



**UNITED NATIONS
ENVIRONMENT PROGRAMME**



CHEMICALS

**GLOBAL
MERCURY
ASSESSMENT**

APPENDIX

**OVERVIEW OF EXISTING AND FUTURE
NATIONAL ACTIONS, INCLUDING LEGISLATION,
RELEVANT TO MERCURY**

AS OF 1 NOVEMBER 2002

TABLE OF CONTENTS	Page
Background	1
Table - Overview of existing and future national actions, including legislation, relevant to mercury	
I. African States	3
II. Asian States	13
III. Eastern European States	24
IV. Latin American and Caribbean States	34
V. Western European and other States – PART 1	41
V. Western European and other States – PART 2	56

BACKGROUND

This document contains a compilation of information with regards to ongoing and future national actions on mercury, submitted to UNEP as part of the implementation of UNEP Governing Council decision 21/5 on the Global Mercury Assessment.

It has been assembled after a review of the submitted information, as received by 16 September 2002, in order to identify and compile specific information for each reporting country relating to ongoing or future national actions, including legislation. In addition, national information has been supplemented by input from the respective national members of the Working Group for the Global Mercury Assessment. The tables might provide an overview, by region, of how mercury use and emissions are controlled in various countries of the world.

In the table, national actions, including legislation, are reported according to the following grouping:

- A.** Environmental quality standards, specifying a maximum acceptable mercury concentration for different media, such as:
 - a) Drinking water;
 - b) Surface water;
 - c) Ground water;
 - d) Irrigation water;
 - e) Air (urban air, indoor air, background, etc);
 - f) Soil;
 - g) Food standards, specifying a maximum acceptable mercury concentration for different food categories, such as fish and seafood, milk, meat; cereals, etc.
- B.** Environmental source actions and regulations that control mercury releases into the environment;
 - a) Air and water point sources, such as:
 - Chlor-alkali industry;
 - Energy production;

- Gas and petroleum processing;
 - Gold mining;
 - Metal mining and production;
 - Waste treatment including incineration;
 - Crematoria;
 - Sewage water;
 - Dental sector;
 - Other point sources.
- b) Waste disposal restrictions, such as:
- Waste from outdated products;
 - Specific waste from different industrial activities;
 - Treated wastewater;
 - Sewage sludge.
- C. Product control actions and regulations for mercury-containing products;
- a) General use of mercury
- b) Specific products containing mercury, such as:
- Batteries
 - Cosmetics
 - Dental amalgams
 - Lighting and electrical equipment
 - Paints/pigments
 - Pesticides (seed dressing)
 - Pharmaceuticals
 - Thermometers
 - Vehicles
 - Other products
- c) Import/export
- D. Other actions, standards and programs relevant to mercury;
- a) Regulations on occupational exposures to mercury in the workplace (occupational safety and health);
- b) Classification, marketing and use, packaging and labelling regulations;
- c) Information and reporting requirements;
- d) Monitoring programmes;
- e) Voluntary reduction programmes;
- f) Implementation of international conventions and programs.

It should be noted that absence of information in a specific cell means that no information was submitted - it cannot necessarily be interpreted as no national action taken or legislation applicable for the listed country.

Table - Overview of existing and future national actions, including legislation, relevant to mercury

I. AFRICAN STATES - Standards for environmental media, Actions and regulations that control releases from environmental sources that contain mercury, Actions and regulations on products that contain mercury and Other standards, actions and programmes relevant to mercury

COUNTRY	GMA SUB-MISSION	STANDARDS FOR ENVIRONMENTAL MEDIA maximum acceptable mercury concentration for different media	ACTIONS AND REGULATIONS THAT CONTROL RELEASES FROM ENVIRONMENTAL SOURCES that contain mercury	ACTIONS AND REGULATIONS ON PRODUCTS that contain mercury	OTHER STANDARDS, ACTIONS AND PROGRAMMES relevant to mercury
Algeria	-				International instruments – Algeria has ratified the Basel Convention.
Angola	-				
Benin	Yes				There are no measures in place to reduce the release of mercury in Benin. International instruments – Benin has ratified the Basel Convention.
Botswana	-				International instruments – Botswana has ratified the Basel and Stockholm Conventions.
Burkina Faso	Yes		Waste treatment – National regulations on waste management exist (Code de l'Environnement, Code de Santé publique). In addition, Member States of the Organization of African Unity are currently working on harmonization of waste management regulations.		There are no current or future plans at national level to restrict the use of mercury in Burkina Faso. International conventions - Burkina Faso has ratified the Basel Convention and participates in implementation of the Rotterdam Convention and the Stockholm Convention.
Burundi	Yes	Water – Application of the WHO norm for drinking water quality for mercury of 0.001 mg/l. Foodstuffs – No measurements of mercury levels in fish have been done, and mercury levels in fish from Lake Tanganyike are thus not known.	Water – A sewage treatment plant has been built, but is not yet functioning, due to lack of financial backing because of the socio-political insecurity in the country since 1993. The National Institute for Environment and Conservation of Nature (INECN) has proposed a norm for mercury content in industrial waste water: not above 0.05 mg/l.	General – An Environmental Code was adopted in June 2000 prohibiting all forms of pollution. Regulations concerning specific pollutants have not yet been developed. Pesticides – Import and use of mercury and mercury compounds as a pesticide in agriculture are prohibited.	Occupational health and safety – Applied/proposed norm for mercury in air (based on information provided by GTZ and KFW): not above 5 mg/Mm ³ . International instruments – Burundi has ratified the Basel Convention.
Cameroon	Yes		Gold mining – Cameroon has requested assistance from UNIDO to prepare a report on how to avoid mercury pollution resulting from artisanat or gold mining. This report is still expected and will go a long way to help in management of mercury pollution. Waste treatment – Law No. 96/12 of 5 August 1996 regulating industrial waste management. Enquiry Brigade and Environmental Inspections has started monitoring companies which release potentially toxic wastes in the environment in Douala	Cosmetics - Inter-ministerial order No. 19-AI-MSP-SP-DMPHP-SHPA of 27 th July 1989 and 19-AI-MINDIC-DC-CDCC which banned the importation, commercialization and usage of cosmetic products containing more than 2% of mercury. Under this order, 12 soaps and 13 creams were banned.	International instruments – Cameroon has ratified the Basel Convention and the Rotterdam Convention. It has also prepared the instruments to be a Party to the UN ECE LRTAP Convention and protocols, Abidjan Convention on protection of marine and coastal zones of West and Central Africa and Bamako Convention on prohibiting the importation of toxic wastes in Africa.

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COUNTRY	GMA SUB-MISSION	STANDARDS FOR ENVIRONMENTAL MEDIA maximum acceptable mercury concentration for different media	ACTIONS AND REGULATIONS THAT CONTROL RELEASES FROM ENVIRONMENTAL SOURCES that contain mercury	ACTIONS AND REGULATIONS ON PRODUCTS that contain mercury	OTHER STANDARDS, ACTIONS AND PROGRAMMES relevant to mercury
			and other industrial cities. Those not complying with the law are being sanctioned. Strategic plans are on the way not only to monitor mercury but other forms of pollutants present in the country.		
Cape Verde	Yes				No information was provided with regards to legislation or ongoing activities to reduce release of mercury in Cape Verde. International instruments – Cape Verde has ratified the Basel Convention.
Central African Republic	-				
Chad	Yes		Waste treatment - In order to regulate waste and restrict its disposal, including waste management practices, Chad has passed the law – Loi 14/PR/98 définissant les principes généraux de la protection de l'environnement. Implementation of this law is underway.		
Comoros	-				International instruments – Comoros has ratified the Basel Convention.
Congo	-				
Côte d'Ivoire	Yes				No information was provided with regards to legislation or ongoing activities to reduce release of mercury in Côte d'Ivoire. International instruments – Côte d'Ivoire has ratified the Basel Convention.
Democratic Republic of the Congo	-				International instruments – Democratic Republic of Congo has ratified the Basel Convention.
Djibouti	-				International instruments – Djibouti has ratified the Basel Convention.
Egypt	-				International instruments – Egypt has ratified the Basel Convention.
Equatorial	-				

Guinea					
Eritrea	-				
Ethiopia	-				International instruments – Ethiopia has ratified the Basel Convention.
Gabon	-				
Gambia	Yes			Import/export - A decision to ban the importation of mercury into Gambia was taken by the Hazardous Chemicals and Pesticides Control and Management Board in November 1997.	International instruments – The Gambia has ratified the Basel Convention, the amendment to the Basel Convention and the Rotterdam Convention.
Ghana	Yes		<p>Water point sources - The Ghana Environmental Protection Agency's effluent quality guideline stipulates a maximum level of mercury in industrial effluent that can be discharged into external media as 0.005 mg/litre.</p> <p>Gold mining - Recent research and previous assessment made, has led to some steps being taken to control the mercury release or pollution in the country. The measures include;</p> <ul style="list-style-type: none"> • Encouraging the formation of co-operatives in order to construct central processing plant which uses alternative processing methods other than gold amalgamation; • Intensifying the education awareness creation among the artisanal mining community. <p>Furthermore, the EPA and other mining sector institutions have urged UNIDO through French Government financing to extend the said research to other proposed hot spots in the country.</p>	Import/export - In 1989, the Government of Ghana enacted a law, PNDC Law 217 which restrict the importation and distribution of mercury. The law requires that any company/individual who wish to deal (importation and distribution) in mercury shall require a license from the Minister responsible for Trade and Industry.	
Guinea	Yes		<p>No current or future activities are ongoing/planned relating to emissions of mercury.</p> <p>Waste treatment: No specific activities relevant to mercury at the moment. However, regarding the management of hazardous waste, Guinea bases itself on its environmental code and the provisions of the Basel and Bamako Conventions, of which Guinea is a contracting Party.</p> <p>In the future, Guinea plans to develop national regulations for the safe management of hazardous wastes in accordance with the</p>	Two regulations prohibiting the production, import and all forms of use of mercury and mercury compounds within industry and agriculture are being finalized - one at the Ministry of Environment and the other at the Ministry of Agriculture.	International instruments - Guinea has ratified the Basel Convention and the Rotterdam Convention.

Table - Overview of existing and future national actions, including legislation, relevant to mercury

I. AFRICAN STATES - Standards for environmental media, Actions and regulations that control releases from environmental sources that contain mercury, Actions and regulations on product sources that contain mercury and Other standards, regulations and programmes relevant to mercury

COUNTRY	GMA SUB-MISSION	STANDARDS FOR ENVIRONMENTAL MEDIA maximum acceptable mercury concentration for different media	ACTIONS AND REGULATIONS THAT CONTROL RELEASES FROM ENVIRONMENTAL SOURCES that contain mercury	ACTIONS AND REGULATIONS ON PRODUCTS that contain mercury	OTHER STANDARDS, ACTIONS AND PROGRAMMES relevant to mercury
			provisions of the Basel and Bamako Conventions.		
Guinea-Bissau	-				
Kenya	Yes	<p>Drinking water - Standards for drinking water according to Kenya Standards KS03-459:1985 is 0.001mg/l.</p> <p>Foodstuffs - According to Kenya Standards KS05-1774:2002 Root tubers such as cassava shall contain mercury not more than 0.001 pmm.</p>	<p>Small-scale gold mining - Mines and Geological Department of the Ministry of Environment and Natural Resources has proposed a project to: study the effects of mercury poisoning in people in the artisan gold mining areas and how these effects can be eliminated and advise the small-scale miners on the safe ways to process gold.</p> <p>Chlor-alkali - Chlor alkali plant in Pan African Paper Mills is of the diaphragm type and has electrolytic cells with Titanium anodes as opposed to mercury ones as in the mercury type cells.</p> <p>Waste treatment - Nairobi City Council has drafted by-laws on Solid Waste Management which will create a comprehensive legal framework for the management of waste in the city of Nairobi. Also it will draft a policy on private sector involved in the solid waste management. Master plan in solid waste management in Nairobi City has been completed with assistance from Japan International Co-operating Agency (JICA) with a view of improving public cleanliness and public health and protect the environment within the city.</p> <p>Medical waste - Ministry of Health, Division of Dental Health is drafting a National Policy on Health Care and Waste Management</p>	<p>Cosmetics - Kenya has classified cosmetics as KS03-1474: PART2: Classification of cosmetics raw materials and substances which must not form part of the cosmetic product. Mercury being one of them. Hence products with mercury are banned in Kenya.</p> <p>KS03-1511: Clause 5.4; the total amounts of heavy metals like mercury in finished products shall not be more than 20ppm.</p> <p>Dental amalgam - KS/CD03-09. Specifications for dentistry alloys for amalgams mercury shall not exceed 3 per cent.</p> <p>Health sector: Division of Dental Health has recommended the following:</p> <ul style="list-style-type: none"> • Since mercury is toxic and Bio-accumulative, its benefits against disadvantages need to be weighed. • Consider use of alternative mercury free dental products. • Change composition of dental amalgam. • Need to establish what happens to mercury in Mobile Clinics. • Safety guidelines on the disposal of amalgams waste. • Need to regulate incinerators of waste from health institutions, which might contain spilled mercury from broken thermometers. <p>Paints - Mercury is no longer used in the manufacture of paints.</p> <p>Pesticides - Since 1986 to date, no pesticidal products containing mercury have</p>	<p>Products - According to CAP496, Laws of Kenya, involves fulltime operations of Kenya Bureau of Standards to ensure products evaluation and testing surveillance of imported products at points of entry e.g. Ports of Mombasa and Kisumu, International Airports of Nairobi, Mombasa and Eldoret.</p> <p>Regular market surveys and sampling of products from Supermarkets, Shops and all outlets to test for their compliance to Kenyan Standards (KS). Where samples of products are found to be failing to comply with the standards, befitting action is taken as provided for in the Act of the Laws of Kenya. Development of Standards to cover mercury related issues are being formulated.</p> <p>General - The Environmental Management and Co-ordination Act, 1999 has established National Environment Management Authority (NEMA) which entitled every body to a clean and healthy environment and has the duty to safeguard and enhance the environment. The Authority has established a Standards and Enforcement Review Committee which will:</p> <ul style="list-style-type: none"> • Recommend the minimum water quality standards for all the waters of Kenya and from different uses. • Record measures necessary for treatment of effluent before being discharged into the sewage system • Set quality standards and classification of hazardous waste. • Prepare and submit draft standards for the concentration of pesticides residue in raw agricultural commodities, processed foods and animal feeds.

				been imported into the country, hence no mercury pesticides are in use in Kenya as reported by the Pest Control Products Board.	International instruments – Kenya has ratified the Basel Convention.
Lesotho	Yes	Drinking water – The Water and Sewerage Authority (WASA) purifies its water by treating it according to WHO drinking water standards: 0.001 mg mercury/l.	Water point sources - Lesotho general standard of discharge to a public sewer (WASA, 1997): 0.1 mg mercury/l.	Pesticides – Two mercury-based pesticides, used as a dip for potatoes and as a seed dressing for seed-borne diseases in grain crops, are reported discontinued. Pharmaceuticals - Mercurochrome is used extensively for dressing wounds in Lesotho. However, local pharmacists indicate that although the term Mercurochrome is used, in actual fact it does not contain any mercury at all.	No substantial initiatives have so far been taken to regulate the use of mercury at national level. However, the government has recently enacted the Environmental Act 2001, which incorporates sections relating to management of dangerous materials and management of hazardous waste. This is a generic umbrella law, which does not address specific issues, such as regulating the use of mercury. Specific issues will be addressed by regulations promulgated as provided for in the bill. Currently, the Government is promulgating regulation for control of Ozone Depleting Substances. Occupational safety and health - From the Occupational Health and Safety point of view, the issue of chemicals is lightly addressed by two pieces of legislation, Public health Order of 1970 and Labour Code Order of 1992, to address public health care and safety, and good health at workplace, respectively. Voluntary reduction programmes - To limit the use and exposure to mercury and its by-products, a number of institutions have reported to have drastically reduced their mercury consumption during the past five years. To minimise release to the environment, of obsolete mercury waste, stockpiles are safely stored and waiting for the government to devise strategy and method of its disposal. International instruments - Lesotho has ratified the Basel Convention and Stockholm Convention.
Liberia	-				International instruments – Liberia has ratified Stockholm Convention.
Libyan Arab Jamahiriya	-				International instruments – Libyan Arab Jamahiriya has ratified Basel Convention and the Rotterdam Convention.
Madagascar	Yes				No activities are ongoing or planned to reduce the use of mercury and mercury compounds and release to the environment. International instruments – Madagascar has ratified the Basel Convention.
Malawi	-				International instruments – Malawi has rati-

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					ified the Basel Convention.
Mali	-				International instruments – Mali has ratified the Basel Convention.
Mauritania	-				International instruments – Mauritania has ratified the Basel Convention.
Mauritius	Yes	<p>Drinking water - Standards for Drinking Water: 0.001 mg/l;</p> <p>Surface water - Guidelines for inland surface water: 0.1 : g/l;</p> <p>Guidelines for coastal water quality: 0.0005 mg/l;</p> <p>Foodstuffs - The Food Act 2000 has an action level for mercury of 1 ppm in fish.</p>	<p>Water point sources -Draft standards for effluent discharge onto land, underground and surface water course: 0.005 mg/l;</p> <p>Draft standards for effluent discharge into the ocean: 10 : g/l;</p> <p>Waste disposal restrictions - Draft standards for treated wastewater for use in irrigation: 0.02 mg/l.</p>	<p>Batteries - Mercury batteries are no longer used. Mercury batteries have been replaced by Cd/Ni batteries. A national campaign was launched to collect all mercury battery/cells a few years ago. The problem is of disposal/ recycling. There is an ongoing sensitisation programme for the collection of mercury buttons until a policy decision is taken regarding their safe disposal.</p> <p>Paints - Mercury is no longer used in paints.</p> <p>Pesticides - Pesticides containing mercury have been banned. Mercury was used as a fungicide but has been replaced by safer substitutes.</p>	<p>In the draft standards for Hazardous Waste and Dangerous Chemical Bill, mercury is considered to be hazardous and dangerous respectively.</p> <p>Occupational health and safety - The Occupational Safety, Health and Safety Act limits the mercury occupational exposure standard of 0.05 mg/ m³.</p> <p>The biological exposure limit is 5 : g/m³ of blood. However, no regulatory limit exists for airborne exposure to mercury outside of an occupational setting.</p> <p>International instruments – Mauritius has ratified the Basel Convention.</p>
Morocco	Yes	<p>Drinking Water - National norm regarding drinking water quality: 1 : g/l.</p> <p>Irrigation water - National norm regarding irrigation water quality: 1 : g/l.</p>	<p>Air and water point sources - Limit value for direct emissions: 50 : g/l. Limit values for indirect emissions: 50 : g/l.</p> <p>Waste treatment – The Waste bill stipulates that hazardous waste as given in a specific list, can only be regenerated or eliminated in authorized waste treatment installations that conform with the provisions of the law and its regulations. A hazardous waste destruction facility is under preparation, in cooperation with the German technical assistance organization.</p>		<p>A Moroccan Cleaner Production Centre has also been established, aimed at promoting environmentally sustainable industrial production.</p> <p>International instruments – Morocco has ratified the Basel Convention.</p>
Mozambique	-				International instruments – Mozambique has ratified the Basel Convention.
Namibia	-				International instruments – Namibia has ratified the Basel Convention.

Niger	-				International instruments – Niger has ratified the Basel Convention.
Nigeria	Yes	<p>Drinking water - Mercury is not allowed in drinking water.</p> <p>Air quality- The prescribed tolerant limit for safe levels of specific mercury as air pollutant tolerable to humans, aquatic organism and vegetation is 0.0003mg/m³ Hg for 24 hours (long term).</p>	<p>Emissions to air - Guidelines for emission limits from stationary sources have been set. These represent maximum allowable levels of pollutants from a site, process, stack, vents etc with the objective of achieving a desired air quality. The emission limits for mercury substance is set at 1.0 – 230 mg/m³.</p> <p>Emissions to water – The effluent limitation of 0.05mg/l Hg is specified as limit for discharge into surface water at less than 40^oC within 15 meters of outfall for all categories of industries. Alkyl mercury compounds must not be detectable in effluent both for discharge into surface water and for land application.</p> <p>The maximum concentration allowed for discharge into inland waters for specific industries are as follows:</p> <p>Metalworking, Plating and finishing wastewater is 0.01mg/l .Hg.</p> <p>In plastic and synthetics industries, mercury was identified as one of the problem parameters in wastewater along with plasticisers and PCBs. The standards are currently under review.</p> <p>The max. concentration of mercury for ground water protection standard = 0.002mg/l. This guideline applies to owners and operators of facilities that treat, store or dispose of dangerous waste in surface impoundments, waste piles, land treatment units or landfills.</p> <p>The Federal Ministry of The Environment usually schedules visits to facilities to inspect, monitor and enforce compliance with the prescribed standards and regulations. Dialogue is engaged in. Sanctions are applied to defaulters and ‘Environment Friendly Industry Awards’ are given to complying facilities. This is to encourage sustainability by complying facilities and to promote compliance by defaulters.</p> <p>Waste treatment - Solid Waste: Toxicity of solid wastes are characterised based on concentration levels of contaminants they contain using Extraction Procedure Test</p>	<p>Batteries - No mercury is allowed in batteries.</p> <p>Cosmetics - Mercury Iodide is banned in cosmetics. This was also re-emphasized on 2nd of August 2002 by National Food and Drugs Administration Control (NAFDAC).</p> <p>Dental amalgam - The allowed mercury in dental amalgam capsule is 0.3g.</p>	International instruments - Nigeria has ratified the Basel Convention and Rotterdam Convention.

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			Method. Any solid waste which exhibits the characteristics of extraction procedure (EP) toxicity assigned to mercury in the guideline and standards is assigned maximum concentration values ranging from >20mg/l EHW (extremely Hazardous Waste) to 0.2-20mg/l DW (Dangerous Waste). In petroleum operations, the maximum concentration of mercury contaminant in petroleum waste must not exceed EP toxicity of 0.2mg/l.		
Rwanda	-				International instruments – Rwanda has ratified Stockholm Convention.
Sao Tome & Principe	-				
Senegal	Yes	Water - In the water industry, mercury is not controlled regularly (lack of equipment) but until January 2001, its level was about 2.10^{-4} mg/l of water (from Lac de Guiers) after treatment at Dakar. Foodstuffs - In the food trade sector, the Food Technology Institute controls mercury only in the fish. Threshold limits are: <ul style="list-style-type: none"> • 0,50 mg(Hg)/kg for fish(pelagic) • 0,70 mg(Hg)/kg for swordfish, tuna and shark. 	Air and water point sources - The standards of mercury are not precisely defined for waste waters and atmospheric emission. The national commission for management of chemical products which is charged with the development and implementation of the national strategy and action plan has to harmonize that question and to coordinate all the actions against the global adverse impact of mercury.		International instruments - Senegal has ratified the Basel Convention and Rotterdam Convention.
Seychelles	Yes				No information was provided with regards to legislation or ongoing activities to reduce release of mercury in Seychelles. International instruments – Seychelles has ratified the Basel Convention.
Sierra Leone	-				
Somalia	-				

South Africa	-				International instruments – South Africa has ratified the Basel Convention, the Rotterdam Convention and the Stockholm Convention.
Sudan	-				
Swaziland	-				
Togo	-				
Tunisia	-				International instruments – Tunisia ratified Basel Convention and its amendment.
Uganda	-				International instruments – Uganda has ratified the Basel Convention.
United Republic of Tanzania	Yes	<p>Water-Drinking water – Standards for drinking water: 0.001 mg/l.</p> <p>Water for use in feeding domestic animals, fisheries, shell-cultures, recreation: 0.001 mg/l.</p> <p>Irrigation water: 0.005 mg/l.</p> <p>Water for industrial activities: 0.005 mg/l.</p>	<p>Water point sources - Maximum permissible value for direct discharge into receiving water: 0.005 mg/l. Maximum permissible value for indirect discharge into receiving water e.g. via municipal sewage treatment plant: 0.005 mg/l.</p> <p>Mining – The issue of environmental protection has been enshrined in the legal framework of the mining sector Amendment 1999 of the Mining Act.</p> <p>Small-scale gold mining – Small-scale gold mining with mercury occurs in Tanzania, causing pollution that endangers the health of both miners and local residents (through food or breathing of contaminated air)</p> <p>The Government has, in collaboration with UNIDO/GEF and JICA, instituted a national programme to create awareness on the dangers of mercury to health and environment. The programme also promotes the minimization of mercury use in gold mining and the introduction of better handling practises while improving the income of miners, through more effective recovery. Simple technologies like affordable retorts have also been introduced. Other measures include a code of conduct and regulations regarding the use of mercury by artisanal and small-scale miners.</p>	<p>Chemicals –The preparation of legislation for control of Industrial Consumer Chemicals expected to be enacted by 2002.</p> <p>Cosmetics and soaps – In 1986 the Government through the Ministry of Health issued a press release to prohibit the use of products containing mercury such as soaps, cosmetics, etc.</p> <p>Pesticides – Pesticides containing mercury have been banned and they are no longer imported.</p>	<p>Reduction programmes - To limit the use and exposure to mercury and its products, a number of efforts have been taken:</p> <ul style="list-style-type: none"> • A national programme to create awareness on the dangers of mercury to health and the environment has been instituted. • A Cleaner Production Centre of Tanzania (CPCT) has been established to promote sustainable industrial production • A Presidential Award has been initiated to promote environmental quality in mining activities • Environmental committees have been set up in the mining centres to assist the control of the use of mercury • A book in popular language on artisanal and small-scale mining and illustrative posters covering the core subjects of interest to miners has been produced. • On site training and chemical safety awareness campaigns i.e. through workshops, radio and newspapers are being conducted at different levels and groups of people including the decision makers • Database on engineering firms and fabricating workshops that produce simple, low-cost equipment/ technologies have been established. <p>International instruments – Tanzania has ratified the Basel Convention and its amendment and the Rotterdam Convention.</p>
Zambia	-				International instruments – Zambia has ratified the Basel Convention.
Zimbabwe	-	Drinking water: Use of WHO aes-	Water point sources – Effluent control	Cosmetics – Statutory Instrument 247 of	International instruments – Zimbabwe is in

I. AFRICAN STATES - Standards for environmental media, Actions and regulations that control releases from environmental sources that contain mercury, Actions and regulations on product sources that contain mercury and Other standards, regulations and programmes relevant to mercury

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		thetic quality guidelines. Foodstuffs – Used Codex Alimentarius recommendations.	regulations under the Zimbabwe National Water Act. Waste treatment – Statutory Instrument 37 of 2000 defines mercury and mercury bearing wastes as hazardous and should be properly treated and disposed of.	2000, states that products with mercury compounds are banned. Pesticides – According to Statutory Instrument 282 of 1996 use of mercury and its products is restricted/banned.	the process of ratifying the Basel Convention.

