

Republic of the Philippines
HOUSE OF REPRESENTATIVES
Quezon City

FIFTEENTH CONGRESS
First Regular Session

H. B. No. 451

Introduced by HONORABLE JUAN EDGARDO "SONNY" M. ANGARA

EXPLANATORY NOTE

Mercury (Hg) is a persistent, bio-accumulative toxin that poses significant risk to human health, wildlife and the environment. It is the only metal that remains liquid at room temperature. It is so dangerous that it just takes 1/70th of a teaspoon to contaminate a 10.11 hectare lake to the point where fishes in that lake are no longer safe for human consumption; Hg content in one fever thermometer alone is enough to contaminate more than 200 million gallons of water.

At high levels, metallic mercury can cause serious damage to the nervous system in developing fetuses, even death, in exposed adults. Even at low levels, metallic mercury can cause health problems such as mild tremors, changes in vision, hearing, and personality, insomnia, weakness, difficulty with memory, headache, irritability, and nervousness.

People throw away products containing mercury, unaware of its dangers. The United Nations Environment Program (UNEP's) "Global Mercury Assessment" (2002) found that mercury is now all over the world at levels that adversely affect humans and wildlife. The problem has become global as regions with no significant mercury releases of their own, such as the arctic, are still affected due to transcontinental transport of mercury. Coal-fired power stations and waste incinerators now account for around 1,500 tons or 70 percent of new, quantified manmade mercury pollution, releasing an estimated 400-500 tons of mercury annually to the air, soil, and waterways.

In the Philippines, there are two (2) main sources of Hg pollution, mined mercury deposits and use of mercury in gold extraction by the crude method of amalgamation. Exposure to mercury depends on its form, with mercury vapor and methyl mercury being the most likely forms since they are almost completely absorbed by the body. Manmade sources of mercury come in the form of airborne particles released when coal, oil or natural gas is burned as fuel, or waste containing mercury is burned. The airborne mercury can then fall to the ground through rain contaminating soil or bodies of water. Lakes and rivers can also be contaminated through industrial waste or municipal sewage. Once mercury enters water --- directly or through deposition in air -- biological processes transform it into methyl mercury, a highly toxic form of mercury that bioaccumulates in fish. When a substance bioaccumulates, its concentration increases as it moves to the food chain.

The UNEP report also shows levels in fish exceeding a risk-based threshold (based upon Japan's and U.S. recommendations) in quite a few developing countries, including Cote d'Ivoire, Ghana, India, Mauritius, Philippines, Slovak Republic, and Thailand as well as Japan, Korea, and Sweden.

Despite the risks, mercury continues to be used in a variety of products and processes all over the world including small-scale mining of gold and silver; chlorine and caustic soda production; manometers for measurement and control; thermometers; electrical switches; fluorescent lamps; and dental amalgam fillings.

I have proposed a three-pronged plan to address the global issue that is Hg pollution: switch of mercury-using products and processes to non-mercury alternatives as there are indeed, less hazardous alternatives for most mercury-containing items; control of mercury release; and mercury waste management. Considering the effects of mercury, it is high-time that "measures of vigilance" in the introduction of mercury to the environment as are put forth in this measure be undertaken, and to which I urge my esteemed colleagues in the House of the Senate to support.



JUAN EDGARDO "SONNY" M. ANGARA

Representative

Lone District, Province of Aurora

H. B. No. ____ 451

Introduced by Honorable JUAN EDGARDO "SONNY" M. ANGARA

AN ACT
PROVIDING MECHANISMS FOR THE REDUCTION OF THE DISTRIBUTION OF
MERCURY-ADDED PRODUCTS AND ITS PROPER DISPOSAL THEREOF IN
ORDER TO REDUCE THE INTRODUCTION OF MERCURY INTO THE
ENVIRONMENT

Be it enacted by the Senate and House of Representatives of the Philippines in Congress assembled:

SECTION 1. Short Title. This Act shall be known as the **"Mercury Reduction Act of 2010."**

SEC. 2. Declaration of Policy. It is hereby declared the policy of the State to adopt and implement positive and effective measures to ensure the reduction of the distribution of products containing mercury and the proper disposal thereof to reduce the introduction of mercury into the environment.

