

Kansas Home*Assyst
For
Home-Based
Occupations and
Hobbies

by
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INTRODUCTION

Much progress in improving environmental quality has been made in the past 30 years in part due to government rules and regulations that have focused on the environmental effects of large businesses and communities. In the future, the governmental focus may include the environmental effects of homeowners, car owners, farmers, and small businesses. Industries have minimized their impact to our surface and groundwater. The greater threat to rivers, streams, and aquifers now comes from the cumulative effect of individuals and small businesses. Some home-based businesses and hobbies generate wastes that, if not handled properly, could harm the environment. While it may seem that your contribution to pollution is minor, effects of chemicals, runoff, and wasted water from hundreds or thousands of homes and home-based businesses in your region can really add up.

Assessing your waste stream helps identify amounts and types of waste, as well as sources of wastes generated at your home. Be aware of what your wastes are, what goes in the trash, what is hauled away, and what goes down the drain. Concentrate your efforts on processes and procedures that can decrease costs and chemical toxicity. An awareness of these things makes it easier to determine how and where waste can be reduced.

Those who are knowledgeable about environmental best management practices are more likely to reduce waste and prevent pollution. However, resources on best management practices for home-based occupations and hobbies are limited. This document is intended to help the home-based business owner and hobbyist identify environmental risks related to their business or hobby. With that information, they may consider pollution prevention measures such as material substitutions, alternative processes, waste reduction, safe wastewater and waste disposal, and water conservation.

Some counties in Kansas require home-based businesses be "registered." In all cases, these businesses need to make sure they are not in violation of any local "zoning regulations."

Water—What is the Source of Water for My Home?

In Kansas, water from our faucets may come from a municipal water treatment plant, a rural water district, or a private well. At some locations a spring or pond may be the water source. The source of water is groundwater and/or surface water. Some practices by home-based businesses and hobbies put groundwater and drinking water supplies at high risk, while others present low risk or virtually no risk at all. With careful management, the risk of groundwater and surface water contamination can be greatly reduced, often with little cost or trouble.

There are several reasons to identify and reduce contamination risks from your business or hobby. You can better protect the health of your family, prevent potential liability from groundwater or surface water contamination, maintain your property value, and avoid any difficulties in property transfer.

Your private well water is least likely to be contaminated if you follow appropriate management practices. Proper waste disposal practices are essential to avoid contamination that could affect the water supply and

health of yourself and others. The following are important factors associated with protecting groundwater:

- well characteristics
- landscape features
- land management
- drainage and seepage potential
- soil properties
- geologic features
- water quality protection measures

WELLHEAD PROTECTION

Construction, location, and proper maintenance are the most important factors in protecting water from private water wells. Ensuring an adequate water supply and acceptable quality is the responsibility of the owner/user of the well. The quality of water taken from a private well is not regulated by state or federal regulations. Kansas, however, has regulated new well construction and well repairs since 1975. Anyone who constructs (drills), reconstructs (repairs), or treats wells must be licensed and must file required reports with the Kansas Department of Health and Environment (KDHE). Call KDHE at 785-296-3565 for more information.

For those homes with private wells, the condition of your well and its location in relation to contamination sources determine the risk it poses to the water you drink. For example, a cracked well casing allows bacteria, nitrates, oil, and pesticides to directly enter the well. A spill of pesticides being mixed and loaded near the well could result in a serious contamination of your family's drinking water supply. Feedlots, septic systems, fertilizer applications, and waste storage areas can release large amounts of nitrate and may contaminate your well.

Surveys of private well water quality show that on average only 40 percent meet the safe drinking water standards for public systems. Fifty-one percent contain coliform bacteria, which indicates an exposure to the surface environment. Coliform bacteria do not thrive or even survive for long periods in an aquifer. Eighteen percent contain *E. coli* bacteria, which indicates contamination by sewage or animal manure. *E. coli* indicates a high risk of disease. About one in four private wells has nitrate exceeding the maximum contaminant level (MCL). These contaminants usually can be traced to problems with well location and/or well construction.

KDHE well drilling regulations and county sanitary codes specify a minimum 50-foot separation of the well from any source of possible contamination (check local codes). This separation distance is based on the soil's filtering capacity for bacteria and microorganisms. Many contaminants, including nitrate, volatile organic chemicals (VOCs), petrochemicals (fuel), and some pesticides, are not filtered by the soil and need substantially greater separation distances. Studies in areas with nitrogen sources show that a separation distance of at least 400 feet from the well is needed.

If an on-site well is used for a home-based business, in some cases special tests or chlorination is required by State Code. Check with KDHE for regulations regarding this subject.

Routine maintenance is required to assure that private wells with good location and construction continue to be safe. A well that is not maintained cannot be expected to reliably produce safe water.

Annual well maintenance is recommended to include the following:

- checking the well casing for cracks or leaks
- checking the well cap for water tightness
- ensuring ground surface slopes away from the well for 15 feet in all directions
- performing shock chlorination of the well and water system (or if testing indicates a need)
- testing water for coliform bacteria, nitrate, pH, and total dissolved solids; use a KDHE-certified laboratory
- keeping filtering systems in good repair and clean
- keeping home plumbing in good shape and leak free—being cautious of stagnate lines not used often such as sink sprayers

Every well needs a wellhead protection plan to assure protection of water quality, especially wells supplying water for human consumption.

A good wellhead protection plan involves careful planning and may include a primary and secondary protection area. In the primary protection area, all high-risk situations and activities are avoided, and moderate-risk activities are managed carefully. The radius for the primary protection area should be 100 feet minimum, and up to 300 feet or more is preferred. In the secondary protection area, high-risk situations and activities require additions or management practices to shift them to low or moderate risks. The radius for the secondary protection area should be a minimum of 200 feet, while 400 feet or more is preferred. Guidelines for high, moderate, and low risk are shown in extension bulletins on wellhead protection.

The Farm•A•Syst or Farmstead Assessment System, K-State Research and Extension publication EP33-48, is designed to help the landowner assess potential contamination sources and develop a wellhead protection plan. The wellhead protection plan rates the risk of activities within 500 feet of the well. The first concern is that the location meets recommended separation distances between the well and sources of contamination. Well location, with respect to potential contamination sources, is the most important factor for protection of water quality.

ABANDONED WELLS

The Kansas Department of Health and Environment administers laws regulating construction, reconstruction, and plugging of wells. Well drillers and landowners alike are required by law (K.A.R. 28-30-7) to follow these procedures, which are available from KDHE. The plugging procedure requires a plugging report (form WWC-5 or form WWC-5P) be filed with KDHE. These forms can be obtained by calling 785-296-5524 and are frequently available locally through county health or extension offices.

Many test holes and unused (abandoned) wells are located in fields, farmsteads, industrial sites, and urban areas without being properly plugged. Contaminants from the surface can travel through wells and contaminate the groundwater. Curious animals and children can enter open well casings. Landowners are liable for contamination or injury from unplugged wells or holes.

KDHE estimates more than 250,000 abandoned wells and test holes exist in Kansas. Kansas law defines an abandoned well as one that

- has not been used during the last two years
- is in such disrepair that it cannot be used
- poses a groundwater-contamination hazard

Kansas law requires that all abandoned wells and test holes be properly plugged. Proper plugging accomplishes five goals:

- restores protective barrier to minimize groundwater contamination
- removes physical hazards by removing tempting openings for curious children and animals
- restores stability to the land surface (load-carrying capacity)
- eliminates or reduces liability exposure
- protects and improves property values

Preventing well water contamination is extremely important. Once the groundwater supplying your well is contaminated, it is difficult and expensive to clean up. The only options may be to treat the water, drill a new well, or obtain water from another source. A contaminated well can also affect surrounding wells, posing a serious health threat to others.