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II. ASIAN STATES - Standards for environmental media, Actions and regulations that control releases from environmental sources that contain mercury, Actions and regulations on product sources that contain mercury and Other standards, regulations and programmes relevant to mercury

COUNTRY	GMA SUB-MISSION	STANDARDS FOR ENVIRONMENTAL MEDIA maximum acceptable mercury concentration for different media	ACTIONS AND REGULATIONS THAT CONTROL RELEASES FROM ENVIRONMENTAL SOURCES that contain mercury	ACTIONS AND REGULATIONS ON PRODUCTS that contain mercury	OTHER STANDARDS, ACTIONS AND PROGRAMMES relevant to mercury
Afghanistan	-				
Bahrain	Yes		<p>Gold extraction - Pure mercury was imported for gold extraction from gold waste in the gold smithing industry, however, import of mercury for this purpose has been banned by the Ministry of Environmental Affairs.</p> <p>Waste treatment - Mercury waste is classified as toxic waste, and should be disposed of under the control and supervision of the Ministry of Environmental Affairs.</p>	<p>General use of mercury - Ministerial Order of Banned and Severely Restricted Hazardous Chemicals, to be issued soon. Handling of mercury and its impact on the environment and human health have been controlled through this Ministerial Order.</p> <p>Use of mercury in open systems or processes prohibited. In some essential uses, mercury is permitted under special circumstances utilizing precautionary measures and in closed systems or processes only.</p>	<p>International instruments – Bahrain has ratified the Basel Convention.</p>
Bangladesh	-				<p>International instruments – Bangladesh has ratified the Basel Convention.</p>
Bhutan	-				<p>International instruments – Bhutan has ratified the Basel Convention.</p>
Brunei Darussalam	-				
Cambodia	-				<p>International instruments – Cambodia has ratified the Basel Convention.</p>
China	Yes	<p>Air – Maximum concentration limit for living area: 0.0003 mg/m³ (daily average)</p> <p>Water - Sea water quality standard (GB3097-1997) I: 0.0005 mg/l II: 0.0002 mg/l III: 0.0002 mg/l IV: 0.0005 mg/l</p> <p>Surface waters - Environmental quality standard for surface water (GHZB1-1999) I: 0.00005 mg/l II: 0.00005 mg/l III: 0.0001 mg/l IV: 0.001 mg/l V: 0.001 mg/l</p>	<p>Water point sources - Integrated wastewater discharge standard (GB8978-1996) - # 0.05 mg/l</p> <p>Air point sources - Integrated emission standard of air pollutants (GB16297-1996)</p> <p>For sources existing before 1996: Maximum discharge concentration: 0.015 mg/m³ Maximum discharge rate: I. Forbidden II: 1.8-39 x 10⁻³ kg/h III: 2.8 –59 x 10⁻³ kg/h Maximum discharge concentration for diffuse (no organized discharge) sources: 0.0015 mg/m³</p> <p>For sources set up after 1996:</p>	<p>Batteries (GB/T7112) - # 0.025% by weight (up to end of 2004) # 0.0001% for alkaline manganese batteries by weight (from Jan. 1, 2005)</p> <p>Cosmetics (GB7916-87) - # 1 mg/kg.</p>	<p>Occupational health and safety: Maximum concentration limit for the work place (TJ36-79): 0.01mg/m³.</p> <p>International instruments – China has ratified the Basel Convention and its amendment.</p>

Table - Overview of existing and future national actions, including legislation, relevant to mercury

II. ASIAN STATES - Standards for environmental media, Actions and regulations that control releases from environmental sources that contain mercury, Actions and regulations on products that contain mercury and Other standards, actions and programmes relevant to mercury

COUNTRY	GMA SUB-MISSION	STANDARDS FOR ENVIRONMENTAL MEDIA maximum acceptable mercury concentration for different media	ACTIONS AND REGULATIONS THAT CONTROL RELEASES FROM ENVIRONMENTAL SOURCES that contain mercury	ACTIONS AND REGULATIONS ON PRODUCTS that contain mercury	OTHER STANDARDS, ACTIONS AND PROGRAMMES relevant to mercury
		<p>V: 0.001 mg/l</p> <p>Ground water – Quality standard for ground water (GB/T14848-1993)</p> <p>I: # 0.00005 mg/l</p> <p>II: # 0.0005 mg/l</p> <p>III-IV: # 0.001 mg/l</p> <p>V: > 0.001 mg/l</p> <p>Drinking water - Sanitation standards for drinking water (GB8978-1996) < 0.001 mg/l</p> <p>Irrigation water - Standards for irrigation water quality (GB5084-1992) # 0.001 mg/l</p> <p>Water for fisheries- Water quality standard for fisheries (GB11607-1989) # 0.0005 mg/l</p> <p>Soil - Environmental quality standards for soils (GB15618-1995)</p> <p>I: 0.15 mg/kg</p> <p>II: 0.3 – 1.0 mg/kg</p> <p>III: 1.5 mg/kg</p>	<p>Maximum discharge concentration: 0.012 mg/m³</p> <p>Maximum discharge rate:</p> <p>II: 1.5-33 x 10⁻³ kg/h</p> <p>III: 2.4 –50 x 10⁻³ kg/h</p> <p>Maximum discharge concentration for diffuse (no organized discharge) sources: 0.0012 mg/m³</p> <p>Waste treatment, incl. incineration - Standard for pollution control on the municipal solid waste incineration (GWKB3-2000) - Emission limit for municipal waste incinerator: 0.2 mg/m³ (average measurement value)</p> <p>Control quality for municipal waste for agricultural use (GB8172-87) – 5 mg/kg.</p>		
Cook Islands	-				
Cyprus	Yes				<p>No information was provided with regards to legislation or ongoing activities to reduce release of mercury on Cyprus.</p> <p>International instruments – Cyprus ratified Basel Convention and its amendment.</p>
Fiji	-				<p>International instruments - Fiji has ratified the Stockholm Convention on Persistent Organic Pollutants.</p>
India	Yes	<p>Drinking water - Permissible limit value for drinking water: 1 µg/l.</p> <p>Compost – Maximum concentration: 0.15 mg/kg dry basis.</p>	<p>Water point sources – Indian Standards - Maximum limit for mercury in industrial effluents: 0.01 mg/l.</p> <p>Max. concentration in treated leachate: 10</p>	<p>The Government of India is trying to bring legislation for phased elimination of mercury from consumer products including thermometer, fluorescent tube, batteries, electrical thermostat and switches, medical</p>	<p>Occupational safety and health – The Government of India is reviewing the occupational exposure standards of 0.1 mg/m³ for air, established by the US Occupational Safety and Health Administration, for implementation in</p>

		<p>0.15 mg/kg dry basis.</p> <p>Foodstuffs - Permissible limit values for: Vegetables: 0,5 µg/g Milk: 3 µg/l Fish: 0.5 ppm total mercury</p>	<p>µg/l in land, surface water and public sewers.</p> <p>Chlor-alkali industry – Emission standard for mercury process: Emission limit for mercury (from hydrogen gas holder stack): 0.2 mg/Nm³.</p> <p>National Standard for liquid effluent: Total concentration of mercury in final effluent: 0.01 mg/l Mercury bearing waste water generation (flow): 10 KL/tonne of caustic soda produced, pH 5.5 to 9.0</p> <p>In 1986 it was recommended that no more caustic soda plants based on mercury cell process be allowed in India, and conversion of mercury cell plants into membrane cell process was started. Today, out of 39 plants, 18 have been fully converted and 8 have been partially changed to the membrane cell process. At present, 68% of the total caustic soda is manufactured by membrane cell process – conversion is likely to be completed by the first decade of the new millennium.</p> <p>Waste treatment – The Government of India is trying to ensure that potentially harmful mercury wastes are recycled or disposed off under strict standards to prevent the emission into the environment.</p>	<p>electrical thermostat and switches, medical instruments, certain pharmaceutical and agricultural products with an exemption for essential products (Ministry of Environment and Forest. The Gazette of India. Ministry of Environment and Forest Government of India, Notification. S.O. 908(E). September 2000.</p>	<p>Health Administration, for implementation in India.</p> <p>International instruments – India has ratified the Basel Convention.</p>
Indonesia	-				International instruments – Indonesia has ratified the Basel Convention.
Iran (Islamic Republic of)	-				International instruments – Iran has ratified the Basel Convention.
Iraq	-				
Japan	Yes	<p>Water – Water supply law: Total mercury: defined to keep under 0.0005 mg/l, Alkyl mercury: must not be detected.</p> <p>Environmental quality standards for water pollution: Total mercury: defined to keep under 0.0005 mg/l, Alkyl mercury: must not be detected.</p> <p>Environmental quality standards for groundwater pollution: Total mercury: defined to keep under</p>	<p>Point sources to water, air and soil – Different environmental legislation/regulation controls to air, water and soil. Regulations exist for metal mining and production, which control emissions to water and soil.</p> <p>Other emissions are controlled by the Water Pollution Control Act, which sets the following effluent standards; Total mercury: 0.005 mg/litre Alkyl mercury compounds: not detectable.</p> <p>The purpose of the law is to prevent the</p>	<p>Batteries – Guideline of Ministry of International Trade and Industry: Production of mercuric oxide batteries must stop completely by the end of 1995. (Production of mercuric oxide batteries for hearing aid application, which amount is about 80 % of the total mercuric oxide batteries, was already stopped completely in March 1994). (OECD, 1995)</p> <p>Paints – Household paint must not contain organomercury compounds; this has been regulated in 1973/74. (OECD, 1995)</p>	<p>Occupational health and safety – Industrial safety and health law (standards in air in indoor workroom): Alkyl mercury compounds: 0.01 mg/m³ Mercury and inorganic mercury compounds (except mercury sulfide): 0.05 mg/m³.</p> <p>International instruments – Japan has ratified the Basel Convention and the Stockholm Convention.</p>

Table - Overview of existing and future national actions, including legislation, relevant to mercury

II. ASIAN STATES - Standards for environmental media, Actions and regulations that control releases from environmental sources that contain mercury, Actions and regulations on products that contain mercury and Other standards, actions and programmes relevant to mercury

COUNTRY	GMA SUB-MISSION	STANDARDS FOR ENVIRONMENTAL MEDIA maximum acceptable mercury concentration for different media	ACTIONS AND REGULATIONS THAT CONTROL RELEASES FROM ENVIRONMENTAL SOURCES that contain mercury	ACTIONS AND REGULATIONS ON PRODUCTS that contain mercury	OTHER STANDARDS, ACTIONS AND PROGRAMMES relevant to mercury
		<p>0.0005 mg/l, Alkyl mercury: must not be detected.</p> <p>Water pollution control law (drain): Total mercury: defined to keep under 0.005 mg/l, Alkyl mercury: must not be detected.</p> <p>Air – Environmental quality standards for air pollution: None.</p> <p>Soil - Environmental quality standards for soil pollution: Total mercury: defined to keep under 0.0005 mg/l (in test liquid) Alkyl mercury: must not be detected.</p> <p>Sediment - Provisional regulatory standard for removing bottom sediment: In the case of Minamata Bay; bottom sediment containing over 25 ppm (dry basis) of total mercury was removed by means of dredging and landfill.</p> <p>Foodstuffs - Food sanitation law - Provisional regulatory standard on fish and shellfish Total mercury: 0.4 ppm Methylmercury: 0.3 ppm (as a reference).</p>	<p>pollution of public water areas and groundwater, and thereby to protect human health and to conserve the living environment, by controlling effluents from factories and establishment into the public water areas and permeations into underground. It further aims at promoting countermeasures for household wastewater, and to protect the sufferers by deciding the liability of the proprietor of the factories and establishment to compensate for any damage. (OECD, 1995)</p> <p>Chlor-alkali production – In 1984, the chlor-alkali industry stopped using mercury. (OECD, 1995)</p> <p>Waste treatment, including incineration – Refuse incineration is regulated concerning releases to soil, and by waste disposal and public cleaning act. (OECD, 1995)</p>	<p>Pesticides – No pesticide containing mercury, including pesticide for seed dressing, has been registered since 1973. (OECD, 1995)</p> <p>Household products - Law for the control of household products containing harmful substances Organic mercury compounds: must not be detected.</p>	
Jordan	Yes		<p>Waste treatment - There are no specific programmes for disposal of mercury waste. Method used until now is storage in secured iron barrels specially made for mercury until suitable treatment method is found. Preparation of a hazardous waste treatment centre is ongoing. The centre will be able to treat every kind of hazardous waste generated in Jordan, including mercury.</p>		<p>Legislation and instructions necessary to ensure safe management of chemicals and waste is under preparation.</p> <p>International instruments – Jordan has ratified the Basel Convention and the Rotterdam Convention.</p>
Kazakhstan	Yes			<p>General use of mercury - Agency for Health Protection has developed the Pro-</p>	

				gram of preventing mercury pollution. This is the first Program in Kazakstan - it will soon be approved by the Government.	
Kiribati	-				International instruments – Kiribati has ratified the Basel Convention.
Korea, Democratic People's Republic of	-				International instruments – The Democratic People's Republic of Korea has ratified the Stockholm Convention.
Korea, Republic of	Yes	<p>Water - Basic Environmental Policy Act, Water Quality Preservation Act, Drinking Water Management Act, Ground water Act)</p> <p>Water Quality Standards Underground water: not detection Lake water: not detection River: not detection (detection limit 0.5 : g/L)</p> <p>Drinking water: 0.001 mg/l below Bottled water: 0.001 mg/l below</p> <p>Soil - Soil Environment Preservation Act Standards of Pollution: A area : 4 mg/kg B area : 16 mg/kg Standards of measures against soil contamination: A area : 10 mg/kg B area : 40 mg/kg A area : unpolluted area such as farm, rice field, orchard, stock farm, forest field, school zone, religion zone according to Land register Act, Korea. B area : polluted area such as industrial factory land, road, railway land and etc according to Land register Act, Korea</p> <p>Foodstuffs - Food Act 2000: Maximum allowed level of mercury in fish – 0.5 mg Hg/kg</p>	<p>Air point sources - Air Quality Preservation Act Atmospheric Emission Standard: Incineration facility & Incineration Boiler: - up to Dec. 31, 2004: 5 mg/m³ - from Jan. 1, 2005: 100 : g/m³ The other facility: - up to Dec. 31, 2004: 5 mg/m³ - from Jan. 1, 2005: 5 mg/m³</p> <p>Water point sources - Water Quality Preservation Act Waste Water Emission Standard: - In the case of discharge to clean area: less than 0.5 ppb - In the case of non-clean area: less than 5 ppb</p> <p>Waste treatment - Waste Management Act & its regulation Waste Standard: Waste is divided to hazardous waste and municipal solid waste (non-hazardous) according to heavy metal concentration in waste extraction liquid. In the case of mercury, hazardous waste is more than 0.005 mg/L Hg and Municipal solid waste is less than 0.005 mg/L Hg.</p>		<p>Occupational health and safety - Industrial Safety & Health Act (ISHA) Industrial Standard (Exposure standard):</p> <p><i>Mercury:</i> ISHA, Korea - TWA 0.05 mg/m³ (skin) STEL - ACGIH - TWA 0.05 mg/m³ (skin) STEL/CEILING (C) -</p> <p><i>Mercury acetate:</i> ISHA, Korea - TWA 0.01 mg/m³ (skin) STEL 0.03 mg/m³ (skin) ACGIH - TWA 0.01 mg/m³ (skin) STEL/CEILING (C) 0.03 mg/m³ (skin)</p> <p><i>Mercury bromide:</i> Not designated in ISHA, Korea and ACGIH</p> <p><i>Mercury acetate:</i> Not designated in ISHA, Korea ACGIH - TWA 0.025 mg/m³ (skin) STEL/CEILING (C) -</p> <p><i>Mercury nitrate:</i> Not designated in ISHA, Korea ACGIH - TWA 0.025 mg/m³ (skin) STEL/CEILING (C) -</p> <p><i>Mercury oxide:</i> Not designated in ISHA, Korea ACGIH - TWA 0.025 mg/m³ (skin) STEL/CEILING (C) -</p> <p><i>Mercury (II) oxide:</i> Not designated in ISHA, Korea ACGIH - TWA 0.025 mg/m³ (skin) STEL/CEILING(C) -</p> <p>International instruments – The republic of Korea has ratified the Basel Convention.</p>
Kuwait	-				International instruments – Kuwait has ratified the Basel Convention.
Kyrgyzstan	-				International instruments - Kyrgyzstan has ratified the Basel Convention and Rotterdam

Table - Overview of existing and future national actions, including legislation, relevant to mercury

II. ASIAN STATES - Standards for environmental media, Actions and regulations that control releases from environmental sources that contain mercury, Actions and regulations on products that contain mercury and Other standards, actions and programmes relevant to mercury

COUNTRY	GMA SUB-MISSION	STANDARDS FOR ENVIRONMENTAL MEDIA maximum acceptable mercury concentration for different media	ACTIONS AND REGULATIONS THAT CONTROL RELEASES FROM ENVIRONMENTAL SOURCES that contain mercury	ACTIONS AND REGULATIONS ON PRODUCTS that contain mercury	OTHER STANDARDS, ACTIONS AND PROGRAMMES relevant to mercury
					Convention.
Lao People's Democratic Republic	-				
Lebanon	-				International instruments – Lebanon has ratified the Basel Convention.
Malaysia	-				International instruments – Malaysia ratified Basel Convention and its amendment and the Rotterdam Convention.
Maldives	-				International instruments – Maldives has ratified the Basel Convention.
Marshall Islands	-				
Micronesia (Federated States of)	-				International instruments – Micronesia has ratified the Basel Convention.
Mongolia	Yes	Mercury and mercury compounds are used under the environment and health control limits.	Gold mining – Mercury is used in gold mining business. Lately, small gold mining companies in increasing numbers are using mercury illegally. The Ministry of Nature and Environment and other related ministries cooperate to stop and expose illegal usage, transportation and storage of mercury. Especially mercury will be prohibited for gold extraction technology in the mining plants.	General use of mercury - The Government of Mongolia has adopted the Law on Protection from Toxic Chemicals in 1995 and Amendment to the law on Protection from Toxic Chemicals in 2000. The purpose of these laws is to regulate the production, export, import, storage, trade, transportation, use and disposal of toxic chemicals. Although mercury is listed as a very toxic chemical in the Law on Protection from Toxic Chemicals, it is not taken any measures on limiting use of mercury.	International instruments - Mongolia has ratified the Basel Convention and Rotterdam Convention.
Myanmar	Yes	Drinking water - Proposed National Drinking Water Quality Standards (1990) for mercury: 0.001 mg/l	Chlor-alkali - Membrane cell technology has been adopted instead of the old mercury cell technique. Waste treatment - The Ministry of Industry – Standing Order No: (2) and (3) 1995, which stipulates the control of all wastes, pollutants or any other materials which are hazardous to the environment. Yangon City Development Committee	Pesticides - Seed dressings: Organic mercurial compounds were banned by Pesticide Registration Board (MAI)	Occupational health and safety - Workman's Compensation Act (1968) (List A) – Mercury poisoning or its sequelae has been included in List (A) of schedule III. International instruments – Myanmar ratified the Basel Convention.

			Regulation No: 10 1999, which stipulated the treatment, disposal sites and disposal techniques, of all wastes contaminated and polluted to the environment such as, chemical substances, toxic substances and radioactive materials.		
Nauru	-				International instruments – Nauru ratified the Basel Convention and Stockholm Convention.
Nepal	-				International instruments – Nepal has ratified the Basel Convention.
Niue	-				
Oman	Yes		<p>Water point sources - Regulation 8/84 for the disposal of liquid industrial waste stipulates that the amount of mercury does not exceed 0.1% mg/l.</p> <p>Regulation 7/84 for the discharge of liquid effluents to the marine environment stipulates that the amount of mercury does not exceed 0.001% mg/l.</p> <p>Chlor-alkali industry - Techniques that include mercury are not used. Membrane Cell Technology has been adopted instead of the old mercury cell technique.</p>		International instruments - Oman has ratified the Basel Convention and Rotterdam Convention.
Pakistan	Yes	<p>Air and water - National Environmental Quality Standards for emissions of mercury in air and waste water effluent : 10 mg/l and 0.01 mg/l.</p> <p>Drinking water – WHO Guidelines for drinking water quality are followed: 0.001 µg/l</p>	<p>Chlor-alkali – Sitara chemical industry limited is the largest producer of chlor-alkali products in Pakistan and has installed capacity for producing 80.000 million ton caustic soda and over 60.000 million ton mercury free chlorine per annum with modern technology.</p> <p>Municipal and hospital waste – 12 incineration units are under working conditions at major hospitals in the capital cities of the provinces of Pakistan.</p>	<p>Pesticides – The agricultural Pesticides Technical Advisory Committee (APTA) under the Agricultural Pesticides Ordinance 1971 and Pakistan Agricultural Rules 1973 – Mercury compounds are one of 23 banned and severely restricted chemicals and their import is banned.</p>	International instruments – Pakistan has ratified the Basel Convention.
Palau	-				
Papua New Guinea	-				International instruments – Papua New Guinea has ratified the Basel Convention.
Philippines	Yes	<p>Water - DENR Administrative Order No. 34 Series of 1990- Water quality criteria for toxic & other deleterious substances for fresh waters (for the protection of public health) – 0.002 mg/l as total mercury</p> <p>Effluent Regulations - DENR Admin-</p>	<p>Water point sources - Effluent Regulations - DENR Administrative Order No.35 series of 1990 – Effluent Standards: Maximum Limit of Toxic and other deleterious substances for the protection of public health - Protected waters (public water supply,</p>	<p>Import/Export - DENR Administrative Order No. 97-38 – Chemical Control Order for Mercury & Mercury Compounds – set guidelines for the regulation of mercury and mercury compounds whether through import, manufacture, sale, use, distribution and disposal</p>	Monitoring – Environmental regulations have been formulated to conduct regular environmental monitoring. The Department of Health has regularly conducted health monitoring of affected small-scale gold mining communities in collaboration with the UP-National Poison Control and Information Service.

Table - Overview of existing and future national actions, including legislation, relevant to mercury

II. ASIAN STATES - Standards for environmental media, Actions and regulations that control releases from environmental sources that contain mercury, Actions and regulations on products that contain mercury and Other standards, actions and programmes relevant to mercury

COUNTRY	GMA SUB-MISSION	STANDARDS FOR ENVIRONMENTAL MEDIA maximum acceptable mercury concentration for different media	ACTIONS AND REGULATIONS THAT CONTROL RELEASES FROM ENVIRONMENTAL SOURCES that contain mercury	ACTIONS AND REGULATIONS ON PRODUCTS that contain mercury	OTHER STANDARDS, ACTIONS AND PROGRAMMES relevant to mercury
		<p>Administrative Order No.35 series of 1990 – Effluent Standards: Maximum Limit of Toxic and other deleterious substances for the protection of public health -</p> <p>Recreational water class, fishery water class, spawning areas – maximum limit for total mercury- 0.005 mg/l.</p>	<p>coral reef parks, national marine parks) – discharge of sewage and/or trade effluents are prohibited or not allowed</p> <p>Marine water for industrial use (e.g. cooling) - maximum limit of total mercury for old & existing industries – 0.05 mg/l</p> <p>Maximum limit of total mercury for new & proposed industries – 0.01 mg/l</p> <p>Air point sources - Air emissions from fuel-burning equipment or industrial plants emitting air pollutants (Republic Act 8749- Clean Air Act of 1999) – Maximum permissible limits (as elemental Hg) – 5.0 mg/NCM</p> <p>Gold mining – Environmental regulations have been enacted to restrict small-scale gold mining, which include:</p> <p>Administrative order of the Department of Environment and Natural Resources rules and regulations governing the sale, distribution and utilization of mercury in small-scale gold mining operations;</p> <p>Presidential Decree no 1899 – establishing small-scale mining as a new dimension in Mineral Development;</p> <p>Guidelines on the issuance of sanitary permits to selected business establishments to include food and small-scale mining industry (DOH, 1990);</p> <p>Republic Act 6969 Toxic and Hazardous Chemicals Act seeks to regulate the importation, use, handling of toxic chemicals and hazardous substances in industry;</p> <p>Republic Act 7942 also known as the Philippine Mining Act of 1995.</p> <p>Waste treatment - Republic Act 9003 – Ecological Solid Waste management Act</p>		<p>International instruments – The Philippines has ratified the Basel Convention.</p>

			of 2000 – prohibits the mixing of wastes from households including hazardous waste like mercury		
Qatar	-				International instruments – Qatar ratified the Basel Convention and its amendment.
Samoa	Yes		Waste treatment - Samoa has revised its National Waste Management Policy, which when approved, would need specific strategy and action plan for phasing out mercury.	Pesticides - Samoa has, under the implementation of the interim PIC procedure (Rotterdam Convention) decided not to consent to import of pesticides containing mercury. Thermometers – In 1993, Samoa’s Pesticides Technical Committee considered and decided to permit the importation of essential mercury for use in thermometers and other instruments.	International instruments - Samoa has ratified the Basel Convention, the Rotterdam Convention and the Stockholm Convention.
Saudi Arabia	-				International instruments – Saudi Arabia has ratified the Basel Convention and Rotterdam Convention.
Singapore	-				International instruments – Singapore has ratified the Basel Convention.
Solomon Islands	-				
Sri Lanka	-				International instruments – Sri Lanka ratified the Basel Convention and its amendment.
Syrian Arab Republic	-				International instruments – Syrian Arab Republic has ratified the Basel Convention.
Tajikistan	-				
Thailand	Yes	Surface water - Enhancement and Conservation of National Environment Quality Act B.E. 2535(1992): Water quality standard for coastal water areas: mercury content not higher than 0.1 µg/l, Water quality standard for surface water: mercury content not higher than 2 µg/l. Foodstuffs - Food Containing Contaminant Standard: 0.5 µg/g (wet weight), or approximately 1.25 µg/g (dry weight), (Ministry of Public Health, Thailand, 1986). Food Containing Contaminant Standard B.E. 2529 (1986). Seafood: mercury content not higher than 0.5 µg/g.	Air point sources - The Notification of Ministry of Industry No.2 B.E. 2535 (1992): Emission standard for mercury from manufacturing process: not greater than 3 mg/Nm ³ (measurement at normal pressure and the temperature of 25°C). Gas and petroleum processing – Benchmark for effluent water from oil and gas operations: mercury content less than 10 µg/l. Oil and gas operators are asked to adopt a zero discharge policy and follow procedures set for benchmarking international good practices. If it is not attainable, they should adopt most effective technology for mercury removal. Water point sources - Notification of Ministry of Science, Technology, and Environment No.3 B.E.2539 (1996): Ef-	Batteries - Mercury has been generally used in battery manufacturing, but the Battery Organisation reported that there is no mercury used in the process. Paints - Less than 25% of the factories in Thailand still use mercury as an additive in the process and in quantity not more than 0.5% by total weight. However, some paint industries have no mercury involved in processes since 1991. The factory is certified green label as no mercury used in the process. Pharmaceuticals and cosmetics - The Food and Drug Administration in Thailand reported that there is no use of mercury in pharmaceutical and cosmetics products. Tanning - Tanning Organisation in Thailand reported that there is no mercury used in the process.	Monitoring programmes - Annual monitoring for mercury concentration in coastal water, river mouths, sediments, marine organisms is conducted by the Ministry of Science, Technology and Environment. The monitoring programme on effluent from industrial estates has also been conducted by several organisations. Moreover, the Industrial Estate Authority of Thailand also takes action in controlling releases of contaminants from major industrial estates. International instruments - Thailand has ratified the Basel Convention and Rotterdam Convention.

Table - Overview of existing and future national actions, including legislation, relevant to mercury

II. ASIAN STATES - Standards for environmental media, Actions and regulations that control releases from environmental sources that contain mercury, Actions and regulations on products that contain mercury and Other standards, actions and programmes relevant to mercury

COUNTRY	GMA SUB-MISSION	STANDARDS FOR ENVIRONMENTAL MEDIA maximum acceptable mercury concentration for different media	ACTIONS AND REGULATIONS THAT CONTROL RELEASES FROM ENVIRONMENTAL SOURCES that contain mercury	ACTIONS AND REGULATIONS ON PRODUCTS that contain mercury	OTHER STANDARDS, ACTIONS AND PROGRAMMES relevant to mercury
		Other food: mercury content not higher than 0.02 µg/g.	<p>fluent standard from central wastewater treatment plant of industrial estates for mercury and mercury compound: not more than 5µg/l.</p> <p>Waste treatment – Mercury is categorized as a hazardous waste. The major laws involving hazardous waste management are:</p> <ul style="list-style-type: none"> • Enhancement and Conservation of National Environment Quality Act B.E. 2535(1992); • Factory Act B.E. 2535; • Hazardous Act B.E. 2535; • Factory Act B.E. 2535; • Public Health Act B.E. 2535; • Petroleum Act B.E.2514 and 2532; <p>The authority directly concerned with industrial hazardous waste is the Hazardous Waste Disposal Subdivision, Office of Industrial Service and Waste Management, Ministry of Industry. Concerning pollution control strategy, the Ministry of Industry has issued several ministerial regulations:</p> <ul style="list-style-type: none"> • The Ministry Announcement No.25 (1998), which decrees that all factories have to carry out proper treatment of polluting and discarded materials; • The Ministry of Industry Announcement No.57 (1990), which stipulates that all waste materials specified in the Basel Convention are toxic wastes that have to be under the control of the laws; • The Ministry of Industry Regulation No.2 (1992), which stipulates the control of all wastes, pollutants or any other materials which are hazards to the environment. 	Import/export - For export of fishery products, Department of Fisheries allows 0.5 µg/g as maximum mercury content.	

