



**Conference of the Parties to the
Minamata Convention on Mercury
Sixth Meeting**
Geneva, 3–7 November 2025
Item 4 (a) of the provisional agenda*
**Matters for consideration or action by the
Conference of the Parties: mercury supply sources
and trade**

Study of the global supply, production, trade and use of mercury compounds**

Note by the secretariat

1. Paragraph 13 of article 3 of the Minamata Convention on Mercury requires the Conference of the Parties to undertake an evaluation of whether the trade in specific mercury compounds compromises the objective of the Convention and to consider whether specific mercury compounds should, by their listing in an additional annex adopted in accordance with article 27, be made subject to paragraphs 6 and 8 of article 3.
2. Recalling this paragraph, the Conference of the Parties, in decision MC-5/3, requested the secretariat, subject to the availability of resources: (a) to initiate a study of the global supply, production, trade and use of mercury compounds; and (b) to present the report to the Conference of the Parties at its sixth meeting for consideration.
3. The secretariat developed a draft study through a consultant hired thanks to the voluntary contribution of Canada and Spain. The draft study was posted on the Convention website¹ on 12 February 2025 for comments and input from parties and stakeholders by 5 March 2025. Comments were received from Argentina, Austria, Brazil, Burkina Faso, Canada, China, the European Union and its member states, Japan, Mauritius, Peru, the United State of America, the Natural Resources Defense Council, New York City Department of Health and Mental Hygiene and the Zero Mercury Working Group.
4. The revised study taking into account those comments is attached as the annex to the present note, without formal editing.

* UNEP/MC/COP.6/1/Rev.1.

** This document has not been formally edited.

¹ <https://minamataconvention.org/en/topics/mercury-supply-sources-and-trade/intersessional-work>

Annex

**Study of the Global Supply, Production,
Trade and Use of Mercury Compounds**

*Secretariat of the Minamata Convention on Mercury
July 2025*

Table of Contents

I.	Introduction	4
A.	Background and purpose	4
B.	Scope of the study	4
C.	Health and environmental risk – overview	5
II.	Mercury compounds of interest	5
A.	Compounds already subject to national regulation	5
B.	Other compounds of interest, not subject to regulation	6
III.	Sources of mercury compounds	7
A.	Main sources	7
B.	Primary mercury mining facilities	8
C.	Key vendors	8
D.	Compound production cost	12
E.	Global production	13
F.	Stocks	14
G.	Wastes	14
H.	Potential diversion of compounds	17
I.	Uses of mercury compounds of interest	19
IV.	Global trade of mercury compounds	23
A.	Terminology	23
B.	Trade data sources	23
C.	Trade discrepancies and asymmetries	28
D.	Multiple names for a given compound	29
E.	Commodity codes	29
F.	Export and import data	31
G.	Compounds used in skin lightening creams	38
H.	Additional trade details	38
V.	Conclusions	39
	References	s42
	Appendix 1 – EINECS* mercury compounds and substances	45
	Appendix 2 – Dangerous skin-lightening soaps and creams	49
	Appendix 3 –Mercury compound trade adjusted by algorithm	51
	Appendix 4 – Major traders of mercury compounds	53
	Appendix 5 – Country exports and imports of mercury compounds	57
	Appendix 6 – Trade data where specific mercury compounds could be identified	62
	Appendix 7 – Detailed trade of mercury compounds for selected countries	77

I. Introduction

A. Background and purpose

The Minamata Convention on Mercury (the “Convention”) is a global treaty that was adopted by governments on 10 October 2013 in Kumamoto, Japan, and entered into force on 16 August 2017. According to Article 1 of the Convention, the objective is to “protect human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds,” using measures that may include controlling supply and trade, setting limitations on specific sources, controlling mercury-added products and manufacturing processes, etc.

Paragraph 13 of Article 3 of the Minamata Convention states that the Conference of the Parties shall evaluate² whether the trade in specific mercury compounds compromises the objective of the Convention, and shall consider whether specific mercury compounds should, by their listing in an additional annex adopted in accordance with Article 27, be made subject to paragraphs 6 and 8 of Article 3. Paragraphs 6 and 8 of Article 3 list conditions under which exports and imports of mercury can be allowed by each Party. These conditions currently apply only to elemental mercury, which includes “mixtures of mercury with other substances, including alloys of mercury, with a mercury concentration of at least 95 percent by weight” as provided for in paragraph 1(a) of Article 3.

The fifth meeting of the Conference of the Parties to the Minamata Convention – held from 30 October to 3 November 2023 – adopted Decision MC-5/3 requesting the Secretariat to initiate a study of the global supply, production, trade and use of mercury compounds, and to present the report for consideration by the Conference of the Parties at its sixth meeting. This study has been carried out in response to that decision.

Paragraph 13 of Article 3 refers to whether the trade in mercury compounds compromises the objective of the Convention. This study addresses that concern in the current situation, but it also takes an additional step by considering whether the trade in mercury compounds could in future easily compromise the objective of the Convention.

This study is based on information in national and international statistics, open literature, information collected from Parties and stakeholders, and information from the comments received on earlier drafts. The study also notes the limitation on the completeness and accuracy of the information including the trade statistics, and makes the best efforts to rectify the information based on the comments from Parties and stakeholders. While hard evidence of trade in mercury compounds compromising the objective of the Convention has not yet been reported, it is possible that undocumented trade compromising the objective of the Convention may be taking place.

B. Scope of the study

This study covers the mercury compounds currently listed in paragraph 1(b) of Article 3 of the Minamata Convention (mercury(I) chloride, mercury(II) oxide, mercury(II) sulfate, mercury(II) nitrate, cinnabar and mercury(II) sulfide (mercuric sulfide)), the mercury compounds subject to national reporting regulations by Parties to the Convention, and other compounds where Parties are engaged in relevant trade related activities, or where there are significant volumes traded. The study does not include the supply, production, trade or use of elemental mercury, which is defined in paragraph (d) of Article 2 and paragraph 1(a) of Article 3, except in some cases where it relates to mercury compounds.

The study identifies international vendors of mercury compounds, and describes the industrial processes that produce significant quantities of mercury compounds as a byproduct. It also provides an overview of the use of mercury compounds in products and processes, e.g., cosmetics, drugs and pharmaceuticals, batteries, pharmaceutical and industrial processes, etc. The use of organic mercury compounds in polyurethane production and in paints has been formally addressed by research and regulation, although these applications appear to continue in a number of countries.

Parties were to phase out the manufacturing, import and export of cosmetics, including skin lightening products (SLPs), that exceed the 1 ppm limit by 2020. The Convention was amended at the fifth meeting of the Conference of the Parties to the Minamata Convention (COP-5) to remove the 1 ppm limit and require Parties to phase out mercury-added cosmetics irrespective of the mercury content.

There is recent evidence of at least four mercury compounds that have been added to illegal SLPs, as described in more detail below. This study identifies the key countries that manufacture, import and export some of those mercury compounds. Other mercury compounds could potentially be traded for the same purpose, but this study does not speculate on which compounds they could be.

The study also investigates the potential trade of certain mercury compounds primarily for the purpose of recovering the elemental mercury, thereby circumventing the trade requirements in Article 3 of the Minamata Convention. For

² There is no timeline specified in Article 3 for the Parties to undertake this evaluation.

example, there is evidence of recent international trade of cinnabar (UNEP and GRID-Arendal 2020). Meanwhile, calomel and other mercury compounds generated by certain industrial processes are potential candidates for trade and conversion to elemental mercury, in cases where they are not strictly regulated, although they can be legitimately traded for the purpose of waste disposal.

In a slight variation on the above, it is evident that, especially in circumstances where the cost of elemental mercury may be relatively low, some mercury compounds could be cheaply produced and traded for the express purpose of recovering the elemental mercury. This study assesses some of the relevant costs, and identifies mercury compounds that could be produced and traded in this manner, although no Parties have formally confirmed that the production and trade of compounds are occurring for that express purpose.

C. Health and environmental risk – overview

Mercury occurs both naturally and as an introduced contaminant in the environment. Since the impacts of mercury emissions and releases on human health and the environment are not within the scope of this study, only a brief overview is provided here.

Due to its long-range atmospheric transport, mercury is a global pollutant. It cannot be broken down in the environment to any harmless form. Once emitted, mercury enters a complex biogeochemical cycle with significant negative effects on the environment and on human health. Neurological and other health effects on infants and unborn children are of particular concern.

After extensive use of mercury worldwide over many centuries, mercury can be found in all environmental compartments – the atmosphere, soil and water systems, and biota. Although it is difficult to determine how much of the mercury in environmental media does so, mercury can be transformed to methylmercury, one of its most toxic forms, which biomagnifies in ecosystems. Populations with a high intake of aquatic species such as fish, shellfish and marine mammals contaminated with methylmercury are particularly vulnerable.

Another important pathway of human exposure to mercury is the use of mercury compounds in SLPs. While mercury can inhibit melanin production and deliver a fairer skin tone, it can lead to skin rashes, discoloration and scarring, as well as kidney damage and neurological effects. Moreover, the health risks are not limited to individual users, as mercury from SLPs can contaminate indoor air, bedding, towels and clothing, and children are inevitably exposed.

II. Mercury compounds of interest

A. Compounds already subject to national regulation

For purposes of the Minamata Convention, a mercury compound is “any substance consisting of atoms of mercury and one or more atoms of other chemical elements that can be separated into different components only by chemical reactions” (paragraph (e) of Article 2). Appendix 1 includes a long list of the better known mercury compounds.

A number of mercury compounds are already highlighted by the Minamata Convention, and other compounds by Parties to the Convention. Mercury compounds identified in paragraph 1(b) of Article 3 of the Convention include:

- mercury(I) chloride (calomel or mercurous chloride)
- mercury(II) oxide (mercuric oxide)
- mercury(II) sulfate (mercuric sulfate)
- mercury(II) nitrate (mercuric nitrate)
- cinnabar (mercuric sulfide ore)
- mercury(II) sulfide (mercuric sulfide)

Japan is taking measures to control the export of the above-mentioned mercury compounds under the Foreign Exchange Act.³ Under the amendments to the U.S. Toxic Substances Control Act, which complement the Mercury Export Ban Act of 2008, and the European Mercury Regulation (European Commission 2023), the mercury compounds listed above have been prohibited from export, although export for environmentally safe disposal is permitted.

One of the compounds, mercury(II) nitrate, is identified by some Parties with the CAS number 10045-94-0. Another form of this compound known as mercury(II) nitrate monohydrate (CAS 7783-34-8), however, is more commonly traded and may not be covered by Parties regulating CAS 10045-94-0.

³ https://www.meti.go.jp/policy/external_economy/trade_control/02_exandim/08_minamata/minamata_ex.html (in Japanese)

MERCOSUR monitors the trade of some other mercury compounds. A consultation of Argentina's trade database, which is maintained by the Instituto Nacional de Estadística y Censos (INDEC), records imports and exports of the following compounds that are not already mentioned above:

- mercury acetate
- thimerosal
- mercury stearate [mercury(2+);octadecanoate]
- mercuric lactate [mercury(2+) lactate]
- mercury salicylate

Pursuant to the ASEAN Cosmetic Directive, mercury and its compounds are banned ingredients and must not be in cosmetic products (Annex II Ref. No. 221). The following compounds are specifically identified in this directive:

- thimerosal – CAS no. 54-64-8
- phenylmercuric acetate – CAS no. 62-38-4
- phenylmercuric benzoate – CAS no. 94-43-9
- phenylmercuric borate – CAS no. 102-98-7
- phenylmercuric bromide – CAS no. 1192-89-8
- phenylmercuric chloride – CAS no. 100-56-1

Because vaccines containing thimerosal are specifically excluded from the phase-out obligation under Article 4 and Annex A, the trade of thimerosal is not to be considered in this report, although it may appear in various tables or text.

B. Other compounds of interest, not subject to regulation

Other compounds of interest due to trade volume, trade frequency or use in applications such as skin lightening products include:

- mercury(II) iodide (mercuric iodide) – trade volume, SLP additive
- mercury(II) selenide (mercuric selenide) – trade frequency
- mercury(II) amidochloride (ammoniated mercury) – trade volume, SLP additive
- mercury(II) thiocyanate (mercuric isothiocyanate) – trade frequency

The following table provides basic technical information about most of these compounds:

- The common name in English for the compound is given. Mercury can be bound to other compounds as monovalent(I) or divalent(II) mercury, meaning the mercury atom has a formal oxidation number of 1 or 2.
- The common chemical formula contains the symbols of the atoms of the elements present in the compound, as well as the number of atoms (in the form of subscripts) for each element.
- The CAS Registry Number (or CAS Number) is a unique identification number assigned by the Chemical Abstracts Service (CAS) in the U.S. to every chemical substance described in the open scientific literature.
- Some of the more common alternative names for these compounds are given, though there are many more scientific and trade names for most of these compounds.
- The molecular weight of a compound is the sum of the atomic masses of all atoms in the compound, based on a scale in which the atomic masses of hydrogen, carbon, nitrogen, and oxygen are 1, 12, 14, and 16, respectively.
- The percentage (by weight) of mercury in the compound is the ratio of the molecular weight of mercury in the compound to the total molecular weight of the compound.

Table 1: Mercury compounds of interest

Compound	Chemical formula	CAS number	Other common names	Molecular weight (g/mol)	Hg content (% Hg by weight)
Compounds listed in Article 3 of the Minamata Convention					
Mercury(I) chloride	Hg ₂ Cl ₂	10112-91-1	mercurous chloride; calomel; dimercury dichloride; mercury subchloride	472.09	85.00
Mercury(II) sulfide; Cinnabar	HgS	1344-48-5; 19122-79-3	vermilion	232.66	86.22
Mercury(II) oxide	HgO	21908-53-2	mercuric oxide	216.59	92.64
Mercury(II) sulfate	HgSO ₄	7783-35-9	mercuric sulfate	296.66	67.63
Mercury(II) nitrate	Hg(NO ₃) ₂ •H ₂ O	7783-34-8	Mercuric nitrate monohydrate	281.62	58.55
Other mercury compounds of interest					
Mercury(II) amidochloride	ClH ₂ HgN	10124-48-8	ammoniated mercury; mercuric amidochloride; mercuric azanide chloride	252.07	79.89
Mercury(II) acetate	C ₄ H ₆ HgO ₄	1600-27-7	mercuric acetate; mercury di(acetate)	318.68	62.96
Mercury(II) chloride	HgCl ₂	7487-94-7	mercuric chloride; corrosive sublimate	271.49	73.89
Mercury(II) iodide	HgI ₂	7774-29-0	mercuric diiodide	454.39	44.14
Mercury(II) thiocyanate	C ₂ H ₂ N ₂ S ₂	592-85-8	mercuric thiocyanate	316.77	63.34
Phenylmercury(II) acetate	C ₈ H ₈ HgO ₂	62-38-4	phenylmercuric acetate; PMA	336.74	59.62
Mercury(I) iodide	Hg ₂ I ₂	15385-57-6	mercurous iodide	654.98	61.18
Mercury(I) nitrate dihydrate	H ₃ HgNO ₄ ⁺ H ₄ HgNO ₅	7782-86-7	ACS reagent	281.62 298.63	71.30 67.20
Mercury(I) sulfate	Hg ₂ SO ₄	7783-36-0	mercurous sulfate	497.25	80.70
Mercury(II) bromide	HgBr ₂	7789-47-1	mercuric bromide	360.39	55.70
Mercury(II) cyanide	Hg(CN) ₂	592-04-1	mercuric cyanide	252.63	79.40
Mercuric salicylate	C ₇ H ₄ HgO ₃	5970-32-1	mercury salicylate; mercury(II) salicylate	336.69	59.60
Mercury(II) selenide	HgSe	20601-83-6	mercury selenide	279.55	71.75

The subsequent analysis is intended to contribute to the Parties' deliberations as to whether cross-border trade of mercury compounds compromises the objective of the Convention.

III. Sources of mercury compounds

A. Main sources

Mercury compounds may be generated from four main sources: a) from commercial producers of mercury compounds; b) from metal smelting and natural gas processing; c) from catalysts used in oil and gas processing, from discarded products that contain mercury compounds, and from research and medical facilities; and d) from government or private inventories of entities involved in the production, recovery, trade or use of mercury compounds. More simply, these sources fall under two main groups – virgin mercury compounds, or byproduct mercury compounds:

- 1) Virgin mercury compounds may be stored or produced at:
 - Primary mercury (cinnabar) mining facilities;
 - Mercury compound manufacturing facilities;
 - Facilities that manufacture products or catalysts containing mercury compounds;

- Mercury compound vendors;
- 2) Byproduct mercury compounds may be generated at:
- Mercury recycling and waste treatment facilities;
 - Non-ferrous metal mining or processing facilities;
 - Natural gas and oil production and processing facilities;
 - Facilities producing mercury(I) chloride catalysts used in vinyl chloride monomer (VCM) production;⁴
 - Facilities producing polyurethane products with mercury compound catalysts;
 - Mercury cell chlor-alkali facilities;
 - Sodium or potassium methylate or ethylate facilities using mercury cells;
 - Unsecured waste disposal sites.

Mercury compounds may also be contained in waste. Mercury compounds recovered from mercury waste are categorized as byproduct mercury compounds above. Mercury compounds contained in waste are addressed in Article 11 of the Convention and therefore are out of scope of this study, although some statistics include mercury compounds in waste.

B. Primary mercury mining facilities

In the second short reports (for the period 1 January 2021 to 31 December 2022) of Parties to the Minamata Convention, China, Indonesia and Mexico reported that primary mercury mines were operating within their borders at the date of entry into force of the Convention. Indonesia acknowledged the presence of illegal primary mercury mining in its territory and explained that “it is difficult for the government to know exactly how much primary mercury mining is in Indonesian territory.”

Any of these primary mining operations are likely to have stockpiles of cinnabar with varying levels of security, although current stocks of cinnabar have not been reported in detail. The national reporting obligation requires any such stocks exceeding 50 metric tons to be periodically reported to the Minamata Convention Secretariat.

The Kyrgyz Republic, a non-Party, also operates a primary mercury mine.

The mercury sulfide content of cinnabar is generally not great enough to justify transboundary trade for the purpose of processing the ore in another country. However, in cases where the cinnabar is of exceptionally high quality, such as in certain parts of Indonesia, there is a heightened risk that this may occur. Between September 2017 and March 2018, Indonesian police confiscated about 35 tonnes of mercury and 36 tonnes of cinnabar, much of it in transit to the Philippines and Vietnam (SAICM 2019). Even though this is only a partial picture, it highlights the potential risk of cinnabar trade.

C. Key vendors

The PubChem database (<https://www.ncbi.nlm.nih.gov/pccompound>) identifies more than 9,500 mercury compounds. For each compound the database provides information on the chemical structure, safety information, molecular formula, molecular weight, diverse names and identifiers, chemical and physical properties, pharmacology and biochemistry, use and manufacturing, etc. This database provides no information on quantities of compounds traded internationally, although it does give the names of vendors of various compounds.

Although the details in the following table have not been independently verified, the PubChem database identifies a number of vendors of the mercury compounds of interest to this study. According to PubChem, roughly 25-50% of these vendors are likely to sell any one of these mercury compounds.

⁴ As explained by the Chinese Ministry of Ecology and Environment, because the production of mercuric chloride catalysts, the recycling of spent catalysts, and the production of VCM are completely separate processes, no VCM producer has mercury compounds within its facility — only spent catalysts. All waste generated by VCM producers must be sent for disposal or to recyclers for mercury recovery and mercuric chloride production, which is then used to manufacture more catalysts.

Table 2: Vendors of mercury compounds

Vendor name	Vendor address	Mercury(I) chloride	Mercury(II) sulfide	Mercury(II) oxide	Mercury(II) sulfate	Mercury(II) nitrate	Mercury(II) amidochloride	Mercury(II) acetate	Mercury(II) chloride	Mercury(II) iodide	Mercury(II) thiocyanate	Phenyl-mercury(II) acetate	Mercury(II) selenide	Thimerosal
1st Scientific	Fangshui East Road, Nanjing Chemical Industry Park, Nanjing, Jiangsu, China, 211500												X	
3B Scientific (Wuhan)	Xudong Dajie, Wuhan, Hubei, China, 430070	X	X						X	X	X	X	X	X
10X CHEM	9853 Pacific Heights Blvd., Suite J, San Diego, California, United States, 92121		X		X		X			X	X	X		X
A2B Chem	9823 Pacific Heights Blvd., Suite F-2, San Diego, CA, United States, 92121			X	X		X			X	X	X		X
AA BLOCKS	11575 Sorrento Valley Road, Suite 209, San Diego, CA, United States, 92121	X		X						X	X	X		
abcr	Im Schleht 10, Karlsruhe, Baden-Wuerttemberg, Germany, 76187	X	X	X	X				X	X	X	X	X	X
AKos Consulting & Solutions	Am Bachle 3, Lorrach, Germany, 79540	X	X	X	X			X		X	X	X		X
Alfa Chemistry	Colin Drive, Holbrook, NY, United States, 11741					X						X		
Amadis Chemical	No. 166 Xiangmao Road, Hangzhou, Zhejiang, China, 310015	X	X	X	X			X	X	X	X	X		X
Ambinter	3, Allee du Titane, Orleans, France, 45100	X	X			X	X		X		X		X	X
AppChem	Room 511, 5/F, Ming Sang Industrial Building, 19-21 Hing Yip Street, Kwun Tong, Kowloon, Hong Kong, China		X		X		X			X	X			X
AstaTech	2525 Pearl Buck Road, Bristol, PA, United States, 19007				X									X
BenchChem	5999 Trade Center Dr., Austin, Texas, United States, 78744	X	X	X		X			X	X	X	X	X	X
Biosynth	8 & 9 Old Station Business Park, Compton, Berkshire, United Kingdom, RG20 6NE		X											X
BOC Sciences	New York City, New York, United States, 11967		X											X
BroadPharm	9380 Waples Street, Suite 101, San Diego, CA, United States, 92121			X										X
CHIRALEN	Room 408, Building A11, Life Science Industrial Park, Dapeng New Dist., Shenzhen, Guangdong Province, China, 518120		X										X	

Vendor name	Vendor address	Mercury(I) chloride	Mercury(II) sulfide	Mercury(II) oxide	Mercury(II) sulfate	Mercury(II) nitrate	Mercury(II) amidochloride	Mercury(II) acetate	Mercury(II) chloride	Mercury(II) iodide	Mercury(II) thiocyanate	Phenyl-mercury(II) acetate	Mercury(II) selenide	Thimerosal
Cooke Chemical Co.	Room 504, No. 2 Hongshu Road, Taiping District, Fuxin City, Liaoning Province, China, 100085												X	
CymitQuimica	Pamplona, 96-104, Local 15, Barcelona, Spain, 08018	X	X	X	X	X	X		X	X		X	X	X
Debye Scientific Co.	11F, Lippo Centre Tower 1, 89 Queensway, Hong Kong, China, 99907					X								X
DSL Chemicals	1120, 409-459 Nanjing Road East, Shanghai, China, 200001											X		
eNovation Chemicals	173 Rock Rd W, Room 113, Green Brook, NJ, United States, 08812												X	
EvitaChem	Yizhuang Biological Medicine Garden, 88 Kechuangliu St, Beijing, China, 101111					X		X			X			
Glentham Life Sciences	Unit 5, Leaffield Way, Corsham, Wiltshire, United Kingdom, SN13 9SW				X						X			X
Hairui Chemical	Joinhands Science Park, Hangzhou, Zhejiang, China	X	X											
InvivoChem	JieFeng Plaza, Room 1116, ShaTai North #213, GuangZhou, BaiYun, China											X		
J&H Chemical Co.	No. 200 Zhenhua Rd., Xihu Industrial Park, Hangzhou, Zhejiang, China, 310030		X	X									X	X
Kinka Chemical Society	1-8-4 Utsubo-honmachi, Nishi-ku, Osaka 550-0004, Japan		X											
LGC	Im Biotechnologiepark, TGZ II, Luckenwalde, Germany, 14943			X	X				X			X		X
Macsen Labs	303 Shivam Residency, Durga Nursery Rd, Udaipur, India, 313001	X	X	X	X		X	X	X	X				
Mcule	Bartok Bela ut 105-113, Budapest, Hungary, 1115				X									
Molecule Market	600 E. Crescent Ave, Upper Saddle River, NJ, United States 07458			X				X						X
MuseChem	277 Fairfield Road, Suite 334, Fairfield, New Jersey, United States 07004	X	X	X	X	X		X	X	X				X
Nomura Kohsan*	1-3 Nihonbashi Horidomecho 2-chome, Chuo-ku, Tokyo 103-0012								X					

Vendor name	Vendor address	Mercury(I) chloride	Mercury(II) sulfide	Mercury(II) oxide	Mercury(II) sulfate	Mercury(II) nitrate	Mercury(II) amidochloride	Mercury(II) acetate	Mercury(II) chloride	Mercury(II) iodide	Mercury(II) thiocyanate	Phenyl-mercury(II) acetate	Mercury(II) selenide	Thimerosal
Oakwood Products	730 Columbia Hwy N., Estill, SC, United States 29918	X		X	X			X			X			
Pi Chemicals	Building B, 2250 Pudong South Road, Pudong New Area, Shanghai, China, 200127											X		
RR Scientific	1400 E. Arrow Highway, Irwindale, California, United States, 91706		X	X		X		X	X	X	X	X	X	X
Sigma-Aldrich	3050 Spruce St., Saint Louis, MO, United States, 63103	X	X	X					X	X	X	X		X
Smolecule	10720 Sentinel St., San Antonio, Texas, United States, 78217	X	X	X			X		X	X	X	X	X	X
Starshine Chemical	6395 Hutai Rd, Baoshan Dist, Shanghai, China, 200000							X						
Strem Chemicals	7 Mulliken Way, Newburyport, MA, United States, 01950-4098				X			X						
SynQuest Laboratories	13201 Rachael Boulevard Rt 2054, Alachua, Florida, United States, 32615							X						
THE BioTek	8 Dongbeiwang West Road, Building No. 23, Beijing, China, 100094	X	X	X			X		X	X	X	X	X	X
Thermo Fisher Scientific	300 Industry Drive, Pittsburgh, PA, United States, 15275		X	X	X	X		X		X		X	X	X
Thoreauchem	UNIT A1, 9/F Silvercorp International Tower, 707-713 Nathan Road, Mongkok, Kowloon, Hong Kong, China, 999077				X						X			
VladaChem	Bruhrueckstrasse 14a, Malsch, Germany, 76316	X	X	X	X	X	X		X	X		X	X	X
Win-Win Chemical	6F, No. 396 Xingping Road, Longwan Industrial Zone, Wenzhou City, Zhejiang, China, 325000				X									
Yick-Vic Chemicals & Pharmaceuticals	Room 1006, 10/F, Hewlett Centre, 52-54 Hoi Yuen Road, Kwun Tong, Kowloon, Hong Kong, China, 999077	X	X	X	X	X	X		X	X	X	X		X
Yuhao Chemical	31 Jianshe 4 Road, Xiaoshan District, Hangzhou, Zhejiang, China, 311215											X		
	Frequency in this table	17	24	21	20	11	10	12	16	19	19	22	15	27
	No. of manufacturers	125	100	6	180	112	105	5	6	6	4	5	63	217

* According to the Japanese Ministry of Economy, Trade and Industry, in comments to the Minamata Secretariat in March 2025, Nomura Kohsan no longer exports or sells mercury compounds.

Vendor name	Vendor address	Mercury(I) chloride	Mercury(II) sulfide	Mercury(II) oxide	Mercury(II) sulfate	Mercury(II) nitrate	Mercury(II) amidochloride	Mercury(II) acetate	Mercury(II) chloride	Mercury(II) iodide	Mercury(II) thiocyanate	Phenyl-mercury(II) acetate	Mercury(II) selenide	Thimerosal
Source: PubChem: https://pubchem.ncbi.nlm.nih.gov/ (accessed 18 October 2024)														

In addition, the Chemical Book database gives the number of manufacturers of each of these compounds, as in the following table.

Table 3: Manufacturers of mercury compounds

Mercury compound	Mercury(I) chloride	Mercury(II) sulfide	Mercury(II) oxide	Mercury(II) sulfate	Mercury(II) nitrate	Mercury(II) amidochloride	Mercury(II) acetate	Mercury(II) chloride	Mercury(II) iodide	Mercury(II) thiocyanate	Phenyl-mercury(II) acetate	Mercury(II) selenide	Thimerosal
Number of manufacturers	125	100	6	180	112	105	5	6	6	4	5	63	217
Source: https://www.chemicalbook.com/ (accessed 20 October 2024)													

According to Chemical Book, six of these compounds are manufactured by 100 or more companies, although company production volumes are not available. In cases where there are many manufacturers of a given compound, this may reflect the low cost of production, higher demand, the diversity of customers and/or the significant range of applications. Apart from the large number of manufacturers, the table also demonstrates the ability of many manufacturers to produce a wide range of mercury compounds.

D. Compound production cost

The production cost of various mercury compounds is useful in order to help determine whether certain compounds might be produced for the express purpose of circumventing restrictions on the trade of elemental mercury or other mercury compounds. Prices fluctuate based especially on the purity of the compound, but also on the supplier, the geographical location, the quantity purchased and various market conditions.

The following table shows the advertised price for mostly specialty volumes of certain compounds. The relative pricing is suggestive of the relative complexity of producing these compounds at a specialized facility. It is important to note, however, that the “bulk” (i.e., 1kg or more) cost of these compounds may be as little as 5-10% of the specialty volume cost (USEPA 2009). Likewise, the cost of producing these compounds in an unregulated, artisanal sort of operation would be even lower. The purchase prices for one kilogram in the final column are mostly estimates, but also reflect prices found on the Panjiva trade database for 2021 (see Appendix 7).

Table 4: Relative commercial cost of mercury compounds

Mercury or compound	Advertised price	Advertised quantity	Vendor/ source	Advertised purity	1kg est. purchase price (\$US)
Liquid mercury	€167-197	1kg	MTK	>99.999%	191
Liquid mercury	\$90-130/kg	100kg	Comtrade (exports)	>99.999%	110
Liquid mercury	\$35-45/kg	10000kg	Comtrade (exports)	>99.999%	40
Mercury(I) chloride	€128	100g	MTK	>99.6%	<100
Mercury(II) sulfide (red)	€785	500g	TSC	>99%	100-150
Mercury(II) sulfide (black)	€345	1000	CQ	>97%	<100
Mercury(II) oxide (red)	€107	100g	MTK	>99%	<100

Mercury or compound	Advertised price	Advertised quantity	Vendor/ source	Advertised purity	1kg est. purchase price (\$US)
Mercury(II) oxide (red)	\$84	100g	TSC	>99%	<100
Mercury(II) oxide (yellow)	€140	100g	MTK	>99%	<100
Mercury(II) sulfate	€122	100g	TSC	>99%	<100
Mercury(II) nitrate monohydrate	€90	100g	TSC	>98%	<100
Mercury(II) amidochloride	€345	500g	SAC	≥95%	<100
Mercury(II) acetate	€131	100g	MTK	>98.5%	<100
Mercury(II) chloride	€163	100g	MTK	98%	<100
Mercury(II) iodide	€65	100g	MTK	99%	<100
Mercury(II) iodide	€100	100g	MTK	99.9%	<100
Mercury(II) thiocyanate	€150	100g	TSC	>99%	100-150
Phenylmercury(II) acetate	€130	100g	TSC	>97.5%	<100
Mercury(I) iodide (yellow)	€500	100g	BL	>98%	400-500
Mercury(I) nitrate dihydrate	€95	100g	MTK	>98%	<100
Mercury(I) nitrate dihydrate	€184	100g	TSC	>98%	<100
Mercury(I) sulfate	€212	100g	TSC	97%	150-200
Mercury(II) bromide	€94	100g	TSC	>99%	<100
Mercury(II) cyanide	€650	100g	CQ	97%	400-500
Mercuric salicylate	\$302	100g	AHHC	97%	250-300
Mercury(II) selenide	\$1300	100g	TSC	99.9%	>500

MTK = Material, Technologie & Kristalle GmbH (<https://mateck.com>)
TSC = Thermo Scientific Chemicals (<https://www.thermofisher.com>)
SAC = Sigma-Aldrich Co. LLC (<https://www.sigmaaldrich.com>)
BL = Biosynth Ltd, United Kingdom (<https://www.biosynth.com>)
CQ = CymitQuimica, Barcelona, Spain (<https://cymitquimica.com>)
AHHC = AHH Chemical Co., Ltd. (<http://www.ahhchemical.com>)

While there is no formal evidence that it is currently happening, it is clear that a number of compounds could be produced at a low enough price that they could be manufactured and traded purely for the purpose of subsequently recovering the elemental mercury. According to the above table, those compounds could include:

- Mercury(I) chloride
- Mercury(II) sulfide (lower purity, black)
- Mercury(II) oxide
- Mercury(II) sulfate
- Mercury(II) nitrate
- Mercury(II) amidochloride (ammoniated mercury)
- Mercury(II) acetate
- Mercury(II) chloride
- Mercury(II) iodide
- Phenylmercury(II) acetate
- Mercury(II) bromide

E. Global production

Detailed data on global production of mercury compounds are not available, although some domestic data may be found in national inventories. Nevertheless, the general level of production may be estimated from a number of other indicators, such as available trade statistics, the details of the more significant applications, the diversity of users, the number of suppliers, information in Prior Informed Consent (PIC) and Export Notifications under the Rotterdam Convention, the complexity and cost of producing the mercury compound, the availability of residual sources (e.g., byproduct), etc. Most of these criteria are dealt with in various parts of this study and are used to estimate the global production of mercury compounds in the following table.

Table 5: Global annual production of key mercury compounds (metric tons)

Compound	Commercial production				Byproduct or waste generation			
	<10t.	10-100	100-500	>500	<10	10-100	100-500	>500
Mercury(I) chloride		X						X
Mercury(II) sulfide		X					X	
Mercury(II) oxide		X					X	
Mercury(II) sulfate			X				X	
Mercury(II) nitrate			X					
Mercury(II) amidochloride		X						
Mercury(II) acetate		X						
Mercury(II) chloride				X				
Mercury(II) iodide		X						
Mercury(II) thiocyanate	X							
Phenylmercury(II) acetate		X						
Mercury(I) iodide		X						
Mercury(I) nitrate dihydrate	X							
Mercury(I) sulfate	X							
Mercury(II) bromide	X							
Mercury(II) cyanide		X						
Mercuric salicylate	X							
Mercury(II) selenide	X					X		
Source: Consultant estimates								

F. Stocks

Stocks of mercury compounds may typically be found:

- at facilities where they have been manufactured;
- at facilities where they have been used in products, pharmaceutical processes, etc.;
- at facilities where they have been generated as part of the waste stream;
- in storage at waste recycling facilities;
- at unsecured waste disposal sites.