Kansas State University Research and Extension has several bulletins on protecting your water supply. Publications from Kansas State University are available on the World Wide Web at: <http://www.oznet.ksu.edu>, by contacting your local county extension office to order the following:

- *Plugging Abandoned Wells*, MF-935
- *Plugging Cisterns, Cesspools, Septic Tanks and Other Holes*, MF-2246
- *Private Water Well Owner/Operator Manual*
- *Private Well Location and Construction*, MF-970
- *Shock Chlorination for Private Water Systems*, MF-911
- *Recommended Water Tests for Private Wells*, MF-871
- *Testing To Help Ensure Safe Drinking Water*, MF-951

For assistance, please contact :

- local health or environmental office
- county or district extension office
- K-State Research and Extension, Bio. & Ag. Engineering (785-532-5813)
- KDHE, Division of Environment, Nonpoint Source Section (785-296-4195)
- KDHE Water Well Program (785-296-3565)

Wastewater—Where Does It Go?

The most satisfactory treatment and disposal method of household wastewater is through a municipal sewage system. Where municipal systems are available, on-site systems are discouraged. In rural areas, however, most homeowners must use some type of on-site system for treatment and disposal of household wastewater.

Primarily, two types of private on-site treatment systems are used in Kansas: septic tank-soil absorption systems and wastewater stabilization ponds (lagoons). The septic system is the most common form of on-site wastewater

treatment. It is the most desirable on-site system to use if soil conditions are suitable. Since the septic tank and laterals are completely covered with soil, the system is not visible and odor is non-existent, as long as wastewater does not surface. In areas of poor soil drainage and where evaporation rates exceed percolation rates, however, it can be difficult and expensive to build soil absorption fields that will effectively treat and absorb wastewater. Lagoons should be considered for household wastewater treatment in these areas.

If a home-based business discharges its non-domestic waste to a septic system, then the business is required to complete an inventory form and submit to KDHE. For inventory forms, call KDHE at 785-296-5560.

A properly installed and maintained system for treating and disposing of household wastewater will prevent pollution to groundwater and surface water. In Kansas, on-site household wastewater systems are regulated by the county through the local

health department, planning and zoning department, public works, or other local departments. The county adopts a sanitary code, issues permits, and inspects construction. In counties that have not yet adopted a sanitary code, the guidelines set by the KDHE should be followed (KDHE Bulletin 4-2, *Minimum Standards for Design and Construction of Onsite Wastewater Systems*). Check with your local governing agency or KDHE. The codes established are a minimum. Consider whether the minimum requirement is sufficient for your site.

Some wastes associated with a home business are considered "industrial waste" and may not be disposed of in a septic system or domestic lagoon. These wastes come from "industrial activity" such as automobile service centers, auto body repair, and wood finishing. Other types of wastes such as from catering, day care, and upholstery are considered "domestic sewage" and can be disposed of in a septic tank or lagoon. Domestic sewage is sewage originating primarily from kitchen, bathroom, and laundry sources, including waste from food preparation, dishwashing, garbage grinding, toilets, baths, showers, and sinks. Home businesses disposing domestic sewage have special requirements or volumes that must be considered before discharge to the on-site waste system. Checking with governing agencies on the requirements of your particular situation will protect your on-site system and the environment.

Lagoons receiving industrial waste must be double-lined with a leak detection system and permitted by KDHE. A more cost effective option may be to discharge waste to a holding tank, then periodically pump and transport the waste to a municipal wastewater treatment facility, if approved. For more information, contact KDHE at: 785-296-6804.

Septic tank systems that receive, or have the potential to receive, wastewater other than domestic sewage are Class V Wells and are prohibited by the KDHE Underground Injection Control (UIC) program. On-site soil absorption systems used by multiple-family homes, office buildings, or other facilities for the treatment of domestic sewage only, are considered Class V Wells if they serve 20 or more "full-time equivalents." Volume is the concern. For more information, contact KDHE at 785-296-5560.

Some best management practices for businesses with septic systems (some of which apply to any wastewater disposal system) are as follows:

- Locate the soil-absorption field at least 100 feet from any wetland, shoreline, stream bed, or drinking water well. (County regulations regarding separation distances vary.)
- Keep good records each time your septic system is pumped, inspected, or repaired.
- Pump septic tank regularly, about every three to five years.
- Divert surface water runoff away from the soil-absorption field.
- Do not use your wastewater treatment system as a substitute for the trash can or a compost pile!
- Practice water conservation.
- Never pour hazardous chemicals, such as solvents or fuels, down the household drain.
- Seal all floor drains that could discharge process wastes to a soil-absorption system.
- Make sure the septic tank is large enough to hold at least two day's worth of wastewater.
- Install and maintain an effluent filter to prevent clogging of the soil-absorption field.
- In most cases, septic tank additives are not recommended.

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.

Best management practices for wastewater lagoons are as follows:

- Keep the protection berm in good repair, grassed, and mowed.
- Remove excess vegetation from inside the lagoon. Do not allow cat tails, mosses, trees, or tall grasses to accumulate.
- Keep the fence in good repair, keeping all animals and persons out
- Understand how a lagoon works and notify professionals if problems occur that are not “normal” to the function of the lagoon.

Storm Water—Is It Carrying Contaminants off My Property?

Pollution reaches water from many sources and pathways, which can generally be divided into point source and non-point source pollution. Point source pollution comes from specific, single locations, such as municipal sewage treatment plants, manufacturing plants, or large confined livestock feeding operations. These sources are often easy to identify and control. Controlling point source discharges came under federal regulation in 1972. Point source discharges are required to have a federal discharge permit. It is estimated that only about 20 percent of today’s water quality problems result from point sources.

The Kansas regulations define “nonpoint source” as any activity that is not required to have a national pollutant discharge elimination system permit, and that results in the release of pollutants to waters of the state. Storm water runoff and the pollutants it carries are the most common causes of non-point source pollution of lakes, rivers, and streams. Pollutants concentrate on streets, driveways, parking lots, lawns, and farmsteads until a storm event washes them, untreated, to waterways. Another example is the leaching of nitrates or other chemicals down through the soil into domestic wells or groundwater aquifers. Major contaminants of water in Kansas include sediment, nutrients, bacteria, pesticides,

salts, minerals, and hazardous materials.

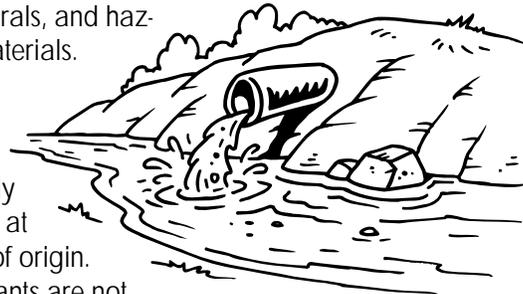
Non-point source pollution is not easily monitored at the point of origin.

Contaminants are not generally traceable to an exact source.

Non-point source pollution generally occurs:

- over a large area,
- over an intermittent period of time, and
- from diverse sources, such as farms, ranches, transportation corridors, and urban areas.

Non-point source pollution is difficult to manage and control. The sources of pollutants are diverse and the people contributing are many. Many water quality specialists believe most future improvements in water quality in the United States will be made by reducing non-point source pollution. Self-assessments, such as those presented in this document, can help with ideas for minimizing non-point sources of pollutants. Your voluntary actions will reduce chances of contaminants reaching surface or groundwater.



Waste from My Home Business --- Is It Hazardous or Can It Go to the Landfill?

