

Mercury Dental Amalgam Collection and Recovery U.S. Federal and State Models



UNEP Mercury Waste Management Partnership Area
Meeting

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Purpose

- Summarize the issue of mercury use, releases, and environmental fate of waste dental amalgam
- Provide examples of how U.S. EPA and the Commonwealth of Massachusetts are addressing collection and recycling



Dental Amalgam Use in the U.S.

- Use of dental amalgam has declined in the past two decades, but accounts for ~30 percent of dental fillings in the U.S.
- EPA estimates ~160,000 dentists working in more than 120,000 dental offices use or remove amalgam
- Mercury can be released when mercury-containing fillings are placed or drilled out, as well as disposal of excess amalgam stocks
- Waste amalgam materials that are flushed into chair-side drains enter the solid waste stream



Mercury Amalgam Waste in the Environment

- Publicly Owned Treatment Works (POTWs)
 - At ~90 percent efficiency, some amalgam in wastewater reaches lakes, rivers, and streams
- Medical Waste Incinerators
 - Medical waste “red” bags incinerated at facilities not designed to handle mercury component of amalgam
- Landfills
 - If disposed in garbage, can reach landfills and potentially leach into groundwater
- Fertilizer
 - Sludges from POTWs may be applied to agricultural lands as fertilizer



- Revised 2007 American Dental Association (ADA) “Best Management Practices for Amalgam Waste”
 - Amalgam separators
 - Precapsulated alloys
 - Proper disposal and recycling of captured amalgam
 - Avoiding the use of oxidizing cleaning agents and heat disinfection for amalgam containing materials



- Office of Water
 - EPA's 2008 Final Effluent Guidelines Plan did not identify the dental sector for an effluent guidelines rulemaking
 - EPA is pursuing voluntary measures to increase installations and use of amalgam separators and best management practices
 - Stated in the December 2008 Memorandum of Understanding (MOU) on Reducing Dental Amalgam Discharges
 - The purpose of the MOU is to have dental offices install and properly maintain amalgam separators, and recycle the collected amalgam waste



Amalgam Waste Management – U.S. EPA (cont'd)

- Office of Solid Waste and Emergency Response
 - EPA is developing strategies to enhance amalgam waste management in dental offices
 - When abbreviated, the specific actions spell “G.R.I.T.”
 - **G**ray bag it...
 - Discard excess amalgam wastes into a special waste “gray” bag
 - Never dispose of dental amalgam wastes in medical waste “red” bags or in office trash containers
 - **R**ecycle it...
 - Select a responsible dental amalgam recycler who will manage waste amalgam safely to limit the amount of mercury which can go back into the environment
 - **I**nstall it...
 - Install an amalgam separator in the office to capture up to 95 percent of the mercury leaving a dental office through drains
 - **T**each it...
 - Educate and train staff about the proper management of dental amalgam in the office

Amalgam Waste Management – States

Local voluntary management programs are
or derived from the 2007 ADA guidance

The Clean Water Act allows states to pursue more
actions than are called for at the Federal

States, including Massachusetts, have chosen to
implement mandatory amalgam separator programs

预览已结束，完整报告链接和二维码如下：

https://www.yunbaogao.cn/report/index/report?reportId=5_14243

