Australian Government

Department of Climate Change, Energy, the Environment and Water

National Implementation Plan

Minamata Convention on Mercury

Australian Government Department of Climate Change, Energy, the Environment and Water

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Acknowledgement of Country

We acknowledge the Traditional Owners of Country throughout Australia and recognise their continuing connection to land, waters and culture. We pay our respects to their Elders past and present.

Contents

Executive Summary ..... **iv**

Introduction **5**

1 Purpose of this National Implementation Plan 5

2 The Australian system of government 6

3 Chemicals and waste management in Australia 6

4 Legislative frameworks for regulating mercury 7

How Australia manages mercury pollution **7**

5 Regulatory and assessment schemes 7

6 Keeping mercury underground 11

7 Trade controls 11

8 Restrictions on mercury-added products 13

9 Restricting and prohibiting mercury use in manufacturing processes 16

10 Artisanal and small-scale gold mining 17

11 Reducing mercury pollution in the air 18

12 Reducing mercury pollution to land and water 19

13 Environmentally sound storage 21

14 Environmentally sound management of waste 21

15 Managing mercury contaminated sites 24

Other measures for ensuring the effective implementation of the Convention **26**

16 Technical assistance and financial resources 26

17 Public information and awareness 26

18 Indigenous peoples and local communities 28

19 Information exchange 29

20 Reporting and effectiveness evaluation 30

21 Research, development and monitoring 31

22 Global Biodiversity and Chemical Frameworks 34

Appendix A: Summary of actions in this Plan **36**

Appendix B: Legislation related to managing mercury **38**

Appendix C: Controlled mercury-added products **41**

Appendix D: Dental amalgam phase-down measures in Australia **43**

Appendix E: Controlled manufacturing processes **44**

Executive Summary

Mercury pollution is an issue of increasing global concern. Mercury is a toxic heavy metal that poses a threat to human health and the environment. It is among the World Health Organisation's top ten chemicals of major concern.

Mercury exposure can harm the immune system, brain, heart, kidneys, and lungs of people and animals. Exposure to mercury increases the risk of neurological and cardiovascular diseases with an estimated annual global societal cost of $117 billion USD annually.

Because of mercury's significant harm, its persistence in the environment, and the tendency for mercury pollution to travel long distances from points of origin, collective global action under the Minamata Convention on Mercury is the most effective means of protecting Australians and our environment.

Australia signed the Minamata Convention in 2013 and ratified it in December 2021. The Convention entered into force for Australia on 7 March 2022. The purpose of this National Implementation Plan is to inform the Conference of the Parties (the decision-making body for the Convention) and the public about how the obligations of the Minamata Convention are being implemented in Australia.

This Plan also describes the broader strategic and regulatory settings in Australia and intended environment protection reforms, as they apply to chemicals management.

The first section of this Plan provides an overview and describes the shared responsibilities in Australia for implementing regulatory systems that ensure the environmentally sound management of mercury. Ongoing actions are then articulated, ranging from eliminating production and use, and minimising emissions and releases, to environmentally sound waste management and storage.

The Plan describes Australia's role in providing technical assistance and financial resources, and concludes with a summary of responsibilities of various government organisations with respect to community education, research, monitoring, reporting and effectiveness evaluation.

Successful implementation of this Plan will continue to require collaboration and cooperation across all levels of government in Australia. It is intended that this Plan is not a static document and will be continuously improved over time, endeavouring to apply a minimum review frequency of every 4 years, to align with national reporting obligations. This will help to ensure ongoing awareness and effective implementation of the Minamata Convention in Australia.

A summary of key actions is provided at Appendix A.

Introduction

Mercury is a highly toxic metal ranked in the top 10 chemicals of major concern by the World Health Organization. Exposure causes significant human health and environmental impacts. The most studied health effects of mercury are its impacts on cognitive and developmental effects in children, particularly loss of IQ, impacts on motor skills and attention disorders.

Mercury is a chemical of global concern because:

- it can cause significant harm to people and the environment;
- it is persistent in the environment once released;
- it can travel large distances in our oceans and the atmosphere, affecting human health and the environment, even in remote locations; and
- it can become concentrated in ecosystems and up the food chain.

Approximately 15,757 Australian children born in 2018 are estimated to have been affected by mercury exposure. The cost of mercury pollution to human health is estimated between $5,273 and $23,730 per kilogram emitted in Australia. This does not factor in environmental costs. Mercury is a priority chemical of concern for the Australian Government.

The Minamata Convention aims to protect human health and the environment from the adverse effects of mercury. The Convention acts to eliminate or reduce mercury use in products and processes, and implements controls to reduce emissions and releases of mercury from facilities. Certain provisions in the Convention also promote the safe management and disposal of mercury waste, enhance human health and environmental protections, and encourage research and monitoring.

On ratification in 2021, Australia established tighter control measures for mercury and mercury compounds and continues to do so as the Convention evolves.

At a national level in 2024, Australia is reforming chemicals management, enhancing preventative public health and preparedness, and improving regulatory oversight of environmental protection measures. Relevant initiatives include the creation of national standards for managing the environmental risk of industrial chemicals, creation of an Australian Centre for Disease Control, and implementation of environmental law reform including establishing an independent environmental protection agency, to be known as Environment Protection Australia (EPA).

1 Purpose of this National Implementation Plan

This is Australia's first National Implementation Plan for the Minamata Convention. As a Party to the Minamata Convention, this Plan outlines how Australia is implementing its obligations under the Convention.

The purpose of this Plan is to set out the actions that Australia will continue to implement, to fulfill its obligations under the Convention. The objectives include:

- protecting the health and wellbeing of Australians from the harmful effects of mercury
- conserving and protecting Australia's natural environment
- ensuring Australia's capacity to supply safe and high-quality products, and
- meeting Australia's international obligations.

The Australian Government will endeavour to update this Plan every 4 years, to align with national reporting obligations. The Plan may also be revised earlier when major policy or regulatory changes are made of material consequence to the content of the Plan.

2 The Australian system of government

Australia has 3 levels of government – federal (the Australian Government), state and territory governments, and local councils. There are 6 state governments (New South Wales, Queensland, South Australia, Tasmania, Victoria, and Western Australia), 2 territory governments (the Australian Capital Territory and the Northern Territory), and over 550 local councils. There are also 4 non-self-governing territories for which the Australian Government performs state-level functions.

Each level of government provides different services to Australians. The Australian Government is responsible for matters that affect all Australians, such as foreign affairs, defence, immigration and trade. State and territory governments are responsible for issues that affect people within that jurisdiction, such as health care, education, public transport, and policing. Local councils operate under limited autonomy from state governments and address community-specific needs, such as municipal services and facilities.

3 Chemicals and waste management in Australia

The sound management of chemicals and waste in Australia is a shared responsibility across all levels of government. For example, the federal government regulates the import and export of chemicals and waste, negotiates and implements international agreements at the national level, and manages chemicals and waste on federal government land.

State and territory governments implement national standards, and regulate use, handling, transport, disposal, facilities and risk management of chemicals and waste in areas under their authority.

Local governments provide municipal waste collection and recycling operations, in accordance with relevant state or territory laws.

Although the responsibility for meeting Australia's obligations under the Minamata Convention rests with the federal government, actions to implement the Convention are taken by all levels of government.

4 Legislative frameworks for regulating mercury

Australia has robust and integrated legal frameworks across federal, state and territory governments to manage chemicals and waste, reflecting the different role of each jurisdiction under Australia's Constitution. These frameworks help to protect Australia's environment and human health, support industry, and safeguard against contamination. Australian laws are implemented and enforced by responsible government departments, agencies, or authorities, funded by their respective governments to establish appropriate institutional capacity to manage chemicals and waste effectively.

Appendix B details the legislative instruments that give effect to Australia's management of mercury.

How Australia manages mercury pollution

5 Regulatory and assessment schemes

All Australian governments have committed to implementing the Minamata Convention. Over time, further national standards, codes or legislation may also be developed to manage specific risks to human health and the environment that are identified.

Australia implements national approaches applying to the introduction, use, import and export of chemicals. These schemes vary based on the chemical use, effect and/or exposure scenario. Key national organisations/schemes with responsibilities relating to the management of mercury are detailed on the following pages.

5.1 Existing regulatory and assessment schemes

The Department of Climate Change, Energy, the Environment and Water (DCCEEW)

The Department of Climate Change, Energy, the Environment and Water implements some international regulatory and administrative programs including prior informed consents for industrial chemicals (in accordance with the Rotterdam Convention), as well as permitting programs for waste exports including hazardous waste (in accordance with the Basel Convention, Waigani Convention, and an agreement with Timor-Leste), and dumping of waste at sea (in accordance with the London Protocol).

Australia's National Focal Point for the Minamata Convention is based in DCCEEW. The National Focal Point is responsible for ensuring appropriate coordination and implementation of the Convention.

The Industrial Chemicals Environmental Management Standard

The Department of Climate Change, Energy, the Environment and Water also administers the Industrial Chemicals Environmental Management Standard (IChEMS). The IChEMS establishes nationally consistent standards for effective management of industrial chemicals.

The IChEMS categorises industrial chemicals in one of 7 schedules based on their risk to the environment, and assigns measures for safe use, handling, and disposal. Tighter standards are applied to activities that involve higher risk chemicals, including prohibitions and restrictions that will help give effect to obligations under the Minamata Convention.

Mercury and mercury compounds have been prioritised for scheduling on IChEMS in 2024-2025.

State and territory environmental regulators

State and territory governments regulate use, handling, transport, disposal, facilities and risk management of chemicals and waste in areas under their authority.

State and territory governments are responsible for adopting and implementing the IChEMS into their own regulatory frameworks. Regulatory adoption of these standards ensures nationally consistent controls and makes it easier for industry to choose less harmful chemicals.

For example, the environmental management of chemicals throughout their whole lifecycle is regulated under the *Protection of the Environment Operations Act 1997* in New South Wales, and the IChEMS register has been adopted as the New South Wales IChEMS register.

The Australian Border Force (ABF)

The ABF is Australia's border law enforcement agency and customs service, and is responsible for managing and reporting the movement of all goods across Australia's international borders. The ABF coordinates with permit-issuing agencies to implement compliance and enforcement controls for prohibited imports and exports.

Mercury is prohibited under the Customs (Prohibited Exports) Regulations 1958 and the Customs (Prohibited Imports) Regulations 1956, unless permission has been granted under the relevant subject specific legislation, such as the Industrial Chemicals (General) Rules 2019 (amended in September 2021), Agricultural and Veterinary Chemicals (Administration) Regulations 1995, and the Therapeutic Goods Regulations 1990. The ABF is responsible for enforcing mercury border controls, and will detain and seize imports or attempted exports of mercury where relevant permission has not been granted.

The Australian Industrial Chemicals Introduction Scheme (AICIS)

The AICIS is an independent statutory scheme of the Australian Government. The *Industrial Chemicals Act 2019* is the Australian law that regulates the importation and manufacture of industrial chemicals in Australia and AICIS is the regulatory scheme that administers these laws. The Australian Inventory of Industrial Chemicals (the Inventory) is a publicly available resource that contains a database of chemicals that may be introduced (manufactured or imported) for industrial use in Australia.

