

# The Proper Place for Amalgam Waste

## Introduction

As a toxic material that bioaccumulates in aquatic environments, mercury emissions and discharges into the environment have been targeted for a 50% reduction by the year 2005. The Environmental Protection Agency (EPA) has lowered allowable mercury levels in rivers, lakes and water bodies. As a result, sewage treatment plants had to lower levels of mercury they can accept at their plants. Dental mercury is one of the main sources of mercury in wastewater at many plants.

Mercury, one of the EPA's 12 high-priority, persistent bioaccumulative toxins, can circulate and travel great distances in the environment. It bioaccumulates in aquatic life and can reach high concentrations in fish. Humans are most commonly exposed to it when they consume mercury-contaminated fish. Pollution prevention (P2) practices in dentistry, call for use of non-mercury substitutes such as composites, gold, and glass ionomers. Best management waste handling practices dictate that all mercury-amalgam scraps, including waste scraps, be kept out of the drains, trash, and "red bag" waste, and be captured for recycling.

## Recycle mercury-amalgam

The following steps can recover up to 75% of waste amalgam that would otherwise enter the environment:

1. *Contact a vendor.* Identify a vendor or recycling service to work with. Make the contact in advance

to determine if any special containers or instructions are needed prior to collecting the scrap and waste amalgam. Several vendors now service Kansas; consult the Yellow Pages under recycling, your local or state dental association, or the Pollution Prevention Institute at 800-578-8898 or [www.sbeap.org](http://www.sbeap.org). These vendors should be able to provide written verification that they are approved to collect your material.

2. *Disinfect.* Disinfect chair-side traps and lines in the evening, allowing the disinfectant to have contact time. Then collect the waste scrap amalgam in the morning. As always, use proper personal protective equipment.
3. *Collect.* Collect waste scrap amalgam in a specified container from both the chair-side trap and the vacuum pump.
4. *Label and ship.* Label the container "Scrap Amalgam for Recycling" and at the appropriate time, ship or have the vendor pick up the container as instructed. Keep a log of the amount and dates the scrap and waste amalgam was shipped, as well as a copy of the shipping document that indicates where the amalgam was sent. Keep these documents for at least three years.

Use of amalgam separators recover up to 99% of the amalgam. Such improved technologies, are required in some Kansas communities, like Wichita. The May 2002 issue of *The Journal of the American Dental Association* included results of a study comparing amalgam separators. Contact the Journal or the ADA at [www.ada.org](http://www.ada.org) for a copy of this study.



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## The proper place for other wastes

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Certainly mercury-amalgam is the most problematic waste stream for dental clinics, but other waste streams generated in the dental setting also require special handling considerations. These include silver-rich wastes, medical service wastes, lead foils, shields and aprons, and cleaners and disinfectants.

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## Silver-rich wastes

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If you are not already recovering the silver from your spent fixer as part of the x-ray process, you should be. It is an easy low-cost practice and may bring some revenue. Silver recovery from dental clinic waste is required in Wichita and Wyandotte County dental clinics as of 2002. These silver-rich wastes include both used x-ray fixer and old x-rays.

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## Medical service waste

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The disposal of medical service waste or “red bag” waste is regulated by the Kansas Department of Health and Environment (KDHE). There are four options to dispose of medical service waste, including:

- Treated or sterilized medical waste can be sent to the permitted sanitary landfill.
- Untreated medical waste needs to be “red bagged,” labeled “biohazard,” and can only be sent to the landfill with a *special waste disposal authorization*. Call the landfill, transfer station, or 785-296-1600 for more information on *special waste disposal authorizations*.
- It can be disposed of through a licensed medical waste disposal company; check the Yellow Pages.

- It can be incinerated at a permitted medical service waste incinerator.

For more details, download the technical guidance document on medical service waste from KDHE’s Web site at [www.kdhe.state.ks.us/waste/guidance/sw00-01.pdf](http://www.kdhe.state.ks.us/waste/guidance/sw00-01.pdf).

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## Lead foils, shields, and aprons

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Lead foils, shields, and aprons all have a recycle value; so don’t put them in the trash. Label them “Lead for Recycling.” Many of the same vendors that take mercury-amalgam will also take this lead material.

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## Cleaners and disinfectants

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Whenever possible, use up cleaners and disinfectants for their intended purpose. Any cleaners that contain chrome must be handled as hazardous waste if disposed of. Most other cleaners and disinfectants can go down the drain with permission from your local sewage treatment plant.

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## Where can you go for help?

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The Pollution Prevention Institute at Kansas State University provides free-of-charge, non-regulatory, and confidential technical assistance for dental clinics and other small businesses in Kansas as part of the Kansas Small Business Environmental Assistance Program. Contact us at our environmental hotline at 800-578-8898, or visit our Web site for additional information about mercury, dental wastes, and a list of dental waste vendors at [www.sbeap.org](http://www.sbeap.org). Your local sewage treatment plant or environmental management office can also assist you with local programs.



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