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# Dental Wastes Recycling and Disposal

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## Preventing Pollution by Putting Dental Wastes in Their Proper Place

*A curriculum for use in Kansas dental schools*

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Putting Dental Wastes in Their  
Proper Place, Fall 2001

# Dental Waste Recycling and Disposal

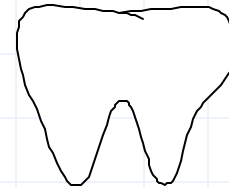
- Newly discovered problems
  - Asbestos and lead examples
  - Dental wastes including mercury-amalgam
- What do you think?
  - Small group questions and answers

# What You Will Learn

- This curriculum will cover proper waste handling practices for:
  - mercury-amalgam
  - silver-rich wastes
  - medical service wastes
  - lead foils, shields, and aprons
  - some cleaners
- Environmental regulations

# Mercury Facts

- Liquid at room temperature
- Combines easily with other metals
- First used in 1500's
- Used in dentistry for more than 150 years



# Mercury Environmental Concerns

- Persistent in environment
- Travels long distances in the environment
- Evaporates at low temperatures
- Bioaccumulates in fish, poisoning fish-eating animals such as humans and eagles



# Mercury Health Concerns



- ~1 teaspoon/22 acre lake/post warning
- Massachusetts statewide fish consumption warning 7/01

# Mercury Health Concerns

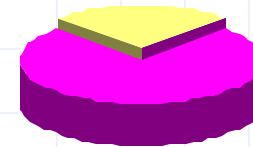
## *"Mad Hatter Syndrome"*

- Known neurotoxin
- Slows fetal and child development
- Causes irreversible brain damage
- Harms ability to walk, talk, see, and hear

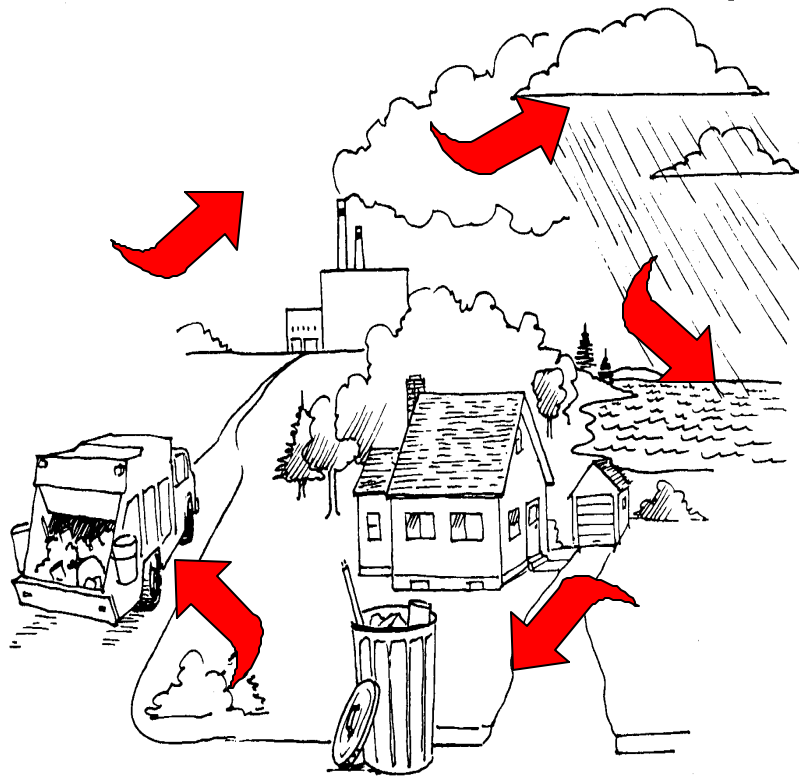


# Where is It Coming From?

- About 75 percent is from pollution
- Coal-fired power plants      25% natural sources
- Garbage incinerators
- Wastewater treatment plants (This is how most dental mercury enters the environment).      75% pollution sources