The AICIS regulates chemicals that are introduced into Australia for an industrial use, conducts scientific risk assessments on the introduction and intended use of industrial chemicals, issues certificates and authorisations following pre-market assessments of industrial chemicals and maintains the Inventory. Any chemical that meets the definition of an industrial chemical (or class of industrial chemicals) can be evaluated by AICIS, including chemicals that are listed on the Inventory.

The Industrial Chemicals (General) Rules 2019 (amended in September 2021) implement Australia's obligations under Articles 3(6) and 3(8) of the Minamata Convention and prohibit the import and export of mercury for industrial use unless permission is granted by the AICIS Executive Director. The AICIS Executive Director can only approve the import and/or export if they are satisfied it is for a use allowed and that consent has been provided.

The Department of Agriculture, Fisheries and Forestry (DAFF)

The Department of Agriculture, Fisheries and Forestry administers some international regulatory and administrative programs, including the legislated permit system under the Agricultural and Veterinary Chemicals (Administration) Regulations 1995, the Customs (Prohibited Exports) Regulations 1958 and the Customs (Prohibited Imports) Regulations 1956. This allows Australia to fulfill the import and export obligations for mercury-added pesticides in accordance with the Minamata Convention, and the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals in International Trade.

The Australian Pesticides and Veterinary Medicines Authority (APVMA)

As an independent statutory authority of the Australian Government, the APVMA regulates agricultural and veterinary chemicals, up to, and including, the point of retail sale. State and territory governments regulate the use of agricultural and veterinary chemicals after they are sold.

The APVMA approves active constituents and registers agricultural and veterinary chemical products, monitors and enforces compliance with the Agricultural and Veterinary Chemicals Code Regulations 1995, and helps manufacturers, importers and suppliers understand regulatory requirements.

Historically, mercury has been used as a pesticide and biocide. Australia has now ensured there are no registered agricultural and veterinary chemicals that contain mercury as an active constituent. Very small amounts of mercury as thiomersal may be used in veterinary vaccines, where it functions as a preservative.

The Therapeutic Goods Administration (TGA)

The TGA safeguards and enhances the health of the Australian community by regulating therapeutic goods. The TGA also manages scheduling under the Poisons Standard, which is a national classification system on how medicines and chemicals can be made available to the public. Regulatory controls stipulated by the Poisons Standard are given effect through state and territory legislation.

The *Therapeutic Goods Regulations 1990* prohibit the import and export of therapeutic goods that are mercury, the manufacture of therapeutic goods that are mercury-added products, and the manufacture of therapeutic goods containing such mercury-added products, unless an approval has been granted or an exemption applies.

Therapeutic goods must be entered in the Australian Register of Therapeutic Goods (ARTG) before they can be legally imported. In 2023, the TGA undertook a post-market review of certain devices in the ARTG that may contain mercury. All the mercury-containing devices that were included in the post market review have been cancelled from the ARTG.

Safe Work Australia (SWA)

Safe Work Australia is the national policy body responsible for the development and evaluation of the model work health (WHS) laws. Safe Work Australia also maintains the Hazardous Chemical Information System (HCIS), an internet advisory service that assists duty-holders to find information on chemicals that have been classified in accordance with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) or which have an Australian workplace exposure standard.

Safe Work Australia is a tripartite body and works collaboratively with governments, employers and workers to drive national policy development on WHS and workers' compensation matters. Safe Work Australia does not regulate WHS laws. The federal, state and territory governments retain responsibility for implementing and enforcing WHS laws in their jurisdictions.

Food Standards Australia New Zealand (FSANZ)

Food Standards Australia and New Zealand is an independent statutory agency responsible for protecting public health and safety by ensuring a safe food supply in partnership with food and health authorities in Australia and New Zealand. Regulatory controls stipulated by FSANZ are adopted by state and territory legislation.

Australian Federal Police (AFP)

The AFP are Australia's national policing agency and have the jurisdiction to investigate federal crimes across Australia. The AFP also have a global role working with international partners to safeguard Australia. The AFP participate in the INTERPOL Pollution Crime Working Group to support international efforts to combat pollution crimes, including those relevant to chemicals and wastes.

Australian Competition and Consumer Commission (ACCC)

The ACCC is an independent national authority which promotes competition and fair trading and regulates national infrastructure services. The ACCC ensures the safety of products and aims to minimise the risk posed by unsafe consumer goods by using a range of tools including regulation, education and awareness-raising activities for business and consumers and compliance or enforcement.

5.2 Future regulatory and assessment schemes

Implementation of the Nature Positive Plan and Environment Protection Australia

The Australian Government is reforming national environmental law – *the Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The Nature Positive Plan delivers on the Government's commitment to strengthen and streamline Australia's environmental laws in response to the *Independent Review of the EPBC Act*, undertaken by Professor Graeme Samuel AC (the Samuel Review).

The Australian Government has committed to establishing an independent national environment protection agency—to be known as Environment Protection Australia (EPA). The EPA will be responsible for:

- issuing permits and licences
- project assessments, decisions and post-approvals
- compliance and enforcement
- assuring states, territories and other Commonwealth decision makers apply National Environmental Standards under accredited arrangements.

A national environment protection agency will help to deliver better environment protections including through strengthened enforcement and compliance, speed up decisions and restore integrity and trust. A national regulator will also help to foster greater cooperation and collaboration with state and territory environment protection agencies.

Australian Centre for Disease Control (CDC)

On 1 January 2024, the Australian Government launched an interim CDC within the Department of Health and Aged Care. The CDC will be responsible for public health emergency preparedness, improving public health surveillance systems and building One Health and health security capabilities.

Establishing an organisation responsible for improving national coordination of public health measures will provide a strong basis to improve the health of all Australians by protecting the country from health threats. The CDC seeks to enhance nationally consistent surveillance and reporting of health outcomes, including those related to environmental health factors.

6 Keeping mercury underground

The Minamata Convention requires countries to control existing ‘primary’ mining for mercury, including phasing it out within 15 years, and prohibiting new primary mercury mining (Article 3).

Primary mercury mining does not occur and is prohibited in Australia. State and territory governments are responsible for controlling mining activities and have policies in place to refuse mercury mining proposals under mining and/or environment protection legislation.

7 Trade controls

The Department of Climate Change, Energy, the Environment and Water undertakes the coordination role for implementing the Minamata Convention and is responsible for processing necessary consent forms in accordance with Article 3 of the Convention. Through a Memorandum of Understanding, DCCEEW, the Australian Border Force, Department of Agriculture, Fisheries and Forestry, the Australian Industrial Chemicals Introduction Scheme and the Therapeutic Goods Administration control the import and export of mercury.

For more information, refer to:

Minamata Convention on Mercury | Australian Government Department of Climate Change, Energy, the Environment and Water

Prohibited goods | Australian Border Force

International chemical conventions | Australian Pesticides and Veterinary Medicines Authority

Importing and exporting chemicals | Australian Government Department of Agriculture, Fisheries and Forestry

Importing or exporting mercury | Australian Industrial Chemicals Introduction Scheme

Import | Therapeutic Goods Administration
Export | Therapeutic Goods Administration

Application to import or export a therapeutic good that is mercury | Therapeutic Goods Administration

Article 3 import and export restrictions currently only apply to elemental mercury. To further strengthen protections for human health and the environment, the Australian Government will consider additional trade controls on mercury compounds during the scheduling process on the Industrial Chemicals Environmental Management Standard (IChEMS) register in 2024-2025.

Import and export data

In Australia, the import and export of mercury has declined over the last decade. In 2019, the Australian Bureau of Statistics analysed imports and exports of elemental mercury indicating a decline from 43.9 to 7 tonnes per annum between 2010-2018 (unpublished report). Most mercury imports into Australia are now for the manufacture of dental amalgam.

Consistent with Article 3(6), in June 2022 Australia denied a request to export mercury to another country for gold extraction purposes on the basis it could not demonstrate measures were in place to protect human health and the environment.

Linkages with Rotterdam Convention

Australia ratified the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals in International Trade in 2004.

Under the Rotterdam Convention, a country exporting a chemical that they have banned or severely restricted is required to provide an export notification to the importing party. Exporting countries must also ensure the export of chemicals listed in Annex III of the Rotterdam Convention is conducted in accordance with the specific conditions imposed by the importing country. Annex III lists mercury compounds including inorganic mercury compounds, alkyl mercury compounds, and alkyloxyalkyl and aryl mercury compounds in the category of pesticides.

8 Restrictions on mercury-added products

Mercury has historically been used in a range of therapeutic, agricultural, industrial and consumer products. Article 4 of the Minamata Convention focuses on mercury-added products through controls on manufacturing, imports and exports. The Convention employs two approaches to controlling mercury in products – setting a phase-out date for some (Annex A, Part I), and specifying measures to be taken in allowing continued use for others (Annex A, Part II).

Appendix C lists prohibited products. While replacement of mercury-added products is encouraged, ongoing domestic use of controlled products may continue until the end of their lifetime. This is to ensure people do not need to prematurely replace working products.

The *Recycling and Waste Reduction Act 2020* establishes a framework to regulate the export of waste materials, and manage the environmental, health and safety impacts of products, in particular those impacts associated with the disposal of products.

Under this Act, the Recycling and Waste Reduction (Mandatory Product Stewardship—Mercury-added Products) Rules 2021 prohibit manufacture, import and export of listed products for industrial purposes, and prohibit the incorporation of mercury-added products into other products.

The Therapeutic Goods Administration and Department of Agriculture Fisheries and Forestry control the import, export and manufacture of therapeutic and agricultural and veterinary mercury-added products respectively.

Australia's transition to a circular economy by 2030

In 2023, Australia's federal, state and territory environment ministers agreed to work with the private sector to design out waste and pollution, keep materials in use, and to foster markets to achieve a circular economy by 2030.

In support of these objectives, a Circular Economy Ministerial Advisory Group was established to advise the Australian Government on the opportunities, challenges, and actions required to develop Australia's circular economy.

This work builds on the significant progress made to improve and harmonise waste management and recycling activities across Australia, including under the National Waste Policy.

Australia is implementing a range of policies and programs that improve transparency of information about chemicals in materials and products throughout the supply chain. Initiatives such as the National Framework for Recycled Content Traceability and the National Plastics Plan aim to create clear and consistent transparency rules, facilitating the adoption of safer alternatives and giving businesses and the public confidence in the safety and circularity of materials.

Lighting

The Australian and New Zealand governments collaborate through the Equipment Energy Efficiency (E3) program on minimum energy performance and labelling requirements for appliances and equipment. The *Greenhouse and Energy Minimum Standards Act 2012* (GEMS Act) provides a national framework for appliance and equipment energy efficiency in Australia. It aims to promote the development and adoption of appliances and equipment that use less energy and produce less greenhouse gases.

As a result of this program, there has been a significant decline in imports of mercury-containing fluorescent lamps, including compact fluorescent light lamps, and an increase in the import of Light Emitting Diode (LED) lamps. LEDs are considerably more energy efficient than other lamp types and can have significant savings in energy consumption, household bills and greenhouse gas emissions.

