

# Key results from the 2022 reports under the Products Containing Mercury Regulations

Canada

Cat. No.: En14-525/2023E-PDF ISBN: 978-0-660-67855-9 EC23190

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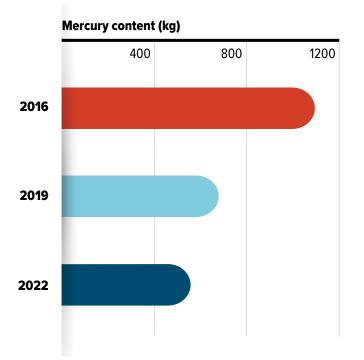
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# **Executive Summary**

Based on the information collected through triennial industry reporting, this report measures the progress of the *Products Containing Mercury Regulations* in reducing the use of mercury in products. Between 2016 and 2022, the total quantity of mercury in products imported and manufactured in Canada went from 1,104 kg to 509 kg, which is a 54% decline (figure 0). Dental amalgam and lamps for general lighting such as CFL and LFL continue to be the most common products containing mercury in Canada.

#### Figure 0. Comparison of mercury in products in Canada between 2016, 2019 and 2022 (kg)



# Introduction

Canada has taken numerous domestic and international actions to reduce the risk to the environment and human health from mercury, including from mercury in products. To this end, the *Products Containing Mercury Regulations* (hereafter "the Regulations") were enacted in 2014 and came into force in 2015. The Regulations broadly prohibit the import and manufacture of products containing mercury or any of its compounds in Canada, with some exemptions for essential products, which have no technically or economically viable alternatives. The exemptions are listed in the schedule of the Regulations.

The objective of the Regulations is to protect the environment and human health by reducing releases of mercury from products used, in Canada, to the lowest level that is technically and economically feasible.

This report provides a summary of the imports and manufacture of essential products containing mercury that are exempted in Canada under the Regulations. All information in this report is based on data submitted by organizations that imported or manufactured products containing mercury, in Canada, for the triennial reporting years 2016, 2019 and 2022 (See <u>Annex 1</u>). The Regulations' <u>key results for 2016</u> and <u>for 2019</u> are also publicly available online.

In addition to helping monitor the progress of the Regulations and supporting transparency by sharing the results publicly, the information in this report will inform decisions regarding finalizing the amendments to the Regulations. On December 24, 2022, Environment and Climate Change Canada (ECCC) published the proposed Regulations amending the *Products*. *Containing Mercury Regulations* in the *Canada Gazette*, Part I. These amendments will allow Canada to align with the requirements of the Minamata Convention for mercury-containing products. They will also accelerate the transition to alternatives, such as light emitting diode lamps (LEDs), which are mercury-free and more energy efficient.

### **Products containing mercury:** snapshot of 2022

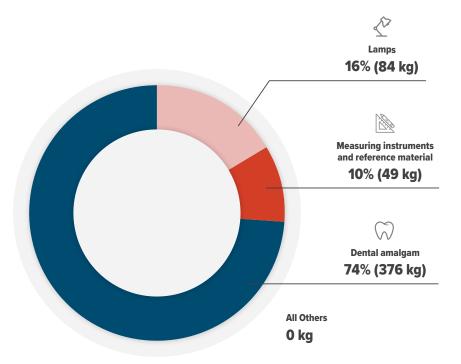
In 2022, the total reported quantity of mercury contained in manufactured and imported products in Canada was 508.77 kg. The vast majority of mercury is found in dental amalgam (74%). The rest is mostly found in lamps (16%) and measuring instruments (10%) (figure 1).

Total quantity of mercury in products: 509 kg

#### Virtually all products containing mercury are imported

In 2022, 89 organizations reported having imported products containing mercury. Of these, 3 also reported having manufactured products. Over 99.9% of all products containing mercury were imported that year, the rest, mainly lamps, were manufactured in Canada.

#### Figure 1. Mercury in products in Canada, 2022



# The most common products containing mercury are lamps and dental amalgam capsules

The analysis indicates that a total of 18.6 million products containing mercury were imported and manufactured in Canada in 2022. Among these, 17.8 million were lamps, slightly over 700,000 were dental amalgam capsules and just under 10,000 (9,611) were measuring instruments and other types of lesser used essential products (table 1). No reports were submitted for 14 product categories currently exempted and listed in the schedule of the Regulations (See <u>Annex 2</u>). For the detailed numbers of products containing mercury reported (See <u>Annex 4</u>).

