

VETERINARY AND MEDICAL CLINICS

INTRODUCTION

Home-based businesses often use a variety of processes, supplies, and chemicals that may generate wastes that differ from domestic wastes generated by a residential home. Home-based businesses that offer veterinary or medical services may generate silver, mercury, and medical services wastes similar to wastes generated by larger commercial clinics. These chemicals and associated wastes should be labeled, used, stored, and disposed of in a responsible manner to prevent pollution and to comply with the law. While it may seem that your contribution to pollution is minor, effects of chemicals, runoff, and wastes improperly disposed of from hundreds or thousands of homes in your region can really add up. The following pages contain a self-assessment checklist that may be completed to help identify potential sources of pollution.

IDENTIFY ENVIRONMENTAL RISKS

Processes and potential wastes associated with this business that could harm the environment are listed below. Check the activities that apply to your business.

- X-ray processing services – spent developer and fixer solutions.
- Services utilizing mercury – elemental mercury, amalgam dental fillings, or mercury-containing devices such as thermometers and sphygmomanometer.
- Scrap or outdated film.
- Use of needles, gauze, or swabs that become contaminated with animal or human fluids.
- Disposal of dead animals.
- Chemical storage – outdated inventory.
- Disposal of X-ray machines.
- Use or disposal needs associated with radioactive wastes.
- Unused or abandoned wells on site.

IDENTIFY METHODS OF WASTE DISPOSAL

Check the waste disposal methods that you use.

- Municipal sanitary sewer
- Septic system or lagoon
- Ground, storm sewer, or surface water
- Licensed hazardous waste disposal option
- Licensed sanitary landfill/transfer station
- Compost
- Recycle
- On-site landfill (prohibited in most cases)
- Incineration/on-site burning (see Solid Waste section)

If your home-based business discharges its non-domestic waste to a septic system, then your business is required to complete and submit an inventory form to KDHE. For inventory forms, call KDHE at 785-296-5560. Some wastes associated with a home business are considered "industrial waste" and may not be disposed of in a septic tank or domestic lagoon. Non-domestic waste from your home-based occupation should not be disposed of in a sanitary sewer without written permission from the municipality. Never put wastes in a storm drain or dump on the ground! See Wastewater section in the front of this publication.

BEST MANAGEMENT PRACTICES

- X-ray processing services generate waste solutions such as spent developer and fixer. Waste developer can usually be collected and disposed of via a sanitary sewer. However, best management practices dictate that the spent fixer solution, which is silver-rich, be treated to remove the silver prior to disposing of the solution to a sanitary sewer system. In fact, this is now a requirement in some Kansas communities. Silver is a non-renewable resource that has an economic value, and when disposed of improperly can be harmful to aquatic life. Different technologies are available to recover this silver. Vendor lists are available through SBEAP at 800-578-8898, and staff can help you determine which type of technology may be best for your process. Once the silver is recovered from the solution, it will either be reclaimed by the vendor who provided the service, or cashed in for a rebate. In some cases, small amounts of silver may be transported to a recovery unit at another business location.
- Services that utilize elemental mercury or mercury amalgams include use of mercury-containing thermometers and blood pressure equipment, and dental amalgam restoration practices. Mercury in nearly any form is highly toxic to the environment and thus should be collected for recycling or proper disposal.
- Disposal of spent or old film may or may not be regulated as a hazardous waste, depending on the amount of silver the film contains. Obtain a letter from the supplier that states this regulatory information and the disposal or recycling recom-

mendations. Contact the SBEAP at 800-578-8898 for the most recent Kansas regulatory information related to disposal of old film.

Disposal of any wastes other than domestic wastes to an on-site septic system or domestic lagoon is prohibited. Never dump wastes onto the ground or into a storm drain. This practice can result in the contamination of streams, lakes, or groundwater.