The Recycling and Waste Reduction (Mandatory Product Stewardship—Mercury-added Products) Rules 2021 restrict the import, export and manufacture of lighting products listed on Annex A of the Minamata Convention.

Cosmetics

The Therapeutic Goods Administration is responsible for regulating chemicals in personal care, skin care, make-up and cosmetic products that are medicines or marketed as having therapeutic effects. This includes most skin-whitening lotions. The import, export, and manufacture of mercury-added cosmetics that are therapeutic goods is prohibited by the Therapeutic Goods Regulations 1990.

The Australian Industrial Chemicals Introduction Scheme (AICIS) is responsible for regulating the chemical ingredients in personal care, skin care, make-up and other cosmetic products that are not medicines or marketed as having therapeutic effects. These ingredients are therefore considered to have an 'industrial' use. This is explained in further detail on the AICIS website.

There is no single list of chemicals that are banned or restricted in cosmetic products in Australia. As a starting point, the Standard for the Uniform Scheduling of Medicines and Poisons (the Poisons Standard) is a record of decisions about the classification of medicines and chemicals used in consumer products.

The Australian Competition and Consumer Commission (ACCC) administers the Consumer Goods (Cosmetics) Information Standard 2020. The purpose of the information standard is to provide clear and consistent information about the ingredients contained in cosmetic products so that consumers can make informed choices about the products they buy.

In accordance with tightened controls made by the Minamata Convention in 2023, the Australian Government is assessing whether Australia will implement additional measures on mercury-added cosmetics.

Dental Amalgam

Dental amalgam causes significant emissions and releases of mercury to air, water and soil, posing risks to human health and the environment. The average dental practice in Australia generates approximately 1kg of mercury waste each year. There are approximately 6,998 private general dental practices and 390 government dental practices nationally.

The National Dental Directors group, comprising the Chief Dental Officers for each state and territory, have reported the use of dental amalgam in Australia has trended downwards over the past few years.

Under Article 4 of the Convention, dental amalgam is the only product listed on Annex A, Part II. Rather than a "phase-out", countries must take **two or more specific measures** to "phase-down" the use of dental amalgam. Australia is currently compliant with the following measures:

- Setting national objectives aiming at dental caries prevention and health promotion, thereby minimising the need for dental restoration.
- Promoting research and development of quality mercury-free materials for dental restoration.
- Encouraging representative professional organisations and dental schools to educate and train dental professionals and students on the use of mercury-free dental restoration alternatives and on promoting best management practices.
- Restricting the use of dental amalgam to its encapsulated form.
- Promoting the use of best environmental practices in dental facilities to reduce releases of mercury and mercury compounds to water & land.

Additional details on implementation of these measures are at Appendix D.

Following the tightening of controls on dental amalgam under the Convention in 2022, the Dental Board of Australia published a Position Statement on dental amalgam which:

- Does not allow the use of mercury in bulk form by dental practitioners; and
- Stipulates that the use of dental amalgam for the dental treatment of deciduous teeth, of patients under 15 years, and of pregnant and breastfeeding women is not recommended, except when considered necessary by the dental practitioner based on the needs of the patient.

Manufacture of dental amalgam in Australia

SDI Limited is Australia's sole manufacturer of dental amalgam and is based in Victoria. SDI exports its dental amalgam products to most continents, with its main markets in the USA and United Kingdom. SDI received a AUD$3 million research grant from the Australian Government in 2019 to assist with research and development on non-mercury alternatives with similar characteristics to dental amalgam. The company is actively working to encourage existing users of dental amalgam to transition to their mercury-free products.

9 Restricting and prohibiting mercury use in manufacturing processes

Article 5 of the Convention sets out measures to phase-out or restrict certain manufacturing processes using mercury or mercury compounds. It also discourages the development of any new manufacturing processes in which mercury or mercury compounds are intentionally used.

Up to 1% of the mercury used during manufacturing may remain in finished plastic products and could lead to mercury pollution during waste disposal.

Controlled manufacturing processes are listed in Appendix E. All state and territory governments have mechanisms in place to prohibit or control the use of mercury and mercury compounds in these manufacturing processes. Controls are largely established through operating licences and/or permissions for individual facilities. Some state and territory governments also have controls through General Environmental Duties and environment protection policies.

In accordance with tightened controls made by the Minamata Convention in 2023, the Australian Government is assessing whether Australia will implement new prohibitions on using mercury in polyurethane manufacturing by 2025 and in sodium or potassium methylate or ethylate production by 2028.

Australia currently has one manufacturer of polyurethane polymers using mercury catalysts for a small portion of their product lines, Era Polymers in New South Wales.

10 Artisanal and small-scale gold mining

Artisanal and Small-scale Gold Mining (ASGM) is the largest source of mercury pollution globally. It provides 12-15% of the world's gold supply from over 70 countries. There are an estimated 10-15 million ASGM miners, of which 4-5 million are women and children.

Box 1: Case study – Joint research project with Papua New Guinea (PNG)

Given the scale of the challenge, it is important for all countries to work together to facilitate the adoption of mercury-free technologies for ASGM.

In a world-leading environmental and technological collaboration, Australia and Papua New Guinea (PNG) piloted an innovative, cyanide-free, mercury-replacement technology for ASGM.

The pilot project brought together agencies including PNG's Conservation and Environment Protection Authority, Mineral Resources Authority, the Australian Government Department of Climate Change, Energy, the Environment and Water, the Department of Foreign Affairs and Trade, and the Commonwealth Scientific and Industrial Research Organisation (CSIRO).

The *Demonstration Project for the PNG–Australia Joint Research Partnership towards safe and sustainable ASGM* ran from May 2022 to September 2024 with the following objectives:

- Assess the feasibility of a cyanide-free, mercury-replacement technology for ASGM;
- Expand the global knowledge base on methods that are less disruptive to existing ASGM supply chains and therefore more likely to be easily taken up by miners; and
- Strengthen dialogue between actors in the supply chain to bolster national efforts for Papua New Guinea's accession to the Minamata Convention on Mercury.

The technology pilot ran from August to September 2023 in the Wau-Bulolo region. The project demonstrated **gold extraction rates using a thiosulfate-based technology were 31% higher** when directly compared to the mercury amalgamation method used by artisanal miners in this region.

Through this pilot project, it was confirmed that using a thiosulfate-based micro-vat leaching process at a small-scale gold mine is technically viable, safer and more environmentally responsible. The project's site model could be replicated and scaled up or down to suit local needs.

Article 7 of the Convention requires countries to take steps to reduce, and where feasible eliminate, ASGM that uses mercury, and to create National Action Plans where levels of ASGM within the country are "more than insignificant".

State and territory governments control mercury use in ASGM and recreational mining. While ASGM is not a significant activity in Australia, state and territory authorities have confirmed there are some recreational miners in the Northern Territory, Queensland and Western Australia using mercury.

The Western Australian Government has conducted enforcement action in response to isolated incidents of mercury contamination in residential areas due to illegal activities.

11 Reducing mercury pollution in the air

Article 8 of the Convention requires controls on coal-fired power plants; coal-fired industrial boilers; smelting and roasting processes for non-ferrous metals; waste incineration facilities; and cement clinker production facilities. This is in accordance with the facilities listed in Annex D of the Convention.

State and territory governments are responsible for managing emissions from facilities. Responsible authorities employ a variety of mechanisms, including licencing frameworks, to implement pollution controls. Most governments rely on emission control measures and/or multi-pollutant control strategies that deliver co-benefits for control of mercury emissions.

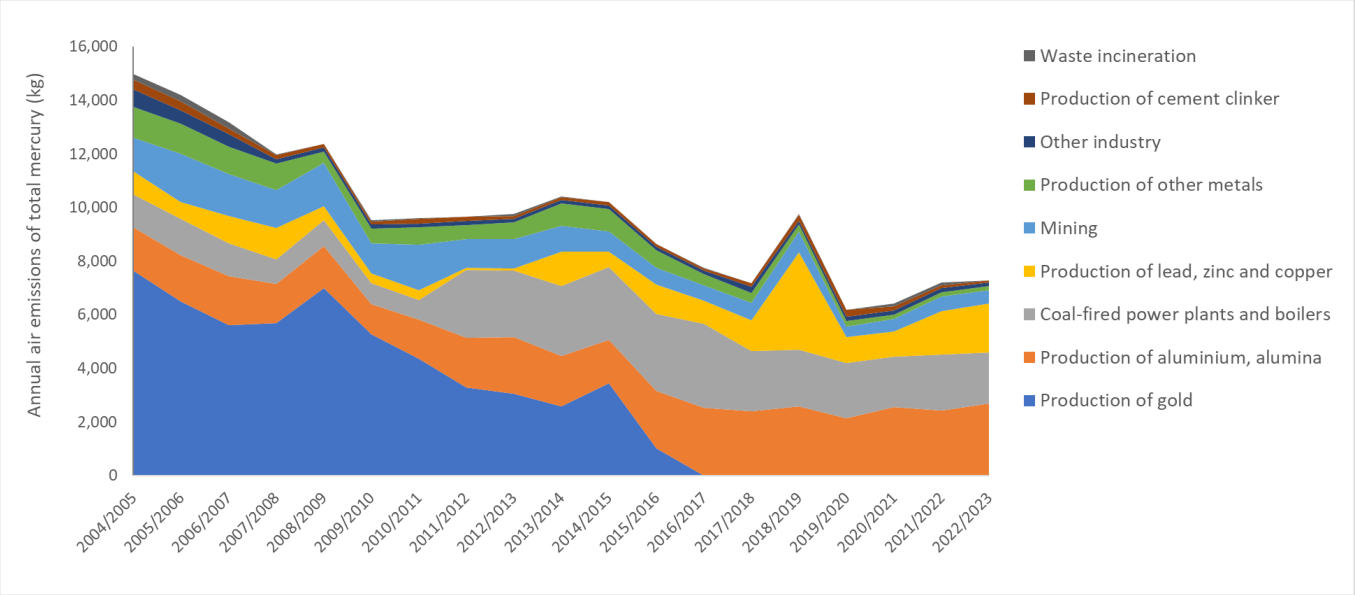
State and territory governments have legislative mechanisms in place to ensure new facilities or substantially modified facilities opened after March 2027 employ best available techniques and best environmental practices (BAT/BEP) in accordance with the Convention. Where possible, existing Australian facilities are encouraged to comply with this BAT/BEP guidance, noting other measures such as multipollutant control strategies may be applicable.

Australia also maintains an inventory of mercury emissions through the National Pollutant Inventory (NPI). The NPI tracks pollution across Australia, and ensures the community has access to information about the emission and transfer of toxic substances which may affect them locally. State and territory regulators conduct quality controls on the data with support from the federal government.

Emissions data

The largest sources of mercury emissions in Australia are from production of aluminium, alumina, coal-fired power stations and lead, zinc and copper smelters. Australia has made reasonable progress in reducing emissions over time as total annual industrial emissions decreased by approximately 51% over 2004-2023. This is largely due to an industrial gold facility upgrading its infrastructure in Western Australia and closures of coal-fired power plants.

