

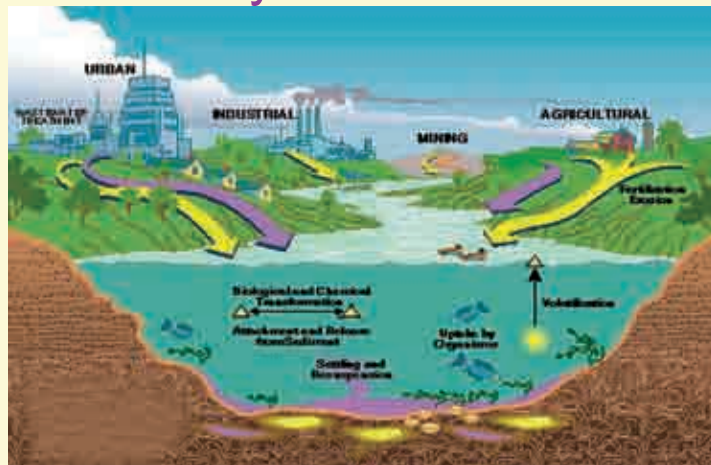
Think!
How we are at risk?

Beware of
products with
added mercury

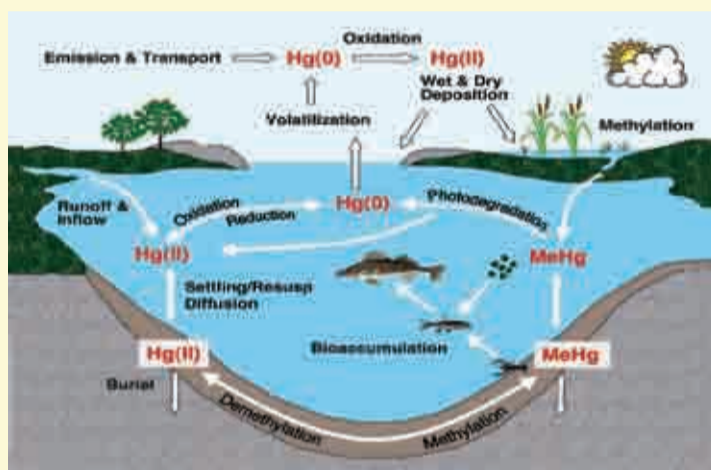
A toxic compound



Mercury in Environment

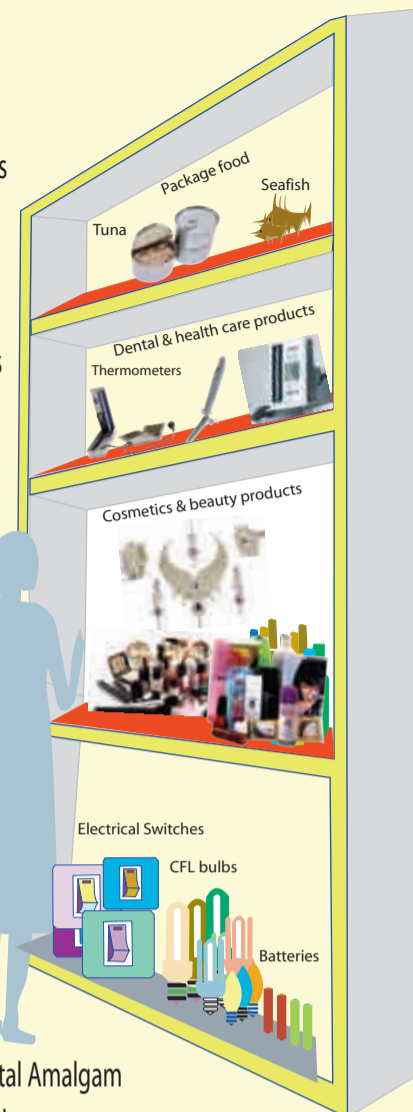


- Mercury enters the environment from emissions in the air, water or soil
- It oxidizes into other compounds of mercury.
- Methyl mercury builds up in the tissues of fish and shellfish
- Mercury can be easily ingested by breathing the vapor
- Occupational exposure when come in contact with mercury metal



Mercury containing products & food in Bangladesh

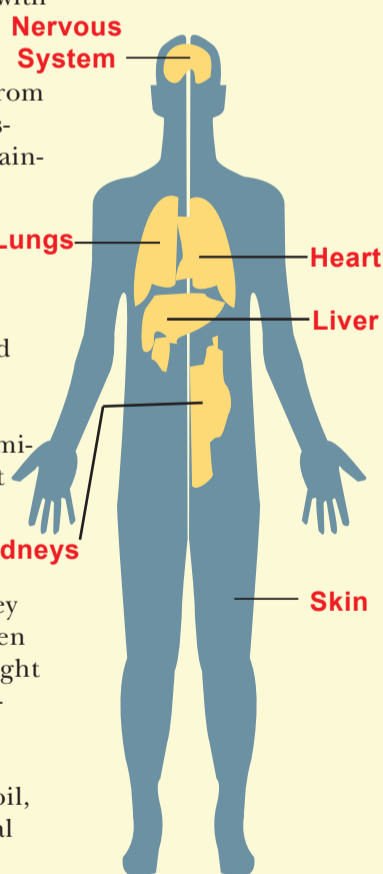
- Mercury in Package food
- Mercury in Cosmetics
- Mercury in Batteries
- Mercury in Measuring Devices
- Mercury in health care instruments
- Mercury in Jewelry
- Mercury in Electrical Switches
- Mercury in Pesticides
- Mercury in Pharmaceutical products



