

FOURTEENTH CONGRESS OF THE  
REPUBLIC OF THE PHILIPPINES  
*First Regular Session*

OFFICE OF THE SECRETARY

}  
} 7 JUL -3 1963  
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SENATE

RECEIVED BY: \_\_\_\_\_

S. B. No. 893

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Introduced by SENATOR EDGARDO J. ANGARA

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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

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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.

  
EDGARDO J. ANGARA  
Senator


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SENATE

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Introduced by SENATOR EDGARDO J. ANGARA

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**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 the House of Representatives in  
Congress assembled:*

1           **SECTION 1. *Short Title.*** This Act shall be known as the “Mercury  
2 Reduction Act of 2007.”

3  
4           **SECTION 2. *Declaration of Policy.*** It is hereby declared the policy  
5 of the State to adopt and implement positive and effective measures to ensure  
6 the reduction of the distribution of products containing mercury and the  
7 proper disposal thereof to reduce the introduction of mercury into the  
8 environment.

9  
10           **SECTION 3. *Definitions.*** For the purposes of this Act, the terms  
11 below are defined as follows:

12           (a) “*Affected source*” means any source that emits mercury, except  
13           electric utility generators;

14           (b) “*Department*” means the Department of Environment and  
15           Natural Resources which is the government agency created  
16           pursuant to Executive Order No. 192;

17           (c) “*Department of Science and Technology (DOST)*” refers to the  
18           government agency created pursuant to Executive Order No. 128;

19           (d) “*Mercury-added product*” means a product, device, instrument,  
20           or piece of equipment into which elemental mercury or mercury  
21           compounds are intentionally added during its formulation or

1 manufacture and in which the continued presence of mercury is  
2 desired to provide a specific characteristic or to perform a specific  
3 function;

4 (e) ***“Mercury-containing material”*** means any material that  
5 contains mercury that was not intentionally added including, but  
6 not limited to, ash, sludge bottoms from manufacturing process,  
7 scrubber effluent, sewage sludge, cement kiln dust, and products  
8 made from mercury containing waste such as asphalt tiling, road  
9 asphalt, playground mats, or any other material containing  
10 mercury. Mercury-containing material does not include material  
11 used as fuels, specifically and without exception, coal, oil, gasoline,  
12 diesel, or natural gas;

13 (f) ***“Person”*** means any entity including, but not limited to, people,  
14 businesses, or corporations; and

15 (g) ***“Secretary”*** means the Secretary of the Department of  
16 Environment and Natural Resources.

17  
18 **SECTION 4. *Creation of an Environmental Advisory Council on***  
19 ***Mercury Pollution.***

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

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

34 (B) The Advisory Council will report to the general assembly  
35 regarding:

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

16  
17 **SECTION 5. *Public Education, Information and Outreach.*** The  
18 DENR, in collaboration with the Department of Science and Technology  
19 (DOST), shall develop, design and disseminate to the public information  
20 about mercury-added products, the prohibition on disposal of mercury-added  
21 products, the need for source separation, and the collection programs  
22 available to product users.

23  
24 **SECTION 6. *Public Participation.*** The public has a fundamental  
25 right to participate in decisions which could affect their health, well-being,  
26 and the quality of their environment. To encourage public participation, and  
27 accountability to the public, the Secretary must keep a mercury disclosure  
28 mailing list of all parties interested in mercury-added products and mercury-  
29 containing materials and notify them in a timely manner of any public  
30 hearings, final decisions on exemptions, the availability of monitoring and  
31 reporting data, and any other relevant information regarding this Act that  
32 the Secretary deems important or relevant. Any member of the public may  
33 request to be added to this list at any time.

34  
35 **SECTION 7. *Disclosure of Mercury Content.*** A manufacturer or  
36 wholesaler may not supply a mercury-added product for sale to the public

1 without first notifying the Secretary in writing of the amount of mercury in  
2 the individual product, the total amount of mercury in all of the mercury-  
3 added products sold by the manufacturer each year, and the essential-use  
4 purpose that the mercury serves. The Secretary shall send this notification  
5 letter to the mercury disclosure mailing list as established in Section 6 of this  
6 Act.

7  
8 **SECTION 8. *Control on the Sale of Elemental Mercury.***

9 (A) Sale. A person may not sell mercury to another person without  
10 requiring the purchaser to sign a statement indicating that the  
11 purchaser:

- 12 (1) Will use the mercury only for a medical, dental, instructional,  
13 research, or manufacturing purpose;  
14 (2) Understands that mercury is toxic, and will store and use it  
15 appropriately so that no person is exposed to the mercury  
16 unknowingly; and  
17 (3) Will not place, or allow anyone under the purchaser's control to  
18 place, the mercury in the trash for disposal as solid waste or in a  
19 wastewater disposal system.

20 (B) Use. A person who uses elemental mercury in any application may  
21 not place, or deliver the mercury to another person who places  
22 residues, particles, scrapings, or other materials that contain  
23 mercury in solid waste, medical waste, construction or demolition  
24 waste, or wastewater, except for traces of materials that may  
25 accidentally pass through a filtration system during a dental  
26 procedure.