Figure 1 Annual air emissions of total mercury – major industry sectors



Source: Australia's National Pollutant Inventory data

Net Zero

The Australian Government's Net Zero Plan will lay out and extend Australia's action on climate change.

Australia, along with all parties to the Paris Agreement, has committed to the global goal of holding the increase in global average temperatures to well below 2°C of warming and pursuing efforts to keep warming to less than 1.5°C.

The Net Zero Plan will guide our transition to the legislated target of net zero greenhouse gas emissions by 2050. Alongside the Net Zero Plan, the Australian Government will set an ambitious and achievable 2035 emissions reduction target. This will mean Australia is accelerating climate action, consistent with our global peers.

Integrated national measures for reducing greenhouse gas emissions are expected to also reduce mercury emissions. For example, coal and other fossil fuels are substantial contributors to both greenhouse gases and mercury emissions. Decarbonisation of Australia's energy and other sectors, and investment in, and increased generation of, renewable energy will significantly decrease greenhouse gases and mercury emissions. These efforts will contribute to reducing effects on vulnerable species and ecosystem health from multiple sources of stress (such as climate change and pollution).

Renewable technologies may require inputs from mining and metal production sectors. Best available techniques and best environmental practices measures may help minimise mercury releases and emissions from these processes.

12 Reducing mercury pollution to land and water

Article 9 of the Convention requires releases of mercury pollution to land and water to be controlled. State and territory governments are responsible for managing pollution releases from Australian facilities.

Responsible authorities employ a variety of mechanisms, including licencing frameworks, to implement pollution controls at sites. Most state and territory governments rely on release control measures and/or multi-pollutant control strategies that deliver co-benefits for control of mercury releases.

Mercury releases are regulated through operating licences and/or permissions issued under the relevant environment protection legislation and water quality policies. For some jurisdictions, there is also accountability on facilities through a General Environmental Duty. It is generally an offence to discharge mercury into any waters or onto land.

Australia maintains an inventory of releases to water and land through the National Pollutant Inventory. Facilities that report to the NPI are classed as Australia's 'relevant point sources' in accordance with Article 9 of the Convention.

The largest sources of mercury releases to water are from sewerage and wastewater treatment services, followed by mining and production of metals and steel. Sources of mercury releases to land are primarily from petroleum refining and manufacturing, non-metallic mineral mining and quarrying, oil and gas extraction, mercury waste treatment/recovery plants, waste disposal and wastewater

treatment services. In 2022-2023 individual facilities from these sectors released between 6 and 13 kg of mercury to the environment.

The Minamata Convention adopted guidance on Best Available Techniques and Best Environmental Practices for controlling releases to land and water in 2023. The guidance provides information on common release control techniques applicable to industry sectors including coal combustion, oil and gas, and non-ferrous metal production. Australian facilities are expected to comply with this guidance unless existing controls are demonstrated to be more protective of human health and the environment. Regulatory agencies are best placed to define best available techniques and best environmental practices where specific guidance has not been defined.

Wastewater treatment facilities

Wastewater facilities contribute to mercury pollution of Australian waters. There is limited data available to determine the original source of this mercury before it enters wastewater facilities.

Australia's National Environmental Science Program has allocated funding to examine concentrations of contaminants of emerging concern (including metals) in wastewater treatment effluent, seawater and sediment samples, and their ecological significance. The project is running from 2022-2025 with outcomes expected to facilitate a broader understanding of the scale, distribution and potential ecological impacts of contaminants of emerging concern. This will support future decision-making about wastewater treatment and the protection and management of Australian coastal waters.

The Australian and New Zealand Guidelines for Fresh and Marine Water Quality

The Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZ Guidelines) provide a platform for consistent water quality management advice, technical support and tools for governments and the community to utilise. The guidelines are a joint initiative of the Australian and New Zealand governments to help manage water resources in both countries so that the use of water is sustainable, and the ecology of waterways is maintained.

The focus of the ANZ Guidelines is water quality in the context of ecosystem health and management. Default guideline values (DGVs) and guidance documents ensure that specific physical and chemical stressors in waterways do not reach harmful levels for biota.

The Australian Government is undertaking a review of the existing mercury default guideline values, taking into consideration new scientific evidence about mercury impacts on aquatic life and Australian environmental conditions. A key objective of this review is to incentivise Australian water managers and communities to adequately manage mercury in aquatic ecosystems, and to preserve cultural and spiritual values associated with waters and species.

The Australian Drinking and Recreational Water Guidelines

The Australian Drinking Water Guidelines provide guidance to water regulators and suppliers on monitoring and managing drinking water quality. Based on health considerations, the concentration of total mercury in drinking water should not exceed 0.001 mg/L.

The Guidelines for managing risks in recreational water set criteria for mercury based on the health-based guideline value for drinking water.

13 Environmentally sound storage

Article 10 of the Convention requires the environmentally sound storage of mercury in accordance with the Guidelines on the environmentally sound interim storage of mercury other than waste mercury.

State and territory governments have primary responsibility for administering controls over chemical storage. Storage of chemicals is typically controlled through a combination of workplace/occupational health and safety legislation, dangerous goods and environment protection legislation.

State and territory environment protection legislation typically regulates potentially polluting facilities and activities through the issuance of authorities or licences and/or permissions, which set out the conditions under which the activities must operate.

In Australia, there are approximately 10 authorised facilities that recover mercury from end-of-life products and wastes, and at least one facility that uses mercury or mercury compounds during manufacturing processes. Several processing facilities (e.g. metal smelters) produce mercury as a by-product.

Facilities have duties in relation to the storage of mercury or mercury compounds, and in minimising risks to the environment and human health under state and territory legislative and policy frameworks.

14 Environmentally sound management of waste

Article 11 addresses mercury wastes and requires controls on their management in an environmentally sound manner (including recovery, recycling and reclamation), and transport across international boundaries.

State and territory governments differentiate between types of waste with corresponding regulatory controls. Waste management frameworks differ by location, according to jurisdictional requirements. All state and territory environmental regulators implement site and activity-based permission frameworks. This may include (but is not limited to) facility operating licences and/or permissions, waste transport registrations, development permits and disposal authorisations.

Operating licences and/or permissions issued by state and territory regulators stipulate conditions, such as requirements to monitor discharge concentrations and to abide by maximum discharge limits.

Technical guidelines to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal

The Basel Convention has developed technical guidelines to support its implementation with respect to wastes consisting of, containing or contaminated with mercury. These guidelines are updated regularly. The guidelines will continue to be adopted by the Australian Government to support assessment of application for hazardous waste import, transit and export permits by the Australian Government.

Australia has measures in place to ensure mercury and mercury compounds are imported/exported for re-use or environmentally sound disposal according to the provisions of the Minamata Convention and the Basel Convention.

Importers and exporters of mercury waste must obtain a Hazardous Waste Permit and gain consent from transit and import countries in accordance with the *Hazardous Waste (Regulation of Exports and Imports) Act 1989*. Exports of hazardous wastes, including mercury wastes, are generally only allowed if it can be demonstrated that the waste cannot be processed in Australia.

For recovered elemental mercury, authorisations are only granted if the mercury is not excess mercury from the decommissioning of chloralkali facilities, and if the importing country has provided its written consent to the import of the mercury for a use allowed under the Minamata Convention.

National codes and standards for transport, storage and handling

The model work health and safety (WHS) laws, developed by Safe Work Australia and implemented in all jurisdictions (except Victoria), set out the storage and handling requirements for hazardous chemicals and the work health and safety obligations that apply to workplaces where these are present.

State and territory governments implement legislation controlling the transport of dangerous goods through the National Transport Commission's Code for the Transport of Dangerous Goods by Road and Rail.

The Australian Maritime Safety Authority (AMSA) is Australia's national regulatory body for protection of the marine environment from the impacts of shipping. They implement regulations in accordance with International Maritime Organization agreed minimum requirements for controlling the handling and transport of cargoes and dangerous goods by sea.

The Australian Maritime Safety Authority provides guidance in the publication *Dangerous, hazardous and harmful cargoes handbook*. In the event of ship sourced pollution, AMSA and/or state and territory governments can investigate and implement penalties established under the *Protection of the Sea (Prevention of Pollution from Ships) Act 1983*. AMSA also has powers to recover clean-up costs from vessel owners and their insurers, in accordance with Australian legislation.

London Protocol to protect the marine environment from pollution caused by the dumping of wastes and other matter into the ocean

Australia is a Contracting Party to the 1996 Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972 (the London Protocol), which came into force in 2006. The London Protocol prohibits all dumping of wastes into the marine environment from vessels, aircraft, platforms or other man-made structures at sea, except for certain permitted substances. Australia's obligations are implemented through the *Environment Protection (Sea Dumping) Act 1981* (the Sea Dumping Act).

Annex 2 of the London Protocol sets out the best practice environmental impact assessment (EIA) framework for assessing wastes proposed to be dumped. The EIA framework is reflected in the National Assessment Guidelines for Dredging, which also sets levels for mercury in dredged materials in Australia.

Amendments to the London Protocol in 2009 will allow for the export of carbon dioxide (CO_2) for the purposes of sequestration in sub-seabed geological formations once the amendment is ratified by Australia. Upper levels of contaminants (including mercury) in CO_2 streams proposed for sequestration are described in the interim National Action List. These levels, as well as lower levels, will be finalised in a National Action List, proposed for release in 2025. The London Protocol bans the export of all other wastes for dumping into the marine environment.

Controlled waste

In June 1998, state and territory governments agreed to implement National Environment Protection (Movement of Controlled Waste between States and Territories) Measure 1998 (the Controlled Waste NEPM). The Controlled Waste NEPM provides a basis for ensuring that controlled wastes which are to be moved between states and territories are properly identified, transported and otherwise handled in ways which are consistent with environmentally sound practices for the management of these wastes. State and territory waste management frameworks incorporate the wastes described in the Controlled Waste NEPM, some of which are relevant to the Convention. These include (but are not limited to):

- Mercury and mercury compounds
- Residues from industrial waste treatment/disposal operations
- Soils contaminated with a controlled waste.

Waste management and transportation control frameworks provide risk-based controls to prevent the improper disposal and release of hazardous chemicals from wastes.

Mercury waste can only be recovered, recycled, reclaimed or directly re-used for a use allowed under the Convention. To satisfy this obligation, state and territory governments have measures in place to not allow use of mercury in certain manufacturing processes or in artisanal and small-scale gold mining. Federal government controls on mercury-containing products also affect mercury waste and recycling streams.

National waste reporting

The Australian Government updates a National Waste and Resource Recovery Report and publishes detailed waste management data provided by state and territory governments and industry associations. Annual data on hazardous waste is collected and reported under national and international obligations.

The Waste and Resource Recovery Data Hub stores and displays national waste and resource recovery data. The Hub is designed to make data more accessible for industry, governments, and the public.

Mercury waste infrastructure in Australia

Australia has one geological repository licensed to accept solid mercury waste, Tellus Holdings. Australia also has several specially engineered landfills or cells, which are designed to receive waste containing or contaminated with mercury if they satisfy leachability criteria defined in the licence conditions for the landfill site. There are currently no facilities in Australia that are legally able to accept and treat elemental mercury (i.e. mercury in predominantly liquid form).