Question 3.3 for the Article 21 reports asks whether each Party has endeavored to identify individual stocks of mercury or mercury compounds exceeding 50 metric tons, and sources of mercury supply generating stocks exceeding 10 metric tons per year that are located within its territory. This question does not provide for separate responses for individual stocks of mercury vs. mercury compounds. Nor does it differentiate between manufactured compounds and byproduct sources. Thus, the majority of the responses in the national reports are aggregated, and are not useful for this study.

G. Wastes

For the purposes of the Minamata Convention, mercury wastes are defined in Article 11 as waste:

- Consisting of mercury or mercury compounds,
- Containing mercury or mercury compounds, or
- Contaminated with mercury or mercury compounds,

with a mercury content above certain thresholds defined by the Conference of the Parties to the Minamata Convention.

Waste having mercury as a constituent is listed in Annex I of the Basel Convention on control of transboundary movements of hazardous waste and their disposal, and is subject to the various requirements of the Basel Convention (Annex I of the Convention lists wastes of mercury or its compounds as Y29 wastes), unless it does not possess any of the characteristics cited in Annex III.

EU legislation provides useful guidance differentiating wastes from other substances that may be generated by industrial processes:

Article 11 “Waste” in the EU’s mercury Regulation stipulates that mercury compounds from large sources shall be considered to be waste and be disposed of without endangering human health or harming the environment, including (a) the chlor-alkali industry; (b) the cleaning of natural gas; (c) non-ferrous mining and smelting operations; (d) extraction from cinnabar ore in the Union. Such disposal shall not lead to any form of reclamation of mercury.

On the other hand, the EU’s Waste Framework Directive (EC) 2008/98⁵ defines a “byproduct” in Article 5 para 1 as follows: A substance resulting from a production process the primary aim of which is not the production of that substance is considered not to be a waste, but to be a byproduct if the following conditions are met: (a) further use of the substance is certain; (b) the substance can be used directly without any further processing other than normal industrial practice; (c) the substance is produced as an integral part of a production process; and (d) further use is lawful, i.e., the substance fulfils all relevant product, environmental and health protection requirements for the specific use and will not lead to overall adverse environmental or human health impacts.

Reporting practices do not necessarily track generated mercury compounds as part of trade-related or waste transactions, although these transactions often appear in databases such as Comtrade. Such compounds include calomel and others listed under Article 3 paragraph 1(b), and may represent substantial quantities.

Several mercury compounds are generated by industrial processes, especially gold mining and other non-ferrous metals (usually sulfide ores) roasting. Under the Minamata Convention these compounds that are to be disposed of are considered as waste consisting of mercury or mercury compounds. The generation of mercury compounds in this manner is typically due to processes designed to remove mercury from mining ores, natural gas, or flue or smelter gases to prevent mercury emissions. Mercury(I) chloride may be generated in relatively large quantities during the processing of gold ores. Mercury(I) chloride, mercury(II) sulfate, mercury(II) sulfide and mercury(II) selenide are all generated during sulfide ore roasting.

It is evident from the trade statistics that both commodity codes HS 285210 (chemically defined mercury compounds) and HS 285290 (other mercury compounds), which are not intended to be used for waste shipments, are sometimes being used for shipments of mercury wastes.

As mentioned, several of the mercury compounds identified above commonly occur as industrial wastes. Under normal circumstances waste mercury compounds – whether or not they are transferred to another country – should be managed and disposed of in an environmentally sound manner. It is often the case, however, that the elemental mercury could be extracted from these wastes at a cost below the commercial value of the recovered mercury, providing an incentive for mercury recovery. Calomel wastes are attractive targets for conversion, as they may contain 60% to 80% mercury (by weight). However, a number of other wastes, even those containing as little as 10% mercury, may also be targets for mercury recovery, as explained below.

The following table lists some common sources of mercury compounds in wastes.

Table 6: Common sources of mercury compounds in wastes

Mercury compound	Source of waste
Mercury(I) chloride (calomel)	Primary zinc, lead, copper and gold roasting and smelting processes Calomel electrode for electrochemical measurements Medicine/pharmaceuticals Stockpiles
Mercury(II) chloride (mercuric chloride)	Lab reagent Medicine/pharmaceuticals Catalyst for the production of vinyl chloride monomer (VCM) Stockpiles
Mercury(II) oxide (mercuric oxide)	Dry cell batteries Pigment in paints and glass modifiers Fungicide

⁵ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02008L0098-20240218>

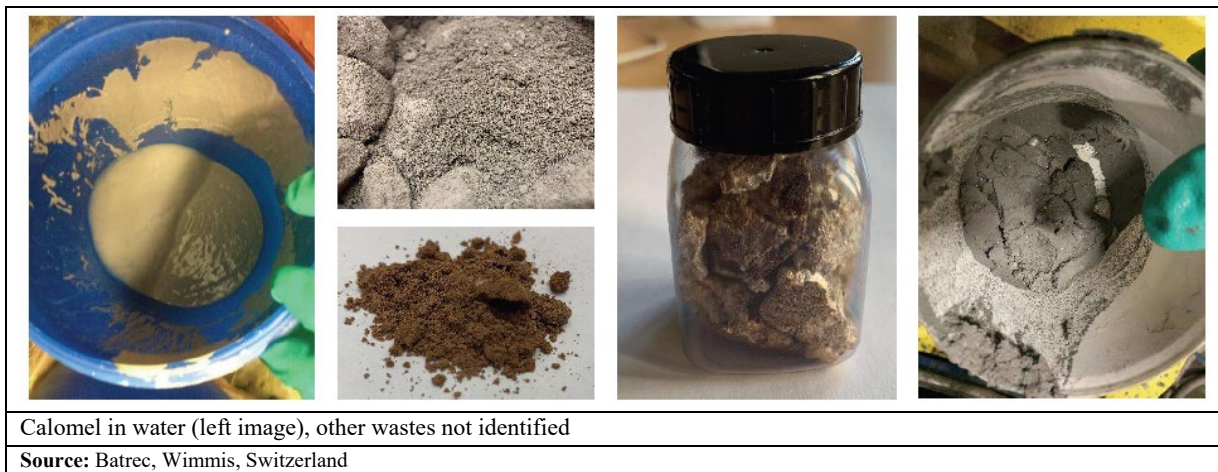
	Cosmetics Laboratory reagent Antifouling paints Stockpiles
Mercury(II) sulfate (mercuric sulfate)	Lab reagent Catalyst used for the production of acetaldehyde Stockpiles
Mercury(II) nitrate (mercuric nitrate)	Oxidizing agent Lab reagent Stockpiles
Cinnabar concentrate	Primary mercury mining Stockpiles
Mercury(II) sulfide (mercuric sulfide)	Pigment Stabilization of waste mercury for storage and/or disposal Stockpiles
Mercury(II) selenide (mercuric selenide)	Slime byproduct formed at the anode during copper electrorefining
Source: Basel Convention (2022)	

The chemical form of mercury varies among different types of mercury waste. Apart from calomel, the most common forms of mercury compound in waste streams are:

- Sulfide form, as from precipitates from water cleaning, and sludges from various industrial processes. If this type of waste is diverted from disposal, the mercury is fairly easy to recover by heating the mercury sulfide, which thermally decomposes and mercury condenses from the vapor.
- Oxide form, as from mercury button cell batteries and various forms of industrial dust and slag, e.g., from smelters. Mercury in oxide form is usually contained in a complex matrix of other chemical compounds, and may call for high temperature roasting in order to recover the elemental mercury. If this type of waste is diverted from disposal, the recovery of mercury from high grade mercury oxides (e.g. from button cell batteries) may be feasible. On the other hand, the mercury concentrations in various types of industrial dusts and sludges are typically lower and would be more difficult/expensive to recover.

Taking the example of zinc processing, during the smelting of zinc concentrates, according to the International Zinc Association, coolers and scrubbers typically remove about 50% of the mercury. The wastewater stream is then treated to precipitate mercury, generally as mercuric sulfide. Subsequently, the Boliden-Norzink process is applied by many smelters, which captures most of the remaining 50% of the mercury. The waste stream of this process is a calomel sludge, which may go to disposal or may be refined to recover the metallic mercury. Other techniques such as the Outokumpu process, though less common, are used by some processors for removing mercury from the zinc concentrates. The quantity of mercury compounds coming from this industry is quite significant (UNEP 2019), although the amount currently re-entering the global market is not known. According to previous estimates (UNEP 2017), the marketed quantity of mercury recovered from non-ferrous mining and processing operations in 2015 ranged from 440-775 metric tons, accounting for approximately 15% of the global supply.

Figure 1: Wastes from the non-ferrous metal mining/smelting industry



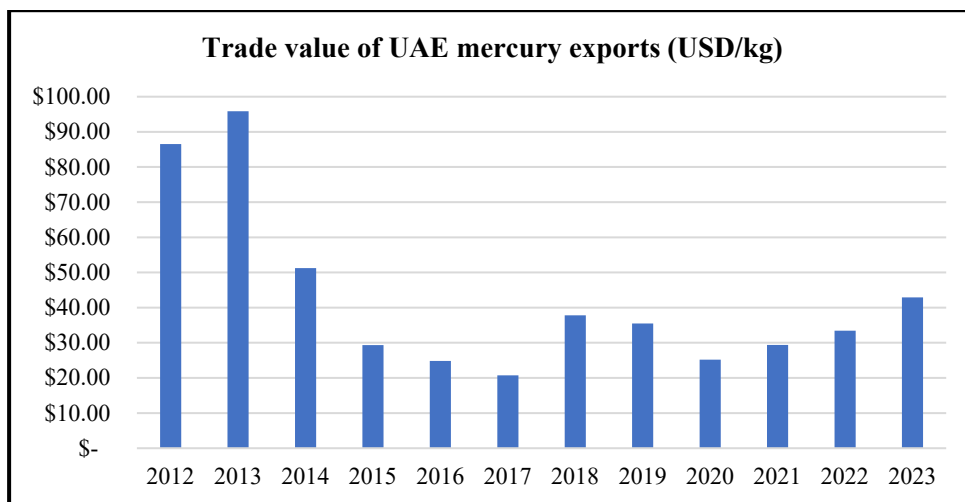
According to Finland’s 2021 national report to the Minamata Convention, its zinc smelter generates mercury compounds in a volume that varies depending on the quantity of zinc processed, and the composition of the ore. Each year from 2017 - 2020 the volume exceeded 10 metric tons of mercury content. In compliance with the EU regulation, this mercury is considered to be waste and does not enter the market.

H. Potential diversion of compounds

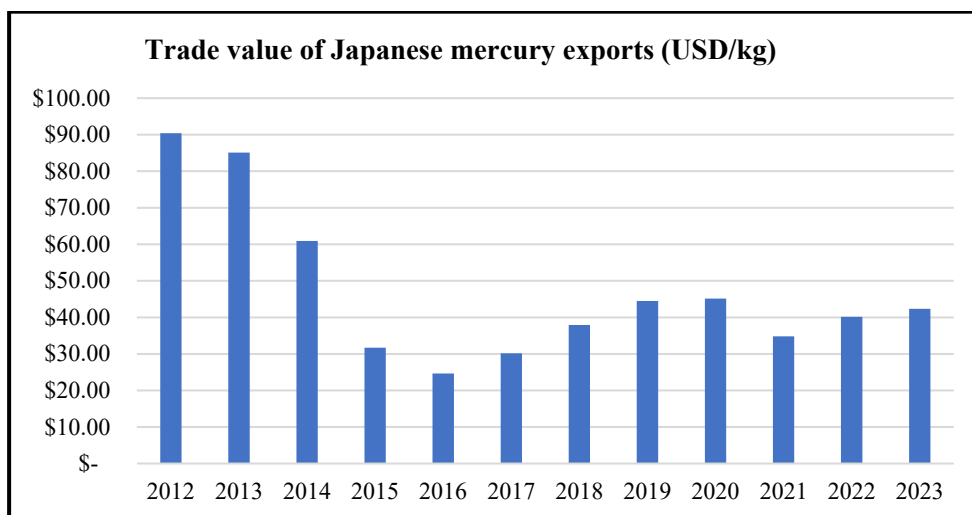
1. Value of mercury

The commercial value of elemental mercury is relevant to the manner in which mercury compounds are sometimes managed. Recent trade transactions provide some insights into the value of mercury on the global market. The UAE and Japan have been among the more significant mercury exporters in recent years. The two figures below show the annual average value of UAE and Japanese exports of mercury to various countries between 2012 and 2023, as reported to Comtrade.

Figure 2: Trade value of UAE mercury exports (USD/kg)



Source: Comtrade data

Figure 3: Trade value of Japanese mercury exports (USD/kg)

Source: Comtrade data

The above figures show that the average cost of mercury exported in large quantities in 2022 generally ranged between USD 30 and 40 per kg, and in 2023 between USD 40 and 45 per kg. The Comtrade data also shows that the cost of mercury exports typically increases as the quantity of mercury shipped decreases, to the extent that quantities less than 100kg tended to be well above USD 100/kg.

The last observation is consistent with evidence from investigations at artisanal and small scale gold mining (ASGM) sites in various countries, where a small quantity of often lower grade mercury may cost up to USD 150/kg. Among other considerations, the cost of elemental mercury to the end user also depends on the number of agents in the supply chain buying and reselling that mercury before it gets to the end user.

2. Cost and risk of diversion

In a report to Congress (EPA 2009) the U.S. EPA assessed whether a number of mercury compounds might be likely to be exported for the purpose of recovering the elemental mercury. Five of these compounds were judged to be “likely” to “somewhat unlikely” to be exported as such, including mercury(I) chloride, mercury(II) nitrate, mercury(II) oxide, mercury(II) sulfate, and mercury(II) sulfide. These findings will be reconsidered and further assessed in this study, along with assessments of other mercury compounds.

Taking into account the cost of meeting various regulatory requirements, etc., it has been confirmed through communications with recycling experts that most mercury compounds or mercury compound wastes of any significant quantity can be recycled (not including final disposal costs) at a commercial cost of USD 1 - 5 per kg of waste processed. More complex wastes may cost USD 10 or more per kg of waste, although these numbers would be far lower if the recycling were carried out in an artisanal, unregulated, and thus more hazardous environment (Ibarz, Lawrence, Hunter 2024).

Considering that the market value of elemental mercury starts above USD 40 per kg and increases significantly as one advances along the supply chain, there could be a financial incentive in recovering mercury from some mercury compounds and mercury wastes. As an example, if a mercury waste containing only 10% mercury were recycled at a cost of USD 3 per kg, the elemental mercury would cost USD 30/kg to recover. Waste containing 20% mercury recycled at USD 5/kg would deliver elemental mercury at a cost of USD 25/kg. For comparison, calomel waste delivered to recyclers may typically contain 60% mercury by weight, while most pure mercury compounds contain 60-80% mercury, as presented in a previous table.

The Swedish government in 2015 assessed the risk of mercury being diverted from the waste stream. Even though this data dates from 2010, it is indicative of the range of wastes many countries continue to deal with. As in the table below, it is again evident that any mercury waste with more than 10% mercury content may be a candidate for cost-effective mercury recovery, as well as certain wastes with even less than 10% mercury, especially if the latter are treated in a less regulated environment.

Table 7: Risk and cost (in 2010) of mercury market re-entry from mercury wastes

Mercury content of the waste	Sources of waste mercury	Risk for mercury to be diverted from the waste stream	Estimated cost of recovered mercury (EUR/kg Hg)
Commodity grade Hg (>99% pure)	Chloralkali; Thermometers; Manometers; Electrical switches	Very high risk	No extra cost
10 - 99% (100 000 – 990 000 ppm)	Hg-sludge; Button cell batteries; Amalgam; Chemical waste	Very high risk, as simply heating the waste enables extraction of mercury	1 – 8
1 – 10% (10 000 – 100 000 ppm)	Low grade dental waste; Sludges and gas purification dust from smelters	Moderate risk, as extraction of the mercury is a slightly more complex process	98 – 148
Source: Sweden (2015). Adapted from Table 2 and Table 3 from this source. The 2010 market price for Hg stabilization and deep disposal (EUR 2000/tonne) has been subtracted out of the estimated cost of environmentally sound management (ESM) of the waste in order to arrive at the approximate cost of commercial mercury recovery.			

Mercury(II) oxide, mercury(I) chloride, mercury(II) sulfate and mercury(II) nitrate are relatively easy to produce from elemental mercury, and/or are readily available as wastes/byproducts. The mercury content of these compounds ranges from 62% to 93%, and recovery of elemental mercury is straightforward. While it has been noted previously that mercury(II) oxide is relatively simple to manufacture, it is even cheaper to produce from some other compounds, including mercury(II) sulfate and mercury(I) chloride, both common byproducts.

A fifth compound of concern with regard to mercury recovery is mercury(II) sulfide, also in the form of cinnabar, or mercury(II) sulfide ore. In the case of the mercury(II) sulfide compound, if the mercury sulfide is not in the form of waste (generally low mercury content), the mercury may be recovered relatively cheaply by heating the mercury sulfide, which thermally decomposes and mercury condenses from the vapor.

In the case of the ore, the mercury sulfide content of the ore is generally not great enough to justify transboundary trade for the purpose of processing the ore in another country. However, high-grade cinnabar with 50-65% mercury content has been mined in Indonesia in past years. During the course of 2015, Indonesian Customs seized at least 14 shipping containers of cinnabar and metallic mercury prepared for export and believed to be obtained from domestic mining (UNEP 2017). For this reason cinnabar was added to Article 3 of the Minamata Convention.

Finally, three other compounds – mercury(II) acetate, mercury(II) chloride and mercury(II) iodide – are technically relatively easy, as well as economically inexpensive to assemble and disassemble.

With regard to the other mercury compounds assessed in this study, it is unlikely that they would be exported primarily for the purpose of recovering the elemental mercury. These compounds tend to be produced in smaller quantities and mostly for specialized laboratory or industrial uses. Moreover, some of them cannot be converted to elemental mercury simply by heating, thus requiring a more complex and expensive conversion process.

I. Uses of mercury compounds of interest

In addition to the resources available on the Minamata Convention website, information on the many recent and current uses of mercury compounds may be found in a number of online resources including:

- PubChem (NIH)
- Various databases of the European Chemicals Agency
- NIH ChemIDplus
- NIST Chemistry WebBook
- R&D Chemicals
- NCI Database Browser
- Chemfinder

Concerning the relatively limited range of mercury compounds of interest, the following table summarizes the main uses.

Table 8: Common uses for specific mercury compounds of interest

Compound name	Common purposes & uses
Mercury(I) chloride	Added to skin bleaching/lightening products, used in acousto-optical filters, internal medicine (cathartic), used as a standard in electrochemistry (calomel electrodes), as a depolarizer in dry batteries, agricultural chemical, insecticide, fungicide.

Compound name	Common purposes & uses
	Generated as an output of the Boliden-Norzink flue gas cleaning process, and often processed to recover elemental mercury.
Mercury(II) nitrate	Used for lab analyses (e.g., Millon's reagent = diluted mercury(II) nitrate typically used for the detection of tyrosine); drying agent in oil-based paints; used in the synthesis of other mercury compounds.
Mercury(II) oxide	Added to skin bleaching/lightening products, used in (especially button) batteries, production of mercury(II) salts, reagent in analytical chemistry, synthesis of other mercury compounds, polishing compounds, cosmetics, pigment in red and orange paints, perfumes, disinfectant, pharmaceuticals, fungicides.
Mercury(II) sulfate	Used as a laboratory reagent: COD analysis, Kjeldahl method; pharmaceutical industry; battery electrolyte; gold and silver extraction; used as a catalyst in the conversion of acetylene to acetaldehyde; wine industry.
Mercury(II) sulfide	Used in the pharmaceutical industry, red or black pigment in special paints, tattoo dyes.
Mercury(II) acetate	Used in the synthesis of organomercury compounds; catalyst in organic polymerization reactions; reagent in analytical chemistry.
Mercury(II) chloride	Possibly added to skin bleaching/lightening products, used as an input to the Boliden-Norzink flue gas cleaning process, used in the pharmaceutical industry, chemical industry catalyst for the production of VCM, starting material for the production of other Hg compounds, depolarizer in dry batteries, reagent in analytical chemistry, non-human antiseptic (veterinary use), fungicide, germicide, insecticide, disinfectant, preservative, metallurgy, embalming fluid, photo fixative.
Mercury(II) iodide (CAS 7774-29-0)*	Added to skin bleaching/lightening products, used in the pharmaceutical industry, lab analyses (Mayer's reagent, Nessler's reagent), nuclear particle detection instruments.
Phenylmercury(II) acetate	Used as a herbicide, fungicide, mildewicide, bactericide, disinfectant and preservative (against mildew and bacteria) esp. for latex paints, inks, adhesives and caulking compounds; cosmetics; used in the pulp and paper industry for slime control; catalyst for polyurethane elastomers; used in the preparation of other phenylmercury compounds.
Mercury(II) selenide	Used to capture mercury from waste streams; niche applications, primarily semiconductors for infrared detectors and infrared optics, as well as thermoelectric applications.
Mercury(II) thiocyanate	Used in the pharmaceutical industry, as a photography intensifier, as a precursor to other chemical compounds, as an analytical reagent (e.g., used in the determination of chloride ions in water by UV-visible spectroscopy); catalyst for the addition of thiocyanic acid to alkynes; used in Pharaoh's serpents fireworks because it burns readily in air to generate a cohesive coil of ash.
Mercury(II) amidochloride	Added to skin bleaching/lightening products; used to treat impetigo, psoriasis, minor skin infections and bacterial infections; used as an antiseptic.
* The CAS number is given here since there are several different CAS numbers for compounds with the same name. Sources: USEPA 2009a; European Commission 2019; NRDC 2023	

1. Manufacturing and process uses

Manufacturing and process uses of mercury compounds primarily include their uses as intermediates or as catalysts. A chemical "intermediate" is a substance or compound that plays a role in certain reactions necessary to convert a chemical raw material to another form or to a final product. The chemical intermediate may be "consumed" and/or generate wastes, and it may or may not remain in trace quantities in the final product.

Mercury(II) chloride, for example, is commonly used as an intermediate for the production of other mercury compounds like thimerosal and phenylmercuric chloride. Other intermediates, while far from a complete list, include mercury(II) chloride, mercury(II) sulfate, mercury(II) sulfide, mercury(II) thiocyanate and mercury(II) acetate.

A mercury catalyst, in some applications, is a mercury compound that enhances the chemical process but is not left in the final product, as in vinyl chloride monomer (VCM) production. In other applications the catalyst is added as a curing agent to (and remains in) a batch process, e.g., to give the batch and/or the final product certain desirable characteristics. A common process using organic mercury compounds in this manner is the curing of polyurethane elastomers, which are cast (poured or injected into a mold) into sometimes complex shapes, or sprayed onto a surface as insulation, corrosion protection, etc. Both of these applications of mercury compounds remain in use in some countries.

The most significant manufacturing and process uses of mercury compounds include:

Manufacturing processes:

- Organic chemical manufacturing
- Acetaldehyde production
- Vinyl chloride monomer production
- Polyurethane curing

Process chemical functions and reactions (including educational, medical and biotech research and development):

- Catalysts
- Reactants
- Reagents

2. Analytical and pharmaceutical uses

Laboratory analyses are typically governed by strict analytical standards. The use of mercury compounds in these applications is excluded from the Minamata Convention. Several dozen of the analytical methods in the *European Pharmacopoeia* involve the use of mercury compounds as reagents. In most countries they are used in relatively closed systems that include strict hazardous waste collection and treatment schemes.

3. Consumer and product uses

The main product uses of mercury compounds have been in batteries and in formulated products, especially skin lightening products (SLPs). Most of these mercury-added products are included in Annex A to the Convention including its amendments, so that they have been or are soon to be phased out globally. The main recent and/or current applications of mercury compounds include:

Batteries:

- Button cell, silver
- Button cell, zinc-air
- Button cell, alkaline
- Button cell, mercuric oxide
- Button cell, zinc carbon
- Stacked button cell batteries
- Manganese oxide
- Silver oxide
- Mercuric oxide (not button cell)

Formulated products (including cosmetics, pesticides, and laboratory chemicals):

- Skin-lightening creams (see below)
- Lotions
- Soaps and sanitizers
- Bath oils and salts
- Topical antiseptics
- Preservatives (e.g., for use in vaccines and eye-area cosmetics)
- Pharmaceuticals (including prescription drug products)
- Cleaning products
- Pesticides
- Paints
- Dyes
- Reagents (e.g., catalysts, buffers, fixatives)

Skin-lightening products

According to the Zero Mercury Working Group (ZMWG 2019, 2022, 2023a, 2023b) and others, the addition of mercury compounds to skin-lightening products (SLPs) remains a common practice, in spite of the phase-out obligation under the Minamata Convention. A number of SLP producers continue to manufacture products consisting of 3-4% mercury compound, most often ammoniated mercury. As mentioned in the EIA (2023) report, ammoniated mercury is clearly identified on the label of a cream made in Jamaica by Fedlin Ltd. (see image).⁶

The manufacture of SLPs with mercury compounds deserves special attention because:

1. Mercury-added SLPs are hazardous. In 2021-2022 NGOs from 12 countries purchased 213 suspect SLPs from 23 online platforms. These SLPs had mercury concentrations ranging up to 74,800 ppm, 90% of them above the 1 ppm limit mandated for cosmetics by many governments, as well as the Minamata Convention (ZMWG 2023).
2. Often mercury compounds are not mentioned on the packaging of SLPs (Bastiansz et al. 2022).
3. This use of mercury compounds remains widespread, even though it has been banned since 2020 under the Minamata Convention.
4. Many users are unaware of the health hazard of mercury-added SLPs.
5. The cross-border trade of mercury compounds not covered by the Convention or national legislation continues, including those used in SLPs.
6. The commercialization of SLPs is facilitated by e-commerce platforms, which often take inadequate measures to stop the sale of mercury-added SLPs.
7. Several different mercury compounds have been reported in SLPs. Currently it is possible for a manufacturer of SLPs using a regulated mercury compound to shift to an alternative (unregulated) mercury compound.
8. Many view the practice of skin lightening as an environmental justice and health equity issue based in colorism, racism, colonialism, etc.



In certain eye area cosmetics where mercury is used as a preservative and no effective and safe substitute preservatives are available, organic mercury compounds may be legally used as preservatives. The use of mercury compounds in skin-lightening products, however, is illegal under the Minamata Convention. The inorganic compounds typically used are known to interfere with the tyrosinase enzyme, which in turn inhibits the skin from producing melanin, which is responsible for skin pigmentation (Chen et al. 2020). The most common mercury compound recently identified in SLPs is ammoniated mercury, although there is evidence that calomel, mercury(II) chloride, mercury(II) oxide and mercury(II) iodide⁷ have also been used (Bastiansz et al. 2022; NYC Health Department 2024). Inorganic mercury is absorbed through the skin and has been associated with kidney toxicity, neurological disorders and skin irritation and discoloration. Persons who use these products may also transfer mercury to others, especially problematic for a fetus or young child. Copan et al. (2015) reported on cases in California that resulted in widespread household contamination and secondary contamination of family members.

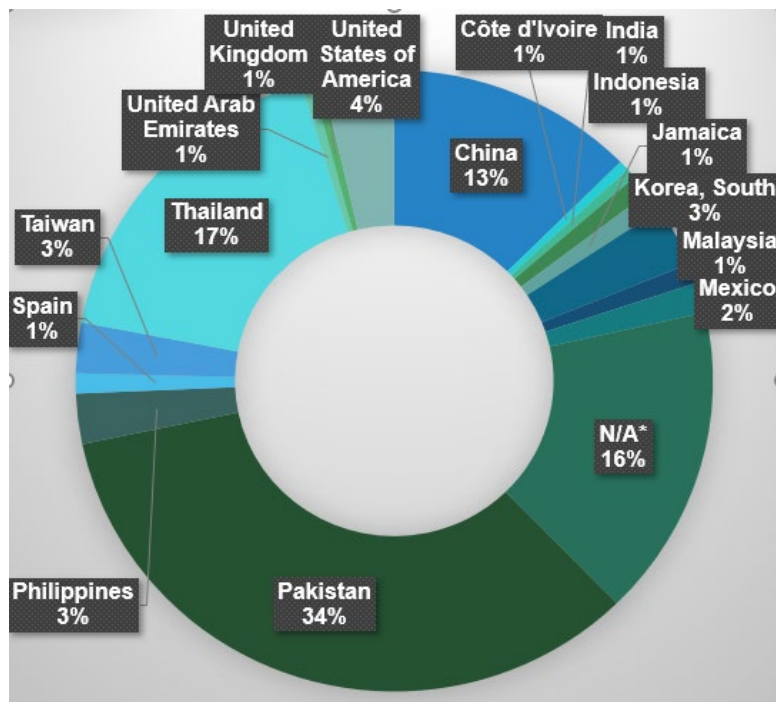
The use of mercury in skin-lightening products is especially prevalent in Africa, Asia and the Caribbean, as well as within specific communities in Europe and the Americas. Motivations behind the use of such products vary, ranging from the desire to diminish blemishes, and the belief that attractiveness is increased, to the perceived need to conform to social standards. Unfortunately, in many communities social pressures continue to reinforce the idea that lighter skin tones confer greater social and professional advantages. The current New York City Health Department list of banned SLPs presented in Appendix 2 provides a good overview of the range of toxic SLPs on the market, and it indicates where many of them are produced, according to information on the packaging and elsewhere. The Zero Mercury Working Group has also compiled a substantial body of work on the subject, including a large database of SLPs tested for their mercury content (ZMWG 2023a; ZMWG 2023b).

⁶ [https://fedlinsupermarket.com/products/deluxe-silken-bleaching-cream-63-g#:~:text=DELUXE%20SILKEN%20BLEACHING%20CREAM%20\(63%20G\)%20%E2%80%93%20Fedlin%20Limited](https://fedlinsupermarket.com/products/deluxe-silken-bleaching-cream-63-g#:~:text=DELUXE%20SILKEN%20BLEACHING%20CREAM%20(63%20G)%20%E2%80%93%20Fedlin%20Limited)

⁷ The limited references to mercury iodide in the literature are not consistent with regard to the use of mercury(I) iodide vs. mercury(II) iodide in SLPs. However, the use of mercury(II) iodide appears more likely as it is more readily available, it is a stronger inhibitor of tyrosinase (the enzyme involved in melanin production), it is more soluble in a cream formulation, and it is bright red at room temperature, which may add to its appeal in cosmetics.

The Environmental Investigation Agency (EIA 2023) documented producers of mercury-added skin lightening products in Thailand, Pakistan and Jamaica. Research by the Zero Mercury Working Group has identified many more sources of these products, as shown below. The EIA also identified Spain, India and the United States as some of the exporters of mercury compounds that are being used in SLPs, though these exports are entirely legal.

Figure 4: Origin (based on package labelling) of SLPs with >1ppm mercury



Source: Zero Mercury Working Group (<https://www.zeromercury.org/projects/mercury-added-skin-lightening-creams-campaign-database/>)

IV. Global trade of mercury compounds

A. Terminology

Trade studies typically refer to cross-border trade as imports and exports. However, cross-border commercial movements within the territory of the European Union (EU) are formally referred to as “transactions” or transfers rather than exports or imports, as an export or import by definition (Regulation (EU) 2017/852 on Mercury) refers only to commerce with a third country outside the EU.⁸ Nevertheless, because merchandise trade databases continue to refer to commercial transactions among all countries as exports and imports, this study is obliged to use that terminology in order to avoid confusion.

B. Trade data sources

This section of the study deals with the international trade flows of mercury compounds, focusing on the more active exporting and importing countries, and discusses uncertainties in the trade data.

1. Global databases

(a) UN Statistics Division Comtrade database

All of the global databases are based on the World Customs Organization (WCO) 6-digit Harmonized System (HS) codes. The current structure groups multiple mercury compounds together under a single HS code, making it impossible to identify trade in individual mercury compounds. This system uses the 6-digit HS code 285200 for mercury compounds, and is divided into two main sub-headings:

- 285210 – mercury compounds, chemically defined
- 285290 – mercury compounds, not chemically defined

⁸ The Member States of the EU comprise a Regional Economic Integration Organization (REIO). The member states give the REIO authority over certain matters, including those covered by the Minamata Convention. The EU therefore participates in the Minamata Convention as a single party (in addition to individual EU member states).

The UN-administered Comtrade database identifies country trading partners, as well as the value and quantity of mercury compounds traded, but there are not currently any 6-digit HS codes that may be used to follow the trade of individual mercury compounds. It has been noted by several Parties that the Comtrade data accurately reflects some but not all mercury compound trade. There are a number of reasons for this, as explained later in the text, but one example is intra-EU trade.

Because free trade governs imports and exports between EU Member States, the only data is based on a simple declaration by the importer and exporter in their respective countries, which sometimes include errors in the use of customs tariff codes. Since the intra-European trade agreement many years ago, no checks or controls are carried out on these declarations. Each national body in charge of data collection and transmission to Eurostat, which generally receives the same data as Comtrade, uses its own system. Based on these facts, and given the discrepancies observed in the trade data between Member States, these data should be used with particular caution. However, the EU is more attentive to the accuracy of data on trade between the European Union and non-EU countries, which is also subject to errors.

In any case, Comtrade receives its data from customs and statistical authorities in some 180 countries, so concerns about the validity of the data should first be addressed to local government authorities.

(b) World Trade Organization

The WTO provides quantitative information in relation to economic and trade policy issues. Its databases (https://www.wto.org/english/res_e/statis_e/statis_e.htm) and publications provide access to data on trade flows, tariffs, non-tariff measures (NTMs), etc. While the WTO databases provide interesting consolidated trade data on such categories as merchandise and services, they do not drill down to the level of specific commodities.

(c) Centre d'études prospectives et d'informations internationales

Another organization that relies on data from the United Nations Statistical Division (Comtrade) is CEPII (Centre d'études prospectives et d'informations internationales), which is the leading French center for research and expertise on the world economy, according to its website. Among other things, the CEPII manages databases, which are available to the public. The theme of one of these databases is international trade, and this BACI (Base pour l'Analyse du Commerce International) database has its own dedicated webpage (http://www.cepii.fr/CEPII/fr/bdd_modele/bdd_modele_item.asp?id=37).

Like Comtrade, BACI provides data on bilateral trade flows (value and quantity) for 200 countries at the product level (5000 products), using the 6-digit "Harmonized System" nomenclature. In order to deal with data discrepancies, BACI employs a harmonization algorithm with two main elements that are valuable in many cases, but also distort the data in a manner that is not transparent to the user:

1. CIF (cost, insurance, freight) values, typically reported for imports, are estimated and removed from import values in order to better compare import values with mirror exports, which are typically reported as FOB (free on board) values.
2. The reliability of each country as a reporter of trade data is assessed. If a country tends to provide data that are very different from the mirror data of its trading partners, its data is considered to be less reliable and is given less weight in the determination of the reconciled trade flow value.

2. Regional databases

Regional databases of commodity imports and exports are maintained by organizations such as the Southern Common Market (Mercosur), the North American Commission for Economic Cooperation (CEC), the European Union (EU), the Association of Southeast Asian Nations (ASEAN), etc.