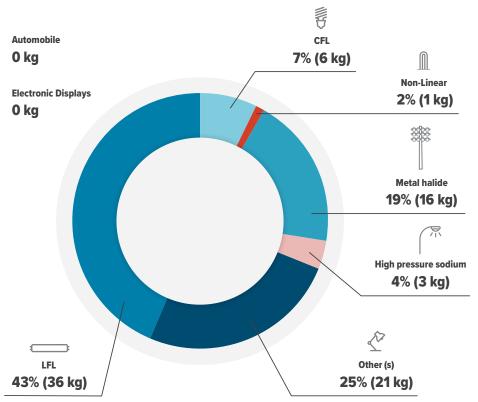
#### Table 1. Number of products containing mercury imported or manufactured in Canada in 2022

Product grouping	Number of products in 2022
Dental amalgam capsules	716,500
Lamps	17,826,205
Measuring instruments and reference materials	9,611
All others	40
Total	18,552,356

#### 75% of mercury in lamps is used for general lighting

A breakdown of lamp products shows that straight fluorescent lamps (LFL) (43 %), compact fluorescent lamps (CFL) (7 %), and non-linear fluorescent lamps (2 %) make up for over 50% of the mercury found in lamps in Canada (figure 2). These lamps are widely used in offices, stores and warehouses, and to a lesser extent in homes. Similarly, metal halide (19%) and high pressure sodium vapour lamps (HPS) (4%), which are both high intensity discharge (HID) lamps, account together for almost 25% of mercury in lamps. These types of HID lamps are used for general lighting both indoors and outdoors, including in parking lots, stadiums, warehouses, greenhouses, factories, and for street lighting.

The other 25% of mercury in lamps is used in specialty lamps, such as ultra-violet lamps for air and water purification. Automobile headlamps together with electronic displays (CCFL), which are mainly imported as replacement lamps, account for less than 1% of the total mercury in lamps. Based on the 2022 reports, no induction lamps or neon lamps were imported or manufactured in Canada.



#### Figure 2. Mercury in lamps in Canada, 2022

See the Annex 3 for a detailed breakdown of mercury in lamps in Canada in 2016, 2019 and 2022.

### **Products containing mercury:** the decline sharpens

Between 2016 and 2022, there was a drastic decline (72%) in the total number of products containing mercury that were imported or manufactured in Canada (table 2). As a result, the overall quantity of mercury found in products in Canada has decreased by 54% during the same period (figure 3).

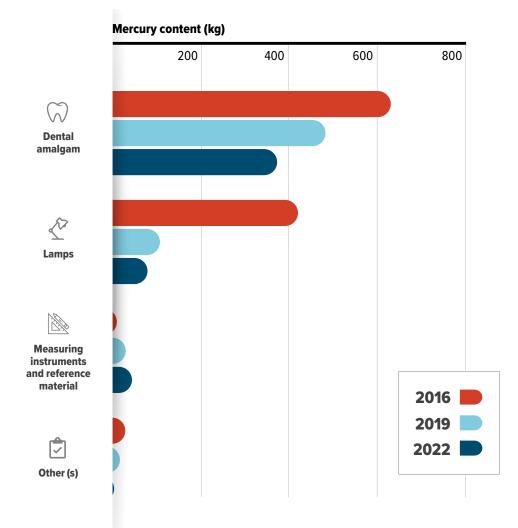
72% fewer products contained mercury in 2022

This trend is reflected in the decline in the number of companies that imported or manufactured mercury-containing products in Canada during the same period (decreasing from 125 organizations to 89). Similarly, the number of compagnies that manufactured products in Canada decreased from 8 organizations to 3.

Table 2. Comparison of number of products containing mercury imported and manufacturedin Canada in 2016, 2019 and 2022

Product grouping	Number of products in 2016	Number of products in 2019	Number of products in 2022	Percentage Change 2016-2022
Dental amalgam capsules	1,519,060	1,140,465	716,500	-53%
Lamps	64,426,348	23,134,366	7,826,205	-72%
Measuring instruments and reference materials	127,124	4,567	9,611	-92%
All others	288,281	244,089	40	-100%
Total	66,360,813	24,523,487	18,552,356	-72%





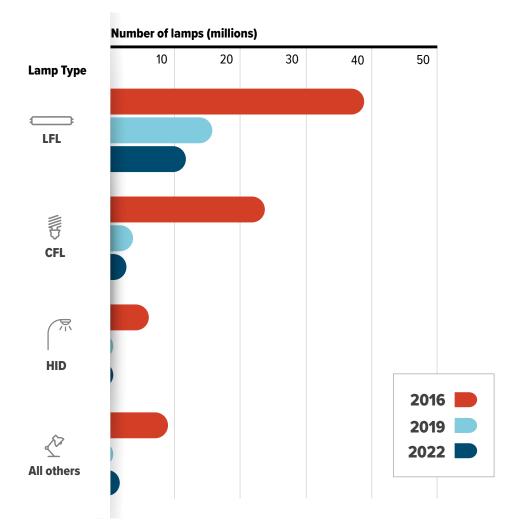
#### Dental amalgam continues to decline

In 2022, 0.7 million dental amalgam capsules were imported to Canada, down from 1.5 million in 2016. This change is equivalent to 53% fewer capsules. In terms of mercury, the quantities went down to 376 kg in 2022, from 632 kg in 2016, which means that 40% less mercury entered Canada in the form of dental amalgam.

53% fewer dental amalgam capsules imported in 2022

#### Mercury-containing lamps continue to decline

In 2016, over 64 million lamps containing mercury were imported or manufactured in Canada. By 2019 this number shrank to 23 million, and by 2022, to 17.8 million. Over this 6-year span, the number of mercury-containing lamps entering the Canadian market every year has shrunk by 72% (figure 4).