Tonga	Yes				Currently, mercury is not classified as hazardous material. There are no regulations concerning its control or containment in Tonga. Situation is not likely to change in near future due to the relatively minor amount of mercury imported/consumed.
Turkey	Yes		<p>Water point sources - Discharge of mercury and its compounds to the environment was prohibited by Regulation on Control of Water Pollution in 1988.</p> <p>Air point sources - Limit values of stack gas emissions for mercury and its compounds were stated in the Air Quality Control Regulation. According to Article 7 of this Regulation, mercury and its compounds were considered to be special dust emission and classified as Class 1 dust emission. In waste gases, Class 1 dust emissions, for emission flows of 0.1 kg/h and above, should not exceed 20 mg/m³.</p>	<p>Batteries - Use of mercury in batteries and accumulators was restricted by the Regulation on Dangerous Chemicals in 1999.</p>	<p>International instruments – Turkey has ratified the Basel Convention.</p>
Turkmenistan	-				<p>International instruments – Turkmenistan has ratified the Basel Convention.</p>
Tuvalu	-				
United Arab Emirates	-				<p>International instruments – United Arab Emirates has ratified the Basel, the Rotterdam and the Stockholm Conventions.</p>
Uzbekistan	-				<p>International instruments – Uzbekistan has ratified the Basel Convention.</p>
Vanuatu	-				
Vietnam	-				<p>International instruments – Vietnam has ratified the Basel Convention and the Stockholm Convention.</p>
Yemen	-				<p>International instruments – Yemen has ratified the Basel Convention.</p>

Table - Overview of existing and future national actions, including legislation, relevant to mercury

III. EASTERN EUROPEAN STATES - Standards for environmental media, Actions and regulations that control releases from environmental sources that contain mercury, Actions and regulations on products that contain mercury and Other standards, actions and programmes relevant to mercury

COUNTRY	GMA SUB-MISSION	STANDARDS FOR ENVIRONMENTAL MEDIA maximum acceptable mercury concentration for different media	ACTIONS AND REGULATIONS THAT CONTROL RELEASES FROM ENVIRONMENTAL SOURCES that contain mercury	ACTIONS AND REGULATIONS ON PRODUCTS that contain mercury	OTHER STANDARDS, ACTIONS AND PROGRAMMES relevant to mercury
Albania	-				International instruments – Albania has ratified the Basel Convention.
Armenia	Yes			Pesticides - By the order of former USSR Ministry of Health using of Granosan (ethylmercuric chloride, mixed formulations) and Mercuran (EMC and the (-isomer of hexachlorocyclohexane) was prohibited since 1981, and Mercurbenzene (EMC and hexachlorobenzene) – since 1986. During Granosan use in agriculture there were registered chronic poisoning cases including lethal cases.	International instruments – Armenia has ratified the Basel Convention.
Azerbaijan	-				International instruments – Azerbaijan has ratified the Basel Convention.
Belarus	Yes	<p>Drinking water – The permissible concentration in drinking water (0,0005 mg/dm³).</p> <p>Surface water – the maximum permissible concentration of mercury in surface water is: 0.0005 mg/dm³ – inorganic Hg 0.001 mg/dm³ – organic Hg.</p> <p>Soil - Permissible mercury concentration (2,1 mg/kg).</p>	<p>Waste treatment - Treatment of waste is governed by the Law of the Republic of Belarus “On wastes” (effective of 25.10.1993, revised and effective of 01.01.2001).</p> <p>Waste disposal restrictions - Accounting, storage conditions, collection and utilization of mercury-containing wastes are governed by the normative document “Regulations on the procedure of accounting, storage, collection of mercury and mercury-containing wastes” (approved by the Ministry of Economy, Ministry of Natural Resources and Environment Protection, Ministry of Public Health and Ministry for Extreme Situations).</p> <p>Mercury-containing lamps - In Belarus there are three organizations engaged in rendering spent mercury-containing lamps harmless and one which renders them harmless and removes the mercury from mercury-containing wastes. The total capacity of all four organizations is about 3.5 million lamps per year and 10 tonnes of mercury-containing wastes. About 1.2 million spent mercury-containing</p>		International instruments – Belarus has ratified the Basel Convention.

			lamps are disposed of each year.		
Bosnia and Herzegovina	-				International instruments – Bosnia and Herzegovina has ratified the Basel Convention.
Bulgaria	Yes	<p>Drinking water – Regulation N 9/2001 limit for drinking water quality, issued in official gazette: 1.0 µg/l.</p> <p>Underground water – Regulation N 1/2002 concerning study, usage and prevention of underground water: Ecological limit – 0.5 µg/l Pollution limit – 2 µg/l</p> <p>Water for fish breeding – Regulation N 4/2000</p> <p>Sea water – Regulation N 8/2001 on sea water quality: 0.001 mg/dm³.</p> <p>Water for bathing – Regulation N 11/2002 Bathing water quality: 0.001 mg/l.</p> <p>Soil – A limit for heavy metal content exists, as the mercury content is restricted to the limited permitted concentration, as well as in the fertilizers used in agriculture.</p> <p>Foodstuffs – There are regulations.</p>	<p>Chlor-alkali – The production of sodium hydroxide and chlorine and chlorine by electrolysis exists since more than 30 years in the firm “Polymers” – Devnya. The area of the plant is not examined completely for the spreading of mercury emissions and deposits. A supplementary examination and assessment of similar emissions and deposits are necessary. The production is stopped out in 1992.</p> <p>Gold mining – Not any mercury technology is used in the plant for production of refined copper and accompanied metals.</p> <p>Waste treatment – Not any constructed installations and incinerators exist. Feasibility studies are going on for this purpose. An incinerator for medical (hospital) wastes exists – only for organic wastes. A new incinerator will be built in the National centre for waste treatment according to the project. There will be facility for rendering harmless of mercury lamps.</p>	<p>Lighting and electrical equipment – Not any inventory for mercury relays (incl. relays for laboratory and industrial dry-ovens, ovens, as well as in household boilers) have been accomplished.</p> <p>Paints and pigments – obsolete.</p> <p>Pesticides (seed dressing) – No use.</p> <p>Thermometers – Used in the laboratory and households.</p>	International instruments - Bulgaria ratified the Basel Convention and its amendment and the Rotterdam Convention.
Croatia	Yes	<p>Water -</p> <p>Drinking water : 1 µg/l Rules on health propriety of drinking water - “Narodne novine” (NN), official gazette of Republic of Croatia, No. 46/1994</p> <p>Natural freshwater from ground sources : 1 µg/l Rules on basic requirements for natural mineral, spring and table water “Narodne novine” (NN), official gazette of Republic of Croatia, No. 58/1998</p> <p>Freshwater : Class I-II : 0.005-0.02 µg/l Class III-V : 0.02-1.0 µg/l</p> <p>Sea water : Class 1 : 0.005-0.02 µg/l Class 2: 0.02-0.3 µg/l Decree on hazardous substances in waters (Law on Waters) “Narodne novine” (NN), official gazette of</p>	<p>Air point sources Emissions : 1 mg/m³ (for waste gas flow at 10 g/h or more) Decree on limit values of emission of contaminating substances from stationary sources into air - “Narodne novine” (NN), official gazette of Republic of Croatia, No. 140/1997</p>		<p>Occupational safety and health – Maximum allowable concentration limit for working environment (indoors): 50 µg/m³</p> <p>Rules on maximum allowable concentration of harmful substances in atmosphere of working premises and space and on biological limit values - “Narodne novine” (NN), official gazette of Republic of Croatia, No. 92/1993</p> <p>International instruments – Croatia has ratified the Basel Convention.</p>

III. EASTERN EUROPEAN STATES - Standards for environmental media, Actions and regulations that control releases from environmental sources that contain mercury, Actions and regulations on product sources that contain mercury and other standards, regulations and programmes relevant to mercury

COUNTRY	GMA SUB-MISSION	STANDARDS FOR ENVIRONMENTAL MEDIA maximum acceptable mercury concentration for different media	ACTIONS AND REGULATIONS THAT CONTROL RELEASES FROM ENVIRONMENTAL SOURCES that contain mercury	ACTIONS AND REGULATIONS ON PRODUCTS that contain mercury	OTHER STANDARDS, ACTIONS AND PROGRAMMES relevant to mercury
		<p>Republic of Croatia, No. 78/1998</p> <p>Air Limit value (indoors only): 1µg/m³ Recommended value : 0,01 µg/m³ Decree on recommended and limit values of air quality - "Narodne novine" (NN), official gazette of Republic of Croatia, No. 2/1997</p> <p>Agricultural soil - Humus poor soils : 1.0 mg/kg Humus rich soils : 2.0 mg/kg</p> <p>Compost : 10 mg/kg Rules on protection of agricultural land against contamination with harmful substances (Agricultural Land Act) - "Narodne novine" (NN), official gazette of Republic of Croatia, No. 15/1992</p> <p>Foodstuffs – Fresh fish Predatory fish - 1.0 mg Hg/kg/0.8 mg methylHg/kg All other species of fish - 0.5 mg Hg/kg/0.4 mg methylHg/kg <i>Canned fish (tin package)</i> Predatory fish - 1.5 mg Hg/kg/1.0 mg methylHg/kg All other species of fish - 0.8 mg Hg/kg/0.5 mg methylHg/kg <i>Canned fish (other type of package)</i> Predatory fish - 1.5 mg Hg/kg/1.0 mg methyl Hg/kg All other species - .8 mg Hg/kg/0.6 mg methyl Hg/kg:</p>			
Czech Republic	Yes			<p>Batteries - A small amount of mercury is also found in domestic waste, mainly due to batteries and galvanic cells. A pilot project oriented to obligatory collection of used batteries and galvanic cells is proposed.</p> <p>Pesticides - Plant protection products</p>	<p>International instruments – The Czech Republic has ratified the Basel Convention and its amendment, the Rotterdam Convention and the Stockholm Convention.</p>

				containing mercury are not allowed for use in Czech Republic	
Estonia	-		Waste treatment - Government Regulation No.99, 16 March, 1999 on ratifying the list of products dangerous to environment as waste, the production, import, export and use of which is prohibited.	Batteries - Regulation of the Minister of Environment No.72, July 19, 1999 sets controls on the use of mercury in batteries (EC Directives 91/157/EEC and 93/86/EEC) Restrictions: The placing of batteries and accumulators containing more than 0.0005% of mercury by weight and brought in our market before July 1, 2001. Pesticides - Government Regulation No.36, January 26, 1999 on fixing the list of active substances banned to use in Plant Protection Products.	The Chemicals Act providing the framework for this sector was adopted on May 6,1998 and amended on April 28,1999. Government Regulation No.6, January 5, 1999 “The procedure for export and import of banned and severely restricted chemicals (EEC/2455/92) International instruments – Estonia has ratified the Helsinki Convention (HELCOM) and the Basel Convention and its amendment.
Georgia	Yes	Drinking water – Maximum admissible concentration of Hg (Total): 0,0005mg/dm ³ Regulation of Ministry of Health #297/n, 16/08/2001 for the Quality State of Environment Surface waters - Maximum admissible concentration of Hg: 0,0005mg/l Regulation of Ministry of Environment and Natural Resources Protection, Rules for Protection from Pollution of Surface Waters of Georgia, #130, 17/09/1996 Water to support fish life - Maximum admissible concentration of Hg: 0,00001 mg/l Regulation of Ministry of Environment and Natural Resources Protection, Rules for Protection from Pollution of Surface Waters of Georgia, #130, 17/09/1996			International instruments – Georgia has ratified the Basel Convention.
Hungary	Yes	Drinking water - MSZ 450-1:1989) - limit value for drinking water: 1,0 µg/l. Government has already adopted new decree in accordance with EU directive on quality of drinking water. In the soil and geological matrix the pollution limit value: 5,0 mg/kg dry material (No 10/2000 Decree of KöM-EüM-FVM-KHVM)	Waste disposal restrictions on Batteries - No 9/2001 (IV.9.) Decree of KöM - rules for marketing of accumulators and batteries and for the treatment of their wastes: It is prohibited to mix the waste accumulators and batteries with other wastes, these must be collected separately and must be labelled indicating the need for separate waste collection and the heavy metal content, including mercury.	Batteries – No 41/2000 (XII.20) Joint Decree of EüM-KöM amended by the No 13/2001 (IV.20.) joint Decree of EüM-KöM on the limitation of activities involving certain dangerous materials and dangerous preparations: Accumulators and batteries (including those that are part of devices) which contain more than 0,0005 % w/w mercury, must not be put into circulation. This limitation does not refer to mini batteries or	Classification, packaging and labelling - No 44/2000 (XII.27.) Decree of EüM - classification and labeling requirements for dangerous materials and dangerous preparations, including mercury compounds. Marketing of new chemicals - No 12/2001. (V.4.) joint Decree of KöM-EüM on Risk assessment and risk reduction of chemicals of 12 May, 2001: Requires quantitative reporting for chemicals that are marketed for the first time and for

III. EASTERN EUROPEAN STATES - Standards for environmental media, Actions and regulations that control releases from environmental sources that contain mercury, Actions and regulations on product sources that contain mercury and other standards, regulations and programmes relevant to mercury

COUNTRY	GMA SUB-MISSION	STANDARDS FOR ENVIRONMENTAL MEDIA maximum acceptable mercury concentration for different media	ACTIONS AND REGULATIONS THAT CONTROL RELEASES FROM ENVIRONMENTAL SOURCES that contain mercury	ACTIONS AND REGULATIONS ON PRODUCTS that contain mercury	OTHER STANDARDS, ACTIONS AND PROGRAMMES relevant to mercury
		<p>Sub-surface water – pollution limit value in surface waters: 1.0 : g/l (No 10/2000 Decree of KöM-EüM-FVM-KHVM)</p> <p>Air - No 14/2001 (V.9.) joint Decree of KöM-EüM-FVM/; Limit value for environmental air: 1 : g/m³. Limit value is in accordance with the value recommended in the 96/62 EU directive.</p> <p>Sludge – According to No 50/2001 (IV.3.) Governmental Decree on the agricultural use of sewage sludge, the limit value for mercury is: 10 mg/kg dry material.</p>		<p>electric cells composed of mini batteries, if the mercury content does not exceed 2 % w/w.</p> <p>Pesticides - No 6/2000 (I.16.) Decree of FVM on the licensing of the marketing and use of pesticides and on the packaging, storage, transportation of pesticides: Mercury and its compounds are listed among the banned active ingredients in the annex of.</p>	<p>EINECS chemicals that are produced or imported in quantities more than 10 tonnes annually.</p> <p>Occupational safety and health – No 33/1998 (VI. 24.) Decree of NM, amended by the No 27/2000 (IX. 30.) Decree of EüM; Sets occupational exposure limit values and biological exposure indices for mercury.</p> <p>Hungarian Standard MSZ 21461/1 – 1988 - Workplace air quality requirements: Inorganic mercury compounds - TWA value 0,02 mg/m³ MAC value 0,04 mg/m³ Organic mercury compounds - MAC value 0,01 mg/m³</p> <p>No 25/2000 (IX.30.) Joint Decree of Eü.M. - SzCsM on chemical safety at workplaces: Inorganic mercury compounds TWA value: 0, 08 mg/m³ MAC value: 0, 32 mg/m³ Organic mercury compounds TWA value: 0,01 mg/m³ Ceiling value: 0,04 mg/m³</p> <p>No 27/1996 (VIII.28.) Decree of NM - on the reporting and investigation of occupational diseases and cases of over-exposure (Annex 1): Occupational exposure limit values of the Biological exposure indices to be measured in occupational chemical exposure. Mercury in urine: 0,05 mg/g creatinin, 0,028 : mol/mmol creatinin</p> <p>Biological monitoring - Biological exposure index (BEI) No 8/1981 (Eü.K.4.sz.) Instruction of Eü.M on the execution of No 3/1981 (II.14) Decree of EüM on the reporting and investigation of occupational diseases. Recommended maximal value of mercury in urine: 0,10-0,15 mg/l, 0,50-0,75 : mol/l</p> <p>International instruments - Hungary has ratified the Basel Convention and Rotterdam Convention.</p>

Latvia	-			<p>Pesticides - Import, marketing and use restrictions for plant protection products containing mercury. Regulations of Cabinet of Ministers No. 107 (21.03.2000.) "On prohibited plant protection products".</p>	<p>General - Regulations of Cabinet of Ministers No. 158 (25.04.2000.) "Restrictions and bans on use and marketing of some dangerous chemical substances and dangerous chemical products".</p> <p>International instruments – Latvia has ratified the Helsinki Convention (HELCOM) and the Basel Convention.</p>
Lithuania	-		<p>Water point sources - Maximum content of Hg in wastewater is regulated by wastewater Pollution Standards 'Land - 10', 1998.</p> <p>Sludge – Maximum content of Hg in wastewater sludge is regulated by Standards of Wastewater Sludge Use 'Land - 20, 1996.</p> <p>Production, trade and storage - Governmental Resolution No 452 of 21.07.1999 On licensing of dangerous chemicals production, trade and storage. For the production, trade and storage of mercury/compounds - mercury alkyl compounds, mercuric oxide, mercuric chloride, others inorganic mercury compounds – it is necessary to receive a licence from the Ministry of Environment from 01.10.1999.</p> <p>Waste treatment - Law on Waste Management. General requirements for waste incineration. LAND 19-99.</p>	<p>Pesticides - Hygienic standards 63:1996. Banned and restricted pesticides. Import, production and use of mercury/compounds as pesticides are banned. Mercury/compounds are not registered as pesticides</p> <p>Marketing and use of certain dangerous substances and preparations - Hygienic standarts 36:1999. Banned and restricted substances. Mercury compounds may not be used as substances and constituents of preparations intended to use for:</p> <ul style="list-style-type: none"> - prevention of fouling by microorganisms, plants or animals of the hulls of boats, cages, floats, nets and any other appliances or equipment used for fish or shellfish farming, any totally or partly submerged appliances or equipment, - in the preservation of wood, - in the impregnation of heavy-duty industrial textiles and yarn intended for their manufacture, - in the treatment of industrial waters, irrespective of their use. <p>Import/Export - Order of the Ministry of Environment No 292 of 31.12.1998 On regulations of issuing permits for import and export from and into the Republic of Lithuania of dangerous chemical substances. For import and export of mercury, mercury acetate, mercury ammonium chloride, mercuric arsenate, mercury benzoate, mercury bromides, mercuric chloride, mercury cyanide, mercury gluconate, mercury iodide, mercury compounds, liquid and solid, n.o.s., mercury II nitrate, mercury I nitrate, mercury nucleate, mercury oxycyanide, desensitized, mercury oxide, mercury oleate, mercury salicylate, mercury sulphate, and mercury thiocyanate, it is necessary to receive a permit</p>	<p>International instruments – Lithuania has ratified the Helsinki Convention (HELCOM) and the Basel Convention.</p> <p>Prior Informed Consent (PIC) procedures and implementation regulations will be implemented in 2003 year.</p>

Table - Overview of existing and future national actions, including legislation, relevant to mercury

III. EASTERN EUROPEAN STATES - Standards for environmental media, Actions and regulations that control releases from environmental sources that contain mercury, Actions and regulations on product sources that contain mercury and other standards, regulations and programmes relevant to mercury

COUNTRY	GMA SUB-MISSION	STANDARDS FOR ENVIRONMENTAL MEDIA maximum acceptable mercury concentration for different media	ACTIONS AND REGULATIONS THAT CONTROL RELEASES FROM ENVIRONMENTAL SOURCES that contain mercury	ACTIONS AND REGULATIONS ON PRODUCTS that contain mercury	OTHER STANDARDS, ACTIONS AND PROGRAMMES relevant to mercury
Poland	-		<p>Air point sources - Executive Order of the Minister of Environmental Protection, Natural Resources and Forestry of 12 Feb. 1990 on Air Protection against Pollution.</p> <p>Water point sources - Executive Order of the Council of Ministers of 19 May 1999 on Conditions of Waste Water Discharges into Municipal Sewerage Facilities. Concentration of mercury in wastewater discharged to sewerage systems shall not exceed 0.1 mg Hg/dm³.</p> <p>Sludge - Executive Order of the Minister of Environmental Protection, Natural Resources and Forestry of 11 Aug. 1999 on the Conditions of using Sewerage Sludge for Non-Industrial Purposes. Concentration of mercury in sewage sludge for non-industrial purposes shall not exceed 5-25 mg/kg d.w. (up to 5-eg. agriculture, up to 25 mg - e.g. plant land restoration).</p> <p>Waste treatment - Act of 27 June 1997 on wastes.</p>	from the Ministry of Environment. Import/export - production, import and selling under special permissions, with exceptions for scientific institutions (only for scientific research purposes)	<p>General - Act of 21 May 1963 on toxic substances. Executive Order of the Minister of Economy of 19 Feb 1999 on Chemical Substances Dangerous for Health and Life. Executive Order of the Minister of Health and Social Welfare of 28 Dec. 1964 on the list of poisons and harmful substances. Executive Order of the Minister of Health and Social Welfare of 10 Feb. 1964 on permissions for production and trade of poisons, poisons' records and rules of procedure of supervising bodies on poisons.</p> <p>Occupational health and safety - Maximum average air concentration shall not exceed: 0.3 µg/m³ in 24 h and 0.04 µg/m³ a year (on specially protected areas: 0.1 and 0.02 accordingly)</p> <p>International instruments – Poland has ratified the Helsinki Convention (HELCOM) and the Basel Convention.</p>
Republic of Moldova	Yes	<p>Drinking and surface water – Hygienic regulations Nr. 06.6.23 from 3.7.1997 – Limit value for surface and drinking water: 0.0005 mg/l.</p> <p>Soil – 5 mg/kg.</p> <p>Foodstuffs – maximum admissible concentrations in mg/kg: Meat derivate – 0.03 Fish derivate – 0.3 Milk derivate – 0.03 Sugar pasty – 0.01 Vegetable – 0.02 Fruits – 0.02 Cereal – 0.03</p>	Waste treatment - Government Decree Nr. 606 from 28.6.2000: National Program for production and municipal wastes valorification – proposed the actions, directions and main methods for waste valorification for marketing of accumulators, batteries and fluorescent lamps. It is prohibited to mix waste accumulators, batteries and luminescent lamps with other wastes. These will be collected separately and must be labelled indicating the need for separate waste collection and the heavy metals content, including mercury.	Pesticides - Government Decree Nr. 30 from 15.1.2001 for centralization disposal and neutralization the inutilizable and prohibited pesticides, including mercury pesticides.	International instruments – Moldova has ratified the Basel Convention.

Romania	Yes	<p>Drinking water - Law no.458/2002 for drinking water quality- CMA : 1 µg/l Hg.</p> <p>Decision no. 760/2001 on mineral natural waters: 1 µg/l Hg.</p> <p>SR 4450:1997 – Natural mineral water - 0.001 mg/l Hg.</p> <p>Surface waters - Government Decision no.118/2002 for approval on Action Programme for reduction of pollution aquatic environment and surface waters, caused by discharge of dangerous substances.</p> <p>Limit values at evacuation: 50 µg/l Hg (Hg and its products). Target objectives in surface waters: 0,1 µg/l Hg.</p> <p>Government Decision 100/2002 on approval of quality norms -NTPA 013- for the surface water for abstraction of drinking water .</p> <p>Category A1 – G - 5µg/l Hg; I – 1µg/l Hg.</p> <p>Category A2 – G - 5µg/l Hg; I – 1µg/l Hg.</p> <p>Category A3 – G - 5µg/l Hg; - I – 1µg/l Hg.</p> <p>Law 14/1995 on ratification of Romania for participation of ICPDR (International Convention for Protection of Danube River): Reference objectives: 0.1 µg/l Hg.</p> <p>STAS 4706/88 – Classification system of quality underground and surface waters - CMA - 1 µg/l Hg.</p> <p>Draft of a new STAS, which will replace STAS 4706/88, is promoted by MAPM Order no. 377/2001.</p> <p>Surface waters Class I –background; Class II 0,1µg/l Hg; Class III 0,15 µg/l Hg; Class IV 0,3 µg/l Hg; Class V>0,3 µg/l Hg.</p> <p>Sediments 0,5 mg/Kg.</p> <p>STAS no. 12585/87 for swimming pool water: 1 µg/dm³ Hg</p>	<p>Air point sources - Ordinance no. 462/1993 regarding the atmosphere protection conditions.- Methodological norms regarding atmospherical pollutants emissions determination produced by stationary sources.</p> <p>Annex 1: Limit values for inorganic substances (especially powder):</p> <ul style="list-style-type: none"> for flow weight ≥1 g/h; emission concentrations for mercury and its compound: 0.2 mg/m³ Hg. <p>Water point sources - Government Decision 188/2002 on approval of Technical Norms NTPA 001/2002 for discharge of waste waters into water body. At evacuation in receiver: -CMA - 50 µg/l Hg.</p> <p>It is prohibited for the organical compounds of Hg to be evacuated in receiver, because they are dangerous.</p> <p>NTPA 002/2002 for waste water discharge into the sewage and municipal waste water treatment plants(Annex 3). -CMA absent.</p> <p>Waste treatment, including incineration - Government Decision no. 128/2002 on waste incineration. Total limits emission value: 0.05 mg/Nm³.</p> <p>Limit emission values for noxes from used waters from cleaning flue gases from incineration and co-incineration installation: 0.03 mg/l Hg.</p> <p>Sludge - Council Directive (86/278/EEC) on the protection of the environment, and in particular of the soil, when sewage sludge is used in agriculture will be transposed by a Government Decision.</p> <ul style="list-style-type: none"> Limit values for heavy metals which may be introduced into soil intended for agriculture: limit values for heavy metals concentration from soil: 1-1.5 mg per kg dry matter where sludge is used on soil of which the PH is from 6 to 7 in accordance with Annex A I; limit values for heavy metals from 	<p>Batteries - Decision no. 1057/2001 on the regime of rechargeable and non-rechargeable batteries containing hazardous substances, including Hg. It is prohibited to sell: batteries and accumulators which contain more than 0.0005% Hg from weight commercialized, batteries, excepting small piles with maximum content of 2% Hg/w.</p> <p>Cosmetics - Ordinance 1004/2000, Annex 1:”Prohibited substances list to be used for cosmetic products fabrication”. (position 263/221-Mercury and its compounds)</p> <p>Ministerial Order no. 1004/29 November 2000 for approval of lists contain substances stipulated at art. 6 from Law no. 178/2000 for cosmetic products, published in Official Journal no. 119 bis/2001- Appendage 1, point 263.</p> <p><i>Mercury and its compounds as raw material used at cosmetic products fabrication</i> - Mercury and its compounds are in cosmetic products fabrication with some exceptions as follow:</p> <ul style="list-style-type: none"> Appendage 2A point 57 <p><i>Mercury compounds which can be used in cosmetic products in certain admission conditions.</i></p> <ul style="list-style-type: none"> Maximum acceptable concentration of Hg in lead acetat (only for hair dye): 0.6% Hg calculated in lead. <p><i>Mercury compounds which can be used as raw material for cosmetics products concentration in certain admission conditions.</i></p> <ul style="list-style-type: none"> Appendage 2D point 15. <p>Thiomersal : Maximum acceptable concentration:</p> <ul style="list-style-type: none"> 0.007% (Hg). In case of mixing with another mercury compounds admitted by the present law, maximum concentration in Hg remain 0.007% 	<p>Occupational health and safety - Decision of MSF no. 803/2001 for approval of exposition/effect biological indicators for organism at specify risk answer establishment to the risk and professional (occupational) illness factors (point 2).</p> <p>Specific answer indicators of the body, professional (occupational) deases because of the exposition to mercury and its compounds from work environment: acute and cronical intoxication; disease extrapiramidal and motility disturbance; toxic polineuropaty; toxic encefalopaty.</p> <p>Generale norms for work protection/1996 -Annex 14. Concentration in work environment (media): Mercury (P) –</p> <ul style="list-style-type: none"> 0,05 mg/mc air (average concentration admitted); 0,15 mg/mc air (maximum concentration admitted). <p>Mercury (organical compounds) (P) –</p> <ul style="list-style-type: none"> 0,01 mg/mc air (maximum concentration admitted). <p>Indicative P: shows that substance penetrates the body through skin or mucous, intact (untouched) membranes.</p> <p>Annex 16. Biological tolerable limits: 200 µg/l Hg in urine; µg/100 ml Hg in blood.</p> <p>International instruments – Romania has ratified the Basel Convention and its amendment.</p>
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Table - Overview of existing and future national actions, including legislation, relevant to mercury

III. EASTERN EUROPEAN STATES - Standards for environmental media, Actions and regulations that control releases from environmental sources that contain mercury, Actions and regulations on product sources that contain mercury and other standards, regulations and programmes relevant to mercury

COUNTRY	GMA SUB-MISSION	STANDARDS FOR ENVIRONMENTAL MEDIA maximum acceptable mercury concentration for different media	ACTIONS AND REGULATIONS THAT CONTROL RELEASES FROM ENVIRONMENTAL SOURCES that contain mercury	ACTIONS AND REGULATIONS ON PRODUCTS that contain mercury	OTHER STANDARDS, ACTIONS AND PROGRAMMES relevant to mercury
		<p>pool water: 1 µg/dm³ Hg.</p> <p>STAS no. 9450/83 for crop irrigation: Class I : 0.02 mg/dm³; Class II: 0.05 mg/dm³.</p> <p>Water for shellfish - In accordance with Government Decision 201/22.03.2002 for approval of Technical Norms for quality of mollusc (shellfish) water, at article 2, point 3, it is specified: "the regime of used water which are evacuated into polluted sea zones with molluscs will comply with NTPA-001 provisions (stipulations)".</p> <p>In Technical Norms, Annex no. 1, at point no. 9 regarding indicators for quality water for molluscs, it is specified that every substance concentration must be confined (limited) so that adequate (suitable) quality of derived products for human consumption will be provided.</p> <p>At maximum permissible limits, there is specification regarding every substance concentration, from water for mollusc or mollusc meat, which must not reach or exceed a level which may induce undesirable effects for mollusc or for their larvae. Synergic effects of this metal must be taken into consideration.</p>	<p>soil intended for agriculture: 16-25 mg per kg dry matter;</p> <ul style="list-style-type: none"> limit values for annual quantities of heavy metals which may be introduced into soil intended for agriculture on a average of 10 years: 0.1 kg/ha/year. 	<p>main 0.007%.</p> <ul style="list-style-type: none"> Appendage 2D point 16. <p>Fenilmercury salt (inclusive borat) Maximum acceptable concentration:</p> <ul style="list-style-type: none"> 0.007% (Hg) . In case of mixing with another mercury compounds admitted by the present law, maximum concentration in Hg is still 0.007%. <p>Dental amalgam - SR EN 21559:1998 – Dental Sector (Stomatology). Conditions of chemical compounds: maximum acceptable concentration: 3% (m/m).</p> <p>Pesticides - In accordance with Urgency Ordonance no. 4/1995 approved by Law no. 85/1995 on fabrication, commercialization and utilization of pesticides products to control diseases, pests and weeds in agriculture and forestry, art. 36, letter (a) it was prohibited for mercury products to be fabricated in the country territory beginning on 1 January 1995 and its utilization in country territory beginning on 15 November 1995.</p>	
Russian Federation	-				International instruments – The Russian Federation has ratified the Helsinki Convention (HELCOM). And the Basel Convention.
Slovakia	Yes	Drinking water – Highest permissible level of mercury in drinking water: 0.001 mg/l (Slovak technical standard on water quality -drinking water)			Occupational safety and health – Occupational exposure limits: time weighed average 0,05 mg/m ³ , threshold limit value 0,15 mg/m ³ .

