



Canadian Measures to Implement the Minamata Convention on Mercury

Article 3 – Mercury Supply Sources and Trade

Canada does not have any primary mercury mines; the last of these mines closed in 1975. Canada has current information on individual stocks and sources of mercury or mercury compounds and will continue to have the ability to seek this information in future. Canada's last mercury-cell chlor-alkali facilities closed between 1990 and 2008, and have all been safely decommissioned. All mercury resulting from the decommissioning of these facilities was sent for appropriate treatment as waste.

In 2017, Canada introduced comprehensive restrictions on the export of mercury by only allowing export of mercury at a concentration of 95% or more by weight that:

- a) is, or is contained in, a hazardous waste or hazardous recyclable material regulated by the *Export and Import of Hazardous Waste and Hazardous Recyclable Material Regulations*;
- b) is exported for use in a laboratory for analysis, in scientific research or as a laboratory analytical standard, if the total quantity exported by the exporter during the calendar year in question does not exceed 10 kg; or
- c) is contained in a manufactured item that during manufacture is formed into a specific physical shape or design and has for its final use a function or functions wholly or partly dependent on its shape or design.

All other exports are not allowed.

These comprehensive restrictions on mercury export have been enacted by amending Schedule 3 of the *Canadian Environmental Protection Act (Export Control List)* and the *Export of Substances on the Export Control List Regulations*. As a result, Canada will act under paragraph 9 of this Article, and has submitted a separate document describing Canada's domestic measures to ensure the imported mercury is managed in an environmentally sound manner (see Notification as per Article 3.9). These comprehensive restrictions, combined with having domestic measures in place to ensure that imported mercury is managed in an environmentally sound manner, allows Canada to not implement any import controls that would otherwise be required by paragraph 8 of this Article.

Canada has also notified the Minamata Convention Secretariat that Canada gives a general consent to the import of mercury, without conditions under paragraph 7 of this Article.

Article 4 Mercury-added products

As Canada has put in place domestic measures to address the products listed in Annex A of the treaty, Canada will act under Article 4.1. Mercury-added products are addressed under multiple pieces of legislation in Canada:

Canada's *Products Containing Mercury Regulations*, enacted in 2014, prohibit the manufacture and import of most products containing mercury and address all of the products regulated, except for the mercury content limits in three lamp categories: linear fluorescent lamps for general lighting purposes, cold cathode fluorescent lamps and external electrode fluorescent lamps. Minor amendments to these



Regulations are planned to adjust the mercury content limits for these lamps to bring them in line with the requirements in the Minamata Convention. This process may be completed before the phase-out date of 2020 as listed in the treaty. However, at the time of ratification, Canada registered an exemption of five years past the phase-out date (2025) for the import, export and manufacture of the three lamp categories, as a precautionary measure in the event of any delay (see Notification as per Article 6). Furthermore, as a result of these Regulations, the incorporation of mercury into new assembled products is prohibited and products will not be available in commerce in Canada.

Products, including cosmetics, natural health products, pesticides and biocides, and topical antiseptics are covered by other Canadian measures:

Cosmetics are regulated under the authorities of the *Food & Drug Act* and the *Cosmetic Regulations*. The *Guidance on Heavy Metal Impurities in Cosmetics (2016)* was recently aligned with the Convention to indicate a mercury limit of 1 ppm.

Natural health products are regulated under the authorities of the *Food & Drug Act* and the *Natural Health Products Regulations*. The *Quality of Natural Health Products Guide (2013)* includes a limit of 1 ppm for total mercury in topical products.

Pesticides and biocides are regulated under the authority of the *Pest Control Products Act (PCPA)*, which prohibits the manufacturing, importation, distribution or use of unregistered pest control products. There are no mercury-added pesticides registered in Canada, and the PCPA allows Canada to prevent their introduction into the Canadian market.

