

# Think!

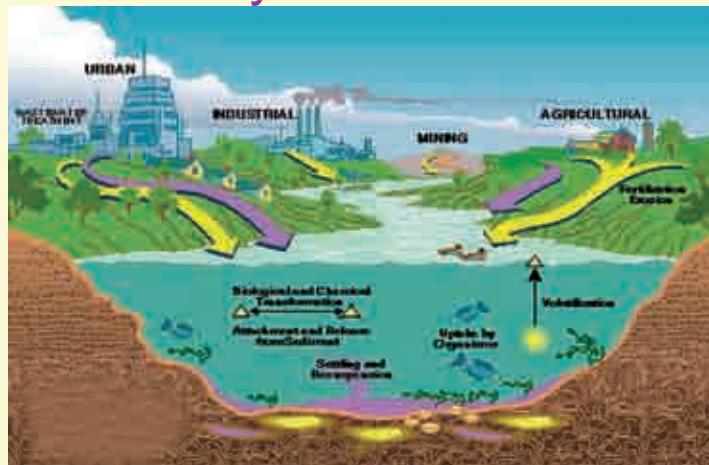
## How we are at risk?

# Beware of products with added mercury

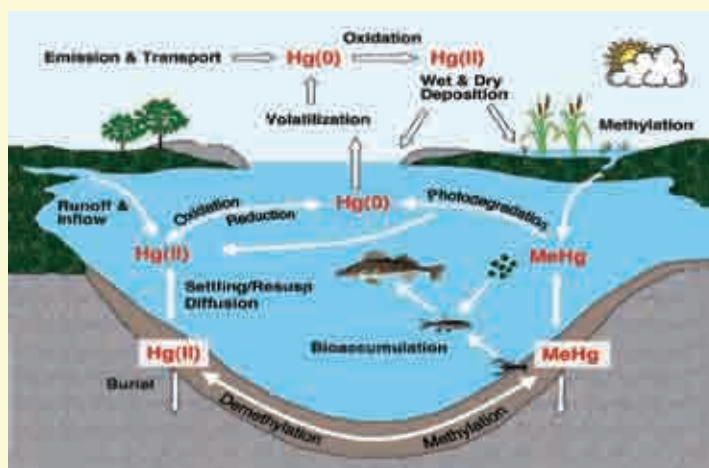
## A toxic compound



## 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



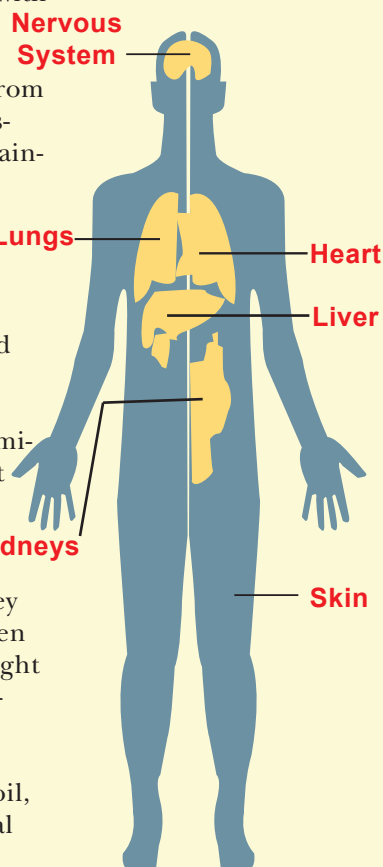
## Mercury containing products & food in Bangladesh

- 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**



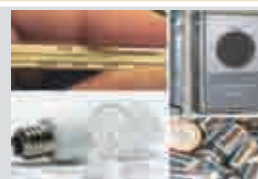
**Consumer products**  
Jewelry sector  
Cosmetics  
**4.10 MT**  
**4653-3361 ppm**

**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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