					International instruments – Slovakia has ratified the Basel Convention and its amendment and the Stockholm Convention.
Slovenia	-				International instruments - Slovenia has ratified the Basel Convention and Rotterdam Convention.
Former Yugoslav Republic of Macedonia	-				International instruments – The Former Yugoslav Republic of Macedonia has ratified the Basel Convention.
Ukraine	-				International instruments – Ukraine has ratified the Basel Convention.
Yugoslavia	-				International instruments – Yugoslavia has ratified the Basel Convention.

Table - Overview of existing and future national actions, including legislation, relevant to mercury

IV. LATIN AMERICAN AND CARIBBEAN STATES - Standards for environmental media, Actions and regulations that control releases from environmental sources that contain mercury, Actions and regulations on product sources that contain mercury and Other standards, regulations and programmes relevant to mercury

COUNTRY	GMA SUB-MISSION	STANDARDS FOR ENVIRONMENTAL MEDIA maximum acceptable mercury concentration for different media	ACTIONS AND REGULATIONS THAT CONTROL RELEASES FROM ENVIRONMENTAL SOURCES that contain mercury	ACTIONS AND REGULATIONS ON PRODUCTS that contain mercury	OTHER STANDARDS, ACTIONS AND PROGRAMMES relevant to mercury
Antigua and Barbuda	-				International instruments – Antigua and Barbuda has ratified the Basel Convention.
Argentina	-				International instruments – Argentina has ratified the Basel Convention.
Bahamas	Yes	Drinking water - There are no legislated standards, however, for drinking water, the Bahamas is guided by WHO guidelines, which includes a recommended limit of 1 : g/l mercury. Foodstuffs - There are plans to monitor fisheries products for heavy metal content.	No legislation exists specific to mercury, however, the Environmental Health Services Act prohibits the uncontrolled release of pollutants into the environment. Waste treatment - A hazardous waste management plan is being developed. Plans include establishment of processing and storage facilities, and provide for export of some wastes in accordance with the terms of the Basel Convention New sanitary landfills are being constructed. Management plans include monitoring of leachate and surrounding ground water for heavy metals.	There have been no national initiatives to control the use of products containing mercury.	International instruments – Bahamas has ratified the Basel Convention.
Barbados	-				International instruments – Barbados has ratified the Basel Convention.
Belize	-				International instruments – Belize has ratified the Basel Convention.
Bolivia	-				International instruments – Bolivia has ratified the Basel Convention.
Brazil	Yes		Gold mining – A 1989 decree prohibits the use of mercury in gold mining except where a special license has been issued that addresses the key issues of emissions, occupational health and waste.		Monitoring programmes – The Brazilian Institute of Environment (IBAMA) in conjunction with the Ministry of Environment are implementing a National Monitoring Programme for the Amazon Region, giving priority to exposure assessment in the Amazon. International instruments – Brazil has ratified the Basel Convention.
Chile	-				International instruments – Chile has ratified the Basel Convention.
Colombia	Yes		Gold mining – Currently, 5 mining-environment centers have been established	Pesticides - Mediante Resolución 2189 de 1974 el Instituto Colombiana Agropec-	International instruments – Colombia has ratified the Basel Convention.

			<p>lished in the south-west region of Colombia. The centres have infrastructure for analysis of mercury and other heavy metals, smelting facilities for distillation of amalgam in order to recover gold and mercury for reactivation and reuse, with which the loss of mercury to the atmosphere is reduced to maximum 2%, i.e. 98% of the mercury from the amalgam is reincorporated into the production process. The centre provides technical assistance, capacity building and social services to the miners. The services are subsidized.</p>	<p>uario (ICA) of the Ministry of Agriculture cancelled the registration of fungicides for agricultural use based on mercury compounds. Presently, no registration has been granted for any mercury-based pesticide.</p>	
Costa Rica	Yes			<p>Paints - Executive decree No. 24334.S "Reglamento para la Regulación del Contenido del Plomo y Mercurio en Pinturas", sets a maximum limit of mercury in paints to 0,005%.</p>	<p>Information requirements - Executive decree No. 28 113-S "Reglamento para el Registro de Productos Peligrosos" of 28 October 1999 requires the provision of material safety data sheets (MSDS) with information on toxicology and potential effects of mercury on human health and the environment for mercury and mercury containing compounds.</p> <p>International instruments – Costa Rica has ratified the Basel Convention.</p>
Cuba	Yes	<p>Drinking water - The Norma Cubana NC 93-02:1985 Drinkable Water. Sanitary requirements and sampling, it establishes the specifications for drinkable water, with an acceptable maximum content of 0.001 mg/l of total mercury and 0.1 : g/l of diethylmercury.</p> <p>The Norma Cubana NC 2:1996 Water Of Packed Drink. Specifications, it establishes the specifications for the drink water packed with a permissible maximum content of 0.01 mg Hg/l.</p> <p>Foodstuffs The Norma Cubana NC 38-02-06:87 Metallic Pollutants In Foods. Sanitary regulations, it establishes the acceptable maximum levels of Mercury in foods in the following values:</p> <ul style="list-style-type: none"> • Fresh fish: 0.5 non depredators species 1.0 depredators species • Juices and nectars: 0.01 • Common salt: 0.01 • Sugar refines: 0.01 	<p>Air quality - The Norma Cubana NC 39:99 Quality Of The Air. Requirements hygienic sanitariums, it establishes a maximum content of 0.0003 mg/m³ of mercury in inhabitable areas.</p> <p>Water quality - The Norma Cubana NC 27:99 Disposals Of Residual Waters To The Terrestrial Waters And The Sewer System. Specifications, it establishes the maximum content in the wastes of 0.01 mg Hg/l.</p> <p>Chlor-alkali production – Cuba has currently one chlor-alkali production plant that uses mercury cell technology. The possibility of substituting this technology for mercury free membrane technology is under consideration.</p>	<p>Pesticides - Ministerial Resolution Number 268 of 1990 of the Ministry of the Agriculture bans the use of inorganic mercury compounds in agricultural and Ministerial Resolution Number 181 of 1995 of the Ministry of Agriculture bans the use of organic mercury compounds in agriculture.</p>	<p>Occupational safety and health - The Norma Cubana NC 19-01-03: 88 Air Of The Area Of Work. Requirements hygienic sanitariums, it settles down as Maximum Acceptable Concentration of Mercury 0.01 mg/m³ and 0.005 mg/m³ like average in the work shift.</p> <p>International instruments – Cuba has ratified the Basel Convention.</p>

IV. LATIN AMERICAN AND CARIBBEAN STATES - Standards for environmental media, Actions and regulations that control releases from environmental sources that contain mercury, Actions and regulations on product sources that contain mercury and Other standards, regulations and programmes relevant to mercury

COUNTRY	GMA SUB-MISSION	STANDARDS FOR ENVIRONMENTAL MEDIA maximum acceptable mercury concentration for different media	ACTIONS AND REGULATIONS THAT CONTROL RELEASES FROM ENVIRONMENTAL SOURCES that contain mercury	ACTIONS AND REGULATIONS ON PRODUCTS that contain mercury	OTHER STANDARDS, ACTIONS AND PROGRAMMES relevant to mercury
		<p>For all the others foods the presence of Mercury is not admitted.</p> <p>The same norm establishes the sanitary regulations for the maximum levels of ingestion for mercury and compounds as:</p> <ul style="list-style-type: none"> • 0.005 mg/kg body weight as Acceptable Weekly Ingestion for total mercury. • 0.0033 mg/kg body weight as Acceptable Weekly Ingestion for mercury. 			
Dominica	-				International instruments – Dominica has ratified the Basel Convention.
Dominican Republic	-				International instruments – Dominican Republic has ratified the Basel Convention.
Ecuador	-				International instruments – Ecuador ratified Basel Convention and its amendment.
El Salvador	-				International instruments – El Salvador has ratified the Basel Convention and Rotterdam Convention.
Grenada	-				
Guatemala	-				International instruments – Guatemala has ratified the Basel Convention.
Guyana	-				International instruments – Guyana has ratified the Basel Convention.
Haiti	-				
Honduras	Yes	No standards exist regulating mercury in air, food, soils and biological fluids.	<p>Chlor-alkali industry – No measures for environmental management exist.</p> <p>Energy production – No data exist with regard to coal consumption. It is necessary to develop an inventory, in order to develop control policies.</p> <p>Gold mining – Artisanal gold mining is common in Honduras, but no official</p>		International instruments – Honduras has ratified the Basel Convention.

			<p>registration or controls are in place.</p> <p>Sewage water - Standards for wastewater: maximum concentration for the mercury 0.01 mg/l (agreement No 058 of April 9, 1996, in force from December 13, 1997).</p> <p>Waste incineration – Insufficient knowledge of incineration practises in Honduras. It is necessary to develop legislation to regulate and control these activities.</p>		
Jamaica	Yes				<p>As far as is known, there are no releases of mercury to the environment in Jamaica hence there are no prevention and control technologies and practises in place.</p> <p>International instruments – Jamaica has ratified the Rotterdam Convention.</p>
Mexico	Yes				<p>The submission provided limited information with regards to legislation or ongoing activities to reduce release of mercury in Mexico.</p> <p>International instruments – Mexico has ratified the Basel Convention.</p>
Nicaragua	-				<p>International instruments – Nicaragua has ratified the Basel Convention.</p>
Panama	Yes	<p>Drinking water - Drinking Water Quality Standards: technical regulation DGNTI-COPANIT 23-395-99, “Definitions and general requirements for drinking water”, establishes a maximum acceptable mercury concentration of 0.001 mg/l on drinking water.</p> <p>Water Quality Standards - technical regulation DGNTI-COPANIT 24-99, “Re-use of Treated Wastewater”, establishes maximum acceptable concentrations of mercury, in treated wastewater according to the following uses and concentrations:</p> <ul style="list-style-type: none"> • Irrigation - 0.001 mg Hg/l • Aquaculture and aquatic life - 0.001 mg Hg/l 	<p>The triennial norms program (2001 – 2003) indicates that the National Environmental Authority is going to work in the elaboration of the following norms: marine water quality standards, fixed sources emission standards, soil quality standards, hazardous waste disposition standards, and standards for thermal processing of hazardous wastes.</p> <p>Water point sources – Wastewater: technical regulation DGNTI-COPANIT 35-2000, “Wastewater Releases Directly to Subterranean and Superficial Water Bodies”, establishes a maximum acceptable mercury concentration on wastewater, as Hg, of 0.001 mg/l.</p> <p>Technical regulation DGNTI-COPANIT 39-2000, “Wastewater Releases Directly to Sewage Systems”, establishes a maximum acceptable mercury concentration on wastewater, as Hg, of 0.02 mg/l.</p> <p>Resolution AG-0026-2002, “Chronograms of Compliance for the Characterization and Adaptation to the Technical Regula-</p>		<p>Occupational health and safety – Indoor Air Quality Standards: technical Regulation DGNTI-COPANIT 43-2001, “Conditions of Hygiene and Security for the Control of the Atmospheric Contamination on Indoor Environments Produced by Chemical Substances”, establishes the following maximum acceptable concentrations:</p> <ul style="list-style-type: none"> • Mercury (Ariols and organic) - 0.1 mg/m³ • Mercury (Organic) - 0.01 mg/m³ • Mercury (Vapor) - 0.025 mg/m³ <p>CPT = Mean concentration on time (8 hours of exposition and for which the majority of exposed workers do not present adverse health effects)</p> <p>CCT = Concentration for short time expositions (not greater than 15 minutes, for 4 times in a journey, and with exposition lack periods greater than 1 hour among two successive expositions)</p> <p>International instruments - Panama has ratified the Basel Convention and its amendment and the Rotterdam Convention.</p>

IV. LATIN AMERICAN AND CARIBBEAN STATES - Standards for environmental media, Actions and regulations that control releases from environmental sources that contain mercury, Actions and regulations on product sources that contain mercury and Other standards, regulations and programmes relevant to mercury

COUNTRY	GMA SUB-MISSION	STANDARDS FOR ENVIRONMENTAL MEDIA maximum acceptable mercury concentration for different media	ACTIONS AND REGULATIONS THAT CONTROL RELEASES FROM ENVIRONMENTAL SOURCES that contain mercury	ACTIONS AND REGULATIONS ON PRODUCTS that contain mercury	OTHER STANDARDS, ACTIONS AND PROGRAMMES relevant to mercury
			<p>tions for Wastewater DGNTI-COPANIT 35-2000 and DGNTI-COPANIT 39-2000”, indicates that those commercial and industrial activities that release wastewater with mercury concentrations over the maximum acceptable levels established on the technical regulations, they will have to characterize their wastewater no later than December 2002, and to adapt their wastewater to the technical regulation no later than December 2004.</p> <p>Sludge - technical regulation DGNTI-COPANIT 47-2000, “Sludges Uses and Final Disposition”, establishes a maximum acceptable mercury concentration in sludges originated on wastewater treatment plants, according to the following uses:</p> <ul style="list-style-type: none"> • Fertilizer Production: Maximum concentration 57 mg Hg/kg • Agriculture Applications: Maximum concentration 25 mg Hg/kg <p>This technical regulation also establishes the maximum allowable load of pollutant for sludge use in agriculture: 0.85 kilograms/hectare/year.</p> <p>Waste treatment, including incineration - Currently, it is under discussion the Framework Law for the Management of Hazardous Substances and Wastes.</p>		
Paraguay	-				International instruments – Paraguay ratified the Basel Convention and its amendment.
Peru	Yes	Irrigation water - mercury limit value for irrigation water: 0,01 mg/l, set in the General Law of Waters, class III, modified 1993.	Waste treatment - The Ministry of Transport, Communication, Habitat and Construction has elaborated a draft Regulation for Transport of Dangerous Waste that, although not specific for it, covers mercury. The Ministry is drafting a study		International instruments – Peru has ratified the Basel Convention.

			for the Regulation of Transport of Dangerous Substances or Materials, which will also cover mercury.		
Saint Kitts and Nevis	-				International instruments – Saint Kitts and Nevis has ratified the Basel Convention.
Saint Lucia	-				International instruments – Saint Lucia ratified Basel Convention and its amendment and the Stockholm Convention.
Saint Vincent and the Grenadines	-				International instruments – Saint Vincent and the Grenadines has ratified the Basel Convention.
Suriname	Yes		<p>Small-scale gold mining – Most mercury use is related to small scale gold digging activities. The sector involves thousands of people of mainly Maroon origin, together with thousand of Brazilian gold diggers (or garimpeiros). Suriname faces enormous environmental and social problems derived from poor and detrimental mining methods practices. The most common method used to recover fine-grained gold is mercury base. For each kilogram of gold recovered, the same amount of mercury is used of which 95% is released in the atmosphere. Gold production is estimated at 15000 kg a year. An estimated 135 tonnes of mercury may have been emitted into the forest environment and probably urban atmosphere as well, since the beginning of the gold rush in 1993.</p> <p>A project to reduce the negative impacts of artisanal goldmining has been submitted to the O.A.S. for funding. The objective is introduction of sustainable mining methods in the goldminingsector. Execution will take place in 2003 and 2004.</p> <p>A second project is a bilateral project between Suriname and Brazil, initiated by the Pan American Health Organization in Suriname and Brazil. The objectives are:</p> <ul style="list-style-type: none"> (a) to reduce occupational and general health hazards for the goldminers in the interior of Suriname and their families; (b) to reduce the negative health impact from gold mining on the general population in the affected area and (c) to promote best mining practices with regards to elimination of the use of Mer- 		<p>Limited information was provided with regards to legislation or ongoing activities to reduce release of mercury in Suriname.</p> <p>International instruments - Suriname has ratified the Rotterdam Convention.</p>

IV. LATIN AMERICAN AND CARIBBEAN STATES - Standards for environmental media, Actions and regulations that control releases from environmental sources that contain mercury, Actions and regulations on product sources that contain mercury and Other standards, regulations and programmes relevant to mercury

COUNTRY	GMA SUB-MISSION	STANDARDS FOR ENVIRONMENTAL MEDIA maximum acceptable mercury concentration for different media	ACTIONS AND REGULATIONS THAT CONTROL RELEASES FROM ENVIRONMENTAL SOURCES that contain mercury	ACTIONS AND REGULATIONS ON PRODUCTS that contain mercury	OTHER STANDARDS, ACTIONS AND PROGRAMMES relevant to mercury
Trinidad and Tobago	Yes		<p>cury among artisanal gold miners.</p> <p>Gas and petroleum processing – When processing natural gas contaminated with mercury, mercury present in the gas is removed by absorption onto an activated carbon-based absorbent. The spent absorbent cannot be regenerated, and is encapsulated and returned to the supplier for recycling and/or proper disposal.</p> <p>Waste treatment – A significant problem in pollution control is lack of appropriate facilities for collection, storage and disposal of hazardous waste. This lack generally results in accumulation and storage of waste on site until an appropriate disposal method or location can be found, or inappropriate disposal on site of the waste.</p>	<p>Lighting - Replacement of devices that contain mercury. Currently, a major manufacturer of lighting fixtures has switched to low-mercury fluorescent lamps containing up to 3 mg mercury per lamp. The lamps are classified as non-hazardous waste in the United States, and can be disposed of in municipal landfills. These low-mercury fluorescent lamps are available in Trinidad and Tobago - their use is one means of control of mercury.</p> <p>Pesticides – Mercury was used in paints as a fungicide, but today on the whole, mercury has been replaced by other biocides. Pesticides containing mercury are no longer imported.</p>	<p>There have been limited attempts at prevention and control of mercury release.</p> <p>A common means of contamination prevention in industry is to return items like catalysts to the supplier abroad.</p> <p>International instruments – Trinidad and Tobago has ratified the Basel Convention and its amendment.</p>
Uruguay	-				International instruments – Uruguay has ratified the Basel Convention and its amendment.
Venezuela	-				International instruments – Venezuela has ratified the Basel Convention.

V. WESTERN EUROPE AND OTHER STATES - Part 1 on Standards for environmental media and Actions and regulations that control releases from environmental sources that contain mercury

COUNTRY	GMA SUB-MISSION	STANDARDS FOR ENVIRONMENTAL MEDIA maximum acceptable mercury concentration for different media	ACTIONS AND REGULATIONS THAT CONTROL RELEASES FROM ENVIRONMENTAL SOURCES that contain mercury																																																											
Andorra	-																																																													
Australia	Yes	<p>Water - Trigger values for fresh and marine waters at alternative levels of protection. Extracted from <i>Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000</i>, Table 3.4.1.</p> <table border="1" data-bbox="450 491 1182 719"> <thead> <tr> <th data-bbox="450 491 584 555">Chemical</th> <th colspan="4" data-bbox="584 491 882 555">Trigger values for freshwater μgL^{-1}</th> <th colspan="4" data-bbox="882 491 1182 555">Trigger values for marine water μgL^{-1}</th> </tr> <tr> <td data-bbox="450 555 584 608"></td> <th colspan="4" data-bbox="584 555 882 608">Level of protection (% species)</th> <th colspan="4" data-bbox="882 555 1182 608">Level of protection (% species)</th> </tr> <tr> <td data-bbox="450 608 584 719" rowspan="2">Mercury (inorganic)</td> <th data-bbox="584 608 656 639">99%</th> <th data-bbox="656 608 728 639">95%</th> <th data-bbox="728 608 799 639">90%</th> <th data-bbox="799 608 871 639">80%</th> <th data-bbox="882 608 954 639">99%</th> <th data-bbox="954 608 1025 639">95%</th> <th data-bbox="1025 608 1097 639">90%</th> <th data-bbox="1097 608 1182 639">80%</th> </tr> <tr> <td data-bbox="584 639 656 719">0.06</td> <td data-bbox="656 639 728 719">0.6</td> <td data-bbox="728 639 799 719">1.9</td> <td data-bbox="799 639 871 719">5.4</td> <td data-bbox="882 639 954 719">0.1</td> <td data-bbox="954 639 1025 719">0.4</td> <td data-bbox="1025 639 1097 719">0.7</td> <td data-bbox="1097 639 1182 719">1.4</td> </tr> </thead> </table> <p>Irrigation water- Agricultural irrigation water long-term trigger value (LTV), short-term trigger value (STV) and soil cumulative contaminant loading limit (CCL) triggers. Extracted from <i>Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000</i>, Table 4.2.10.</p> <table border="1" data-bbox="450 852 1182 991"> <thead> <tr> <th data-bbox="450 852 577 932">Element</th> <th data-bbox="577 852 728 932">Suggested soil CCL (kg/ha)</th> <th data-bbox="728 852 954 932">LTV in irrigation water (long-term use — up to 100 yrs) (mg/L)</th> <th data-bbox="954 852 1182 932">STV in irrigation water (short-term use — up to 20 yrs) (mg/L)</th> </tr> </thead> <tbody> <tr> <td data-bbox="450 959 577 991">Mercury</td> <td data-bbox="577 959 728 991">2</td> <td data-bbox="728 959 954 991">0.002</td> <td data-bbox="954 959 1182 991">0.002</td> </tr> </tbody> </table> <p>Livestock drinking water - Recommended water quality trigger values (low risk) for livestock drinking water. Extracted from <i>Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000</i>, Table 4.3.2.</p> <table border="1" data-bbox="450 1098 1182 1155"> <thead> <tr> <th data-bbox="450 1098 728 1129">Metal or metalloid</th> <th data-bbox="728 1098 1182 1129">Trigger value (low risk) (mg/L)</th> </tr> </thead> <tbody> <tr> <td data-bbox="450 1129 728 1155">Mercury</td> <td data-bbox="728 1129 1182 1155">0.002</td> </tr> </tbody> </table> <p>Water for aquaculture - Toxicant guidelines for the protection of aquaculture species. Extracted from <i>Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000</i>, Table 4.4.3.</p> <table border="1" data-bbox="450 1262 1182 1353"> <thead> <tr> <th data-bbox="450 1262 707 1294" rowspan="2">Measured parameter</th> <th colspan="2" data-bbox="707 1262 1182 1294">Guideline ($\mu\text{g/L}$)</th> </tr> <tr> <th data-bbox="707 1294 954 1326">Freshwater production</th> <th data-bbox="954 1294 1182 1326">Saltwater production</th> </tr> </thead> <tbody> <tr> <td data-bbox="450 1326 707 1353">Mercury</td> <td data-bbox="707 1326 954 1353"><1</td> <td data-bbox="954 1326 1182 1353"><1</td> </tr> </tbody> </table> <p>Water for recreational purposes - Water quality guidelines extracted from <i>Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000</i>, Table 5.2.3 .</p> <table border="1" data-bbox="450 1458 1182 1522"> <thead> <tr> <th data-bbox="450 1458 689 1490">Parameter</th> <th data-bbox="689 1458 1182 1490">Guideline values ($\mu\text{g/L}$, unless otherwise stated)</th> </tr> </thead> <tbody> <tr> <td data-bbox="450 1490 689 1522">Mercury</td> <td data-bbox="689 1490 1182 1522">1</td> </tr> </tbody> </table>	Chemical	Trigger values for freshwater μgL^{-1}				Trigger values for marine water μgL^{-1}					Level of protection (% species)				Level of protection (% species)				Mercury (inorganic)	99%	95%	90%	80%	99%	95%	90%	80%	0.06	0.6	1.9	5.4	0.1	0.4	0.7	1.4	Element	Suggested soil CCL (kg/ha)	LTV in irrigation water (long-term use — up to 100 yrs) (mg/L)	STV in irrigation water (short-term use — up to 20 yrs) (mg/L)	Mercury	2	0.002	0.002	Metal or metalloid	Trigger value (low risk) (mg/L)	Mercury	0.002	Measured parameter	Guideline ($\mu\text{g/L}$)		Freshwater production	Saltwater production	Mercury	<1	<1	Parameter	Guideline values ($\mu\text{g/L}$, unless otherwise stated)	Mercury	1	<p>Gold mining - The historic use of mercury to amalgamate gold in mining operations is of particular relevance in Australia as old sites may have high mercury contamination. Although mercury is no longer used in larger gold mining and processing operations, some small alluvial and underground mines still use it to remove free gold from concentrates. Ideally the gold amalgams containing mercury (similar to use in conventional battery manufacture) are retorted to volatilise the mercury, which is then collected for re-use, but some mercury is inevitably released to the environment.</p>
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V. WESTERN EUROPE AND OTHER STATES - Part 1 on Standards for environmental media and Actions and regulations that control releases from environmental sources that contain mercury