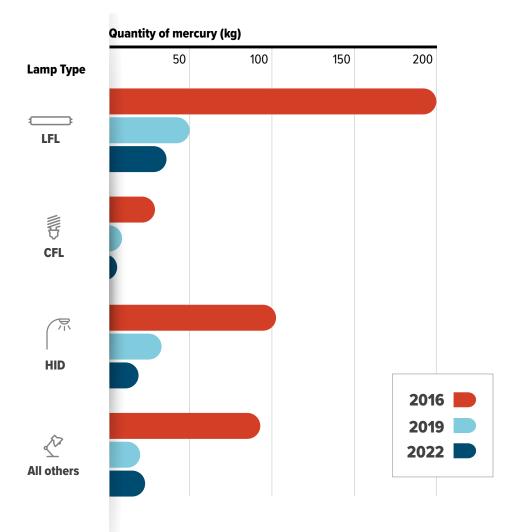
#### Figure 4. Number of lamps containing mercury in Canada in 2016, 2019 and 2022

As a result, the quantity of mercury found in all lamps exempted in Canada has also declined by 80% during the same period (figure 5). While in 2016 there was a total of 423 kg in lamps, in 2019 there was 112 kg, and in 2022, 84 kg. This decline is seen across all types of lamps containing mercury for general lighting. This situation is likely a reflection of the increased availability and affordability of light-emitting diode (LED) alternatives to mercury-containing lamps on the Canadian market.

Specialty lamps have seen an increase between 2019 and 2022, both in terms of the number of lamps imported (34%) and of the mercury in lamps (17%). Although the reports do not provide this level of precision, the situation is likely a reflection of the pandemic, as there has been a strong increase in interest for disinfection, sanitation and germicidal devices, many of which use mercury-containing UV lamps. The numbers remain nevertheless well below those of 2016.

For detailed numbers on lamps, see <u>Annex 3</u>.

Canada reduced mercury contained in lamps by 80%





#### Mercury-containing measuring instruments are declining

Looking at the data for measuring instrument and reference material (see <u>table 2</u> and <u>figure 3</u>), the number of mercury-containing products decreased significantly between 2016 and 2019, before raising slightly in 2022. These changes are the result of variations in the types of products reported under this product grouping between 2016 and 2019. On one hand, between 2016 and 2022, the number of measuring instruments imported or manufactured in Canada declined by 87%, and the quantity of mercury they represent has also diminished. On the other hand, in 2016 there was a lesser level of awareness of the reporting requirements amongst laboratories. Many companies importing large quantities of mercury compounds to use as laboratory analytical standard and reference material were unaware that they had to report their activities. Since then, ECCC has strengthened its efforts to reach companies in this industry sector, resulting in a larger number of companies reporting using these products than before.

#### Many essential products containing mercury are not used anymore

Finally, the analysis also reveals that the number of mercury-containing products for which an exemption is required is diminishing. No products belonging to 14 product categories were imported or manufactured in 2022, including 5 that were never reported. These numbers exclude the categories for which the exemption has expired. Notably, no catalyst used in the manufacturing of polyurethane were reported in 2022. Consequently, Canada is considering the removal of these exemption categories (See <u>Annex 2</u>). More details can be found in the proposed amendments to the *Products Containing Mercury Regulations*.

14 categories of exempted products containing mercury were not reported on in 2022

# Conclusion

Using the most recent data on products containing mercury in Canada, this report shows that there has been a significant decline in the reliance on exempted mercury-containing products in Canada since the entry into force of the Regulations in 2015. As a result, the total quantity of mercury in products in 2022, which was 509 kg, is less than half of what it was when ECCC first started requiring mandatory reporting from the industry in 2016. The most common products containing mercury continue to be dental amalgam and lamps for general lighting, including CFL and LFL.

The information in this report will inform decisions regarding amendments to the *Products Containing Mercury Regulations*. ECCC is considering accelerating the market transition towards lighting alternatives, and removing from the market mercury based products that are no longer needed in Canada. ECCC expects to publish the final amendments to the regulations in the *Canada Gazette*, Part II in early 2024. This revision of the Regulations is part of domestic and international actions that Canada is taking to reduce the risk to the environment and human health from mercury.

The next reporting cycle will analyze data from the 2025 calendar year. Please note that the Regulations' reporting timeline and requirements are subject to changes after the entry into force of the amended Regulation. Meanwhile, ECCC will continue monitoring the measuring instruments and reference materials product grouping, which is the only one for which mercury has increased since ECCC started collecting data in 2016.

For more information on mercury-added products, or if you have any questions regarding this report, please contact the Products Division by email at: <u>produits-products@ec.gc.ca</u>

# Annex 1: Methodology

For the years 2016, 2019 and 2022, manufacturers and importers of exempted and permitted products containing mercury were required to submit their reports electronically through the Regulations' online Single Window Information Management (SWIM) reporting system. As prescribed in the Regulations, reports included:

- information respecting the person and organization reporting
- information respecting the product(s) including the name, the product category in the schedule, the mercury content of the product and the quantity of products manufactured or imported in the calendar years 2016, 2019 and 2022

In order to ensure the reliability and accuracy of the results, the data extracted from the online reporting system was manually reviewed, follow-ups were conducted with organizations when necessary to verify their submissions, and automated calculations were manually verified.