(a) MERCOSUR

The Southern Common Market (Mercosur) compiles data (<https://estadisticas.mercosur.int>) on foreign trade in goods – total value (US\$ FOB) and volume (net weight) of exports and imports – between the Mercosur Parties (Argentina, Brazil, Paraguay, Uruguay, Venezuela) and other countries. Details of individual shipments are not publicly available in the database, but a number of specific mercury compounds are identified by codes in the Mercosur database, as mentioned in Section 2.1.

MERCOSUR monitors the trade of slightly different inorganic mercury compounds, as well as organic compounds using 8-digit commodity codes. MERCOSUR's SECEM database provides the value of trades but does not show quantities of goods traded. A parallel consultation of Argentina's trade database, which is maintained by the Instituto Nacional de Estadística y Censos (INDEC), identifies the compounds that have been allotted commodity codes.

Table 9: MERCOSUR commodity codes for selected mercury compounds

Commodity code	Mercury compound
2852 10 11	Oxides of mercury, inorganic

2852 10 12	Mercury I chloride (mercurous chloride)
2852 10 13	Mercury II chloride (mercuric chloride), for photographic uses
2852 10 14	Mercury II chloride (mercuric chloride), other uses
2852 10 19	Other inorganic mercury compounds
2852 10 21	Mercury acetate
2852 10 22	Thimerosal
2852 10 23	Mercury stearate [mercury(2+);octadecanoate]
2852 10 24	Mercuric lactate [mercury(2+) lactate]
2852 10 25	Mercury salicylate
2852 10 29	Other organic mercury compounds
2852 90 00	Other mercury compounds
Sources: https://comex.indec.gob.ar/#/ ; https://estadisticas.mercosur.int	

(b) Eurostat

The Eurostat database (<https://ec.europa.eu/eurostat>) includes general, economic, and industry information on European Union (EU) trade. The “Comext” part of the database covers external trade between the 27 European Union member states and other countries. The data is based on the Harmonized System commodity codes, which do not identify individual chemical compounds.

(c) Prodcom

Prodcom, from the French “PRODUCTION COMMUNAUTAIRE,” is a database (<https://ec.europa.eu/eurostat/web/prodcom/data/database>) of the physical production of manufactured products in Europe. Production data does not necessarily equate with imports, exports and transactions. All EU member states, EFTA (European Free Trade Association) countries Norway and Iceland, and future EU accession countries are required to report both volume and value (in EUR) of their industrial production of listed products.

- Prodcom code 20135270 is used as an equivalent to HS code 285210 – compounds, inorganic or organic, of mercury, chemically defined (excluding amalgams). Data on the quantity produced refer to the total mass of the compounds, and not simply the mercury content. During the period 2021-2023, no member countries reported production of code 20135270 mercury compounds, according to this database.
- Prodcom code 20135275 is used as an equivalent to HS code 285290 – compounds, inorganic or organic, of mercury, not chemically defined (excluding amalgams). Again, data on the quantity produced refer to the total mass of the compounds. During the period 2021-2023, only Germany reported production of code 20135275, i.e., 53292 metric tons in 2021 and 46337 metric tons in 2022, as in the figure below. Such large quantities suggest that perhaps byproducts/wastes are included in the German figures, but this has not been confirmed.

Table 10: Total production, Prodcom code 20135275 (kg)

TIME	2020	2021	2022	2023
FREQ	Annual	Annual	Annual	Annual
DECL				
France	0	0	0	0
Netherlands	0	0	0	:
Germany	50 200 000	53 292 000	46 337 000	:

Source: Eurostat

Based on export, import and transaction data reported to Comtrade, it would appear that some of the producers of mercury compounds in this region are not reporting their production to Prodcom. No details identifying the producers themselves are publicly available in the Prodcom database.

(d) ASEAN

The Association of Southeast Asian Nations (ASEAN) maintains the International Merchandise Trade Statistics (IMTS) database (<https://data.aseanstats.org>). This database includes imports from and exports to nearly 100 other countries, as reported by the ASEAN member countries: Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand and Viet Nam. The IMTS database shows the annual value

(USD) of goods traded according to six-digit HS codes. It does not record statistics for individual mercury compounds or for the volume of goods traded.

3. National databases

Comprehensive databases of commodity imports and exports are maintained by most national authorities. For reasons of commercial confidentiality, the identities of companies involved in international trade are not normally identified without a properly justified request.

(a) U.S. International Trade Commission DataWeb

The USITC database, based on the Harmonized System commodity codes developed by the World Trade Organization, covers trade between the U.S. and other countries. DataWeb (<https://dataweb.usitc.gov/>) trade statistics are compiled from official data retrieved from the U.S. Bureau of the Census (an agency within the U.S. Department of Commerce). It includes the quantity and value of all U.S. exports and imports. It also identifies all country trading partners, but does not provide the names of the companies involved. The USITC database is not adapted to tracking the trade of individual mercury compounds.

(b) U.S. Census Bureau “Foreign Trade”

Managed by the U.S. Census Bureau, “Foreign Trade” is the official source for U.S. export and import statistics (<https://usatrade.census.gov/index.php?do=login>). It includes the quantity, value and destination country for all U.S. exports, as well as the quantity, value and country of origin of all U.S. imports. It does not provide the names of the trading companies involved. On the other hand, it does provide information on the specific states, districts and ports where imports and exports are recorded, although records do not typically identify specific mercury compounds.

(c) Canada International Merchandise Trade Web Application

The Canadian International Merchandise Trade (CIMT) Web Application offers detailed trade data based on the Harmonized System (HS) classification of goods. The CIMT Web Application offers data at the international HS 6-digit commodity level, as well as subheadings based on the 8-digit and 10-digit commodity level for exports and imports, respectively. However, CIMT has no commodity codes identifying specific mercury compounds.

(d) Trade Data Online

Canada’s Trade Data Online (<https://ised-isde.canada.ca/site/trade-data-online/en>) provides the ability to generate customized reports on Canada and U.S. international trade. This site contains data obtained from Statistics Canada and the U.S. Census Bureau. Trade Data is available on both product and industry-based versions. The product Trade Data is classified by Harmonized System (HS) codes while the industry data is based on NAICS classification codes. Trade Data Online has no commodity codes identifying specific mercury compounds.

(e) Canada Importers Database

The Canadian Importers Database identifies companies, customs brokers, and non-resident importers (i.e., companies that have addresses outside of Canada) importing goods into Canada – by product, by city, and by country of origin. The database includes the names of the companies as well as their locations, but no specific mercury compounds.

(f) Canada Export Control List

The Export of Substances on the Export Control List Regulations (<https://pollution-waste.canada.ca/environmental-protection-registry/regulations/view?Id=115>) apply to exports of substances listed on Schedule 3 of the Canadian Environmental Protection Act, 1999 (CEPA), which is also known as the Export Control List. These regulations ensure that Canada complies with its export obligations under the Minamata Convention on Mercury and other multilateral environmental agreements, such as the Rotterdam Convention on the prior informed consent procedure for certain hazardous chemicals and pesticides in international trade (the Rotterdam Convention). Due to their listing in Annex III of the Rotterdam Convention, mercury compounds, including inorganic mercury compounds, alkyl mercury compounds and alkyloxyalkyl and aryl mercury compounds are listed in the Export Control List, Part 2, which requires the prior consent of and/or notification to the importing country.

Pursuant to section 103 of the Canadian Environmental Protection Act, 1999, annual reports must be published naming the substance, exporter and destination of all substances exported under the Export of Substances on the Export Control List Regulations, including mercury compounds. These annual reports do not identify specific mercury compounds.

(g) Mexico SIAVI database

SIAVI, a Mexican commodity tariff database (<http://www.2006-2012.economia.gob.mx/trade-and-investment/foreign-trade/siavi>), is an online tool that provides information on regulations and tariffs, as well as annual and monthly trade data on the value and volume of Mexican imports and exports. The SIAVI database collects the raw trade data received from the General Customs Administration. These statistics, like the Secretariat of Economy’s

World Trade Atlas, are classified under the Harmonized System (HS) codes and contain no data on specific mercury compounds.

(h) Argentina INDEC database

The Instituto Nacional de Estadística y Censos (INDEC) manages the trade database in Argentina (<https://comex.indec.gob.ar/#/>) which, along with Uruguay, has been especially active in understanding and monitoring trade in mercury compounds. It is possible to search for exports and imports of certain mercury compounds by quantity and value. A search in January 2025 yielded interesting data for imports to Argentina in 2022. 2023 data were not available. Destination countries are listed for Argentina's exports in 2022, but there is no data for quantities and values of compounds exported.

4. Other trade data sources

(a) Rotterdam Convention

The Rotterdam Convention has been implemented by many countries. For example, the EU has implemented the Rotterdam Convention via Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals. The Rotterdam Convention requires advance notification to the receiving country for the export of substances severely restricted or banned in the exporting country. The Prior Informed Consent (or PIC) Procedure applies to substances listed in Annex III of the Rotterdam Convention (www.pic.int). Among other substances, mercury compounds are listed in Annex III under the pesticide category. The World Customs Organization (WCO) has assigned HS code 285210 to “inorganic mercury compounds, alkyl mercury compounds, and alkyloxyalkyl and aryl mercury compounds,” while mixtures, preparations, and articles containing mercury compounds are identified by HS code 380859.

Significant detail may be included in these notifications, including the names and addresses of exporters and importers, the mercury compound names and quantities traded, etc. However, some of these details may not be available without a formal request from the relevant government agency.

(b) United States mercury inventory

Among other provisions, the Frank R. Lautenberg Chemical Safety for the 21st Century Act (Lautenberg Act) requires that every three years the U.S. EPA must carry out and publish an inventory of mercury (and mercury compound) supply, use, and trade in the United States. This inventory identifies the specific mercury compounds imported and exported, but it does not give the quantities of individual compounds traded, nor does it identify the trading partners.

(c) European Union mercury inventory

In accordance with Article 8(7) of Regulation (EU) 2017/852 on mercury (“Mercury Regulation”), the European Commission has published an inventory of existing manufacturing processes involving the use of mercury or mercury compounds (“processes”) and of existing mercury-added products (MAPs), as well as any applicable marketing restrictions. This inventory provides no information about cross-border trade of specific mercury compounds.

(d) Subscription databases

Subscription databases often provide limited free commercial trade data, but the more detailed information is available only by subscription. These trade databases tend to cover different groups of countries, and may identify specific mercury compounds. Depending on the database, available data may include shipping date, consignee name and profile, shipper name and address, shipment origin, shipment destination, port of lading, port of unloading, Harmonized System (HS) and subheading commodity code(s), description of goods shipped, weight of the shipment, value of the shipment, etc.

One of the drawbacks of the available data, however, is that the “goods shipped” are often a group of chemicals (including non-mercury chemicals) and/or other goods combined in the same shipment, along with a weight and/or value for the whole group, rather than the weight and/or value of the individual elements of the shipment. Several of the better known subscription databases are listed below.

Panjiva Inc. (<https://panjiva.com/>) is a global trade data website with import and export details on commercial shipments worldwide. Panjiva covers imports and exports for the United States, Mexico, Costa Rica, Panama, Bolivia, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru, Uruguay, Venezuela, China, Indonesia, India, Pakistan, Sri Lanka, the Philippines and Vietnam.

Trade Data Monitor (<https://tradedatamonitor.com/>) claims to publish monthly trade statistics from over 115 countries, comprising 99% of global trade. Their database is searchable by HS code, country, value, weight, currency, and when available, port and region.

OECD World (<https://oec.world/en>) provides data from 29 countries on company-level sea transport drawn from Bill of Lading records issued by a carrier or agent to acknowledge the receipt of a shipment. These records are listed by

country and month, with names and contact information for the companies involved. These datasets are not a complete picture of all trade coming into and out of a country, but offer considerable detail regarding the composition of individual freight-level shipments.

The **Global Trade Atlas** (<https://www.spglobal.com/marketintelligence/en/mi/products/maritime-global-trade-atlas.html>) is a web-based search and analysis tool. The GTA publishes monthly trade data from more than 95 countries, accounting for about 95 percent of global trade. Annual data is also available for more than 180 countries, covering all reported trade and more than 98 percent of estimated international trade.

Zauba Corp. (<https://www.zauba.com/>) advertises itself as India's leading provider of commercial information and insight, gathering data from “a number of official sources and third parties.” It is especially useful for information on Indian imports and exports, and companies doing business with India.

According to one online source, four other frequently consulted global trade websites are the following, with indications of the countries covered:

- **importgenius.com** (US, India, Sri Lanka, Vietnam, Russia, Ukraine, Argentina, Bolivia, Chile, Colombia, Costa Rica, Ecuador, Mexico, Panama, Peru, Paraguay, Uruguay, Venezuela)
- **seair.co.in** (Colombia, Argentina, Peru, Venezuela, Chile, Ecuador, Bolivia, Paraguay, China, Indonesia, Pakistan, Bangladesh, Russia, South Korea, Vietnam, Philippines, Ethiopia, Kenya, Uganda, Liberia, Mexico, USA, Panama, EL Salvador, Russia, UK, Ukraine)
- **importkey.com** (China, India, Vietnam, Thailand, Bangladesh, Philippines, Germany, United Kingdom, Turkey, United States, Mexico)
- **datamyne.com** (Argentina, Australia, Bolivia, Brazil, Canada, Chile, China, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, India, Indonesia, Japan, Korea, Mexico, Nicaragua, Pakistan, Panama, Paraguay, Peru, Philippines, Russia, South Africa, Sri-Lanka, United Kingdom, United States, Uruguay, Venezuela, Vietnam, and all of the EU countries)

For this study, most trade data has been drawn from Comtrade, Panjiva, Trade Data Monitor and OEC World, with additional consultation of other regional and national databases as indicated in the text and the various tables.

C. Trade discrepancies and asymmetries

Various international trade organizations help to ensure that trade flows as smoothly as possible. This is done by administering trade agreements, cooperating with international organizations, resolving trade disputes, reducing trade restrictions like tariff- and non-tariff barriers, shifting rates, etc. Nevertheless, there are a number of challenges in researching the cross-border trade of specific mercury compounds.

Importing and exporting countries often report significantly different customs statistics for mirror cross-border trade shipments. The various explanations include:

1. **The difference in export and import valuation:** Are the transactions valued in FOB or CIF prices? Import values are frequently greater than mirror export values, but this does not apply to the actual quantities traded.
2. **Reporting waste shipments:** Different countries have different reporting requirements or systems for reporting shipments regarded as waste and/or shipments for environmentally safe disposal in the destination country.
3. **Inconsistent attribution of trade partner:** How are the origin and final destination of merchandise established?
4. **Differences in exchange rates:** How are values converted from local currency units to the currency that allows international comparisons (commonly the USD)?
5. **Differences between ‘general’ and ‘special’ trade systems:** How is trade recorded for customs-free zones?
6. **Trade fraud:** Discrepancies could result from trade fraud or “strategic misreporting,” where firms may use a misleading product classification, or adjust invoices for illicit purposes - undervaluing imports in order to evade import tariffs, or undervaluing exports to dodge export taxes or VAT. In fact, scrutinizing trade discrepancies is increasingly used to detect tariff evasion.
7. **Other Issues:** Time of recording, product (mis)classification, confidentiality policies, etc. For example, it may not be systematically checked by customs whether the correct commodity code has been used.

These issues help to explain the asymmetries in international trade statistics. As an example, the following table shows total imports of mercury compounds during 2018-2023 to be more than twice the quantity of total exports during the same period. Theoretically, the volumes of total imports and exports should be somewhat more closely aligned.

Table 11: Global imports and exports of mercury compounds (2018-2023), including transactions between EU Member States

	HS 285210 - Mercury compounds, chemically defined, inorganic or organic, excluding amalgams (metric tons)						Sum
	2018	2019	2020	2021	2022	2023	2018-2023
<i>Reporter</i>							
Reporting countries' total imports	3331	2369	1974	2530	4167	2050	16421
Reporting countries' total exports	2401	971	505	781	864	748	6271
Source: Trade Data Monitor (2018-2021) and Comtrade (2022-2023)							

As mentioned previously, some international organizations have developed algorithms to “improve” the Comtrade data. The OECD uses one approach to adjust international merchandise trade statistics. CEPII (the Centre d’Etudes Prospectives et d’Informations Internationales) and Chatham House use other approaches. Appendix 3 presents mercury compound trade data (by value) for 2022 adjusted in this manner. In order to avoid a discussion of the strengths and weaknesses of various algorithms, and to facilitate review of the data by Parties to the Convention, in this study the raw (unadjusted) trade data have been consulted.

D. Multiple names for a given compound

Another challenge to compiling reliable data is trading companies’ use of multiple names for the same mercury compound. To illustrate, the variety of names for mercury(II) amidochloride (including “Depositor-Supplied Synonyms”)⁹ found on the PubChem website include:

- Aminomercuric chloride
- Aminomercury chloride
- Ammoniated mercuric chloride
- Ammoniated mercury
- Hydrargyrum ammoniatum
- Hydrargyrum precipitatum album
- Mercuric amidochloride
- Mercuric ammonium chloride
- Mercuric chloride, ammoniated
- Mercuric azanide chloride
- Mercury amide chloride
- Mercury ammonium chloride
- Mercury(II) chloride ammonobasic
- Mercury, ammoniated
- Quecksilber(II)-amid-chlorid
- White mercuric precipitate

Because of the diversity of scientific and trade names for most compounds, each compound has an identifying number (e.g., see the CAS and EC numbers in Appendix 1), although shipping manifests often do not include these identifying numbers, or they are not recorded in the national statistics.

E. Commodity codes

Basic trade data for mercury compounds and for products and mixtures containing these compounds may be found under the CN or HS codes shown in the following table, adapted from the EU Commission Delegated Regulation amending Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals.

⁹ See <https://pubchem.ncbi.nlm.nih.gov/compound/Ammoniated-mercury#section=Chemical-and-Physical-Properties>

Table 12: Commodity codes for mercury compounds and amalgams

Mercury compounds and amalgams	CN (HS) codes
Mercury compounds, including inorganic mercury compounds, alkyl mercury compounds and alkyloxyalkyl and aryl mercury compounds (except mercury compounds listed in Annex V of the Regulation)	code 2852 00 – inorganic or organic compounds of mercury, excluding amalgams code 2852 10 - Inorganic or organic compounds of mercury, excluding amalgams – chemically defined; code 2852 90 - Inorganic or organic compounds of mercury, excluding amalgams – other
Dental amalgam, e.g., marketed as amalgam capsules	code 2843 90 10 – Amalgams of precious metals
Mercury compounds in insecticides, rodenticides, fungicides, disinfectants, herbicides, etc.	code 3808 50 - Insecticides, rodenticides, fungicides, disinfectants, herbicides and the like
Cosmetic soaps containing mercury	code 3401 11 00 - Soap and organic surface-active products ... for toilet use; code 3401 19 00 - Soap and organic surface-active products ... not for toilet use; code 3401 20 10 – soap in other forms (Flakes, wafers, granules or powders); code 3401 20 90 – soap in other forms (other); code 3401 30 00 - Organic surface-active products and preparations for washing the skin
Metallic mercury and mixtures of metallic mercury with other substances, including alloys of mercury, with a mercury concentration of at least 95% by weight	code 2805 40 - mercury
Reaction initiators, reaction accelerators and catalytic preparations of mercury or of molybdenum	code 3815.90.20 – mercury and mercury compounds
Chemical products and preparations of the chemical or allied industries, mixtures of two or more inorganic compounds, including inorganic mercury compound(s)	code 3824.90.33 – mercury compounds
Minamata Convention listed compounds: – Mercury(I) chloride (Cl ₂ Hg ₂) – calomel – Mercury(II) oxide (HgO) – Mercury sulphide (HgS) – Mercury(II) sulphate (HgSO ₄) – Mercury(II) nitrate (Hg(NO ₃) ₂) – Mercury(II) acetate	code 2852 10 00 – mercury compounds, chemically defined
All mixtures of metallic mercury with other substances, including alloys of mercury with a mercury concentration of less than 95% by weight, and all mercury compounds not listed above, if the export of that mixture or compound is for the purpose of reclaiming metallic mercury, e.g.: – CAS 7487-94-7 - mercury(II) chloride (HgCl ₂) – CAS 7783-36-0 - mercury(I) sulphate (Hg ₂ SO ₄); – CAS 592-85-8 - mercury(II) thiocyanate (Hg(SCN) ₂) – CAS 15385-57-6 - mercury(I) iodide (Hg ₂ I ₂)	code 2852 10 00 – mercury compounds, chemically defined
Mercury ores, slag, ash and residues – Cinnabar ore	code 2620 60 – slag, ash and residues, incl. manufacturing residues containing mercury code 2617 90 00 - Ores, slag and ash: Other ores and concentrates
Source: Adapted from the EU Commission Delegated Regulation amending Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals	

Other codes used exclusively by MERCOSUR have been presented in Section 4.2.2.

Commodity code HS 285210 is the most reliable indicator of global cross-border trade of “chemically defined” (i.e., with proper chemical names) mercury compounds. However, the trade statistics for individual compounds are not visible under this code (or others) as all mercury compounds are grouped together in these statistics.

For this reason, commodity code subheadings and other available data on specific mercury compounds have been sought from subscription databases and other sources, as discussed below.

F. Export and import data

The following two tables present the best available data on global exports and imports of “chemically defined” mercury compounds. These tables are drawn from Trade Data Monitor and Comtrade sources, but effectively the data is all based on the Comtrade database. For all of the reasons discussed previously, these data unfortunately do not provide useful insight into the global trade of specific mercury compounds. But they are presented in any case so that Parties may better understand what data their administrations are reporting, and hopefully investigate any data concerns within their own administrations.

According to these sources, the countries exporting and importing more than 5 metric tons of mercury compounds in 2023 are identified in the two tables below. It is likely that some of these data concern byproduct or waste shipments.

Table 13: Countries exporting >5000 kg of mercury compounds in 2023, including outward transactions between EU Member States

Reporter	HS 285210 – Mercury compounds, chemically defined, inorganic or organic, excluding amalgams (net weight in kg)						Sum
	2018	2019	2020	2021	2022	2023	2018-2023
Thailand	596319	471671	243691	273809	433897	474080	2493467
United States	58696	130411	18675	18755	31303	83841	341681
South Africa	167332	90819	83387	257097	113337	64363	776335
Austria	90420	89789	103947	107428	105789	58755	556128
France	0	0	0	63661	45398	26179	135238
Morocco	91	1550	2605	1010	660	8600	14516
Malaysia	0	0	0	0	0	6200	6200

Source: Trade Data Monitor (2018-2021) and Comtrade (2022-2023)

Table 14: Countries importing >5000 kg of mercury compounds in 2023, including inward transactions between EU Member States

Reporter	HS 285210 – Mercury compounds, chemically defined, inorganic or organic, excluding amalgams (net weight in kg)						Sum
	2018	2019	2020	2021	2022	2023	2018-2023
Italy	599820	504489	208425	238658	1747045	893173	4191610
France	1727960	1299633	1096285	1374556	1009754	488978	6997166
Czechia	269903	311001	455533	301523	281565	178681	1798206
Belgium	11965	10494	4111	435955	784576	125364	1372465
Spain	9659	8124	8488	9141	7818	67406	110636
Luxembourg	5388	5074	3059	5132	1892	48084	68629
Portugal	23261	28080	30836	30032	32255	24565	169029
Netherlands	8475	3326	1340	2437	1022	11034	27634
Canada	18598	69352	10969	17961	7391	12540	136811
Malaysia	130	244	332	1074	309	9656	11745
Germany	66100	37800	24100	21700	6890	7156	163746

Source: Trade Data Monitor (2018-2021) and Comtrade (2022-2023)

More detailed data on countries’ exports and imports of mercury compounds are presented below and in Appendices 4 and 5. Below are data submitted by Parties. Appendix 4 provides additional data on the trades of the countries identified in the two tables above. Appendix 5 presents a historic record of countries' exports of mercury compounds to all other countries, including transactions between EU Member States

If there is one conclusion that might be drawn from these global data, despite their deficiencies, it concerns the low average value per kg of the majority of the mercury compounds traded, as seen in Appendix 4. Taking the totality of 2023 trade data as available in Comtrade, 98% of the global imports are valued at an average of less than USD 2/kg, while 97% of the global exports are valued at an average of less than USD 4/kg. This would suggest that much of the trade volume appears to be generated by large sources, and is likely considered by many countries as waste for final disposal.

Due to some Parties' concerns with the Comtrade data, the Focal Points for the Minamata Convention for each of the countries in the two tables above were contacted, requesting further basic details about their trade data. The basic questions included:

- What were the names of the main mercury compounds exported/imported in 2023?
- What quantities of these main mercury compounds were exported/imported in 2023?
- What were the sources (e.g., domestic production, or resulting from some industrial process, etc.) of the main mercury compounds exported/imported in 2023?
- What specific end use was intended for these exported/imported mercury compounds, or were they perhaps exported/imported for environmentally sound disposal?

Various responses to these questions are included in the following tables. The objective here is to clarify data on the trade of mercury compounds. The appearance of specific compounds in the following tables does not in any way suggest that such trade is problematic.

Thailand

In comments provided by the Thailand Department of Industrial Works (Ministry of Industry), there was no clarification of the Comtrade data on exports (e.g., 460056kg to Viet Nam and 13868 to Cambodia in 2023), despite the fact that every import, export, production and possession of mercury and mercury compounds requires a permit from the Department of Industrial Works. However, Thailand did provide more detail concerning imported mercury and mercury compounds between 2017 and 2021, as in the following table. For each compound, the name of the exporting country, the quantity and the intended end-use are given.¹⁰

Table 15: Thailand – Key (≥20 kg) imports of mercury and compounds (Jan. 2017 to Oct. 2021)

Year	Exporting country	Mercury compound	Quantity (kg)	Purity (%)	Declared use of the compound
2017	Germany	Hg(II) thiocyanate	33	2.34	lab use
2017	India	Hg(II) chloride	5500	98	prevention of mold in wood industry
2018	Australia	Hg(II) chloride	31	98	lab analysis
2018	Germany	Hg(II) thiocyanate	33	2.34	distribution; lab use
2018	Germany	Hg(II) sulfate	26	98	distribution; lab use
2018	Korea	Hg(II) chloride	30	98	Inspection of electronic products
2018	Korea	Hg(II) sulfate	45	98	distribution
2018	India	Hg(II) chloride	3500	98	prevention of mold in wood industry
2018	India	Hg(II) chloride	24	98	distribution
2019	Japan	Mercury	1750	98	fluorescent lamps
2019	Germany	Hg(II) sulfate	20	98	distribution; lab use
2019	Germany	Hg(II) sulfate	28	1.5	distribution; lab use
2019	Germany	Hg(II) thiocyanate	30	2.34	distribution; lab use
2019	Korea	Hg(II) sulfate	75	98	distribution
2019	India	Hg(II) chloride	3000	98	prevention of mold in wood industry
2019	India	Hg(II) chloride	115	98	distribution; lab use
2019	India	Hg(II) sulfate	42	98	distribution; lab use
2020	Germany	Hg(II) sulfate	21	98	distribution; lab use

¹⁰ After the review period of the draft study until March 2025, Thailand provided a clarification that information on the export of mercury compounds to Cambodia and Viet Nam was incorrect, due to misclassification in the customs code.

Year	Exporting country	Mercury compound	Quantity (kg)	Purity (%)	Declared use of the compound
2020	Germany	Hg(II) sulfate	23	1.5	distribution; lab use
2020	Germany	Hg(II) thiocyanate	32	2.34	distribution; lab use
2020	Korea	Hg(II) sulfate	75	98	distribution
2020	India	Hg(II) chloride	3000	98	prevention of mold in wood industry
2020	India	Hg(II) chloride	93	98	distribution; lab use
2020	India	Hg(II) sulfate	44	98	distribution; lab use
2021	Korea	Hg(II) chloride	25	98	Inspection of electronic products
2021	Korea	Hg(II) sulfate	80	98	distribution
2021	India	Hg(II) chloride	84	98	distribution
2021	Germany	Hg(II) sulfate	21	1.5	distribution
2021	Germany	Hg(II) sulfide	74	98	distribution; lab use
2021	Germany	Hg(II) thiocyanate	21	2.34	distribution; lab use

Source: Department of Industrial Works, Ministry of Industry, Thailand

United States

In 2021, according to the most recent U.S. mercury inventory (USEPA 2023), an aggregated total of 26,928 lbs. (about 12 metric tons) of 16 mercury compounds were imported from five countries: Germany, India, Israel, Mexico and Switzerland.

Likewise, in 2021 an aggregated total of 77,889 pounds (about 35 metric tons) of 16 mercury compounds were exported from the United States, including mercury(II) nitrate monohydrate. Specific quantities of each exported mercury compound cannot be differentiated due to the listing of multiple compounds within the submission forms. However, based on reports, most of the mercury compounds that are made in and imported into the United States are also exported.

U.S. export and import data for 2023, as reported to Comtrade, may be seen in Appendix 4.

Austria

The Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK), which is in contact with the Austrian Economic Chamber, Statistics Austria and the Austrian Customs Services, has provided the data in the following table, which excludes any inward or outward transactions from or to other EU Member States.

Table 16: Austria – Reported exports and imports of commodity code 285210 in 2023

Date	Direction of trade	Trading partner	Description of goods	Value	Net mass (kg)
17 Feb 2023	Export to	Brazil	Chemically defined	EUR 8019.35	0.220
17 Feb 2023	Export to	Brazil	Chemically defined	EUR 8019.35	0.220
22 Feb 2023	Export to	Bosnia & Herzegovina	Inorganic or organic compounds of mercury	EUR 7775.41	1.100
23 Feb 2023	Export to	Armenia	Chemically defined	EUR 5830.76	1.800
23 Feb 2023	Export to	Armenia	Inorganic or organic compounds	EUR 5830.76	0.912
03 Mar 2023	Export to	Azerbaijan	Mercury(II) sulfate, #98%	USD 12609.26	0.811
27 Mar 2023	Export to	Montenegro	Inorganic or organic compounds of mercury	EUR 15208.62	1.400
12 Apr 2023	Export to	Montenegro	Inorganic or organic compounds	EUR 33040.37	0.755
17 May 2023	Export to	Türkiye	Inorganic or organic compounds of mercury	EUR 41491.27	7.700
23 May 2023	Export to	Bosnia & Herzegovina	Inorganic or organic compounds of mercury	EUR 3937.54	12.100
12 Jun 2023	Export to	Dominica	Mercury(II) chloride	EUR 71429.08	0.234
12 Jun 2023	Export to	Montenegro	Inorganic or organic compounds of mercury	EUR 26425.99	6.700

Date	Direction of trade	Trading partner	Description of goods	Value	Net mass (kg)
23 Jun 2023	Export to	Bosnia & Herzegovina	Inorganic or organic compounds of mercury	EUR 8667.02	1.900
03 Aug 2023	Export to	Ukraine	Mercury II Chloride	EUR 4779.55	5.700
08 Aug 2023	Export to	Kazakhstan	Inorganic or organic compounds	EUR 14129.16	0.200
18 Aug 2023	Export to	Bosnia & Herzegovina	Chemically defined	EUR 5683.44	64.800
20 Oct 2023	Export to	Bosnia & Herzegovina	Chemically defined	EUR 5317.69	1.300
24 Oct 2023	Export to	Montenegro	Inorganic or organic compounds	EUR 18964.50	2.200
07 Nov 2023	Export to	Armenia	Inorganic or organic compounds of mercury, chemically defined	EUR 29686.55	0.154
03 May 2023	Import from	United Kingdom	Inorganic or organic compounds of mercury, chemically defined (except amalgams)	EUR 1750.00	1.330

Source: Austrian Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology

Argentina

Some trade data for specific mercury compounds is available for Argentina due to its use of special commodity codes for some compounds. The most recent year for which data is available in the INDEC database¹¹ is 2022, although no weights and values are given in the database for exports in 2022.

The INDEC database shows imports of small quantities of mercury compounds in 2022; however, the Undersecretary of Environment has reported that the “only import in our transboundary register is from India and the value 3600kg is accurate and stands for the total of 4 imports.”

Likewise, although the INDEC database indicates exports of a few mercury compounds in 2022, the Undersecretary of Environment has confirmed only exports of thimerosal as in the following table.

Table 17: Argentina – Reported exports of mercury compounds in 2022

HS/NCM	Mercury compound	Exporting country	Net weight (kg)
28521022	Thimerosal	Brazil	225
28521022	Thimerosal	Colombia	10
28521022	Thimerosal	Ecuador	5
28521022	Thimerosal	USA	80
28521022	Thimerosal	Mexico	100
28521022	Thimerosal	Paraguay	5
28521022	Thimerosal	Germany	1900.05
28521022	Thimerosal	Uruguay	10

Source: Argentina Undersecretary of Environment

France

Below is a table listing the exports of mercury compounds from France in 2023, provided by the Bureau des produits chimiques, Direction Générale de la Prévention des Risques. These data were extracted from ePIC and cover only exports from France to non-EU countries under the category of mercury compounds, including inorganic mercury compounds, alkyl mercury compounds and alkyloxyalkyl and aryl mercury compounds. All of these exports were destined for laboratory research and analysis. Intra-EU transactions for France in 2023, as reported to Comtrade, may be seen in Appendix 4.

¹¹ <https://comex.indec.gob.ar/#/>

Table 18: France – Imports of mercury compounds (2023)

CAS number	EC number	Compound	Expected yearly amount	Importing country
7487-94-7	231-299-8	Mercury dichloride	20KG	Israel
7774-29-0	231-873-8	mercury diiodide	30KG	United Kingdom (Great Britain)
7783-35-9	231-992-5	mercury sulphate	20KG	Switzerland
7487-94-7	231-299-8	Mercury dichloride	30KG	United Kingdom (Great Britain)
7487-94-7	231-299-8	Mercury dichloride	15KG	Mauritania
7487-94-7	231-299-8	Nessler's reagent (Mercury dichloride 1.5)	20KG	North Macedonia, Republic of
7783-35-9	231-992-5	mercury sulphate	20KG	United Kingdom (Great Britain)
7487-94-7	231-299-8	Nessler's reagent (Mercury dichloride 1.5)	50L	United Arab Emirates
7783-35-9	231-992-5	mercury sulphate	60KG	Malaysia
7487-94-7	231-299-8	Nessler's reagent (Mercury dichloride 1.5)	20L	Israel

Italy

Like a number of other Parties, the Italian Customs Agency says there are errors in the intra-EU trade data shown in Appendix 4. The Italian data was reported to Comtrade by the Istituto Nazionale di Statistica. Italy also requested information from OLAF (European Anti-Fraud Office) and DG TAXUD (Directorate-General for Taxation and Customs Union), but did not receive a response in time for this report.

The data obtained from the Italian Customs Agency show that 1.02 tonnes of mercury compounds were imported in 2023 from outside the EU.

Belgium

In response to this research, and in support of the Minamata Convention, the Belgian Federal Environment Inspectorate investigated the data received from customs regarding imports of mercury compounds from countries outside the EU. According to customs, 124838 kg of mercury compounds were imported in 2023, which is consistent with the Comtrade data.