COUNTRY	GMA SUB-MISSION	STANDARDS FOR ENVIRONMENTAL MEDIA maximum acceptable mercury concentration for different media	ACTIONS AND REGULATIONS THAT CONTROL RELEASES FROM ENVIRONMENTAL SOURCES that contain mercury															
		<p>Drinking water - Guidelines extracted from <i>Australian Drinking Water Guidelines</i>, Guidelines for Inorganic Chemicals.</p> <table border="1" data-bbox="450 419 1182 614"> <thead> <tr> <th data-bbox="450 419 555 443">Chemical</th> <th data-bbox="577 419 801 467">Guideline Values (mg/L):</th> <th data-bbox="813 419 1182 467">Comments and possible sources of contamination</th> </tr> <tr> <td data-bbox="450 480 555 504"></td> <td data-bbox="577 480 801 504">Health Aesthetic</td> <td data-bbox="813 480 1182 504"></td> </tr> <tr> <td data-bbox="450 512 555 536">Mercury</td> <td data-bbox="577 512 801 536">0.001 None listed</td> <td data-bbox="813 512 1182 614">From industrial emissions/spills. Very low concentrations occur naturally. Organic forms most toxic, but these are associated with biota, not water.</td> </tr> </thead></table> <p>Sediment - Recommended quality guidelines extracted from <i>Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000</i>, Table 3.5.1.</p> <table border="1" data-bbox="450 722 1182 810"> <thead> <tr> <th data-bbox="450 722 734 746">Contaminant</th> <th data-bbox="745 722 913 770">ISQG-Low (Trigger value)</th> <th data-bbox="925 722 1182 746">ISQG-High</th> </tr> </thead> <tbody> <tr> <td data-bbox="450 786 734 810">Mercury (mg/kg dry wt)</td> <td data-bbox="745 786 913 810">0.15</td> <td data-bbox="925 786 1182 810">1</td> </tr> </tbody> </table> <p>Foodstuffs – Fish and seafood: The Australian Food Standards Code - Maximum mercury levels: Fish known to contain high levels of mercury: 1.0 mg/kg (such as swordfish, southern bluefin tuna, barramundi, ling, orange roughy, rays, shark) All other species of fish: 0.5 mg/kg. Crustaceans and molluscs: 0.5 mg/kg.</p> <p>These limits ensure that the vast majority of people in the community are not exposed to any significant health risks through the presence of mercury in fish. There is, however, cause for concern about the potential exposure to mercury for pregnant women consuming large amounts of fish with high mercury levels, because of the sensitivity of the foetus to mercury. The Australia New Zealand Food Authority has issued a fish advisory - it is recommended that pregnant women (and women considering pregnancy) should limit their consumption of some types of fish: shark/flake, ray, swordfish, barramundi, gemfish, orange roughy, ling, southern bluefin tuna and fish caught in geothermal waters, to four portions per week (average portion about 150 g). Other fish, including canned tuna, can be consumed as often as desired.</p> <p>Tolerable Weekly Intake - PTWI for mercury for pregnant women: 2.8 µg/kg body weight/week.</p>	Chemical	Guideline Values (mg/L):	Comments and possible sources of contamination		Health Aesthetic		Mercury	0.001 None listed	From industrial emissions/spills. Very low concentrations occur naturally. Organic forms most toxic, but these are associated with biota, not water.	Contaminant	ISQG-Low (Trigger value)	ISQG-High	Mercury (mg/kg dry wt)	0.15	1	
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Contaminant	ISQG-Low (Trigger value)	ISQG-High																
Mercury (mg/kg dry wt)	0.15	1																
Austria	Yes	(See also European Community)	(See also European Community)															
Belgium	-	(See also European Community)	(See also European Community)															

Canada	Yes	<p>Water - Water Quality Guidelines for mercury - Drinking water: 1 µg/l. Water – aquatic life: Freshwater: 0.1 µg/l. Marine: -</p> <p>(Applies to total mercury; revised guidelines for inorganic and methylmercury are currently under approval)</p> <p>Water – agriculture: Irrigation: - Livestock: 3 µg/l.</p> <p>Sediment: Freshwater: 170 µg/kg. Marine: 130 µg/kg.</p> <p>(Interim sediment quality guidelines; apply to total mercury) Tissue residue: 33 µg/kg diet ww. (Applies to methylmercury)</p> <p>Soil - Soil Quality Guidelines for inorganic mercury: Agricultural: 6.6 mg/kg Residential/Parkland: 6.6 mg/kg Commercial: 24 mg/kg Industrial: 50 mg/kg</p> <p>Compost – Centralized composting sites are becoming increasingly wide-spread as a result of recycling activities. The maximum amount of mercury allowed in compost is 5 mg/kg under the <i>Fertilizers Act</i>, administered by Agriculture Canada.</p> <p>Foodstuffs – Fish: Maximum allowable limit for total mercury content in most domestic and imported commercial fish: 0.5 ppm. Health Canada advises Canadians to limit consumption of shark, swordfish and fresh and frozen tuna, to one meal per week. Pregnant women, women of child-bearing age and young children should eat no more than one meal per month.</p> <p>Provisional Tolerable Daily Intake – In Canada, the Tolerable Daily Intake (TDI) for mercury for adults is 0.47 µg/kg b.w./day. Canada recently set a temporary or provisional TDI for mercury of 0.2 µg/kg b.w./day for women of child-bearing age and young children, based on health considerations for pre-natal exposure and during the period of early central nervous system development in childhood.</p> <p>Concentrations in biological materials – Categories: “Normal acceptable range”: mercury levels in blood of less than 20 ppb and in hair of less than 6 ppm are considered normal. “Increasing risk” in exposed individuals: mercury levels in the range of 20-100 ppb in blood and 6-30 ppm in hair are considered to be in this category. Although it is assumed there is no risk of toxicity in these people, caution is indicated and appropriate advice provided. “At risk” category for toxicity: Individuals with methylmercury levels above 100 ppb in blood or 30 ppm in hair.</p>	<p>Air and water point sources - Under the umbrella of the Canadian Council of Ministers of the Environment (CCME), federal, provincial and territorial governments work cooperatively to establish standards to achieve environmental objectives. The CCME have undertaken a number of Canada Wide Standards (CWS) to reduce anthropogenic emissions of mercury.</p> <p>Base metal smelting: A Canada-wide standard in the form of source performance guidelines has been established for base metal smelters. For existing facilities, the guideline is 2 g Hg/tonne of finished metal, while for new and expanded facilities the performance guideline is 0.2 g Hg/tonne of finished zinc, nickel and lead, and 1 g Hg/tonne of finished copper.</p> <p>Chlor-alkali production – The Chlor-Alkali Mercury Release Regulations under CEPA (1999) limit the release of mercury into ambient air from mercury cell chlor-alkali plants. The Regulations also include provisions with respect to reporting releases, malfunctions and breakdowns. The regulations prescribe the following release limits:</p> <ol style="list-style-type: none"> (1) The quantity of mercury that the owner or operator of a plant may release into the ambient air from that plant shall not exceed <ol style="list-style-type: none"> (a) 5 grams per day per 1,000 kilograms of rated capacity, where the source of the mercury is the ventilation gases exhausted from cell rooms; (b) 0.1 gram per day per 1,000 kilograms of rated capacity, where the source of the mercury is the hydrogen gas stream originating from denuders; (c) 0.1 gram per day per 1 000 kilograms of rated capacity, where the source of the mercury is the ventilation gases exhausted from end boxes; and (d) 0.1 gram per day per 1,000 kilograms of rated capacity, where the source of the mercury is the gases exhausted from retorts. (2) No mercury shall be released directly into the ambient air from a tank. (3) Notwithstanding subsection (1), the total amount of mercury that the owner or operator of a plant may release into the ambient air from the sources specified in subsection (1) shall not exceed 1.68 kilograms per day. <p>The Chlor-Alkali Mercury Liquid Effluent Regulations under the Fisheries Act limit the level of mercury contained in effluent from chlor-alkali plants. The regulations state that mercury deposited in effluent in any day must not exceed 0.00250 kilogram per tonne of chlorine times the reference production rate of the particular plant. The regulations include provisions with respect to sampling, testing and reporting.</p> <p>Energy production – A Canada Wide Standard is currently being developed for the coal-fired electricity generation sector.</p> <p>Waste treatment, including incineration: A Canada-wide Standard has been established to limit emissions from incinerators. Limits are expressed as a concentration of mercury in the exhaust gas exiting the facility. Each government may choose the most appropriate measures to implement the standard within their jurisdiction.</p> <table border="1" data-bbox="1211 1283 1890 1474"> <thead> <tr> <th>Type of Incinerator</th> <th>Max. Hg conc. in exhaust gases</th> </tr> </thead> <tbody> <tr> <td>Existing Facilities</td> <td></td> </tr> <tr> <td>Municipal waste</td> <td>20 µg/Rm³</td> </tr> <tr> <td>Medical waste > 120 tonnes/year</td> <td>20 µg/Rm³</td> </tr> <tr> <td>Medical waste < 120 tonnes/year</td> <td>40 µg/Rm³</td> </tr> </tbody> </table>	Type of Incinerator	Max. Hg conc. in exhaust gases	Existing Facilities		Municipal waste	20 µg/Rm ³	Medical waste > 120 tonnes/year	20 µg/Rm ³	Medical waste < 120 tonnes/year	40 µg/Rm ³
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V. WESTERN EUROPE AND OTHER STATES - Part 1 on Standards for environmental media and Actions and regulations that control releases from environmental sources that contain mercury

COUNTRY	GMA SUB-MISSION	STANDARDS FOR ENVIRONMENTAL MEDIA maximum acceptable mercury concentration for different media	ACTIONS AND REGULATIONS THAT CONTROL RELEASES FROM ENVIRONMENTAL SOURCES that contain mercury														
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European Community ^{1/}	Yes	<p>Drinking water – <u>Council Directive 98/83/EEC</u> of 3 November 1998 on the quality of water intended for human consumption. According to Article 5 and Annex I, a maximum level of 1,0 µg/l was set out for mercury in drinking water. The Directive entered into force on 25 December 2000.</p> <p>Foodstuffs – <u>Commission Decision 93/351/EEC</u> of 19 May 1993, determining analysis methods, sampling plans and maximum limits for mercury in fishery products <u>Commission Decision 2001/182/EC</u> of 8 March 2001, repealing Decision 93/351/EEC determining analysis methods, sampling plans and maximum limits for mercury in fishery products <u>Commission Regulation (EC) No 466/2001</u> of 8 March 2001, setting maximum levels for certain contaminants in foodstuffs <u>Commission Directive 2001/22/EC</u> of 8 March 2001, laying down the sampling</p>	<p>Water point sources – <u>Council Directive 76/464/EEC</u> of 4 May 1976 on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community <u>Council Directive 82/176/EEC</u> of 22 March 1982 on limit values and quality objectives for mercury discharges by the chlor-alkali electrolysis industry <u>Council Directive 84/156/EEC</u> of 8 March 1984 on limit values and quality objectives for mercury discharges by sectors other than the chlor-alkali electrolysis industry <u>Directive 2000/60/EC of the European Parliament and of the Council</u> of 23 October 2000 establishing a framework for Community action in the field of water policy <u>Decision 2001/ /EC of the European Parliament and of the Council</u> of September 2001 establishing the list of priority substances in the field of water policy [Sent for publication]</p> <p>According to Article 2 of Directive 76/464/EEC, Member States shall take the appropriate steps to eliminate pollution in inland surface, territorial and internal coastal waters by the dangerous substances included in List I of the Annex which includes mercury and its compounds. Articles 5 and 6 lay down the provisions for authorisation of discharges and the setting of emission limit values and quality objectives. The Directives 82/176/EEC and 84/156/EEC provide for specific Commu-</p>														

^{1/} The European Community (EC) legislation reported here applies to all Member States of the EC. Currently, there are 15 Member States: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden and the United Kingdom.

		<p>methods and the methods of analysis for the official control of the levels of lead, cadmium, mercury and 3-MCPD in foodstuffs</p> <p>A maximum level of 0.5 mg/kg wet weight is set for mercury in fishery products, with the exception of the following fish species for which a separate maximum level of 1 mg/kg wet weight applies: anglerfish, atlantic catfish, bass, blue ling, bonito, eel, halibut, little tuna, marlin, pike, plain bonito, portuguese dogfish, rays, redfish, sail fish, scabbard fish, shark (all species), snake mackerel, sturgeon, swordfish and tuna.</p> <p>Commission Decision 93/351/EEC entered into force on 16 June 1993 and was repealed by Commission Decision 2001/182/EC, with effect from 5 April 2002.</p>	<p>and quality objectives. The Directives 82/176/EEC and 84/156/EEC provide for specific Community-wide standards regarding discharges of mercury for a considerable number of industrial sectors. In addition, Article 4 of Directive 84/156/EEC stipulates the requirement to draw up programmes to avoid or eliminate pollution caused by discharges of mercury from diffuse sources.</p> <p>The legal obligations of the above-referred Directives have recently been integrated into the <u>Water Framework Directive 2000/60/EC</u>.</p> <p>Article 16 of Directive 2000/60/EC provides for Community measures for substances included in the list of priority substances, i.e. those which present a significant risk to or via the aquatic environment. There are two level of measures: (i) priority substances are subject to emission reduction and (ii) priority hazardous substances are subject to cessation or phasing-out of emissions, discharges and losses within 20 years after adoption of measures. In addition, water quality standards are set out at Community level. Mercury is included in the recently adopted list of priority hazardous substance. Hence, the Community decided to phase-out releases of mercury in the aquatic environment within 20 years. The measures will be elaborated by the end of 2003.</p> <p>The provisions in Directive 79/464/EEC entered into force two years after adoption at the latest (4 May 1978). The deadline for implementation of the limit values varies according to different sectors. The pollution reduction programmes above referred shall apply as from 1 July 1989.</p> <p>The Directive 2000/60/EC entered into force on 22 December 2000. Member States shall bring into force the provisions necessary to comply with this Directive by 22 December 2003 and final implementation is foreseen for 22 December 2015.</p> <p>Air and water point sources - <u>Council Directive 96/61/EC</u> of 24 September 1996 concerning integrated pollution prevention and control</p> <p>The purpose of this Directive is to achieve integrated prevention and control of pollution arising from the activities listed in Annex I of the Directive (energy industries, production and processing of metals, mineral industry, chemical industry, waste management and other activities like intense livestock farming, pulp and paper industry and tanneries). It lays down the requirement applying best available techniques to prevent or, where that is not practicable, to reduce pollution of the air, water and land, including mercury and its compounds, from the above-mentioned activities, including measures concerning waste, in order to achieve a high level of protection of the environment taken as a whole. These provisions entered into force for new or substantially changed installations on 30 October 1999 and for existing installations after 30 October 2007.</p> <p>Reference documents on best available techniques (BREF) are finalised for several sectors or under development. An important document concerning mercury is the BREF on chlor-alkali manufacture process (http://eippcb.jrc.es/pages/FActivities.htm).</p> <p>Waste treatment, including incineration – <u>Directive 2000/76/EC of the European Parliament and of the Council</u> of 4 December 2000 on the incineration of waste.</p> <p>The aim of this Directive is to prevent or to limit as far as practicable negative effects on the environment, in particular pollution by emissions into air, soil, surface water and groundwater, and the resulting risks to human health, from the incineration and co-incineration of waste. Air emission limit values for waste incineration and co-incineration plants are set out in Annex II and V of the Directive. Emission limit values for discharges of wastewater from the cleaning of exhaust gases are established in Annex IV of the Directive. These provisions shall apply to new installations as from 28 December 2002 and for existing installations as from 28 December 2005. Reference documents on best available techniques (BREF) are finalised for several sectors or under development.</p>
Finland	Yes	(See also European Community)	(See also European Community)

V. WESTERN EUROPE AND OTHER STATES - Part 1 on Standards for environmental media and Actions and regulations that control releases from environmental sources that contain mercury

COUNTRY	GMA SUB-MISSION	STANDARDS FOR ENVIRONMENTAL MEDIA maximum acceptable mercury concentration for different media	ACTIONS AND REGULATIONS THAT CONTROL RELEASES FROM ENVIRONMENTAL SOURCES that contain mercury
		<p>Soil – Agricultural soil: Mercury concentration in agricultural soil may not exceed 0.2 mg/kg. (Council of State Decision 282/1994).</p>	<p>Air and Water point sources – There are individual maximum limit values for mercury in exhaust gases and wastewaters of industrial installations and waste incinerators.</p> <p>Dental sector – Wastewater from dental clinics may be discharged into public sewer systems or surface waters only after treatment in an amalgam separator with separation efficiency of at least 95%. (Council of State Decision 112/97, HELCOM Recommendation 6/4).</p> <p>Sludge – Sludge from wastewater treatment plants may be used as fertilizers in agriculture only if the concentration of mercury in the pre-treated sludge is under 1 mg/kg dry weight.</p>
France	Yes	<p>(See also European Community)</p> <p>Drinking water – According to the EU Drinking Water Directive and the decree 2001 – 1220 of 20.12.2001 implementing the Directive in France, the maximum level of mercury in drinking water is 1,0 µg/l.</p>	<p>(See also European Community)</p> <p>Air and water point sources: The order of 2.2.1998 includes general provisions on emissions to water and air of different pollutants including heavy metals from industrial sources.</p> <p>For emissions to air, the limit value of the sum of total mercury and cadmium and thallium (Hg + Cd + Tl) is 0.2 mg/m³ whatever the activity concerned.</p> <p>Combustion plants - There are specific provisions concerning large combustion plants. A new order of the Ministry is in preparation in France for this sector. It will include a limit emission value of 0.05 mg/m³ N for mercury and the sum Cd + Hg + Tl should not exceed 0.1 mg/m³ N for this particular sector.</p> <p>For emissions to water - There is specific provisions on mercury for the following sectors: monovinylchloride production; mercurial catalysts synthesis; other mercury compounds synthesis; primary batteries containing mercury; non ferrous metals industry; treatment of toxic waste containing mercury. The emission limit value of mercury in surface water from these sectors is 0.05 mg/l.</p> <p>Sludge – Decree of 10.12.1997 on the spreading of sludge from wastewater treatment plants - Sludge from wastewater treatment plants is considered waste, thus making the producer responsible for its elimination. Maximum mercury level in sludge is 10 mg/kg dry weight, and the maximum accumulation over 10 years must not bypass 0.015 g/m².</p> <p>Chlor-alkali production - There is a specific approach, in accordance with PARCOM decision 90/3, and the planned phasing out of mercury cells plants for 2010. An emission limit of 1.5 g Hg/T Cl₂ in all media is recommended by OSPAR before 2010. French plants are in compliance in 2001 with the limit of 1.5 g Hg/T Cl₂ emission in all media (air, water waste).</p> <p>Waste incineration : For hazardous industrial waste the order of 10.10.1996 imposes a emission limit in of mercury and its compounds (total mercury) of 0.05 mg/m³ in air and 0.05 mg/l in water since 1.7.2000 for new plant (built after 31.12.1996). For existing plants, the limit value in air is 0.1 mg/m³ since 1.7.2000. For domestic wastes the order of 25.1.1991 imposes a limit of 0.2 mg/m³ N of total cadmium and mercury summed. In addition, the EC directive of 4.12.2000 is being implemented in France.</p>
Germany	Yes	(See also European Community)	(See also European Community)

			<p>Air point sources - Basic general requirements for the prevention of atmospheric emissions from industrial installations with emission limits for air pollutants are laid down in the Technical Instructions according to the Federal Emission Control Act. This regulation is under revision currently. After revision the existing emission limit value for mercury of 0,2 mg/m³ for installations emitting more than 1 g/h will be reduced to 0,05 mg/m³ for installations emitting more than 0,25 g/h.)</p> <p>Chlor-alkali production - The best available technique for elimination of mercury from chlorine production is the use of the membrane technology instead of mercury cells. The phasing out of mercury cells by 2010 is recommended by PARCOM - Recommendation 90/93. According to German legislation new installations for chlorine production plants based on mercury are generally forbidden. For existing plants ambitious emission requirements should be installed by the coming revised Technical Instructions according to the Federal Emission Control Act with the aim to phase them out totally.</p> <p>Crematoriums - Concerning mercury there exist different approaches by the local authorities. Some demand 0,05 mg/Nm³ (from the Ordinance on Incineration of Waste, 17. BImSchV), others 0,2 mg/Nm³ (from the Technical Instruction on Air, "TA Luft"), some do not demand a mercury emission limit.</p> <p>Water point sources - Basic general requirements for the limitation of mercury in wastewater are laid down in several sector-specific annexes to the Ordinance on Requirements for the discharge of wastewater into waters (Waste Water Ordinance - AbwV), setting minimum requirements to be stipulated when granting a permit to discharge wastewater (prior to blending with other wastewater) from various industrial applications into water bodies. Applications covered with regard to mercury are:</p> <ul style="list-style-type: none"> • Manufacture of coating materials and varnish resins (may not contain mercury from use of preservatives and microbiocide additives), • Chemical industry (0.05 mg/l), • Non-ferrous metal production (0.05 mg/l), • Metal finishing, metal processing (0.05 mg/l and 0.03 kg/t), • Chlor-alkali electrolysis (0.05 mg/l and 0.3 g/t) • Dental treatment (amalgam separator with separation efficiency of at least 95%) • Storage of wastewater above ground (0.05 mg/l) • Photographic processes (silver halide photography) (0.05 mg/l) • Laundries (0.05 mg/l) • Production of printing blocks, publications and graphic-arts products (may not contain mercury) <p>Waste treatment, including incineration - In Germany the incineration of municipal solid waste, hazardous waste, clinical waste and sewage sludge is regulated by the 17th Ordinance of the Federal Pollution Control Act. Since April 1999 the emissions of mercury in the flue gas of waste incineration must be measured continuously. The emission limits for mercury are set at a daily average value of 0,03 mg/m³ and a half hour average value of 0,05 mg/m³ referring to 11 % O₂. Through the use of continuous monitoring the risk of uncontrolled mercury can be reduced.</p> <p>EU legislation for the incineration of waste defines only a discontinuous monitoring/measurement for mercury emissions (at least two measurements per year). An emission limit value of 0,05 mg/m³ referring to 11 % O₂ is set for the flue gas from waste incineration. For discharges of wastewater from the cleaning of exhaust gas from waste incineration the emission limit value for mercury is 0,03 mg/l. These emission limit values for mercury concern also plants, which incinerate waste together with other fuels (waste co-incineration).</p> <p>Sludge and biological waste - According to the sewage sludge ordinance (AbKlärV) sewage sludge for land application purposes may not contain more than 8 mg Hg per kg dry matter. The measured mercury concentrations in German sewage sludge are far under this limit. The maxi-</p>
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V. WESTERN EUROPE AND OTHER STATES - Part 1 on Standards for environmental media and Actions and regulations that control releases from environmental sources that contain mercury

COUNTRY	GMA SUB-MISSION	STANDARDS FOR ENVIRONMENTAL MEDIA maximum acceptable mercury concentration for different media	ACTIONS AND REGULATIONS THAT CONTROL RELEASES FROM ENVIRONMENTAL SOURCES that contain mercury
			<p>imum amount of sewage sludge, which may be land applied during a period of three years, is five tons dry matter per hectare. If the mercury concentration in soil is above 1,0 mg Hg per kg dry matter sewage sludge may not be land applied.</p> <p>The ordinance on biological waste (BioAbfV) sets limits for mercury for land applied biological waste. For an application rate of less than 20 tons per hectare in three years the limit is 1,0 mg Hg per kg dry matter and for an application rate of more than 20 but less than 30 tons per hectare in three years 0,7 mg Hg per kg dry matter. In a study, which analysed biological waste composts in Northrhine-Westphalia, an average mercury concentration of 0,1 mg Hg per kg dry matter was measured. Land application of biological waste is forbidden, if the mercury concentration in soil exceeds the following limits: 1,0 mg Hg per kg dry matter for clay, 0,5 mg Hg per kg dry matter for loam and 0,1 mg Hg per kg dry matter for sand.</p>
Greece	-	(See also European Community)	(See also European Community)
Iceland	-		
Ireland	Yes	(See also European Community) Ireland has implemented the appropriate European Community legislation on quality of drinking water, surface water, ground water, shellfish waters, etc.	(See also European Community) Ireland has implemented the appropriate European Community legislation on emissions from point sources, waste management, sewage sludge in agriculture, etc.
Israel	Yes		<p>Chlor-alkali production - The major use of mercury is as a cathode in the electrolysis of sodium chloride for the production of chlorine. Two large plants produce chlorine by this process. The annual consumption of elemental mercury is approximately 10 tons per year.</p> <p>The Ministry of Environment has concluded that in order to evaluate mercury emissions to the environment, especially via wastewater, air and solid waste, the factories must calculate the mercury mass balance. In addition, the Ministry will require the factories to gradually reduce the consumption of mercury over the coming years. This requirement is included in the factories' hazardous chemical license (This is mandatory by law for all businesses that store or use hazardous chemicals above a certain amount).</p> <p>The Ministry has deemed inappropriate the current method of disposal of solid waste containing mercury at the hazardous waste disposal site in Israel, and has therefore placed emphasis on the treatment of this waste. Recently we have required the waste producing factories to meet the following criteria:</p> <ol style="list-style-type: none"> 1. Leaching test (CAL- WET, California code 66261.126, Title 22) 2. Dust test (Din 18 123, If the waste contains more than 0.1% particle smaller than 1mm , then the waste should be enclosed or stabilized before disposal.) 3. Evaporation test. <p>The factories decided to implement the method of stabilization. The drawback of stabilization is that the volume of the waste increases by 50%, however its merit is in its low cost.</p>
Italy	Yes	(See also European Community)	(See also European Community)
Liechten-stein	-		

Luxembourg	Yes	(See also European Community)	(See also European Community)
Malta	-		
Monaco	Yes		<p>Air and water point sources – Regulations exist defining heavy metal emission limits for stationary sources. Actual emission levels remain under the set emission limits.</p> <p>Chlor-alkali production – Monaco has no chlor-alkali production.</p> <p>Waste treatment, including incineration – Monaco is finalizing its Environmental Code. The Code will contain a chapter on management and treatment of waste. Regulations are in preparation regarding emission limits for sewage systems and for emissions from stationary sources.</p>
Netherlands	Yes	(See also European Community)	(See also European Community)
New Zealand	Yes	See also information for Australia.	<p>Air and Water point sources - Local Government Act: Controls industrial sewer discharges. (Administered by local council Trade Waste Officers via Bylaws)</p> <p>Resource Management Act (RMA): Resource consents are required for environmental discharges and risks (e.g. commercial activities, waste treatment plants, landfills, etc) (Administered by local councils)</p>
Norway	Yes	<p>Norway is a member of the European Economic Area (EEA) and is thus obliged to implement European Community regulations (see European Community).</p> <p>Environmental quality standards - There are no maximum acceptable environmental quality standards for mercury in Norway. The level of mercury shall be continuously reduced as near background level as possible and anthropogenic sources of mercury to the environment shall be phased out no later than 2020.</p> <p>Drinking water - Maximum acceptable concentration for drinking water is 0,5 mg/l mercury.</p> <p>Foodstuffs – fish: There are food standards for fish products. Mercury is not considered to be a problem for other food products. The average concentration in the edible part of fish shall not exceed 0,5 mg/kg. For some specific fish species, where intake per person is less, the average level shall not exceed 1,0 mg/kg.</p> <p>The Norwegian authorities have issued the following dietary advice with regard to inland fish; Pregnant women should not eat pike and perch over 25 cm, trout over 1 kilo and roach over 1 kilo. The general population should only eat pike and perch once a month. Small perch can be eaten without risk.</p> <p>Because of high levels of mercury in fish and shellfish in several fjords (saltwater) along the coast of Norway (local sources), the authorities have also issued advisories with regard to consumption of fish and shellfish from these fjords. It is for example advised against consumption of shellfish from the Hardangerfjord, the Sørkjøl and the Ranfjord.</p>	<p>Air and water point sources - The Norwegian industrial plants have emission limits for mercury in their permits followed up by normal procedures for control by the authorities (textile, paper, chemical, cement and metal industry). New stringent emission limits for the most important point sources, waste-incinerators, ferromanganese and siliconmanganese smelters are in place.</p> <p>Chlor-alkali production – The Norwegian chlor-alkali plants have changed from mercury-cell technology to diaphragm and membrane technology.</p> <p>Crematoria - A separate regulation for crematoria is expected to be in place by year 2002.</p> <p>Dental sector - It is prohibited to release wastewater and waste containing amalgam from dental clinics. Dental clinics are obligated to have separate collection of amalgam waste and amalgam separators to prevent discharges of mercury from wastewater. The amalgam sludge and waste are to be delivered to an authorized facility for hazardous waste. Currently, Norway is developing a directive on the use of dental filling materials, which will encourage dentists to reduce the use of amalgam as much as possible. The directive is expected to take effect 1 January 2003.</p> <p>Ferromanganese production - To fulfil the obligations in their permits three ferromanganese plants in Norway have chosen to install mercury abatement facilities. The plants have chosen two different technologies. These are to our knowledge the first mercury treatment facilities for this industrial sector in the world. The mercury abatement facilities in the Ferromanganese smelters require good dust removal. This means that the plants also must add an improved dust filter and this will give a substantial reduction of other heavy metals as well. A new treatment unit for removal of mercury from the off-gas was installed at one of the plants in April 2000. The mercury content of the cleaned off-gas from the treatment unit is monitored continuously. Approximately 80 % treatment efficiency with respect to mercury was achieved during the first year of operation. Several technical problems were encountered over this period, but most of them have now been solved. It is anticipated that the treatment efficiency can be further improved when more experience is gained with the process. The other two plants use abatement facilities with another type of technology. The abatement facilities on these plants will be operating in September 2001 and the effectiveness of these facilities will be considered later on. The cost for all three plants is estimated to 75 mill NOK/8,3 mill USD. In addition there will be increased operational costs.</p> <p>Gas and petroleum processing - Offshore activities: Measures to reduce mercury releases from offshore activities are in progress through a project focusing on how to minimise the discharges of</p>

