

# DENTISTRY

## *Preventing Water* **Pollution**



### **WATER POLLUTION PREVENTION TIPS FOR DENTISTRY**



Prepared by Oregon Department  
of Environmental Quality,



Oregon Association  
of Clean Water Agencies

and your local sewerage agency

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## What's the Problem?

In the 50s and 60s, we used to think of pollution prevention as keeping polluting substances out of the air and water. We built sewage treatment plants and put scrubbers on smokestacks.

Today, pollution prevention means much more. It means looking at every action to determine:

- how we can use fewer and less harmful substances;
- how we can create fewer waste products;
- how we can reuse or recycle substances; and
- what disposal alternatives are available to keep as much of these substances out of the sewer systems, landfills and the air as possible.

Many business activities have the potential to pollute air, water or soil. This booklet focuses on ways to prevent water pollution by conscious reduction, reuse or recycling of chemicals and hazardous substances. Information about other types of pollution prevention is available from the Department of Environmental Quality and your local recycler or garbage hauler. Many professional associations also offer pollution prevention tips.

### Why Is Water Pollution Prevention Important?

It's in everyone's best interest to reduce the amount of chemicals and hazardous substances that flow into the sewer system. It's good for the earth, it's good for our pocketbooks and it's good for our communities.

**Sanitary Sewers.** The fundamental reason we have to be careful about what goes into sanitary sewers is that *even the best sewage treatment facility has limitations*. Oregon's sewage treatment systems are designed primarily to handle sanitary sewage. Bacteria provide "treatment" by breaking down organic matter in the water. We need to remember that:

- Treatment facilities can't treat many chemicals, so the substances may pass untouched into the environment. This may threaten fish, wildlife and vegetation, as well as people using polluted water sources for drinking or recreation.
- Some chemicals can destroy the bacteria in the treatment process — leaving the facility useless. This not only endangers the environment — it means a tremendous expense to community ratepayers.

## What's the Problem?

- If the facility receives too much of one type of waste at a time, it will not be able to process the organic matter. Again, this creates environmental hazards, and the community may need to invest in greater treatment capacity.
- Some chemicals in the sewage treatment system put system employees at risk. Exposure to chemicals can cause health problems, and some substances may cause explosions and fires.

**Storm Sewers.** In most Oregon communities, storm drains flow directly into rivers and streams, without passing through a treatment plant. Anything in the storm drain — from leaves to motor oil — can contribute to water pollution. In a few Oregon cities, storm drains feed into the sewage treatment plant. In these cases, pollutants in the storm water can threaten the plant's ability to treat wastewater.

### How Can Pollution Prevention Help Businesses' Bottom Line?

Many businesses find that taking steps to prevent pollution actually saves money.

- Cutting back on chemical use can reduce material costs as well as waste disposal fees.
- Reducing water use means less water down the drain — and lower sewer and water fees.
- Reducing chemical use can create a safer workplace, with fewer accidents and lower insurance costs.
- Ultimately, we will all pay if we need to build more treatment system capacity. We all save by keeping materials out of the sewer system.

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*Notes:*

## *Good Housekeeping*

Any business, regardless of the amount of chemicals or hazardous substances used, can benefit from increased awareness about safety and environmental impact. Some principles apply to all types of work places, including dental offices.

✓ ***Be conscious of chemical use.***

Even the least toxic chemicals can be harmful if used incorrectly. Chemicals can be dangerous to employees and patients, as well as to the environment. Don't be careless about any aspect of chemicals – from initial use to disposal.

✓ ***Check labels to reduce toxic and hazardous chemical use.***

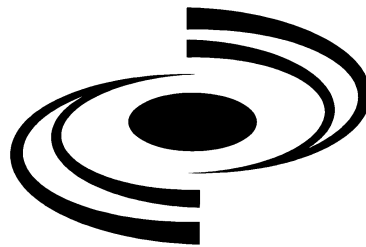
Whenever possible – substitute. Many manufacturers are creating alternative, less toxic products with less environmental impact. Cleaning solutions are a source of water pollution, and many new products are becoming available that are environmentally benign.

✓ ***Reduce water quality impact outside, too.***

Parking lots and driveways collect oil and solvents from autos, as well as leaves, grass and other plant material. Sweep up – don't hose down. All these substances can contribute to water pollution.

✓ ***Train employees.***

All employees – whether or not they work with chemicals – should receive training about the products in use, storage requirements, spill procedures and potential hazards.



## *Dentistry*

### **Keeping Pollutants Out of Waterways**

Dentists are major contributors to Americans' health. Dentistry has been a leader in protecting its employees and patients and responding to new information about new technology, health promotion and disease prevention.

However, some substances used in dental care may be hazardous when disposed of improperly. Silver as well as amalgam, and lead in foil may be hazardous

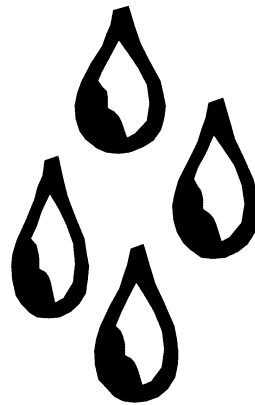
wastes when discarded. These, along with cleaners containing chromium used for developer systems and vapor sterilizer chemicals, are substances that should be carefully contained and disposed of.

The following paragraphs demonstrate how dental offices can protect water quality — and save money — by following several simple steps.



## *Steps to Pollution Prevention*

- 1.** Keep used fixer out of drains. Do not discharge untreated fixer to storm or sanitary sewers.
  - Install a silver recovery unit designed for small quantities of waste material. Capture recovered silver and sell it to a metal reclaimer.
  - Collect used fixer in an appropriately marked container. Recycling services will pick up used fixer and recover and sell the silver.
- 2.** Recycle used fixer, x-ray film and lead foils through companies that accept them. Silver and lead should be kept out of wastebaskets and garbage cans.
- 3.** Amalgam particles end up in the sewer and wastewater. Use screens or traps to capture amalgam particles and recycle them.
- 4.** Use cleaners for developer systems that don't contain chromium. Check the MSDS sheet for any cleaner before purchasing it. Cleaners containing chromium must be disposed of as hazardous waste.
- 5.** Check with your sewage treatment facility operator concerning vapor sterilizer chemicals. Some facilities are able to handle small amounts of these chemicals. If your provider cannot accept them, you should dispose of them as hazardous waste.
- 6.** Remember that many communities offer special collection days for small businesses with limited amounts of hazardous waste.



*Notes*

***For More Information...***

A great deal of detailed information exists on ways dentists can reduce their contribution to water pollution. Some sources are:

- Oregon Dental Association  
17898 SW McEwan Road  
Portland, OR 97224  
503/620-3230
- Local Dental Society  
See your local phone book
- Oregon DEQ, 503/229-5630,  
Available toll-free in Oregon  
at 1-800-452-4011

| <b>ROUTING LIST</b> |      |
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***For more information,  
contact your local  
sewerage agency at...***