The analysis addresses the types of commercial activity of the reporting organizations, the number of products containing mercury and the quantity of mercury contained in those products. Quantities in kilograms were rounded to the nearest whole number. When reviewing the information in this report, there are important limitations to consider regarding its scope:

- Data is collected on a triennial basis and therefore the information does not represent the total quantity of mercury in products on an annual basis.
- Many mercury-containing products are already subject to other federal regulatory controls.
  - The Regulations do not apply to such products as the risks they pose are already being managed by another federal department or agency.
  - These products include, but are not limited to: waste, food, drugs, cosmetics and pest control products (refer to section 2 of the Regulations for more details).
- This report only includes information on mercury that is contained in products and does not include mercury emitted during industrial activities, such as electric power generation, iron and steel mills, and ferro-alloy manufacturing. Information on other sources of mercury pollution in Canada is available in the *National Pollution Release Inventory*'s report on mercury.
- The analysis was performed on June 1, 2023, therefore data from reports received thereafter is not included.

The Government of Canada has an obligation to protect confidential business information. As a result, sensitive information such as names of submitters and their organizations or any information that could identify a submitter is excluded, and data submitted is aggregated. See <u>Annex 4</u> for the aggregated data from the 2016, 2019 and 2022 reports.

#### Table A1. Product categories aggregated into product groupings

Product grouping	Item number(s) from the schedule of the Regulations
Dental amalgam capsules	1
Lamps	2 to 14
Measuring instruments and reference material	16 to 26
Other	15, 27 to 33

# **Annex 2: List of product categories not reported in 2022**

The most recent data revealed that no import or manufacture was reported in 2022 for 14 exempted product categories listed in the schedule of the Regulations. Among them, 5 products were never reported, and 7 were reported on only in 2016. The results seem to suggest that these products might not be needed on the Canadian market anymore or might soon become unavailable. ECCC is considering removing them from the schedule of the Regulations. For the details on proposed end dates to phase out these exemptions, see schedules 1 and 2 of the proposed amendments to the *Products Containing Mercury Regulations*.

Table A2. Exempted product categories listed in the Regulations not reported in 2022

ltem	Product category	2016	2019	2022
5	Induction fluorescent lamp for general lighting purposes			
11	External electrode fluorescent lamp (EEFL)	x		
12	Cold cathode tubing for signage or cove lighting	x		
13	Electrode for use in cold cathode tubing for signage or cove lighting			
15	Very high accuracy capacitance and loss measurement bridges and high frequency RF switches and relays in monitoring and control instruments			
16	Thermometer for use in a laboratory for scientific research applications	x	x	
20	Scientific instrument used as reference for clinical validation studies			
22	Radiation light detector			
23	Infrared light detector	x		
24	Low mercury chloride reference electrode	x		
25	Low mercury sulphate reference electrode	x		
28	Professional, commercial and industrial photographic paper	x		
29	Composite resins and adhesive resins used in the aerospace industry	x		
30	Catalyst used in the manufacturing of polyurethane	x	x	

# Annex 3: Breakdown of mercury in lamps in Canada in 2016, 2019 and 2022

#### Table A3. Breakdown of mercury in lamps in Canada in 2016, 2019 and 2022

ltem of the schedule	Lamp category and grouping	Lamp type	Quantity of mercury in 2016 (kg)	Quantity of mercury in 2019 (kg)	Quantity of mercury in 2022 (kg)	Variations 2016-2022
2	Compact fluorescent lamp for general lighting purposes	CFL	29	9	6	-80%
3	Straight fluorescent lamp for general lighting purposes	LFL	200	50	36	-82%
4	Non-linear fluorescent lamp for general lighting purposes	Non-Linear	20	2	1	-93%
5	Induction fluorescent lamp for general lighting purposes	Induction	0	0	0	0%
6	Mercury vapour lamp for general lighting purposes (Banned as of January 1, 2018)	HID	2	0	0	-100%
7	High pressure sodium vapour lamp for general lighting purposes	HID	19	6	3	-82%
8	Metal halide lamp for general lighting purposes	HID	81	28	16	-80%
-	-	HID Total	101	33	19	-81%
9	Automobile headlamp	Automobile	<1	<1	<1	-98%
10	Cold cathode fluorescent lamp	Electronic Displays	2	<1	<1	-99%
11	External electrode fluorescent lamp	Electronic Displays	<1	0	0	-100%
-	-	Electronics Total	2	<1	<1	-100%
12	Cold cathode tubing for signage or cove lighting	Neon	<1	0	0	-100%
13	Electrode for use in cold cathode tubing for signage or cove lighting	Neon	0	0	0	0%
-	-	Neon Total	<1	0	0	-100%
14	Fluorescent and discharge lamps other than those referred to in items 2 to 13	Miscellaneous	71	18	21	-70%
-	-	Lamps total	423	112	84	-80%