The investigation found that three imports for a total of 33 kg were declared in Belgium for foreign companies. It was not possible to confirm these quantities.

However, information was available for four Belgian companies that were responsible for the remainder of the imports. Two of these companies had made a declaration via ePIC in accordance with article 10 of the PIC regulation (649/2012), while the two other companies had not declared anything in ePIC. Upon inspection, however, there were differences between the data provided by customs and the data declared in ePIC. The differences were mostly due to encoding mistakes in the MRN documents¹² relating to these imports, where the quantities (weights) mentioned in the MRN were often incorrect compared with the purchase invoices for the same products. In another case, it was found that the declaration concerned a sample of water to be analyzed in a laboratory, and an incorrect HS code had been entered in the customs import declaration.

As a result of the investigation, and apart from the 33 kg that could not be confirmed, Belgian imports from outside the EU were confirmed as in the following table.

Table 19: Belgium – Imports of mercury compounds (2023), in kg, rounded

	Company A	Company B	Company C	Company D	Total

¹² The MRN number is the customs registration number that enables the customs authority to identify and process a shipment in the customs system.

Customs data	123913	839	50	2	124804
Confirmed data	233	469	325	0	1026

When questions arise concerning the validity of Comtrade or other trade data, this an example of the sort of investigation that Parties may need to take in order to confirm their data. It is the sort of exercise that can help to improve all trade statistics, not merely those for mercury compounds.

Spain

Based on input from Spain's Ministerio para la Transición Ecológica y el Reto Demográfico (Subdirección General de Prevención de la Contaminación), the Instituto Nacional de Estadística confirmed that there were several discrepancies in their Comtrade statistics regarding trade with Morocco and France, which appeared to be mainly misclassifications.

More specifically, the Spanish ministry has provided the following detailed import and export notifications – official data required to fulfill its obligations to the Rotterdam Convention on Prior Informed Consent and the EU Mercury Regulation.

Table 20: Spain – Import responses for mercury compounds (2023-2024)

Year	CAS no.	Compound	Quantity	Import from	Intended use
2023	21908-53-2	Mercury(II) oxide	5kg	India	Analytical, research, scientific and industrial
2023	7487-94-7	Mercury(II) chloride	40kg	India	Analytical, research, scientific and industrial
2023	7487-94-7	Mercury(II) chloride	140kg	India	Reagents for laboratory and pharmaceuticals
2024	10124-48-8	Mercury(II) amidochloride	450kg	India	Reagents for laboratory and pharmaceuticals
2024	7487-94-7	Mercury(II) chloride	6kg	India	Analytical, research, scientific and industrial
2024	7487-94-7	Mercury(II) chloride	25kg	India	Formulation for adhering silver coatings to phosphor bronze parts, for use in the laboratory, mercuric chloride in a 1.5% hydrochloric acid solution.
2024	7774-29-0	Mercury(II) iodide	165kg	India	Reagents for laboratory and pharmaceuticals
2024	7774-29-0	Mercury(II) iodide	12.5kg	India	Analytical, research, scientific and industrial
2024	7783-35-9	Mercury(II) sulfate	100kg	India	Reagents for laboratory and pharmaceuticals
2024	7783-34-8	Mercury(II) nitrate	90kg	India	(Not indicated)

Source: Ministerio para la Transición Ecológica y el Reto Demográfico, Plaza San Juan de la Cruz, 10 - Madrid

Table 21: Spain – Export notifications for mercury compounds (2023)

Year	CAS no.	Compound	Quantity	Export to*	Intended use
2023	7487-94-7	Mercury(II) chloride	339kg	Colombia	Research, analysis, laboratory use
2023	7487-94-7	Mercury(II) chloride	15kg	Bolivia	Research, analysis, laboratory use
2023	10045-94-0	Mercury(II) nitrate 1.5%	61kg	Taiwan	Research, analysis, laboratory use
2023	7783-35-9	Mercury(II) sulfate	20kg	Taiwan	Research, analysis, laboratory use
2023	7783-35-9	Mercury(II) sulfate	27kg	Colombia	Research, analysis, laboratory use
2023	7783-35-9	Mercury(II) sulfate	20kg	Chile	Research, analysis, laboratory use
2023	54-64-8	Thiomersal	100kg	United States	Research, analysis, laboratory use
2023	21908-53-2	Mercury(II) oxide	15kg	Brazil	Research, analysis, laboratory use
2023	7774-29-0	Mercury(II) iodide	25kg	Türkiye	Research, analysis, laboratory use

Year	CAS no.	Compound	Quantity	Export to*	Intended use
2023	7774-29-0	Mercury(II) iodide	20kg	Chile	Research, analysis, laboratory use
2023	7774-29-0	Mercury(II) iodide	20kg	Colombia	Research, analysis, laboratory use
2023	7783-34-8	Mercury(II) nitrate 0.16%	12kg	Colombia	Research, analysis, laboratory use
2023	7783-34-8	Mercury(II) nitrate 0.16%	12kg	Viet Nam	Research, analysis, laboratory use

* All country names are taken directly from the source document.
Source: Ministerio para la Transición Ecológica y el Reto Demográfico, Plaza San Juan de la Cruz, 10 - Madrid

Canada

Canada has provided the detailed 2023 import records from the Canada Border Services Agency. There were no exports reported.

Table 22: Canada – Imported mercury compounds in 2023

Compound ID	End Uses	Quantity	Units
Mercurous chloride	Sound Disposal/Recycling (in U.S.)	16602	each
Mercurous chloride acidic	Sound Disposal/Recycling (in U.S.)	7893	each
Lab use mercuric(II) nitrate	Calibration of scientific instruments, reagents for analytical methods.	23	each
Org/inorg cmpds of Hg chem def'd	Preparation of chemical standards, research experiments, or production processes.	22	kg
Bb mercury(I) nitrate dihydrate	Chemicals for experiments, industrial testing, or quality control.	4	each
Mercury(II) chloride Lg 100g	Chemicals for experiments, industrial testing, or quality control.	3	each
Mercuric chloride	Calibration of scientific instruments, reagents for analytical methods.	2	each
Org/inorg. cmpds of Hg	Preparation of chemical standards, research experiments, or production processes.	1	kg
215465 100g mercury(II) chloride 9	Preparation of chemical standards, research experiments, or production processes.	1	piece
Merc(II) potassium iodide 50g	Chemicals for experiments, industrial testing, or quality control.	1	piece
Mercury acetate	Chemicals for experiments, industrial testing, or quality control.	1	piece
Mercury iodide	Chemicals for experiments, industrial testing, or quality control.	1	piece
Mercury thiocyanate	Chemicals for experiments, industrial testing, or quality control.	1	piece
Phenylmercuric acetate	Preparation of chemical standards, research experiments, or production processes.	1	piece

Source: Canada Border Services Agency

Peru

In comments submitted to the Minamata Secretariat, Peru's Ministry of the Environment, after discussion with the Superintendencia Nacional de Aduanas y de Administración Tributaria (SUNAT), not only confirmed the import of 6003kg of elemental mercury from Japan in 2023, but also confirmed that the trade data for mercury compounds presented in Appendix 5 are basically accurate, as in the table below.

Table 23: Peru – Imports of mercury compounds HS 285210 in 2023, rounded

Reporter	Available data	Quantity (kg)						Sum
		2018	2019	2020	2021	2022	2023	
Data from Appendix 5	2016–Jan2024	952	936	392	551	21186	455	24472
SUNAT statistics		952	944	392	551	21186	454	24479

Japan

Japan is not a significant supplier of mercury compounds to the global market. According to “17524 chemical products (2024 edition),” published by Chemical Daily of Japan, and according to comments from the Ministry of Economy, Trade and Industry:

- High purity elemental mercury (CAS 7439-97-6) is produced by Nomura Kohsan and Matsugaki Chemical, but no longer by Nissui Chemical. In 2022, Japan exported 51336kg of elemental mercury, and imported 4kg.
- 100kg of mercury(II) chloride (CAS 7487-94-7) was produced in 2022 by Startech and Nomura Kohsan, but neither company produces it any longer. For disposal of mercury(II) chloride, the 17524 publication suggests roasting to recover the elemental mercury, followed by stabilization using sodium sulfide, and finally, solidification with cement.
- The 2022 production volume of mercury(II) oxide (CAS 21908-53-2) is unknown.
- Historically, mercury(II) sulfide = vermilion (CAS 1344-48-5) was produced by Kinka Chemical and Taketani Chemical, but they no longer produce it.
- Other compounds such as mercury(I) chloride were also reported for use as laboratory chemicals, but there is no information on production volume.

G. Compounds used in skin lightening creams

A report by the Environmental Investigation Agency (EIA 2023) revealed important information about the sources and trade of mercury compounds in skin lightening products (SLPs). EIA carried out undercover investigations in three different regions (Asia, North America, and Europe) and was able to confirm the continued trade, illegal production, sale and use of mercury compounds in SLPs. EIA obtained compelling evidence from seven companies in three countries (Thailand, Jamaica and Pakistan) that they intentionally added mercury compounds to SLPs. Detailed discussions with company executives made clear that these were not isolated incidents, but instead represent common practice in the industry

The EIA investigation also identified two companies based in India, one in Spain, and one in the United States that legally supplied mercury compounds, specifically ammoniated mercury, for use in SLPs.

To better understand the scale of this business, one of the Indian manufacturers of compounds told the EIA that he could produce four metric tons of ammoniated mercury per month, much of which was exported to Pakistan via the UAE. Likewise, a single producer registered in Pakistan and the UAE claimed to sell mercury-added SLPs to more than 50 countries.

Another EIA interviewee admitted that an importer could evade restrictions on the trade of mercury compounds by using a false product description such as kojic acid, which is a white or colorless crystalline powder (not dissimilar to ammoniated mercury) commonly used in Japan to make sake (rice wine) and other fermented foods. Kojic acid is a legal compound also found in many cosmetics for whitening and removing blemishes. Although generally safe, kojic acid can also cause skin irritation or allergic reactions in some people.

With the funding of the Global Environment Facility, a project “Eliminating Mercury Skin Lightening Products” started in 2023 involving UNEP, WHO, Biodiversity Research Institute, Gabon, Jamaica and Sri Lanka. At its third stakeholders forum in January 2025, project partners presented their progress developing a database of mercury-added SLPs available online, challenges in controlling trade of mercury-added SLPs, etc.

Separately, and following an amendment put forward by the African Region, COP-5 of the Minamata Convention requested the Secretariat to develop a report on the challenges that Parties face in controlling the manufacture and banning the trade of mercury-added cosmetics. The requested report is to be presented for consideration at COP-6 in November 2025.

H. Additional trade details

More detailed information regarding cross-border trade of specific mercury compounds is available from subscription databases, such as the data presented in Appendices 6 and 7. In order to present a sample of trade activity from each of the regions most actively trading compounds, data for Argentina, Brazil, Chile, China, Costa Rica, Germany, India, Indonesia, Mexico, Pakistan, Paraguay, Peru, South Korea, Spain, United States, United Arab Emirates, Venezuela, Viet Nam and other countries are included. While the data presented in these appendices are far from comprehensive globally, they are fully indicative of typical trade patterns.

Appendix 6 is a snapshot taken from the first half of 2022, extracted from the Panjiva database as the result of a search for mercury compounds under HS codes 285210 and 285290 and for a variety of countries. Extraneous trade details, including many trades of lesser quantity or value, have been mostly removed from this data in order to focus on the more consequential trades, the trading partners, the type of mercury compound, and the weight and value of the

compound traded. However, some of the data errors have been left in the table to demonstrate the care that must be taken in relying on consolidated trade data.

Among other things, Appendix 6 may include some trades whose purpose was to disguise or circumvent restrictions on the trade of elemental mercury. However, since cost data and other specifics are often missing from the trade record, it is impossible to confirm such intentions without further research.

Appendix 7 was also generated by searching the Panjiva database for commodity codes 285210 and 285290, and then deleting some 200 of the resulting trade records that listed multiple chemicals (including mercury compounds), preparations, lab equipment, etc., often from multiple countries. The deletions were made so as to select only those trade records where the specific mercury compounds could be identified, along with the country of origin and/or quantity and/or value. As a result, this table is an incomplete record of globally traded mercury compounds. Nevertheless, the remaining records presented in the table provide a useful overview of the specific mercury compounds routinely traded, as well as the quantity and value of the compounds traded, where those details were available in the database.

Analysis of the trade statistics in Appendix 7 suggests the following observations, among others:

- These data provide further evidence of the substantial reduction in the price of compounds when they are ordered in bulk (i.e., one kilogram or more).
- Many of the trade records lack information on the value or quantity of compounds shipped, and in some cases (e.g., Uruguay) there is no information at all describing the goods.
- There are often mistakes in commodity codes. For example, there are many instances of commodities with the HS 285210 code that appear to have nothing to do with mercury compounds, although most of these instances have been deleted from the appendix for purposes of length. In other cases HS 285290 is sometimes given as the code for a defined compound, even though that code should be used for mercury compounds that cannot be defined.
- The compounds most commonly observed in these data are mercury(II) chloride, mercury(II) nitrate, mercury(II) sulfate, mercury(II) iodide and mercury(II) acetate, while shipments of mercury(II) bromide and mercury(II) thiocyanate are somewhat less frequent.
- The highest value trades, according to the somewhat limited data on value, are thimerosal (which is an allowed use under the Convention), mercury(II) ammonium chloride, mercury(II) chloride, mercury(II) nitrate, and mercury(II) sulfate, although details of these and other trades are often unclear because the weight of the mercury compound is missing, or the compound is combined with many other chemicals and preparations within a single consolidated shipping weight and/or value. Among other observations, some USD 400 thousand of mercury(II) chloride was exported by India to various countries.
- Shipping data for 2021 showed some USD 2 million of mercury(II) ammonium chloride exported from India to the United Arab Emirates. These shipments raise questions as to whether these transactions were associated with the manufacture of skin lightening creams prohibited under Article 4 of the Convention.
- On 23 August 2021, India exported USD 97 thousand of calomel to Poland. If the purpose was to extract and commercialize the mercury content, we have seen no evidence to confirm this.
- The most common countries of origin in these records are India and Germany, while India is one of the key destinations as well.

V. Conclusions

This study provides information on the global supply, production, trade and use of mercury compounds listed in paragraph 1(b) of Article 3, as well as other mercury compounds, in response to a COP-5 request by the Parties to the Minamata Convention.

Several mercury compounds are generated as a result of industrial processes – especially mercury(I) chloride, but also mercury(II) sulfide, mercury(II) oxide, mercury(II) sulfate and mercury(II) selenide. Some Parties permit these compounds to be processed to recover and commercialize the elemental mercury, while others require their disposal as waste, depending on the mercury content. There is no evidence cited in this study that mercury compounds generated via industrial processes are traded internationally with the purpose of circumventing restrictions on mercury trade.

More than 100 companies worldwide produce a large range of mercury compounds. Commercial production volumes are reported by only a small number of countries, but global production levels of most compounds can be inferred from their properties and their applications.

There is significant international trade of less than 20 mercury compounds. Detailed trade statistics and PIC notifications can be useful in determining which compounds are most often legally traded. However, the public trade databases do not identify specific mercury compounds, and PIC notifications are not regularly used by many countries.

The following table summarizes key characteristics of the more significant mercury compounds identified in this study. These characteristics contribute to the likelihood that certain compounds could be used to circumvent mercury trade restrictions, as indicated in the last column, where the potential is roughly ranked from 1 (very low potential) to 10 (rather high potential).

Table 24: Key characteristics of mercury compounds of interest

Compound	Number of producers worldwide	Mass of commercial production worldwide	Mass generated as a waste or byproduct	Ease of production	Volume of cross-border trade (excluding waste or byproduct)	Ease of recovering elemental mercury	Extent of reported use in skin lightening products	Potential to circumvent mercury trade restrictions
Mercury(I) chloride	+++	++	+++	+++	+	+++	++	9
Mercury(II) sulfate	+++	+++	++	+++	+++	+++		8
Mercury(II) nitrate	+++	+++	++	+++	+++	+++		8
Mercury(II) oxide	++	++	++	+++	+++	+++	+	8
Mercury(II) chloride	+	+++	+++	+++	+++	+++	+	6
Mercury(II) amidochloride	+++	++		+++	++	+++	+++	5
Mercury(II) sulfide	+++	++	++	+++	+	+++		5
Mercury(II) iodide	+	++		+++	++	+++	++	4
Mercury(II) acetate	+	++		+++	++	+++		4
Cinnabar	+	+++		+++	+	+++		4
Mercury(II) selenide	++	+	+	++	+	+		2
Phenylmercury(II) acetate	+	++		++	+	+		2
Mercury(II) thiocyanate	+	+		++	+	+		1

Note: The last column is the author's estimate of the likelihood that the compound could be used to circumvent mercury trade restrictions. The likelihood is ranked from 1 (very low potential) to 10 (very high potential).

Based on the above-mentioned characteristics, this study concludes that the six mercury compounds listed in paragraph 1(b) of Article 3 (mercury(I) chloride, mercury(II) sulfide, cinnabar, mercury(II) oxide, mercury(II) sulphate, and mercury(II) nitrate), as well as others (especially mercury(II) acetate, mercury(II) chloride, and mercury(II) iodide) could be produced and traded for the purpose of circumventing restrictions on the trade of elemental mercury. The production of these compounds, as well as the recovery of elemental mercury from any of these compounds, is relatively straightforward. The study cites recent evidence of cinnabar trade being used, under certain circumstances, to circumvent mercury trade restrictions. For other mercury compounds, hard evidence for such compromise has not been reported.

Furthermore, the study provides evidence of recent trade of mercury(II) amidochloride for the purpose of producing mercury-added skin lightening products (SLPs). The study also provides evidence that mercury(II) iodide, mercury(I) chloride and mercury(II) oxide have been intentionally added to SLPs. The Minamata Convention does not currently restrict in any way the production or sale of these compounds; the Convention only requires that Parties endeavor to identify individual stocks of mercury compounds exceeding 50 metric tons, and report on these stocks every two years.

Finally, the study demonstrates which mercury compounds are capable of being produced. While it necessarily focuses on the compounds currently produced, used or traded in the greatest quantities, the risk of substitution is

significant. The EU experienced this problem when the initial set of control measures on polyurethane production targeted only five specifically identified mercury compounds, and then subsequently learned the industry could rapidly adapt to other mercury compounds, thereby undermining the intent of the control measures.

These observations suggest that if the Minamata Convention or its Parties choose to further restrict or regulate the use of mercury compounds in products, it would be preferable to regulate the products in which they may be used rather than to regulate the compounds themselves, as is currently the case. However, regulating compounds that may be used to circumvent restrictions on mercury trade presents a different sort of challenge.

References

- AMAP/UNEP 2013. Technical Background Report for the Global Mercury Assessment 2013. Arctic Monitoring and Assessment Programme, Oslo, Norway/UNEP Chemicals Branch, Geneva, Switzerland.
- AMAP/UN Environment 2019. Technical Background Report for the Global Mercury Assessment 2018. Arctic Monitoring and Assessment Programme, Oslo, Norway/UN Environment Programme, Chemicals and Health Branch, Geneva, Switzerland. Preface viii + 426 pp including E-Annexes.
- Basel Convention 2022. Document UNEP/CHW.15/6/Add.6/Rev.1 - Technical guidelines on the environmentally sound management of wastes consisting of, containing or contaminated with mercury or mercury compounds; Conference of the Parties to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, Fifteenth meeting, 8 July 2022.
- Bastiansz et al. 2022. Bastiansz A, Ewald J, Rodríguez Saldaña V, Santa-Rios A, Basu N. A Systematic Review of Mercury Exposures from Skin-Lightening Products, *Environmental Health Perspectives*, November 2022.
- CEC 2017. Enhancing the Alignment of North American Trade Statistics on Elemental Mercury and Mercury-added Products, Commission for Environmental Cooperation, Montreal, Canada.
- Chen et al. 2020. Chen J, Ye Y, Ran M, Li Q, Ruan Z, Jin N. Inhibition of tyrosinase by mercury chloride: spectroscopic and docking studies. *Front Pharmacol* 11:81, 2020. <https://doi.org/10.3389/fphar.2020.00081>
- Copan et al. 2015. Copan L, Fowles J, Barreau T, McGee N. Mercury Toxicity and Contamination of Households from the Use of Skin Creams Adulterated with Mercurous Chloride (Calomel). *Int J Environ Res Public Health*. 2015 Sep 2;12(9):10943-54.
- DG ENV 2008. Options for reducing mercury use in products and applications, and the fate of mercury already circulating in society, COWI AS and Concorde East/West for the European Commission, DG ENV, December 2008, Brussels. http://ec.europa.eu/environment/chemicals/mercury/pdf/study_report2008.pdf
- DG ENV 2020a. Prepare Information for submissions to the two Minamata Convention Registries under Article 4(4) and 5(4), Service Request 19 under Framework Contract ENV.C.4/FRA/2015/0042, Ricardo Energy & Environment for the European Commission (DG Environment), 24 February 2020.
- DG ENV 2020b. Prepare Information for submissions to the two Minamata Convention Registries under Article 4(4) and 5(4): Appendix 1: Regulatory gaps between the EU acquis and the Minamata Convention, Ricardo Energy & Environment for the European Commission (DG Environment), 24 February 2020.
- DG ENV 2020c. Prepare Information for submissions to the two Minamata Convention Registries under Article 4(4) and 5(4): Appendix 2: Fiches on mercury-containing products and/or processes regulated in the EU but not under the Minamata Convention, Ricardo Energy & Environment for the European Commission (DG Environment), 24 February 2020.
- DG ENV 2020d. Prepare Information for submissions to the two Minamata Convention Registries under Article 4(4) and 5(4): Appendix 3: Fiches on non-regulated uses of mercury compounds products and processes in the EU, Ricardo Energy & Environment for the European Commission (DG Environment), 24 February 2020.
- DG ENV 2020e. Prepare Information for submissions to the two Minamata Convention Registries under Article 4(4) and 5(4): Appendix 4: Fiches on other and/or emerging uses of mercury-added products or processes, Ricardo Energy & Environment for the European Commission (DG Environment), 24 February 2020.
- DME 2014. Maag J, Kjølholt J, Mikkelsen SH, Jeppesen CN, Clausen AJ, Ostfeldt M. Survey of mercury and mercury compounds, Part of the LOUS-review, Environmental Proj. No. 1544, COWI A/S for Danish Environmental Protection Agency, Denmark. ISBN no. 978-87-93026-98-8.
- EIA 2023. Mercury in Retrograde: The Dark World of Toxic Skin Lightening Products, Environmental Investigation Agency (EIA), 2023. https://us.eia.org/wp-content/uploads/2023/10/EIA_US_Mercury_in_SLP_report_0923_EIA_report_0208.pdf
- European Commission 2015. Reply to UNEP's call for submissions in relation to a series of technical issues regarding the Minamata Convention on Mercury (1 December 2014); Document Version 30 April 2015.
- European Commission 2019. Inventory of Existing Mercury-Added Products and Manufacturing Processes Involving the Use of Mercury or Mercury Compounds: Explanatory Text, in accordance with Regulation (EU) 2017/852 of the European Parliament and of the Council of 17 May 2017 on mercury and repealing Regulation (EC) No 1102/2008, Revision 1, 29 April 2019.
- European Commission 2023. EU Mercury Regulation 2023/0272 (COD). Proposal for a Regulation of the European Parliament and of the Council amending Regulation (EU) 2017/852 of the European Parliament and of the Council of

17 May 2017 on mercury as regards dental amalgam and other mercury-added products subject to manufacturing, import and export restrictions.

UNEP and GRID-Arendal 2020. The Illegal Trade in Chemicals. United Nations Environment Programme, 2020.

Ibarz, Lawrence, Hunter 2024. Personal communications with Xavier Ibarz, Econ Industries; Bruce Lawrence, Bethlehem Apparatus; and David Hunter, December 2024.

IMERC 2018. IMERC Fact Sheet: Formulated Mercury-Added Products, Interstate Mercury Education and Reduction Clearinghouse, December 2018.

MinSec 2023a. UNEP/MC/COP.5/CRP.2 – Study of the global supply, trade and use of mercury compounds: Submission by the Governments of Australia, Canada, Chile and the United States of America. Conference of the Parties to the Minamata Convention on Mercury, Fifth meeting.

MinSec 2023b. UNEP/MC/COP.5/INF/5* – Submissions by parties and stakeholders and further information collected by the secretariat on annexes A and B to the Minamata Convention on Mercury: Note by the secretariat. Conference of the Parties to the Minamata Convention on Mercury, Fifth meeting.

MinSec 2023c. UNEP/MC/COP.5/INF/22* – The first effectiveness evaluation of the Minamata Convention on Mercury: Draft report on mercury trade, supply and demand. Conference of the Parties to the Minamata Convention on Mercury, Fifth meeting.

MinSec 2023d. Report on the collection of technical and market information on mercury-added products, mercury-using manufacturing processes and their alternatives, Minamata Secretariat [See also UNEP/MC/COP.5/INF/5]

Minamata First Full National (Article 21) Reports, Minamata Secretariat. https://minamataconvention.org/en/parties/documents?f%5B0%5D=document_type%3A8

Minamata Second Short National (Article 21) Reports, Minamata Secretariat. https://minamataconvention.org/en/parties/documents?f%5B0%5D=document_type%3A8

Minamata Initial Assessments (MIA): <https://www.mercuryconvention.org/en/parties/minamata-initial-assessments>

Minamata National Implementation Plans: <https://minamataconvention.org/en/parties/national-implementation-plans>

MoE Japan 2017. National Implementation Plan for Preventing Environmental Pollution of Mercury and Mercury Compounds - To Realize the Mercury Minimum Environment, Inter-Ministerial Coordination Council on the Minamata Convention on Mercury, Ministry of the Environment, Japan, October 2017.

NRDC 2015. NRDC submission of information relevant to the identification of individual stocks of mercury or mercury compounds exceeding 50 MT, and sources of mercury supply generating stocks exceeding 10 MT, Natural Resources Defense Council, 2015.

NRDC 2023. Feasibility of conducting a global inventory of mercury compound supply, use and trade. Concorde East/West for Natural Resources Defense Council.

NYC Health Department 2024. Hazardous Products: Mercury in Soaps and Creams, City of New York, 2024. <https://www.nyc.gov/site/doh/health/health-topics/mercury-in-soaps-and-creams.page>

PubChem. National Library of Medicine, 8600 Rockville Pike, Bethesda, Maryland, USA 20894. <https://pubchem.ncbi.nlm.nih.gov/>

Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade.

SAICM 2019. Third meeting of the intersessional process considering the Strategic Approach and sound management of chemicals and waste beyond 2020. Item 5 of the provisional agenda. Bangkok, Thailand, 1-4 October 2019.

Sharma et al. 2019. Sharma BM, Bharat GK, Šebková K, Scheringer M. Implementation of the Minamata Convention to manage mercury pollution in India: challenges and opportunities. *Environ Sci Eur* **31**, 96 (2019). <https://doi.org/10.1186/s12302-019-0280-3>.

Sweden 2015. “The Swedish Inventory of Mercury,” as presented in the EU “Reply to UNEP’s call for submissions in relation to a series of technical issues regarding the Minamata Convention on Mercury (1 December 2014),” Document Version 30 April 2015.

UNEP 2006. Summary of Supply, Trade and Demand Information on Mercury, as per UNEP Governing Council decision 23/9 IV, United Nations Environment Programme – Chemicals. Geneva, November 2006.

UNEP 2013. Global Mercury Assessment 2013: Sources, Emissions, Releases and Environmental Transport. UNEP Chemicals Branch, Geneva, Switzerland.

UNEP 2017. Global mercury supply, trade and demand. United Nations Environment Programme, Chemicals and Health Branch, Geneva, Switzerland. Available at:
https://wedocs.unep.org/bitstream/handle/20.500.11822/21725/global_mercury.pdf?sequence=1&isAllowed=y

UNEP 2019. Global Mercury Assessment 2018. Available at: <https://www.unenvironment.org/resources/publication/global-mercury-assessment-2018>

UNEP-FAO Rotterdam Convention: <http://www.pic.int>

UNEP and GRID-Arendal 2020. The Illegal Trade in Chemicals.

USEPA 2009a. Mercury Compounds in the United States: Uses, Consumption, and International Trade, Concorde East/West for U.S. EPA, Purchase Order EP09H000456, March 2009.

USEPA 2009b. Potential Export of Mercury Compounds from the United States for Conversion to Elemental Mercury, Report to Congress, United States Environmental Protection Agency, Office of Pollution Prevention and Toxic Substances, Washington, DC, October 14, 2009.

USEPA 2020. Inventory of Mercury Supply, Use, and Trade in the United States - 2020 Report (Reporting Year 2018), Office of Chemical Safety and Pollution Prevention, U.S. Environmental Protection Agency, Washington DC, 2020 (incl. unpublished details on compounds).

Also: "Updated Table 2 on page 12 of Mercury Inventory Report (March 30, 2020)"

USEPA 2023. Inventory of Mercury Supply, Use, and Trade in The United States - 2023 Report, Office of Chemical Safety and Pollution Prevention - Reporting Year 2021.

ZMWG 2019. "Dangerous, mercury-laden and often illegal skin-lightening products: Readily available for (online) purchase," Zero Mercury Working Group (ZMWG), European Environmental Bureau (EEB), November 2019 (Revised March 2022)

ZMWG 2022. Skin Lighteners Still Online Despite Mercury Findings, Zero Mercury Working Group (ZMWG), European Environmental Bureau (EEB), March 2022. <https://eeb.org/wp-content/uploads/2022/03/ZMWG-Skin-2022-Report-Final.pdf>

ZMWG 2023a. "Prime" Time to Stop Online Sales of Illegal High Mercury Skin-Lightening Products, Mercury Policy Project, Zero Mercury Working Group (ZMWG) and European Environmental Bureau (EEB), February 2023.

ZMWG 2023b. Online Marketing of Toxic Skin Lighteners: Mercury cosmetics marketed as a 'solution' to dark skin, Zero Mercury Working Group (ZMWG), European Environmental Bureau (EEB), October 2023.

