S1_12

Mercury Containing Medical Waste

Dr. M.SUBBA RAO
DIRECTOR
MINISTRY OF ENVIRONMENT & FORESTS
GOVERNMENT OF INDIA
TELEFAX: +91-11-24361410
Email: wowsubbarao@yahoo.co.in

INTRODUCTION

- Mercury is used in many industrial and consumer products.
- Over the past century, anthropogenic sources of mercury emissions have increased dramatically. Many researches estimate that the amount of mercury entering the environment has increased manifold due to a wide variety of human activities, ranging from coal-burning in power plants and waste incinerators to common consumer products that contain mercury such as thermometers, electronic goods and dental amalgams. Mercury is a global contaminant and transports over long distances and is even found in the Artic ice though the sources which are thousands of miles away.
- Mercury is a toxic substance that is detrimental to the environment and human health when released.

SOURCES OF MERCURY

- **Consumer goods**
- **Health care establishments**
- **Gold Mining**
- **Thermal Power Plants**
- **Incinerators**
- **Cement Kilns**
- **Electronic Goods**
- **CFL, High intensity discharge (HID) bulbs**
- **Laboratories**

- **Chloro alkali industries**
- **Thermostats**
- **Top-loading freezers**
- **Washing machines, etc.**

- The amount of mercury from a broken thermometer would be considered as a small spill. If more mercury than this is spilled, it would be considered as a large spill. Some people store mercury in containers. This is dangerous because mercury can escape from broken and incorrectly sealed containers. Individuals can often be exposed without their knowledge.

HEALTH IMPACT

- Mercury exposure can occur by breathing vapours, by direct skin contact or by eating food or drinking water contaminated with mercury. The lungs, as a result of exposure to breathing vapours, readily absorb mercury vapours. Mercury can enter the body through the skin, especially a wound or cut.
- Health problems caused by mercury depend on the amount that has entered our body, how it entered our body, how long we have been exposed to it, and how our body responds to it. Children are more susceptible to mercury poisoning than adults because their brains are not yet fully developed. Exposure to small amounts of mercury over a long period of time may cause negative health effects. These include damage to the brain, kidneys and lungs. The foetus of pregnant women can also be damaged.

Other health impacts include the following:

- Impairment of vision,
- Disturbance in sensations (prickling feeling, numbness) usually in the hands and feet and sometimes around the mouth.
- Lack of co-ordination of speech, hearing and walking.
- Muscle weakness,
- Skin rashes,
- Mood swings,
- Memory loss and mental disturbances.

Health impact Contd.

- While Mercury is one of the most useful of the heavy metals found in our daily lives, it is also one of the most deadly metal. When carelessly handled or improperly disposed of, mercury gets into drinking water source, lakes, rivers and streams and becomes a clear threat to human health and the environment. Recent studies have linked mercury exposure to increased risk of heart attack in men, to mental retardation and neurological disorders in children, and to dangerous levels of mercury in the blood of women of childbearing age.
- Not only is Mercury a threat to our quality of life when it is not safely handled or not properly recycled, it can also be a significant threat to the overall health of our business. Local and national environmental regulations should include provisions for safe handling and proper treatment and disposal of mercury containing wastes.

ıercury can travel a large range of distances, may he atmosphere up to one year and may travel ore undergoing transformation.

ıd mercury can fall out of the air over a range of

ercury [sometimes called ionic or reactive gaseous GM)] is found predominantly in water-soluble ı may be deposited at a range of distances from its generation depending on a variety of factors, topographic and meteorological conditions, f a source.