WASTE DEFINED

In the simplest sense, waste is anything left over or generated as a result of a process, that you do not want any more. If the waste is chemical or biological in nature and potentially dangerous to humans, then it may be considered a hazardous, infectious, or medical service waste.

It is important that your chemicals are labeled, used, stored, and disposed of in a way that will not be hazardous to human health or the environment.

SOLID WASTE DEFINED

Solid waste is the term used to describe non-hazardous wastes, such as garbage, refuse, or other discarded materials, that are accepted at a landfill or transfer station. These wastes must be removed from a residential or business storage to a landfill or transfer station at least once a week. Due in part to past landfill contaminations, new landfills are required to install plastic or clay liners, and leachate collection systems, as well as monitor the groundwater and surface water for harmful chemicals. These landfills normally accept non-hazardous business and domestic (household) wastes, with some waste streams requiring a “special waste authori-

zation." Hazardous wastes are generally prohibited at landfills. Permitted construction and demolition (C&D) landfills can accept solid wastes resulting from the construction, remodeling, and demolition of structures. These C&D landfills cannot accept other types of municipal solid or hazardous wastes.

Unfortunately, the average U.S. resident produces more than four pounds of solid waste per day, according to the Environmental Protection Agency (EPA). This is twice the average amount of waste produced by individuals in other industrial countries, and businesses account for about 60% of the trash volume at landfills. Businesses and consumers can help cut waste by changing what and how much they buy, and reusing and recycling as much as possible. Some states require the reduction of solid waste to lengthen landfill life and to reduce waste disposal costs. Waste reduction requires cutting back the number and volume of discarded products.

2000 figures indicate that Kansans generated about 6.4 pounds of waste per day per person; this is nearly one and one-half times as much as the 4.4 pounds per day national average.

Nationally about 37% of households recycle. In Kansas, 2000 recycling rates in Sedgwick County were about 15%. (Facts from the Wichita Eagle, 1/15/01)

I burn my wastes. Is there any problem with that?

Burning of domestic solid wastes (combustible forms only) is acceptable in some areas in Kansas, but in other areas it may be prohibited. Many counties require a burn permit and prohibit burning on windy days or in extremely dry conditions. Contact your local fire department, KDHE district office, or environmental office with questions. Remember, when you burn your wastes, you may be converting a solid waste problem to an air quality problem.

Burning of hazardous wastes is not a safe or acceptable practice at any time.

On-site burning of business-generated solid wastes is not an acceptable disposal option.

HAZARDOUS WASTE DEFINED

Many home-based businesses generate hazardous wastes. In Kansas, hazardous waste regulations are enforced by KDHE. Statutes place the primary responsibility for ensuring that hazardous wastes are properly managed on the person who generates the wastes. This means that as the generator, **you** need to first make a determination of whether your waste is hazardous or not and why it is hazardous.

Remember, you are responsible for determining if your waste is hazardous or non-hazardous.

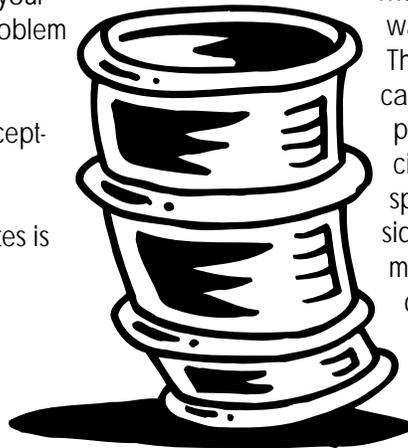
Chemicals and wastes generated as a result of your casual hobby are considered "residential household hazardous wastes" and can be disposed of via the local household hazardous waste collection program. For more information, call your local health department or environmental management office.

So what makes my waste hazardous?

Wastes are hazardous if they are either "listed hazardous wastes" or "characteristic hazardous wastes."

Listed hazardous waste: The EPA has assigned certain materials to specific "lists" because of their predictable hazardous nature in specific processes. The four EPA hazardous waste lists are designated by the letters F, K, P, and U, which refer to the types of waste regulated. For example, the F list contains "hazardous wastes from non-specific sources" and includes generic industrial process wastes resulting from degreasing, solvent usage, electroplating, and heat-treating, along with certain dioxin-contaminated wastes from the production of organic chemicals.

The K list contains "hazardous wastes from specific sources." The P and U lists consist of "discarded commercial chemical products, off-specification species, container residues, and spills," some of which are considered "acutely toxic." This means these materials are so dangerous that empty containers and liners must be triple rinsed or cleaned by an equivalent method.



If a listed hazardous waste is mixed with non-hazardous solid waste, all of the mixture may qualify as hazardous waste. Therefore, it is good practice to tightly control hazardous materials as a separate waste stream. In addition, segregation increases the potential for reuse, recycling, or treatment.

Characteristic hazardous waste: These waste streams are classified according to a recognizable hazard associated with them, such as ignitability, corrosivity, reactivity, and/or toxicity. An ignitable hazardous waste is a material that has a flashpoint of less than 140 degrees Fahrenheit or combusts upon exposure to the environment. A corrosive hazardous waste is a waste that has a pH value of either less than 2.0 or greater than 12.5. Reactive wastes may react violently with air or water, are unstable in normal environmental conditions, react with water or corrosives to produce toxic gases, or are explosive. To determine if a waste is toxic, a sample of the waste must be tested at a KDHE-certified laboratory. A toxic characteristic leaching procedure, TCLP, commonly called a "T-clip" test, will determine if the waste exceeds the regulatory limits and is considered hazardous due to toxicity. A list of KDHE-certified laboratories can be provided by calling SBEAP at 800-578-8898 or downloading it from the *Hazardous Waste Generator Handbook* at http://kdhe.state.ks.us/waste/bwm_download_page.html#tgds.

So now what do I do?

Inventory your wastes and gather your material safety data sheets (MSDSs). Compare what you know about the wastes and what is listed on the MSDS to the information about listed and characteristic hazardous wastes. In some cases laboratory analysis may be needed. If you are a hazardous waste generator, then you may want to request a copy of the *Hazardous Waste Generator Handbook*. This book, published by KDHE, contains additional information you need to know. Then in order to identify what regulations apply to your generation category, determine the total amount of hazardous waste generated in calendar month, and figure the amount in storage from previous months. The handbook can be obtained by calling the Small Business Environmental Assistance Program (SBEAP) at Kansas State University at 800-578-8898, or you can download it from http://www.kdhe.state.ks.us/waste/bwm_download_page.html#gds.

An MSDS (Material Safety Data Sheet) is documentation required for hazardous materials. It identifies certain reportable hazardous ingredients, safety and health considerations, and safe handling procedures. The supplier or manufacturer furnishes these documents to the user.

Categories and requirements of hazardous waste generators

What generator class you are in is dependent upon how much waste is generated at your facility. In Kansas, there are three classes: small quantity, Kansas, and EPA. You must determine your generator category to determine which regulations apply to you. Your facility may change its status from one category to another, depending on how much waste it generates in a given period.

Most home-based businesses that generate hazardous wastes will be considered small quantity generators or SQGs. SQGs generate less than 55 pounds (about five to seven gallons of a liquid) total of hazardous waste in a calendar month. SQGs should never accumulate more than 2200 pounds of hazardous waste at any one time.

Small quantity generators as defined above are required to handle the hazardous waste they generate in an environmentally sound manner, but are not subject to any notification or reporting requirements. SQGs must identify all of the hazardous waste they generate. Small quantity generators may use any of the following alternatives to handle their hazardous wastes when disposed of in quantities less than 55 pounds (25 kg): recycling, reuse, reclamation, disposal at a permitted sanitary landfill, neutralization and discharge to the sanitary sewer only with permission of the city, and disposal at a permitted hazardous waste disposal facility.