SEC. 3. Definitions. For the purposes of this Act, the terms below are defined as follows:

- (a) **"Affected source"** means any source that emits mercury, except electric utility generators;
- (b) **"Department"** means the Department of Environment and Natural Resources which is the government agency created pursuant to Executive Order No. 192;
- (c) **"Department of Science and Technology (DOST)"** refers to the government agency created pursuant to Executive Order No. 128;
- (d) **"Mercury-added product"** means a product, device, instrument, or piece of equipment into which elemental mercury or mercury compounds are intentionally added during its formulation or manufacture and in which the continued presence of mercury is desired to provide a specific characteristic or to perform a specific function;
- (e) **"Mercury-containing material"** means any material that contains mercury that was not intentionally added including, but not limited to, ash, sludge bottoms from manufacturing process, scrubber effluent, sewage sludge, cement kiln dust, and products made from mercury containing waste such as asphalt tiling, road asphalt, playground mats, or any other material containing mercury. Mercury-containing

material does not include material used as fuels, specifically and without exception, coal, oil, gasoline, diesel, or natural gas;

- (f) **"Person"** means any entity including, but not limited to, people, businesses, or corporations; and
- (g) **"Secretary"** means the Secretary of the Department of Environment and Natural Resources.

SEC. 4. *Creation of an Environmental Advisory Council on Mercury Pollution.*

- (A) There is hereby created an Environmental Advisory Council on Mercury Pollution, to consist of one member of the House of Representatives, appointed by the Speaker; one member of the Senate, appointed by the Senate President; the Secretary of the Department of Environment and Natural Resources; and the following persons, appointed by the President: one public health specialist; one toxicologist; one representative of an environmental group; one scientist who is knowledgeable on matters related to mercury contamination; one children's advocate; and one consumer advocate.

The advisory council shall advise the general assembly, the executive and legislative branch and the general public on matters relating to the prevention and clean-up of mercury pollution and the reduction in human exposure to mercury.

- (B) The Advisory Council will report to the general assembly regarding:
- (1) The extent of mercury contamination in the soil, waters, and air of the Philippines;
 - (2) The extent of any health risk from mercury contamination in the country, especially to pregnant women, children, and subsistence fishermen, and ways to reduce human exposure to mercury;
 - (3) Methods available for minimizing risk of further contamination or public health risk;
 - (4) Coordination needed with other states to effectively address regional mercury issues and pollution;
 - (5) Ways to eliminate non-essential uses of mercury in health care, government, consumer, and business operations;
 - (6) The extent to which mercury-containing solid waste and medical waste is incinerated or autoclaved within the state or sent out of state for such purposes, and ways to reduce the disposal and incineration of mercury-added products.

SEC. 5. *Public Education, Information and Outreach.* The DENR, in collaboration with the Department of Science and Technology (DOST), shall develop, design and disseminate to the public information about mercury-added products, the prohibition on disposal of mercury-added products, the need for source separation, and the collection programs available to product users.

SEC. 6. *Public Participation.* The public has a fundamental right to participate in decisions which could affect their health, well-being, and the quality of their environment. To encourage public participation, and accountability to the public, the Secretary must keep a

mercury disclosure mailing list of all parties interested in mercury-added products and mercury-containing materials and notify them in a timely manner of any public hearings, final decisions on exemptions, the availability of monitoring and reporting data, and any other relevant information regarding this Act that the Secretary deems important or relevant. Any member of the public may request to be added to this list at any time.

SEC. 7. *Disclosure of Mercury Content.* A manufacturer or wholesaler may not supply a mercury-added product for sale to the public without first notifying the Secretary in writing of the amount of mercury in the individual product, the total amount of mercury in all of the mercury-added products sold by the manufacturer each year, and the essential-use purpose that the mercury serves. The Secretary shall send this notification letter to the mercury disclosure mailing list as established in Section 6 of this Act.