Topical antiseptics are regulated under the *Food & Drug Regulations*, which prohibit the manufacture and import of a member of this class of drugs that contains mercury or a salt or derivative.

Canada will be implementing at least two measures as required by Article 4, paragraph 3, Annex A, Part II. With respect to dental amalgam, the *Canadian Oral Health Framework 2013-2018*, produced by dental directors and dental consultants, which builds on the *Canadian Oral Health Strategy 2005-2010*, sets out national objectives for oral health and serves as a guide to improve oral health care in Canada, thereby minimizing the need for dental restoration. Also, Health Canada, through its community based Children's Oral Health Initiative for First Nations and Inuit, focuses on the prevention of dental disease and the promotion of good oral health practices among children, their parents/caregivers, and pregnant women. Furthermore, Canada's 2010 *Notice Requiring the Preparation and Implementation of Pollution Prevention Plans in Respect of Mercury Releases from Dental Amalgam Waste* requires dental facilities to prepare and implement a pollution prevention plan if they have not already implemented best management practices for dental amalgam waste.



Article 5 Manufacturing processes in which mercury or mercury compounds are used

Chlor-alkali production using mercury cells, or acetaldehyde production in which mercury or mercury compounds are used as a catalyst does not take place in Canada.

While Canada does not have vinyl chloride monomer production, or sodium or potassium methylate or ethylate production, two facilities in the province of Ontario do produce polyurethane using mercury-containing catalysts. The five listed measures in Part II of Annex B are addressed predominantly via implementation of the Government of Ontario's *Toxics Reduction Act* (2009) whereby these facilities have prepared a toxic substance reduction plan for mercury, and are taking measures to reduce the use of mercury in their processes.

As indicated above, Canada has identified its existing manufacturing processes among those listed in Annex B. Under the federal *Products Containing Mercury Regulation* requirements, Canada will collect information on the quantity of mercury compounds used in the two polyurethane manufacturing facilities.

With regards to the obligation on each Party to not allow the use of mercury or mercury compounds in a facility that did not exist prior to the date of entry into force of the Convention for it using the manufacturing processes listed in Annex B, provincial and territorial governments are prepared to use measures, including setting conditions through construction and operating permits, if and when required, to not allow the use of mercury or mercury compounds in new facilities.

In Canada, no other manufacturing processes using mercury, other than those listed in Annex B, are known to exist at this time. Canada has and will continue to discourage the development of any such facilities through engaging the provinces and territories on the Convention's requirements.

Canada is able to exchange information related to polyurethane production using mercury catalyst as long as it is not confidential business information.

Article 7 – Artisanal and Small-Scale Gold Mining (ASGM)

Canada has determined that in its territory, ASGM using mercury does not occur, and is therefore not more than insignificant. As Canada recognizes the need for global action on ASGM and the challenges and opportunities it presents governments and their citizens, Canada is engaging in numerous multilateral and bilateral activities that seek to achieve the objective of this Article. For example, Canada provides substantial funding to projects piloting approaches to managing ASGM in various developing countries by providing technical assistance, local revenue management and opportunities for formalization of the sector.

Article 8 – Emissions

Mercury and its compounds are listed on Schedule 1 (the List of Toxic Substances) of the *Canadian Environmental Protection Act* (CEPA). Over the past 40 years, Canada has put in place various measures to reduce and mitigate the potential risk of exposure to mercury emissions. During that time, Canada has reduced its domestic emissions of mercury by over 90%. Still, Canada continues to take action.



Canada has four of the five relevant sources as listed in Annex D and implements measures to control emissions from new and existing sources through a combination of federal, provincial and territorial efforts. In parallel with federal, provincial and territorial regulations, provinces and territories exercise their authority by setting conditions within their permitting or approvals systems for the construction and operation of industrial facilities, which include requirements to control air emissions in their commercial activities. In addition to specific mercury emission requirements, measures to address air pollutants also provide a co-benefit to reduce mercury emissions from these sources.