A few Kansas counties, such as Douglas, Johnson, Reno, and Sedgwick, operate collection program for SQGs. These programs offer SQGs an environmentally sound and economically feasible disposal option. Most programs are operated in conjunction with the local household hazardous waste program and require

pre-registration, so contact your local health or environmental management office for more information.

SQGs that accumulate more than 55 pounds must recycle, treat, or dispose of their wastes either on site or at a hazardous waste management facility. In addition, these generators must abide by packaging, labeling, marking, and shipment regulations. All containers should be marked with the words "Hazardous Waste," dated, and inspected weekly. The small quantity generator regulations are located at K.A.R. 28-31-4(m).

Small quantities of hazardous waste may NOT be disposed of by dumping on the surface of the ground or into surface waters, burying in the ground at an unpermitted site, or using such materials as solvents for killing weeds.

Kansas generators are generally facilities that generate 55 lbs (25 kgs) or more of hazardous waste but less than 2,200 lbs (1,000 kg) in a calendar month.

EPA generators are facilities that generate, in any single month or accumulate at any time, 2,200 lbs (1,000 kg) or more of hazardous waste. Kansas and EPA Generators must register with KDHE and are subject to numerous regulations that can be found in the *Hazardous Waste Generator Handbook*, or the K.A.R. 28-31-1 through 16. For more information, call KDHE at 785-296-1600, or SBEAP at 800-578-8898.

Household hazardous wastes (HHW) are those hazardous wastes that are generated by a residential home. Wastes generated by a home-based business do not qualify; however, pure hobbyist wastes may. Most counties in Kansas have a means for disposal of HHW. Contact your local health or environmental management office for the times and location in your area.

Empty containers: A container that has held hazardous material is not considered a hazardous waste as long as all the waste/material has been removed by pouring, pumping or aspiration, and there is no more than a one-inch residual on the bottom or no more than 3.0 percent by weight of the contents remain in a 110-gallon or less container. For more details, see the *Hazardous Waste Generator Handbook*. Containers holding acutely hazardous waste must be triple rinsed.

MEDICAL SERVICE (INFECTIOUS) WASTES DEFINED

In Kansas, medical service waste is the term used to describe "those solid waste materials which are potentially capable of causing disease or injury and which are generated in connection with the human or animal care through in-patient and out-patient services" (K.A.R. 28-29-27). These wastes, also known as regulated medical wastes, infectious wastes, biohazard waste, and wastes regulated under Occupational Safety and Health Administration (OSHA) as blood-borne pathogens, include items such as used needles and bandages, or swab-type items contaminated with human or animal fluids such as blood, saliva, urine, or feces.

Under the rules in Kansas, these items should be placed in properly designed containers, available from your waste or supply company, and handled in one of the following manners:

- Treated or sterilized medical waste can be sent to the permitted sanitary landfill.
- Untreated medical waste needs to be "red bagged" and can only be sent to the landfill with special authorization from KDHE.
- Dispose through a medical waste disposal company (check the Yellow Pages).
- Dispose of as a hazardous waste.
- Incinerate in a permitted hospital/medical/infectious waste incinerator

For more information, request a copy of *Medical Service Waste*, technical guidance document SW 00-01, from SBEAP at 800-578-8898, or download at http://www.kdhe.state.ks.us/waste/bwm_download_page.html#tgds.

Do Air Regulations Apply to My Home-Based Business?

Most home-based occupations and hobbies do not emit enough pollutants to fall under any of the air regulations. For example, if your shop uses nine tons or more of paints and solvents annually, then you should calculate whether your shop has the potential to exceed

emission thresholds. If large amounts of lead or other toxic chemicals or metals are processed, these regulations may also apply. The air regulations are located in the K.A.R. 28-19. If you have questions, contact SBEAP at 800-578-8898 or KDHE at 785-296-1570.

What Is EPCRA and Does It Apply to a Home-Based Business?

Any facility, public or private, that has hazardous materials at or above established threshold amounts may be subject to the Emergency Planning and Community Right-to-Know Act (EPCRA). This law is complex and has multiple reporting requirements. The purpose of EPCRA is to encourage emergency planning efforts at the state and local levels. This law also allows the public's access to information about potential chemical hazards that may exist in their communities.

Most home-based occupations will not store or use hazardous materials of reportable quantities. Typical reportable quantities are 10,000 lbs. One hazardous material that might be reportable from a home-based business is lead. If you use more than 100 lbs. of lead in a calendar year, then you are required to report this.

Contact the SBEAP at 1-800-578-8898 if you need help determining whether you have reportable quantities of hazardous materials.

General Pollution Prevention, Spill Prevention and Response, and Energy Conservation

GENERAL POLLUTION PREVENTION

Pollution prevention is the practice of preventing and minimizing the generation of pollution, rather than treating it once it has been created. Pollution prevention (P2) is often thought of as mainly an environmental concept; however, its economic impact can be sizable when you consider it is more cost-effective to prevent waste rather than develop expensive and risky treatments to ensure that it does not create health and environmental threats.

TIPS:
When you purchase a product, ask yourself:

1. Do I really need this product?
2. Read the label – does it contain hazardous materials?
3. Is there a less hazardous alternative that will do the same job?
4. Does the product require safety equipment?
5. Am I buying more than I need for the job?
6. Can I safely store the product at my home?
7. Can I safely dispose of excess product or find another party that can use it up?

P2 can help your home-based business or hobby reduce the following:

- Hazardous wastes
- Waste disposal costs
- Raw material purchases
- Short-term liabilities associated with employee health issues
- Long-term liabilities from improper hazardous waste disposal

Look for these and other specific pollution prevention tips within each section of this module.

- Substitute less toxic or non-toxic substances for cleaning.
- Identify technologies or processes that can minimize waste generation.
- 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.
- 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. If you have to dispose of an unused outdated item, it can be like paying for it twice—

once when you purchased it, and another time when you dispose of it.

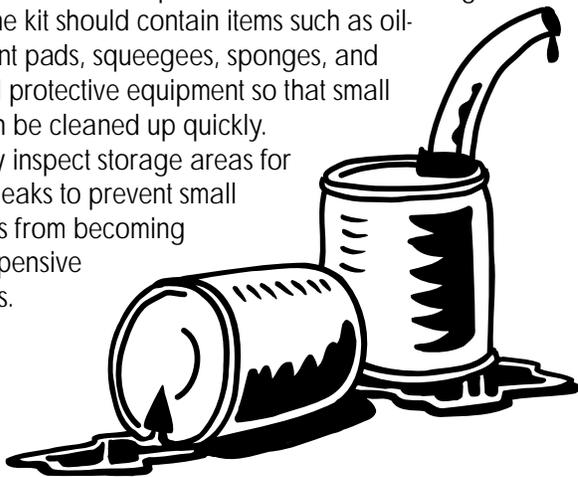
- Use or install spill basins or secondary containment units that will prevent environmental contamination in the event of a spill.
- Practice preventative maintenance to avoid future losses. Periodically inspect containers and equipment for leaks.
- Keep all containers covered to prevent evaporation, contamination, spillage, or drying out of the contents.
- Keep waste streams separate for reuse, recycling, or treatment. Keep non-hazardous materials from becoming contaminated with hazardous wastes.
- Conserve water; use water-saving devices on toilets and showers.

The term “best management practices” (BMP) is used throughout this module. These are not always required practices, but rather recommended practices, resulting in environmental protection and/or economic savings.