27  
28 **SECTION 9. *Proper Labeling of Products Containing Mercury.*** A

29 manufacturer or wholesaler may not sell and a retailer may not knowingly  
30 sell any products, devices, instruments, or equipment that contain mercury  
31 unless the item is labeled in a manner to clearly inform a purchaser or  
32 consumer that mercury is present in the item and that the item shall not be  
33 placed in solid waste, medical waste, hazardous waste, construction and  
34 demolition waste, or flushed down the drain until the mercury is removed for  
35 reuse, recycling, or otherwise processing to ensure that it does not become  
36 part of solid waste, hazardous waste, or wastewater stream.

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

6  
7 **SECTION 10. *Mercury-Added Products Phase-Out.***

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

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

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

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

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

29  
30 **SECTION 11. *Ban on Mercury-Containing Toys, Games,***  
31 ***Cosmetics, and Apparel.*** A person may not sell for resale or at retail toys,  
32 games, cards, ornaments, and novelties that contains mercury, or cosmetics  
33 or an item of clothing or wearing an apparel that contains mercury.

34  
35 **SECTION 12. *Ban on Sale or Distribution of Mercury***  
36 ***Thermometers.*** A medical facility, including a hospital lab or health care

1 provider, may not ever distribute thermometers containing mercury.  
2 Thermometers containing mercury shall be prohibited from sale one year  
3 after the effective date of this Act.

4  
5 **SECTION 13. *Ban on Mercury in School Laboratories and***  
6 ***Purchase of Mercury by Schools and Universities; Clean Out of***  
7 ***Existing Mercury Stocks.*** Within one (1) year from the effectivity of this  
8 Act, elemental mercury and mercury compounds shall not be used in  
9 laboratory procedures that elementary, secondary, or college students  
10 perform and no elementary or secondary school or university shall purchase  
11 mercury for any reason.

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

15  
16 **SECTION 14. *Dental Office Requirements.***

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

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

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

23  
24 **SECTION 15. *Notification of Risk to Patients, Installation of***  
25 ***Mercury Amalgam Dental Fillings in Pregnant Women (or Women of***  
26 ***Childbearing Age) and Children Under Ten (10) Years of Age.*** After  
27 adoption of this Act, dentists shall be required to provide pregnant women (or  
28 women of childbearing age) and children under ten (10) years of age with  
29 information regarding the health risks of dental fillings containing mercury  
30 amalgams.

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



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

6  
7           **SECTION 17. *Mercury Disposal Prohibition.***

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

15           (1) In solid waste destined for landfill, waste incineration, or  
16 construction and demolition disposal;

17           (2) In medical waste destined for landfill, waste incineration, or  
18 construction and demolition disposal;

19           (3) In hazardous waste destined for waste incineration or recycling  
20 in any device which heats the material, except for the purpose of  
21 retorting the mercury for recovery; or

22           (4) In wastewater disposal systems, including individual home  
23 septic systems.

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

27  
28           **SECTION 18. *Mercury Source Separation.*** Every person who  
29 discards solid waste, medical waste, or wastewater within the country shall  
30 separate mercury-added products from wastewater, municipal and medical  
31 waste streams. Any contractor who replaces, removes, or transports mercury-  
32 added products shall assure the proper separation of any discarded mercury-  
33 added product.

34  
35           **SECTION 19. *Collection.*** Manufacturers of mercury-added products  
36 shall:

- 1 (a) Develop a plan or system for the collection of mercury-added  
2 products from users and ensure its implementation;  
3 (b) Clearly inform each mercury-added product purchaser of the proper  
4 system for collection of the product and that disposal of the product  
5 in municipal or medical waste or wastewater is prohibited; and  
6 (c) Periodically report on the success of the collection system.  
7 A fee may not be assessed for use of the collection system.  
8

9 **SECTION 20. *Removal from Service; Products Containing***  
10 ***Mercury.***

- 11 (A) When a mercury-added product is removed from service, the  
12 mercury in the item must be source-separated for reuse, recycling,  
13 or other processing to prevent its release into the environment.  
14 (B) A person who is in the business of replacing or repairing an item in  
15 households shall ensure that the mercury contained in an item that  
16 is replaced or repaired is reused or recycled or otherwise processed  
17 in compliance with section 19 of this Act either through personal  
18 action or delivery of the item to a manufacturers' collection system  
19 established by section 19 of this Act.  
20 (C) A person may not crush a motor vehicle unless the person has first  
21 made a good faith effort to remove all of the mercury switches in  
22 the motor vehicle.  
23 (D) Appliance recyclers shall be required to receive training and  
24 remove mercury switches from appliances before any reclamation or  
25 disposal processes take place. Appliance recyclers shall be required  
26 to report or manifest annually all mercury items removed and  
27 submitted to manufacturers' collection programs.  
28 (E) Building, electrical and maintenance contractors shall make a good  
29 faith effort to pull all mercury-containing items from buildings  
30 before demolition and shall be required to report and manifest  
31 annually all mercury items removed and submitted to  
32 manufacturers' collection programs.  
33  
34  
35  
36

1           **SECTION 21. *Displacement Relays.***

2           (A) Manufacturers of displacement relays containing mercury are  
3           responsible for the costs of collecting and managing their  
4           displacement relays to ensure that the relays do not become part of  
5           the solid waste stream.