Through these regulations and permits, new facilities are required to use best available techniques and best environmental practices to control mercury emissions or comply with emission limit values that can achieve mercury emission reductions that would be consistent with the application of best available techniques.

Federal & Provincial Regulations & Standards that apply to new and existing facilities include:

Coal-fired power plants

- *Reduction of Carbon Dioxide from Coal-Fired Electric Power Plant Regulations*, 2012
- *Canada-wide Standard for mercury emissions from Coal- Fired Electrical Power Generation Plants*, 2006
- *Mercury Emissions from coal-fired power plants regulations*, 2006 (Alberta)
- *An Act to amend the Environmental Protection Act to require the cessation of coal use to generate electricity at generation facilities*, 2015 (Ontario)
- *Air Quality Regulations*, 2014 (Nova Scotia)

Smelting and roasting processes used in the production of non-ferrous metals

- *Canada-wide Standard for Mercury Emissions – for Base Metal Smelting*, 2000
- *Environmental Code of Practice Base Metal Smelting & Refineries*, 2006
- *Pollution prevention plan in respect of specified toxic substances released from Base Metal Smelting and refineries and Zinc plants*, 2006
- *Règlement sur les attestations d'assainissement en milieu industriel*, 2016 (Quebec)

Waste incineration facilities

- *Canada-wide Standards (CWS) for Mercury Emissions*, 2000
- *Incinerators Regulations*, 1988 (Manitoba)
- *Règlement sur l'enfouissement et l'incinération de matières résiduelles (Regulation respecting the landfill and incineration of residual materials)*, 2005 (Quebec)
- *Technical Document for Batch Waste Incineration*, 2010

Cement clinker production facilities

- *National Guidelines for the Use of hazardous and Non-hazardous Wastes as Supplementary Fuels in Cement Kilns* (1996)
- *National Emission Guideline for Cement Kilns* (1998)



Applies to all source categories

- *Air Pollution Control Regulations*, 2004 (Newfoundland)
- *Reg. 419/05 (Air Pollution - Local Air Quality, Ontario)*, Amended 2011

Canada maintains a comprehensive inventory of mercury emissions, including from all industrial sources. Under the authority of the *Canadian Environmental Protection Act, 1999* owners or operators of relevant facilities are required to report mercury emissions to the National Pollutant Release Inventory (NPRI) on an annual basis. Additionally, Canada's Air Pollutant Emissions Inventory (APEI) includes NPRI reported emissions as well as emissions data from additional sources such as transportation and fuel combustion.

Article 9 Releases

In Canada, the *Canadian Environmental Protection Act, 1999* authorizes Environment and Climate Change Canada to require facilities to report releases of mercury and mercury compounds to land and water to the National Pollutant Release Inventory (NPRI). Based on a review of data contained in this inventory, Canada does not have any relevant sources of releases.

However, if a relevant source were identified in Canada in the future, authority exists under the *Canadian Environmental Protection Act, 1999* to take legislative measures to control and/or reduce releases of mercury and mercury compounds to land and water. Furthermore, all provinces and territories have overarching environmental protection legislation, which limit releases of harmful substances to the environment, including mercury.

Article 10 Environmentally sound interim storage of mercury, other than waste mercury

In Canada, environmentally sound management of non-waste mercury and mercury compounds is undertaken by the federal, provincial and territorial governments.

All provinces and territories have overarching environmental protection acts, which limit releases of harmful substances to the environment, including mercury. The *Workplace Hazardous Materials Information System (WHMIS)* is Canada's national hazard communication standard and is implemented through coordinated federal, provincial and territorial legislation. All provinces and territories and federal agencies responsible for occupational health and safety have established employer WHMIS requirements within their respective jurisdictions, which ensure that controlled or hazardous products, including mercury and mercury compounds, that are used, stored, handled or disposed of in the workplace are properly labelled. Safety Data Sheets (SDSs) or Material safety data sheets (MSDSs) are made available to workers, and workers receive education and training to ensure the safe storage, handling and use of these products in the workplace.