SPILL PREVENTION AND RESPONSE

In order to prevent environmental contamination, home-based businesses or hobbies that utilize, store, and dispose of hazardous materials or wastes should be prepared if a spill occurs. Using or installing spill basins or secondary containment units can prevent environmental contamination in the event of a spill. These are simply leak-proof units that the hazardous material or waste is stored in or on, that are large enough to contain the spill or leak. Use of secondary containment is not a requirement, but rather a BMP, in most cases.

Purchase and store a spill kit in the chemical storage area. The kit should contain items such as oil-absorbent pads, squeegees, sponges, and personal protective equipment so that small spills can be cleaned up quickly. Routinely inspect storage areas for spills or leaks to prevent small problems from becoming large expensive problems.



If you do not have a “spill kit” and a spill occurs, use kitty litter, vermiculite, newspaper, rags, or dirt to contain and absorb the liquid. NEVER wash it down the drain or into the gutter. Determine whether the waste is hazardous or not. If non-hazardous, place it in a plastic bag or sealable can and put it in the trash. If hazardous, then see Hazardous Waste section at the front of this publication to determine disposal options.

Surface cleaning done as a result of an oil or hazardous material spill needs to be contained and evaluated for disposal as a hazardous waste. If a hazardous material release has occurred, the local fire department should be contacted, as only trained personnel should assess and cleanup most spills. Cleanup material resulting from a spill should be handled as a hazardous waste, unless it has been evaluated and tested non-hazardous.

Spill Response Should Be Done By Trained Individuals When approaching a spill of unknown origin:

1. Assess the risks
2. Use protective clothing
3. Confine the area or spill
4. Stop the source
5. Clean up the spill
6. Decontaminate
7. Report the spill

ENERGY CONSERVATION

Energy conservation should be a concerted effort at all times, not just when it hits our pocketbooks. Consider these tips for energy conservation:

- When possible, adjust curtains, attire, work patterns, and the use of heat-generating equipment.
- Use rechargeable batteries in business products.
- Replace existing lighting with energy-efficient bulbs. Compact fluorescent bulbs, readily available at department stores, can replace incandescent bulbs in many light fixtures.
- When replacing equipment, look for energy-saving features and ratings.
- In most case, energy is saved if equipment is turned off when not in use for extended periods.
- Set up an energy audit.
- Train employees to be energy-wise.

ANIMAL BREEDING/CONFINEMENT

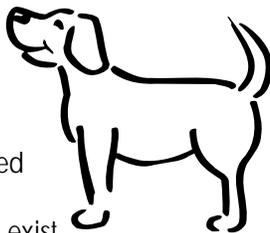
WHY BE CONCERNED?

Businesses that require confinement of animals deal with animal waste management. Runoff from animal lots carries manure, soil, and other debris, which could contaminate surface and groundwater sources. Results from a recent Kansas farmstead well study show animal feeding sites to be a significant source of high nitrates in Kansas farmstead water wells. High nitrates are found at kennels as well as stockyards. If managed improperly, waste from these facilities can also be a significant source of fecal coliform bacteria. A system is needed for preventing lot runoff from leaving the owner's property or entering surface or groundwater in a contaminated condition. Along with addressing the potential of animal lots to pollute water, other good reasons for improving management practices include improved animal health, ease of maintenance, and improved quality production.

IDENTIFY ENVIRONMENTAL RISKS

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

- Animals are stabled or confined.
- Rain or snow contacts the ground surface where animals are kept and runs off.
- Surface and roof drainage runs through animal lots.
- Animals are kept indoors, but floor drains are tied to a waste disposal system other than the municipal sanitary sewer.
- Storm sewers, lakes, ponds, or streams are located within 400 feet of the animals.
- Drinking water well is located within 400 feet of the animals.
- Drinking water well is located downslope of the animals.
- Animal lot/kennel is cleaned and scraped.
- Abandoned or unused lots exist.
- Abandoned or unused well is on site.
- Waste/manure storage is practiced.
- Earthen waste storage pit, pond, or lagoon exists.
- Waste storage sits on cracked concrete pad.
- Animal waste is temporarily stockpiled.
- Dead animals are disposed of on-site.
- Animal waste is land-applied.



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

- Use "dry cleanup" methods. Scrape and scoop before washing down.
- Land apply (*cow, sheep, chicken, pig*) manure at locations where nutrient needs have been tested. Do not land apply manure from kennels, as dogs and cats carry diseases that may be contagious to humans.
- Apply manure at rate equal to or less than plant needs, based on soil test.
- Apply manure or wastewater on areas more than 200 feet from surface water (regulations require 50 feet).
- Incorporate animal waste into soil; apply on no-till field; or apply at site with heavy vegetation. Never apply to frozen or saturated soil.
- 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 exist for both the small and the larger animals such as cows and horses. Call Bureau of Waste Management at 785-296-1600 for options.

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.

- Dog and cat manure can be bagged and sent to a permitted solid waste facility for disposal.
- Avoid discharging wastewater to creeks or other surface waters when cleaning fish production tanks/ponds. Apply to a grassy, flat area large enough to absorb the wastewater.
- 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 785-296-3565.

Disposal of any wastes other than domestic wastes to an on-site septic system or 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.

POLLUTION PREVENTION AND WASTE MINIMIZATION OPPORTUNITIES

- Wells should be located in an elevated area upslope of animal facilities so runoff will not drain into the vicinity of the well.

ACTION STEPS

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

- Kansas regulations require a minimum separation distance from wells of 100 feet for all livestock facilities, but larger distances are strongly recommended. For temporary manure stacks and earthen storage facilities, the minimum separation distance should be at least 250 feet. Results of a farmstead well study indicate that this separation distance must be at least 400 feet in order to assure protection from high nitrates in well water.
- Design animal lots such that rainwater runoff does not carry wastes to surface water.
- Abandoned wells should be plugged and reported in accordance with KDHE regulations (see Water section).

WHERE TO GET MORE INFORMATION

- Local health or environmental office
- KDHE District Office
- KDHE Non-point Source Section at 785-296-4195, Web site: www.kdhe.state.ks.us/nps or e-mail: NPS@kdhe.state.ks.us
- Your county K-State Research and Extension office.
- Farm*A*Syst at K-State Research and Extension at 785-532-5813.
- The Kansas SBEAP has several publications that address these issues of regulatory compliance and pollution prevention. See the list of SBEAP publications listed 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. The following laws may be applicable to this business:
 - wastewater regulations
 - solid waste regulations
 - storm water regulations
- Regulatory compliance information can be viewed or downloaded from the KDHE Web site at www.kdhe.state.ks.us.
- See Resources section at the back of this document.

AUTO SERVICE AND SMALL ENGINE REPAIR

WHY BE CONCERNED?

Auto service and small engine repair shops often use a variety of processes and chemicals that may generate wastes that differ from domestic wastes generated by a home. Home-based businesses and hobbyists that offer auto service and small engine repair may generate the same types of wastes (solvents, engine fluids) that some commercial businesses do. These chemicals and associated wastes should be labeled, used, stored, and disposed of in a responsible manner to prevent environmental contamination and 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 you can complete to help identify potential sources of pollution.

IDENTIFY ENVIRONMENTAL RISKS

Specific processes and potential wastes associated with auto service and small engine repair that could harm the environment are listed below. Check the processes and wastes that apply to your business.