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			<p>produced water. The project is based on collaboration between authorities and industry.</p> <p>Gold-mining - There is no gold mining in Norway.</p> <p>Sewage sludge - There are legislations prescribing maximum allowable concentrations of mercury in wastewater sludge used as fertiliser on agricultural land (3 mg/kg total residue) and on other areas (5 mg/kg total residue). It is not allowed to use wastewater sludge on agricultural land with soil containing more than 1 mg/kg total residue.</p> <p>Waste treatment including incineration - Generally hazardous waste containing mercury is disposed off in an authorized treatment plant. A smaller part of organic hazardous waste containing mercury is pre-treated at the plant before incinerated in an authorized incineration facility for hazardous wastes. Waste containing more than 0,25 % mercury are treated in accordance with the legislation for hazardous waste. The legislation prescribe separate collection and environmental sound waste treatment of products and process waste containing mercury – for instance batteries, electric articles, fluorescent light tubes and dental amalgam filter residues.</p> <p>The regulation on incineration of hazardous wastes restricts the concentration of mercury in air emissions not to exceed 0,05 mg/m³ from new facilities and 0,1 mg/m³ from existing facilities. The release of mercury from incineration plants for medical and household wastes is restricted by specified emission limits in their permits. All municipal incineration plants with permits newer than 1994 have 0,03 mg/Nm³ mercury as emission limit. This stringent limit will be in force from 01.01.03 for new facilities incinerating medical and hazardous wastes. Before 01.01.2006 this limit will be in force for all existing incinerators. The new limits are more stringent than in EU. Mercury is a priority substance in Norway because of its high levels in the environment and population in Norway and its severe properties.</p> <p>From 1.1.2003 ashes and slag will be on the new European waste list and be considered hazardous waste if it contains hazardous substances. For mercury the limit is as mentioned before 0,25 %.</p>
Portugal	-	(See also European Community)	(See also European Community)
San Marino	-		
Spain	Yes	(See also European Community)	<p>(See also European Community)</p> <p>Practically all the legislation in effect with regards to mercury originates from the implementation of European Community Directives.</p> <p>Chlor-alkali production – In 1999, the Spanish chlor-alkali production sector signed, together with the Ministry of Environment and the “autonomous communities”, a voluntary agreement to reduce mercury emissions from this sector. Since then, atmospheric mercury emissions have been reduced substantially.</p>
Sweden	Yes	(See also European Community)	<p>(See also European Community)</p> <p>Industrial processes - Bill 2000/01:65, A Chemical Strategy for a Non-Toxic Environment requires states that mercury should not be used in production processes, unless the producer can</p>

			<p>prove that neither human health nor the environment would be harmed.</p> <p>Chlor-alkali – production – In line with OSPAR Decision 90/3, the Swedish government has in several bills stated that the amalgam process should be out of use by 2010. To further assure the realisation of this object on the national level, the Swedish government is considering the inclusion of a ban in Ordinance 1998:944.</p> <p>Dental sector - There is a voluntary agreement in Sweden since 1979, which requires that all dental clinics are equipped with amalgam separators.</p> <p>Sewage sludge - In Ordinance 1998:944 the contents of heavy metals in sewage is regulated in cases where sewage sludge is sold or conveyed for agricultural purposes. Regulations for when, where and how much sludge may be used in agriculture are found in SNFS 1994:2 (changed SNFS 1998:4). At present the maximum content of mercury allowed in sludge is 2.5 mg/kg DM (dry matter) and the maximum application is 1.5 g/hectare and year.</p> <p>Waste treatment, including incineration - As far as waste disposal is concerned, there are separate collection systems and already existing efforts for the collection of batteries, fluorescent lamps, amalgam waste etc. Mercury containing batteries and lamps are regarded as hazardous waste in Sweden, as in the rest of the European Community (Hazardous Waste Ordinance (1996:971)). Collectors, transporters and treatment plants need special permits.</p>
Switzerland	Yes	<p>Soil – The Ordinance on Contaminants in Soil (1986) indicates 0.8 mg/kg as a guide value for the total content of mercury in soil. (OECD, 1995).</p>	<p>Air point sources – Limits for emissions to air were established in the Clean Air Ordinance in 1985 :</p> <p>Emission limits for installations: 0.2 mg/m³ if mass flow is 1g/h or more. Emission limit for waste incineration: 0.1 mg/m³. (OECD, 1995)</p> <p>Water point sources – Limits for emissions to water were established in the Ordinance for Waste Water Discharge in 1975:</p> <p>Quality criteria for surface water flows & impounded river water: 0.001 mg mercury/litre; Quality standard for effluents discharged into surface waters: 0.01 mg mercury/litre Quality standard for effluents discharged into public sewers: 0.01 mg mercury/litre. (OECD, 1995)</p> <p>Chlor-alkali production – Two major electrolytic installations have been shut down. One major electrolytic installation still in use.</p> <p>Limits for emissions from the chlor-alkali industry are regulated in accordance with the recommendation of the International Commission for the Protection of the Rhine against Pollution. Since 1983 the water emission limit is 0.5 g/tonne chlorine capacity. In accordance with the recommendation of the International Conference on the Protection of the North Sea, mercury cell plants shall be phased out by 2010 and the air emission limit shall be 2 g/tonne chlorine capacity by 1996. (OECD, 1995)</p> <p>Dental sector – Since 1993, dental clinics involved in amalgam treatment have to be equipped with an amalgam separator with at least 95% separation rate. (OECD, 1995) Sewage pipes of dentists' offices may represent a considerable environmental danger, when they have to be de-blocked – in spite of the diminishing use of amalgam tooth cements. Therefore, SAEFL recently edited recommendations concerning the respective restorations and underlining the applicability of the Federal Law on the Protection of Waters as well as the cantons' duty of enforcement.</p> <p>Sewage sludge – According to an amendment (1992) to the Ordinance on Substances (1986), the mercury content shall not exceed a maximum level of 1 mg/kg in compost and 5 mg/kg in sewage sludge. (OECD, 1995)</p> <p>Waste treatment, including incineration – The guiding principles regarding waste management have been and are consequently pursued since their formulation in 1986. Focus is given to avoiding</p>

V. WESTERN EUROPE AND OTHER STATES - Part 1 on Standards for environmental media and Actions and regulations that control releases from environmental sources that contain mercury

COUNTRY	GMA SUB-MISSION	STANDARDS FOR ENVIRONMENTAL MEDIA maximum acceptable mercury concentration for different media	ACTIONS AND REGULATIONS THAT CONTROL RELEASES FROM ENVIRONMENTAL SOURCES that contain mercury
			<p>waste by fostering durable products and saving on packaging, avoiding hazardous products in processing and in goods, pursuing full utilization, and environmentally acceptable treatment of the remaining waste within the country.</p> <p>Increasing percentage of incineration and of fume scrubbing along with lower Hg-contents resulted in overall reduced Hg-emission. There is a declared policy to completely avoid deposition and to incinerate 100% of combustible waste that cannot be composted. Deposition of combustible waste has been forbidden since 2000. About 40% of the energy produced in waste incinerators actually utilized. About 150 000 tons of combustible waste is used in cement factories.</p>
United Kingdom	Yes	<p>(See also European Community)</p> <p>European Statutory Standard, which is used in the United Kingdom:</p> <p>Inland water: 1 : g mercury/litre (total mercury) Estuarine water: 0.5 : g mercury/litre (dissolved mercury) Seawater: 0.3 : g mercury/litre (dissolved mercury)</p> <p>Fish: 0.3 mg mercury/kg (wet flesh)</p> <p>The concentration of mercury in sediments or shellfish must not increase significantly with time.</p> <p>A report developed for the Department of the Environment, Transport and the Regions in 2000 recommends the development of a “critical loads” approach for mercury, in which the maximum allowable yearly deposition of mercury is defined for various surfaces, including water bodies, catchment areas, pastures and cropland. The approach needs to be based on the maximum allowable intake through food and consider the bio-accumulation of mercury. It requires the quantification of allowable limits of mercury uptake for the UK population.</p> <p>From 10 May 2002, Food Standards Agency began advising pregnant women, women intending to become pregnant, and children under 16 years of age to avoid eating swordfish, shark and marlin because of high mercury levels.</p>	(See also European Community)
United States of America	Yes	<p>Air –</p> <ul style="list-style-type: none"> • No ambient standard outdoors (OSHA workplace standard); • 0.1 mg/m³ permissible exposure limit (PEL) (EPA reference dose); • 0.3 mg/m³ RfD (Agency for Toxic Substances and Disease); • 0.3 mg/m³ acceptable daily exposure level (Registry (ATSDR)). <p>Water - Toxics criteria for those States Not Complying with CWA Section 303(c)(2)(B)-criterion concentration for priority toxic pollutants (40 CFR 131.36) EPA 1992a:</p> <p>Ambient Water –</p> <ul style="list-style-type: none"> • 0.144 : g/l for ingestion of both water and aquatic organisms; 	<p>Water point sources- Principal Provisions that Affect Mercury Releases: Mercury is listed as a toxic pollutant under the Clean Water Act. The Clean Water Act regulations specify technology-based effluent limits for mercury discharges from different industries, and describe the circumstances in which states may require effluent limits or monitoring requirements more stringent than technology-based standards. States may also set water quality standards for pollutants including mercury. The Clean Water Act relies on a permit system, known as the National Pollutant Discharge Elimination System to regulate direct discharges to surface water bodies. Facilities are assigned a specific mercury discharge limit, and/or are required to monitor their discharge for mercury. Facilities report actual discharge levels in Discharge Monitoring Reports (DMRs), which serve as the basis for determining compliance. A large number of industry point sources are covered, such as chlor-alkali, steam electric power generation, battery manufacturing etc.</p> <p>Air point sources - Principal Provisions that Affect Mercury Releases: Mercury and mercury</p>

	<ul style="list-style-type: none"> • 0.146 : g/l for ingestion of only aquatic organism; • 2.10 : g/l for freshwater acute exposure; • 0.012 : g/l for freshwater chronic exposure; • 1.8 : g/l for marine acute exposure; • 0.025 : g/l for marine chronic exposure. <p>The Final Water Quality Guidance for the Great Lakes System (WQGGLS) established water quality criteria for 29 pollutants, including mercury. (40 CFR 132) EPA 1995d</p> <p>Ambient Water Great Lakes System –</p> <ul style="list-style-type: none"> • 1.694 : g/l for acute exposure of aquatic life; • 0.908 : g/l for chronic exposure of aquatic life; • 1.8×10^{-3} : g/l water quality criteria for protection of human health; • 1.3×10^{-3} : g/l water quality criteria for protection of wildlife. <p>Drinking water - Maximum contaminant level for mercury established under the Safe Drinking Water Act: 0.002 mg/l (40 CFR 141.62).</p> <p>Bottled water - 0.002 : g/l (21 CFR 165.110) FDA 1995.</p> <p>Ground water – Mercury limit: 2 : g/l.</p> <p>Foodstuffs – Fish: The Food and Drug Administration (FDA) regulates mercury in food, drugs, and cosmetics. FDA sets an action level of 1 ppm methylmercury in fish, shellfish and other aquatic animals, and may remove from commerce foods that violate this action level. FDA has advised women of childbearing age to limit their consumption of shark and swordfish, based on methylmercury content.</p> <p>States, tribes and territories are responsible for issuing fish consumption advise for locally-caught fish; many state health departments use 0.5 ppm methylmercury as a trigger for such advice. Comprehensive information about state fish advisories is available at http://www.epa.gov/OST/fish/</p> <p>Reference dose for methylmercury - The United States has established a “Reference dose” for methylmercury of 0.1 : g/kg bodyweight per day.</p>	<p>compounds are considered Hazardous Air Pollutants (HAPs) under the Clean Air Act. EPA established National Emission Standards for Hazardous Air Pollutants (NESHAPs) for mercury emissions based on risk under the pre-1990 version of the Clean Air Act. Under the Clean Air Act Amendments of 1990 EPA regulates Hazardous Air Pollutant Emissions by source categories using Maximum Achievable Control Technology (MACT) standards for each "major source" in any listed source category. A MACT standard is defined based on an analysis of existing control technology among the best-controlled sources in a given source category.</p> <p>Chlor-alkali industry - Emissions from mercury ore processing facilities and mercury cell chlor-alkali plants are limited to a maximum of 2,300 grams/24 hours. EPA is developing a rule that would further limit mercury emissions from plants that produce chlorine using the mercury cell method. The rule will include emissions limits based on MACT and on management practices, and will shift from the current standard that applies equally to all facilities, regardless of size, to one normalized for production levels.</p> <p>Energy production – The largest anthropogenic source of mercury emissions in the USA is currently coal-fired power plants. On December 14, 2000, the EPA announced the decision that it is appropriate and necessary to regulate hazardous air pollutant emissions (including mercury) from electric utility power plants. A regulation is currently scheduled for proposal by December 15, 2003 and promulgation by December 15, 2004. In order to ensure optimal alternatives are available to reduce mercury emission, the US EPA, the Department of Energy, electric industry groups and some electric companies are working to identify, develop and demonstrate both new and modified technologies for controlling mercury emissions. Working together, these organizations are testing and evaluating the most promising options in the field. Results from this research will be used to support development and implementation of mercury MACT regulation. Moreover, the US is also considering a proposal from the Bush Administration (called the Clear Skies Initiative) that, if adopted, would achieve significant reductions in mercury emissions from electric power plants as part of a multi-pollutant strategy that would also reduce emissions of sulfur dioxide and nitrogen dioxides from these plants through a cap and trade program.</p> <p>Sludge – Limits:</p> <ul style="list-style-type: none"> - 17 mg/kg (dry wt) and 17 kg/hectare cumulative loading for sludge applied on agricultural, forest and publicly accessible lands; - 17 mg/kg (dry wt) and .85 kg/hectare annual loading rate for sludge sold or distributed for application to a lawn or home garden; - 57 mg/kg (dry wt) for sludge sold or distributed for other types of land disposal; - 100 g/kg (dry wt) for sludge disposed in lined or unlined facilities (40 CFR 503). <p>Recreational mining - There is no active mercury mining in the US. There is also no use of mercury in large-scale gold mining in the US. There has been minor recovery of mercury from recreational miners in California, but the mercury is recovered as elemental free mercury in stream bottoms as a by-product from historical use. The mercury is incidentally recovered on the sluices of recreational portable dredge operators. The US EPA and California are working on ways to set up collection points for waste mercury to ensure that recreational miners do not dump their waste mercury in streams.</p> <p>Waste treatment including incineration -</p> <p>Municipal waste combustor plants - In December 1995, the US EPA finalized New Source Performance Standards (NSPSs) and Emission Guidelines (EGs) applicable to municipal waste combustor (MWC) units with a capacity greater than 227 metric tons per day (i.e. large MWCs). The mercury air emissions standard for new and existing MWCs is 0.08 milligrams per day standard cubic meter (mg/dscm) at 7 percent oxygen (7% O₂). All 167 large MWCs that are subject to the regulations that came into compliance by December 2000 and mercury emissions (based on year 2000 stack test compliance data) from this source category have been reduced by about 95% from</p>
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V. WESTERN EUROPE AND OTHER STATES - Part 1 on Standards for environmental media and Actions and regulations that control releases from environmental sources that contain mercury

COUNTRY	GMA SUB-MISSION	STANDARDS FOR ENVIRONMENTAL MEDIA maximum acceptable mercury concentration for different media	ACTIONS AND REGULATIONS THAT CONTROL RELEASES FROM ENVIRONMENTAL SOURCES that contain mercury
			<p>1990 levels. The typical performance level was 0.02 mg/dscm. A companion rule (NSPSs and EGs) for a small MWC unit (32 to 227 metric tons per day) was adopted in December 2000 with retrofit required by December 2005. The same mercury emissions limits apply and the same control technology is expected to be used.</p> <p>Medical Waste Incinerators - The US EPA finalized new Source Performance Standards and Emission Guidelines for Medical Waste Incinerators (62 FR 48348) in September 1997. The guidelines establish standards that limit emissions from new incinerators. The standards are expected to reduce mercury emissions by 45 to 75%. The emission guidelines also require states to develop regulations that limit emissions from existing medical waste incinerators. The emission guidelines are expected to reduce emissions from existing incinerators by 93 to 95 %. They also require training and qualification of operators, incorporate siting requirements, specify testing and monitoring requirements to demonstrate compliance with the emission limits, and establish reporting and record keeping requirements.</p> <p>Several states, including New York, California and Texas have adopted relatively stringent regulations in the past few years limiting emissions from medical waste incinerators. The implementation of these regulations has brought about very large reductions in emissions of mercury in those states. It has also significantly reshaped how medical waste is managed in those states. Many facilities have responded to state regulations by switching to other medical waste treatment and disposal options to avoid the cost of add-on pollution control equipment. The two most commonly chosen alternatives have been off-site contract disposal in larger commercial incinerators and on-site treatment by other means (e.g., steam autoclaving).</p> <p>Hazardous waste incinerators – On February 14, 2002, US EPA promulgated interim emission standards for hazardous waste incinerators, hazardous waste burning cement kilns, and hazardous waste burning lightweight aggregate kilns under joint authority of the Clean Air Act and Resource Conservation and Recovery Act (RCRA). The standards limit emissions of chlorinated dioxins and furans, other toxic organic compounds, toxic metals (including mercury), hydrochloric acid, chlorine gas, and particulate matter. US EPA expects that mercury emissions will be roughly halved by this regulation. US EPA will issue final standards for these three categories of hazardous waste burning facilities by 2005; in addition, the Agency will develop emission standards for hazardous waste burning industrial boilers and other industrial furnaces.</p> <p>Waste disposal – The Resource Conservation and Recovery Act (RCRA) regulations outline specific classification and disposal requirements for products and wastes that contain mercury. RCRA regulations are waste-specific, not source-specific, and thus may apply to any facility that generates mercury-containing wastes. RCRA regulations describe specific disposal requirements for individual wastes. All mercury-bearing wastes are subject to land disposal restrictions. That is, the mercury concentration in these wastes must be below the regulatory concentration level before the wastes may be land-disposed. For some types of waste, the regulations require a specific treatment, such as incineration or thermal treatment. In other cases, only a maximum mercury concentration is required, and any treatment method may be used. As a result of recently imposed land disposal restrictions on chlor alkali wastes, some facilities are building their own mercury recovery facilities, whereas others are shipping their wastes to Canada or elsewhere for disposal.</p>

			<p>Medical waste -;As a voluntary measure, EPA and the American Hospital Association in 1998 signed a memorandum of understanding committing to work together to significantly cut hospital wastes by 2005. The agreement envisions the virtual elimination of mercury-containing hospital wastes and a one-third reduction in total hospital wastes by 2005.</p> <p>Product waste disposal - RCRA regulations also influence product disposal and recycling options for mercury containing products. Discarded products considered hazardous wastes are subject to storage, transportation, and permitting requirements. Currently, thermostats and fluorescent lamps are included in a "universal waste rule" that eases RCRA restrictions on hazardous waste management and enables states to set up special collection programs. US EPA issued the universal waste rule (UWR) in 1995. It is designed to reduce the amount of hazardous waste in the municipal solid waste stream, encourage the recycling and proper disposal of some common hazardous wastes, and reduce the regulatory burden on businesses that generate these wastes. Universal wastes are items commonly thrown into the trash by households and small businesses. Although handlers of universal wastes must meet less stringent standards for storing, transporting, and collecting wastes, the waste must comply with full hazardous waste requirements for final recycling, treatment, or disposal. This management structure removes these wastes from municipal landfills and incinerators. In July 1999, US EPA added mercury-containing lamps to the UWR, which already covered batteries, thermostats, and pesticides. In 2002, EPA proposed adding other mercury-containing wastes to the universal waste rule.</p>
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V. WESTERN EUROPE AND OTHER STATES – Part 2 on Actions and regulations on products that contain mercury and Other standards, actions and programmes relevant to mercury

COUNTRY	GMA SUB-MISSION	ACTIONS AND REGULATIONS ON PRODUCTS that contain mercury	OTHER STANDARDS, ACTIONS AND PROGRAMMES relevant to mercury
Andorra	-		International instruments – Andorra ratified the Basel Convention and its amendment.
Australia	Yes	<p>Paints - mercury compounds are used as paint preservatives.</p> <p>Pesticides - Two products containing mercury are registered for use in Australia on sugarcane and horses. Shirtan Liquid Fungicide contains 120 g/L of mercury as methoxyethylmercuric chloride to control pineapple disease in sugarcane setts, which are dipped in or sprayed with a dilute solution before planting. Blestre Counter Irritant for Horses contains mercuric chloride at 3 g/L and is used topically to treat leg injuries, soreness and musculoskeletal conditions.</p>	<p>Occupational Health and Safety - Under the National Model Regulations for the Control of Workplace Hazardous Substances [NOHSC:1005(1994)] a manufacturer or importer of a substance supplied for use at work must determine whether the substance is hazardous. The National Occupational Health and Safety Commission (NOHSC) List of Designated Hazardous Substances [NOHSC:10005(1999)] is used as an aid and includes mercury and several of its compounds (alkyls, dichloride, chloride, inorganic compounds except mercuric sulphide and those elsewhere specified and organic compounds except those elsewhere specified). Substances on this List are subject to the National Model Regulations for the Control of Workplace Hazardous Substances, which are implemented on a state/territory basis.</p> <p>Exposure Standards - Employers must ensure that no employee is exposed to a hazardous substance above the appropriate exposure standards.</p> <p>Mercury, alkyl compounds (as Hg): TWA: - ppm 0.01 mg/m³ CAS Number 7439-97-6 STEL: - ppm 0.03 mg/m³ Absorption through the skin may be a significant source of exposure.</p> <p>Mercury, aryl and inorganic compounds (as Hg) TWA: - ppm 0.1 mg/m³ CAS Number 7439-97-6 STEL: - ppm - mg/m³ Absorption through the skin may be a significant source of exposure.</p> <p>Mercury and its inorganic divalent compounds is presently under review. Reason for review - effects on central nervous system.</p> <p>Mercury, elemental vapour (as Hg) TWA: - ppm 0.05 mg/m³ (as Hg) CAS Number 7439-97-7 STEL: - ppm - mg/m³</p> <p>Information and reporting requirements - Australia's National Pollutant Inventory (NPI) reports information, based on estimation techniques, on the types and amounts of certain chemicals being emitted to the environment. The NPI is a database funded by the Federal Government and available on the Internet (http://www.npi.gov.au/) through which the community, industry and governments have access to consistent and reliable information about pollutant emissions in Australia. Reporting of emissions is mandatory if an industry surpasses various use thresholds. Reporting for the 1998-1999 and 1999-2000 reporting years was voluntary, but from 2000-2001 onwards will be compulsory. Enforcement is the responsibility of the relevant Australian State or Territory.</p> <p>International instruments – Australia has ratified the Basel Convention.</p>
Austria	Yes	<p>(See also European Community)</p> <p>Batteries - Use of mercury in batteries was widely banned by law (Batterien-VO, BGBl. 1990/514)</p> <p>Paints – Main use in antifouling paints was banned by law (Antifouling-VO, BGBl. 1990/577).</p>	<p>(See also European Community)</p> <p>International instruments – Austria has ratified the Basel Convention and its amendment, the Rotterdam Convention and the Stockholm Convention.</p>
Belgium	-	(See also European Community)	(See also European Community)

			<p>International instruments – Belgium has ratified the OSPAR Convention, Basel Convention and Rotterdam Convention.</p>												
Canada	Yes	<p>Batteries – The Canadian Household Battery Manufacturers’ Association eliminated the deliberate addition of mercury to household alkaline, zinc-carbon, and zinc-chloride batteries as of January 1997 as a result of the US Mercury-containing Battery Management Act. The only major type of mercury-containing battery available in Canada may be mercury-oxide batteries.</p> <p>Consumer products – The amount of mercury allowed in a consumer product is under the jurisdiction of Health Canada’s <i>Hazardous Products Act</i>. Selling, advertising or importing toys, equipment or other products containing mercury into Canada is prohibited if they may be in contact with children under conditions of normal use. This includes products with decorative or protective coatings containing any compound of mercury.</p> <p>Dental amalgam waste – The Canada-wide Standard is the application of "best management practices " to achieve a 95% national reduction in mercury releases from dental amalgam waste discharges to the environment, by 2005, from a base year of 2000. Best Management Practices are defined as including the use of an ISO certified amalgam trap, or equivalent, and appropriate management of waste so mercury does not enter the environment. Appropriate management may include landfilling in a confined, engineered landfill with leachate collection systems, such as a hazardous waste landfill, recycling to either produce new amalgam or raw mercury, silver and copper for other uses, or stabilization/ immobilization in a form that can be retired permanently.</p> <p>Lighting – The Canada-wide Standard for mercury-containing lamps takes a pollution prevention approach by reducing the mercury content of lamps sold in Canada. The standard is a 70% reduction by 2005 from a 1990 baseline, and an 80% reduction by 2010 in the average content of mercury in all mercury-containing lamps sold in Canada. The average mercury content in fluorescent lamps has fallen from 48.2 mg in 1985 to 27 mg in 1995 and 12 mg in 2000.</p> <p>Paints - Major Canadian paint manufacturers have voluntarily removed mercurial compounds in latex paint. Mercury-based antimicrobial pesticides, including those for exterior paints, were phased out in 1998.</p> <p>Pesticides - Sale of all mercurial fungicides was discontinued by the registrants prior to 31 December 1995. Existing stocks were allowed to be sold and used until 31 December 2000, when the registration expired.</p> <p>Thermometers - Mercury-containing thermometers contain approximately 0.5 to 2.25 grams of elemental mercury. Substitutions for mercury-containing fever thermometers began to appear in 1984, and mercury use in this application has continued to decline since then.</p>	<p>Occupational health and safety - Canada uses the Threshold Limit Values, TLV for Chemical Substances in the Work Environment as determined by the American Conference of Governmental Industrial Hygienists for national occupational health standards. The TLV-Time Weighted Average (TLV-TWA) is the maximum value that workers can be exposed to continuously over a 40-hour work-week, while the TLV-Short Term Exposure Limit (TLV-STEL) is the maximum concentration that workers can be exposed to on a short-term basis (i.e., a 15 minute maximum exposure less than four times per day). The Criteria For Maximum Occupational Exposure Limits are as follows:</p> <table border="1" data-bbox="1308 395 2004 651"> <thead> <tr> <th>Description</th> <th>TWA (mg/m³)</th> <th>STEL (mg/m³)</th> </tr> </thead> <tbody> <tr> <td>Mercury - alkyl compounds</td> <td>0.01</td> <td>0.03</td> </tr> <tr> <td>Mercury - aryl compounds</td> <td>0.1</td> <td>-</td> </tr> <tr> <td>Mercury - elemental and inorganic forms</td> <td>0.025</td> <td>-</td> </tr> </tbody> </table> <p>New Substance Notification Regulations – All substances (including mercury compounds) not listed on the Domestic Substances List are considered new to Canada. The law requires the pre-import or pre-manufacture notification and assessment of these substances under the New Substances Notification Regulations of <i>CEPA (1999)</i>. The Minister of the Environment has the ability to intervene prior to or during the early stages of their introduction into Canada.</p> <p>Information and reporting requirements - The public can access information on mercury released to air, water and soil from Canadian industry and transportation sectors through the National Pollutants Release Inventory (NPRI). Beginning in the 2000 reporting year, the threshold for reporting mercury is 5 kg of mercury manufactured, processed or otherwise used.</p> <p>VOLUNTARY PARTNERSHIP INITIATIVES -</p> <p>Accelerated Reduction/Elimination of Toxics: The <i>Accelerated Reduction/Elimination of Toxics program</i>, known as ARET, was a voluntary release reduction program that ran from 1995 to 2000. The program challenged participants to reduce releases of 117 substances listed as toxic, including mercury. The ARET long-term vision is to virtually eliminate the emission of bioaccumulative, persistent and toxic substances, and reduce other toxic emissions to levels insufficient to cause harm. 318 facilities from 171 companies and government organizations participated in the program. ARET participants succeeded in reducing releases by over 27,000 tons below base year levels. Mercury releases were reduced by over 26 tons or 88% below base year levels.</p> <p>Successor to ARET – The successor program to ARET will be renewed and improved <i>voluntary partnership between Canadians and industry</i>. The new program will focus participants on finding new and innovative ways to reduce the uses and releases related to their current and future processes. Mercury will again be included in the list of substances targeted by the new program.</p> <p>Responsible Care®/National Emissions Reduction Master Plan: Under the National Emission Reduction Master Plan (NERM) of the Responsible Care® initiative, The Canadian Chemical Producers Association establishes emission targets and report on their progress. The 1994 CCPA report estimates that total emissions of heavy metals to water were 37%</p>	Description	TWA (mg/m ³)	STEL (mg/m ³)	Mercury - alkyl compounds	0.01	0.03	Mercury - aryl compounds	0.1	-	Mercury - elemental and inorganic forms	0.025	-
Description	TWA (mg/m ³)	STEL (mg/m ³)													
Mercury - alkyl compounds	0.01	0.03													
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V. WESTERN EUROPE AND OTHER STATES – Part 2 on Actions and regulations on products that contain mercury and Other standards, actions and programmes relevant to mercury