Australia's mercury recycling infrastructure comprises Contract Resources (Karratha, Western Australia), Ecocycle (Kwinana, Western Australia and various collection depots nationally) and certain e-waste facilities processing mercury waste for recycling.

Offshore oil and gas decommissioning

Mercury pollution from the oil and gas sector is an increasing concern for the international community.

The Australian Nuclear Science Technology Organisation (ANSTO) and Australian Institute of Marine Science (AIMS) are currently researching the fate and potential impact of mercury from contaminated subsea infrastructure associated with the offshore oil and gas industry.

To help inform international research and development in this space, ANSTO has recently partnered with the UN Environment Programme's Global Mercury Partnership to collaborate and share their world-leading research.

The Decommissioning Roadmap Taskforce in the Department of Industry, Science and Resources is leading activities to identify opportunities and challenges in building an offshore oil and gas decommissioning industry in Australia. A key consideration for the Taskforce is supporting responsible recycling and waste management of decommissioned infrastructure. This includes environmentally sound management of mercury-contaminated steel and other wastes.

In Commonwealth waters and state waters where the state has conferred powers on the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA), environmental impacts and risks are managed through environmental plans under the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009. The Regulations require that environment plans describe legislative and other requirements that apply, and demonstrate how they will be met. NOPSEMA requires offshore oil and gas projects to be compliant with the Minamata Convention and to apply best available techniques and best environmental practices to control mercury releases and manage mercury waste in an environmentally sound manner.

If offshore oil and gas operators propose to leave any infrastructure in the sea after decommissioning, they may require a permit under the *Environment Protection (Sea Dumping) Act 1981* (see London Protocol section above). Any infrastructure with mercury concentrations above an acceptable level may not be left in the sea, as dictated by the London Protocol.

15 Managing mercury contaminated sites

Article 12 of the Convention requires countries to develop strategies to identify and assess mercury-contaminated sites, and to ensure action to reduce risks posed by such sites will be done in an environmentally sound manner. International guidance on contaminated site management for mercury has been developed.

National Environmental Protection (Assessment of Contaminated Sites) Measure

Australia has an agreed a national approach for determining if a site is contaminated through the National Environment Protection (Assessment of Site Contamination) Measure 1999 (Site Contamination NEPM), as amended in 2013. The Site Contamination NEPM sets exposure criteria for mercury and investigating levels for mercury and provides guidance for using site-specific approaches to assessing potentially contaminated sites.

Other measures for ensuring the effective implementation of the Convention

16 Technical assistance and financial resources

The Australian Government has provided donor funding to the Global Environment Fund (GEF) for over 30 years. The GEF provides a structured mechanism for dispensing donor funds to build capacity, provide technical assistance and financial resources. The funds are distributed between the five focal areas of biodiversity loss, chemicals and waste, climate change, international waters, and land degradation. The GEF Project Database contains 6,079 current and historical projects across all focal areas, 132 of these projects relate to mercury.

17 Public information and awareness

Content produced by the Australian Government is subject to the Australian Government Style Manual, which promotes an accessible and consistent approach to developing user-focused content.

Department of Climate Change, Energy, the Environment and Water (DCCEEW)

DCCEEW maintains a public website to educate the community about the dangers of mercury and the role of the Minamata Convention. In addition, DCCEEW respond directly to community enquiries via the mailbox: Minamata@dcceew.gov.au.

Food Standards Australia and New Zealand (FSANZ)

State and territory governments adopt, without variation, food standards once a notice has been published by the Australian Government.

The *Food Standards Australia New Zealand Act 1991* provides information about food safety protections and the establishment of FSANZ. FSANZ also conducts the Australian Total Diet Study, which includes monitoring chemicals in the Australian diet.

FSANZ monitors mercury concentrations in a range of Australian foods (including seafood) to identify risks and develop management strategies if necessary. They also provide recommendations to vulnerable populations (pregnant women and children) and the rest of the Australian population on the safe consumption of fish (FSANZ Food Safety Advice – Mercury).

Safe Work Australia (SWA)

Safe Work Australia publishes model Codes of Practice, guidance and information on hazardous chemicals for persons conducting a business or undertaking (PCBUs, such as employers), and workers. Federal, state and territory governments have implemented a version of the model WHS legislation, except for Victoria. Victoria has similar codes, guidance and information which it provides to employers in the workplace context, and non-workplace context for dealing with chemicals and/or hazardous substances.

Safe Work Australia also maintains the Hazardous Chemical Information System (HCIS), an internet advisory service for the public with a searchable database of hazard information for chemicals. The database contains chemicals that have been classified in accordance with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) by an authoritative source, such as the European Chemicals Agency (ECHA) or the Australian Industrial Chemicals Introduction Scheme (AICIS). It also contains the Australian workplace exposure standards.

Safe Work Australia has set several workplace exposure standards for mixtures and substances containing mercury. A workplace exposure standard represents the maximum airborne level of a substance or mixture that most workers can be exposed to without harm to their health. Safe Work Australia has also developed a guide to help doctors monitor the health of workers exposed to mercury.

Australian Border Force (ABF)

The ABF provides a searchable database of prohibited imports and exports, and links to the agency responsible for issuing permits.

Australian Industrial Chemicals Introduction Scheme (AICIS)

The Australian Industrial Chemicals Introduction Scheme helps protect the health of Australians and the environment by finding out the risks of industrial chemicals and recommending ways to promote their safer use.

AICIS provides the public with information about importing and manufacturing industrial chemicals in Australia, categorisation of chemicals, chemicals prioritised for evaluation on the Rolling Action Plan, Risk Management Recommendations Register, chemical information and compliance. Members of the community can subscribe to updates from AICIS, and public consultations are periodically released through the AICIS Consultation Hub.

The Australian Inventory of Industrial Chemicals (the Inventory), maintained by AICIS, is a publicly available resource that contains a database of chemicals that may be introduced (manufactured or imported) for industrial use in Australia. The database can be searched or exported in full as a spreadsheet. It contains chemical identity data and indicates where regulatory obligations or conditions may apply under the *Industrial Chemicals Act 2019*. A copy of the publicly available information on the Inventory on 2 January 2024 contained 39,659 chemicals.

AICIS also provides the public with a searchable database of chemical assessments. The database can be searched or exported in full as a spreadsheet. These assessments contain information on chemical identity, hazard, exposure, and risk, and provide a link to assessment reports.

Therapeutic Goods Administration (TGA)

At a national level, the Therapeutic Goods Administration develops and maintains the Poisons Standard. The Poisons Standard classifies medicines and poisons, specifies recommendations for exemptions, labelling, containers, packaging and other controls. It provides consistency by describing model legislation for adoption by state and territory governments. All state and territory governments implement medicines and poisons legislation.

Department of Agriculture, Fisheries and Forestry (DAFF)

The Department of Agriculture, Fisheries and Forestry provides details on the regulations and conditions applied under Australian legislation with regards to the pesticides. The import, export and use of mercury-containing pesticides is prohibited unless permission is granted by an authorised officer where specific conditions are met, such as for environmentally sound disposal or research purposes. Permissions must be obtained through DAFF's online permit application system.

Australian Pesticides and Veterinary Medicines Authority (APVMA)

Educational information about importing, supplying and using agricultural and veterinary chemicals is published by the APVMA. This includes information about following instructions on labels, workplace health and safety, and personal protective equipment.

Members of the community can subscribe to receive newsletters from the APVMA or view previous newsletters on the APVMA website. Public consultations are periodically released on the APVMA public consultations webpage.

State and territory environmental regulators

State and territory regulatory authorities provide information and educate the community in relation to risks of harm to human health and the environment, including from mercury, and environmental best practices and improvements.

18 Indigenous peoples and local communities

The full and effective participation of Indigenous peoples in the work of the Minamata Convention is crucial. In general, because of their reliance on localised resources, Indigenous Peoples and local communities are disproportionately impacted by mercury pollution globally. In addition to serious and significant effects on health, food security, economic livelihoods, spirituality and culture are also impacted.

The Minamata Convention Secretariat has launched an Indigenous Peoples Platform to bring together Indigenous voices and promote the full and effective participation of Indigenous Peoples in the work of the Minamata Convention.

In October 2023, a meeting of Indigenous representatives was held in Brazil to convey the priorities of Indigenous communities in Latin America and the Caribbean region, and to help Indigenous organisations to coordinate ahead of the Fifth Conference of the Parties. The Australian Government provided funding to support this meeting.

19 Information exchange

The sharing of public sector data, which is data collected and held by Commonwealth, state and territory governments, is governed by the Intergovernmental Agreement on data sharing between Commonwealth and state and territory governments.

Recognising the importance of sharing knowledge and to avoid duplicative efforts, Australia will proactively assess opportunities to exchange information and seek to actively contribute to the global state of knowledge pertaining to mercury.

Australian government organisations may consider the following factors when deciding to exchange information, including responding to calls for information released by the Convention Secretariat:

- Relevance – Whether the opportunity pertains to the Australian context. For example, a challenge that Australia has experienced, a chemical in use or previously in use by Australia, or relating to an industry that has a significant presence in Australia.
- Impact – Consideration of whether the comments, insights, data or feedback that Australia is able to provide are meaningful and accurate, and whether the response is likely to be of productive value in supporting Parties to execute the objectives of the Convention.
- Sensitivity and legality – That the organisation disclosing the information has a legal right to do so, and relevant sensitivities (e.g. cultural sensitivities, information security sensitivities) have been considered.
- Representativeness – That the information and/or opinions are proportionate and representative of Australia's governance structures and associated responsibilities, context and input from relevant organisations is sought.
- Resourcing and timeliness – Whether there is capacity and capability to respond the call-for-information in a timeframe that is appropriate for the subject matter.

Government-held data for Aboriginal and Torres Strait Islander people should be aligned with the Framework for the Governance of Indigenous Data. The Framework is based on principles of respect for cultural heritage, informed consent, privacy, and trust, informed by the FAIR (Findable, Accessible, Interoperable, and Reusable) guiding principles on data management and CARE (Collective Benefit, Authority to Control, Responsibility, Ethics) principles.

Government organisations (including those in states and territories) may proactively volunteer information to the federal department responsible for environment policy, for exchange with the international community. Alternatively, the Department of Climate Change, Energy, the Environment and Water (DCCEEW) may make specific or general requests for other government organisations to provide information for exchange. The exchange of information within the context of the Convention must be authorised by the National Focal Point. Australia's designated National Focal Point has been nominated from the federal department responsible for environment policy (DCCEEW).

Australia will also continue to periodically contribute information and expertise through voluntary participation (where possible) in groups established by the Conference of the Parties to the Convention, such as the Open-ended Scientific Group.

The Open-ended Scientific Group (OESG)

The OESG is a voluntary, technical committee established under the Convention. Australia has one official member and three technical experts working within the OESG. The OESG are compiling and analysing data to provide a scientific basis for answering the following policy questions at a global level:

- Have Parties taken actions to implement the Minamata Convention?
- Have the actions taken resulted in changes in mercury supply, use, and emissions and releases into the environment?
- Have those changes resulted in changes in levels of mercury in the environment, biota and vulnerable populations that can be attributed to the Minamata Convention?
- To what extent are existing measures under the Minamata Convention meeting the objective of protecting human health and the environment from mercury?