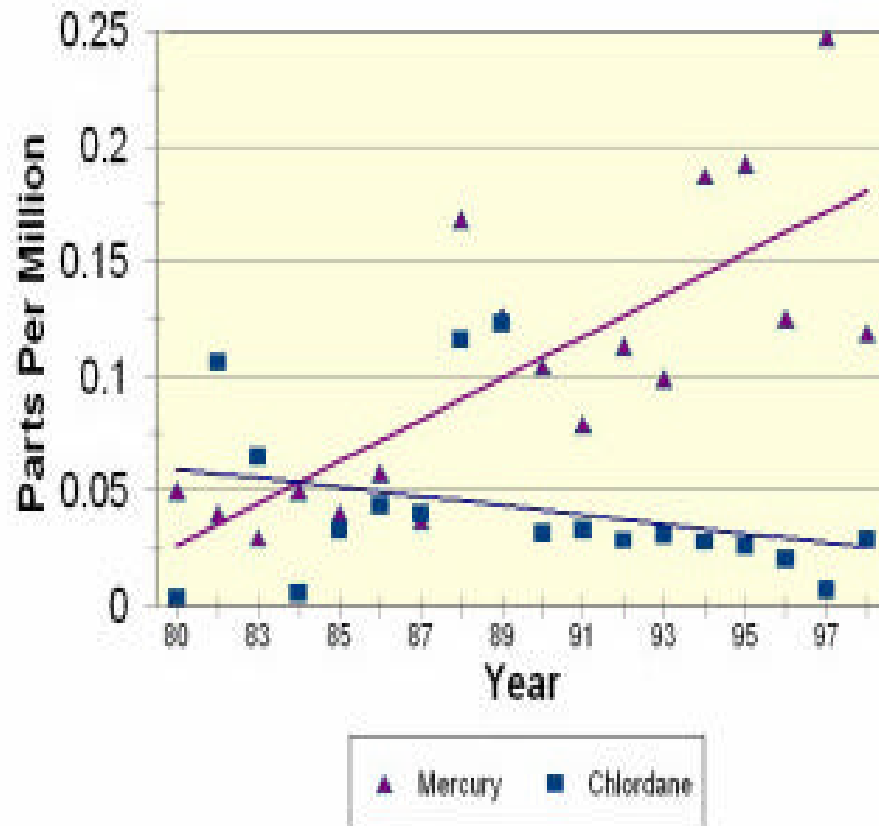
# Mercury Circulation in the Environment



- Emitted to the air
- Emitted directly to the water or soil
- Travels long distances, then precipitates out with rain fall, entering lakes and streams
- Not “treatable;” must be prevented

# Mercury Trends in Kansas

Figure 2. Kansas Fish Fillet Trends

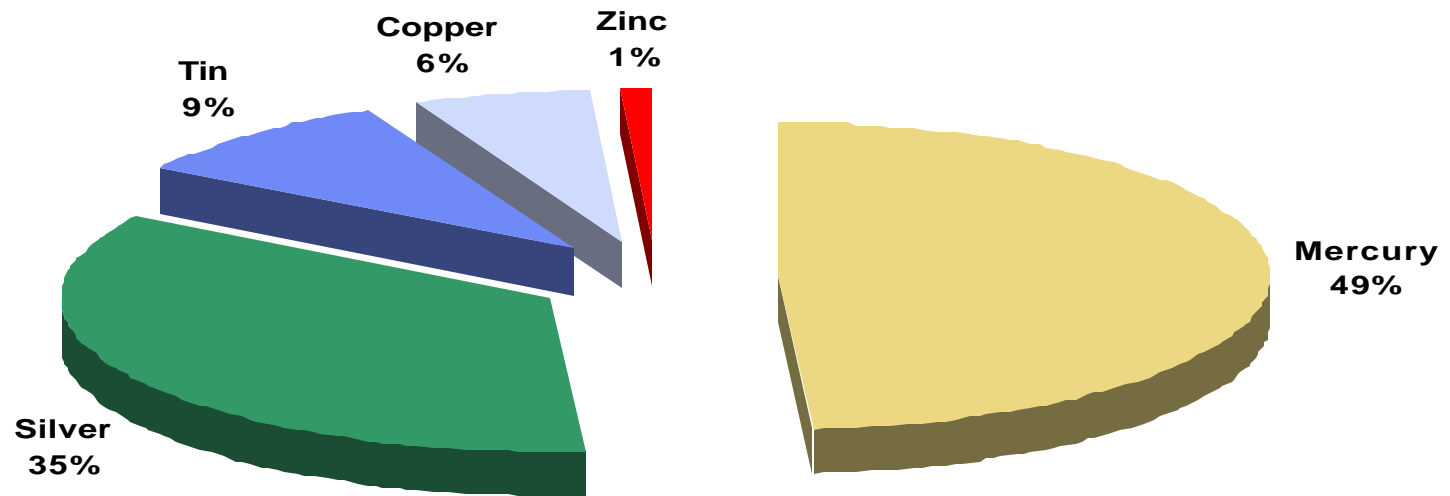


- “Nationwide and at all long-term, fish-tissue monitoring sites in Kansas, mercury appears to be on the increase.”