COUNTRY	GMA SUB-MISSION	ACTIONS AND REGULATIONS ON PRODUCTS that contain mercury	OTHER STANDARDS, ACTIONS AND PROGRAMMES relevant to mercury
			<p>lower than in 1993, for a total reduction of 52% since 1992 (CCPA, 1997).</p> <p>REGIONAL AGREEMENTS -</p> <p>North American Regional Action Plan: As a consequence of concern for the environment by North American Free Trade Agreement (NAFTA) Parties, a parallel side agreement known as the North American Agreement on Environmental Cooperation (NAAEC) mandated the establishment of a Commission for Environmental Cooperation. The CEC has a mandate to “facilitate cooperation and public participation and to foster conservation, protection and enhancement of the North American environment for the benefit of present and future generations, in the context of economic trade and social links between Canada, Mexico and the United States.” Under the NAAEC, Canada, Mexico and the United States have developed a North American Regional Action Plan (NARAP) for mercury. The purpose of this NARAP is to achieve a reduction in the anthropogenic releases of mercury to the North American environment to amounts that can be attributed to naturally occurring levels and fluxes.</p> <p>Great Lakes Water Quality Agreement (GLWQA): This agreement expresses the commitment of Canada and the United States to the restoration and maintenance of the Great Lakes ecosystem in terms of its chemical, physical and biological integrity. It was first signed in 1972, renewed in 1978 and amended in 1987. The International Joint Commission monitors how the two governments fulfil their commitments.</p> <p>Great Lakes Binational Toxics Strategy: In keeping with the objectives of the 1987 Great Lakes Water Quality Agreement, on 7 April 1997, Canada and the United States signed the Great Lakes Binational Toxics Strategy: Canada-United States Strategy for the Virtual Elimination of Persistent Toxic Substances in the Great Lakes. The purpose of the Strategy is to set a collaborative process by which both governments, in consultation with Great Lakes states, the province of Ontario, Tribes and First Nations, and Great Lakes Basin stakeholders, will work toward the goal of virtual elimination of certain targeted persistent toxic substances resulting from human activity in the Great Lakes Basin. For mercury, the Canadian challenge is to seek by 2000, a 90 % reduction in the release of mercury or, where warranted, the use of mercury, from polluting sources resulting from human activity in the Great Lakes Basin. A reduction of 80% has been achieved by 1999.</p> <p>Lake Superior (COA Agreement): A binational program to restore and protect Lake Superior was announced in 1991. The initiative involves the governments of Canada, the United States, Ontario, Michigan, Minnesota, and Wisconsin. The program includes a pollution prevention program to deal with persistent toxic substances, including mercury.</p> <p>New England Governors/Eastern Canada Premiers Mercury Action Plan: In June 1997, the Governors of the Northeast (New England) States and the Premiers of the Eastern Provinces signed a resolution calling for cooperation in addressing the mercury issue. The ultimate goal is the virtual elimination of anthropogenic mercury emissions into the environment. A Mercury Action Plan identifies steps to address those aspects of the mercury problem in the region that are within their control or influence. Aggressive commitments embodied in the regional action plan are intended to provide leadership to encourage similar actions to reduce mercury emissions nationally and internationally.</p>

			International Conventions - Canada has signed and ratified the UN ECE LRTAP Convention and heavy metals protocol. The protocol focuses on mercury, lead and cadmium and aims to cut emissions from industrial sources, combustion processes and waste incineration. The protocol introduces measures to lower emissions of mercury from products such as batteries. Canada has also ratified the Basel Convention and the Rotterdam Convention.
Denmark	Yes	<p>(See also European Community)</p> <p>Mercury in products - In Denmark there has been a general ban on the sales of mercury and mercury-containing products since 1994. As from 1998, Statutory Order no. 692 of 22 September 1998 explicitly bans both sales and exports of mercury and mercury-containing products, i.e. products in which mercury represents more than 50 ppm of their homogenous components. The legislation exceeds that currently applicable within the European Community Member States. The Order lists some exemptions to the general ban, with a timeframe indicated for duration of the exemption.</p> <p>Batteries - Batteries are regulated separately through the implementation of the European Community battery directive and its amendments. Also, Denmark has decided to change the battery collection system so that all batteries, irrespective of heavy metal content, are collected, in order to stimulate higher collection rates for those harmful to the environment. Earlier, only those particular batteries containing heavy metals were collected. Necessary changes in the collection set-up are currently under consideration.</p> <p>Dental amalgam - Dental amalgam is allowed only in molar teeth, where the filling is worn, until further notice. Denmark is ready to ban the remaining use of dental amalgam, whenever the Danish National Board of Health is satisfied that the non-mercury alternatives have full substitution capabilities.</p> <p>Electrical equipment - Mercury-containing products are generally banned, however, mercury-wetted film switches and relays, which meet EN 119000, for specific applications in business are allowed until further notice.</p> <p>Lighting - Mercury-containing products are generally banned, however, special light sources (fluorescent tubes, including low-energy bulbs, for analysis apparatus and for graphic operations) are allowed until further notice.</p> <p>Pesticides - All uses prohibited since March 1992.</p> <p>Paints - Use prohibited since 1980.</p> <p>Thermometers - Mercury-containing products are generally banned. Thermometers for special applications in naval industry and CPH plants were permitted until 31 December 1999. Thermometers approved under EEC type approval in accordance with Directive 76/764/EEC with amendments will be permitted until 30 June 2004. Thermometers for special applications in calibration of other thermometers and analysis apparatus remain allowed until further notice.</p>	<p>(See also European Community)</p> <p>International instruments - Denmark has ratified the Aarhus Protocol on Heavy Metals under the UN ECE LRTAP Convention, the OSPAR Convention, the Helsinki Convention (HELCOM) and the Basel Convention and its amendment.</p>
European Community ^{2/}	Yes	<p>Batteries - <u>Directive 91/157/EEC</u> of 18 March 1991 on batteries and accumulators containing certain dangerous substances (OJ L 078, 26.03.1991, p. 38-41) adapted to technical progress by Commission Directives 93/86/EEC of 4 October 1993 (OJ L 264, 23.10.1993, p. 51-52) and Directive 98/101/EC of 22 December 1998 (OJ L 1,</p>	<p>Classification, packaging and labelling - <u>Council Directive 67/548/EEC</u> of 27 June 1967, on the approximation of the laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances (OJ L 225, 13.08.1967, p. 2055-2312) and <u>Directive 2001/50/EC</u> of 27 September 2001</p>

^{2/} The European Community (EC) legislation reported here applies to all Member States of the EC. Currently, there are 15 Member States: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden and the United Kingdom.

V. WESTERN EUROPE AND OTHER STATES – Part 2 on Actions and regulations on products that contain mercury and Other standards, actions and programmes relevant to mercury

COUNTRY	GMA SUB-MISSION	ACTIONS AND REGULATIONS ON PRODUCTS that contain mercury	OTHER STANDARDS, ACTIONS AND PROGRAMMES relevant to mercury
		<p>5.01.1999, p. 1-2).</p> <p>The aim of Directive 91/157/EEC is the collection and safe recovery and disposal of spent batteries and accumulators containing dangerous substances (mercury, cadmium or lead) in accordance with its Annex I.</p> <p>Commission Directive 98/101/EC contains the prohibition of the marketing of:</p> <ul style="list-style-type: none"> • batteries and accumulators containing more than 0.0005% of mercury by weight, • button cells containing more than 2% of mercury by weight. <p>These provisions entered into force on 1 January 1993. The mercury ban was foreseen to enter into effect on 1 January 2000.</p> <p>Electrical equipment - Proposal for a Directive on the restrictions of the use of certain hazardous substances in electrical and electronic equipment (RoHS) COM (2000) 347 final.</p> <p>The proposed Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) requires the substitution of certain heavy metals (mercury, lead, cadmium, hexavalent chromium) and two types of brominated flame retardants, PBBs (Polybrominated biphenyls) and PBDEs (Polybrominated diphenylethers) in electrical and electronic equipment by 2008. To take into account new scientific evidence, a review of the substitution requirement is envisaged for 2004. The list of exemption could therefore be amended reflecting future technical developments. Entry into force still to be decided for electronic equipment.</p> <p>Packaging and packaging waste – Directive 94/62/EC of 20 December 1994 on packaging and packaging waste aims to harmonize national measures concerning the management of packaging and packaging waste in order to prevent any impact thereof on the environment of all Member States as well as of third countries and also to ensure the functioning of the internal market and to avoid obstacles to trade within the Community. The Directive lays down measures aimed, as a first priority, at preventing the production of packaging waste and, as additional fundamental principles, at reusing packaging, at recycling and other forms of recovering packaging waste and, hence, at reducing the final disposal of such waste.</p> <p>Article 10 of the Directive sets a specific reduction plan for heavy metals present in packaging - the sum of concentration levels of lead, cadmium, mercury and hexavalent chromium present in packaging or packaging components shall not exceed specific, set levels within a time period of 5 years, starting with 600 ppm by weight by 30 June 1998, at the latest, and going down to 100 ppm by weight by 30 June 2001, at the latest.</p> <p>Pesticides - Council Directive 79/117/EEC of 21 December 1978, prohibiting the placing on the market and use of plant protection products containing certain active substances (OJ L 033, 8.02.1979, p. 36-40),</p> <p>Commission Directive 91/188/EEC of 19 March 1991, amending for the fifth time the</p>	<p>ous substances as amended by Commission Directive 2001/59/EC of 6 August 2001</p> <p>The following substances have harmonised classification and labelling in accordance with provisions laid down in the Directive as amended and are included in its Annex I:</p> <ul style="list-style-type: none"> • mercury; • inorganic mercury compounds with the exception of mercuric sulphide and those specified elsewhere in Annex I to Council Directive 67/548/EEC; • dimercury dichloride, calomel; • organic mercury compounds with the exception of those specified elsewhere in Annex I to Council Directive 67/548/EEC; • mercuric fulminate, fulminate of mercury; • mercuric oxycyanide; • dimethylmercury; diethylmercury; • phenylmercury nitrate; phenylmercury hydroxide; basic phenylmercury nitrate; • 2-methoxyethylmercury chloride; • mercury dichloride, mercuric chloride; • phenylmercury acetate. <p>These provisions entered into force on 1 July 2000 (Commission Directive 98/98/EC of 15 December 1998</p> <p>Occupational safety and health</p> <p><u>Council Directive 98/24/EC</u> of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work</p> <p>Directive 98/24/EC lays down minimum requirements for the protection of workers from risks to their safety and health arising or likely to arise, from the effects of all chemical agents that are present at the workplace or as a result of any work activity involving chemical agents. Consequently this Framework Directive regulates all substances including mercury and its compounds. Member States should have brought into force this Directive no later than 5 May 2001.</p> <p>The EU Scientific Committee on Occupational Exposure Limits (SCOEL) has introduced in its Agenda mercury and mercury compounds for extensive discussions in order to come up with a Recommendation to the Commission for an occupational exposure limit value. This Recommendation is foreseen for the year 2002.</p> <p>International instruments - The Commission will shortly put forward legislative proposals to implement the Rotterdam Convention on the Prior Informed Consent Procedure for certain hazardous chemicals and pesticides in international trade, which subsumes the previous voluntary international arrangements. Council Regulation (EEC) No. 2455/92 will then be revoked.</p> <p>The European Community has ratified the Aarhus Protocol on Heavy Metals under the UN ECE LRTAP Convention, the OSPAR Convention and the Helsinki Convention (HELCOM). It has also ratified the Basel Convention and its amendment.</p>

	<p>Annex to Council Directive 79/117/EEC prohibiting the placing on the market and use of plant protection products containing certain active substances (OJ L 092, 13.04.1991, p. 42).</p> <p>According to Article 3 of Council Directive 79/117/EEC, plant protection products containing one or more of the following active substances may be neither placed on the market nor used: mercury oxide, mercurous chloride (calomel), other inorganic mercury compounds, alkyl mercury compounds, alkoxyalkyl and aryl mercury compounds. These provisions entered into force on 1 January 1981.</p> <p>Vehicles - Directive 2000/53/EC of the European Parliament and of the Council of 18 September 2000 on end-of life vehicles (OJ L 269 of 21.10.2000, p. 34-43) lays down measures which aim, as a first priority, at the prevention of waste from vehicles and, in addition, at the reuse, recycling and other forms of recovery of end-of life vehicles and their components so as to reduce the disposal of waste, as well as at the improvement in the environmental performance of all of the economic operators involved in the life cycle of vehicles and especially the operators directly involved in the treatment of end-of life vehicles.</p> <p>According to Article 4 of this Directive mercury, <i>inter alia</i>, is restricted in materials and components of vehicles.</p> <p>Materials and components of vehicles put on the market after 1 July 2003 shall not contain mercury.</p> <p>Marketing and use of certain dangerous substances and preparations - <u>Council Directive 89/677/EEC</u> of 21 December 1989 amending for the 8th time Directive 76/769/EEC on the approximation of the laws, regulations and administrative provisions of the Member States relating to restrictions on the marketing and use of certain dangerous substances and preparations (OJ L 398 of 30.12.1989, p. 19-23).</p> <p>The Directive contains in Article 2, point 19 the following provisions: “Mercury compounds may not be used as substances and constituents of preparations intended for use:</p> <p>(a) to prevent the fouling by micro-organisms, plants or animals of:</p> <ul style="list-style-type: none"> • the hulls of boats, • cages, floats, nets and any other appliances or equipment used for fish or shellfish farming, • any totally or partly submerged appliances or equipment; <p>(b) the preservation of wood;</p> <p>(c) the impregnation of heavy-duty industrial textiles and yarn intended for their manufacture;</p> <p>(d) in the treatment of industrial waters, irrespective of their use.”</p> <p>These provisions are in force since mid 1991.</p> <p>Import/export - <u>Council Regulation (EEC) No. 2455/92</u> of 23 July 1992 (OJ L 251, 29.08.1992, p. 13-18), as amended by <u>Council Regulation (EC) No. 3135/94</u> of 15 December 1994 (OJ L 332, 22.12.1994, p. 1-2) and <u>Commission Regulation No. (EC) 2247/98</u> of 13 October 1998 (OJ L 282, 20.10.1998, p. 12-18), concerning the export and import of certain dangerous chemicals. This Regulation applies on a mandatory basis within the Community voluntary international arrangements established by UNEP and FAO.</p> <p>The following specific mercury compounds are listed in Annex I to the Regulation as</p>	
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V. WESTERN EUROPE AND OTHER STATES – Part 2 on Actions and regulations on products that contain mercury and Other standards, actions and programmes relevant to mercury

COUNTRY	GMA SUB-MISSION	ACTIONS AND REGULATIONS ON PRODUCTS that contain mercury	OTHER STANDARDS, ACTIONS AND PROGRAMMES relevant to mercury
		<p>banned or severely restricted within the Community and are thus subject to the export notification requirements laid down in Article 4 of the Regulation: mercury oxide, mercurous chloride (calomel), other inorganic mercury compounds, alkyl mercury compounds, alkoxyalkyl and aryl mercury compounds. In addition, all mercury compounds are included in Annex II to the Regulation as chemicals subject to the International Prior Informed Consent (PIC) procedure established by UNEP/FAO. Thus, in accordance with Article 5 of the Regulation, <i>inter alia</i>, EU exporters must comply with the import decisions taken by third countries. The Regulation entered into force on 29 November 1992.</p> <p>The Commission will shortly put forward legislative proposals to implement the Rotterdam Convention on the Prior Informed Consent Procedure for certain hazardous chemicals and pesticides in international trade, which subsumes the previous voluntary international arrangements. Council Regulation (EEC) No. 2455/92 will then be revoked.</p>	
Finland	Yes	<p>(See also European Community)</p> <p>Batteries – The European Community battery directive also applies in Finland. Batteries and accumulators containing more than 0.0005 % of mercury by weight shall not be placed on the market. Button cells and batteries composed of button cells may contain up to 2 % mercury. (Council of State Decision 17/1999, HELCOM Recommendation 14/5).</p> <p>Pesticides – Mercury and its compounds may not be imported nor used as substances and as constituents of preparations intended for use in plant protection products (Council of State Decision 1361/1996, HELCOM Recommendation 13/4).</p> <p>Other products – European Council Directive 89/677/EEC on the approximation of the laws, regulations and administrative provisions of the Member States relating to restrictions on the marketing and use of certain dangerous substances and preparations also applies in Finland. (Council of State Decision 1224/1992).</p>	<p>(See also European Community)</p> <p>International instruments – Finland has ratified the Aarhus Protocol on Heavy Metals under the UN ECE LRTAP Convention, the OSPAR Convention, Helsinki Convention (HELCOM), the Basel Convention and its amendment and the Stockholm Convention.</p>
France	Yes	<p>(See also European Community)</p> <p>Batteries – Decree of 12.5.1999, modified 29.12.1999, stipulates separate collection and elimination of batteries and accumulators, no matter their chemical composition (mercury, lead, cadmium, etc). Decree 29.12.1999 implements the EC Battery Directive in France.</p> <p>Dental amalgam – The regulations of 30.3.1998 regarding elimination of amalgam waste from the dental sector, complemented by a decision of 14.12.2000 by the Agence Francaise de Sécurité Sanitaire et des Produits de santé (AFSSAPS) imposes the use of pre-dosed capsules of amalgam. In addition, an amalgam separator is required and the waste water pipes should be cleaned when this equipment is installed. Finally, an agreement is required for disposal of amalgam waste in an appropriate facility.</p>	<p>(See also European Community)</p> <p>Occupational safety and health – The Ministry of Labour has set an occupational exposure limit in air of 50 : g/Nm³ total mercury in air and 10 µg/Nm³ for methyl mercury.</p> <p>Concentrations in biological materials – Guideline values used in France are: Total inorganic mercury in blood: 15 : g/l at end of job and end of week Total inorganic mercury in urine: 50 : g/l at beginning of job.</p> <p>International instruments – France has ratified the Basel Convention.</p>

		<p>Packaging - Decree 98-638 of 20.7.1998 takes into account the environment in production of packaging. It imposes a total concentration of cadmium, lead, mercury and chrome VI not exceeding 100 ppm.</p> <p>Thermometers – The regulation of 24.12.1998 stipulates the prohibition of medical thermometers containing mercury.</p> <p>Vehicles - The new decree on batteries based on the EC directive 2000/53/CE will be published before the end of 2002.</p>																																										
Germany	Yes	<p>(See also European Community)</p> <p>Batteries – The new Ordinance on batteries, based on the EC Directive, will come into force in summer 2001.</p>	<p>(See also European Community)</p> <p>Occupational health and Safety – Extracts from the Technical Rule 900 setting limits for workplace atmosphere - occupational exposure limits - as of April 2001:</p> <table border="1"> <thead> <tr> <th colspan="2">Substance identity</th> <th colspan="2">Exposure limit</th> <th rowspan="2">Peak-justified excess factor</th> <th rowspan="2">Comments</th> </tr> <tr> <th>Name</th> <th>EC no. CAS no.</th> <th>ml/m³ (ppm)</th> <th>mg/m³</th> </tr> </thead> <tbody> <tr> <td>Methylmercury</td> <td rowspan="4">22967-92-6 2311067 7439-97-6</td> <td></td> <td>0.01 E</td> <td>4</td> <td>H DFG</td> </tr> <tr> <td>Mercury</td> <td></td> <td>0.1</td> <td>4</td> <td>DFG</td> </tr> <tr> <td>Mercury compounds, inorganic</td> <td></td> <td>0.1 E</td> <td>4</td> <td>25,H DFG</td> </tr> <tr> <td>Mercury compounds, organic</td> <td></td> <td>0.01 E</td> <td>4</td> <td>H,25 DFG</td> </tr> </tbody> </table> <p>Extracts from the TRGS 903 - biological tolerance values in the workplace (BAT – values) - as of April 2001:</p> <table border="1"> <thead> <tr> <th>Working substance [CAS no.]</th> <th>Parameter</th> <th>BAT value</th> <th>Investigated material</th> <th>Sampling time</th> </tr> </thead> <tbody> <tr> <td>Mercury [7439-97-6], metallic mercury and its inorganic mercury compounds</td> <td>Mercury</td> <td>25 µg/l</td> <td>B</td> <td>a</td> </tr> </tbody> </table> <p>International instruments - Germany has ratified the OSPAR Convention, the Helsinki Convention (HELCOM), the Basel Convention and its amendment, the Rotterdam Convention and the Stockholm Convention.</p>	Substance identity		Exposure limit		Peak-justified excess factor	Comments	Name	EC no. CAS no.	ml/m ³ (ppm)	mg/m ³	Methylmercury	22967-92-6 2311067 7439-97-6		0.01 E	4	H DFG	Mercury		0.1	4	DFG	Mercury compounds, inorganic		0.1 E	4	25,H DFG	Mercury compounds, organic		0.01 E	4	H,25 DFG	Working substance [CAS no.]	Parameter	BAT value	Investigated material	Sampling time	Mercury [7439-97-6], metallic mercury and its inorganic mercury compounds	Mercury	25 µg/l	B	a
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Greece	-	(See also European Community)	<p>(See also European Community)</p> <p>International instruments – Greece has ratified the Basel Convention.</p>																																									
Iceland	-		International instruments – Iceland has ratified the OSPAR Convention, the Basel Convention and the Stockholm Convention.																																									
Ireland	Yes	<p>(See also European Community)</p> <p>Ireland has implemented the appropriate European Community legislation on product</p>	<p>(See also European Community)</p> <p>International instruments – Ireland has ratified the OSPAR Convention and the Basel Con-</p>																																									

V. WESTERN EUROPE AND OTHER STATES – Part 2 on Actions and regulations on products that contain mercury and Other standards, actions and programmes relevant to mercury

COUNTRY	GMA SUB-MISSION	ACTIONS AND REGULATIONS ON PRODUCTS that contain mercury	OTHER STANDARDS, ACTIONS AND PROGRAMMES relevant to mercury
		sources such as batteries, pesticides, import/export, etc.	vention.
Israel	Yes		International instruments – Israel has ratified the Basel Convention.
Italy	Yes	(See also European Community)	(See also European Community) International instruments – Italy has ratified the Basel Convention and the Rotterdam Convention.
Liechtenstein	-		International instruments – Liechtenstein has ratified the Basel Convention.
Luxembourg	Yes	(See also European Community)	(See also European Community) International instruments – Luxembourg has ratified the Aarhus Protocol on Heavy Metals under the UN ECE LRTAP Convention, the OSPAR Convention, the Basel Convention and its amendment and the Rotterdam Convention.
Malta	-		International instruments – Malta has ratified the Basel Convention.
Monaco	Yes	Batteries – Batteries sold in commerce are in recent years are more and more of the non-mercury kind.	International instruments – Monaco has ratified the Basel Convention.
Netherlands	Yes	(See also European Community) Products containing mercury - Decree of 9 September 1998, comprising regulations regarding products containing mercury (Decree on Products Containing Mercury, 1998 Environmentally Hazardous Substances Act) – According to this Decree, the manufacture or import of products containing mercury is prohibited as of 1 January 2000. Exceptions were made for a limited number of products containing mercury until 1 January 2002 and for barometers containing mercury until 1 January 2005. In addition, as of 1 January 2003, it is prohibited to have a product containing mercury in possession or use it for trading or production purposes. This means that all products containing mercury - with the exception of barometers containing mercury - which are still in stock on 1 January 2003, have to be taken off the shelf of producers and dealers and disposed of as (hazardous) waste. The ban does not apply to a number of listed “essential use” products for which no viable alternatives are yet available.	(See also European Community) International instruments – The Netherlands has ratified the Aarhus Protocol on Heavy Metals under the UN ECE LRTAP Convention, the OSPAR Convention, the Basel Convention and its amendment, the Rotterdam Convention and the Stockholm Convention.
New Zealand	Yes	Health Act: Public health effects from hazardous material exposure (Administered by regional and local Public Health) Dental amalgam – A “Practice guideline - controlling dental amalgam waste and wastewater discharges” was adopted by NZDA Board October 2000 and Reviewed and approved by NZDA Executive February 2001. The guide describes a code of practice or the use, storage, collection and disposal of mercury in New Zealand dental surgeries. It recommends that amalgam scrap should be collected, stored and sent for recycling or for disposal at an approved landfill when collection for recycling is not available. Amalgam scrap should be stored under water in an airtight container to	Hazardous Substances and New Organisms Act (HSNO): Regulates import, manufacture, production, transport, storage and disposal of hazardous materials. Administered by the Environmental Risk Management Agency (ERMA). The newly in-force Act regulates toxic and ecotoxic substances from import to disposal. Materials are presently being transferred under the act so that controls will apply to them. Mercury and its compounds are expected to be transferred in second half of 2003 according to the Environmental Risk Management Authority, which administers the Act. After transfer is complete Environmental Exposure Limits will be assigned to quantify allowable concentrations allowable in specific environments.