Appendix 1

EINECS* mercury compounds and substances

Substance name	EC number	CAS number
(2',7'-dibromo-3',6'-dihydroxy-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthen]-4'-yl)hydroxymercury	259-779-2	55728-51-3
(2-carboxy-m-tolyl)hydroxymercury, monosodium salt	258-195-5	52795-88-7
(2-carboxyphenyl)hydroxymercury	237-918-8	14066-61-6
(2-ethylhexanoato)phenylmercury	236-326-7	13302-00-6
(acetato-O)[3-(chloromethoxy)propyl-C,O]mercury	227-719-4	5954-14-3
(acetato-O)diamminephenylmercury	269-247-1	68201-97-8
(acetato-O)ethylmercury	203-688-2	109-62-6
(acetato-O)methylmercury	203-547-5	108-07-6
(bromodichloromethyl)phenylmercury	221-961-4	3294-58-4
(dihydroxyphenyl)phenylmercury	248-426-8	27360-58-3
(lactato-O1,O2)mercury	242-673-5	18918-06-4
(maleoyldioxy)bis[phenylmercury]	220-286-2	2701-61-3
(metaborato-O)phenylmercury	250-518-8	31224-71-2
(neodecanoato-O)phenylmercury	247-783-7	26545-49-3
(oleato)phenylmercury	203-218-6	104-60-9
(phenylmercurio)urea	218-909-8	2279-64-3
1-cyano-3-(methylmercurio)guanidine	207-935-5	502-39-6
2-(ethylmercuriothio)benzoic acid	205-719-5	148-61-8
2-chloromercuriophenol	201-962-6	90-03-9
2-ethoxyethylmercury acetate	204-678-0	124-08-3
2-ethoxyethylmercury chloride	204-670-7	124-01-6
2-hydroxy-5-(1,1,3,3-tetramethylbutyl)phenylmercury acetate	209-534-0	584-18-9
2-methoxyethylmercury acetate	205-790-2	151-38-2
2-methoxyethylmercury chloride	204-659-7	123-88-6
4-aminophenylmercury acetate	228-497-1	6283-24-5
4-chloromercuriobenzoic acid	200-442-6	59-85-8
6-methyl-3-nitrobenzoxamercurete	205-112-5	133-58-4
[(2-hydroxyethyl)amino]phenylmercury acetate	263-211-9	61792-06-1
[2,2,2"-nitrioltri(ethanol)-N,O,O',O"]phenylmercury lactate	245-581-3	23319-66-6
[2,5-dichloro-3,6-dihydroxy-2,5-cyclohexadiene-1,4-dionato(2-)-O1,O6]mercury	251-672-9	33770-60-4
EI	248-559-1	27605-30-7
[benzoato(2-)-C2,O1]mercury	227-228-5	5722-59-8
[mu-[(oxydiethylene but-2-enedioato)(2-)]diphenyldimercury	301-791-8	94070-92-5
[mu-[(oxydiethylene phthalato)(2-)]diphenylmercury	301-792-3	94070-93-6
[mu-[[4,4'-(oxydiethylene) bis(dodecenylsuccinato)](2-)]diphenyldimercury	299-418-6	93882-20-3
[mu-[metasilicato(2-)-O:O]]bis(2-methoxyethyl)dimercury	242-997-7	19367-79-4
[mu-[orthoborato(2-)-O:O']]diphenyldimercury	228-465-7	6273-99-0
[naphthoato(1-)-O]phenylmercury	250-736-3	31632-68-5
[salicylato(2-)-O1,O2]mercury	227-760-8	5970-32-1
Aminomercury chloride	233-335-8	10124-48-8
Amminephenylmercury(1+) acetate	245-006-6	22450-90-4
Barium tetraiodomercurate	233-160-7	10048-99-4
Bis(5-oxo-DL-prolinato-N1,O2)mercury	304-523-8	94276-38-7
Bis(5-oxo-L-prolinato-N1,O2)mercury	305-388-8	94481-62-6
Bis(acetato-O)[i -(3',6'-dihydroxy-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthen]-2',7'-diyl)]dimercury	222-673-1	3570-80-7
Bis(acetato-O)[mu-[1,3-dioxane-2,5-diylbis(methylene)-C:C',O,O']]dimercury	281-717-8	84029-43-6

Substance name	EC number	CAS number
Bis(lactato-O1,O2)mercury	242-667-2	18917-83-4
Bis(trichloromethyl)mercury	229-867-5	6795-81-9
Bis(+)-lactato]mercury	251-657-7	33724-17-3
Bis(trimethylsilyl)methyl]mercury	236-315-7	13294-23-0
Bromo(2-hydroxypropyl)mercury	242-613-8	18832-83-2
Bromoethylmercury	203-477-5	107-26-6
Bromomethylmercury	208-057-5	506-83-2
Bromophenylmercury	214-760-8	1192-89-8
Cadmium mercury sulfide	215-717-6	1345-09-1
Cadmium mercury telluride	249-914-3	29870-72-2
Chloro(hydroxyphenyl)mercury	215-308-2	1320-80-5
Chloro-2-thienylmercury	227-481-1	5857-39-6
Chloro-m-tolylmercury	227-722-0	5955-19-1
Chloro-o-tolylmercury	220-469-7	2777-37-9
Chloro[p-[(2-hydroxy-1-naphthyl)azo]phenyl]mercury	221-358-6	3076-91-3
Chloromethylmercury	204-064-2	115-09-3
Di(acetato-O)anilinemercury	264-306-8	63549-47-3
Di-o-tolylmercury	210-499-9	616-99-9
Di-p-tolylmercury	208-672-9	537-64-4
Diammonium tetrachloromercurate	251-524-3	33445-15-7
Dicopper tetraiodomercurate	237-634-4	13876-85-2
Diethylmercury	211-000-7	627-44-1
Dihydrogen [orthoborato(3-)-O]phenylmercurate(2-)	203-068-1	102-98-7
Diiodo(5-iodopyridin-2-amine-N1)mercury	298-602-3	93820-20-3
Diiodobis(5-iodopyridin-2-amine)mercury dihydroiodide	264-100-8	63325-16-6
Dimercury amidatenitrate	215-187-6	1310-88-9
Dimercury di(acetate)	211-161-3	631-60-7
Dimercury dichloride	233-307-5	10112-91-1
Dimercury dicyanide oxide	215-629-8	1335-31-5
Dimercury difluoride	237-747-9	13967-25-4
Dimercury diiodide	239-409-6	15385-57-6
Dimercury dinitrate	233-886-4	10415-75-5
Dimercury sulphate	231-993-0	7783-36-0
Dimercury(I) oxalate	220-966-9	2949-11-3
Dimethyl[η -[sulphato(2-)-O:O']]dimercury	223-288-1	3810-81-9
Dimethylmercury	209-805-3	593-74-8
Diphenyl[μ -[(tetrapropenyl)succinato(2-)-O:O']]dimercury	248-355-2	27236-65-3
Diphenylmercury	209-606-1	587-85-9
Dipotassium tetracyanomercurate	209-735-3	591-89-9
Dipotassium tetraiodomercurate	231-990-4	7783-33-7
Disodium tetra(cyano-C)mercurate(2-)	239-766-8	15682-88-9
Disuccinimidomercury	209-537-7	584-43-0
Ethylmercury	219-471-0	2440-42-8
Ethylmercury chloride	203-478-0	107-27-7
Hydrogen [3-[(\acute{a} -carboxylato-o-anisoyl)amino]-2-hydroxypropyl]hydroxymercurate(1-)	247-796-8	26552-50-1
Hydrogen [metasilicato(2-)-O](2-methoxyethyl)mercurate(1-)	264-920-6	64491-92-5
Hydrogen μ -hydroxy[μ -[orthoborato(3-)-O:O']]diphenyldimercurate(1-)	304-637-8	94277-53-9
Hydrogen triiodomercurate(1-), compound with 3-methyl-3H-benzothiazol-2-imine (1:1)	276-613-4	72379-35-2
Iodo(iodomethyl)mercury	205-485-4	141-51-5
Iodomethylmercury	205-600-8	143-36-2
Lactatophenylmercury	204-560-9	122-64-5

Substance name	EC number	CAS number
Mercurate(1-), [dodecenybutanedioato(2-)-O']phenyl-, hydrogen	304-575-1	94276-88-7
Mercurialis annua, ext.	290-062-7	90064-02-1
Mercurialis perennis, ext.	290-063-2	90064-03-2
Mercurbutol	207-869-7	498-73-7
Mercurous oxide	239-934-0	15829-53-5
Mercury	231-106-7	7439-97-6
Mercury acetate	209-766-2	592-63-2
Mercury bis(2-ethylhexanoate)	236-113-9	13170-76-8
Mercury bis(4-chlorobenzoate)	239-548-2	15516-76-4
Mercury bis(trifluoroacetate)	236-250-4	13257-51-7
Mercury chloride	231-430-9	7546-30-7
Mercury di(acetate)	216-491-1	1600-27-7
Mercury dibenzoate	209-499-1	583-15-3
Mercury dibromide	232-169-3	7789-47-1
Mercury dichloride	231-299-8	7487-94-7
Mercury dichromate	232-144-7	7789-10-8
Mercury dicyanide	209-741-6	592-04-1
Mercury difluoride	231-994-6	7783-39-3
Mercury difulminate	211-057-8	628-86-4
Mercury diiodate	231-989-9	7783-32-6
Mercury diiodide	231-873-8	7774-29-0
Mercury dinitrate	233-152-3	10045-94-0
Mercury dioleate	214-741-4	1191-80-6
Mercury diperchlorate	231-525-5	7616-83-3
Mercury dipotassium tetrathiocyanate	237-949-7	14099-12-8
Mercury disilver tetraiodide	232-045-9	7784-03-4
Mercury distearate	211-458-8	645-99-8
Mercury dithiocyanate	209-773-0	592-85-8
Mercury fluoride	248-538-7	27575-47-9
Mercury hydrogen cyclohexanebutyrate	263-665-8	62638-02-2
Mercury hydrogenarsenate	232-062-1	7784-37-4
Mercury iodide	231-988-3	7783-30-4
Mercury monoxide	244-654-7	21908-53-2
Mercury selenide	243-910-5	20601-83-6
Mercury silver iodide	235-601-9	12344-40-0
Mercury succinate	209-656-4	589-65-1
Mercury sulphate	231-992-5	7783-35-9
Mercury telluride	235-108-9	12068-90-5
Mercury thallium dinitrate	301-543-9	94022-47-6
Mercury(1+) bromate	236-694-9	13465-33-3
Mercury(1+) ethyl sulphate	275-904-3	71720-55-3
Mercury(1+) trifluoroacetate	220-875-4	2923-15-1
Mercury(2+) (9Z,12Z)-octadeca-9,12-dienoate	231-814-6	7756-49-2
Mercury(2+) chloroacetate	247-925-8	26719-07-3
Mercury(2+) tetrakis(thiocyanato-N)cobaltate(2-)	248-602-4	27685-51-4
Mercury(II) oxalate	222-356-8	3444-13-1
Mercury(II) sulfide	215-696-3	1344-48-5
Mercury, compound with titanium (1:3)	234-306-2	11083-41-3
Mercury, reaction products with stibnite (Sb ₂ S ₃)	295-924-6	92200-97-0
Methyl(pentachlorophenolato)mercury	227-596-7	5902-76-1
Methylmercury benzoate	222-834-6	3626-13-9
Methylmercury hydroxide	214-667-2	1184-57-2

Substance name	EC number	CAS number
N-(ethylmercurio)toluene-4-sulphonanilide	208-231-0	517-16-8
Naphthenic acids, mercury salts	215-651-8	1336-96-5
P-tolylmercury chloride	208-716-7	539-43-5
Phenyl(quinolin-8-olato-N1,O8)mercury	238-316-8	14354-56-4
Phenyl(tribromomethyl)mercury	221-963-5	3294-60-8
Phenyl(trichloromethyl)mercury	221-960-9	3294-57-3
Phenylmercury acetate	200-532-5	62-38-4
Phenylmercury benzoate	202-331-8	94-43-9
Phenylmercury chloride	202-865-1	100-56-1
Phenylmercury dimethyldithiocarbamate	251-026-6	32407-99-1
Phenylmercury hydroxide	202-866-7	100-57-2
Phenylmercury nitrate	200-242-9	55-68-5
Phenylmercury propionate	203-094-3	103-27-5
Phenylmercury salicylate	248-828-3	28086-13-7
Phenylmercury stearate	203-217-0	104-59-6
Phosphoric acid, mercury salt	233-939-1	10451-12-4
Potassium triiodomercurate(1-)	244-913-4	22330-18-3
Residues, zinc refining flue dust wastewater, mercury-selenium	309-609-9	100403-63-2
Slimes and Sludges, alkali metal chloride electrolysis, mercury-free	293-673-7	91081-66-2
Slimes and Sludges, chlorine manuf. mercury cell brine treatment	274-638-5	70514-23-7
Slimes and Sludges, chlorine manuf. mercury cell brine treatment wastewater	294-413-5	91722-12-2
Slimes and Sludges, chlorine manuf. mercury cell process	293-676-3	91081-69-5
Slimes and Sludges, copper conc. roasting off gas scrubbing, lead-mercury-selenium-contg.	310-062-3	102110-61-2
Sodium 4-chloromercuriobenzoate	221-700-4	3198-04-7
Sodium 4-hydroxymercuriobenzoate	205-340-5	138-85-2
Sodium [3-[[[(3-carboxylatopropionamido)carbonyl]amino]-2-methoxypropyl]hydroxymercurate(1-)	231-532-3	7620-30-6
Trimercury biscitrate	242-096-9	18211-85-3
Trimercury dioxide sulphate	215-191-8	1312-03-4
Tris(ethylmercury) phosphate	218-790-2	2235-25-8

* EINECS = European Inventory of Existing Commercial Chemical Substances. This inventory includes chemical substances deemed to be on the European Community market between 1 January 1971 and 18 September 1981.

The European List of Notified Chemical Substances (ELINCS) consists of all chemical substances notified within the European Community after 18 September 1981.

Appendix 2

Dangerous skin-lightening soaps and creams

More than 1000 SLPs have been analyzed for their mercury content and are available in the Zero Mercury Working Group database (<https://www.zeromercury.org/cream-catalog/>).

Below is a shorter list of mercury-added SLPs posted by the New York City Health Department, <https://www.nyc.gov/site/doh/health/health-topics/mercury-in-soaps-and-creams.page> (accessed 27 December 2024)

Products made in Pakistan	Manufacturer
Al-Riyan Beauty Cream Skin-Lightening Cream Health Warning (PDF)	Al-Riyan Group
Chandni Whitening Cream Skin-Lightening Cream Health Warning (PDF)	SJ Enterprises
Due Beauty Cream Skin-Lightening Cream Health Warning (PDF)	Kreative Cosmetics (Pvt) Ltd.
Face Fresh Beauty Cream Skin-Lightening Cream Health Warning (PDF)	Shaheen Cosmetics
Faiza No 1 Beauty Cream Skin-Lightening Cream Health Warning (PDF)	A.M. Cosmetics
Faiza Beauty Cream Skin-Lightening Cream Health Warning (PDF)	Poonia Brothers
Golden Pearl Beauty Cream Skin-Lightening Cream Health Warning (PDF)	Golden Pearl Cosmetics
Golden Star Beauty Cream Skin-Lightening Cream Health Warning (PDF)	Golden Star A. R. Cosmetics Co.
Goree Beauty Cream Skin-Lightening Cream Health Warning (PDF)	Goree Cosmetics (Pvt.) Ltd.
Goree Beauty Cream with Lycopene Skin-Lightening Cream Health Warning (PDF)	Goree Cosmetics (Pvt.) Ltd.
Infocus Professional Herbal Beauty Cream Skin-Lightening Cream Health Warning (PDF)	Infocus Cosmetology Co.
Infocus Professional Pearl Beauty Cream Skin-Lightening Cream Health Warning (PDF)	Infocus Cosmetology Co.
Kanza Beauty Cream Skin-Lightening Cream Diana and Kanza Health Warning (PDF)	Noorani & Company
Parley Goldie Advanced Beauty Cream Skin-Lightening Cream Health Warning (PDF)	Khyber Chemical (Pvt.) Ltd
Sajal Gold Beauty Cream Skin-Lightening Cream Health Warning (PDF)	Modern Cosmetics
Sandal Whitening Beauty Cream Skin-Lightening Cream Health Warning (PDF)	MMC Cosmetics (Pvt.) Ltd.
Seven Herbal Ubtan Cream Skin-Lightening Cream Health Warning (PDF)	C.P.H.L.
Stillman's Freckle Cream Skin-Lightening Cream Health Warning (PDF)	Stillman Company Inc., USA
Stillman's Skin Bleach Cream Skin-Lightening Cream Health Warning (PDF)	Stillman Company Inc., USA
White Pearl Plus Extra Whitening Treatment Cream Skin-Lightening Cream Health Warning (PDF)	White Pearl Cosmetics International
Zuni Beyoutiful Beauty Cream Skin-Lightening Cream Health Warning (PDF)	Zuni USA LLC.

Products made in Lebanon	Manufacturer
Diana Cream Skin-Lightening Cream Diana and Kanza Health Warning Sign (PDF)	Diana de Beauté
Creme Diana Skin-Lightening Cream Health Warning Sign (PDF)	ETS. Diana De Beauté-Beyrouth

Products made in Spain	Manufacturer
------------------------	--------------

Niuma Medicated Antiseptic Soap	Niuma Belleza
Niuma Lemon Medicated Germicidal Soap	Niuma Belleza

Products made in the Dominican Republic	Manufacturer
Crema Santa	N/A
Crema Santa Germicida	N/A
Dermaline Beauty Cream	N/A
Dermaline Skin Cream	N/A
Dermaline Skin Whitening Cream	N/A
Jabon Germicida Contifarma (soap)	N/A
Miss Key Crema Blanqueadora	N/A
Pomada Salva-Vida (balm)	N/A
Recetas de la Farmacia Normal-Crema Blanqueadora	N/A

Product made in Jamaica	Manufacturer
Deluxe Nadinola Bleaching Cream 13	N/A

Products made in Thailand	Manufacturer
My White Whitening Keratin Night Cream	Three Smile Limited Partnership
Nano Extra White Whitening Cream with Papaya and Carrot plus Glutathione	Krungthep D-NE Co., Ltd.
Wow White-Me Bee Venom - White Snail Cream for Radiant Skin	Nature Cosmetics and Products Co., Ltd.

Product Made in European Economic Community	Manufacturer
Germicida 200 (soap)	N/A

Products with unknown place of manufacture	Manufacturer
Due Beauty Cream	
Skin-Lightening Cream Health Warning Sign (PDF)	Kreative Cosmetics (Pvt.) Ltd.
Infocus Professional Skin Whitening Cream	
Skin-Lightening Cream Health Warning (PDF)	Infocus Cosmetology Co.
Magia Blanca de Michelle Marie Crema Blanqueadora	N/A
Nufutong	
Skin-Lightening Cream Nufutong Health Warning Sign (PDF)	N/A
Stillman's Freckle Cream	
Skin-Lightening Cream Health Warning (PDF)	The Stillman Company (Pvt.) Ltd.
Zuni Gold Finest Beauty Cream	
Skin-Lightening Cream Health Warning (PDF)	Zuni USA LLC

¹³ According to comments submitted by the Zero Mercury Working Group (ZMWG) to the Minamata Secretariat, the current name of the cream made in Jamaica is Silken Deluxe. Nadinola is an old commercial name, no longer used by the Jamaican producer, Fedlin Ltd.

Appendix 3

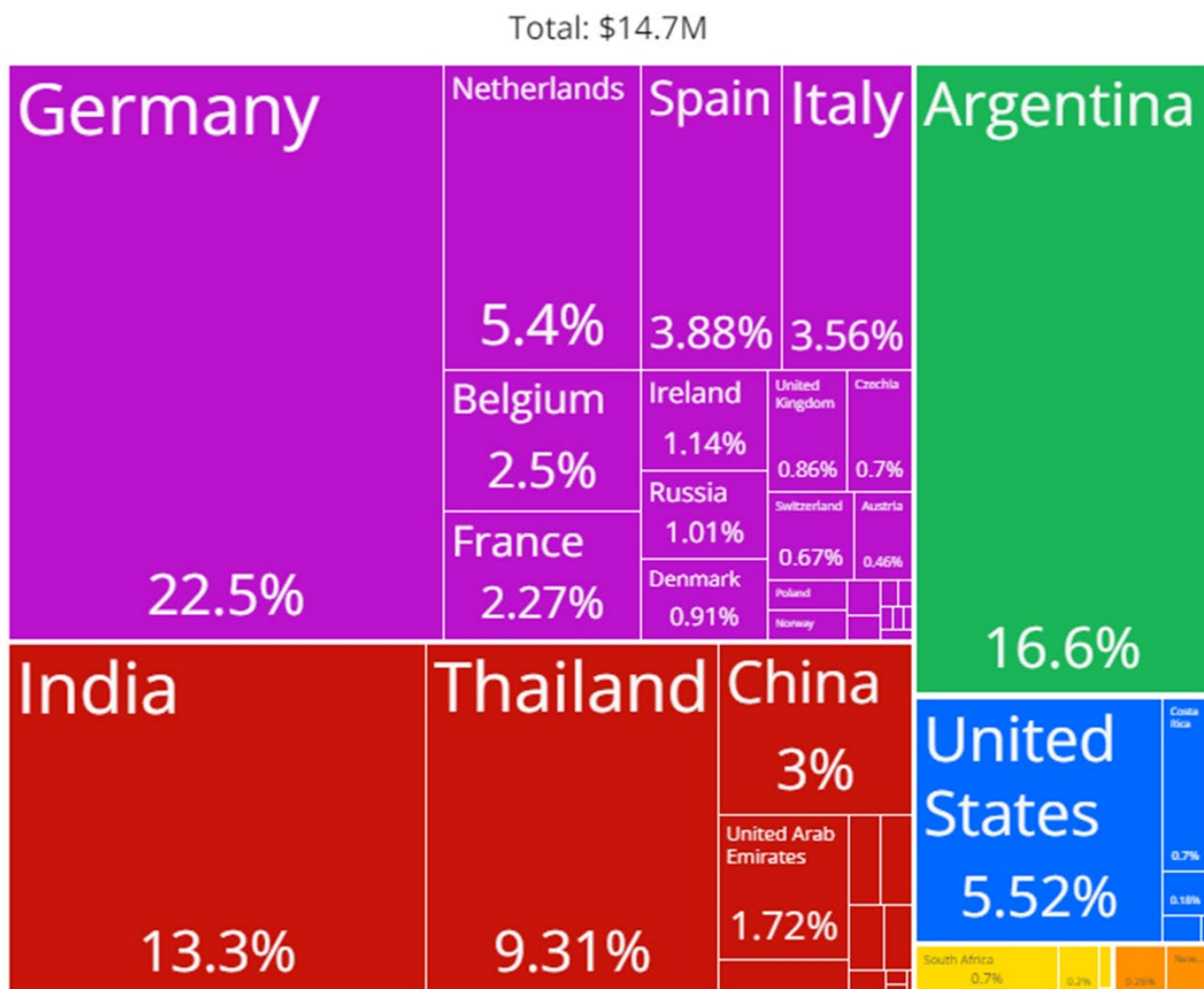
Mercury compound trade adjusted by algorithm

The following two figures of exports and imports of HS 285210 in 2022 are sourced from OEC World (<https://oec.world/en/profile/hs/inorganic-or-organic-compounds-of-mercury-excluding-amalgams-chemically-defined?countryComparisonMeasureSelector=Trade+Value>), which uses the BACI database (Comtrade data) of CEPII, as adjusted by an algorithm: (https://www.cepii.fr/CEPII/en/bdd_modele/bdd_modele_item.asp?id=37).

In these figures, the algorithm has synchronized the value of imports and exports at USD 14.7 million. For comparison, the total value of the raw Comtrade export data for HS 285210 in 2022 was USD 8.0 million, and total imports were valued at USD 14.6 million.

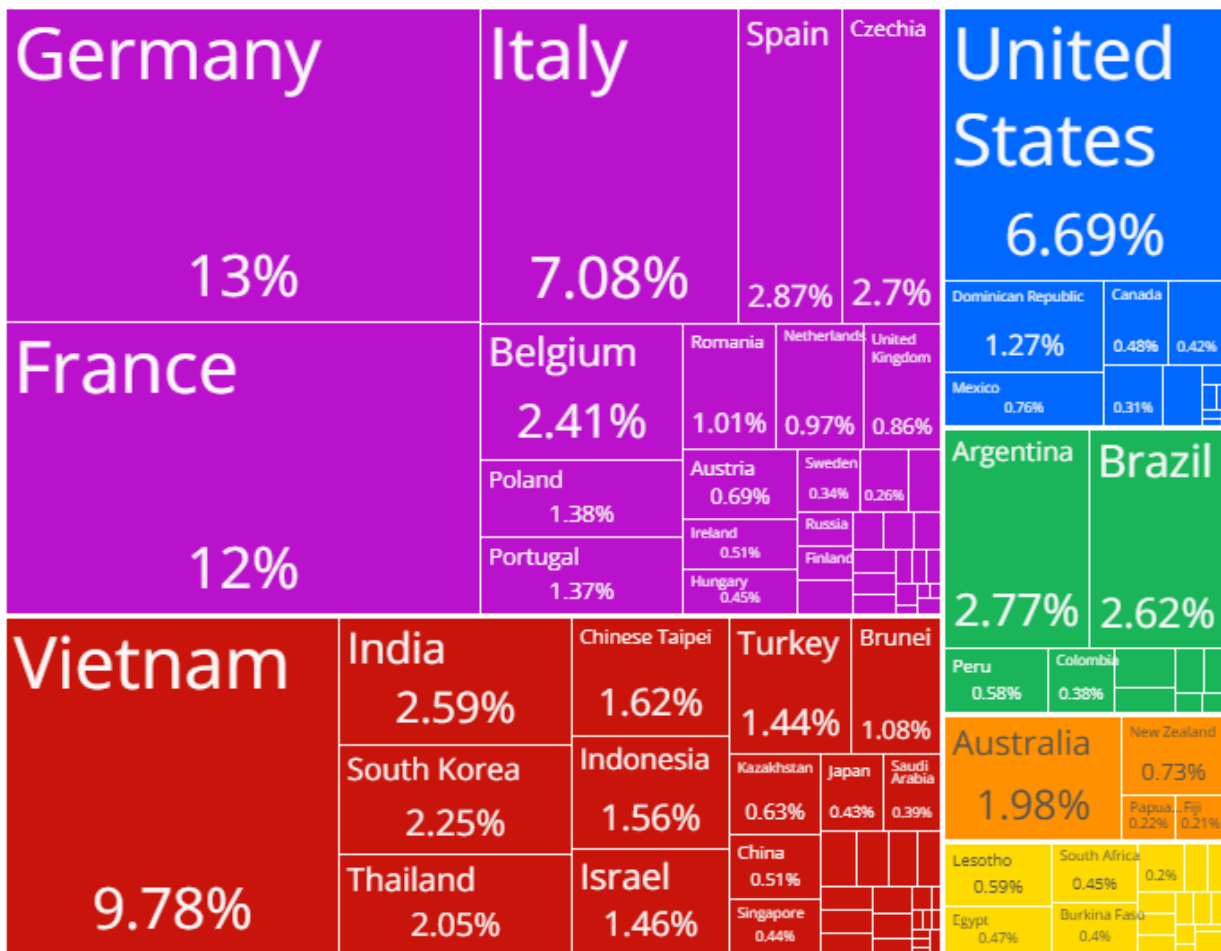
Note: Due to mistakes and inconsistencies in the source data from which this summary is derived, caution should be taken in interpreting the data.

Exporters of HS 285210 (Inorganic or organic compounds of mercury, excluding amalgams, chemically defined), by value (2022), including transactions between EU Member States



Importers of HS 285210 (Inorganic or organic compounds of mercury, excluding amalgams, chemically defined), by value (2022), including transactions between EU Member States

Total: \$14.7M



Appendix 4

Major traders of mercury compounds

Using HS code 285210, which does not identify specific mercury compounds, the following tables summarize the main exports and imports reported by major traders for 2023, according to the UN Statistics Division Comtrade database.

Note: Due to mistakes and inconsistencies in the source data from which these tables are derived, caution should be taken in interpreting the data.

United States

United States – Reported exports and imports (≥ 100 kg) of mercury compounds in 2023

HS 285210 – Mercury compounds, chemically defined, inorganic or organic, excluding amalgams			
	Trading partner	Quantity (kg)	Value (USD)
Export to	Brazil	502	44005
Export to	Canada	8732	46422
Export to	Chile	455	14540
Export to	Germany	13809	248853
Export to	Guatemala	129	4984
Export to	Mexico	3846	33441
Export to	India	19492	167995
Export to	United Arab Emirates	36578	265940
Export to	United Kingdom	171	7604
Import from	Argentina	1846	157600
Import from	India	1462	207194
Source: Comtrade (10 November 2024)			

South Africa

South Africa – Reported exports and imports (≥ 100 kg) of mercury compounds in 2023

HS 285210 – Mercury compounds, chemically defined, inorganic or organic, excluding amalgams			
	Trading partner	Quantity (kg)	Value (USD)
Export to	Lesotho	64073	94174
Import from	India	993	78531
Source: Comtrade (10 November 2024)			

France

France – Reported exports and imports (≥ 100 kg) of mercury compounds in 2023

HS 285210 - Mercury compounds, chemically defined, inorganic or organic, excluding amalgams			
	Trading partner	Quantity (kg)	Value (USD)
Export to	Algeria	209	13313
Export to	Australia	200	923
Outgoing transaction to	Austria	112	264
Outgoing transaction to	Belgium	3524	12418
Outgoing transaction to	Czechia	1075	4420
Export to	Benin	226	1721
Outgoing transaction to	Denmark	345	815
Outgoing transaction to	Germany	4186	25301
Outgoing transaction to	Hungary	313	1334
Outgoing transaction to	Italy	4384	61000
Outgoing transaction to	Luxembourg	475	1123
Outgoing transaction to	Netherlands	980	3968

HS 285210 - Mercury compounds, chemically defined, inorganic or organic, excluding amalgams			
Outgoing transaction to	Portugal	685	1619
Outgoing transaction to	Romania	143	339
Outgoing transaction to	Slovenia	297	701
Outgoing transaction to	Spain	8080	26447
Export to	Switzerland	113	1443
Export to	Türkiye	244	2162
Export to	United Kingdom	133	11888
Export to	Burkina Faso	121	918
Import from	Argentina	728	2324
Incoming transaction from	Belgium	342953	814261
Import from	China	20007	35808
Incoming transaction from	Estonia	600	1754
Incoming transaction from	Germany	61616	348527
Incoming transaction from	Italy	6652	81668
Incoming transaction from	Netherlands	55067	242057
Import from	India	321	25839
Import from	United States	937	3373
Source: Comtrade (10November 2024) via INSEE			

Morocco

Morocco – Reported exports and imports (≥ 100 kg) of mercury compounds in 2023

HS 285210 - Mercury compounds, chemically defined, inorganic or organic, excluding amalgams			
	Trading partner	Quantity (kg)	Value (USD)
Export to	Mauritania	8600	8754
Import from	Belgium	147	459
Source: Comtrade (10November 2024)			

Malaysia

Malaysia – Reported exports and imports (≥ 100 kg) of mercury compounds in 2023

HS 285210 - Mercury compounds, chemically defined, inorganic or organic, excluding amalgams			
	Trading partner	Quantity (kg)	Value (USD)
Export to	Singapore	6200	18344
Import from	France	602	20620
Import from	India	6645	40471
Source: Comtrade (10November 2024)			

Italy

Italy – Reported exports and imports (≥ 100 kg) of mercury compounds in 2023

HS 285210 - Mercury compounds, chemically defined, inorganic or organic, excluding amalgams			
	Trading partner	Quantity (kg)	Value (USD)
Outgoing transaction to	Romania	265	79443
Incoming transaction from	Austria	26957	23222
Incoming transaction from	Belgium	137	70598
Incoming transaction from	Finland	1200	1518
Incoming transaction from	France	296	5239
Incoming transaction from	Germany	11455	104865
Import from	India	1031	106911

HS 285210 - Mercury compounds, chemically defined, inorganic or organic, excluding amalgams			
Incoming transaction from	Spain	848983	191324
Import from	United States	3110	1775
Source: Comtrade (10November 2024) via Istituto Nazionale di Statistica			

As an example of intra-EU trade data that frequently shows inconsistencies, the above table indicates that 849 metric tons of mercury compounds were imported by Italy from Spain in 2023. However, the same database indicates that less than 5 metric tons of mercury compounds were exported (to all countries) by Spain in 2023.

Czechia

Czechia – Reported exports and imports (≥ 100 kg) of mercury compounds in 2023

HS 285210 - Mercury compounds, chemically defined, inorganic or organic, excluding amalgams			
	Trading partner	Quantity (kg)	Value (USD)
Outgoing transaction to	Germany	268	54724
Import from	Argentina	3336	9740
Incoming transaction from	Austria	134	836
Incoming transaction from	Belgium	107	11643
Incoming transaction from	France	19750	71185
Incoming transaction from	Germany	2191	19050
Incoming transaction from	Italy	152000	148622
Import from	India	536	4374
Import from	Switzerland	275	413
Import from	United States	127	191
Source: Comtrade (10November 2024) via Czech Statistical Office			

Luxembourg

Luxembourg – Reported exports and imports (≥ 100 kg) of mercury compounds in 2023

HS 285210 - Mercury compounds, chemically defined, inorganic or organic, excluding amalgams			
	Trading partner	Quantity (kg)	Value (USD)
Outgoing transactions or exports	None ≥ 100 kg		
Incoming transaction from	Belgium	65080	14084
Source: Comtrade (10November 2024) via Service Central de la Statistique et des Etudes Economiques			

Portugal

Portugal – Reported exports and imports (≥ 100 kg) of mercury compounds in 2023

HS 285210 - Mercury compounds, chemically defined, inorganic or organic, excluding amalgams			
	Trading partner	Quantity (kg)	Value (USD)
Outgoing transaction to	Spain	184	1038
Incoming transaction from	Belgium	122	9278
Incoming transaction from	France	8141	59690
Incoming transaction from	Germany	350	2212
Incoming transaction from	Netherlands	15179	66573
Incoming transaction from	Spain	704	12580
Source: Comtrade (10November 2024) via Instituto Nacional de Estatistica			

NetherlandsNetherlands – Reported exports and imports (≥ 100 kg) of mercury compounds in 2023

HS 285210 - Mercury compounds, chemically defined, inorganic or organic, excluding amalgams			
	Trading partner	Quantity (kg)	Value (USD)
Outgoing transaction to	Belgium	654	15122
Outgoing transaction to	Germany	173	12694
Outgoing transaction to	Luxembourg	224	6795
Outgoing transaction to	Romania	361	81462
Outgoing transaction to	Spain	1987	8547
Incoming transaction from	Belgium	10231	73038
Incoming transaction from	Germany	696	32726
Source: Comtrade (10November 2024) via Centraal Bureau voor de Statistiek			

GermanyGermany – Reported exports and imports (≥ 100 kg) of mercury compounds in 2023

HS 285210 - Mercury compounds, chemically defined, inorganic or organic, excluding amalgams			
	Trading partner	Quantity (kg)	Value (USD)
Outgoing transaction to	Bulgaria	156	47834
Outgoing transaction to	France	229	195816
Outgoing transaction to	Hungary	119	179174
Export to	Indonesia	372	241177
Outgoing transaction to	Italy	106	97372
Export to	Other Asia	242	98872
Export to	India	106	90005
Export to	South Africa	135	43431
Outgoing transaction to	Spain	262	241241
Export to	Türkiye	144	112201
Export to	United Kingdom	182	271595
Export to	United States	135	100311
Import from	Argentina	758	797020
Incoming transaction from	Austria	274	910
Incoming transaction from	France	3543	24570
Import from	India	2429	397304
Source: Comtrade (10November 2024) via Statistisches Bundesamt			

Appendix 5

Country exports and imports of mercury compounds

Note: Due to mistakes and inconsistencies in the source data from which these tables are derived, caution should be taken in interpreting the data.

Reporting countries' exports of mercury compounds to all other countries, including transactions between EU Member States

Commodity code 285210 - Mercury compounds, chemically defined, inorganic or organic, excluding amalgams

Exporter*	Available data	Quantity (kg)						Sum
		2018	2019	2020	2021	2022	2023	
Total	2018-2023	2401447	970876	505492	781340	824566	804382	
Argentina	1992-Feb2024	330	0	0	0	0	0	330
Australia	1989-Feb2024	8321	1385	86	0	2271	15	12078
Austria Customs	2005-Jan2024	90420	89789	103947	107428	105729	58556	555869
Belarus	2008-Mar2022	1	0	0	0	0	0	1
Belgium	1999-Dec2023	3599	4101	2979	2023	1620	1867	16189
Belize	2010-Feb2024	61	0	0	0	0	0	61
Bosnia and Herzegovina	2005-Jan2024	4	0	0	0	0	0	4
Brazil	1989-Mar2024	2	0	0	9	2	0	13
Canada	1988-Feb2024	17350	13651	256	324	188	223	31992
Chile	2002-Feb2024	0	0	0	0	0	0	0
China	1995-Feb2024	11	81	105	25	0	0	222
Croatia	2002-Dec2023	0	2	1	151	0	7	161
Czech Republic Customs	1999-Feb2024	231	97	77	136	135	285	961
Denmark	1989-Dec2023	157	5	49	2	6552	0	6765
Estonia	2000-Jan2024	4	0	0	0	0	0	4
France Customs	2000-Feb2024	0	0	0	63661	44413	25525	133599
Germany Customs	2010-Jan2024	10000	6400	4800	3100	1800	800	26900
Guatemala	2005-Jan2024	22	26	4	4	21	17	94
Honduras	2005-Jan2024	2	1	0	0	0	0	3
Hong Kong	2005-Feb2024	0	0	0	2	0	5	7
Hungary	2000-Dec2023	3	0	0	0	0	10	13
India	2009-Jan2024	18767	6692	5406	4363	35766	3070	74064
Italy ISTAT	1991-Dec2023	1	126	15	12	289	265	708
Japan	1990-Feb2024	401	200	0	140	340	100	1181
Kazakhstan	2004-Feb2024	0	0	0	0	0	2	2
Kenya	2014-Feb2024	0	0	0	0	10	0	10
Latvia	2000-Jan2024	0	0	0	15	88	83	186
Malaysia	1990-Jan2024	0	0	0	0	0	6200	6200
Malta Customs	2006-Feb2024	0	0	20	0	0	0	20
Mexico	2000-Dec2023	5083	1054	23	11	0	0	6171
Morocco	2016-Jan2024	91	1550	2605	1010	0	8600	13856

Exporter*	Available data	Quantity (kg)						Sum
		2018	2019	2020	2021	2022	2023	2018-2023
Namibia	2014–Aug2023	0	0	0	2	0	0	2
Netherlands	1989–Dec2023	4427	10771	377	2220	1150	3627	22572
New Zealand	2003–Feb2024	1979	723	644	500	461	1408	5715
Nicaragua	2017–Dec2023	0	0	0	0	0	0	0
Norway	2000–Mar2024	0	1408	3677	17434	8810	4474	35803
Peru	2016–Jan2024	0	0	0	0	0	300	300
Poland Customs	2010–Jan2024	383	315	306	305	127	25	1461
Portugal	1989–Jan2024	480	0	178	764	1080	184	2686
Russia	2013–Jan2022	776	595	606	1611	132	0	3720
Serbia	2012–Feb2024	1	1	1	2	0	2	7
Singapore	2010–Feb2024	13	39	15543	3170	18	4	18787
Slovakia Customs	2006–Jan2024	1352501	1192	519	1114	1170	1016	1357512
Slovenia	2000–Dec2023	188	178	167	207	166	167	1073
South Africa	2004–Feb2024	167332	90819	83387	257097	113338	64381	776354
South Korea	1998–Mar2024	166	121	182	114	110	256	949
Spain Customs	2004–Jan2024	509	5559	280	344	700	3790	11181
Sweden	1995–Dec2023	11	40	7	23	5	0	86
Switzerland	1990–Feb2024	169	316	494	417	415	191	2002
Thailand	2007–Feb2024	596319	471671	243691	273809	433897	473951	2493338
Turkey	2013–Feb2024	45	284	477	283	1087	58	2234
Ukraine	2003–Jan2024	1	0	0	0	0	0	1
United Kingdom HMRC	2009–Feb2024	4144	1361	416	2441	1294	2675	12331
United States	1990–Feb2024	58696	130411	18675	18755	31303	83841	341681
United States Consumption	1990–Feb2024	58446	129912	15492	18312	29479	58402	310043
Zambia	2015–Feb2024	0	0	0	0	600	0	600

* All country names listed here are precisely as indicated in the source database.