This work builds on the scientific and technical guidance developed to support countries in obtaining comparable monitoring data. The OESG has published data collection and analysis plans articulating the data they expect to collect and the questions they plan to address (available online).

20 Reporting and effectiveness evaluation

As the National Focal Point, DCCEEW centrally coordinates reporting to the Conference of the Parties on the measures Australia has taken to implement the Convention and the effectiveness of these measures.

Federal, state and territory governments with carriage of relevant reporting data, transmit information (including reporting the absence of data collection) to the National Focal Point. Reporting and effectiveness evaluation data is transmitted by the National Focal Point to the Convention Secretariat.

The sharing of public sector data is governed by the Intergovernmental Agreement on data sharing between federal, state and territory governments.

Australia's First National Short Report (2023) is available on the Convention's website.

The first Effectiveness Evaluation of the Minamata Convention

Australia intends to provide data to the international community to support the first review of the effectiveness of the Minamata Convention. Key data sources include:

- National Pollutant Inventory (NPI) – The NPI is Australia's Pollutant Release and Transfer Register which collects annual emissions, releases, and transfers data reported by industrial facility operators (1998-2023).
- Mercury measurements in air – CSIRO's long-term observations of mercury in ambient air occur at the Gunn Point Baseline Air Pollution station (Northern Territory) and the Cape Grim Baseline Air Pollution Station (Tasmania).

- Mercury measurements in marine mammals, birds and turtles – CSIRO reviewed published data on contaminants (including mercury) in marine mammals, turtles and birds. While long-term datasets are not available for these species, the report provides baseline information on total mercury levels in Australian fauna and highlights existing knowledge gaps. This has led to further research projects and a scientific publication on contaminants in stranded cetaceans in New South Wales.
- Mercury measurements in soils – Mercury concentrations in soils collected from 1,186 catchments during the National Geochemical Survey of Australia. These samples are being reanalysed by using a more sensitive analytical technique at the Australian National University in 2024.
- Mercury measurements in fish (multiple individual studies) – Several independent research studies have evaluated mercury levels in fish from Australian estuaries and nearshore coastal ecosystems, with a focus on understanding health implications and environmental processes.
- Derwent Estuary Program (Tasmania) – This program is a partnership between state and local government, industry, researchers and the community to restore the estuary. Long-term data (fish, invertebrates, water, sediments) have been collected in the Derwent estuary adjacent to a metal refinery.

21 Research, development and monitoring

Federal, state and territory governments and academics conduct a range of research studies pertaining to mercury. It is particularly important to study mercury impacts on the Australian environment due to its unique geographic and environmental factors.

National Environmental Science Program (NESP)

The Australian Government funds environment and climate research through the National Environmental Science Program (NESP). The NESP is currently in its second phase, with $AUD149 million contributing to 4 research hubs, including the hub for Sustainable Communities and Waste, and the Marine and Coastal hub. Program funding has been allocated for the measurement of hazardous chemicals (including mercury) in multiple projects.

The NESP recognises and values the experiences, perspectives, and cultures of Indigenous Australians. Program researchers are collaborating with Indigenous experts and Traditional Owner groups to help achieve improved on-ground outcomes for the environment. This involves caring for Country and embedding Indigenous knowledge systems into the protection of biodiversity.

Commonwealth Scientific and Industrial Research Organisation (CSIRO)

The Commonwealth Scientific and Industrial Research Organisation is Australia's national science agency. CSIRO is helping to maintain the integrity of the Australian environment by providing scientific information and advice on the environmentally sound management of chemicals, including state-of-the-art approaches, techniques and tools for monitoring, minimising and mitigating impacts of chemicals and wastes.

Working with the Bureau of Meteorology, CSIRO makes long term observations of mercury in the atmosphere at 2 locations in Australia:

- Kennaook/Cape Grim Baseline Air Pollution Station - located 90 m above sea level on the northwest tip of Tasmania, situated in a coastal temperate climate heavily influenced by clean Southern Ocean air masses. Observations of gaseous elemental mercury commenced in 2011. Observations of mercury in precipitation will commence in 2024.
- The Northern Territory Baseline Air Pollution station (NTBAPS) - located at Gunn Point, experiences a tropical coastal savannah climate. Observations of gaseous elemental mercury commenced in 2014.

Both Kennaook/Cape Grim and the NTBAPs stations are operated as World Meteorological Organisation Global Atmospheric Watch stations with other observations made at these stations such as meteorological variables and air composition measurements that contribute to the understanding of mercury cycling in the regions. These sites are among only a handful of sites in the Southern Hemisphere that are used for long term global/hemispheric trend analysis.

In addition to these two sites, CSIRO is working with Charles Darwin University to measure mercury in precipitation as part of the Asia Pacific Mercury Monitoring Network in Darwin, located 30 km from the NTBAPS. Measurements commenced in 2022.

Bureau of Meteorology (the Bureau)

The Bureau of Meteorology is Australia's national weather, climate and water agency. The Bureau contributes to national social, economic, cultural and environmental goals by providing observational, meteorological, hydrological and oceanographic services and by undertaking research into science and environment-related issues in support of its operations and services. The Bureau monitors aspects of the atmosphere and its products, services and information systems improve Australia’s environmental information base.

The Bureau owns and operates the Kennaook/Cape Grim Baseline Air Pollution Station and jointly manages the mercury science program in collaboration with CSIRO at this site. Bureau technical staff provide the maintenance of mercury instrumentation and real-time analysis of data quality to support CSIRO scientists' research.

Geoscience Australia

The Geochemical Atlas of Australia provides data on 68 mineral elements (including mercury) in sediment samples which were gathered from 1315 sites in 1186 catchments across Australia as part of Geoscience Australia's National Geochemical Survey of Australia project.

Australian Institute of Marine Science (AIMS)

Research conducted by AIMS supports the sustainable use and protection of oceans. The AIMS Strategy 2030 guides research and investment in tropical marine science to inform decision-making for government and industry to 2030. AIMS applies core capabilities in large-scale, high-tech and long-term ocean monitoring, risk assessment of pollution and cumulative impacts, and analyses and prediction of ecosystem function and change.

Scientists from AIMS have published several important studies on mercury measurements in biota and sediments. AIMS also works with industry and national regulators to define best practice for the environmental risk assessment of mercury in offshore oil and gas decommissioning and conducts research on mercury biomagnification in marine food webs.

Australian Nuclear Science & Technology Organisation (ANSTO)

The Australian Nuclear Science and Technology Organisation uses nuclear science and technology to deliver real-world benefits to Australians through excellence in research, supporting access to nuclear technologies to improve health, providing expert advice to Government and leading the development of a nuclear workforce.

Through its nuclear science and technology capabilities, ANSTO has extensive expertise and experience in identifying and quantifying the mechanisms that influence how contaminants move through the environment and affect living organisms, ecosystems and people. ANSTO conducts and enables research to address some of Australia's and the world's most challenging environmental problems including providing data and insights to assist with planning and risk management associated with the offshore oil and gas sector. ANSTO has produced a number of scientific publications about potential risks associated with mercury in subsea oil and gas pipelines in Australia.

National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA)

The NOPSEMA Research Strategy identifies priorities relating to enhancing understanding of sources, transformation and fate of mercury related to offshore oil and gas, as well as research on best available techniques and best environmental practices to control releases of mercury and manage mercury waste.

Australian Antarctic Division (AAD)

The Australian Antarctic Division addresses critical issues relating to climate change, the human footprint in Antarctica, the conservation of Antarctic and Southern Ocean wildlife, and the sustainable management of Southern Ocean fisheries. Antarctic science is highly collaborative, bringing together researchers from across Australia and around the world. Australia's Antarctic scientific program includes a range of long-term observational activities in addition to targeted multidisciplinary environmental research activities in Antarctica, the sub-Antarctic and Southern Ocean.

Scientists from the Australian Antarctic Division have contributed to the first circumpolar assessment of mercury contamination in Antarctic marine ecosystems, critical for evaluation of the Minamata Convention's effectiveness.

Antarctic Monitoring and Assessment Programme (AnMAP)

The Antarctic Monitoring and Assessment Programme (AnMAP) is a body under the Scientific Committee on Antarctic Research established in June 2023. The AnMAP aims to deliver a circum-Antarctic research and surveillance programme focused on the major threats of organic contaminant pollution and climate-driven ecosystem change. It seeks to provide scientific information on threats to the Antarctic environment, and government advice as to preventative and remedial action. Researchers from the AnMAP have published their first mercury observation in humpback whales, Antarctic krill, fur seal and seabirds.

Mercury Australia Network

Mercury Australia is a network of Australian university researchers with diverse backgrounds, investigating the historical and contemporary uses and impacts of mercury. The network conducts research in Australasia to identify potential adverse effects of mercury on the environment and human health, as well as ways in which to mitigate those risks.

The aim of this network is to create new collaborations, and to translate the research results into publicly accessible information. Australian Government officials are members of this network and regularly engage in science-policy dialogues.

The Australian Research Council (ARC)

The Australian Research Council (ARC) is an independent Australian Government entity that is responsible for growing knowledge and innovation for the benefit of the Australian community through the provision of research funding, assessing the quality, engagement and impact of research, and providing advice on research matters.

22 Global Biodiversity and Chemical Frameworks

Kunming-Montreal Global Biodiversity Framework

According to a UN report on Mercury and Biodiversity, mercury poses a risk to many ecosystems, including tropical forests, wetlands, oceans and the Arctic. It impacts the physiology and survival of wildlife across different taxa, exerting further pressure on species that are already at risk from other drivers of biodiversity loss. Broader ecosystem functions and services are also impacted, such air filtration, water purification, and traditional and cultural values.

Recent research has found that 10% of anthropogenic mercury emissions annually (approximately 200 tonnes) are a result of deforestation. This represents a significant source of mercury pollution globally.

The Kunming-Montreal Global Biodiversity Framework was adopted in 2022 and sets out an ambitious pathway to reach the global vision of a world living in harmony with nature where “by 2050, biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all people”.

The Minamata Convention and the Kunming-Montreal Global Biodiversity Framework can contribute to, and benefit from, each other in a mutually supportive manner. Australia will continue to seek to identify opportunities for generating co-benefits through integrated implementation of the Minamata Convention and the Kunming-Montreal Global Biodiversity Framework.

Global Framework on Chemicals

The Global Framework on Chemicals (GFC) was adopted in September 2023 as a non-binding international agreement for the sound management of chemicals and waste worldwide. The GFC’s five strategic objectives and 28 targets contribute to achieving a vision of a planet free of harm from chemicals and waste for a safe, healthy, and sustainable future.

The GFC recognises the synergies between chemicals and waste and other global challenges, such as climate change, biodiversity loss, and health protection, and builds upon existing international agreements on chemicals, waste, and pollution prevention.

Australia has developed a National Plan of Action for the GFC which outlines the steps Australia is taking to support the achievement of the five strategic objectives and 28 targets of the GFC. Actions taken under the Minamata Convention will contribute to achieving strategic objectives and targets of the GFC.