The federal *Transportation of Dangerous Goods Regulations* set requirements and safety standards for the handling, offering for transport and transportation of dangerous goods in Canada, including requirements on quantity limits for mercury and mercury compounds. Every province and territory has a Dangerous Goods Handling and Transportation Act, and/or accompanying Regulations. The federal *Environmental Emergency Regulations* aim to enhance protection of the environment and human health



in environmental emergency situations, by promoting prevention and ensuring preparedness, response and recovery.

Canada has and will continue to cooperate with other Parties and with relevant intergovernmental organizations and other entities to enhance capacity-building for the environmentally sound interim storage of mercury and mercury compounds.

Article 11 Mercury wastes

As a Party to the *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal*, Canada has legislation and regulations to implement requirements for notification of transboundary movements, prior informed consent, movement tracking, and environmentally sound management of hazardous wastes including mercury wastes.

Management of hazardous wastes and hazardous recyclable materials in Canada is a shared responsibility between the federal, provincial, territorial and municipal governments. The federal government currently regulates international and interprovincial movements of hazardous waste and manages waste on federal lands. Provincial and territorial governments regulate and monitor waste management facilities and activities via legislative measures including facility approvals, which set criteria and conditions for facility operations. Provincial and territorial governments also implement Canadian Council of Ministers of Environment action plans, standards and guidance. Municipal governments collect and manage waste for recycling and disposal.

The government of Canada continues to facilitate discussions and networking among industry stakeholders (generators of mercury waste or mercury for interim storage, transporters, recyclers, disposers) affected by any new requirements for long term storage and disposal of mercury waste in Canada. These technical discussions have been inclusive of international perspectives, including participation from the United States, Spain, and Germany. Canada also made significant contributions to the “Technical guidelines on the environmentally sound management of wastes consisting of, containing or contaminated with mercury or mercury compounds” under the Basel Convention.

Article 12 Contaminated sites

Canada has well-established federal, provincial and territorial programs to identify, assess, remediate and risk manage contaminated sites, including those contaminated by mercury or mercury compounds. Canada has established the *Federal Contaminated Sites Inventory* as well as the *Federal Contaminated Sites Action Plan* that focus on the identification and management of contaminated sites on federal lands. In addition to existing federal environmental legislation, provinces and territories have legislation, regulations, guidelines and/or programs in place to govern contaminated sites management. The Government of Canada, the provinces and the territories make use of Canadian Council of Ministers of the Environment (CCME) guidelines or have developed their own guidelines to support contaminated sites identification and management.

Canada will continue to cooperate with other countries on contaminated sites management. Canada has delivered presentations and training at international events and has attended bi-lateral meetings with delegations from other countries including the USA, Australia, Chile, China, Japan and the Netherlands.



Recently, Canada provided information on its management of sites contaminated with mercury to the UNEP Secretariat, in response to its request.

Article 13 Financial resources and mechanism

Canada has and will continue to provide national resources to undertake the domestic programs, plans and activities outlined in this document to implement the provisions of the Convention. For example, Environment and Climate Change Canada has recently put in place the *Products Containing Mercury Regulations* and comprehensive restrictions on the export of mercury.

The Convention has a financial mechanism, consisting of the Global Environment Facility (GEF) and a voluntary Specific International Programme (SiP). As a Council member and a donor to the GEF, Canada has and will continue to contribute financial assistance for projects related to the Minamata Convention, including to support regional approaches to eliminate and reduce harmful chemicals and waste in the least developed countries and small island developing States. The precise level of Canada's share for the treaty is determined every 4 years through the GEF Council replenishment process. In addition and apart from the GEF, since 2010, Canada has provided CDN 1.6 million in voluntary contributions to support UNEP's Global Mercury Programme. Voluntary financial support through the SiP will be considered once the treaty enters into force.