Source: Trade Data Monitor, which draws its data from the Comtrade database (<https://comtradeplus.un.org/TradeFlow>)

Reporting countries' imports of mercury compounds from all other countries, including transactions between EU Member States

Commodity code 285210 - Mercury compounds, chemically defined, inorganic or organic, excluding amalgams

Importer*	Available data	Quantity (kg)						Sum
		2018	2019	2020	2021	2022	2023	
Total	2018-2023	3302597	2351411	1958882	2520563	3969078	1883040	0
Albania	2002–Jan2024	0	22	5	1	0	0	28
Argentina	1992–Feb2024	2249	2034	3203	2502	3652	1656	15295
Armenia	2010–Jan2024	0	0	0	0	30	0	31
Australia	1989–Feb2024	2690	3355	1990	2599	2485	869	13987
Austria Customs	2005–Jan2024	333	483	913	452	774	479	3434
Azerbaijan	2014–Feb2024	5	46	8	0	0	3	63
Bahrain	2012–Feb2024	11	8	2	5	0	0	26
Barbados	2014–Dec2023	0	0	29	0	0	0	29
Belarus	2008–Mar2022	44	52	50	77	55	0	278
Belgium	1999–Dec2023	11965	10494	4111	435955	784136	125377	1372038
Belize	2010–Feb2024	0	0	0	20	0	0	20
Bolivia	1992–Jan2024	71	660	6	159	66	21	983
Bosnia & Herzegovina	2005–Jan2024	15	17	22	36	27	25	142
Botswana	2010–Jan2024	191540	906	0	321	77	5	192849
Brazil	1989–Mar2024	639	984	289	554	806	702	3974
Brunei Darussalam	2010–Dec2023	4627	8739	6083	7367	6410	2584	35810
Bulgaria	2000–Dec2023	26	50	41	58	107	167	449
Canada	1988–Feb2024	18598	69352	10969	17961	7389	12505	136774
Chile	2002–Feb2024	34	17	25	23	55	57	210
China	1995–Feb2024	281	248	473	190	4	85	1281
Colombia	2000–Jan2024	85	227	91	57	107	97	663
Costa Rica	1996–Jan2024	194	62	33	93	69	12	463
Cote d'Ivoire	1996–Mar2024	67	26	330	35	627	17	1102
Croatia	2002–Dec2023	265	586	49	45	75	50	1070
Cyprus	2000–Dec2023	8	8	2	8	5	10	41
Czech Republic Customs	1999–Feb2024	269903	311001	455533	301523	271661	162582	1772203
Denmark	1989–Dec2023	3072	1789	2957	4804	219	92	12933
Ecuador	2010–Feb2024	2000	0	0	0	0	0	2000
El Salvador	1994–Feb2024	159	1	3	0	27	375	565
Estonia	2000–Jan2024	16	2	0	2	50	1	71
Ethiopia	2008–Mar2024	13	401	20	0	2	41	477
Finland Customs	2002–Jan2024	3056	94	1296	3269	1942	2484	12141
France Customs	2000–Feb2024	1727960	1299633	1096285	1374556	1008678	486953	6994065
Germany Customs	2010–Jan2024	66100	37800	24100	21700	6500	7300	163500
Ghana	2009–Dec2023	36	358	725	31	22	0	1171
Greece	1989–Jan2024	802	930	115	708	82	620	3257
Guatemala	2005–Jan2024	4124	2094	3072	1564	445	61	11360
Guyana	2014–Dec2023	0	0	0	79	1	46	126

Importer*	Available data	Quantity (kg)						Sum
		2018	2019	2020	2021	2022	2023	
Honduras	2005–Jan2024	47	97	97	8	42	11	302
Hong Kong	2005–Feb2024	16	0	7	5	6	15	49
Hungary	2000–Dec2023	217	246	229	355	412	213	1672
Iceland	1999–Feb2024	13	4	7	11	12	1	48
India	2009–Jan2024	265	302	496	266	476	593	2398
Indonesia	2010–Feb2024	1104	1770	891	1585	1739	1548	8637
Iran	2006–Mar2024	0	0	12	6	0	0	18
Ireland Customs	2010–Jan2024	27	1050	53	142	287	353	1913
Italy ISTAT	1991–Dec2023	599820	504489	208425	238658	1717455	890063	4158910
Japan	1990–Feb2024	2	21	0	10	0	23	56
Jordan	2007–Dec2023	7	581	6	2452	0	0	3046
Kazakhstan	2004–Feb2024	464	516	520	1075	1334	519	4428
Kenya	2014–Feb2024	0	1	91	8	2	33	135
Kosovo	2004–Jan2024	0	2	2	2	1	0	7
Kyrgyzstan	2020–Jun2023	0	0	5000	0	3	0	5003
Latvia	2000–Jan2024	5	7	3	3	1	13	32
Lithuania	2000–Jan2024	18	0	8	4	14	9	53
Luxembourg	1999–Dec2023	5388	5074	3059	5132	1893	48269	68815
Madagascar	2015–Mar2024	3	13	1	10	6	22	53
Malaysia	1990–Jan2024	130	244	332	1074	310	9656	11746
Malta Customs	2006–Feb2024	0	41	1	7	0	0	49
Mauritius	2010–Jan2024	5250	5	4	7	1	1	5268
Mexico	2000–Dec2023	554	453	374	252	119	104	1856
Mongolia	2013–Feb2024	1	0	0	0	0	0	1
Montenegro	2005–Jan2024	1	2	8	1	35	14	61
Morocco	2016–Jan2024	110	88	238	107	54	168	766
Myanmar	2011–Dec2023	1	1205	106	6820	24576	0	32708
Namibia	2014–Aug2023	300	86	92	164	1026	10	1678
Netherlands	1989–Dec2023	8475	3326	1340	2437	1037	12681	29296
New Zealand	2003–Feb2024	165	85	358	76	89	83	856
Nicaragua	2017–Dec2023	8177	0	0	0	2	1016	9195
Nigeria	2016–Dec2023	84	7	23184	0	0	281	23556
North Macedonia	2002–Jan2024	3	3	12	5	3	0	26
Norway	2000–Mar2024	3	6	48	4	160	316	537
Pakistan	2010–Aug2023	22187	6227	3468	1650	2291	3	35826
Panama	2000–Feb2024	80	40	60	22	883	25	1110
Paraguay	1994–Mar2024	78	95	155	156	172	60	716
Peru	2016–Jan2024	952	936	392	551	21186	455	24474
Philippines	1994–Jan2024	1	43	4	119	101	71	339
Poland Customs	2010–Jan2024	2518	4316	4990	8274	4582	2896	27576
Portugal	1989–Jan2024	23261	28080	30836	30032	31695	23618	167522

Importer*	Available data	Quantity (kg)						Sum
		2018	2019	2020	2021	2022	2023	
Rep. of Moldova	2017–Dec2023	4	2	2	2	0	1	11
Romania	2000–Dec2023	62	125	291	236	10793	4370	15877
Russia	2013–Jan2022	65	111	156	95	5	0	432
Saudi Arabia	1991–Jan2024	30	140	480	130	400	43	1223
Senegal	2014–Feb2024	13	10	219	4	0	4	250
Serbia	2012–Feb2024	32	37	43	146	119	41	418
Singapore	2010–Feb2024	68	64	15652	103	99	29	16015
Slovakia Customs	2006–Jan2024	234952	97	423	44	39	23	235578
Slovenia	2000–Dec2023	22	23	20	41	49	18	173
South Africa	2004–Feb2024	811	638	831	643	667	1109	4699
South Korea	1998–Mar2024	414	880	156	483	1267	780	3979
Spain Customs	2004–Jan2024	9659	8124	8488	9141	7818	67408	110638
Sri Lanka	2010–Feb2024	42	241	3	0	31	1	318
Sweden	1995–Dec2023	22	1452	3594	15209	10829	4488	35594
Switzerland	1990–Feb2024	161	1147	1774	397	196	70	3745
Taiwan	1996–Jan2024	354	1194	473	1478	394	468	4361
Thailand	2007–Feb2024	246	178	2871	424	388	720	4827
Turkey	2013–Feb2024	460	481	466	491	607	1076	3581
Ukraine	2003–Jan2024	31	7	13	712	22	47	832
United Kingdom HMRC	2009–Feb2024	36251	6240	9908	435	1077	523	54434
United States	1990–Feb2024	28154	17765	15023	9772	25409	3340	99463
Uruguay	2010–Feb2024	29	63	31	25	42	50	240
Uzbekistan	2019–Nov2023	0	8	4	17	9	8	46
Vietnam (preliminary)	2019–Jun2022	0	433	221	242	223	0	1119
Zambia	2015–Feb2024	0	0	0	2000	0	0	2000
Zimbabwe	2019–Feb2024	0	11	1	49	5	4	70

* All country names listed here are precisely as indicated in the source database.

Source: Trade Data Monitor, which draws its data from the Comtrade database (<https://comtradeplus.un.org/TradeFlow>)

Appendix 6

Trade data where specific mercury compounds could be identified

The following detailed trade data, a snapshot taken from the first half of 2022, was extracted from the Panjiva database as the result of a search for mercury compounds under HS codes 285210 and 285290 and for a variety of countries covered by Panjiva. Extraneous trade details, including many trades of lesser quantity or value, have been mostly removed in order to focus on the more consequential trades, the trading partners, the type of mercury compound, and the weight and value of the compound traded. Some trade details that have nothing to do with mercury compounds have been left in the table for the purpose of demonstrating typical coding mistakes, the sometimes imprecise description of the goods, the lack of information on the weight or value of a trade, etc.

Date	Search code	Origin*	Destina-tion*	HS code(s) reported	Goods shipped	Weight (kg)	Value (USD)	Comments
2022-05-03	285210	India	Peru	2852.10.10.00	MERCURIO(II) SULFATO, EMSURE, S/M, 1.04480.0250, LOTE K53300580, VENC 30.04.2026, PARA USO EN LABORATORIO, 2 X 250.000 G, P.A. EMSURE® ACS, PAIS DE ORIGEN INDIA, ENVASADO POR MERCK KGAA - GERMANY	0.75	325.69	Hg(II) sulfate
2022-04-29	285210	India	Peru	2852.10.90.22	MERCURIO(II) CLORURO, EMSURE, S/M, 1.04419.0250, LOTE K53603819, VENC. 31.07.2026, PARA USO EN LABORATORIO, 4 X 250.000 G, P.A. EMSURE® REAG. PH EUR, ACS, PAIS DE ORIGEN INDIA, ENVASADO POR MERCK KGAA - GERMANY	1.97	514.09	Hg(II) chloride
2022-04-29	285210	China	Peru	2852.10.90.41	POTASIO TIOCIANATO, MERCK KGAA, S/M, 1.05124.1000, LOTE K53988924, VENC. 28.02.2027, PARA LA INDUSTRIA FARMACEUTICA, 2 X 1.000 KG, PURO, PAIS DE ORIGEN CHINA, ENVASADO POR MERCK KGAA - GERMANY	3.8	76.57	Coding mistake. Potassium thiocyanate is not a mercury compound.
2022-04-24	285210	United States	Australia	2807.00.00.00; 2852.10.10	(31HA1) 1041 LITER HD BULK CONTAINER , CHEMICALS UN3264, CORROSIVE LIQUID, INORGANIC, NOS (CONTAINS SULFURIC ACID), MARINE POLLUTANT CLASS AND DIVISION 8 PACKAGING GROUP II NW 14431.4948 KGS FOR CHEMICAL EMERGENCY CALL INFOTRAC +24 HR NUMBER 1-800-535-5053 OR +1-352-323-3500 OUTSIDE USA ACCOUNT # 74845 HTS CODE: 2807.00.0000 etc.	15021.2		285210 coding mistake. No sign of mercury compounds.

Date	Search code	Origin*	Destination*	HS code(s) reported	Goods shipped	Weight (kg)	Value (USD)	Comments
2022-04-19	285210	United States	Taiwan	2852.10	GAOU6526333: 40 WA / 4120 KGS, SHIPPER'S LOAD STOW AND COUNT5X40HC CONTAIN ER(S)40 IBC4120.0 KGSUN1830, SULP HURIC ACID,CLASS 8, PGII,40 X (31 H1) IBC'S X3.0 KGS RESIDUE EACH** RESIDUE LAST CONTAINED* TRHU7018757: 40 WA / 4120 KGS, 40 IBC4120 .0 KGSUN1830, SULPHURIC ACID,CLAS S 8, PGII,40 X (31H1) IBC'S X3.0 KGS RESIDUE EACH**RESIDUE LAST CO NTAINED** etc. CONTACT GENERAL OFFICE EMAIL: CGLOPS@RINCHEM.COM	20600		285210 coding mistake. No sign of mercury compounds.
2022-04-20	285210	India	Peru	2852.10.90.29	MERCURIO(II) YODURO ROJO, EMSURE, S/M, 1.04428.0050, LOTE K52562228, VENC. 30.06.2025, PARA USO EN LABORATORIO, 2 X 50.000 G, P.A. EMSURE ACS, REAG. PH EUR, PAIS DE ORIGEN INDIA, ENVASADO POR MERCK KGAA - GERMANY	0.19	169.85	Hg(II) iodide (red)
2022-04-19	285210	United States	India	2852.10	INT, PRIONIL, REFINED,BULK UN2404 , PROPIONITRILE (PROPIONITRILE) , CLASS 3 , (6.1) , PG II , RQ , PLACARD/LABEL 3 , PLACARD/SUB-LABEL 6.1 , FLASHPOINT CCFP 2C , EMS F-E, S-D FREIGHT PREPAID (Harmonized Code: 285210) (1 unpackaged. - 16796.710 kgs.) Substance Name(Proper Shipping Name): PROPIONITRILE NA Class: 3 Label/Subrisk: FLAMMABLE LIQUID, TOXIC/6.1 UN#: UN2404 Packaging Group: II Flash Point: 2 C Emergency Phone: 17035273887 OR SOFTWARE WERE EXPORTED FROM WITH THE EXPORT ADMINISTRATION TO U.S. LAW PROHIBITED.	16796.7		285210 coding mistake. No indication of mercury compounds.
2022-04-01	285210	Argentina	Peru	2852.10.29.90	THIMEROSAL TITRATION (ON DRIED SUBSTAN, SIGMA-ALDRICH, S/M, T5125-500G, BATCH: 0000141314, USO PARA INVESTIGACION DE LABORATORIO, 6 X 500G, TIMEROSAL,	3.16	9709.63	Thimerosal
2022-03-31	285210	Germany	United States	Diverse codes for chemicals and preparations	Goods identified only with UN numbers and HS codes	3610		No useful information

Date	Search code	Origin*	Destination*	HS code(s) reported	Goods shipped	Weight (kg)	Value (USD)	Comments
2022-03-31	285210	India	Indonesia	Diverse codes for chemicals and preparations	DEHYDRATED CULTURE MEDIA SUPPLEMENTS / L		6143.62	Code 285210 does not seem to apply here.
2022-03-31	285210	India	Oman	Diverse codes for chemicals and preparations	LABORATORY CHEMICAL- MERCURIC CHLORIDE E LABORATORY CHEMICAL - MERCURIC SULPHATE and many other chemicals		13297.9	Hg(II) chloride Hg(II) sulfate
2022-03-31	285210	United States	India	Diverse codes for chemicals and preparations	156485 -10G MERCURY(II) TRIFLUOROACETATE 98% and many other chemicals		11613.5	Hg(II) trifluoroacetate
2022-03-30	285210	India	Israel	Diverse codes for chemicals and preparations	MERCURIC IODIDE - (3 NOS X 100 GMS) and many other chemicals		2965.43	Hg(II) iodide
2022-03-30	285210	India	Jordan	Diverse codes for chemicals and preparations	LABORATORY CHEMICALS MERCURIC NITRATE MO and many other chemicals		1609.04	Hg(II) nitrate
2022-03-30	285210	India	Israel	Diverse codes for chemicals and preparations	MERCURIC IODIDE - (3 NOS X 100 GMS) - CA and many other chemicals		2965.43	Hg(II) iodide
2022-03-30	285210	India	Sri Lanka	Diverse codes for chemicals and preparations	LABORATORY CHEMICALS- MERCURIC SULPHATE LABORATORY CHEMICALS-MERCURIC SULPHATE E and many other chemicals		2433.51	Hg(II) sulfate
2022-03-30	285210	Canada, China, France, Germany, India, Israel, Italy, Japan, Lithuania, Netherlands, Switzerland, United Kingdom, United States	Mexico	Diverse codes for chemicals and preparations	SULFATO DE MERCURIO(II) HGSO4 and many other chemicals	835.99	51466.1	Hg(II) sulfate
2022-03-29	285210	India	Bangladesh	Diverse codes for chemicals and preparations	MERCURIC CHLORIDE 99.5% AR 100 GM (API) MERCURIC NITRATE 98.5% AR 100 GM (API) and many other chemicals		23816.5	Hg(II) chloride Hg(II) nitrate

Date	Search code	Origin*	Destination*	HS code(s) reported	Goods shipped	Weight (kg)	Value (USD)	Comments
2022-03-29	285210	Germany	India	Diverse codes for chemicals and preparations	MERCURY(II) THIOCYANATE FOR ANALYSIS EMSURE REAG. PH EUR 2PCS X 25G and many other chemicals		22279.2	Hg(II) thiocyanate
2022-03-29	285290	China, France, Germany, India, Israel, Italy, Japan, Mexico, South Africa, Switzerland, United Kingdom, United States	Mexico	Diverse codes for chemicals and preparations	TELURITO DE POTASIO (K2TEO3), DIMETIL SULFURO (C2H6S), ETER DIISOPROPILICO (C6H14O), CLOROFORMO-D1 (CCl3D), ETER METIL TERBUTILICO ANHIDRO (C5H12O), CICLOHEXANO (C6H12), ACIDO FOSFORICO 85 % (H3O4P), CLORURO DE BARIO DIHIDRATADO (BaCl2 2H2O), 2-METIL-1-PROPANOL (C4H9O), ETANOL (C2H6O), DIBUTILAMINA (C8H19N), ACIDO FOSFORICO SOLUCION ACUOSA AL 85% (H3O4P), KETOCONAZOL (C26H28CL2N4O4), ISOPROPILAMINA (C3H9N), 2-BUTANOL (C4H10O), 2,2-BIPIRIDILO (C10H8N2), NITRATO DE COBRE TRIHIDRATO (Cu(NO3)2 · 3 H2O), 4-VINILPIRIDINA (C7H7N) ...and many other chemicals	491.25	33251	Code 285290 appears to be a mistake as there are no mercury compounds identified here.
2022-03-29	285210	Germany	India	Diverse codes for chemicals and preparations	T5125-25G THIMEROSAL TITRATION (ON DRIED SUBSTANC and many other chemicals		50638.9	Thimerosal
2022-03-25	285210	United States	Taiwan	2852.10	KKFU7714353: 32 WA / 3295 KGS, SHIPPER'S LOAD AND COUNT 2X40HC CONTAINER(S) UN1830, SULPHURIC ACID, CLASS8, PGII, 23 X (31H1) IBC'S X 3.0**RESIDUE LAST CONTAINED**EMS: F-A, S-B, CATEGORY CUN1790, HYDROFLUOURIC ACID, CLASS 8,(6.1), PGII, LESS THAN 60% 9 X (31H1) IBC'S X 3.0 KGS"RESIDUE LAST CONTAINED"EMS: F-A, S-8, CATEGORY CC FFAU1819789: 40 WA / 4120 KGS, UN1830, SULPHURIC ACID, CLASS8, PGII, 40 X (31H1) IBC'S X 3.0**RESIDUE LAST CONTAINED**EMS: F-A, S-B, CATEGORY CNOEEI 30.37(V)	7415		Code 285210 appears to be a mistake as no mercury compounds are indicated.

Date	Search code	Origin*	Destination*	HS code(s) reported	Goods shipped	Weight (kg)	Value (USD)	Comments
2022-03-28	285210	Germany	Chile	Diverse codes for chemicals and preparations	MERCURIO(II)NITRATO MONOHIDRAT MERCK-F, POLVO, PARA ANALISISQUIMICO, , , ; MERCURIO(II)NITRATO MONOHIDRAT MERCK-F, POLVO, PARA ANALISISQUIMICO, , , ; MERCURIO YODURO MERCK-F, POLVO, PARA ANALISIS DE LABORATORIO, , , ; MERCURIO(II)NITRATO MONOHIDRAT MERCK-F, POLVO, PARA ANALISISQUIMICO, , , ; MERCURIO(II)NITRATO MONOHIDRAT MERCK-F, POLVO, PARA ANALISISQUIMICO, , , ; MERCURIO(II)SULFATO MERCK-F, POLVO, PARA ANALISIS DE LABORATORIO, , , ; and many other chemicals	3800	24640.7	Hg(II) nitrate Hg(II) iodide Hg(II) sulfate
2022-03-28	285210	India	Greece	2852.10.00	PHENYLEMERCURIC NITRATE CAS NUMBER 8003		2154.26	Phenylmercuric nitrate. The CAS number should be 55-68-5.
2022-03-26	285210	India	Greece	2852.10.00	PHENYLEMERCURIC NITRATE CAS NUMBER 8003		2154.26	Phenylmercuric nitrate. The CAS number should be 55-68-5.
2022-03-26	285210	India	Italy	2852.10.00	INORGANIC CHEMICAL...CHAPTER 28....AS PE		4720.74	Chemical is not identified.
2022-03-25	285210	Germany	India	Diverse codes for chemicals and preparations	33368-50MG-R METHYLMERCURY CHLORIDE TM T5125-10G THIMEROSAL TITRATION (ON DRIED SUBSTANC and many other chemicals		34116.2	Methylmercury chloride; Thimerosal

Date	Search code	Origin*	Destina-tion*	HS code(s) reported	Goods shipped	Weight (kg)	Value (USD)	Comments
2022-03-25	285290	India	Ghana	Diverse codes for chemicals and equipment	CEMICAL AND ASSERIES- MERCURIC SULPHATE CEMICAL AND ASSERIES- MN5 30-50 AMPS REL CEMICAL AND ASSERIES- MNX 50 CONTACTOR 2 CEMICAL AND ASSERIES- MNX A2 ADD ON BLOC CEMICAL AND ASSERIES- MS ELBOW 10 CEMICAL AND ASSERIES- MS ELBOW 4 CEMICAL AND ASSERIES- MS FLANGE ASA150 2 CEMICAL AND ASSERIES- MS FLANGE ASA150 4 CEMICAL AND ASSERIES- MS REDUCER 10 TO 4 CEMICAL AND ASSERIES- MS REDUCER 6 TO 3 CEMICAL AND ASSERIES - PIPES -MS PIPE ME CEMICAL AND ASSERIES - PIPES -UPVC PIPE CEMICAL AND ASSERIES- UPVC TEE 4 DEWATERING SUBMERSIBLE PUMP-KIRLOSKAR MA HIGH SPEED FLOATING AERATOR SPARE, KEC 2 TRANSFER PUMP, MONOBLOC TYPE WITH MOTOR, and more...		11489.4	Hg(II) sulfate should be shipped under code 285210, not 285290.
2022-03-25	285210	Germany	India	Diverse codes for chemicals and preparations	MERCURY(II) IODIDE RED EMPLURA 1 PCS X 100 G MERCURY STANDARD SOLUTION TRACEABLE TO SRM FROM NIST HG(NO3)2 IN HNO3 2 MOL/L 1000 MG/L HG CERTIPUR 10 PCS X 500 ML MIXED INDICATOR 4.5 ACC. TO MORTIMER 2 PCS X 250 ML NESSLER'S REAGENT FOR AMMONIUM SALTS 4 PCS X 100 ML NESSLER'S REAGENT FOR AMMONIUM SALTS 6 PCS X 500 ML		33615.8	Hg(II) iodide; Hg standard solution; Nessler's reagent
2022-03-25	285210	India	Peru	2852.10.10.00	MERCURIO(II) SULFATO, MERCK KGAA, S/M, 1.04481.0100, LOTE K52327081, VENC. 31.03.2025, PARA USO EN LABORATORIO, 1 X 100.000 G, MERCURIO(II) SULFATO PURIS, PAIS DE ORIGEN INDIA, ENVASADO POR MERCK KGAA - GERMANY	0.12	82.89	Hg(II) sulfate
2022-03-24	285210	Argentina, Austria, Belgium, Canada, China, Germany, India, Israel, Netherlands, Russia, South Korea, Switzerland, United Kingdom, United States	Mexico	Diverse codes for chemicals and preparations	TIMEROSAL (T5125) and many other chemicals	251.39	26763.5	Thimerosal

Date	Search code	Origin*	Destination*	HS code(s) reported	Goods shipped	Weight (kg)	Value (USD)	Comments
2022-03-24	285210	United States	India	Diverse codes for chemicals and preparations	79135-50G PHENYLMERCURY NITRATE BASIC 97.0% and many other chemicals		22235.9	Phenylmercury(II) nitrate
2022-03-24	285290	India	Lebanon	Diverse codes	DEHYDRATED CULTURE MEDIA SUPPLEMENTS / L		3337.77	The connection to (undefined) mercury compounds is not evident.
2022-03-24	285290	India	United Arab Emirates	2852.90.00	MERCURY AMMONIUM CHLORIDE		12792.6	Hg ammonium chloride should be shipped under code 285210, not 285290.
2022-03-23	285210 285290	India	Nepal	Diverse codes for chemicals and various goods	MANGESIUM CARBONATE MAPS CHARTS MARBLE CHIPS MERCURIC CHLORIDE MERCURIC NITRE MERCUROUS NITRATE VOLTMETER MILLI VOLUMATRIC FLASK and other goods		17273.9	Hg(II) chloride; Hg(II) nitrate; Hg(I) nitrate; Undefined Hg compounds (285290) are not evident.
2022-03-23	285210	India	Qatar	Diverse codes for chemicals and preparations	MERCURIC THIOCYANATE 99% AR MERCURY (HG) ICP STANDARD SOLUTION 1 GM/ and many other chemicals		4069.15	Hg(II) thiocyanate; Hg standard solution
2022-03-23	285210	Canada, Czech Republic, France, Germany, India, Japan, United Kingdom, United States	Mexico	Diverse codes for chemicals and preparations	SULFATO MERCURICO and many other chemicals	5240.89	57281.4	Hg(II) sulfate
2022-03-23	285210	India	Jordan	Diverse codes for chemicals and preparations	LABORATORY CHEMICALS MERCURIC NITRATE MO and many other chemicals		1688.83	Hg(II) nitrate

Date	Search code	Origin*	Destination*	HS code(s) reported	Goods shipped	Weight (kg)	Value (USD)	Comments
2022-03-22	285210	Germany	Chile	Diverse codes for chemicals and preparations	MERCURIO(II)YODURO ROJO MERCK-F, POLVO, PARA ANALISIS QUIMICO, , , ; MERCURIO(II)YODURO ROJO MERCK-F, POLVO, PARA ANALISIS QUIMICO, , , ; and many other chemicals	29.8	37897.2	Hg(II) iodide (red)
2022-03-22	285210	Germany	India	Diverse codes for chemicals and preparations	MERCURY ICP STANDARD TRACEABLE TO SRM FROM NIST HG(NO3)2 INHNO3 10% 1000 MG/L HG CERTIPUR 4 PCS X 100 ML MERCURY(II) IODIDE RED, FOR ANALYSIS EMSURE ACS, REAG. PH EUR 1 PCS X 250 G MERCURY STANDARD SOLUTION TRACEABLE TO SRM FROM NIST HG(NO3)2 IN HNO3 2 MOL/L 1000 MG/L HG CERTIPUR 7 PCS X 100 ML and many other chemicals		66155.1	Hg standard solution; Hg(II) iodide (red)
2022-03-22	285290	India	Zambia	2815.11.90; 2852.90.00	LABORATORY REAGENTS : FISHER MERCURIC CH LABORATORY REAGENTS : LOBA SODIUM HYDRO		851.06	Hg reagent should be shipped under code 285210.
2022-03-22	285210	India	Peru	Diverse codes	DEHYDRATED CULTURE MEDIA/ SUPPLEMENTS/ L		8670.21	The relationship to Hg compounds is not evident.
2022-03-20	285290	India	Nepal	Diverse codes for chemicals and preparations	MERCURIC CHLORIDE 100GM 1 and many other chemicals		345.74	Hg(II) chloride should be shipped under code 285210.
2022-03-19	285290	India	Myanmar	Diverse codes for chemicals and preparations	MERCURIC CHLORIDE and many other chemicals		71369.7	Hg(II) chloride should be shipped under code 285210.
2022-03-19	285210	Germany	India	Diverse codes for chemicals, preparations and lab materials	176109-100G MERCURY(II) ACETATE ACS - 98. T5125-25G THIMEROSAL TITRATION (ON DRIED SUBSTANC T5125-500G THIMEROSAL TITRATION (ON DRIED SUBSTANC and many other chemicals		50164.2	Hg(II) acetate; Thimerosal
2022-03-19	285210	United States	India	Diverse codes for chemicals and preparations	215465-100G MERCURY(II) CHLORIDE 99.5 % and many other chemicals		24604.2	Hg(II) chloride
2022-03-18	285210	United Kingdom	Vietnam	2852.10.90	Chemical: Mercury(II) acetate, for analysis, M/2652/47, 50GR/bottle, for laboratory use. NSX:Fisher Chemical .100% Brand New. CAS Code: 1600-27-7		26.36	Hg(II) acetate
2022-03-18	285210	United Kingdom	Vietnam	2852.10.90	Chemicals: Mercury(II) sulfate, extra pure, SLR, M/3200/50, 250GR/bottle, for laboratory use. NSX:Fisher Chemical .100% Brand New. CAS Code: 7783-35-9		153.06	Hg(II) sulfate
2022-03-18	285210	Germany	Chile	Diverse codes for chemicals and preparations	Many chemicals listed	13479.2	54242.6	No mercury compounds were found in this listing.

Date	Search code	Origin*	Destination*	HS code(s) reported	Goods shipped	Weight (kg)	Value (USD)	Comments
2022-03-17	285210	Germany	India	Diverse codes for chemicals and preparations	221090-500G MERCURY(II) IODIDE RED 99 % A.C.S. P27127-25G PHENYLMERCURIC ACETATE 97% and many other chemicals		46970.1	Hg(II) iodide (red); Phenylmercury(II) acetate
2022-03-17	285210	India	United Kingdom	2852.10.00	PHENYL MERCURIC NITRATE BP		2841.89	Phenylmercury(II) nitrate
2022-03-16	285210	India	Myanmar	Diverse codes for chemicals and preparations	MERCURIC ACETATE LR 98.5%, PRODUCT CODE and many other chemicals		1107.4	Hg(II) acetate
2022-03-16	285210	India	Uzbekistan	Diverse codes for chemicals and preparations	MERCURY(II) BROMIDE 99%AR/ACS and many other chemicals		1320.88	Hg(II) bromide
2022-03-16	285210	India	Myanmar	Diverse codes for chemicals and preparations	MERCURIC ACETATE LR 98.5%, PRODUCT CODE and many other chemicals		1107.4	Hg(II) acetate
2022-03-15	285210	India	Brazil	Diverse codes for chemicals and preparations	LABORATORY & REAGENT CHEMICALS: MERCURIC and many other chemicals		10060	Compound not specified
2022-03-15	285210	Germany	India	Diverse codes for chemicals and preparations	MERCURY ICP STANDARD TRACEABLE TO SRM FROM NIST HG(NO3)2 INHNO3 10% 1000 MG/L HG CERTIPUR 1PCS X 100ML MERCURY(II) IODIDE RED EMPLURA 1PCS X 100GMS MERCURY STANDARD SOLUTION TRACEABLE TO SRM FROM NIST HG(NO3)2 IN HNO3 2 MOL/L 1000 MG/L HG CERTIPUR 1PCS X 100ML MERCURY STANDARD SOLUTION TRACEABLE TO SRM FROM NIST HG(NO3)2 IN HNO3 2 MOL/L 1000 MG/L HG CERTIPUR 2PCS X 500ML and many other chemicals		18029.7	Hg(II) iodide (red); Hg standard solution
2022-03-14	285210	China	Vietnam	2852.10.10	90004343 Chemicals:Mercury Sulfate (Wastewater analysis, 100% brand new)HgSO4, CAS: 7783-35-9, 100g/bottle		86.33	Hg(II) sulfate
2022-03-12	285210	Germany	India	Diverse codes for chemicals and preparations	MERCURY(II) IODIDE RED, FOR ANALYSIS EMSURE ACS,REAG. PH EUR 1PCS X 50GMS MERCURY STANDARD SOLUTION TRACEABLE TO SRM FROM NIST HG(NO3)2 IN HNO3 2 MOL/L 1000 MG/L HG CERTIPUR 2PCS X 100ML NESSLER'S REAGENT FOR AMMONIUM SALTS 4PCS X 100ML NESSLER'S REAGENT FOR AMMONIUM SALTS 4PCS X 500ML and many other chemicals		62873.4	Hg(II) iodide (red); Hg standard solution; Nessler's reagent
2022-03-11	285210	South Korea	Vietnam	2852.10.90	Chemicals:Mercury(II) Chloride, EP (For laboratory use, 100% brand new)HgCl2, CAS: 7487-94-7, 0.025kg/bottle, total=0.125kg		52.5	Hg(II) chloride

Date	Search code	Origin*	Destination*	HS code(s) reported	Goods shipped	Weight (kg)	Value (USD)	Comments
2022-03-11	285210	India	Jordan	Diverse codes for chemicals and preparations	LABORATORY CHEMICALS MERCURIC NITRATE MO and many other chemicals		1587.73	Hg(II) nitrate
2022-03-11	285210	South Korea	Vietnam	2852.10.90	Chemicals:Mercury(II) Iodide Red, EP (For laboratory use, 100% brand new)HgI ₂ , CAS: 7774-29-0, 0.025kg/bottle, total=0.125kg		75	Hg(II) iodide (red);
2022-03-11	285210	Germany	Vietnam	2852.10.90	NESSler's reagent A laboratory reagent, 500ML/bottle, CAS: 7783-33-7, 100% brand new, Country of manufacture: GERMANY		245.43	Nessler's reagent
2022-03-11	285210	South Korea	Vietnam	2852.10.10	Chemicals:Mercury(II) Sulfate, GR (For laboratory use, 100% brand new) HgSO ₄ , CAS: 7783-35-9, 1UNA=1 bottle=0.5kg, total=6kg		1476	Hg(II) sulfate
2022-03-09	285210	India	Qatar	Diverse codes for chemicals and preparations	MERCURIC THIOCYANATE 99% AR MERCURY (HG) ICP STANDARD SOLUTION 1 GM/ and many other chemicals		4082.72	Hg(II) thiocyanate; Hg standard solution
2022-03-09	285210	United States	Taiwan	2852.10	TRHU5334165: 40 WA / 4120 KGS, SHIPPER'S LOAD STOW AND COUNT5X40HC CONTAIN ER(S)40 IBC4120.0 KGSUN1790, HYDR OFLUORIC ACID,CLASS 8, 6.1,PGII,4 0 X (31H1) IBC'S X 3.0 KGSRESIDUE EACH**RESIDUE LAST CONTAINED** etc. EMAIL: CGLOPS@RINCHEM.COM	20600		No indication of Hg compounds.
2022-03-09	285210	United States	India	Diverse codes for chemicals and preparations	M1136-500G MERCURY(II) CHLORIDE R 9 and many other chemicals		13394.6	Hg(II) chloride
2022-03-08	285210	India	Taiwan	2852.10.00	MERCURIC NITRATE MONOHYDRATE BATCH NO: G		71247.5	Hg(II) nitrate
2022-03-08	285210	Germany	India	Diverse codes for chemicals and preparations	31014-100G MERCURY(II) SULFATE ANALYTICAL 55540-25G P-HYDROXYMERCURIBENZOIC ACID SODIUM SALT and many other chemicals		44816	Hg(II) sulfate; Hydroxymercuri- benzoic acid
2022-03-07	285210	India	Bangladesh	Diverse codes for chemicals and preparations	MERCURIC BROMIDE EXTRA PURE (LABORATORY MERCURIC CHLORIDE (LABORATORY CHEMICAL) and other chemicals		5523.68	Hg(II) bromide; Hg(II) chloride

Date	Search code	Origin*	Destination*	HS code(s) reported	Goods shipped	Weight (kg)	Value (USD)	Comments
2022-03-05	285210	Germany	India	Diverse codes for chemicals and preparations	MERCURY(II) BROMIDE FOR ANALYSIS EMSURE ACS 1PCS X 250G MERCURY(II) BROMIDE FOR ANALYSIS EMSURE ACS 1PCS X 50G MERCURY(II) CHLORIDE FOR ANALYSIS EMSURE REAG. PH EUR,ACS 1PCS X 50G MERCURY(II) IODIDE RED, FOR ANALYSIS EMSURE ACS,REAG. PH EUR 1PCS X 250G MERCURY STANDARD SOLUTION TRACEABLE TO SRM FROM NIST HG(NO3)2 IN HNO3 2 MOL/L 1000 MG/L HG CERTIPUR 2PCS X 100ML MERCURY STANDARD SOLUTION TRACEABLE TO SRM FROM NIST HG(NO3)2 IN HNO3 2 MOL/L 1000 MG/L HG CERTIPUR 3PCS X 500ML NESSLER'S REAGENT FOR AMMONIUM SALTS 2PCS X 100ML and many other chemicals		95149.5	Hg(II) bromide; Hg(II) chloride; Hg(II) iodide (red); Hg standard solution; Nessler's reagent
2022-03-04	285210	India	Vietnam	2852.10.10	Chemical Mercury(II) sulfate, analytical reagent, laboratory use(250G/BOTTLE)CAS7783-35-9		354.54	Hg(II) sulfate
2022-03-03	285290	Australia, Belgium, Brazil, Canada, China, Czech Republic, Germany, Iceland, India, Israel, Italy, Japan, Mexico, Netherlands, Portugal, Russia, South Korea, Switzerland, Taiwan, United Kingdom, United States	Mexico	Diverse codes for chemicals and preparations	ESTANDAR DE MERCURIO PARA ASS and many other chemicals	1168.47	81384.5	Hg standard solution should be shipped under 285210.