Appendix A: Summary of actions in this Plan

Article 3: Mercury supply sources and trade

- Australia will continue to prohibit primary mercury mining.
- Australia will continue to implement national approaches to regulation and assessment that apply to the import, manufacture, export and use of mercury.
- Australia will strengthen domestic controls on industrial uses by scheduling mercury and mercury compounds on the Industrial Chemicals Environmental Management Standard (IChEMS) register in 2024-2025.

Article 4: Mercury-added products

- In 2024, Australia's Department of Health and Aged Care will consult on the next National Oral Health Plan for 2025-34.
- Australia will seek opportunities to improve supply chain transparency of information about mercury and mercury compounds in recycled materials and products through various initiatives including the National Framework for Recycled Content Traceability.

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

- Australia is assessing whether Australia will implement new prohibitions on using mercury in polyurethane manufacturing by 2025 and in sodium or potassium methylate or ethylate production by 2028 in line with new Minamata Convention obligations.

Articles 7 and 14: Artisanal and small-scale gold mining (ASGM); and capacity-building, technical assistance and technology transfer

- Australia will continue to encourage best environmental practices and alternative technologies to replace mercury use in artisanal and small-scale gold mining internationally.

Articles 8 and 9: Emissions to the air and releases to land and water

- Australia will continue to encourage all facilities apply best available techniques and best environmental practices to reduce or eliminate mercury pollution from facilities.
- Australia will continue to ensure all new or substantially modified facilities commencing operation in 2027 employ best available techniques and best environmental practices to control mercury emissions. Specifically, such facilities include coal-fired power plants; coal-fired industrial boilers; smelting and roasting processes used in the production of non-ferrous metals; waste incineration facilities; and cement clinker production facilities.
- Australia will continue to maintain an inventory of mercury emissions and releases through the National Pollutant Inventory.
- Australia is reviewing the existing Australian and New Zealand Guidelines for Fresh and Marine Water Quality to ensure the mercury default guideline values are protective and promote responsible and sustainable practices across various industries, including manufacturing, mining, and health care.

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

- Australian regulators will continue to implement site and activity-based permission frameworks, such as issuing licences, authorisations, and permits to ensure environmentally sound interim storage of mercury in accordance with Minamata Convention guidelines.

Article 11: Mercury waste

- Australia will facilitate best practice waste management practices for storage, transport and disposal.
- As a Party to the Basel Convention, Australia will continue to adopt Basel Convention guidelines to support the assessment of applications for hazardous waste import, transit, and export permits, including those containing mercury.
- Australia will continue to facilitate best practice mercury waste management in the oil and gas sector, particularly regarding offshore oil and gas decommissioning activities being led by the Department of Industry, Science and Resources and regulated by NOPSEMA.

Article 12: Contaminated sites

- Australia will continue to implement the National Environment Protection (Assessment of Site Contamination) Measure.

Articles 13 - 15: Technical assistance, financial resourcing and reporting

- Australia will continue to support the Global Environment Facility (GEF).
- Australia is committed to adhering to the reporting requirements of the Convention, as decided by the Conference of the Parties.

Articles 16-18: Health aspects, information exchange, public awareness and education

- Australia will continue to play an active role in information exchange by actively contributing to the global state of knowledge through the Global Mercury Partnership and the International Conference on Mercury as a Global Pollutant.
- The relevant Australian environmental, agricultural and health authorities will continue to ensure information is available to the general public and is updated as necessary, including digital information available in searchable databases.

Articles 19 and 22: Research, development and monitoring, and effectiveness evaluation

- Australia will continue to participate in research and development projects, and monitoring programs related to mercury at both the national and international level where possible.
- Australia will continue to provide information and data to the Convention Secretariat and other Parties to contribute to evaluating the effectiveness of the Convention, where practicable.

Appendix B: Legislation related to managing mercury

Please note: This list is not exhaustive and does not include all legislative instruments with relevance to mercury.

FEDERAL LEGISLATION	STATE AND TERRITORY LEGISLATION
Agricultural and veterinary chemicals	
Agricultural and Veterinary Chemicals Act 1994 *Agricultural and Veterinary Chemicals Code Act 1994*	*Agricultural and Veterinary Chemicals (New South Wales) Act 1994* *Pesticides Act 1999 (NSW)* *Agricultural and Veterinary Chemicals (Control of Use) Act 2004 (NT)* *Agricultural and Veterinary Chemicals (Northern Territory) Act 1994* *Agricultural and Veterinary Chemicals (Queensland) Act 1994* *Agricultural Chemicals Distribution Control Act 1966 (Qld)* *Chemical Usage (Agricultural and Veterinary) Control Act 1988 (Qld)* *Agricultural and Veterinary Chemicals (South Australia) Act 1994* *Agricultural and Veterinary Products (Control of Use) Act 2002 (SA)* *Agricultural and Veterinary Chemicals (Control of Use) Act 1995 (Tas)* *Agricultural and Veterinary Chemicals (Tasmania) Act 1994* *Agricultural and Veterinary Chemicals (Control of Use) Act 1992 (Vic)* *Agricultural and Veterinary Chemicals (Victoria) Act 1994* *Agricultural and Veterinary Chemicals (Western Australia) Act 1995*
Industrial chemicals	
Industrial Chemicals Act 2019 *Industrial Chemicals Environmental Management (Register) Act 2021* *Competition and Consumer Act 2010*	*Dangerous Substances Act 2004 (ACT)* *Environment Protection Act 1997 (ACT)* *Protection of the Environment, Operations Act 1997 (NSW)* *Dangerous Goods Act 1998 (NT)* *Dangerous Substances Act 1979 (SA)* *Environmental Protection Act 1993 (SA)* *Dangerous Goods Act 1985 (Vic)* *Environment Protection Act 2017 (Vic)* *Dangerous Goods Safety Act 2004 (WA)* *Environmental Protection Act 1986 (WA)* *Environmental Protection Act 1994 (Qld)* *Environmental Management and Pollution Control Act 1994 (Tas)*
Medicines, poisons, and therapeutic goods	
Therapeutic Goods Act 1989	*Medicines, Poisons and Therapeutic Goods Act 2008 (ACT)* *Medicines, Poisons and Therapeutic Goods Act 2022 (NSW)* *Poisons and Therapeutic Goods Act 1966 (NSW)* *Medicines, Poisons and Therapeutic Goods Act 2012 (NT)* *Medicines and Poisons Act 2019 (Qld)* *Therapeutic Goods Act 2019 (Qld)* *Controlled Substances Act 1984 (SA)* *Poisons Act 1971 (Tas)* *Drugs, Poisons and Controlled Substances Act 1981 (Vic)* *Therapeutic Goods (Victoria) Act 2010* *Medicines and Poisons Act 2014 (WA)*

Hazardous and other waste management, product stewardship and circular economy	
Hazardous Waste (Regulation of Exports and Imports) Act 1989 *Recycling and Waste Reduction Act 2020*	*Circular Economy Act 2023 (ACT)* *Waste Management and Resource Recovery Act 2016 (ACT)* *Waste Avoidance and Resource Recovery Act 2001 (NSW)* *Protection of the Environment, Operations Act 1997 (NSW)* *Plastic Reduction and Circular Economy Act 2021 (NSW)* *Environment Protection (Beverage Containers and Plastic Bags) Act 2011 (NT)* *Waste Management and Pollution Control Act 1998 (NT)* *Waste Reduction and Recycling Act 2011 (Qld)* *Plastic Shopping Bags (Waste Avoidance) Act 2008 (SA)* *Single-use and Other Plastic Products (Waste Avoidance) Act 2020 (SA)* *Zero Waste Act 2004 (SA)* *Litter Act 2007 (Tas)* *Waste and Resource Recovery Act 2022 (Tas)* *Circular Economy (Waste Reduction and Recycling) Act 2021 (Vic)* *Environment Protection Act 2017 (Vic)* *Waste Avoidance and Resource Recovery Act 2007 (WA)*
Environment protection, conservation, and contamination management	
Environment Protection (Sea Dumping) Act 1981 *Environment Protection and Biodiversity Conservation Act 1999* *Protection of the Sea (Prevention of Pollution from Ships) Act 1983* *Airports (Environment Protection) Regulations 1997* *Offshore Petroleum and Greenhouse Gas Storage Act 2006* *National Environment Protection Council Act 1994* *National Environment Protection Measures (Implementation) Act 1998*	*Environment Protection Act 1997 (ACT)* *Nature Conservation Act 2014 (ACT)* *Biodiversity Conservation Act 2016 (NSW)* *Protection of the Environment, Operations Act 1997 (NSW)* *Contaminated Land Management Act 1997 (NSW)* *Marine Pollution Act 2012 (NSW)* *Environment Protection Act 2019 (NT)* *Marine Pollution Act 1999 (NT)* *Coastal Protection and Management Act 1995 (Qld)* *Environment Protection Act 1994 (Qld)* *Nature Conservation Act 1992 (Qld)* *Environmental Protection Act 1993 (SA)* *Pollution of Waters by Oil and Noxious Substances Act 1987 (SA)* *Protection of Marine Waters (Prevention of Pollution from Ships) Act 1987 (SA)* *Environmental Management and Pollution Control Act 1994 (Tas)* *Natural Resource Management Act 2002 (Tas)* *Nature Conservation Act 2002 (Tas)* *Threatened Species Protection Act 1995 (Tas)* *Environment Protection Act 2017 (Vic)* *Flora and Fauna Guarantee Act 1988 (Vic)* *Marine and Coastal Act 2018 (Vic)* *Pollution of Waters by Oil and Noxious Substances Act 1986 (Vic)* *Biodiversity Conservation Act 2016 (WA)* *Contaminated Sites Act 2003 (WA)* *Environmental Protection Act 1986 (WA)* *Pollution of Waters by Oil and Noxious Substances Act 1987 (WA)* *Metropolitan Water Supply, Sewerage, and Drainage Act 1909 (WA)* *Country Areas Water Supply Act 1947 (WA)*
Work health and safety	
Work Health and Safety Act 2011	*Work Health and Safety Act 2011 (ACT)* *Work Health and Safety Act 2011 (NSW)*

	Work Health and Safety (National Uniform Legislation) Act 2011 (NT) *Work Health and Safety Act 2011 (Qld)* *Work Health and Safety Act 2012 (SA)* *Work Health and Safety Act 2012 (Tas)* *Occupational Health and Safety Act 2004 (Vic)* *Work Health and Safety Act 2020 (WA)*
National Environment Protection Measures (agreed at all levels of government)	
National Environment Protection (Air Toxics) Measure *National Environment Protection (Ambient Air Quality) Measure* *National Environment Protection (National Pollutant Inventory) Measure 1998* *National Environment Protection (Used Packaging Materials) Measure 2011* *National Environment Protection (Assessment of Site Contamination) Measure 1999* *National Environment Protection (Movement of Controlled Waste between States and Territories) Measure 1998*	
Public health	
National Health Security Act 2007	*Public Health Act 1997 (ACT)* *Public Health Act 2010 (NSW)* *Public and Environmental Health Act 2011 (NT)* *Public Health Act 2005 (Qld)* *Public Health Act 2011 (SA)* *Public Health Act 1997 (Tas)* *Public Health and Wellbeing Act 2008 (Vic)* *Public Health Act 2016 (WA)*
Import and export controls	
Customs Act 1901 *Customs (Prohibited Imports) Regulations 1956* *Customs (Prohibited Exports) Regulations 1958* *Biosecurity Act 2015*	
Airports	
Airports Act 1996 Airports (Environment Protection) Regulations 1997	

Appendix C: Controlled mercury-added products

The following table replicates the list of products listed in Annex A, Part I of the Minamata Convention as at June 2024 and contains Australia's phase-out dates. This Annex of the Convention was drafted to be dynamic, allowing updates to the list of prohibited products over time.