# Annex 4: Aggregated data from reporting years 2016, 2019 and 2022

#### Table A4. Products containing mercury imported or manufactured in Canada in 2016

ltem number	Product category exempted under the schedule of the Regulations	Number of products imported	Number of products manufactured in Canada	Total number of products	Quantity of mercury in imported products	Quantity of mercury in products manufactured in Canada	Total quantity of mercury
		(in million)	(in million)	(in million)	(kg)	(kg)	(kg)
1	Dental amalgam	1.52	-	1.52	632.03	-	632.03
2	Compact fluorescent lamp for general lighting purposes	14.88	-	14.88	29.23	-	29.23
2(a)	≤ 25 watts	13.19	-	13.19	25.31	-	25.31
2(b)	> 25 watts	1.69	-	1.69	3.92	-	3.92
3	Straight fluorescent lamp for general lighting purposes	17.68	20.93	38.61	71.96	127.85	199.81
3(a)	T5, program start, with a normal lifetime (< 25 000 hours)	0.77	< 0.00	0.78	2.31	0.01	2.31
3(b)	T8, 4-foot or less, instant and program start, medium bi-pin base, with a normal lifetime (< 25 000 hours)	4.53	< 0.00	4.53	15.24	0.01	15.25
3(c)	T5, program start, with a long lifetime (≥ 25 000 hours)	1.77	-	1.77	4.8	-	4.8
3(d)	T8, 4-foot or less, instant and program start, medium bi-pin base, with a long lifetime (≥ 25 000 hours)	6.54	-	6.54	22.94	-	22.94
3(e)	T12, 4-foot or less, rapid start, medium bi-pin base	3.01	17.14	20.15	17.35	95.98	113.33
3(f)	T12, 8-foot, instant start, single pin base	1.05	3.79	4.84	9.34	31.85	41.18

ltem number	Product category exempted under the schedule of the Regulations	Number of products imported	Number of products manufactured in Canada	Total number of products	Quantity of mercury in imported products	Quantity of mercury in products manufactured in Canada	Total quantity of mercury
		(in million)	(in million)	(in million)	(kg)	(kg)	(kg)
4	Non-linear fluorescent lamp for general lighting purposes, including a circular or square fluorescent lamp	0.22	4.1	4.32	1.2	18.87	20.07
5	Induction fluorescent lamp for general lighting purposes	-	-	-	-	-	-
6	Mercury vapour lamp for general lighting purposes	0.03	-	0.03	1.5	-	1.5
6(a)	≤ 250 watts	0.02	-	0.02	0.52	-	0.52
6(b)	> 250 watts and ≤ 400 watts	0.01	-	0.01	0.33	-	0.33
6(c)	> 400 watts and ≤ 1 000 watts	< 0.00	-	< 0.00	0.66	-	0.66
7	High pressure sodium vapour lamp for general lighting purposes	1.04	-	1.04	18.72	-	18.72
8	Metal halide lamp for general lighting purposes	2.99	-	2.99	80.74	-	80.74
8(a)	≤ 300 watts	2.22	-	2.22	26.26	-	26.26
8(b)	> 300 watts and ≤ 500 watts	0.61	-	0.61	33	-	33
8(c)	> 500 watts and ≤ 700 watts	< 0.00	-	< 0.00	0.1	-	0.1
8(d)	> 700 watts and ≤ 1 000 watts	0.15	-	0.15	21.38	-	21.38
9	Automobile headlamp	0.07	-	0.07	0.12	-	0.12
10	Cold cathode fluorescent lamp	0.13	-	0.13	1.65	-	1.65
10(a)	1.5 m or less in length	0.13	-	0.13	1.65	-	1.65
10(b)	more than 1.5 m in length	-	-	-	-	-	-
11	External electrode fluorescent lamp	< 0.00	-	< 0.00	< 0.00	-	< 0.00

ltem number	Product category exempted under the schedule of the Regulations	Number of products imported	Number of products manufactured in Canada	Total number of products	Quantity of mercury in imported products	Quantity of mercury in products manufactured in Canada	Total quantity of mercury
		(in million)	(in million)	(in million)	(kg)	(kg)	(kg)
11(a)	1.5 m or less in length	< 0.00	-	< 0.00	< 0.00	-	< 0.00
11(b)	more than 1.5 m in length	-	-	-	-	-	-
12	Cold cathode tubing for signage or cove lighting	-	< 0.00	< 0.00	-	0.02	0.02
13	Electrode for use in cold cathode tubing for signage or cove lighting	-	-	-	-	-	-
14	Fluorescent and discharge lamps other than those referred to in items 2 to 13	2.35	< 0.00	2.35	71.27	< 0.00	71.27
15	Very high accuracy capacitance and loss measurement bridges and high frequency RF switches and relays in monitoring and control instruments	-	-	-	-	-	-
16	Thermometer for use in a laboratory for scientific research applications	< 0.00	-	< 0.00	0.5	-	0.5
17	Thermometer or other scientific instrument required to be used by an ASTM International standard	< 0.00	-	< 0.00	< 0.00	-	< 0.00
18	Scientific instrument used for the calibration of medical devices or for the calibration of scientific research instruments	< 0.00	< 0.00	< 0.00	< 0.00	< 0.00	< 0.00
19	Laboratory analytical standard or reference material	0.05	-	0.05	14.68	-	14.68
20	Scientific instrument used as reference for clinical validation studies	-	-	-	-	-	-
21	Scientific instrument used for measuring the quantity of mercury in the environment	< 0.00	-	< 0.00	< 0.00	-	< 0.00
22	Radiation light detector	-	-	-	-	-	-