- Parts washing: waste solvents, carburetor cleaner, and containers
- Waste fluids and filters service: oil, antifreeze, brake and transmission fluid services, and associated filters
- Use of solvent-contaminated shop towels
- Battery and part replacement: old batteries and parts
- Tire service: spent tires and rims
- Air-conditioning repair: refrigerants
- Vehicle washing: wash water and cleaning chemicals
- Vehicle parking: leaking fluids
- Storage of materials such as solvents
- Unused or abandoned well on site

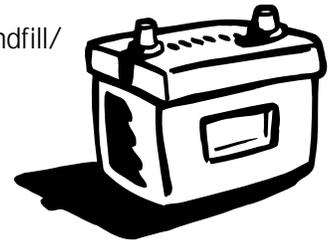
IDENTIFY METHODS OF WASTE DISPOSAL

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 in Introduction)



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

- Wastes generated from parts washing can be the most problematic waste stream for auto service and small engine repair hobbyists and home-based businesses. If you are using common solvent, then the waste from it is generally considered hazardous and will need to be treated as such (see definitions of hazardous waste in general section). Even if you use an aqueous or water-based solvent, the waste may still be hazardous due to the heavy metals it picks up after being in contact with the parts. Never mix these potentially hazardous wastes with other non-hazardous fluids. Never dispose of them via sanitary or septic systems, or storm drains. Instead, determine whether these wastes are hazardous and if they are, containerize, label, and dispose of them properly, keeping waste streams separated (refer to waste section in Introduction).
- Most vehicle/engine fluids such as used oil, antifreeze, brake fluid, and transmission fluid are reusable or recyclable. As long as these fluids have not been contaminated with another type of

fluid or solvent, label and containerize them for reuse or proper recycling. For example, if anti-freeze is removed for a certain type of repair but is still considered clean, capture and return it to the same engine after the necessary repairs have been made. Used oil that cannot be returned to the engine should be put in a leak-free container labeled "used oil." When the container is full, contact a licensed oil hauler to remove the used oil. If you intend to give the oil away to another

It only takes one gallon of waste oil to contaminate the drinking water of one million people.

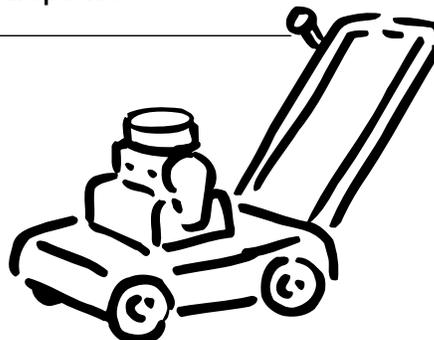
business or burn it in a space heater, the oil will need to be tested and meet certain specifications. Transmission, brake, and other hydraulic fluids should be captured for refining or fuel-blending programs.

Check with your oil vendor to see if this fluid can be blended with your used oil. Never dispose of any of these fluids in the environment, a septic system, or the landfill. Hot-draining the filter for 24 hours and crushing it, if possible, should capture oil from used filters. The drained filter can then be either sent to the landfill or to specialized recycling services. For more information on used oil requirements, contact SBEAP at 800-578-8898.

- Old parts and auto batteries that are no longer usable can be recycled. Store these items so they do not contaminate the environment, and periodically recycle them through a licensed recycler or scrap metal dealer. If a battery is cracked or leaking, it needs to be handled as a hazardous waste. Never dispose of batteries in the regular trash.
- Shop rags contaminated with solvents may or may not be hazardous depending on the type of solvent used. If you use a solvent that contains a non-F003 "listed" waste (see the *Hazardous Waste Generator Handbook*) such as methyl ethyl ketone or toluene, then these rags may need to be treated as hazardous waste. Washing them in a home washer hooked to an on-site septic system or lagoon may cause contamination of that system and the associated groundwater, and is strictly prohibited. If you are hooked up to a sanitary sewer, permission to discharge this wash water is required. Whenever possible, choose less hazardous alternatives like water or alcohols. See *Solvent Contaminated Rags*, KDHE Technical Guidance, available on the KDHE Web site or by calling SBEAP.

- Waste tires are prohibited from municipal landfills unless the material has been chopped or ground. Send these items to a licensed waste tire hauler for proper disposal or beneficial reuse.
- Air-conditioning services should only be provided if you have been properly trained and certified. This type of service usually requires specialized equipment that can capture and contain refrigerant for reuse so it is not released to the atmosphere. For more information, contact SBEAP at 800-578-8898.
- Vehicle and fleet washing includes exterior washing to remove dirt and may or may not include use of soap. Washing equipment, vehicles, or pavement generates wastewater that should be diverted away from storm drain inlets and to a sanitary sewer whenever possible. Some cities in Kansas regulate by permit an activity that generates this type of wash wastewater. Contact your local health or environmental management office or SBEAP if you have questions.
- When parking areas are used for vehicle storage and maintenance, or supply loading and storage, wastes related to leaking vehicle fluids and possible spills can become an environmental liability. Use care to capture and quickly repair vehicle fluid leaks, container leaks, and spills. Use a dry method for cleanup of this material, not a method that simply washes the spilled contents into the gutter or grass (see Spill Control in general section). Oils or other fluids generated as a result of equipment maintenance should be properly stored, recycled, or disposed of.

If you do not have a "spill kit" and a spill occurs, use kitty litter, vermiculite, newspaper, rags, or dirt to contain and absorb the liquid. NEVER wash it down the drain or into the gutter. Determine whether the waste is hazardous or not. If non-hazardous, place it in a plastic bag or sealable can and put in the trash. If hazardous, then see Hazardous Waste section at the front of this publication to determine disposal options.



- Storage of chemicals and wastes should be done in a manner to prevent spills and environmental contamination. Use of secondary containment is a recommended practice. Control of inventory prevents you from having to pay for a product twice –once as a material and then as a hazardous waste. Keep an MSDS on hand for all materials, maintain original labels whenever possible, and label hazardous wastes accordingly. Inspect the area periodically to detect problems associated with leaks or storage incompatibilities.
- 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.

Disposal of any wastes other than domestic wastes to an on-site septic system or 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.

POLLUTION PREVENTION AND WASTE MINIMIZATION OPPORTUNITIES

- Pre-clean parts by mechanical means such as wire brushes or rags. This will decrease the amount of sludge and soil loading on the system.
- Clean only the parts that need to be cleaned for the repair.
- Use a two-stage cleaning system, using dirty solvent for pre-cleaning, then finish cleaning with clean solvent to prolong clean solvent life.
- Increase time between solvent changeouts. Change solvent only when it loses its cleaning power, not on a preset schedule or because it looks dirty.
- For more details on solvent alternatives, contact SBEAP at 800/578-8898 for one of several specialized documents for this type of business.
- Plug any indoor drains not connected to a sanitary (city) sewer.
- Use catch pans to prevent leaks, drips, and spills from reaching the floor.
- Use "dry cleanup" methods. Scrape and scoop instead of washing the area down.

- Inventory your chemical storage and ensure storage in a manner to prevent spills and leaks.
- Control your inventory to prevent overuse or underuse of materials at your shop. Don't allow your raw materials to become too old and unusable, creating hazardous wastes.
- Determine which wastes are hazardous wastes, solid wastes, or recyclable.
- Properly dispose of all wastes and maintain disposal records for three or more years as required by law.
- Keep waste streams separate for reuse, recycling, or treatment. Keep non-hazardous materials from becoming contaminated. If you put hazardous waste into oil, the entire mixture can become hazardous.
- Substitute less toxic or non-toxic solvent alternatives whenever possible. Consult the MSDS before you buy a new product.
- Label all materials and wastes. Keep tight-fitting lids on containers except when adding or removing material or waste.
- Recycle used oil, antifreeze, and other engine fluids.
- Abandoned wells should be plugged and reported in accordance with KDHE regulations (see Water section in the Introduction).

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.

