

# Student Sheets

## Dental Wastes Recycling and Disposal

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

*A curriculum for use in Kansas dental schools*

Please use these student sheets as guide for following this portion of the curriculum and for related note taking.

This curriculum was designed for use in Kansas dental schools by the Kansas Small Business Environmental Assistance Program. It was developed and provided to all Kansas dental schools in the fall of 2001 with funding from the Kansas Department of Health and Environment. The purpose of the curriculum is provide dental professionals with the information needed to ensure proper dental waste handling, prevent environmental health problems, and protect public health.

#### **Introduction:**

It seems each day we hear the media report newly discovered problems associated with items we use on a regular basis – asbestos, lead, and now certain dental wastes.

#### **What do you think?**

Please take about five minutes to break into groups of two to four, read the following situation, and answer the related questions.

*Dr. Driller's dental clinic has five chairs, two of which are used exclusively for dental restoration, with the others used for hygiene work only. In the past, the clinic has simply removed the contents of the restoration chair chairside traps and rinsed the contents down the drain. The clinic has always collected the scrap amalgam in a container for a person who periodically picks it up.*

- 1. You just heard that some wastes generated by dental clinics need to be handled in special ways. One of these wastes is mercury-amalgam. Why is it such a problem?**

2. **The clinic usually tosses the contents of the chairside traps and entire vacuum pump filter into the red bag waste. Is this a problem?**

### **Dental Waste Recycling and Disposal...What You Will Learn**

Although the ideal solution for addressing waste management is eliminating the pollutant at the source, a practice often referred to as pollution prevention, this method is not always feasible in practice. Best management practices or BMPs are economically achievable actions that can be used to reduce or control the entry of pollutants, such as mercury and silver, into the environment.

Like other cities and states, some regions in Kansas now regulate dental wastes, namely mercury and silver waste disposal. Even in regions that do not regulate these wastes, dental offices are asked to follow best management practices or BMPs. Mercury-amalgam is generally considered the most toxic and problematic waste stream for dental clinics, so it will be the primary focus of this section.

These lessons cover proper waste handling methods for the following:

- mercury and mercury-amalgam
  - silver-bearing wastes
  - medical service wastes
  - lead foils and shields
  - regulated or toxic cleaners
- ✓ and review the environmental regulations that impact the dental community.

### **Mercury-Amalgam**

**What are the health and environmental facts about mercury?**

**Define the term bioaccumulate.**

**What are the symptoms of mercury poisoning?**

**List the sources of mercury.**

**How does dental mercury enter the environment?**

**What percent of amalgam is mercury?**

*Mercury is released when fillings are removed or when excess scrap is improperly handled. If the clinic allows amalgam particles to go down the drain, the mercury then goes to the wastewater treatment plant. If the clinic puts the waste in the trash or "red" bag, it then reenters the environment when it is land filled or incinerated.*

**List mercury-amalgam recommended or best management practices.**

**What Kansas communities regulate all quantities of mercury-amalgam disposal?**

*Note: Mercury and some of the other wastes generated by dental clinics, such as silver-bearing wastes, are considered hazardous wastes and are regulated by the state in certain quantities. Clinics that generate at any one time or accumulate these wastes in quantities greater than 55 pounds total, are impacted by hazardous waste regulations. For this reason, it is important that the clinic properly dispose of or recycle these mercury and silver wastes on a regular basis, before they accumulate 55 pounds, to avoid further regulatory burden.*

**What type of records should be kept?**

**Where can dental clinics turn for help with environmental regulations?**

**A Time for Review**

- 1. Why is mercury-amalgam waste such a concern?**
- 2. What does bioaccumulate mean?**
- 3. What does BMP mean?**
- 4. What are the BMPs for handling mercury amalgam?**
- 5. Some Kansas regions regulate dental wastes. True or false?**