ltem number	Product category exempted under the schedule of the Regulations	Number of products imported	Number of products manufactured in Canada	Total number of products	Quantity of mercury in imported products	Quantity of mercury in products manufactured in Canada	Total quantity of mercury
		(in million)	(in million)	(in million)	(kg)	(kg)	(kg)
23	Infrared light detector	0.08	-	0.08	0.07	-	0.07
24	Low mercury chloride reference electrode	< 0.00	-	< 0.00	0.02	-	0.02
25	Low mercury sulphate reference electrode	< 0.00	-	< 0.00	< 0.00	-	< 0.00
26	Low mercury oxide reference electrode	< 0.00	-	< 0.00	< 0.00	-	< 0.00
27	Professional, commercial and industrial photographic film	< 0.00	_	< 0.00	< 0.00	-	< 0.00
28	Professional, commercial and industrial photographic paper	< 0.00	-	< 0.00	< 0.00	-	< 0.00
29	Composite resins and adhesive resins used in the aerospace industry	< 0.00	-	< 0.00	< 0.00	-	< 0.00
30	Catalyst used in the manufacturing of polyurethane	-	0.29	0.29	-	28.91	28.91
31	Button cell battery	-	-	-	-	-	-
32	Medical device that is intended to remain in the body for at least 30 consecutive days	-	-	-	-	-	-
33	In-vitro diagnostic assays and reagents	< 0.00	-	< 0.00	4.94	-	4.94
34	Replacement part (see note) if the product contained the part	-	-	-	-	-	-
34(a)	before the coming into force of these Regulations; or	-	_	-	-	-	-
34(b)	at the time of its manufacture or import, if that manufacture or import was permitted under these Regulations	-	-	-	-	_	-
Total	All products	41.04	25.33	66.36	928.65	175.65	1,104.30

#### Table A5. Products containing mercury imported or manufactured in Canada in 2019

ltem number	Product category exempted under the schedule of the Regulations	Number of products imported	Number of products manufactured in Canada	Total number of products	Quantity of mercury in imported products	Quantity of mercury in products manufactured in Canada	Total quantity of mercury
		(in million)	(in million)	(in million)	(kg)	(kg)	(kg)
1	Dental amalgam	1.14	-	1.14	485.27	-	485.27
2	Compact fluorescent lamp for general lighting purposes	3.99	0.13	4.11	8.44	0.34	8.77
2(a)	≤ 25 watts	3.07	< 0.00	3.07	6.09	0.01	6.1
2(b)	> 25 watts	0.92	0.12	1.04	2.34	0.33	2.67
3	Straight fluorescent lamp for general lighting purposes	16.45	-	16.45	50.34	-	50.34
3(a)	T5, program start, with a normal lifetime (< 25 000 hours)	0.25	-	0.25	0.64	-	0.64
3(b)	T8, 4-foot or less, instant and program start, medium bi-pin base, with a normal lifetime (< 25 000 hours)	5.16	-	5.16	11.41	-	11.41
3(c)	T5, program start, with a long lifetime (≥ 25 000 hours)	1.35	-	1.35	2.8	-	2.8
3(d)	T8, 4-foot or less, instant and program start. medium bi-pin base, with a long lifetime (≥ 25 000 hours)	5.03	-	5.03	11.54	-	11.54
3(e)	T12, 4-foot or less, rapid start, medium bi-pin base	3.73	-	3.73	17.34	-	17.34
3(f)	T12, 8-foot, instant start, single pin base	0.94	-	0.94	6.61	-	6.61
4	Non-linear fluorescent lamp for general lighting purposes, including a circular or square fluorescent lamp	0.3	-	0.3	1.92	-	1.92

ltem number	Product category exempted under the schedule of the Regulations	Number of products imported	Number of products manufactured in Canada	Total number of products	Quantity of mercury in imported products	Quantity of mercury in products manufactured in Canada	Total quantity of mercury
		(in million)	(in million)	(in million)	(kg)	(kg)	(kg)
5	Induction fluorescent lamp for general lighting purposes	-	-	-	-	-	-
6	Mercury vapour lamp for general lighting purposes	-	-	-	-	-	-
6(a)	≤ 250 watts	-	-	-	-	-	-
6(b)	> 250 watts and ≤ 400 watts	-	-	-	-	-	-
6(c)	> 400 watts and ≤ 1 000 watts	-	-	-	-	-	-
7	High pressure sodium vapour lamp for general lighting purposes	0.46	-	0.46	5.58	-	5.58
8	Metal halide lamp for general lighting purposes	0.64	-	0.64	27.54	-	27.54
8(a)	≤ 300 watts	0.39	-	0.39	7.45	-	7.45
8(b)	> 300 watts and $\leq$ 500 watts	0.18	-	0.18	9.6	-	9.6
8(c)	> 500 watts and $\leq$ 700 watts	< 0.00	-	< 0.00	< 0.00	-	< 0.00
8(d)	> 700 watts and $\leq$ 1000 watts	0.07	-	0.07	10.5	-	10.5
9	Automobile headlamp	0.01	-	0.01	0.02	-	0.02
10	Cold cathode fluorescent lamp	< 0.00	-	< 0.00	< 0.00	-	< 0.00
10(a)	1.5 m or less in length	< 0.00	-	< 0.00	< 0.00	-	< 0.00
10(b)	more than 1.5 m in length	-	-	-	-	-	_
11	External electrode fluorescent lamp	-	-	-		-	-
11(a)	1.5 m or less in length	-	-	-	-	-	-
11(b)	more than 1.5 m in length	-	-	-	-	-	-