SEC. 8. *Control on the Sale of Elemental Mercury.*

- (A) Sale. A person may not sell mercury to another person without requiring the purchaser to sign a statement indicating that the purchaser:
- (1) Will use the mercury only for a medical, dental, instructional, research, or manufacturing purpose;
 - (2) Understands that mercury is toxic, and will store and use it appropriately so that no person is exposed to the mercury unknowingly; and
 - (3) Will not place, or allow anyone under the purchaser's control to place, the mercury in the trash for disposal as solid waste or in a wastewater disposal system.
- (B) Use. A person who uses elemental mercury in any application may not place, or deliver the mercury to another person who places residues, particles, scrapings, or other materials that contain mercury in solid waste, medical waste, construction or demolition waste, or wastewater, except for traces of materials that may accidentally pass through a filtration system during a dental procedure.

SEC. 9. *Proper Labeling of Products Containing Mercury.* A manufacturer or wholesaler may not sell and a retailer may not knowingly sell any products, devices, instruments, or equipment that contain mercury unless the item is labeled in a manner to clearly inform a purchaser or consumer that mercury is present in the item and that the item shall not be placed in solid waste, medical waste, hazardous waste, construction and demolition waste, or flushed down the drain until the mercury is removed for reuse, recycling, or otherwise processing to ensure that it does not become part of solid waste, hazardous waste, or wastewater stream.

Label placement shall be on both the product and the product packaging. The label should be clearly visible and be sufficiently durable to remain legible at the time of purchase. Primary responsibility for affixing labels required under this section shall be on the manufacturer, and not on the wholesaler or retailer.

SEC. 10. *Mercury-Added Products Phase-Out.*

(A) Manufacturers are no longer allowed to sell mercury-added products in the country within two (2) years from effectivity of this Act, unless they have applied for and been granted an exemption from this section by the Secretary.

In making the determination, the Secretary shall only grant such an exemption if:

- (1) The mercury-added products meet an essential-use requirement;
- (2) Finds that there are no comparable, feasible, reasonably-priced alternatives to mercury-added products available; and
- (3) Through verifiable documentation submitted by the manufacturer, assures that applicants have established take-back programs for all mercury-added products sold in the state that are available to all residents on a regular basis.

(B) Exemptions may only be granted for up to two (2) years and may be renewed biannually. The renewal of each exemption shall follow the same process as the initial exemption. Each year the Secretary shall list all products that have been given exemptions and send this list to the mercury disclosure mailing list as established by Section 6 of this Act.

(C) The decision to grant the exemption is discretionary and shall be subject to public review.

SEC. 11. *Ban on Mercury-Containing Toys, Games, Cosmetics, and Apparel.* A person may not sell for resale or at retail toys, games, cards, ornaments, and novelties that contains mercury, or cosmetics or an item of clothing or wearing an apparel that contains mercury.

SEC. 12. *Ban on Sale or Distribution of Mercury Thermometers.* A medical facility, including a hospital lab or health care provider, may not ever distribute thermometers containing mercury. Thermometers containing mercury shall be prohibited from sale one year after the effective date of this Act.

SEC. 13. *Ban on Mercury in School Laboratories and Purchase of Mercury by Schools and Universities; Clean Out of Existing Mercury Stocks.* Within one (1) year from the effectivity of this Act, elemental mercury and mercury compounds shall not be used in laboratory procedures that elementary, secondary, or college students perform and no elementary or secondary school or university shall purchase mercury for any reason.

Within one (1) year from the effectivity of this Act, the Department shall develop a plan for cleaning out and responsibly disposing of existing stocks of elemental mercury in all schools and universities in the country.

SEC. 14. *Dental Office Requirements.*

(A) All dental offices shall be required to submit an annual amalgam mercury report describing quantities stored and recycled of two separate mercury sources:

- (1) Dry sources (chairside traps, clean scrap, and elemental mercury); and

- (2) Wet sources (amalgam sludge, and vacuum pump traps).

SEC. 15. Notification of Risk to Patients, Installation of Mercury Amalgam Dental Fillings in Pregnant Women (or Women of Childbearing Age) and Children Under Ten (10) Years of Age. After adoption of this Act, dentists shall be required to provide pregnant women (or women of childbearing age) and children under ten (10) years of age with information regarding the health risks of dental fillings containing mercury amalgams.