- *Kansas Environment 2000* report

# Why Is Dental Amalgam a Problem?

## Composition of a Common Dental Amalgam



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# Put Waste Mercury-Amalgam in Its Place

- Keep it out of drains, trash, and “red” bags.
- Use composites or non-mercury-containing alternatives; always use self-activating capsules.
- Collect mercury-amalgam for simple recycling as a best management practice (BMP).
- Use improved technologies to remove additional mercury when possible (required in Wichita).

# Recycling Amalgam- Keep It Simple

- Licensed mercury vendors or stills recover mercury from amalgam.
- Wear utility gloves, glasses, and masks.
- Flush vacuum lines with disinfecting solution at the end of the day; the next morning, clean or change traps.

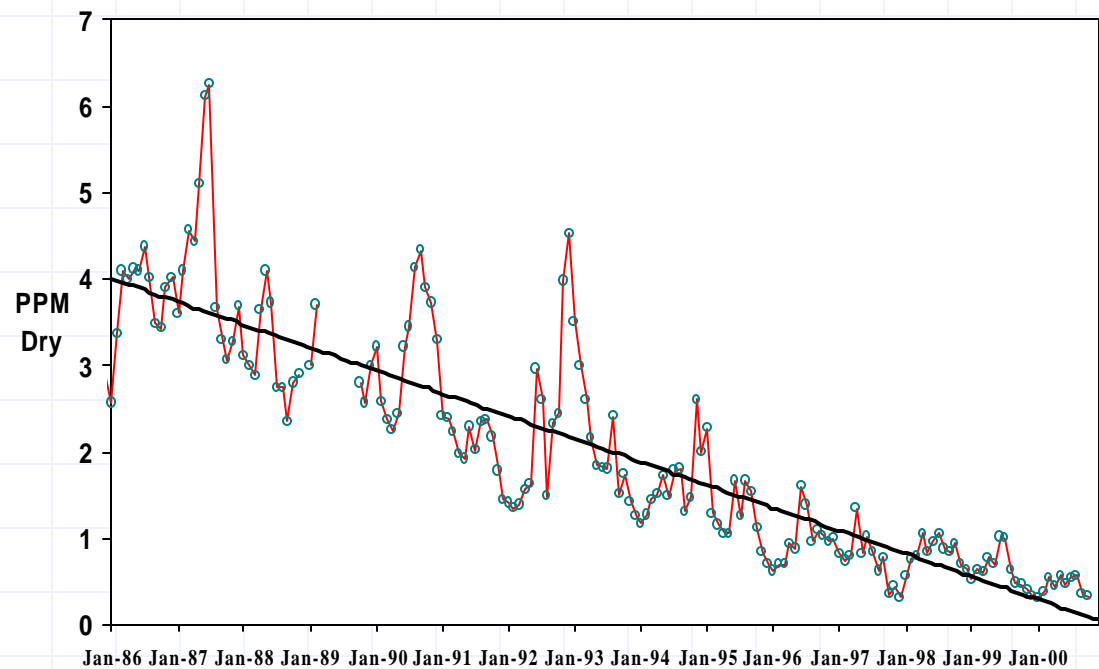
# Recycling Amalgam- Keep It Simple (continued)

- Place trap and scrap in a wide-mouth, covered plastic container.
- Label: "Amalgam for Recycling."
- Vacuum pump traps or contents should also be recycled.

# Simple Recycling Results

Over time, these simple recycling tips can reduce amalgam waste and potential environmental mercury from the dental office by 60 to 75%.

Mercury in WW Sludge  
Great Lakes Mercury Reduction Project



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# What Kansas Communities Regulate Amalgam Wastes?

- Wichita, Kan., regulates dental waste discharges. Registration, addition of improved technology, and monitoring is required.
- Other regions encourage BMPs.
- Nationally, many regions regulate, some ban mercury use.

# Regulatory Questions

- Manage it at <55 lbs and make it easy!
- Label it! “Amalgam for recycling,” or “Hazardous Waste”
- Vendors should be licensed or permitted
- Keep waste or recycling records

# Handouts

1. Mercury: Coming from Your Business?
2. Amalgam Collection/Recycling
3. Dental Disposal Checklist
4. Medical Service Wastes

# Where To Go for Help

- **K-State's SBEAP**
  - Free small business assistance
  - Phone or on-site consultations
  - Confidential and non-regulatory
  - **800-578-8898 or 316-722-7721, ext. 254, [www.sbeap.org](http://www.sbeap.org)**
- **Local Pretreatment Program, in Wichita**  
316-303-8775
- **Local or American Dental Association at**  
[www.ada.org](http://www.ada.org)

# Review

- Why is mercury-amalgam waste such a concern?
- What does bioaccumulate mean?
- What does BMP mean?
- What are the BMPs for handling mercury-amalgam?
- Some Kansas regions regulate some dental wastes.