- Mercury in Dental Amalgam
- Mercury in Jewelry
- Mercury Containing Lamps
- Fluorescent lamps
- Mercury in Laboratories and Schools

Ways of Mercury Exposure to Human Health

- Eating fish contaminated with methyl mercury.
- Breathing vapours in air from spills, incinerators and industries that burn mercury containing fuels.
- Release of mercury from dental & medical treatments
- Breathing in contaminated workplace or skin contact during use in the workplace (dental, health services, chemical, and other industries that use mercury)
- People may be exposed to metallic mercury vapor if they come into contact with broken thermometers, fluorescent light bulbs, thermostats or barometers
- Handling contaminated soil, wastes may also be a potential



Effect on Health

From a pregnant woman nursing mother to their child.

- Mercury causes miscarriages and infertility
- Abnormalities in physiological development
- Birth defects
- Deteriorates nervous system
- Memory loss & neurological problems
- Corrodes skin & mucous membrane
- Impairing hearing, speech and vision
- Damage to the brain, kidneys, and immune system of children
- Respiratory Problems
- Oral cavity problems
- Gastrointestinal problems

MERCURY IMPORT

Mercury is not mined or produced in Bangladesh.
Mostly imported from other countries.
According to NBR, 2015, annual import **3.73 MT**
Import from border belt areas **58 MT** (illegal)
Annual storage **18.6 MT**.
Annual supply **39.4 MT**

Target customers

Dental Colleges/Chambers/ Quacks
Dental Assistants
Beauty Product or Cosmetics Producers
Jewelry Producers (used to re-collect gold from the waste)
Pharmaceutical Companies
Pesticide/biocide companies
Laboratories (Academic institutions/private sectors)

Major Sources of Mercury Emission and Release in Bangladesh

Health care & Dental sector
Thermometer
Sphygmomanometer
Dental amalgam
7.65 MT



Industrial processes
Chlor-alkali factory, Brick burning sector, Cement, steel, Aluminium Production
4.86 MT



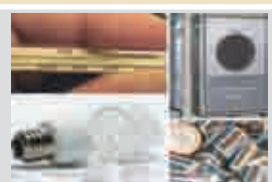
Consumer products
Jewelry sector
Cosmetics
4.10 MT
4653-3361 ppm

Energy Sector
(Possible sources)
Coal, Gas, Furnace oil
3.06 MT



Waste
deposition/land filling
1.12 MT

Electrical sector
CFL light bulb, Button cell batteries, measuring devices
0.186 MT



POTENTIAL HOT-SPOTS IN BANGLADESH

- Closed/abandoned Chlor-alkali production sites
- Other sites of former chemical production where mercury compounds were produced or mercury or compounds were used as catalysts (cement production etc.)
- Dental clinics and hospitals (where cautionary measures are not in place)
- Gold manufacturing factories
- Closed production sites for manufacturing of thermometers, switches, batteries and other products
- Closed pulp and paper manufacturing sites (with internal Chlor-alkali production)
- Sites of relevant accidents
- Not included-CFLs used and indiscriminately dumping all over Bangladesh no management at any stage.

OPPORTUNITIES OF SUBSTITUTION OF MERCURY BY ALTERNATIVES

Products containing mercury	Alternatives to mercury
Button cell batteries	Lithium zinc, low-mercury alkaline batteries, rechargeable mercury and cadmium free versions
Thermometers, Sphygmomanometers, Manometers, Electrical equipment	Aneroid or Digital measuring devices and electrical equipment's
Lamps: fluorescent, high intensity and ultraviolet	Light emitting diode (LED) lamp, ordinary glow lights; low sodium vapor tubes (yellow); optical, high-energy, long-lasting lights
Dental amalgam	Composite; ceramics, zirconomer etc.
Mercury containing pharmaceuticals	2-phenoxy-ethanol, zinc formalin; poly vinyl alcohol

In Bangladesh, Mercury exposure is very alarming!!!

As per signatory country, Bangladesh should

- Immediately ratify "Minamata Convention"
- Phase out mercury based products and processes by 2020.
- Require promotion and training on Alternatives of mercury added products at national level
- Regulatory, and Institutional framework Programs on the uses, impacts and waste management of Mercury based products and practices

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