Nothing in this section shall be construed to deprive any dental patient of the right to choose or replace any professionally recognized restorative material or permit disciplinary action against a dentist solely for removing or replacing any professionally recognized restorative material.

SEC. 16. Health Care Provider Requirements Regarding Mercury-Containing Fixatives. All health care providers using mercury-containing fixatives shall be required to capture for recycling all solutions that have come in contact with said fixatives, including but not limited to all tissue rinse waters, tissue processor wastes, and formalin still residue.

SEC. 17. Mercury Disposal Prohibition.

(A) A person may not place any elemental mercury or mercury-containing products including, but not limited to, batteries, lamps, thermostats, thermometers, electric switches, Cantor tubes (separate or as part of a larger product), appliances, gauges, medical or scientific instruments or devices, or electric relays or any other electrical device from which the mercury has not been removed for reuse or recycling:

- (1) In solid waste destined for landfill, waste incineration, or construction and demolition disposal;
- (2) In medical waste destined for landfill, waste incineration, or construction and demolition disposal;
- (3) In hazardous waste destined for waste incineration or recycling in any device which heats the material, except for the purpose of retorting the mercury for recovery; or
- (4) In wastewater disposal systems, including individual home septic systems.

Such products can only be accepted at government-permitted or otherwise approved private hazardous waste facilities, recycling, or permitted hazardous waste facilities.

SEC. 18. Mercury Source Separation. Every person who discards solid waste, medical waste, or wastewater within the country shall separate mercury-added products from wastewater, municipal and medical waste streams. Any contractor who replaces, removes, or transports mercury-added products shall assure the proper separation of any discarded mercury-added product.

SEC. 19. Collection. Manufacturers of mercury-added products shall:

- (a) Develop a plan or system for the collection of mercury-added products from users and ensure its implementation;
 - (b) Clearly inform each mercury-added product purchaser of the proper system for collection of the product and that disposal of the product in municipal or medical waste or wastewater is prohibited; and
 - (c) Periodically report on the success of the collection system.
- A fee may not be assessed for use of the collection system.

SEC. 20. *Removal From Service; Products Containing Mercury.*

- (A) When a mercury-added product is removed from service, the mercury in the item must be source-separated for reuse, recycling, or other processing to prevent its release into the environment.
- (B) A person who is in the business of replacing or repairing an item in households shall ensure that the mercury contained in an item that is replaced or repaired is reused or recycled or otherwise processed in compliance with section 19 of this Act either through personal action or delivery of the item to a manufacturers' collection system established by section 19 of this Act.
- (C) A person may not crush a motor vehicle unless the person has first made a good faith effort to remove all of the mercury switches in the motor vehicle.
- (D) Appliance recyclers shall be required to receive training and remove mercury switches from appliances before any reclamation or disposal processes take place. Appliance recyclers shall be required to report or manifest annually all mercury items removed and submitted to manufacturers' collection programs.
- (E) Building, electrical and maintenance contractors shall make a good faith effort to pull all mercury-containing items from buildings before demolition and shall be required to report and manifest annually all mercury items removed and submitted to manufacturers' collection programs.

SEC. 21. *Displacement Relays.*

- (A) Manufacturers of displacement relays containing mercury are responsible for the costs of collecting and managing their displacement relays to ensure that the relays do not become part of the solid waste stream.
- (B) A manufacturer of a displacement relay that contains mercury shall, in addition to the requirements of Section 19 of this Act, provide incentives for, and sufficient information to, purchasers and consumers of the relay to ensure that the relay does not become part of the waste stream. A manufacturer that has complied with this subdivision is not liable for improper disposal by purchasers or consumers of its relays.
- (C) A manufacturer subject to this subdivision, or an organization of such manufacturers and its officers, members, employees, and agents, may participate in projects or programs to collect and properly manage waste displacement relays. Any person who participates in such a project or program is immune from liability under

Philippine laws relating to antitrust, restraint of trade, unfair trade practices, and other regulation of trade or commerce for activities related to the collection and management of the relays under this subdivision.