WHERE TO GET MORE INFORMATION

- The Kansas SBEAP has several publications that address in depth these issues of regulatory compliance and pollution prevention for auto service and repair business. 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. The following laws may be applicable to this business:
 - wastewater regulations
 - hazardous and solid waste regulations
 - storm water regulations
- Regulatory compliance information can be viewed or downloaded from the KDHE Web site at **www.kdhe.state.ks.us**.
- The Coordinating Committee for Automotive Repair (CCAR) Information Center is a federally sponsored program that has a virtual garage featured on its Web site. Users may point and

click on various items for information. Go to **<http://www.ccar-greenlink.org/>** for more information.

- See Resources section at the back of this document.

SOURCES AND ACKNOWLEDGMENTS

- Some materials adapted with permission from the *Alabama Small Business Environmental Assistance Program*.
- Some materials adapted from the *Pollution Prevention for Automotive Maintenance and Repair Industry*, a KSU SBEAP document.

ACTION STEPS

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

Notes:

CATERING AND FOOD PROCESSING

WHY BE CONCERNED?

Most wastes associated with food products may not be considered hazardous; however, food-related businesses can contribute to environmental pollution. Waste such as food oil or grease can harm the environment if placed in leaking trash bins or if poured down drains. Pipes leading to sanitary sewers can become clogged with grease. Pouring improper substances down the drain may damage microbial activities of on-site sewage systems. Compostable kitchen scraps can unnecessarily take up sanitary landfill space or create vector problems. Kitchen cleaners and sanitizers may contain products hazardous to both humans and to the environment, for example, waste food oil dumped in a stream caused a fish kill in Kansas.



If animals are processed, their by-products, if not properly disposed, could harm the environment. Other areas of concern include the following:

- Water use
- Wastewater and biochemical-oxygen-demand (BOD) generation
- Supplier environmental stewardship (livestock producers)

IDENTIFY ENVIRONMENTAL RISKS

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

- Food storage – outdated inventory, damaged pallets, and damaged containers
- Food preparation – compostable waste, solid waste, and wastewater
- Food display and service – paper, plastic, and other solid waste
- Food transportation – aluminum foil, aluminum and plastic containers, and other solid waste
- Food processing, cooking off-spec product, waste oils, spent and dirty filters, and empty raw material containers
- Food processing, butchering – animal by-products and wastewater
- Food processing, canning – sludge, off-spec product, spent and dirty filters, empty raw material containers, and outdated inventory

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

- Reuse or recycle excess, off-specification materials; outdated inventory; and quality control samples by using as an animal feed or by composting, when allowed by law.
- Compost food scraps that don't contain fat.
- Recycle cardboard, paper, aluminum foil, aluminum cans, tin cans, plastic, and glass. Make sure these items are cleaned.
- 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.
- Send used vegetable oil and grease to a renderer or periodically transport to a restaurant that has a grease bin for recycling.
- Small animals like chickens can be composted. For more information, obtain Bulletin W•211, *Composting Layer Mortalities: Agri-Foods*

Composter, published by University Extension, University of Missouri-Columbia.

- Food-related wastewater is considered domestic and can be disposed in septic systems, if not loaded with grease or chemicals. However, increased volume puts a burden on your septic system. The septic tank will need to be pumped more frequently. The additional water can overload the septic field and cause system failure if the system is not sized correctly to handle the additional volume.

Disposal of any wastes other than domestic wastes to an on-site septic system or 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.

- Wastes determined to be hazardous, such as from cleaning supplies, must be disposed of in an appropriate manner. If you are a business and considered a small quantity generator (SQG), see the Hazardous Waste section at the front of this module to determine your disposal options. It is best to fully use hazardous products, so there is no waste.
- Practice water conservation to minimize impact to your waste treatment system.
- Plan for increased solid waste pickup, both volume and frequency.
- 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.

POLLUTION PREVENTION AND WASTE MINIMIZATION OPPORTUNITIES

- 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.
- 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.



- Make purchases with waste reduction in mind. Purchase products in recyclable containers. Buy concentrated products to reduce number of empties discarded.
- Practice preventative maintenance to avoid future losses. Periodically inspect containers and equipment for leaks.
- Keep all containers covered to prevent evaporation, contamination, spillage, or drying out of contents. Good protection means less product lost and better retention of quality.
- Substitute less toxic or non-toxic substances as cleaning agents.
- Conserve water. Use automatic shutoffs on hoses and at wash stations. Use high-pressure, low-volume washing systems.
- Use non-disposal products (such as ceramic dishware) when possible.
- Add electrical circuits for additional equipment as needed for your business. This will assure refrigeration equipment operates reliably and food does not have to be discarded.

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- Put thermometers in each refrigeration unit and monitor to be sure it operates properly at 40°F or less. Periodic thermometer checks will reveal failure of equipment in time to take steps to protect the food and avoid waste.
- Control vectors to avoid losses due to insect or rodent contamination. Following are some good practices:
 - Freeze-dry cereal products for at least three days at 0°F. This kills insect eggs so that weevils, etc., don't hatch. Infestation forces discard of the product and unnecessary waste.
 - Store cereal products in tightly closed, insect-proof containers. (Caution: Never store food in reused chemical containers!)
 - Store all foods at least six inches off the floor.
 - Keep outer openings (bottom of doors, pipe penetrations) sealed or screened to exclude rodents.
 - If insect or rodent control measures become necessary, protect food and clean utensils so that poisons do not contact them.
- Abandoned wells should be plugged and reported in accordance with KDHE regulations (see Water section).
- Home*A*Syst at K-State Extension at 800-578-8898.
- 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. Services are free and confidential.
- A summary of environmental laws is found in the introduction/preface. The following laws may be applicable to this business:
 - wastewater regulations
 - solid waste regulations
 - storm water regulations
- Regulatory compliance information can be viewed or downloaded from the KDHE Web site at www.kdhe.state.ks.us.
- Bulletin W•211, *Composting Layer Mortalities: Agri-Foods Composter*, published by University Extension, University of Missouri-Columbia.
- See Resources section at the back of this document.

WHERE TO GET MORE INFORMATION

- Your county K-State Research and Extension office.
- Your county health department.
- Food*A*Syst at K-State Research and Extension at 785-532-1213.
- Farm*A*Syst at K-State Research and Extension at 785-532-5813.

SOURCES AND ACKNOWLEDGMENTS

- Minnesota Technical Assistance Program fact sheet, *Source Reduction and Management Alternatives for Commercial Food Producers*.
- Delaware Department of Natural Resources and Environmental Control fact sheet, *A Pollution Prevention Guide for Food Processors*.
- Alabama Small Business Environmental Assistance fact sheet, *Food Businesses*.

ACTION STEPS

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

CHILD CARE SERVICES

WHY BE CONCERNED?

Many childcare services are home-based businesses. While these services generate wastes that are similar to domestic wastes generated by any residential home, other issues around the home can become health or environmental concerns. This module is designed to help you identify these possible environmental hazards and provides you with options for preventing or dealing with concerns. It is not intended to address other pertinent health and safety issues. While it may seem that your contribution to pollution is minor, effects of chemicals, runoff, and wasted water from hundreds or thousands of homes in your region can add up. The following pages contain a self-assessment checklist that may be completed to identify potential sources of pollution or environmental hazards.