Article 14 – Capacity Building, technical assistance and technology transfer

Canada has provided bilateral and multilateral mercury-related capacity building and technical assistance to developing countries and countries with economies in transition in the past and expects to continue to assist them in future. For example, Canada has provided substantial funding for activities in the Andean region of South America in order to build capacity and transfer knowledge on good environmental practices relating to ASGM. Additionally, Canada provides capacity building to developing country researchers on how to measure mercury in the atmosphere. This support includes training on the set up and operation of equipment and sharing data quality tools and ongoing support of data quality verification. Along with the private sector and university partners, Canada is looking to develop new, easy to use, and inexpensive atmospheric mercury sampling methodologies that would ultimately be of use to many countries.

Article 16 – Health Aspects

The administration and delivery of public health and health care services in Canada is the responsibility of each province and territory, guided by the provisions of the federal *Canada Health Act*. In addition, the federal government provides a suite of health programs, services and strategies specifically for First Nations and Inuit communities.

Canada supports both nationally representative biomonitoring health surveys for First Nations, and community based participatory research on environmental contaminants, including mercury. Canada's [Northern Contaminants Program](#) (NCP), undertakes human biomonitoring and health research in the Canadian Arctic to assess the impacts of environmental contaminants on Inuit, Dene, and Métis communities. Blood mercury is measured among men, women and children living in northern Canada, and time trend data has been collected for Inuit pregnant women.



Health Canada has approved a provisional methyl mercury blood guidance value of 8 µg/L for women of childbearing age, infants and children based on the existing provisional Tolerable Daily Intake. Blood mercury is measured in the general population by the [Canadian Health Measures Survey](#) and in vulnerable populations by the [Maternal Infant Research on Environmental Chemicals](#) (MIREC) study for mothers and children; in First Nations communities by the First Nations Biomonitoring Initiative (FNBI) and the First Nations Food Nutrition and Environment Study (FNFNES); in northern populations through NCP human biomonitoring; and in the Biomonitoring of Newcomer Women from South and East Asia in Two Canadian cities study.

Health Canada has also established maximum levels of mercury in commercial fish and publishes [Guidelines for the consumption of fish](#). Monitoring of retail fish for mercury content is carried out by both Health Canada and the Canadian Food Inspection Agency. Health Canada develops [Guidelines for Canadian Drinking Water Quality](#) which establishes a maximum acceptable concentration (MAC) of 0.001 mg/L for mercury in drinking water. The Northern Contaminants Program works with Territorial and Regional health authorities to develop public information and advice related to mercury in traditional foods, and how to reduce dietary exposure to mercury.

With regards to occupational exposures, WHMIS is Canada's national hazard communication standard. WHMIS, which is implemented through coordinated federal, provincial and territorial legislation, focuses on proper labelling of controlled or hazardous products, including mercury and mercury compounds on MSDSs being made available to workers, and on workers receiving education and training on the safe storage, handling and use of these products in the workplace.

Article 17 – Information Exchange

Canada has and will continue to undertake a range of extensive activities designed to facilitate the exchange of information related to mercury, including making information available via databases/inventories, assessments and evaluations, formal bilateral and international exchanges as well as more informal exchanges.

Canada has a [National Atmospheric Chemistry Database](#) in which all the national atmospheric mercury data is made available to the public, including data from the [Canadian Air and Precipitation Monitoring Network](#). Further, the [Open Data Portal](#) provides mercury data for specific ongoing programs. Canada also shares information on mercury industrial emissions through the [Air Pollutant Emission Inventory](#) and the National Pollutant Release Inventory. It also collaborates with other national networks collecting mercury data, where data and information are exchanged. In addition, Canada provides funding for the [Polar Data Catalogue](#), a database of metadata that describes research in the Arctic. Furthermore, the [National Air Pollutant Surveillance Program](#) (NAPS) provides air quality data across Canada.