- Old X-rays/foils or shields that contain lead should be recycled via a licensed scrap dealer.
- Use of needles, gauze, or swabs that become contaminated with animal or human fluids creates what is called medical service wastes. These wastes are defined as, *“those solid waste materials which are potentially capable of causing disease or injury and which are generated in connection with human or animal care through inpatient and outpatient services,”* and must be handled according to specific guidelines. See the Waste section in the front of this module, download the *Medical Service Waste*, Technical Guidance Document SW 00-01 from the KDHE Web site, or request a copy by calling SBEAP.
- Disposal of dead animals is regulated depending on the size and number of dead animals that need to be disposed of. Generally household pets are considered small animals and up to five of these animals can be disposed of at a permitted sanitary landfill or buried on site. Other disposal options do exist for both small and larger animals such as cows and horses. See Technical Guidance Document SW 94-01, downloadable from the KDHE Web site or available on request by calling SBEAP.
- Chemical inventory can create an environmental risk if not safely stored, monitored for leaks, and properly rotated. If the material can no longer be used for its intended purpose and must be disposed of, it needs to be evaluated to determine if it is a hazardous waste. See the main section under Hazardous Waste, for evaluation guidelines.
- X-ray machines manufactured prior to 1979 may contain polychlorinated biphenyls, or PCBs. Disposal of this waste is highly regulated due to health and safety concerns; contact KDHE at 785-296-1600 for more information.
- Use and disposal needs associated with radiography or radioactive wastes require licensing. Contact KDHE at 785-296-1545.

- Unused or abandoned wells should be plugged in accordance with KDHE regulations. Abandoned wells, if not properly sealed, can provide a direct route for contamination to enter the groundwater. In addition, open wells are a safety threat to small children and animals. A record of the plugging should be filed with KDHE. For more information, consult the general Water section of this document or call KDHE at 785-296-3565.

Some wastewater treatment programs in Kansas require photo processors be permitted or registered.

POLLUTION PREVENTION AND WASTE MINIMIZATION OPPORTUNITIES

- Utilize a silver-recovery system for treatment of silver-rich solution. Some systems on the market can put money in your pocket.
- Obtain written permission from the local sewage treatment plant to dispose of non-hazardous solutions to its system.
- Use non-amalgam dental restoration materials such as composites.
- When purchasing new equipment, choose digital technology instead of technology that uses mercury.
- Safely collect and dispose of or recycle mercury and waste amalgams through a licensed vendor.
- Avoid the use of hazardous cleaners such as solvents or caustics; substitute less toxic or non-toxic substances as cleaning agents.
- Keep storage and work areas clean and well organized, and keep all containers properly labeled.
- Inspect materials upon delivery, and immediately return unacceptable materials to the supplier.

The Small Business Environmental Assistance Program, SBEAP, is a confidential non-regulatory program funded by the state in an effort to assist small businesses with environmental concerns. Contact the SBEAP at 800-578-8898 or www.sbeap.org if you have questions.

- Keep accurate records/inventory of raw material usage. Mark the purchase date on each container and practice “first in, first out” so that older materials are used up before new ones are opened. Control inventory to prevent products from becoming wastes.
- Institute a safe and lawful disposal method for medical service waste.
- Dispose of dead animals according to the guidelines.
- Safely dispose of hazardous wastes.
- Use control measures to extend developer and fixer solution shelf life.
- Recycle scrap and dated or old X-ray film.
- Keep all containers covered to prevent evaporation, contamination, spillage, or drying out of contents.
- Keep waste streams separate for reuse, recycling, or treatment. Keep non-hazardous materials from becoming contaminated.
- Use “dry cleanup” methods. Scrape and scoop before washing down. Have a spill kit on site.
- Abandoned wells should be plugged and reported in accordance with KDHE regulations (see Water section).

WHERE TO GET MORE INFORMATION

- The Kansas SBEAP has several publications that address these issues of regulatory compliance and pollution prevention. See the list of SBEAP publications at the end of this manual, or go to **www.sbeap.org** to view or download.
- For questions call: 800-578-8898. All services are free and confidential.
- A summary of environmental laws is found in the introduction/preface. These laws may apply to your business.
 - wastewater regulations
 - hazardous and solid waste regulations
 - medical service waste regulations
 - hospital/medical/infectious waste incinerator regulations
 - air and radiation regulations
 - local pretreatment regulations
- Regulatory compliance information can be viewed or downloaded from the KDHE Web site at **www.kdhe.state.ks.us**.
- The Photo Marketing Association provides silver recovery information from a business perspective. Contact them at 800-762-9287 or **<http://www.pmai.org/>**.
- See Resources section at the back of this document.

SOURCES AND ACKNOWLEDGMENTS

- Some materials adapted with permission from the *Code of Management Practice Guide for Diagnostic and Industrial X-Ray Film Processors*
- KDHE Technical Guidance Document SW 00-01, *Medical Service Wastes*
- KDHE Technical Guidance Document SW 94-01, *Disposal Options for Small Quantities of Dead Animals*

ACTION STEPS

| What can you do to reduce wastes or environmental risks? | Set target dates for action. |
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