Date	Search code	Origin*	Destination*	HS code(s) reported	Goods shipped	Weight (kg)	Value (USD)	Comments
2022-03-03	285290	Austria, Belgium, Canada, China, Countries Not Declared, France, Germany, India, Israel, Japan, Mexico, Switzerland, United Kingdom, United States	Mexico	Diverse codes for chemicals and preparations	ESTANDAR DE MERCURIO PARA ICP and many other chemicals	791.52	55124.3	Hg standard solution should be shipped under 285210.
2022-03-02	285210	Germany	Chile	Diverse codes for chemicals and preparations	MERCURIO(II)SULFATO and many other chemicals	290.8	3074.11	Hg(II) sulfate
2022-03-01	285210	Germany	India	Diverse codes for chemicals and preparations	MERCURY ICP STANDARD TRACEABLE TO SRM FROM NIST HG(NO3)2 IN HNO3 10% 1000 MG/L HG CERTIPUR 2PCS X 100ML MERCURY(II) ACETATE FOR ANALYSIS EMSURE ACS, REAG. PH EUR 2PCS X 250G MERCURY STANDARD SOLUTION TRACEABLE TO SRM FROM NIST HG(NO3)2 IN HNO3 2 MOL/L 1000 MG/L HG CERTIPUR 5PCS X 100ML and many other chemicals		27698.6	Hg standard solution; Hg(II) acetate
2022-03-01	285210	India	Switzerland	2852.10.00	MERCURIC THIOCYANATE, (PART NO. M4128-BU		5393.41	Hg(II) thiocyanate
2022-02-28	285210	Spain	Vietnam	2852.10.90	Laboratory Chemicals: Mercury(II) chloride, for analysis, Expe,code:ME01700100,CAS: 7487-94-7,CTHH:HgCl2. Content: 99%.,100g/bottle, 100% brand new.		994.24	Hg(II) chloride
2022-02-28	285210	Spain	Vietnam	2852.10.10	Laboratory Chemicals: Mercury(II) sulfate, for analysis, Exper,code:ME02270100,CAS: 7783-35-9,CTHH:HgSO4. Content: 99%.,100g/bottle, 100% brand new.		2579.79	Hg(II) sulfate
2022-02-28	285210	Germany	India	Diverse codes for chemicals lab materials	221090-100G MERCURY(II) IODIDE RED 99 % A.C.S. and many other chemicals and goods		39389.4	Hg(II) iodide (red)

Date	Search code	Origin*	Destination*	HS code(s) reported	Goods shipped	Weight (kg)	Value (USD)	Comments
2022-02-28	285210	Spain	Vietnam	2852.10.90	Laboratory Chemicals: Mercury(II) acetate, for analysis, Exper.code:ME01210100,CAS: 1600-27-7,CTHH:C4H6O4Hg. Content: 99%,100g/bottle, 100% brand new.		590.38	Hg(II) acetate
2022-02-26	285210	United States	India	Diverse codes for chemicals and preparations	PHR1587-1G THIMEROSAL and many other chemicals		7098.72	Thimerosal
2022-02-26	285210	Germany	India	2815.20.00; 2852.10.00; 9027.90.90	4027913 HM-1400 SP LSG-0,2 PPM HG2+ HCl PH3 1000ML STANDARDSOLUTION FOR REFERENCE GAS GENERATOR 4027913 HM-1400 SP LSG-0,2PPM HG2+ HCL PH3 1000 ML and other chemicals		11892.6	Hg standard solution
2022-02-25	285210	Germany	India	Diverse codes for chemicals and preparations	221090-25G MERCURY(II) IODIDE RED 99+% A.C.S. and many other chemicals		70581	Hg(II) iodide (red)
2022-02-25	285210	Austria, Belgium, Canada, China, Czech Republic, France, Germany, India, Israel, Italy, Japan, Malaysia, Mexico, Netherlands, Russia, South Korea, Spain, Switzerland, United Kingdom, United States	Mexico	Diverse codes for chemicals and preparations	TIMEROSAL (T4687) and many other chemicals	637	67017.9	Thimerosal
2022-02-24	285210	India	Myanmar	Diverse codes for chemicals and preparations	MERCURIC BROMIDE; B N. B360392103 MERCURIC IODIDE RED; B.N.B366582105 and many other chemicals		739.74	Hg(II) bromide; Hg(II) iodide (red)
2022-02-24	285210	United States	India	Diverse codes for chemicals and preparations	79135-50G PHENYLMERCURY NITRATE BASIC 97.0% and many other chemicals		22484.4	Phenylmercury(II) nitrate

Date	Search code	Origin*	Destination*	HS code(s) reported	Goods shipped	Weight (kg)	Value (USD)	Comments
2022-02-24	285210	Austria, Brazil, Canada, China, Czech Republic, France, Germany, India, Israel, Japan, Lithuania, Mexico, Poland, Russia, South Korea, Sweden, Switzerland, United Kingdom, United States	Mexico	Diverse codes for chemicals and preparations	YODURO DE MERCURIO(II) (221090) TIOCIANATO DE MERCURIO(II) (83374) ACETATO DE MERCURIO(II) (176109) BROMURO DE MERCURIO II (83353) SULFATO DE MERCURIO(II) (31014) ACETATO MERCURICO (83352) and many other chemicals	532	62056.3	Hg(II) iodide; Hg(II) thiocyanate; Hg(II) acetate; Hg(II) bromide; Hg(II) sulfate
2022-02-23	285210	Argentina	India	2852.10.00	THIMEROSAL USP/BP/EP ""CULTURE MEDIA PURPOSE ONLY"" "		39550	Thimerosal
2022-02-22	285210	Germany	India	Diverse codes for chemicals and preparations	176109-100G MERCURY(II) ACETATE ACS - 98. 83381-10G MERCURIC NITRATE MONOHYDRATE ACS and many other chemicals		56833.7	Hg(II) acetate; Hg(II) nitrate
2022-02-22	285210	India	Indonesia	Diverse codes for chemicals and preparations	0458500250 - MERCURIC SULPHATE 98% AR/AC 0458600100 - MERCURIC THIOCYANATE 99% AR 0459200100 - MERCUROUS NITRATE 98% AR - and many other chemicals		17256.2	Hg(II) sulfate; Hg(II) thiocyanate; Hg(II) nitrate
2022-02-22	285210	Germany	India	Diverse codes for chemicals and preparations	MERCURY(II) THIOCYANATE FOR ANALYSIS EMSURE REAG. PH EUR 1PCS X 100GMS and many other chemicals		43091.8	Hg(II) thiocyanate
2022-02-21	285210 285290	India	Australia	2852.10.00; 2852.90.00	MERCURIC SULPHATE ACS MERCUROUS NITRATE DIHYDRATE ACS		1667.79	Hg(II) sulfate; Hg(I) nitrate
2022-02-21	285210	Germany	United States	Diverse codes for chemicals and lab equipment	MERCURYIISULFATE PH-Q 3, 00KPF MERCURY SULPHATE UN 1645, CLASS 6. 1, PG 2 HS 28521000 NET WEIGHT 18. 0000 KGS HS-NO 28521000 HSCODE 28521000 1 CT 9 and many other chemicals	14922		Hg(II) sulfate

Date	Search code	Origin*	Destination*	HS code(s) reported	Goods shipped	Weight (kg)	Value (USD)	Comments
2022-02-21	285210	India	United Arab Emirates	Diverse codes for chemicals and preparations	LABORATORY CHEMICALS- MERCURIC NITRATE M LABORATORY CHEMICALS-MERCURIC OXIDE RED LABORATORY CHEMICALS- MERCURIC SULPHATE LABORATORY CHEMICALS- MERCUROUS NITRATE and many other chemicals		35696	Hg(II) nitrate; Hg(II) oxide (red); Hg(II) sulfate; Hg(I) nitrate
2022-02-21	285210	India	Canada	2852.10.00	MERCURIC CHLORIDE		7572.29	Hg(II) chloride
2022-02-18	285210	Germany	India	Diverse codes for chemicals and preparations	83381-50G MERCURIC NITRATE MONOHYDRATE ACS and many other chemicals		71689.2	Hg(II) nitrate
2022-02-18	285210	Germany	India	Diverse codes for chemicals and preparations	MERCURY ICP STANDARD TRACEABLE TO SRM FROM NIST HG(NO3)2 INHNO3 10% 1000 MG/L HG CERTIPUR 2PCS X 100ML MERCURY(II) IODIDE RED EMPLURA 1PCS X 100G MERCURY(II) NITRATE MONOHYDRATE FOR ANALYSIS EMSURE ACS,REAG. PH EUR 5PCS X 250G MERCURY STANDARD SOLUTION TRACEABLE TO SRM FROM NIST HG(NO3)2 IN HNO3 2 MOL/L 1000 MG/L HG CERTIPUR 3PCS X 100ML NESSLER'S REAGENT FOR AMMONIUM SALTS 4PCS X 100ML and many other chemicals		51103.7	Hg standard solution; Hg(II) iodide (red); Hg(II) nitrate; Nessler's reagent
2022-02-18	285210	India	Peru	2852.10.90.29	MERCURIO(II) YODURO ROJO, EMSURE, S/M, 1.04428.0050, LOTE K52562228, VENC. 30.06.2025, PARA USO EN LABORATORIO, 2 X 50.000 G, P.A. EMSURE ACS,REAG. PH EUR, PAIS DE ORIGEN INDIA, ENVASADO POR MERCK KGAA - GERMANY	0.26	140.45	Hg(II) iodide (red)
2022-02-18	285210	India	Peru	2852.10.90.29	MERCURIO(II) YODURO ROJO, EMSURE, S/M, 1.04428.0250, LOTE K52562228, VENC 30.06.2025, PARA USO EN LABORATORIO, 1 X 250.000 G, P.A. EMSURE® ACS,REAG. PH EUR, PAIS DE ORIGEN INDIA, ENVASADO POR MERCK KGAA - GERMANY	0.65	85.92	Hg(II) iodide (red)
2022-02-18	285290	India	Ireland	2852.90.00	MERCURIC CHLORIDE PLANT CULTURE TESTED		6200.4	Hg(II) chloride should be shipped under 285210.

* All country names listed here are precisely as indicated in the source database..

Appendix 7

Detailed trade of mercury compounds for selected countries

The following table was generated by searching the Panjiva database for commodity codes 285210 and 285290, and then deleting some 200 of the resulting trade records because they listed multiple chemicals (including mercury compounds), preparations, lab equipment, etc., often from multiple countries. The deletions were made because it was impossible to isolate from those trade records the country of origin and/or the specific mercury compounds, quantity and/or value. Therefore, this table is an incomplete record of traded mercury compounds for these countries. Nevertheless, the remaining records presented in the table provide a useful overview of the specific mercury compounds routinely traded, as well as the quantity and value of the compounds traded, where those details were available.

Date	Origin*	Destination*	HS code(s) reported	Specific mercury compounds shipped	Weight (kg)	Value (USD)
2021-12-30	India	Germany	2852.90.00	MERCURIC SULPHATE(MERCURY (II) SULPHATE)		119,642
2021-12-30	India	United States	2852.10.00	MERCUROUS NITRATE DIHYDRATE ACS		28,946
2021-12-23	Argentina	Vietnam	2852.10.90	Excipients: Thimerosal EMPROVE ESSENTIAL Ph Eur,BP, 1 F BOX; (1 bottle = 0.1 kg). LOT: K53426843, NSX: 04/2020, HSD: 04/2023, GPNK: 11883E/QLD-KD, TCD: Ph Eur 9.		606
2021-12-21	India	Thailand	2852.10.00	MERCUROUS NITRATE DIHYDRATE ACS		2,478
2021-12-15	India	Belgium	2842.90.90; 2852.10.00	LABORATORY REAGENT CHEMICALS - MERCURI LABORATORY REAGENT CHEMICALS - SODIUM		2,601
2021-12-10	Argentina	Mexico	2852.10.04.00	TIOMERSAL (THIMEROSAL USP/BP/EP)	139	111,061
2021-12-09	France	Mexico	2852.10.04.00	CI MERTHIOLATE	17	2,967
2021-12-09	India	Vietnam	2852.10.90	Laboratory reagent grade Mercury(II) acetate, 250G/bottle, CAS: '1600-27-7, 100% brand new, country of origin: INDIA		204
2021-12-06	India	United States	2852.90.00; 2915.40.30	MERCURIC CHLORIDE ACS (BATCH NO.179/2021 TRICHLOROACETIC ACID ACS (BATCH NO.165/2		26,941
2021-12-02	Argentina	Mexico	2852.10.04.00	TIOMERSAL (THIMEROSAL USP/BP/EP)	69	55,531
2021-11-30	India	United Arab Emirates	2852.90.00	MERCUROCHROME(MERBROMIN)		4,946
2021-11-28	India	Nepal	2852.10.00	LABORATORY CHEMICALS FOR UNIVERSITY & CO		2,902
2021-11-22	India	Yemen	2852.10.00	MERBROMINE (EXTRA PURE) (25 JARS OF 1 KG		4,101
2021-11-22	India	United Kingdom	2852.10.00	MERCURIC IODIDE (P1176)		6,131
2021-11-16	India	United States	2825.90.90; 2852.10.00	MERCURIC CHLORIDE ACS - (UN NO - 1624 / MERCURIC OXIDE RED ACS - (UN NO 1641 /		89,817
2021-11-14	India	Nepal	2852.10.00	SQ MERCURIC CHLORIDE250 GM		623
2021-11-13	India	South Africa	2852.10.00; 3204.12.64	CELESTINE BLUE B FOR MICROSCOPY MERCURIC OXIDE RED 99.0%		1,828
2021-11-09	France	Mexico	2852.10.04.00	CI MERTHIOLATE	17	2,970
2021-11-08	Germany	Vietnam	2852.10.90	1.09011.0500 Nessler's reagent A for determination of nitrogen Solution A: Potassium tetraiodomercurate (II) solution - Laboratory use - Bottle/500ml - 100% Brand New-CAS 7783-33-7		352

Date	Origin*	Destination*	HS code(s) reported	Specific mercury compounds shipped	Weight (kg)	Value (USD)
2021-11-08	Argentina	Vietnam	2852.10.90	THIMEROSAL, Lo/ 1 kg.- C9H9HgNaO2S.- Cosmetic raw materials: preservative, antifungal, HSD:02/2021-02/2026, 100% brand new		39,000
2021-11-01	India	United Arab Emirates	2852.90.00	AMMONIATED MERCURIC CHLORIDE 25KG		136,880
2021-10-30	India	United Arab Emirates	2852.90.00	MERCUROCHROME (MERBROMIN)		4,997
2021-10-28	Argentina	Paraguay	2852.10.22	300 G TIMEROSAL EMPROVE ESSENTIAL PH EUR, BP.-		679
2021-10-28	India	Paraguay	2852.10.29	250 G MERCURIO (II) NITRATO MONOHIDRATO P.A. EMSURE ACS, REAG. PH EUR.-		296
2021-10-27	India	United Arab Emirates	2852.90.00	GMC-60 (MERCURY AMMONIUM CHLORIDE 60%) B NOTIFY PARTY: O F S CARGO SERVICES LLC B		336,691
2021-10-26	India	France	2852.10.00	PHENYLMERCURIC NITRATE BP		9,885
2021-10-25	India	Malaysia	2833.29.90; 2852.10.00	0457001000 - MERCURIC ACETATE 98.5% EXTR 0458400500 - MERCURIC SULPHATE 98% EXTRA		7,752
2021-10-23	India	Spain	2852.10.00	LABORATORY REAGENT CHEMICALS - MERCURY		8,791
2021-10-22	Spain	Vietnam	2852.10.10	Laboratory Chemicals :Mercury(II) sulfate, for analysis, Exper.code:ME02270100,CAS:7783-35-9,CTHH:HgSO4,Content:99%,100g/bottle.100% new		698
2021-10-13	India	Spain	2833.29.90; 2852.10.00	LABORATORY REAGENT CHEMICALS - MERCURI		2,676
2021-10-11	India	Vietnam	2852.10.10	Chemical Mercury(II) sulfate, analytical reagent, laboratory use(250G/BOTTLE)CAS7783-35-9		473
2021-10-11	India	Vietnam	2852.10.10	Chemical Mercury(II) sulfate, analytical reagent, laboratory use(250G/BOTTLE)CAS7783-35-9		355
2021-10-06	India	United Kingdom	2852.10.00	MERCURIC NITRATE MONOHYDRATE (P1295)		578
2021-10-05	Spain	Pakistan	2852.90.00	PHARMACEUTICAL RAW MATERIAL FOR PHARMACEUTICAL INDUSTRY THIMEROSAL ADC INV NO. 148272021DRAP DATED 04102021		7,483
2021-10-04	Israel	Vietnam	2852.10.90	Chemicals used in laboratories as a standard for testing toxic residues in food samples Thimerosal CAS 54-64-8 Item number T5125-10G,10g/bottle, 100% brand new		119
2021-10-01	India	Venezuela	2852.10.29.90	???	437	1,595
2021-09-30	United States	India	2852.10.00	THIMEROSAL, USP EP, BP		3,685
2021-09-29	Germany	Indonesia		1.04419.0250 MERCURY(II) CHLORIDE FOR ANALYSIS EMSURE REAG. PH EUR,ACS (INV:9517898096) 7X250G	3.93	700
2021-09-29	Germany	Indonesia		1.04419.0250 MERCURY(II) CHLORIDE FOR ANALYSIS EMSURE REAG. PH EUR,ACS (INV:9517898096) 4X250G	2.25	400
2021-09-29	Germany	Indonesia		1.04419.0050 MERCURY(II) CHLORIDE FOR ANALYSIS EMSURE REAG. PH EUR,ACS (INV:9517898096) 2X50G	0.48	86
2021-09-29	Germany	Indonesia		1.04419.0250 MERCURY(II) CHLORIDE FOR ANALYSIS EMSURE REAG. PH EUR,ACS (INV:9517898096) 3X250G	1.68	300
2021-09-29	Germany	Indonesia		1.04419.0050 MERCURY(II) CHLORIDE FOR ANALYSIS EMSURE REAG. PH EUR,ACS (INV:9517898096) 6X50G	1.45	257
2021-09-29	Germany	Indonesia		1.04419.0250 MERCURY(II) CHLORIDE FOR ANALYSIS EMSURE REAG. PH EUR,ACS (INV:9517898096) 2X250G	1.12	200

Date	Origin*	Destination*	HS code(s) reported	Specific mercury compounds shipped	Weight (kg)	Value (USD)
2021-09-28	India	Peru	2852.10.90.10	ÓXIDO AMARILLO DE MERCURIO 99.30% AR /, S/M, 0458200100, MERCURIC OXIDE YELLOW 99.30% AR/ACS - 100 GM, DE USO EXCLUSIVO EN LABORATORIO, ÓXIDO AMARILLO DE MERCURIO 99.30% AR / ACS (HGO)- 100 GM, CARTA: 3209-2021 SENASA	38.37	321
2021-09-28	India	Peru	2852.10.90.22	COLORURO MERCURICO 99,50% AR / ACS (HGCL2, S/M, 0457400100, MERCURIC CHLORIDE 99.50% AR/ACS - 100 GM, DE USO EXCLUSIVO EN LABORATORIO, COLORURO MERCURICO 99,50% AR / ACS (HGCL2) - 100 GM, CARTA: 3209-2021 SENASA	29.85	250
2021-09-28	India	Peru	2852.10.90.10	ÓXIDO ROJO DE MERCURIO 99% AR / ACS (HGO, S/M, 0458000100, MERCURIC OXIDE RED 99% AR/ACS - 100 GM, DE USO EXCLUSIVO EN LABORATORIO, ÓXIDO ROJO DE MERCURIO 99% AR / ACS (HGO)- 100 GM, CARTA: 3209-2021 SENASA	39.23	329
2021-09-28	South Korea	Vietnam	2852.10.10	Chemicals: Mercury(II) Sulfate, GR (For laboratory use, 100% brand new) HgSO4, CAS: 7783-35-9, 1UNA=1 bottle=0.5kg, total=6kg		1,476
2021-09-23	Germany	Indonesia		THIMEROSAL PH EUR,BP BAIK & BARU	40.79	1,487
2021-09-21	Germany	Indonesia		1.04419.0050 MERCURY(II) CHLORIDE FOR ANALYSIS EMSURE REAG. PH EUR,ACS (INV:9517888852) 4X50G	1.76	172
2021-09-21	Germany	Indonesia		1.04480.0250 MERCURY(II) SULFATE FOR ANALYSIS EMSURE ACS (INV:9517888852) 4X250G	3.5	342
2021-09-21	Germany	Indonesia		1.04466.0050 MERCURY(II) OXIDE RED, FOR ANALYSIS EMSURE (INV:9517888852) 2X50G	1.22	119
2021-09-21	Germany	Indonesia		1.04480.0050 MERCURY(II) SULFATE FOR ANALYSIS EMSURE ACS (INV:9517888852) 3X50G	1.35	132
2021-09-18	India	United Arab Emirates	2852.90.00	GMC-60 (MERCURY AMMONIUM CHLORIDE 60%) B		168,363
2021-09-16	India	United Kingdom	2852.10.00	PHENYL MERCURIC NITRATE BP		2,851
2021-09-14	Germany	Indonesia		1.04428.0250 MERCURY(II) IODIDE RED, FOR ANALYSIS EMSURE ACS,REAG. PH EUR (INV:9517876288) 3X250G	2.56	327
2021-09-14	Germany	Indonesia		1.04480.0050 MERCURY(II) SULFATE FOR ANALYSIS EMSURE ACS (INV:9517876288) 4X50G	1.38	176
2021-09-14	Germany	Pakistan	2852.10.00	Thimerosal EMPROVE ESSENTIAL 1X100 G BATCH NO.K53426843 Value for customs purpose only EUR 198.00unit SAMPLE		234
2021-09-13	Germany	Indonesia		1.04419.0250 MERCURY(II) CHLORIDE FOR ANALYSIS EMSURE REAG. PH EUR,ACS (INV:9517876101) 10X250G	3.8	952
2021-09-13	India	Paraguay	2852.10.29	MERBROMINE N.F XII (MERCUROCHROME) (25KGS X 1 DRUM)	25	4,187
2021-09-13	Germany	Indonesia		1.04419.0250 MERCURY(II) CHLORIDE FOR ANALYSIS EMSURE REAG. PH EUR,ACS (INV:9517876101) 8X250G	3.04	761
2021-09-13	Germany	Indonesia		1.04419.0250 MERCURY(II) CHLORIDE FOR ANALYSIS EMSURE REAG. PH EUR,ACS (INV:9517876101) 6X250G	2.28	571
2021-09-10	India	Vietnam	2852.10.90	100% new lab chemicals: Mercury(II) Oxide, Yellow, 99+%, item code: 221082-100G, CAS number: 21908-53-2		137
2021-09-08	Germany	Indonesia		1.04480.0050 MERCURY(II) SULFATE FOR ANALYSIS EMSURE ACS (INV:9517868024) 10X50G	4.67	439
2021-09-08	Germany	Indonesia		1.04419.0050 MERCURY(II) CHLORIDE FOR ANALYSIS EMSURE REAG. PH EUR,ACS (INV:9517868024) 7X50G	3.2	300

Date	Origin*	Destination*	HS code(s) reported	Specific mercury compounds shipped	Weight (kg)	Value (USD)
2021-09-07	India	United Arab Emirates	2852.90.00	GMC-60 (MERCURY AMMONIUM CHLORIDE 60%)		176,941
2021-09-06	India	Uruguay	2852.10.29.00	???	3.62	
2021-09-03	Germany	Indonesia		1.04428.0250 MERCURY(II) IODIDE RED, FOR ANALYSIS EMSURE ACS, REAG. PH EUR (INV:9517856264) 5X250G	7.03	544
2021-09-01	India	Argentina	2852.90.00	MERCURIC CHLORIDE ACS (BATCH NO.95/2021		98,054
2021-09-01	India	Peru	2852.10.90.22	MERCURIO(II) CLORURO, EMSURE, S/M, 1.04419.1000, LOTE K52327219, VENC. 31.03.2025, PARA USO EN LABORATORIO, 6 X 1.000 KG, P.A. EMSURE® REAG. PH EUR, ACS, PAIS DE ORIGEN INDIA, ENVASADO POR MERCK KGAA - GERMANY	7.12	1,185
2021-08-31	United States	Indonesia		THIMEROSAL PH EUR BP 100 G BAIK & BARU	8.81	702
2021-08-31	India	United Arab Emirates	2852.90.00	AMMONIATED MERCURIC CHLORIDE 25KG		115,306
2021-08-31	United States	Indonesia		THIMEROSAL PH EUR BP 1 KG BAIK & BARU	18.39	1,466
2021-08-30	Argentina	India	2852.10.00	THIMEROSAL USP/BP/EP		32,445
2021-08-28	Argentina	India	2852.10.00	THIMEROSAL USP/BP/EP		29,300
2021-08-26	Argentina	India	2852.10.00	THIMEROSAL USP/BP/EP		96,000
2021-08-26	Germany	Indonesia		1.04480.0250 MERCURY(II) SULFATE FOR ANALYSIS EMSURE ACS (INV:9517847073) 8X250G	4.5	642
2021-08-26	India	United Arab Emirates	2852.90.00	GMC-60 (MERCURY AMMONIUM CHLORIDE 60%)		176,000
2021-08-26	Germany	Indonesia		1.04480.0250 MERCURY(II) SULFATE FOR ANALYSIS EMSURE ACS (INV:9517847073) 4X250G	2.25	321
2021-08-25	India	United Kingdom	2852.10.00	PHENYL MERCURIC NITRATE BP		1,659
2021-08-24	Germany	Indonesia		1.04428.0250 MERCURY(II) IODIDE RED, FOR ANALYSIS EMSURE ACS, REAG. PH EUR (INV:9517847038) 3X250G	1.83	322
2021-08-24	Germany	Indonesia		1.04484.0100 MERCURY(II) THIOCYANATE FOR ANALYSIS EMSURE REAG. PH EUR (INV:9517847038) 5X100G	3.14	552
2021-08-24	Argentina	Mexico	2852.10.04.00	TIOSALICILATO DE ETILMERCURIO O LA SAL DE SODIO (TIMEROSAL)	56	44,424
2021-08-23	India	Poland	2852.90.00	MERCUROUS CHLORIDE (I) CALOMEL ACS		97,192
2021-08-20	India	Mauritius	2852.10.00	04578-MERCURIC NITRATE 98.5% AR/ACS-100 LABEL		0
2021-08-20	Germany	Indonesia		1.04419.0250 MERCURY(II) CHLORIDE FOR ANALYSIS EMSURE REAG. PH EUR, ACS (INV:9517837514) 5X250G	5.04	469
2021-08-20	Germany	Indonesia		1.04410.0250 MERCURY(II) ACETATE FOR ANALYSIS EMSURE ACS, REAG. PH EUR (INV:9517837514) 2X250G	2.04	190
2021-08-20	Germany	Indonesia		1.04410.0250 MERCURY(II) ACETATE FOR ANALYSIS EMSURE ACS, REAG. PH EUR (INV:9517837514) 2X250G	1.95	181
2021-08-20	Germany	Indonesia		1.04410.0250 MERCURY(II) ACETATE FOR ANALYSIS EMSURE ACS, REAG. PH EUR (INV:9517837514) 4X250G	3.89	363

Date	Origin*	Destination*	HS code(s) reported	Specific mercury compounds shipped	Weight (kg)	Value (USD)
2021-08-20	Mexico	France	2852.10.04.00	THIOMERSAL 5 PORCIENTO	6	486
2021-08-19	India	Indonesia		0457400250 - MERCURIC CHLORIDE 99.50% AR/ACS - 250 GM -	33.74	1,289
2021-08-19	India	Indonesia		0457800250 - MERCURIC NITRATE MONOHYDRATE 98.50% AR/ACS - 250 GM -	18.93	723
2021-08-16	India	Taiwan	2852.10.00	MERCURIC NITRATE MONOHYDRATE ACS		45,513
2021-08-13	India	United Arab Emirates	2852.10.00	MERCURY AMMONIUM CHLORIDE		4,729
2021-08-12	Germany	Paraguay	2852.10.22	200 G TIMEROSAL EMPROVE ESSENTIAL PH EUR, BP.-		458
2021-08-12	Germany	Paraguay	2852.10.11	50 G MERCURIO (II) OXIDO ROJO, P.A. EMSURE.-		89
2021-08-11	United Kingdom	Pakistan	2852.90.00	MERCURY AMMONIUM CHLORIDE USP POWDER QTY 500 Gram Dec UOM is in GRAM		318
2021-08-10	Germany	Indonesia		1.04428.0250 MERCURY(II) IODIDE RED, FOR ANALYSIS EMSURE ACS,REAG. PH EUR (INV:9517827814) 3X250G	2.27	307
2021-08-09	India	Switzerland	2852.10.00	MERCURY (II) SULFATE (MERCURIC SULFATE)		15,368
2021-08-09	Germany	Indonesia		THIMEROSAL PH EUR,BP	27.19	1,396
2021-08-08	India	United Arab Emirates	2852.90.00	GMC-60 (MERCURY AMMONIUM CHLORIDE 60%)		176,000
2021-08-03	Germany	Indonesia		1.04410.0250 MERCURY(II) ACETATE FOR ANALYSIS EMSURE ACS,REAG. PH EUR (INV:9517818075) 5X250G	5.43	453
2021-08-03	Germany	Indonesia		1.04410.0250 MERCURY(II) ACETATE FOR ANALYSIS EMSURE ACS,REAG. PH EUR (INV:9517818075) 4X250G	4.34	363
2021-08-03	Germany	Indonesia		1.04410.0250 MERCURY(II) ACETATE FOR ANALYSIS EMSURE ACS,REAG. PH EUR (INV:9517818075) 1X250G	1.09	91
2021-08-03	Germany	Indonesia		1.04419.0050 MERCURY(II) CHLORIDE FOR ANALYSIS EMSURE REAG. PH EUR,ACS (INV:9517818075) 6X50G	2.89	242
2021-07-30	India	Switzerland	2852.10.00	MERCURIC THIOCYANATE		3,962
2021-07-30	India	United Kingdom	2852.10.00	MERCURIC ACETATE ACS (P714)		5,115
2021-07-29	Germany	Paraguay	2852.10.29	1,500 KG MERCURIO (II) SULFATO P.A. EMSURE ACS.-	2	1,577
2021-07-29	India	Kenya	2852.10.00	BULK DRUG:- PHENYL MERCURIC NITRATE (MF		583
2021-07-28	Germany	Indonesia	2852.10	1044390250 MERCURY(II) NITRATE MONOHYDRATE FOR ANALYSIS EMSURE ACS,REAG. PH EUR (INV:95178083 4X250G	1.69	408
2021-07-28	Germany	Indonesia	2852.10	1.04466.0050 MERCURY(II) OXIDE RED, FOR ANALYSIS EMSURE ₇ (INV:9517798333) 1X50G	0.38	56
2021-07-23	India	Iraq	2852.10.00	INORGANIC CHEMICAL...CHAPTER 28AS PER INVOICE NO. EXP-99...FOR INDUSTRIAL USE ONLY... PHENYLMERCURIC NITRATE		3,189
2021-07-23	Germany	Indonesia	2852.10	1.04480.0250 MERCURY(II) SULFATE FOR ANALYSIS EMSURE ACS (INV:9517798284) 34X250G	26.08	2,730
2021-07-23	India	Kenya	2852.10.00	BULK DRUG:- PHENYL MERCURIC NITRATE (MF		583
2021-07-16	Germany	Paraguay	2852.10.21	500 G MERCURIO (II) ACETATO P.A. EMSURE ACS, REAG. PH EUR.-		466