ltem number	Product category exempted under the schedule of the Regulations	Number of products imported	Number of products manufactured in Canada	Total number of products	Quantity of mercury in imported products	Quantity of mercury in products manufactured in Canada	Total quantity of mercury
		(in million)	(in million)	(in million)	(kg)	(kg)	(kg)
12	Cold cathode tubing for signage or cove lighting	-	-	-	-	-	-
13	Electrode for use in cold cathode tubing for signage or cove lighting	-	-	-	-	-	-
14	Fluorescent and discharge lamps other than those referred to in items 2 to 13	1.16	< 0.00	1.16	18.06	< 0.00	18.06
15	Very high accuracy capacitance and loss measurement bridges and high frequency RF switches and relays in monitoring and control instruments	-	-	-	-	-	-
16	Thermometer for use in a laboratory for scientific research applications	< 0.00	-	< 0.00	0.02	-	0.02
17	Thermometer or other scientific instrument required to be used by an ASTM International standard	< 0.00	-	< 0.00	0.19	-	0.19
18	Scientific instrument used for the calibration of medical devices or for the calibration of scientific research instruments	< 0.00	-	< 0.00	0.01	-	0.01
19	Laboratory analytical standard or reference material	< 0.00	-	< 0.00	34.15	-	34.15
20	Scientific instrument used as reference for clinical validation studies	-	-	-	-	-	-
21	Scientific instrument used for measuring the quantity of mercury in the environment	< 0.00	-	< 0.00	< 0.00	-	< 0.00
22	Radiation light detector	-	-	-	-	-	-
23	Infrared light detector	-	-	-	-	-	-
24	Low mercury chloride reference electrode	-	-	-	-	-	-

ltem number	Product category exempted under the schedule of the Regulations	Number of products imported	Number of products manufactured in Canada	Total number of products		Quantity of mercury in products manufactured in Canada	Total quantity of mercury
		(in million)	(in million)	(in million)	(kg)	(kg)	(kg)
25	Low mercury sulphate reference electrode	-	-	-	-	-	-
26	Low mercury oxide reference electrode	< 0.00	< 0.00	< 0.00	< 0.00	0.22	0.22
27	Professional, commercial and industrial photographic film	< 0.00	-	< 0.00	< 0.00	-	< 0.00
28	Professional, commercial and industrial photographic paper	-	-	-	-	-	-
29	Composite resins and adhesive resins used in the aerospace industry	-	-	-	-	-	-
30	Catalyst used in the manufacturing of polyurethane	-	0.24	0.24	-	22.37	22.37
31	Button cell battery	-	-	-	-	-	-
32	Medical device that is intended to remain in the body for at least 30 consecutive days	-	-	_	-	-	-
33	In-vitro diagnostic assays and reagents	-	< 0.00	< 0.00	-	0.09	0.09
34	Replacement part (see note) if the product contained the part	-	-	-	-	-	-
34(a)	before the coming into force of these Regulations; or	-	-	_	-	-	-
34(b)	at the time of its manufacture or import, if that manufacture or import was permitted under these Regulations	-	-	-	-	-	-
Total	All products	24.15	0.37	24.52	631.54	23.02	654.56

#### Table A6. Products containing mercury imported or manufactured in Canada in 2022

ltem number	Product category exempted under the schedule of the Regulations	Number of products imported	Number of products manufactured in Canada	Total number of products	Quantity of mercury in imported products	Quantity of mercury in products manufactured in Canada	Total quantity of mercury
		(in million)	(in million)	(kg)	(kg)	(kg)	(kg)
1	Dental amalgam	0.72	-	0.72	376.19	-	376.19
2	Compact fluorescent lamp for general lighting purposes	2.93	-	-2.93	5.86	-	5.86
2(a)	≤ 25 watts	2.13	-	2.13	4.10	-	4.10
2(b)	> 25 watts	0.80	-	0.80	1.76	-	1.76
3	Straight fluorescent lamp for general lighting purposes	12.47	-	12.47	36.13	-	36.13
3(a)	T5, program start, with a normal lifetime (< 25.000 hours)	0.20	-	0.20	0.48	-	0.48
3(b)	T8, 4-foot or less, instant and program start, medium bi-pin base, with a normal lifetime (< 25.000 hours)	3.70	-	3.70	7.74	-	7.74
3(c)	T5, program start, with a long lifetime (≥ 25.000 hours)	1.27	-	1.27	2.53	-	2.53
3(d)	T8, 4-foot or less, instant and program start, medium bi-pin base, with a long lifetime (≥ 25.000 hours)	4.33	-	4.33	10.39	-	10.39
3(e)	T12, 4-foot or less, rapid start, medium bi-pin base	2.33	-	2.33	10.46	-	10.46
3(f)	T12, 8-foot, instant start, single pin base	0.65	-	0.65	4.53	-	4.53
4	Non-linear fluorescent lamp for general lighting purposes. including a circular or square fluorescent lamp	0.23	-	0.23	1.49	-	1.49
5	Induction fluorescent lamp for general lighting purposes	-	-	-	-	-	-