The [National Pollutant Release Inventory](#) (NPRI) is Canada's legislated, publically accessible inventory of pollutant releases (to air, water and land), disposals and transfers for recycling, and includes mercury. Some of the features of the NPRI include detailed facility-reported information on mercury releases and transfers from industrial and non-industrial sources, mercury air pollutant emission data and trends since 1993, as well as mapping functions.



For many years, Canada, through the NCP, has contributed a substantive amount of mercury-related data and information (levels of mercury in air, water biota and humans, and research on environmental process and biological and human health effects) to the Arctic Council's Arctic Monitoring and Assessment Programme (AMAP), which publishes reports on its website. For example, the AMAP Assessment 2015: Human Health in the Arctic, which features up to date information on mercury levels in human populations in the Arctic. Results from NCP monitoring and research are reported annually in synopsis of research reports, and most NCP related publications are catalogued in a database hosted by the [Arctic Institute of North America](#). For example, in 2013 Canada released its first [Science Assessment Report on Mercury Pollution in Canada's Arctic](#). Further, summaries of current findings and research are documented in [Canadian Arctic Contaminant Assessment Reports](#). The NCP also hosts a biennial workshop to share technical and scientific information with scientists across Canada and internationally.

In 2016, Canada published its first comprehensive, national synthesis and evaluation of scientific mercury research, [the Canadian Mercury Science Assessment](#). This Assessment summarizes national research and monitoring activities within the past 20 years, providing an in-depth look at biotic, a-biotic and human biomonitoring data. Canada has also contributed to efforts to develop the Global Mercury Assessment (2013) and is also collaborating on the development of the 2018 update.

Canada also engages in bilateral and trilateral work in order to exchange information and assist other countries in relation to mercury management and trade. For example, Canada, Mexico and the United States work together under the Commission for Environmental Cooperation (CEC). This occurs through joint projects as well as via general discussions between governments, including delegations visits to Canada.

Canada responds to calls for technical information by the Minamata Convention Secretariat, who makes the information available on the Minamata Convention website. For example, Canada has provided technical documents relevant to best available techniques and best environmental practices for the reduction of mercury emissions. Canada also participates in the UNEP Global Mercury Partnership.

More informally, Canadian scientists present their mercury research at national and international conferences, including the International Conference on Mercury as a Global Pollutant, and publish their work in peer reviewed journals.

Article 18 – Public information, awareness and education

Canada provides its citizens with public information, awareness and education related to mercury and mercury compounds in numerous ways, most of which are accessible on-line. This information has been and will continue to be disseminated through media interviews, assessments, reports, posters, fish consumption guidelines and/or advisories, public consultations, and journal publications.

For example, in 2010, Canada developed a [Risk Management Strategy for Mercury](#), which provides a comprehensive and consolidated description of the Government of Canada's progress in managing the risks associated with mercury. Furthermore, federal publications describe exposure to and health effects of mercury, including [Mercury & Human Health](#), and [A Fact Sheet for Mercury](#). Also, federal, provincial and territorial governments develop mercury consumption guidelines and/or advisories for fish and/or



Government
of Canada

Gouvernement
du Canada

country foods. For example, [a guide to consuming sport fish](#) is produced annually by the Government of Ontario.

In Canada's North, public information related to mercury in the environment, particularly as it relates to human health, is disseminated by territorial and regional health authorities in conjunction with Health Canada and the NCP.

Article 19 – Research, Development & Monitoring

Canada has cooperated, and will continue to cooperate with other countries on a range of research, development and monitoring activities, including the activities outlined above.

Furthermore, the NCP coordinates an AMAP-wide interlaboratory Quality Assurance/Quality Control (QA/QC) program for mercury, methylmercury and other contaminants. Through AMAP, Canada collaborates regularly with other Arctic Council members states in regards to regular monitoring of mercury in various media. Additionally, Canadian scientists provide assistance to developing countries on the operation of instrumentation for the measurement and collection of atmospheric mercury data.