6           (B) A manufacturer of a displacement relay that contains mercury  
7           shall, in addition to the requirements of Section 19 of this Act,  
8           provide incentives for, and sufficient information to, purchasers and  
9           consumers of the relay to ensure that the relay does not become  
10          part of the waste stream. A manufacturer that has complied with  
11          this subdivision is not liable for improper disposal by purchasers or  
12          consumers of its relays.

13          (C) A manufacturer subject to this subdivision, or an organization of  
14          such manufacturers and its officers, members, employees, and  
15          agents, may participate in projects or programs to collect and  
16          properly manage waste displacement relays. Any person who  
17          participates in such a project or program is immune from liability  
18          under Philippine laws relating to antitrust, restraint of trade,  
19          unfair trade practices, and other regulation of trade or commerce  
20          for activities related to the collection and management of the relays  
21          under this subdivision.

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

27  
28           **SECTION 22. *Recycling of Mercury-Added Lamps and Other***  
29   ***Mercury-Added Products.*** Notwithstanding any general or specific law to  
30   the contrary, the Secretary shall be directed to comply with Philippine  
31   environmental laws and, in so doing, be required to properly manage  
32   mercury-added lamps and other mercury-added products. Recycling shall be  
33   utilized, whenever possible, as the preferred method of disposal.

34  
35           **SECTION 23. *Mercury Emission Monitoring for Large Emitters.***

1 (A) Waste Incinerators. This section requires mercury monitoring  
2 systems for mercury and quarterly reporting requirements to the  
3 Department of mercury emissions for all waste incinerators  
4 operating within the state.

5 (B) Non-Utility Generators. This section requires persons who emit  
6 mercury to monitor emissions and provide quarterly reports to the  
7 state.

8 (C) Electric Utility Generators. This section requires persons or  
9 utilities who generate or sell power in the state to monitor mercury  
10 emissions and provide quarterly reports to the state on the mercury  
11 emitted in generating that electricity.

12  
13 **SECTION 24. *Mercury Reduction Requirement for Large***  
14 ***Mercury Emitters.***

15 (A) Non-Utility Sources. This section applies to all mercury emitters of  
16 over 0.5 pounds annually except for electric utility generators. All  
17 affected sources shall reduce mercury releases by 50% within five  
18 (5) years from effectivity of this Act and have zero emissions within  
19 ten (10) years from effectivity of this Act, using the year in which  
20 this Act takes effect as the baseline. Within two (2) years from  
21 effectivity of this Act, the Department shall establish a  
22 methodology for determining the baseline annual mercury  
23 emissions limit for affected sources.

24 (B) Utility Sources. This section applies to all electric utility generators  
25 emitting more than 0.5 pounds of mercury annually. All electric  
26 utility generators which burn any amount of coal shall reduce  
27 mercury releases by 95% within ten (10) years from effectivity of  
28 this Act, using the year in which this Act takes effect as the  
29 baseline. Within two (2) years from effectivity of this Act, the  
30 baseline will be calculated based on data gathered under the federal  
31 mercury monitoring requirements imposed on utility generators.

32  
33 **SECTION 25. *Disposal of Ash Containing Mercury and Mercury***  
34 ***Captured Through Emission Controls.*** Any mercury captured or  
35 recovered through the use of an emission control, coal cleaning, or another  
36 method and all ash generated from combustion shall be disposed of in a

1 manner that ensures that the hazards from mercury are not transferred from  
2 one environmental medium to another; and there is no release of mercury  
3 into the environment.

4  
5 **SECTION 26. *Government Procurement of Non-Mercury-Added***  
6 ***Products and Submission of Annual Report.***

7 (A) Government departments and agencies involved with procuring  
8 products shall purchase non-mercury-added products whenever  
9 viable alternatives are determined cost-effective and available.

10 (B) On an annual basis, said departments and agencies shall produce a  
11 report to the Legislature on the categories and quantities of  
12 mercury-added products purchased in the prior year and outline the  
13 steps taken to investigate and purchase non-mercury-added  
14 products.

15  
16 **SECTION 27. *Implementing Rules and Regulations (IRRs).*** –  
17 Within six (6) months from the effectivity of this Act, the DENR shall,  
18 promulgate the Implementing Rules and Regulations.

19  
20 **SECTION 28. *Role of Local Government Units.*** Local government  
21 units (LGUs), together with the DENR and the Department of Health (DOH),  
22 shall conduct long term monitoring to gain a more comprehensive  
23 understanding of the sources, kinetics, environmental behavior and toxicity  
24 of Hg and its impact in the affected areas especially the high risk groups, i.e.,  
25 pregnant women and children.

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

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

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

4  
5           **SECTION 31. *Repealing Clause.*** – All laws, orders, doctrines,  
6 decrees, rules and regulations or parts thereof, inconsistent with any of the  
7 provisions of this Act are hereby repealed, amended or modified accordingly.

8  
9           *Approved,*