Date	Origin*	Destination*	HS code(s) reported	Specific mercury compounds shipped	Weight (kg)	Value (USD)
2021-07-16	Germany	Paraguay	2852.10.21	100 G MERCURIO (II) ACETATO P.A. EMSURE ACS, REAG. PH EUR.-		155
2021-07-15	Germany	Indonesia	2852.10	1.04428.0050 MERCURY(II) IODIDE RED, FOR ANALYSIS EMSURE ACS,REAG. PH EUR (INV:9517787285) 3X50G	0.27	139
2021-07-15	Germany	Indonesia	2852.10	1.04439.0250 MERCURY(II) NITRATE MONOHYDRATE FOR ANALYSIS EMSURE ACS,REAG. PH EUR (INV:951778 2X250G	0.39	204
2021-07-13	Germany	Indonesia	2852.10	83381-10G MERCURIC NITRATE MONOHYDRATE, ACS 40X	25.79	1,790
2021-07-13	Germany	Indonesia	2852.10	215465-100G MERCURY(II) CHLORIDE, 99.5+%, 1X	0.72	50
2021-07-13	India	United States	2852.10.00	MERCURIC OXIDE RED -BATCH NO 2128		7,649
2021-07-12	France	Mexico	2852.10.04.00	MERTHIOLATE	17	2,854
2021-07-08	India	United Arab Emirates	2852.90.00	GMC-60 (MERCURY AMMONIUM CHLORIDE 60%)		176,005
2021-07-08	India	Spain	2852.10.00	MERCURIC CHLORIDE		2,840
2021-07-08	India	Greece	2852.10.00	PHENYLMERCURIC NITRATE BATCH NO PMN/28521		1,634
2021-07-06	Germany	Indonesia	2852.10	1.04466.0050 MERCURY(II) OXIDE RED, FOR ANALYSIS EMSURE (INV:9517776981) 1X50G	0.19	56
2021-07-06	India	Peru	2852.10.90.29	MERCURIO(II) YODURO ROJO, EMSURE, S/M, 1.04428.0050, LOTE K52562228, VENC. 30.06.2025, PARA USO EN LABORATORIO, 3 X 50.000 G, P.A. EMSURE ACS,REAG. PH EUR, PAIS DE ORIGEN INDIA, ENVASADO POR MERCK KGAA - GERMANY	4.38	169
2021-07-05	Germany	Indonesia	2852.10	1.04480.0250 MERCURY(II) SULFATE FOR ANALYSIS EMSURE ACS (INV:9517766525) 11X250G	2.33	883
2021-07-03	Germany	India	2852.10.00	THIMEROSAL USP BP/EP CAS- NO.: 54-64-8 SODIUM ETHYLMERCURICTHIOSALICYLATE BATCH:000809		36,125
2021-07-02	Germany	Indonesia	2852.10	THIMEROSAL PH EUR,BP	20.66	1,396
2021-07-02	Germany	Indonesia	2852.10	THIMEROSAL PH EUR,BP	20.79	1,405
2021-07-01	India	Vietnam	2852.10.10	Mercury sulfate : Mercury(II) sulfate GR for analysis ACS (HgSO ₄), 250 g/bottle, Batch : K52327080, HSD: 31.03.25, CAS: 7783-35-		216
2021-07-01	Germany	Indonesia	2852.10	8.07588.0050 PHENYLMERCURY ACETATE FOR SYNTHESIS (INV:9517700573) 2X50G	0.8	38
2021-06-30	India	United Arab Emirates	2852.90.00	AMMONIATED MERCURIC CHLORIDE 25KG		48,497
2021-06-24	Germany	Indonesia	2852.10	1.04419.0050 MERCURY(II) CHLORIDE FOR ANALYSIS EMSURE REAG. PH EUR,ACS (INV:9517755574) 9X50G	2.06	368
2021-06-22	Argentina	Vietnam	2852.10.90	Thimerosal (bottle/100g) cas: 54-64-8, laboratory reagent. New 100%		12,542
2021-06-21	Germany	Indonesia	2852.10	1.04410.0250 MERCURY(II) ACETATE FOR ANALYSIS EMSURE ACS,REAG. PH EUR (INV:9517755680) 4X250G	2.02	368
2021-06-19	India	United Arab Emirates	2852.90.00	AMMONIATED MERCURIC CHLORIDE 25KG		48,500
2021-06-19	India	Sudan	2852.10.00	MERCURIC IODIDE RED PURE		525
2021-06-17	India	Vietnam	2852.10.90	Chemically pure Mercury(II) acetate, for laboratory analysis. CTHH: (H3CCOO)2Hg. New 100%. Packing 100g/bottle. CAS code: 1600-27-7.		293

Date	Origin*	Destination*	HS code(s) reported	Specific mercury compounds shipped	Weight (kg)	Value (USD)
2021-06-17	India	Vietnam	2852.10.90	Chemically pure Mercury(II) Chloride. CTHH: HgCL2, for laboratory analysis. CAS Code: 7487-94-7. Packing 250g/bottle. New 100%.		1,179
2021-06-17	India	Vietnam	2852.10.90	Chemically pure Mercury(II) Iodide. CTHH: HgI2, for laboratory analysis. CAS Code: 7774-29-0. Packing 250g/bottle. New 100%.		935
2021-06-17	India	Vietnam	2852.10.90	Chemically pure Mercury(II) Chloride. CTHH: HgCL2, for laboratory analysis. CAS Code: 7487-94-7. Packing 250g/bottle. New 100%.		1,179
2021-06-17	India	Vietnam	2852.10.90	Chemically pure Mercury(II) Sulphate. CTHH: HgSO4, for laboratory analysis. CAS code: 7783-35-9. Packing 250g/bottle. New 100%.		894
2021-06-17	India	United Arab Emirates	2852.90.00	GMC-60 (MERCURY AMMONIUM CHLORIDE 60%)		176,000
2021-06-17	India	Vietnam	2852.10.90	Chemically pure Mercury(II) Sulphate. CTHH: HgSO4, for laboratory analysis. CAS code: 7783-35-9. Packing 250g/bottle. New 100%.		894
2021-06-17	India	Vietnam	2852.10.90	Chemically pure Mercury(II) acetate, for laboratory analysis. CTHH: (H3CCOO)2Hg. New 100%. Packing 100g/bottle. CAS code: 1600-27-7.		293
2021-06-17	India	Vietnam	2852.10.90	Chemically pure Mercury(II) Iodide. CTHH: HgI2, for laboratory analysis. CAS Code: 7774-29-0. Packing 250g/bottle. New 100%.		935
2021-06-12	Israel	Vietnam	2852.10.90	Laboratory pure chemicals THIMEROSAL TITRATION (ON DRIED SUBSTANC&, 10G/bottle, CAS: 54-64-8, 100% brand new, country of manufacture: ISRAEL		152
2021-06-11	India	Peru	2852.10.90.32	MERCURIO(II) NITRATO, EMSURE, S/M, 1.04439.0250, LOTE K53194739, VENC 31.03.2026, PARA USO EN LABORATORIO, 2 X 250.000 G, MONOHIDRATO P.A. EMSURE® ACS, REAG. PH EUR, PAIS DE ORIGEN INDIA, ENVASADO POR MERCK KGAA - GERMANY	1	151
2021-06-11	India	United States	2852.10.00	MERCUROUS BROMIDE 99% CAS NO 15385-58-7		1,315
2021-06-10	India	United Kingdom	2852.10.00	MERCURIC ACETATE ACS (P714)		3,502
2021-06-09	India	Vietnam	2852.90.90	PHENYL MERCURIC NITRATE chemical (C6H5HgNO3) - CAS No: 55-68-5 - 500g/bottle - laboratory use - 100% brand new		13,916
2021-06-09	India	Vietnam	2852.90.90	Chemicals used in laboratories as diagnostic reagents to check for toxic residues in food samples Mercury(II) chloride, 99.5% CAS: 7487-94-7 SKU: 201431000 100g/bottle 100% brand new		210
2021-06-08	India	Indonesia	2852.10	0459200100 - MERCUROUS NITRATE 98% AR - 100 GM -	4.34	168
2021-06-08	Germany	Indonesia	2852.10	1.04480.0050 MERCURY(II) SULFATE FOR ANALYSIS EMSURE ACS (INV:9517735315) 8X50G	2.57	335
2021-06-08	India	Indonesia	2852.10	0457600100 - MERCURIC IODIDE RED 99% AR/ACS - 100 GM -	3.22	125
2021-06-08	Germany	Indonesia	2852.10	1.04410.0250 MERCURY(II) ACETATE FOR ANALYSIS EMSURE ACS,REAG. PH EUR (INV:9517735315) 5X250G	3.53	460
2021-06-08	India	Paraguay	2852.10.29	MERBROMINE N. F.	100	10,099
2021-06-07	India	Vietnam	2852.10.90	Laboratory chemicals : Mercury chloride : Mercury(II) chloride GR for analysis Reap. Ph Eur, ACS (HgCl2), 250 g/bottle, Batch:K52327219, HSD:31.03.25, CAS: 7487-94-7		159
2021-06-07	Argentina	Mexico	2852.10.04.00	TIOSALICILATO DE ETILMERCURIO (TIMEROSAL)	69.5	55,531

Date	Origin*	Destination*	HS code(s) reported	Specific mercury compounds shipped	Weight (kg)	Value (USD)
2021-06-07	India	Vietnam	2852.10.90	Laboratory chemicals Mercury iodide: Mercury(II) iodide red, for analysis EMSURE ACS, Reag. Ph Eur,250g/bottle, Batch:K52562228,HSD: 30.06.25,CAS:7774-29-0		198
2021-06-04	Germany	Paraguay	2852.10.12	50 G MERCURIO (II) CLORURO P.A. EMSURE REAG. PH EUR, ACS.-		96
2021-06-01	India	Vietnam	2852.10.00	PHENYL MERCURIC NITRATE BP		13,643
2021-05-28	Argentina	India	2852.10.00	THIMEROSAL USP/BP/EP		17,000
2021-05-24	Germany	Indonesia	2852.10	1.04480.0050 MERCURY(II) SULFATE FOR ANALYSIS EMSURE ACS (INV:9517714782) 8X50G	1.31	335
2021-05-21	India	Peru	2852.10.90.22	MERCURIO(II) CLORURO, EMSURE, S/M, 1.04419.0250, LOTE K52327219, VENC. 31.03.2025, PARA USO EN LABORATORIO, 4 X 250.000 G, P.A. EMSURE® REAG. PH EUR,ACS, PAIS DE ORIGEN INDIA, ENVASADO POR MERCK KGAA - GERMANY	1.97	409
2021-05-21	Germany	Indonesia	2852.10	1.04439.0050 MERCURY(II) NITRATE MONOHYDRATE FOR ANALYSIS EMSURE ACS,REAG. PH EUR (INV:951770 20X50G	1.88	626
2021-05-21	Germany	Indonesia	2852.10	1.04480.0250 MERCURY(II) SULFATE FOR ANALYSIS EMSURE ACS (INV:9517705396) 12X250G	4.04	978
2021-05-21	Germany	Indonesia	2852.10	1.04480.0250 MERCURY(II) SULFATE FOR ANALYSIS EMSURE ACS (INV:9517705396) 6X250G	2.02	489
2021-05-19	China	Vietnam	2852.10.10	Chemical Mercury(II) sulfate-HgSO4 (bottle of 100g). Used to analyze wastewater in wastewater treatment systems. Internal use. 100% new.		0
2021-05-17	India	Spain	2833.29.90; 2852.10.00	LABORATORY REAGENT CHEMICALS - MERCURIC IODIDE RED ACS LABORATORY REAGENT CHEMICALS - MERCURIC SULPHATE ACS		4,688
2021-05-17	Germany	Indonesia	2852.10	T5125-10G THIMEROSAL TITRATION (ON DRIED SUBSTANC 2X	2.88	182
2021-05-12	Argentina	India	2852.10.00	THIMEROSAL USP/BP/EP (CAS NO 54-64-8) (FOR PRESERVATIVE USE)		63,750
2021-05-08	India	Vietnam	2852.10.90	Chemicals used in laboratories as diagnostic reagents for toxic residues in food samples Mercury(II) chloride CAS: 7487-94-7 SKU: 423931000 100g/bottle 100% brand new		61
2021-05-06	China	Vietnam	2852.10.10	Chemical Mercury(II) sulfate-HgSO4 (bottle of 100g)		85
2021-05-05	Spain	Peru	2852.10.90.29	MERCURIO (II), SHARLAB, S/M, MERCURY (II) IODIDE, RED, FOR ANALYSIS, REACTIVO PARA ANALISIS, MERCURIO (II), CODIGO: ME02500050	4.32	119
2021-05-05	India	United States	2852.90.00	MERCURIC SULPHATE ACS - (UN NO. 1645 /CLASS 6.1 / PKG II)		27,585
2021-05-05	Spain	Peru	2852.10.90.10	MERCURIO (II), SHARLAB, S/M, MERCURY (II) OXIDE, RED. FOR ANALYSIS, REACTIVO PARA ANALISIS, MERCURIO (II), CODIGO: ME02150050	5.12	141
2021-05-04	India	Germany	2852.90.00	MERCURIC CHLORIDE (MERCURY (II) CHLORIDE		35,627
2021-04-29	Germany	Indonesia	2852.10	THIMEROSAL PH EUR,BP BAIK & BARU	27.05	2,793
2021-04-28	India	United States	2852.10.00	MERCURIC CHLORIDE ACS		17,500
2021-04-28	Spain	Peru	2852.10.29.90	THIMEROSAL TITRATION (ON DRIED SUBSTAN, SIGMA-ALDRICH, S/M, T5125-500G, BATCH: 0000099161, USO PARA INVESTIGACION DE LABORATORIO, 2 X 500G, TIMEROSAL,	10.17	3,024
2021-04-27	India	Belgium	2852.90.00	LABORATORY REAGENT CHEMICALS - MERCURIC ACETATE ACS REAGENT		3,990

Date	Origin*	Destination*	HS code(s) reported	Specific mercury compounds shipped	Weight (kg)	Value (USD)
2021-04-26	Germany	Indonesia	2852.10	1.04480.0050 MERCURY(II) SULFATE FOR ANALYSIS EMSURE ACS (INV:9517672537) 10X50G	2.43	412
2021-04-24	United States	India	2852.10.00	THIMEROSAL USP (EXCIPIENTS FOR PHARMA USE ONLY) (FREE OF COST)		1,356
2021-04-24	China	Vietnam	2852.10.10	10029-250g Mercury(II) sulfate Laboratory Chemicals HgSO4 CAS 7783-35-9		200
2021-04-23	India	Peru	2852.10.90.29	MERCURIO(II) YODURO ROJO, EMSURE, S/M, 1.04428.0250, LOTE A0664628, VENC 30.04.2021, PARA USO EN LABORATORIO, 2 X 250.000 G, P.A. EMSURE® ACS, REAG. PH EUR, PAIS DE ORIGEN INDIA, ENVASADO POR MERCK KGAA - GERMANY	4.09	229
2021-04-20	India	United States	2852.10.00	MERCURIC NITRATE MONOHYDRATE ACS - (UN NO 1625 / CLASS 6.1 / PKG II)		19,085
2021-04-20	France	Mexico	2852.10.04.00	MERTHIOLATE 8.3 MG/100 ML, MERTHIOLATE 8.3 MG/100 ML	17	2,772
2021-04-15	India	United Arab Emirates	2852.90.00	GMC-60 (MERCURY AMMONIUM CHLORIDE 60%)		166,000
2021-04-13	Germany	Indonesia	2852.10	THIMEROSAL PH EUR, BP BAIK & BARU	173.18	13,963
2021-04-13	Germany	Indonesia	2852.10	THIMEROSAL PH EUR, BP BAIK & BARU	86.59	6,981
2021-04-09	India	Indonesia	2852.10	LABORATORY REAGENTS : MERCURIC SULPHATE AR	643.26	6,900
2021-04-09	India	Indonesia	2852.10	LABORATORY REAGENTS : MERCURIC SULPHATE LR (GLASS BOTTLE)	149.16	1,600
2021-04-09	Mexico	France	2852.10.04.00	THIOMERSAL 5 PORCIENTO	21.5	1,459
2021-04-08	India	Spain	2833.29.90; 2852.10.00	LABORATORY REAGENT CHEMICALS - MERCURIC IODIDE RED ACS LABORATORY REAGENT CHEMICALS - MERCURIC SULPHATE ACS		2,556
2021-04-08	Germany	Vietnam	2852.10.90	Laboratory Solvent Nessler's reagent A (Potassium tetraiodomercurate (> 2.5%- < 7 %)), 500ML/bottle, CAS: 7783-33-7, 100% brand new, Country of manufacture: GERMANY		134
2021-04-08	India	Vietnam	2852.10.90	Laboratory reagent grade Mercury(II) iodide red, 250G/bottle, CAS: 7774-29-0, 100% brand new, country of manufacture: INDIA		215
2021-04-06	Germany	Indonesia	2852.10	1.04480.0250 MERCURY(II) SULFATE FOR ANALYSIS EMSURE ACS (INV:9517642903) 10X250G	2.91	803
2021-04-06	Germany	Indonesia	2852.10	1.04419.0250 MERCURY(II) CHLORIDE FOR ANALYSIS EMSURE REAG. PH EUR, ACS (INV:9517642889) 7X250G	2.11	657
2021-04-06	Germany	Indonesia	2852.10	1.04419.1000 MERCURY(II) CHLORIDE FOR ANALYSIS EMSURE REAG. PH EUR, ACS (INV:9517642889) 8X1KG	8.22	2,559
2021-04-06	Germany	Indonesia	2852.10	1.04480.0250 MERCURY(II) SULFATE FOR ANALYSIS EMSURE ACS (INV:9517642903) 58X250G	16.86	4,657
2021-04-06	Germany	Indonesia	2852.10	1.04480.0250 MERCURY(II) SULFATE FOR ANALYSIS EMSURE ACS (INV:9517642903) 61X250G	17.73	4,898
2021-04-06	Germany	Indonesia	2852.10	1.04419.0250 MERCURY(II) CHLORIDE FOR ANALYSIS EMSURE REAG. PH EUR, ACS (INV:9517642889) 4X250G	1.21	375
Not indicated	India	Panama	2852.10.90	REACTIVOS PARA ANALISIS DE LABORATORIOS (ACETATO DE MERCURIO)	1.44	215
2021-04-05	Germany	Pakistan	2852.10.00	Mercury II Chloride GR 250Gm		95
2021-04-05	Germany	Pakistan	2852.10.00	Mercury II sulfate 250G		95

Date	Origin*	Destination*	HS code(s) reported	Specific mercury compounds shipped	Weight (kg)	Value (USD)
2021-04-05	India	United States	2852.10.00	MERCURIC CHLORIDE ACS		17,502
2021-04-01	India	United Kingdom	2852.10.00	INORGANIC COMPOUND OF MERCURY (MERCURY (I) NITRATE)		3,640
2021-03-30	India	United Arab Emirates	2852.90.00	AMMONIATED MERCURIC CHLORIDE 25 KG		83,000
2021-03-26	Germany	Peru	2852.10.90.10	MERCURIO(II) OXIDO ROJO, EMSURE, S/M, 1.04466.0050, LOTE A0968866, VENC 31.03.2023, PARA USO EN LABORATORIO, 17 X 50.000 G, P.A. EMSURE®,	2.01	691
2021-03-25	India	Bhutan	2852.10.00; 3822.00.90; 9027.80.90	147020) CHLORINE TEST KIT DPD NO. 1 BOX OF 500 MERCURY SULFATE 250G MERCK		497
2021-03-24	India	Malaysia	2852.10.00	MERCURIC SULPHATE AR ACS S D FINE CHEM LTD TAX INVOICE NO- TASAIN208496 DT : -28.02.2021		1,307
2021-03-23	Germany	Indonesia	2852.10	T5125-10G THIMEROSAL TITRATION (ON DRIED SUBSTANC 2X	2	172
2021-03-22	Germany	Indonesia	2852.10	1.04480.0250 MERCURY(II) SULFATE FOR ANALYSIS EMSURE ACS (INV:9517621065) 25X250G	10	2,007
2021-03-22	Germany	Indonesia	2852.10	1.04480.0250 MERCURY(II) SULFATE FOR ANALYSIS EMSURE ACS (INV:9517621065) 12X250G	5	964
2021-03-22	India	Vietnam	2852.10.90	Laboratory chemicals Mercury iodide: Mercury(II) iodide red, for analysis EMSURE ACS, Reag. Ph Eur, 250g/bottle, Batch: K52562228, HSD: 30.06.25, CAS: 7774-29-0		194
2021-03-22	India	Vietnam	2852.10.90	Laboratory chemicals: Mercury acetate : Mercury(II) acetate GR for analysis ACS, Reag. Ph Eur (C4H6HgO4; (CH3COO)2Hg), 50 g/bottle, Batch: K51190610, HSD: 29.02.24, CAS: 1600-27-7		65
2021-03-22	Germany	Indonesia	2852.10	1.04480.0250 MERCURY(II) SULFATE FOR ANALYSIS EMSURE ACS (INV:9517621065) 43X250G	16	3,288
2021-03-18	Germany	Indonesia	2852.10	1.04484.0025 MERCURY(II) THIOCYANATE FOR ANALYSIS EMSURE REAG. PH EUR (INV:9517608640) 14X25G	2	738
2021-03-17	Spain	Peru	2852.10.29.90	THIMEROSAL TITRATION (ON DRIED SUBSTAN, SIGMA-ALDRICH, S/M, T5125-500G, BATCH: 0000099161, USO PARA INVESTIGACION DE LABORATORIO, 2 X 500G, TIMEROSAL,	1.51	3,115
2021-03-16	India	Spain	2833.29.90; 2852.10.00	LABORATORY REAGENT CHEMICALS - MERCURIC CHLORIDE ACS LABORATORY REAGENT CHEMICALS - MERCURIC SULPHATE ACS		2,049
2021-03-16	India	Belgium	2852.10.00	LABORATORY REAGENT CHEMICALS - MERCURY(II) THIOCYANATE 99+%		1,720
2021-03-16	India	Turkey	2852.10.00; 3204.13.59	MERCURIC SULPHATE AR TOLUIDINE BLUE O (M.S.) (C.I. 52040)		3,554
2021-03-13	India	Spain	2827.39.90; 2834.29.30; 2852.10.00	LABORATORY REAGENT CHEMICALS - MERCURIC CHLORIDE ACS LABORATORY REAGENT CHEMICALS - MERCURY(II) IODIDE RED ACS LABORATORY REAGENT CHEMICALS - MERCURY(II) NITRATE ACS		31,224
2021-03-12	Germany	Indonesia	2852.10	176109-100G MERCURY(II) ACETATE ACS REAGENT, >= - 98. 1X	2	140
2021-03-10	India, United States	Mexico	2852.10.04.00; 2920.90.99.99	DODECILSULFATO DE SODIO, SULFATO MERCURICO	59.88	1,768
2021-03-10	India	Turkey	2852.90.00	MERCURY AMMONIUM CHLORIDE		4,150

Date	Origin*	Destination*	HS code(s) reported	Specific mercury compounds shipped	Weight (kg)	Value (USD)
2021-03-10	Germany	Indonesia	2852.10	203793-10G MERCURY(II) OXIDE, 99.999% METALS BASIS 1X	3	155
2021-03-08	India	Israel	2852.10.00	MERCUROUS I NITRATE DIHYDRATE		970
2021-03-08	Germany	Indonesia	2852.10	1.04419.0250 MERCURY(II) CHLORIDE FOR ANALYSIS EMSURE REAG. PH EUR,ACS (INV:9517596389) 20X250G	7	1,876
2021-03-06	India	Belgium	2827.60.90; 2852.10.00	LABORATORY REAGENT CHEMICALS – CADMIUM IODIDE 99% LABORATORY REAGENT CHEMICALS - MERCURIC IODIDE RED ACS		2,265
2021-03-04	India	Peru	2852.10.90.22	MERCURIO(II) CLORURO, EMSURE, S/M, 1.04419.1000, LOTE K52327219, VENC. 31.03.2025, PARA USO EN LABORATORIO, 4 X 1.000 KG, P.A. EMSURE® REAG. PH EUR,ACS, PAIS DE ORIGEN INDIA, ENVASADO POR MERCK KGAA - GERMANY	4.82	887
2021-03-03	Vietnam	Vietnam	2852.10.10	Mercury sulfate, HgSO4 99% (for laboratory use) (250g/bottle). New 100%		121
2021-03-03	India	United States	2852.10.00	MERCURIC CHLORIDE ACS - (UN NO - 1624 /CLASS - 6.1 / PKG - II)		21,980
2021-03-03	Germany	Indonesia	2852.10	1.04480.0050 MERCURY(II) SULFATE FOR ANALYSIS EMSURE ACS (INV:9517585119) 7X50G	2	289
2021-03-02	Germany	Indonesia	2852.10	1.04484.0100 MERCURY(II) THIOCYANATE FOR ANALYSIS EMSURE REAG. PH EUR (INV:9517584915) 3X100G	1	315
2021-03-01	Argentina	Vietnam	2852.10.90	excipient name THIMEROSAL, trade name: THIMEROSAL USP/BP/EP .- Lo/ 1 kg.- C9H9HgNaO2S.- Raw materials for drug production (excipients). - Manufacturer: GIHON - ARGENTINA. - Lot no: 000805.- HSD: 04/2020-04/2025		39,000
2021-03-01	Argentina	Mexico	2852.10.04.00	TIOSALICILATO DE ETILMERCURIO O LA SAL DE SODIO (TIMEROSAL)	69.5	55,531
2021-03-01	India	Malaysia	2812.90.00; 2852.10.00	IODINE CHLORIDE LR MERCURIC SULPHATE AR ACS S D FINE CHEM LTD TAX INVOICE NO-TASAIN208496 DT : -28.02.2021		4,692
2021-02-27	India	Malaysia	2812.90.00; 2852.10.00	IODINE CHLORIDE LR MERCURIC SULPHATE AR, ACS		4,694
2021-02-26	Germany	Indonesia	2852.10	1.04480.0050 MERCURY(II) SULFATE FOR ANALYSIS EMSURE ACS (INV:9517574357) 25X50G	6.3	1,060
2021-02-24	United States	Peru	2852.10.90.90	POLVO DESCONTAMINANTE DE MERCURIO,S/M,S/M,, HGX MERCURY DECONTAMINANT POWDER, ENVASES DE 20 LB (9.1 KG), HGX REF. HGX-20,	60.33	2,414
2021-02-24	Spain	Peru	2852.10.29.90	THIMEROSAL TITRATION (ON DRIED SUBSTAN, SIGMA-ALDRICH, S/M, T5125-500G, BATCH: 0000099161, USO PARA INVESTIGACION DE LABORATORIO, 2 X 500G, TIMEROSAL,	2.03	3,126
2021-02-23	India	Argentina	2852.90.00	MERCURIC CHLORIDE ACS (BATCH NO.249/2020-21) (HAZ CLASS:6.1 PG:II UN NO.1624)		94,395
2021-02-23	India	Uruguay	2852.10.19.00	???	2.04	
2021-02-17	Germany	Indonesia	2852.10	1.04484.0100 MERCURY(II) THIOCYANATE FOR ANALYSIS EMSURE REAG. PH EUR (INV:9517563035) 9X100G	2.44	974
2021-02-16	Germany	Indonesia	2852.10	1.04480.0250 MERCURY(II) SULFATE FOR ANALYSIS EMSURE ACS (INV:9517563199) 11X250G	3.48	909
2021-02-12	India	Egypt	2852.10.00	INORGANIC CHEMICAL OR INDUSTRIAL USE ONLY PHENYLMERCURIC NITRATE		2,108

Date	Origin*	Destination*	HS code(s) reported	Specific mercury compounds shipped	Weight (kg)	Value (USD)
2021-02-11	Germany	Indonesia	2852.10	203793-2G MERCURY(II) OXIDE, 99.999% METALS BASIS 1X	1.03	75
2021-02-11	Germany	Indonesia	2852.10	83352-50G MERCURIC ACETATE, ACS 1X	1.77	128
2021-02-10	Germany	Indonesia	2852.10	1.04484.0025 MERCURY(II) THIOCYANATE FOR ANALYSIS EMSURE REAG. PH EUR (INV:9517479503) 2X25G	13.87	98
2021-02-09	Germany	Indonesia	2852.10	1.04410.0250 MERCURY(II) ACETATE FOR ANALYSIS EMSURE ACS,REAG. PH EUR (INV:9517551872) 12X250G	9.08	1,066
2021-02-06	India	Germany	2852.10.00	MERCURIC NITRATE MONOHYDRAT (MERCURY (II) NITRATE MONOHYDRATE)		27,433
2021-02-04	Spain	Peru	2852.10.29.90	THIMEROSAL TITRATION (ON DRIED SUBSTAN, SIGMA-ALDRICH, S/M, T5125-500G, BATCH: 0000099161, USO PARA INVESTIGACION DE LABORATORIO, 2 X 500G, TIMEROSAL,	2.49	3,126
2021-02-02	South Korea	Vietnam	2852.10.10	Chemicals: Mercury(II) Sulfate, GR (For laboratory use, 100% brand new) HgSO4, CAS: 7783-35-9, 1UNA=1 bottle=0.5kg, total=2.5kg		615
2021-02-01	India	Taiwan	2852.10.00	MERCURIC NITRATE MONOHYDRATE BATCH NO.2048 MFG DT 12/2020 RETEST. DT.11/2023		9,641
2021-01-29	Germany	Indonesia	2852.10	THIMEROSAL PH EUR,BP BAIK & BARU	110.03	6,842
2021-01-29	Germany	Paraguay	2852.10.22	TIMEROSAL PH EUR BP	23	1,417
2021-01-29	Germany	Indonesia	2852.10	THIMEROSAL PH EUR,BP BAIK & BARU	44.01	2,737
2021-01-26	India	Vietnam	2852.90.90	MERCURY(II) IODIDE RED, EXTRA PURE - Analytical Chemicals For Laboratory Use - HgI2; CAS-No. 7774-29-0; 100G/bottle		191
2021-01-26	India	Vietnam	2852.10.90	MERCURY(II) CHLORIDE FOR ANALYSIS EMSURE REAG. PH EUR,ACS - Analytical Chemicals For Laboratory Use - HgCl2; CAS-No. 7487-94-7; 50G/ Vial		431
2021-01-26	India	Vietnam	2852.10.10	Mercury(II) sulfate for analysis EMSURE ACS - Analytical Chemicals For Laboratory Use - HgSO4; CAS-No. 7783-35-9; 50G/ Vial		310
2021-01-25	Spain	Vietnam	2852.10.10	Laboratory chemicals: Mercury(II) sulfate, for analysis, Exper, 99%, Code: ME02270100, CAS: 7783-35-9, CTHH: HgSO4, 100g/bottle. used in the laboratory. New 100%.		765
Not indicated	India	Panama	2852.10.90	REACTIVOS PARA ANALISIS DE LABORATORIOS (SULFATO DE MERCURIO)	1.79	227
2021-01-25	Germany	Indonesia	2852.10	MERCURY(II) ACETATE FOR ANALYSIS EMSURE ACS,REAG. PH EUR K51190610	1.37	273
2021-01-25	Germany	Indonesia	2852.10	MERCURY(II) CHLORIDE FOR ANALYSIS EMSURE REAG. PH EUR,ACS K52327219	1.58	314
2021-01-21	Germany	Indonesia	2852.10	1.04480.0250 MERCURY(II) SULFATE FOR ANALYSIS EMSURE ACS (INV:9517519570) 13X250G	4.85	1,023
2021-01-21	Germany	Indonesia	2852.10	1702407 HM-1400 WT LSG 0,2PPM HG2+HCl,PH 2 1000ML STANDARD SOLUTION FOR TEST GAS GENERATOR -0.	17.79	2,844
2021-01-21	Germany	Indonesia	2852.10	1702528 HM-1400 WT LSG 0,5PPM HG2+HCl PH2, 1000ML STANDARD SOLUTION FOR TEST GAS GENERATOR -0.5	17.79	2,844
2021-01-21	India	Spain	2852.10.00	LABORATORY REAGENT CHEMICALS - MERCURIC CHLORIDE ACS LABORATORY REAGENT CHEMICALS - MERCURIC IODIDE RED ACS		2,441
2021-01-20	Germany	Indonesia	2852.10	MERCURY(II) IODIDE RED, FOR ANALYSIS EMSURE ACS,REAG. PH EUR (INV:9517519167) BAIK & BARU	1.46	136

Date	Origin*	Destination*	HS code(s) reported	Specific mercury compounds shipped	Weight (kg)	Value (USD)
2021-01-20	India	United Kingdom	2852.10.00	MERCURIC SULPHATE B.NO. 051120 MFG: NOV-		22,407
2021-01-14	United Kingdom	Vietnam	2852.90.90	Thimerosal chemical, Cas: 54-64-8, CT: C ₉ H ₉ HgNaO ₂ S, HSX: Glentham-Anh, 100% new, laboratory grade, non-food, medical, 100G/vial		245
2021-01-13	Germany	Pakistan	2852.10.00	THIMEROSAL EMPROVE 14X100 G PO NO.45120035863544BATCH NO.K52624843		3,434
2021-01-12	India	Germany	2852.90.00	MERCURIC SULPHATE (MERCURY (II) SULPHATE)		59,115
2021-01-12	India	United States	2852.10.00	MERCURIC THIOCYANATE - (UN NO. 1646 / CLASS 6.1 / PKG II) MERCUROUS NITRATE DIHYDRATE ACS - (UN NO. 1627 / CLASS 6.1 / PKG II)		29,230
2021-01-11	Argentina	Vietnam	2852.10.90	Laboratory chemicals : Thimerosal EMPROVE ESSENTIAL Ph Eur, BP (C ₉ H ₉ HgNaO ₂ S), 100 g/bottle, Batch: K52624843, HSD: 31.07.24, CAS: 54-64-8		614
2021-01-11	India	Canada	2852.10.00	MERCURIC CHLORIDE (CAS NO.7847-94-7) (PACK SIZE:50X1KG)		4,300
2021-01-04	India	Vietnam	2852.10.10	Mercury sulfate : Mercury(II) sulfate GR for analysis ACS (HgSO ₄), 250 g/bottle, Batch : K52327080, HSD: 31.03.25, CAS: 7783-35-9		1,202

*All country names listed here are precisely as indicated in the source database.