Under the Convention, there are specific exclusions relating to the product listings. These include:

- Products essential for civil protection and military use
- Products for research, calibration of instrumentation, for use as reference standard
- Where no feasible mercury-free alternative for replacement is available, switches and relays, cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for electronic displays, and measuring devices
- Products used in traditional or religious practices and
- Vaccines containing thiomersal as preservatives.

Table C1 Products subject to manufacturing, import and export prohibitions (phase-out)

Mercury-added product	Phase-out date in Australia
Batteries, except for button zinc silver oxide batteries with a mercury content < 2% and button zinc air batteries with a mercury content < 2%	7 March 2022
Switches and relays, except very high accuracy capacitance and loss measurement bridges and high frequency radio frequency switches and relays in monitoring and control instruments with a maximum mercury content of 20 mg per bridge, switch or relay	7 March 2022
Strain gauges used in plethysmographs	31 December 2025
Compact fluorescent lamps (CFLs) for general lighting purposes that are ≤ 30 watts with a mercury content exceeding 5 mg per lamp burner	7 March 2022
Linear fluorescent lamps (LFLs) for general lighting purposes: (a) Triband phosphor < 60 watts with a mercury content exceeding 5 mg per lamp; (b) Halophosphate phosphor ≤ 40 watts with a mercury content exceeding 10 mg per lamp	7 March 2022
High pressure mercury vapour lamps (HPMV) for general lighting purposes	7 March 2022
Melt pressure transducers, melt pressure transmitters and melt pressure sensors, except those installed in large-scale equipment or those used for high precision measurement, where no suitable mercury-free alternative is available	31 December 2025
Mercury vacuum pumps	31 December 2025
Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for electronic displays: (a) short length (≤ 500 mm) with mercury content exceeding 3.5 mg per lamp (b) medium length (> 500 mm and ≤ 1 500 mm) with mercury content exceeding 5 mg per lamp (c) long length (> 1 500 mm) with mercury content exceeding 13 mg per lamp	7 March 2022
Cold cathode fluorescent lamps and external electrode fluorescent lamps of all lengths for electronic displays not already phased out	31 December 2025

Mercury-added product	Phase-out date in Australia
Tyre balancers and wheel weights	31 December 2025
Photographic film and paper	31 December 2025
Propellant for satellites and spacecraft	31 December 2025
Cosmetics (with mercury content above 1 ppm), including skin lightening soaps and creams, and not including eye area cosmetics where mercury is used as a preservative and no effective and safe substitute preservatives are available	7 March 2022
Pesticides, biocides and topical antiseptics	7 March 2022
The following non-electronic measuring devices except non-electronic measuring devices installed in large-scale equipment or those used for high precision measurement, where no suitable mercury-free alternative is available: (a) barometers; (b) hygrometers; (c) manometers; (d) thermometers; (e) sphygmomanometers.	7 March 2022

Table C2 Future products likely to be subject to manufacturing, import and export prohibitions in Australia

In 2023, the Fifth Conference of the Parties to the Minamata Convention agreed to include additional products on the phase-out list in Annex A, Part I. The Australian Government is assessing whether Australia will implement these new prohibitions.

Mercury-added product	Minamata Convention phase-out date
Button zinc silver oxide batteries with a mercury content < 2% and button zinc air batteries with a mercury content < 2%	31 December 2025
Compact fluorescent lamps (CFLs) for general lighting purposes that are > 30 watts	31 December 2026
Compact fluorescent lamps with an integrated ballast (CFL.i) for general lighting purposes that are ≤ 30 watts with a mercury content not exceeding 5 mg per lamp burner	31 December 2025
Compact fluorescent lamps (CFLs) with a non-integrated ballast (CFL.ni) for general lighting purposes that are ≤30 watts with a mercury content not exceeding 5mg per lamp burner	31 December 2026
Linear fluorescent lamps (LFLs) for general lighting purposes: • Halophosphate phosphor ≤ 40 watts with a mercury content not exceeding 10mg per lamp • Halophosphate phosphor > 40 watts	31 December 2026
Linear fluorescent lamps (LFLs) for general lighting purposes: • Triband phosphor < 60 watts with a mercury content not exceeding 5 mg/lamp • Triband phosphor ≥ 60 watts with a mercury content not exceeding 5mg per lamp • Triband phosphor ≥ 60 watts with a mercury content exceeding 5mg per lamp	31 December 2027
Non-linear fluorescent lamps (NFLs) (e.g., U-bend and circular) for general lighting purposes: • Triband phosphor, all wattages • Halophosphate phosphor, all wattages	31 December 2027 31 December 2026
Cosmetics, including skin-lightening soaps and creams, and not including eye area cosmetics where mercury is used as a preservative and no effective and safe substitute preservatives are available. (The intention is not to cover cosmetics, soaps or creams with trace contaminants of mercury)	31 December 2025
Very high accuracy capacitance and loss measurement bridges and high frequency radio frequency switches and relays in monitoring and control instruments with a maximum mercury content of 20mg per bridge switch or relay except those used for research and development purposes.	31 December 2025

Appendix D: Dental amalgam phase-down measures in Australia

Phase-down measure	How it is implemented in Australia
i. Setting national objectives aiming at dental caries prevention and health promotion, thereby minimising the need for dental restoration.	Australia's National Oral Health Plan 2015-2024 sets national objectives aimed at dental caries prevention and health promotion. Stakeholder engagement will commence in 2024 on the strategic priorities for the next Plan for 2025-34.
ii. Setting national objectives aiming at minimising its use.	-
iii. Promoting the use of cost-effective and clinically effective mercury-free alternatives for dental restoration.	-
iv. Promoting research and development of quality mercury-free materials for dental restoration.	In 2019, the Australian Government awarded a AUD$3 million research grant to SDI Limited for "Dentistry without mercury – Glass fibre reinforced flowable dent composite". According to SDI, this new material's mechanical properties nearly match those of amalgam.
v. Encouraging representative professional organisations and dental schools to educate and train dental professionals and students on the use of mercury-free dental restoration alternatives and on promoting best management practices.	Australia's professional organisations and dental schools educate and train in the use of mercury-free dental restoration materials.
vi. Discouraging insurance policies and programmes that favour dental amalgam use over mercury-free dental restoration.	-
vii. Encouraging insurance policies and programmes that favour the use of quality alternatives to dental amalgam for dental restoration.	-
viii. Restricting the use of dental amalgam to its encapsulated form.	Dental practitioners are held to a code of conduct that is tied to industry best practice articulated through mechanisms such as Position Statements. The Dental Board of Australia has published a Position Statement on dental amalgam.
ix. Promoting the use of best environmental practices in dental facilities to reduce releases of mercury and mercury compounds to water & land.	Australia's state and territory environment protection and health frameworks control releases of mercury from facilities, which can include dental clinics. Some examples include: • NSW Health - Dental Amalgam Clinical Use and Disposal – Guideline • Queensland Health Guideline – Use of Dental Amalgam • Queensland Government Department of Environment, Science and Innovation Guideline – Clinical and Related Waste

Following the tightening of controls on dental amalgam under the Convention in 2022, the Dental Board of Australia published a Position Statement on dental amalgam which:

- Does not allow the use of mercury in bulk form by dental practitioners; and
- Stipulates that the use of dental amalgam for the dental treatment of deciduous teeth, of patients under 15 years, and of pregnant and breastfeeding women is not recommended, except when considered necessary by the dental practitioner based on the needs of the patient.

Appendix E: Controlled manufacturing processes

The following table replicates the list of manufacturing processes in Annex B of the Minamata Convention as at June 2024 and contains Australia's phase out dates. This Annex of the Convention was drafted to be dynamic, allowing updates to the list of manufacturing processes over time.

In 2023, the Fifth Conference of the Parties to the Minamata Convention agreed to phase-out two additional manufacturing processes. The Australian Government is assessing whether Australia will implement the new prohibitions on using mercury catalysts in polyurethane manufacturing by 2025, and sodium or potassium methylate or ethylate production by 2028.

Table E1 Prohibited manufacturing processes using mercury or mercury compounds

Manufacturing process	Phase-out Date in Australia
Chlor-alkali production	31 December 2025
Acetaldehyde production in which mercury or mercury compounds are used as a catalyst	7 March 2022

Table E2 Controlled manufacturing processes using mercury or mercury compounds

Manufacturing process	Provisions to restrict mercury use
Vinyl chloride monomer production	Measures to be taken by the Parties shall include but not be limited to: (i) Reduce the use of mercury in terms of per unit production by 50 per cent by the year 2020 against 2010 use; (ii) Promoting measures to reduce the reliance on mercury from primary mining; (iii) Taking measures to reduce emissions and releases of mercury to the environment; (iv) Supporting research and development in respect of mercury-free catalysts and processes; (v) Not allowing the use of mercury five years after the Conference of the Parties has established that mercury-free catalysts based on existing processes have become technically and economically feasible; (vi) Reporting to the Conference of the Parties on its efforts to develop and/or identify alternatives and phase out mercury use in accordance with Article 21.
Sodium or Potassium Methylate or Ethylate	Measures to be taken by the Parties shall include but not be limited to: (i) Measures to reduce the use of mercury aiming at the phase out of this use as fast as possible and within 10 years of the entry into force of the Convention; (ii) Reduce emissions and releases in terms of per unit production by 50 per cent by 2020 compared to 2010; (iii) Prohibiting the use of fresh mercury from primary mining; (iv) Supporting research and development in respect of mercury-free processes; (v) Not allowing the use of mercury five years after the Conference of the Parties has established that mercury-free catalysts based on existing processes have become technically and economically feasible; (vi) Reporting to the Conference of the Parties on its efforts to develop and/or identify alternatives and phase out mercury use in accordance with Article 21.

Manufacturing process	Provisions to restrict mercury use
Production of polyurethane using mercury containing catalysts	Measures to be taken by the Parties shall include but not be limited to: (i) Taking measures to reduce the use of mercury, aiming at the phase out of this use as fast as possible, within 10 years of the entry into force of the Convention; (ii) Taking measures to reduce the reliance on mercury from primary mercury mining; (iii) Taking measures to reduce emissions and releases of mercury to the environment; (iv) Encouraging research and development in respect of mercury-free catalysts and processes; (v) Reporting to the Conference of the Parties on its efforts to develop and/or identify alternatives and phase out mercury use in accordance with Article 21.