ltem number	Product category exempted under the schedule of the Regulations	Number of products imported	Number of products manufactured in Canada	Total number of products	Quantity of mercury in imported products	Quantity of mercury in products manufactured in Canada	Total quantity of mercury
		(in million)	(in million)	(kg)	(kg)	(kg)	(kg)
6	Mercury vapour lamp for general lighting purposes	-	-	-	-	-	-
6(a)	≤ 250 watts	-	-	-	-	-	-
6(b)	$> 250$ watts and $\le 400$ watts	-	-	-	-	-	-
6(c)	> 400 watts and $\leq$ 1000 watts	-	-	-	-	-	-
7	High pressure sodium vapour lamp for general lighting purposes	0.24	-	0.24	3.34	-	3.34
8	Metal halide lamp for general lighting purposes	0.38	0.01	0.39	15.48	0.38	15.86
8(a)	≤ 300 watts	0.24	0.01	0.25	4.32	0.38	4.69
8(b)	> 300 watts and $\leq$ 500 watts	0.10	-	0.10	5.34	-	5.34
8(c)	> 500 watts and $\leq$ 700 watts	<0.00	-	<0.00	0.01	-	0.01
8(d)	> 700 watts and ≤ 1000 watts	0.04	-	0.04	5.82	-	5.82
9	Automobile headlamp	<0.00	-	<0.00	<0.00	-	<0.00
10	Cold cathode fluorescent lamp	<0.00	-	<0.00	<0.00	-	<0.00
10(a)	1.5 m or less in length	<0.00	-	<0.00	<0.00	-	<0.00
10(b)	more than 1.5 m in length	-	-	-	-	-	-
11	External electrode fluorescent lamp	-	-	-	-	-	-
11(a)	1.5 m or less in length	-		-	-	-	-
11(b)	more than 1.5 m in length	-	-	-	-	-	-
12	Cold cathode tubing for signage or cove lighting	-	_	-	-	-	-

ltem number	Product category exempted under the schedule of the Regulations	Number of products imported	Number of products manufactured in Canada	Total number of products		Quantity of mercury in products manufactured in Canada (kg)	Total quantity of mercury
		(in million)	(in million)	(kg)	(kg)		(kg)
13	Electrode for use in cold cathode tubing for signage or cove lighting	-	-	-	-	-	-
14	Fluorescent and discharge lamps other than those referred to in items 2 to 13	1.56	<0.00	1.56	21.07	<0.00	21.07
15	Very high accuracy capacitance and loss measurement bridges and high frequency RF switches and relays in monitoring and control instruments	-	-	-	-	-	-
16	Thermometer for use in a laboratory for scientific research applications	-	-	-	-	-	-
17	Thermometer or other scientific instrument required to be used by an ASTM International standard	<0.00	-	<0.00	0.35	-	0.35
18	Scientific instrument used for the calibration of medical devices or for the calibration of scientific research instruments	<0.00	<0.00	<0.00	0.01	<0.00	0.01
19	Laboratory analytical standard or reference material	0.01	-	0.01	48.17	-	48.17
20	Scientific instrument used as reference for clinical validation studies	-	-	-	-	-	-
21	Scientific instrument used for measuring the quantity of mercury in the environment	<0.00	-	<0.00	0.11	-	0.11
22	Radiation light detector	-	-	-	-	-	-
23	Infrared light detector	-	-	-	-	-	-
24	Low mercury chloride reference electrode	-	-	-	-	-	-
25	Low mercury sulphate reference electrode	-	-	-	-	-	-
26	Low mercury oxide reference electrode	<0.00	-	<0.00	0.18	-	0.18

ltem number	Product category exempted under the schedule of the Regulations	Number of products imported	Number of products manufactured in Canada	Total number n of products	Quantity of mercury in imported products	Quantity of mercury in products manufactured in Canada	Total quantity of mercury
		(in million)	(in million)	(kg)	(kg)	(kg)	(kg)
27	Professional, commercial and industrial photographic film	<0.00	-	<0.00	<0.00	-	<0.00
28	Professional, commercial and industrial photographic paper	-	-	-	-	-	-
29	Composite resins and adhesive resins used in the aerospace industry	-	-	-	-	-	-
30	Catalyst used in the manufacturing of polyurethane	-	-	-	-	-	-
31	Button cell battery	-	-	-	-	-	-
32	Medical device that is intended to remain in the body for at least 30 consecutive days	-	-	-	-	-	-
33	In-vitro diagnostic assays and reagents	-	-	-	-	-	-
34	Replacement part (see note) if the product contained the part	-	-	-	-	-	-
34(a)	before the coming into force of these Regulations; or	-	-	-	-	-	-
34(b)	at the time of its manufacture or import, if that manufacture or import was permitted under these Regulations	-	-	-	-	-	-
Total	All products	18.54	0.01	18.55	508.38	0.38	508.76