		<p>reduce mercury vapour levels. Also, amalgam scrap and contaminated particulate amalgam waste should not be disposed of in any medical waste to be incinerated. Dental surgeries should use systems to reduce amalgam discharge to wastewater. In regions where other mercury sources are controlled, and reductions in total mercury discharge to wastewater are required by territorial local authorities, amalgam separators that comply to <i>ISO 11143 Dental Equipment – Amalgam Separators</i>, should be installed and serviced appropriately to maintain the effectiveness of these systems.</p> <p>Precautionary advice for Dentists and Pregnant Women - The Ministry of Health is advising dentists to avoid using or removing any tooth filling material in pregnant women where clinically reasonable. The Ministry of Health commissioned an extensive review of dental amalgam and human health in early 1997, which found that no new scientific evidence has emerged to indicate present or future public health problems associated with the use of amalgam in dental fillings. This review concluded there is scant evidence to support either a link between the health of individuals and the micro-leakage of mercury from their dental amalgams, or that removal of dental amalgams has beneficial effects on health. It recommended that amalgam still be used but with informed consent.</p>	<p>tions allowable in specific environments.</p> <p>International instruments – New Zealand has ratified the Basel Convention: Regulates the trans-boundary movement of hazardous wastes. (import and export).</p>
Norway	Yes	<p>Products - a lot of products containing mercury are prohibited in Norway. The products that still are allowed are considered not to be a problem when in use. As they become waste they are to be separately collected and treated as hazardous waste.</p> <p>Batteries - Batteries containing more than 5 ppm mercury are prohibited. Button cell formats are exempted from the prohibition if the mercury content amounts to less than 2 weight %.</p> <p>Cosmetics - General prohibition against mercury in cosmetics, with exemption for some mercury compounds used as preservatives, but only if the total content does not exceed 0,007 %.</p> <p>Dental amalgam - Dental amalgam is not prohibited but the release of mercury from the product is prevented through legislations prescribing the dental clinics to separately collect amalgam in the solid waste stream and use amalgam separators in the wastewater.</p> <p>Electrical equipment and lighting - Use of mercury in lighting and electrical equipment is not prohibited but when these products becomes waste the legislations prescribes to separately collect them and treat them as hazardous waste. The use of mercury containing electrical components is considerably reduced and is for some products phased out due to mercury free alternative products on the market.</p> <p>Packaging - There are legislations prescribing maximum allowable concentrations of mercury in packaging. The accumulate concentration of mercury, lead and chromium shall not exceed 100 mg/kg.</p> <p>Paints - There are prohibitions against production, import, export, sale and use of mercury in non-fouling paints used on boats, underwater installations and equipment.</p> <p>Pesticides - Mercury in pesticides (seed dressing) is prohibited.</p> <p>Pharmaceuticals - Use of mercury in pharmaceuticals is not prohibited. When the pharmaceutical products becomes waste the legislations prescribes to separately collect them and treat them as hazardous waste.</p> <p>Other products - There are prohibitions against production, import, export, sale and use of products containing mercury for process water treatment, wood preservation</p>	<p>Occupational health and safety - There are legislations on occupational safety and health to avoid unacceptable occupational exposures to hazardous substances in the workplace.</p> <p>The employer is obligated to survey and document the occurrence of chemical substances in the work place, to consider the risk they impose on the employees and to take the necessary actions to reduce the risk to an acceptable level. The administrative norm, recommended maximum value for average level of mercury in the breathing zone to an employee, shall not exceed 0,05 mg/m³ in indoor air. But for alkyl compounds the administrative norm is stricter, 0,01 mg/m³. Alkyl compounds are considered to be administrated through intact skin in addition to through the mouth as for the other mercury compounds. All mercury compounds are considered to be allergens.</p> <p>Classification, marketing and use, packaging and labelling - The classification, marketing and use, packaging and labelling regulations are the same as in EU. The classification of compounds is used in elaboration of regulations for products and industry, defining hazardous wastes and the terms for discharge permits to the industry. Mercury is classified as toxic, toxic for humans by inhalation, danger of cumulative effects, dangerous for the environment, very toxic to aquatic organisms and may cause long-term adverse effects in the environment. Organic and inorganic compounds of mercury are considered very toxic and very toxic for humans by inhalation, in contact with skin and if swallowed. They are also considered dangerous for the environment, very toxic to aquatic organisms and may cause long-term adverse effects in the environment.</p> <p>Information and reporting requirements - The industry is obliged in their permits to report their emissions and discharges to the Norwegian pollution control authority every year. If a product must be labelled in accordance with the Chemical Labelling Regulations and the quantity placed on the market in Norway each year is 100 kg or more, it must be declared to the Product Register.</p> <p>Substitution principle - All commercial enterprises are required to apply the substitution principle. This means that they must evaluate whether they can replace any hazardous chemicals that they use with less hazardous alternatives. Enterprises must identify dangers and problems, assess the risks associated with their activities, and draw up plans and measures to reduce these risks. It applies to all products containing chemicals that may be hazardous to health or the environment. As a general rule, the requirement to apply the substitution principle applies to all substances with properties that may entail environmental or health risks. The</p>

V. WESTERN EUROPE AND OTHER STATES – Part 2 on Actions and regulations on products that contain mercury and Other standards, actions and programmes relevant to mercury

COUNTRY	GMA SUB-MISSION	ACTIONS AND REGULATIONS ON PRODUCTS that contain mercury	OTHER STANDARDS, ACTIONS AND PROGRAMMES relevant to mercury
		<p>and textile preservation.</p> <p>Thermometers - There are prohibitions against production, import, export and sale of thermometers containing mercury. Old thermometers in use are considered hazardous waste and they are to be delivered to authorized treatment facilities for hazardous wastes.</p> <p>Vehicles - Mercury in vehicles is not prohibited but equipment in the vehicle containing mercury, like car relays, must be removed from the vehicles before the cars are compressed and transported to a shredder plant. The mercury containing parts must be treated as hazardous waste. After 01.07.03 mercury in cars is prohibited, but with some exemptions, as for light bulbs and instrument panel displays.</p>	<p>environmental authorities have laid down recommended criteria for undesirable properties. Special caution is required if chemicals have these properties. The authorities have also drawn up the observation list. This is a list of hazardous substances that users should treat with special caution because current information indicates that they represent special problems in Norway. Mercury and its compounds are on this list. Their use should be reduced wherever there is a risk of injury to health or environmental damage during use, manufacturing processes, storage or waste management. The list is intended to be used as a tool for reducing the quantities of hazardous substances in the environment.</p> <p>Monitoring programmes - The regular monitoring programmes in Norway in air are part of AMAP. Mercury is measured regularly in the air of Svalbard. Through the monitoring programmes in OSPAR mercury is measured weekly in air and precipitation at Lista (OSPAR/INPUT-CAMP), yearly in different marine species along the Norwegian coast and every 10 year in the sediments (OSPAR/JAMP) and every month in the water column in 10 of the Norwegian rivers (OSPAR/RID). Mercury has also been measured in inland waters and fresh water fish as already reported in the letter of 21. January 2002.</p> <p>National action plan - To achieve the national objective of substantial reduction before 2010 and international objectives of phase out before 2020 a national action plan for mercury is elaborated. All known sources are considered and further actions for mercury reduction are adopted. Possible new sources are identified and will be surveyed. The action plan will be regularly updated and further measures will be considered.</p> <p>International instruments – Norway is a contracting party to the OSPAR Convention. OSPAR has adopted a strategy with regard to hazardous substances including mercury and agreed to make every endeavour to move towards the target of cessation of discharges, emissions and losses of hazardous substances by the year 2020. To achieve the national and international objectives a national action plan is elaborated. New stringent emission limits for the most important point sources, waste-incinerators, ferromanganese and silicomanganese smelters are in place.</p> <p>Norway has also ratified the Aarhus Protocol on Heavy Metals under the UN ECE LRTAP Convention, Basel Convention and its amendment, Rotterdam Convention and the Stockholm Convention.</p>
Portugal	-	(See also European Community)	<p>(See also European Community)</p> <p>International instruments – Portugal has ratified the OSPAR Convention and the Basel Convention and its amendment.</p>
San Marino	-		
Spain	Yes	<p>(See also European Community)</p> <p>Practically all the legislation in effect with regards to mercury originates from the implementation of European Community Directives.</p>	<p>(See also European Community)</p> <p>Occupational health and safety – Occupational Exposure limits for mercury can be found on the Instituto Nacional de Seguridad e Higiene en el Trabajo web site at http://www.mtas.es/insht/practice/vlas.htm. Technical guidelines for evaluation and prevention of risk can be found at http://www.mtas.es/insht/practice/guias.htm.</p>

			International instruments – Spain has ratified the OSPAR Convention and the Basel Convention and its amendment.
Sweden	Yes	<p>(See also European Community)</p> <p>Batteries – The European Community battery directive that also applies in Sweden was amended in 1998. The amendment entails that batteries with mercury content in excess of 0.0005 % by weight are defined as dangerous for the environment. They may not be marketed as such or incorporated into appliances. Button cells with a mercury content of no more than 2 % by weight are exempted from this prohibition. The new rules mean that mercury oxide batteries may no longer be sold.</p> <p>Dental amalgam - The overall goal of a phase-out of mercury also includes dental amalgam. Substitutes to dental amalgam were evaluated in a special report to the government in 1996. Use has still not been totally banned, as the alternatives are not yet deemed capable of substituting mercury in all types of dental fillings.</p> <p>Electrical equipment –Professional manufacture, import and sale of thermometers, level switches, pressure switches, thermostats, relays, electrical contacts and other measuring instruments has been banned since 1993. (Ordinance 1991:1290) Some exemptions, mainly for spare parts, still exist. (Ordinance 1998:944). A time-schedule for phase-out is stipulated for each exemption. (Regulation 1998:8)</p> <p>Laboratory chemicals - Mercury-containing chemicals for analysis and reagents are mainly used in the environmental control, by its use of mercury sulphate in COD (chemical oxygen consumption) analyses. Information activities have not been effective to phase-out this particular use. The Swedish government is therefore considering an amendment of Ordinance 1998:944, by which the use of mercury in chemicals for analysis and reagents would be banned from 1 January 2004.</p> <p>Lighting - There is at present no commercially available, mercury free alternative to linear fluorescent lamps and compact fluorescent lamps. In order to minimise the environmental impacts from the use of mercury in these products, maximum permitted mercury contents should preferably be established. Such regulations will most likely be introduced in the coming EC Directive on Restrictions of Hazardous Substances in electric and electronic equipment.</p> <p>Pesticides - The use of mercury-containing seed dressings is banned since 1979 (SFS 1979:349). Import, sale, transfer and use of mercury and mercury compounds as bio-cides are not approved (SFS 1985:836).</p> <p>Thermometers - The import, professional manufacture and sale of clinical mercury thermometers were prohibited from 1 January 1992. Professional manufacture, import and sale of thermometers, level switches, pressure switches, thermostats, relays, electrical contacts and other measuring instruments has been banned since 1993. (Ordinance 1991:1290) Some exemptions, mainly for spare parts, still exist. (Ordinance 1998:944). A time-schedule for phase-out is stipulated for each exemption. (Regulation 1998:8)</p> <p>New products - Bill 2000/01:65, A Chemical Strategy for a Non-Toxic Environment requires that new goods put on the market should be, as far as possible, free from mercury by 2003, at the latest.</p> <p>Import/export - In line with the strict Swedish mercury policy, as of 1 January 1999 metal mercury and chemical compounds and preparations containing mercury may not be exported (Ordinance 1998:944).</p>	<p>(See also European Community)</p> <p>Phase-out of mercury – Government Bill 1990:91/90 proposed a numerous set of legislative and voluntary actions, with the ultimate aim of a total phase-out of mercury use. Government Bill 1993/94:163 set a goal of phase-out of mercury and mercury-containing products by the year 2000. When entering the next century, mercury should be offered for sale only in vital products and for uses to which no alternative techniques are known or fully developed.</p> <p>Collection of used products and goods - Recognising that mercury emissions from products in use or forgotten "on the user's shelves" would continue for many years, the Government developed an action programme for a more effective and comprehensive collection of used products and goods containing mercury. The action programme included projects dealing with the collection of clinical thermometers, inventories and collection of mercury at different places, clearing out of mercury in schools, universities and colleges and providing information and raising awareness. In projects for the collection of mercury thermometers, economic incentives were used to invite household to turn in their mercury thermometers. Another project consisted of the identification of hidden "technical" mercury in technical goods and products within about 70 industries. The work involved tracking mercury with the world's first mercury dogs.</p> <p>Final disposal of mercury - Mercury is a substance that remains a threat to human health and the environment in perpetuity, and for this reason it should not be recycled. Instead, mercury-containing waste must be dealt with permanently in a safe and environmentally acceptable way. In a report to the Government, the Swedish Environmental Protection Agency in 1997 proposed terminal storage of waste containing mercury in a deep rock facility. A governmental committee has recently submitted its final report on how to dispose waste containing more than 0.1 % (by weight) of mercury. It is proposed that a mandatory requirement for permanent storage deep down in rock should be in force within five years.</p> <p>International instruments – Sweden has ratified the Aarhus Protocol on Heavy Metals under the UN ECE LRTAP Convention, the OSPAR Convention, Helsinki Convention (HELCOM), the Basel Convention and its amendment and the Stockholm Convention.</p>

V. WESTERN EUROPE AND OTHER STATES – Part 2 on Actions and regulations on products that contain mercury and Other standards, actions and programmes relevant to mercury

COUNTRY	GMA SUB-MISSION	ACTIONS AND REGULATIONS ON PRODUCTS that contain mercury	OTHER STANDARDS, ACTIONS AND PROGRAMMES relevant to mercury
Switzerland	Yes	<p>Mercury in products – Since 1986 a ban has existed on the use of mercury in all products. A list of exemptions is given, along with gradual reduction of mercury in the products according to technical possibilities. (OECD, 1995)</p> <p>Ammunition – Mercury-containing ammunition is no longer used by the Army.</p> <p>Batteries - Annex 4.10 of the Ordinance relating to Environmentally Hazardous Substances, which deals with batteries, was amended in 1998. It limits the mercury and cadmium contents of batteries sold in articles of any kind to < 0.001% (w/w). Exceptions require special approval and are accepted only in consideration of annex 2 to the guideline 91/157 of the Council of the European Community. It also defines the consumers' duty to return used batteries and the traders' duty to accept returned batteries of all kinds. In addition, the annex defines the producers' obligation to pay a fee to the respective organization, when commercializing batteries and battery-containing articles. This fee covers the cost of adequate waste treatment. The recycling rate of used batteries is estimated to be no more than about 2/3.</p> <p>Dental amalgam – Because of increasingly popular non-mercury alternatives, use of amalgam tooth cements is strongly reduced. There is also increasing use mercury-separators in dentists' offices.</p> <p>Electric equipment - Almost complete elimination of mercury from switches etc.</p> <p>Lighting – There is still very significant use of mercury-containing fluorescent lamps, however, there are also an increased recycling rate.</p> <p>Recycling of mercury - Batrec AG, the Swiss heavy metal recycling organization in Wimmis, is specialized in treating batteries and other mercury-containing waste. It was founded in 1989. Between 1999 and mid 2001 it took in a yearly average of 154 tons of mercury-containing waste, composed i.a. of ~ 47 tons of mercury-containing resins and adsorbents, ~32 tons of broken fluorescent lamps, ~11 tons of mercury-containing mud, and ~10 tons of amalgam. Since Batrec AG is operational, Switzerland stopped exporting mercury-containing waste for deposition.</p> <p>Paints – Use of mercury in paints has been forbidden. (OECD, 1995)</p> <p>Pesticides – Use of mercury as a seed dressing has been forbidden since 1991. (OECD, 1995)</p> <p>Pharmaceuticals – There is increased use of alternatives to mercury-containing bactericidal and wound treatment products.</p> <p>Sports grounds – Earlier, it was popular to use mercury-containing material (Tartan) in round-courses of stadiums, etc. Use has now been discontinued, and tartan is replaced when renovating sports grounds (mercury content is recycled).</p> <p>Thermometers – There is still significant use of mercury-containing thermometers. Otherwise, almost complete disappearance of mercury from laboratory instruments.</p>	<p>General - The significant progress made between the 1980's and today is based on the rising awareness of the environmental and toxicological importance of mercury and on a series of legislative measures, which have all, with the exception of the most recent one, been adapted and up-dated as necessary:</p> <ul style="list-style-type: none"> - the Federal Law on Toxic Substances (issued in 1969); - the General Ordinance for the Protection of Waters (issued in 1972); - the Ordinance for Waste Water Discharge (issued in 1975); - the Compendium of Agricultural Processing Aids / Pesticides (issued in 1977); - the Ordinance on Toxic Substances (issued in 1983); - the Federal Law on the Protection of the Environment (issued in 1983); - the Ordinance on Air Pollution Control (issued in 1985); - the Ordinance on Movements of Special Wastes (issued in 1986); - the Ordinance relating to Environmentally Hazardous Substances (issued in 1986); - the Ordinance on Environmental Impact Assessments (issued in 1988); - the Technical Ordinance on Waste (issued in 1990); - the Federal Law on the Protection of Waters (issued in 1991); - the Federal Law on Protection Against Dangerous Substances and Preparations (law on chemicals, issued in 2000, replacing Federal Law on Toxic Substances, 1969). <p>Occupational health and safety - Non-legislative measures - SUVA regulations (Swiss National Insurance Fund, i.e. the Swiss occupational health insurance) defining maximum workplace concentrations (0.01 mg/m³ for organic and 0.1 mg/m³ for inorganic mercury derivatives).</p> <p>International instruments – Switzerland has ratified the Aarhus Protocol on Heavy Metals under the UN ECE LRTAP Convention, the OSPAR Convention, the Basel Convention and the Rotterdam Convention.</p>

United Kingdom	Yes	<p>(See also European Community)</p> <p>The United Kingdom has adopted relevant European Community legislation on mercury-containing products.</p>	<p>(See also European Community)</p> <p>International instruments – The United Kingdom has ratified the OSPAR Convention and the Basel Convention and its amendment.</p>
United States of America	Yes	<p>Mercury in products - Mercury-containing products are regulated in several different ways. At a federal level, mercury product regulation has generally centered around health-based reasons to eliminate mercury from products, using the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Federal Food, Drug, and Cosmetic Act (FFDCA) regulations. In recent years, many states have taken a different approach. Restrictions on mercury-containing products, once used sparingly by the federal government, are increasing rapidly at the state level. Certain US States have initiated a variety of initiatives aimed at reducing mercury emissions from the use and disposal of products. These initiatives include notification and labeling requirements to gain information on the mercury content of particular products and inform purchasers the products contain mercury; prohibitions on the sale of a variety of products for which alternatives were deemed readily available such as fever thermometers, dairy manometers, novelty items (toys, shoes), switches in automobiles, and thermostats in residential and commercial applications; concentration limits on other products such as batteries and packaging; restrictions on product disposal so that the products must be segregated from the solid waste stream and ultimately recycled; and state-sponsored collection programs for items such as fever thermometers, historic dental inventories, and products found in schools.</p> <p>Batteries – Between late 1989 and early 1991, all U.S. manufacturers converted production so that the mercury content, except in button and "coin" cells, did not exceed 0.025 percent mercury by weight. A federal law called the Mercury-Containing and Rechargeable Battery Management Act went into effect May 13, 1996. The Act prohibits the sale of:</p> <ol style="list-style-type: none"> 1) alkaline-manganese batteries containing mercury (alkaline-manganese button cell batteries are limited to 25 mg mercury per button cell), 2) zinc carbon batteries containing mercury, 3) button cell mercuric-oxide batteries for use in the US, and 4) any mercuric-oxide battery unless the manufacturer identifies a collection site that has all requires federal, State, and local government approvals, to which persons may send batteries for recycling and disposal. <p>The Act contains labelling requirements and encourages voluntary industry programs by eliminating barriers to funding the collection and recycling or proper disposal of used rechargeable batteries. The Act also grants states the authority to add other batteries to the recycling program. This federal law followed the lead of several states that passed legislation in the early 1990s limiting the mercury content of batteries.</p> <p>Cosmetics - The Food and Drug Administration is responsible for mercury in food, drugs, and cosmetics. According to the Federal Food, Drug, and Cosmetic Act (FFDCA), mercury use as a preservative or antimicrobial is limited to eye-area cosmetics or ointments in concentrations below 60ppm. Yellow mercuric oxide is not recognized as a safe and effective ophthalmic anti-infective ingredient.</p> <p>Dental amalgam – The Food and Drug Administration (FDA) also regulates dental amalgam under FFDCA. Dental mercury is classified as a Class I medical device, with extensive safety regulations on its use. Dental amalgam alloy is classified as a Class II device, subject to additional special controls.</p> <p>Electric switches – Voluntary efforts are underway jointly with appropriate industry</p>	<p>Occupational safety and health - The Occupational Safety and Health Administration has responsibility for maintaining safe workplace conditions. OSHA sets permissible exposure levels for elemental mercury in workplace settings. Mercury is listed as a neurotoxin capable of causing behavioral changes, decreased motor function and other effects on the nervous system (29CFR1926.59). OSHA mercury standards also recommend that skin contact should be avoided.</p> <p>Workplace standards may influence the types of processes used at a facility. For instance, when OSHA tightens its standards for a particular substance, it may force users of that substance to modify their processes or eliminate use of that substance entirely in order to meet these new standards.</p> <p>Environmental Standards: workplace air concentration levels for exposure to elemental mercury. Section 29 CFR 1910.1000 sets the permissible exposure limit (PEL) for an 8-hour time weighted average (TWA) of 0.1 mg/m³.</p> <p>Information and reporting requirements - US Toxics Release Inventory (TRI): Starting with the 2000 reporting year, the reporting threshold for mercury and its compounds has been lowered to 5 kilograms per year (the previous threshold was 4500 kilograms).</p> <p>Transportation - The Department of Transportation regulates hazardous materials transport under the Hazardous Materials Transportation Act. Mercury and mercury compounds are hazardous substances subject to packaging, shipping and transportation rules for hazardous materials.</p> <p>REGIONAL AGREEMENTS -</p> <p>Arctic Monitoring and Assessment Program (AMAP) - AMAP collects information on pollution threats, detects changing conditions and emerging problems, and conducts risk reduction activities. AMAP is performing a study on mercury in the arctic atmosphere. The Protection of the Arctic Marine Environment (PAME) program is drafting a regional action plan for pollution from land-based sources, which includes voluntary commitments by Arctic Council members on persistent organic pollutants (POPs) and heavy metals.</p> <p>North American Regional Action Plan: The North American Regional Action Plan (NARAP) is one of a number of regional undertakings that stem from the North American agreement on Environmental Cooperation between the governments of Canada, the United Mexican States, and the USA (Parties). The NARAP calls for the development of regional action plans for selected persistent and toxic substances as a first priority in the Parties' common desire to address national and regional concerns associated with the sound management of chemicals. Under the CEC Resolution #95-5 mercury was identified as one of the first four chemicals selected for the Sound Management of Chemicals Initiative. The CEC released a draft of the phase II NARAP for Mercury on August 17, 1999, and accepted public comments through October 20. The phase II NARAP will identify actions that the Parties will commit to in order to reduce mercury use and release.</p> <p>Great Lakes Binational Toxics Strategy: On April 7, 1997, the United States and Canada signed the Great Lakes Binational Toxics Strategy. The Strategy's purpose is to establish a collaborative process for the achievement of virtual elimination of persistent toxic substances resulting from human activity, particularly those which bioaccumulate, from the Great Lakes</p>

V. WESTERN EUROPE AND OTHER STATES – Part 2 on Actions and regulations on products that contain mercury and Other standards, actions and programmes relevant to mercury

COUNTRY	GMA SUB-MISSION	ACTIONS AND REGULATIONS ON PRODUCTS that contain mercury	OTHER STANDARDS, ACTIONS AND PROGRAMMES relevant to mercury
		<p>and associations to reduce mercury used in electric switches. Several US States have also enacted or are considering legislation to require end-of-life vehicle handlers and auto manufacturers to establish and maintain a mercury switch removal program to address the problem of existing switches in vehicles already on the road.</p> <p>Lighting – Of the 500-600 million mercury-containing lamps sold in the United States annually, approximately 96 % are fluorescent lamps. It is estimated that approximately the same amount of lamps are disposed of on an annual basis. Mercury emissions due to mercury-containing lamps are expected to decrease in the future for a number of reasons. One reason is that states are beginning to view recycling as a viable option to decrease mercury emissions. There is presently a bill in Massachusetts that would require every manufacturer of mercury-containing products that may be sold or offered for sale to ensure that proper recycling of these products occurs by funding a collection system. In addition, there have been technological advancements in the manufacture of fluorescent lamps. Since the mid-1980's, electrical manufacturers have reduced the average amount of mercury in each fluorescent bulb from an average of 48.2 mg to an average of 11.6 mg/lamp in 1999. A certain amount of mercury is needed, however, in order to maintain desirable properties.</p> <p>Paints - As of May 1991, all registrations for mercury biocides used in paints were voluntarily canceled by the registrants, thus causing a drastic decrease in the use of mercury in paint. In addition to the paint industry reformulating its paints to eliminate mercury, US EPA banned the use of mercury in interior paint in 1990 and in exterior paint in 1991.</p> <p>Pesticides – The Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) covers the sale and use of pesticides, including registration of chemicals that meet health and safety tests. Earlier, several mercury compounds were registered as pesticides, bactericides, and fungicides. Registrations for the last mercury-based pesticides registered for use in the United States (to control pink and grey snow mold) were voluntarily cancelled by the manufacturer in November 1993.</p> <p>Thermometers – Voluntary efforts are underway jointly with appropriate industry and associations to reduce mercury in thermometers through mercury free substitutes. Several US States have banned the use of mercury fever thermometers, and most major retailers no longer sell them.</p> <p>Thermostats – As a voluntary measure, the Thermostat Recycling Corporation (TRC) launched a program in 1997 to recycle mercury-switch thermostats in nine states. Since then, the TRC has gradually expanded its program to include all 48 states on the mainland United States. The TRC has collected over 120,000 thermostats and processed 1,000 pounds of mercury since it began operations in 1998. Recognizing that the capture rate for the TRC program is relatively low, two US States (Maine, Oregon) will prohibit the sale of new mercury thermostats for residential and commercial applications effective January 2006.</p> <p>Vaccines - Under the Food and Drug Administration Modernization Act of 1997,</p>	<p>basin, so as to protect and ensure the health and integrity of the Great Lakes ecosystem.</p> <p>For mercury, the Strategy sets a U.S. challenge of 50 percent reductions nationwide in the use and release of mercury by 2006, and a Canadian challenge of 90 percent reduction in release of mercury in the Great Lakes basin by 2000. The baseline for the U.S. challenges is the most recent year for which there was an inventory available at the time the Strategy was signed. For the release challenge, the baseline year is 1990; for the use challenge, the baseline is 1995 mercury consumption as estimated by the U.S. Geological Survey. While the purpose of the Strategy is to protect the Great Lakes Basin, implementation of the U.S. challenge requires a national effort to reduce use and air emissions of mercury. The release challenge is national as it applies to air emissions, because mercury emissions have the potential to be transported across the continent. The mercury use challenge is national in scope as well, both because mercury use affects national air emissions and because the import of mercury-containing products into the Great Lakes Basin could lead to local mercury releases.</p> <p>While already-planned regulatory activities are expected to achieve most of the U.S. challenges, the focus of the Binational Toxics Strategy is encouragement of voluntary reductions. EPA and Environment Canada have established a stakeholders workgroup--including industry, States, Tribes, environmental groups and the public--to track progress towards achievement of the challenges and to share information about mercury reduction accomplishments and opportunities. In addition, the Binational Strategy process encourages voluntary mercury reduction commitments: the chlor-alkali industry, the American Hospital Association, and Northwest Indiana steel mills have made such commitments (see section 4). The workgroup has conducted workshops on reduction opportunities for electric utilities and local communities, and is working to share information about reduction opportunities related to schools, autos and thermostats. A Binational Toxics Strategy report on mercury reduction opportunities, based largely on work accomplished by the Great Lakes States in recent years, will be published in 2000.</p> <p>New England Governors/Eastern Canada Premiers Mercury Action Plan: On 8 June 1998, the New England Governors/Eastern Canadian Premiers signed a resolution, concerning mercury and its impacts on the environment. In addition, the Governors and Premiers adopted the Mercury Action Plan, which has as its regional goal "The virtual elimination of the discharge of anthropogenic mercury into the environment." The NEG/ECP has established a task force, which includes the New England states, the Eastern Canadian Provinces, to coordinate and implement the Mercury Action Plan. The action plan identifies 45 specific actions to reduce mercury emissions. Including emission reduction targets from specific source categories, such as municipal waste combustors, medical waste incinerators, sludge incinerators, utility and non-utility boilers, industrial and area sources and source reduction and safe waste management of mercury.</p> <p>International Conventions - In February 1998 the U.S. and other Parties to the U.N. Economic Commission for Europe's Convention on Long-Range Transboundary Air Pollution (LRTAP) concluded negotiations on a legally binding protocol on mercury and other heavy metals. The protocol includes obligations to control mercury emissions from stationary sources and to establish and report mercury emissions inventories. It also contains obligatory</p>

	<p>FDA is required to assess the risk of all mercury containing food and drugs. Under this provision, FDA asked vaccine manufacturers to provide information about thimerisol content of vaccines. Based on this information, the Public Health Service, the American Academy of Pediatrics, and vaccine manufacturers agreed that thimerisol-containing vaccines should be removed as soon as possible. Manufacturers have been asked for a clear commitment to eliminate mercury from vaccines, and FDA will do expedited reviews of resulting revisions to product license applications.</p> <p>Vehicles – The use of mercury-containing switches in vehicles is being gradually phased out through voluntary initiatives. The US EPA’s Environmental Accounting Project is a cooperative effort with business, academia and others to promote sound management accounting and capital budgeting practices that better address environmental costs. The project encourages and motivates business to understand the full spectrum of environmental costs and integrate these costs into decision-making. A car manufacturer in the United States is now removing or replacing all mercury switches that have been traditionally used in its under-hood convenience light applications. By applying the principles of environmental accounting, the company determined that it could cost-effectively replace the mercury switches with a rolling ball switch or remove the switches altogether. For the first group of cars on which the company tested the feasibility of substitution and removal, it determined that it could avoid US\$ 40,000 in costs. Most of those costs were associated with the documentation of the removal of mercury switches from the vehicle before disposal, and with the potential liability for any mercury that enters the environment following vehicle disposal. After conducting their own total cost analyses, other auto manufacturers are now following suit and are actively removing mercury switches from their own automobiles (US EPA, 1997). The auto industry has stated that it will cease production of vehicles with mercury switches in 2002. However, a significant quantity of mercury switches remains in vehicles still in use. Some states have instituted programs to remove switches, either voluntarily or as a requirement for auto dismantlers.</p>	<p>and voluntary provisions regarding the use of mercury in products. The U.S signed the LRTAP Heavy Metals Protocol in June 1998 agreeing in principle to this international agreement, however, it is still under review and has not yet been ratified. The U.S. is participating in U.N. ECE LRTAP working groups to resolve some of the uncertainties involving various mercury issues.</p>
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