- (D) For purposes of this section, a "displacement relay" shall refer to an electrical flow control device having one or more poles that contain metallic mercury and a plunger which, when energized by a magnetic field, moves into a pool of mercury, displacing the mercury sufficiently to create a closed electrical circuit.

SEC. 22. *Recycling of Mercury-Added Lamps and Other Mercury-Added Products.*

Notwithstanding any general or specific law to the contrary, the Secretary shall be directed to comply with Philippine environmental laws and, in so doing, be required to properly manage mercury-added lamps and other mercury-added products. Recycling shall be utilized, whenever possible, as the preferred method of disposal.

SEC. 23. *Mercury Emission Monitoring for Large Emitters.*

- (A) Waste Incinerators. This section requires mercury monitoring systems for mercury and quarterly reporting requirements to the Department of mercury emissions for all waste incinerators operating within the state.
- (B) Non-Utility Generators. This section requires persons who emit mercury to monitor emissions and provide quarterly reports to the state.
- (C) Electric Utility Generators. This section requires persons or utilities who generate or sell power in the state to monitor mercury emissions and provide quarterly reports to the state on the mercury emitted in generating that electricity.

SEC. 24. *Mercury Reduction Requirement for Large Mercury Emitters.*

- (A) Non-Utility Sources. This section applies to all mercury emitters of over 0.5 pounds annually except for electric utility generators. All affected sources shall reduce mercury releases by 50% within five (5) years from effectivity of this Act and have zero emissions within ten (10) years from effectivity of this Act, using the year in which this Act takes effect as the baseline. Within two (2) years from effectivity of this Act, the Department shall establish a methodology for determining the baseline annual mercury emissions limit for affected sources.
- (B) Utility Sources. This section applies to all electric utility generators emitting more than 0.5 pounds of mercury annually. All electric utility generators which burn any amount of coal shall reduce mercury releases by 95% within ten (10) years from effectivity of this Act, using the year in which this Act takes effect as the baseline. Within two (2) years from effectivity of this Act, the baseline will be calculated based on data gathered under the federal mercury monitoring requirements imposed on utility generators.

SEC. 25. *Disposal of Ash Containing Mercury and Mercury Captured Through Emission Controls.* Any mercury captured or recovered through the use of an emission

control, coal cleaning, or another method and all ash generated from combustion shall be disposed of in a manner that ensures that the hazards from mercury are not transferred from one environmental medium to another; and there is no release of mercury into the environment.

SEC. 26. *Government Procurement of Non-Mercury-Added Products and Submission of Annual Report.*

- (A) Government departments and agencies involved with procuring products shall purchase non-mercury-added products whenever viable alternatives are determined cost-effective and available.
- (B) On an annual basis, said departments and agencies shall produce a report to the Legislature on the categories and quantities of mercury-added products purchased in the prior year and outline the steps taken to investigate and purchase non-mercury-added products.

SEC. 27. *Implementing Rules and Regulations (IRRs).* – Within six (6) months from the effectivity of this Act, the DENR shall, promulgate the Implementing Rules and Regulations.

SEC. 28. *Role of Local Government Units.* Local government units (LGUs), together with the DENR and the Department of Health (DOH), shall conduct long term monitoring to gain a more comprehensive understanding of the sources, kinetics, environmental behavior and toxicity of Hg and its impact in the affected areas especially the high risk groups, i.e., pregnant women and children.

LGUs shall also conduct remediation / mitigation measures in the environment to ensure that exposure limits to mercury will be kept at a minimum or within permissible limits.

SEC. 29. *Separability Clause.* If any provision of this Act or the application thereof to any person or circumstance is held invalid, the invalidity shall not affect other provisions or applications of this Act which can be given effect without regard to the invalid provision or application, and to this end the provisions of this Act are severable.

SEC. 30. *Effectivity Clause.* This Act shall take effect fifteen (15) days after its full and complete publication in the Official Gazette or in at least two (2) newspapers of general circulation.

SEC. 31. *Repealing Clause.* All laws, orders, doctrines, decrees, rules and regulations or parts thereof, inconsistent with any of the provisions of this Act are hereby repealed, amended or modified accordingly.

Approved,