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Collection of Mercury Waste discharged from Households

Background

Requirement of the Minamata Convention on Mercury

Under Article 11 of the Minamata Convention on Mercury, each Party is required to take appropriate measures so that mercury waste is managed in an environmentally sound manner.

The Convention identifies three categories of mercury wastes:
(1) wastes consisting of mercury or mercury compounds,
(2) wastes containing mercury or mercury compounds and
(3) wastes contaminated with mercury or mercury compounds.

Environmentally Sound Management (ESM) of mercury-added products (e.g., fluorescent lamps and batteries) that become waste is a common challenge for all developing countries, since mercury and its compounds are used in various products for our daily lives. Developing mechanisms for appropriate source separation and collection of mercury waste discharged from households is essential for the implementation of the Convention.

Source: UNEP "Practical Sourcebook on Mercury Waste Storage and Disposal"

Overview of the Technology

Due to increasing social concern about mercury since the outbreak of Minamata Disease, Japan has formulated and incrementally developed a collection system for waste mercury-added products generated from households.

In Japan, the local governments are responsible for collecting mercury waste generated from households. The system comprises of utilizing the existing collection system, including door-to-door collection and curbside collection, suited to the characteristics of the locality. Collection boxes for used mercury-added products are placed at various points where consumers visit frequently; for example at consumer-electronics retailer shops for waste fluorescent lamps/batteries and pharmacies for used mercury-containing thermometers, ensuring that an efficient collection system is in place.

Companies licensed by the local municipalities are contracted to recycle and dispose of mercury waste discharged from households that is collected by the municipality, in an environmentally sound manner.

Example of Collection System of Waste Fluorescent Lamps disposed from Households in Japan

Source of the pictures above: Guideline for separation and collection of mercury containing wastes from households (MOEJ)

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Advantages/Strengths

Measures to prevent breakage during disposal and transportation

Waste mercury-added products such as mercury containing thermometers or fluorescent lamps are fragile and there is a possibility of mercury spilling and scattering due to breakage leading to an increased risk of environmental pollution.

To ensure the prevention of breakage, specific measures such as using containers suited to the shape, size and quantity of the mercury-added products are undertaken, which improves the waste collection rate and contributes to pollution prevention.

Awareness raising activities

For segregation and collection of municipal waste to be carried out effectively, it is crucial that the stakeholders cooperate and have a clear and common understanding of pertinent issues. In Japan, an effective segregation and collection system has been established through institution building while simultaneously raising awareness of stakeholders.

The MOEJ has developed a guideline (Guideline for the Separation and Recovery of Waste Mercury-added Products from Households) that contains examples of the actual cases and good practices of waste collection by municipalities. The guideline also lists the key elements for municipalities when they handle waste products generated as municipal waste. Further, posters that promote the collection of waste mercury-added products , which can be used by the municipalities, have also been prepared, along with other awareness raising pamphlets. Additionally, seminars for local governments are also organized occasionally.

Applicability

Japan has developed one of the most effective waste segregation and collection systems for waste of mercury-added products in the world. This has been possible due to the cooperation and understanding of the public.

Establishing such system will be challenging, but the Japanese approach can be a good reference and the know-hows can be applied to the establishment of similar approach in other countries. Furthermore, the Japanese experience of policy formulation, carrying out awareness raising activities, and carrying out the collection system by local governments can provide valuable information for establishing segregation and collection systems for mercury wastes in other countries.

Further Reading

MOEJ, Collection Methods of Waste Mercury-added Products discharged from Households (English DVD)
MOEJ, Guidelines for Separation and Collection of Mercury Containing Waste discharged from Households (Japanese only) (http://www.env.go.jp/recycle/waste/mercury-disposal/h2712_guide1.pdf)

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