prompt the submission of quantitative information related to trade, in particular, as well as supply and demand. For example, it may be helpful to consider how to best utilize the space provided in the relevant questions of the reporting format to facilitate sharing information by Parties on challenges and measures to manage and/or curtail trade that is not in compliance with the requirement of article 3.

⁸ The EU-funded STRIKE project (Stronger Training and Increased Knowledge for Better Enforcement – Waste & Mercury), 2020-2022, enhanced operational activities and capacities of authorities involved in addressing illegal trade & management of problematic waste streams (e.g., e-waste, batteries & waste mercury), as well as illegal production & trade of mercury-added products. See <https://www.scycle.info/official-start-of-the-strike-project-2/>.

⁹ The main sources were recycled mercury from the chlor-alkali industry and mercury-added products, and recovered mercury from natural gas production and from non-ferrous metals mining and smelting.

¹⁰ At its third meeting, the COP considered the report of the ad hoc technical expert group for effectiveness evaluation, which included four policy questions aimed at supporting an assessment of whether the control measures are leading to the achievement of the Convention's objective. The policy questions are: (a) "Have the Parties taken actions to implement the Minamata Convention?", (b) "Have the actions taken resulted in changes in mercury supply, use, emissions and releases into the environment?", (c) "Have those changes resulted in changes in levels of mercury in the environment, biotic media and vulnerable populations that can be attributed to the Minamata Convention?" and (d) "To what extent are existing measures under the Minamata Convention meeting the objective of protecting human health and the environment from mercury?"

- (b) It is important to encourage and support countries that are not yet Parties to the Convention, in particular those that are significant contributors to the global supply and trade of mercury, to become Parties to the Convention.
 - (c) Identifying gaps in data on mercury use, and identifying other areas where data is lacking to determine priorities for concerted efforts. These priorities can be tailored to certain countries and regions, taking into account their specific needs and capacities.
 - (d) Encouraging Parties to promote collaboration between ministries and agencies within their country, so that more accurate country-specific data can be generated.
 - (e) Promoting the use of customs codes for key mercury-added products, hence streamlining data collection and monitoring.
 - (f) Encouraging Parties to implement electronic manifest systems to track mercury waste and enhance data generation.
 - (g) Supporting the development of inventories of mercury supply, use, consumption, emissions and releases to gather data, to help prioritize efforts, and to make informed decisions based on reliable data.
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