IDENTIFY ENVIRONMENTAL RISKS

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

- Soiled diapers
- Trash or solid waste, use of individual disposable food/drink containers
- Hazardous cleaners or swimming pool chemical storage
- Household hazardous waste disposal
- Home has own water supply well
- Home has unused or abandoned well
- Home is older than 1978, could have lead-based paint, lead pipes, lead-based solder, or brass fittings
- Home built before 1980 (could have asbestos)
- Child care is held in the basement (never tested for radon)

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)

BEST MANAGEMENT PRACTICES

- Soiled diapers can represent a health and environmental hazard if not properly handled. Always dispose of the fecal contents of the diaper via the toilet, not the trash. Health standards dictate that diapering be done in designated areas that are sanitized accordingly and that the childcare provider always wash his or her hands immediately following a diaper change.
- Solid waste generated as a result of your home-based business needs to be disposed of in a sanitary manner via a permitted solid waste facility at least every seven days. Business wastes should never be burned or buried on site. Several solid waste reduction opportunities exist for this type of business and are listed below.
- If you are on an on-site septic system or lagoon, some cleaners can be detrimental to your system. Consult the label. Minimize use of hazardous cleaners whenever possible. Safely store household cleaners or swimming pool chemicals under lock and key. Use them only according to label directions and for their intended purpose.
- Household hazardous waste storage should be done in an area away from children. It is best to buy only what you can use up and then dispose of the wastes as soon as they are identified so they do not have to be stored.

Non-domestic sewage from your home-based occupation should not be disposed in a sanitary sewer without written permission from the municipality. Never put wastes in a storm drain or dump on the ground!

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.

Most counties have some type of collection for this waste. Contact your local health or environmental management office for more information.

- If you depend on a private well for drinking water, it is up to you to keep your drinking water safe. At a minimum it needs to be tested each year by a certified laboratory for nitrates and bacteria. You should also inspect your well and the area around it to identify and remove any potential contamination threats. Consult the Water section at the beginning of this book, as well as recommended publications such as Home*A*Syst, for helpful assessment checklists. Contact the SBEAP for more information at 800-578-8898.

Open wells are a safety threat to small children and animals. 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. A record of the plugging should be filed with KDHE. For more information, consult the general Water section at the beginning of this document or call 785-296-3565.

- A home that is older than 1978 could have lead-based paint, lead pipes, lead-based solder, or brass fittings. Lead poisoning is one of the most serious threats in and around the home for young children. It can cause learning and behavior problems as well as hearing loss and damage to the central nervous system. If you think you could have sources of lead in your home, especially if it is lead-based paint in poor condition (peeling or chipping), then it needs to be tested and treated or removed by a professional. Several good publications are available to guide you through this process. Simple, inexpensive tests are also available. For more information on the health effects or removal of lead-based paint, contact your local health department or call SBEAP at 800-578-8898.

It is recommended that all children under six be tested for lead, especially if they live in or go to a daycare in an older home. Recent data indicates that one in twenty American children have too much lead in their bodies, with rates even higher in cities.

- Homes built before 1980 may have asbestos-containing materials. Intact, these materials are not a health or environmental problem. When they deteriorate or are disturbed by construction

or removal, the small asbestos fibers can be released to the air and cause long-term health problems if inhaled. Removal and disposal issues related to lead and asbestos should be dealt with by a professional and are addressed in the *Property Management* section.

- Several other indoor air issues may be of concern to you, especially if you operate a childcare facility. Issues related to radon gas, combustion sources, ventilation, and mildew are addressed in detail in the Kansas Home*A*Syst publication. Contact SBEAP at 800-578-8898 for more information, or download it from www.sbeap.org.

Childcare centers are subject to licensure through health agencies, both state and local.

POLLUTION PREVENTION AND WASTE MINIMIZATION OPPORTUNITIES

- Minimize use of disposable items to reduce solid waste generation. Use reusable items that can easily be cleaned.
- Purchase items in bulk, avoiding excess packaging when possible.
- Collect glass, aluminum, tin, paper, and plastics for recycling.
- Avoid use of hazardous cleaners such as solvents or caustics; substitute less toxic or non-toxic substances as cleaning agents. See *Cleaners in the Home*, a KDHE factsheet available through the KDHE Web site or by calling the SBEAP.
- Keep storage and work areas clean and well organized, and keep all containers properly labeled.
- Inventory your chemical storage, and ensure storage in a manner to prevent spills and leaks. Consult material safety data sheets.
- Keep accurate records/inventory of raw material usage. Mark purchase date on each container and practice "first in, first out" so that older materials are used up before new ones are opened.
- Have your well water tested each year and create a wellhead protection area around the well.



- Abandoned wells should be plugged and reported in accordance with KDHE regulations (see Water section).
- Assess your home for sources of lead-based paint, asbestos, and radon.
- Consult the Kansas Home*A*Syst publication for other specific pollution prevention opportunities around the home, including indoor air pollution issues. Contact SBEAP for a copy or view it on the Web.

WHERE TO GET MORE INFORMATION

- Your local K-State Research and Extension office, health department, or environmental management department are all helpful resources.
- Home*A*Syst at K-State Extension at 800-578-8898.
- 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. The following laws may be applicable to this business:
 - wastewater regulations; state, and sometimes local, regulations
 - solid waste regulations
 - state and local health and childcare licensure
- Regulatory compliance information can be viewed or downloaded from the KDHE Web site at www.kdhe.state.ks.us.
- See Resources section at the back of this document.

SOURCES AND ACKNOWLEDGMENTS

Kansas Home*A*Syst publication

ACTION STEPS

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

Notes:

COLLISION/AUTO BODY REPAIR

WHY BE CONCERNED?

Collision repair shops often use a variety of processes and chemicals that may generate wastes that differ from the basic domestic wastes generated by a home. Home-based businesses and hobbyists that offer collision repair services generate paint and solvent wastes similar to the wastes commercial businesses generate. These chemicals and associated wastes should be labeled, used, stored, and disposed of in a responsible manner to prevent environmental contamination and to comply with the law. While it may seem that your contribution to pollution is minor, the combined effects of chemicals, runoff, and improper waste disposal from hundreds or thousands of homes in your region can really add up. The following pages contain a self-assessment checklist to help you identify potential sources of pollution.



- Compost
- Recycle
- On-site landfill (prohibited in most cases)
- Incineration/on-site burning (see solid Waste section)

IDENTIFY ENVIRONMENTAL RISKS

Specific processes and potential wastes associated with this business/hobby could harm the environment and are listed below. Check the processes and wastes that apply to your business.

- Vehicle prep and body work using tapes and papers.
- Use of a paint booth with filters.
- Processes generating paint wastes.
- Use of a spray gun.
- Thinners and parts washing: waste solvents.
- Use of spray cans.
- Use of solvent-contaminated shop rags.
- Oil, antifreeze, brake and transmission fluid services: leaking waste fluids and filters associated with minor maintenance.
- Battery and part replacement: old batteries and parts.
- Vehicle washing: wash water and cleaning chemicals.
- Vehicle parking: leaking fluids.
- Storage of materials such as solvents.
- 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

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

- Over-spray paper and masking tape may or may not be hazardous, depending on the amount of over spray and type of paint used. Paints that contain metals such as lead, nickel, and chromium will be more likely to test hazardous. It is the shop's responsibility to make this determination and have the waste tested if needed. Body filler dust from sanding is typically not hazardous unless it has been mixed with another hazardous waste.
- Home-based occupations and hobbyists that do collision repair work generally do not have paint booths in their shops. But if you do, and the paints you use contain heavy metals such as lead, nickel, and chromium, your filters may be hazardous.

- Solvent-based paint wastes or paint wastes that contain heavy metals like lead, nickel, and chromium are generally considered hazardous wastes. These wastes need to be collected in an approved container and labeled with the words “hazardous waste” until they can be properly disposed of.

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Save yourself money and regulatory headaches – use water-based paints and paints that do not contain heavy metals whenever possible. See pollution prevention tips listed below.

- Spray-gun wastes and associated solvents are typically hazardous because they are ignitable and/or toxic. Again, collect this waste material accordingly in a labeled container. Never allow it to be discharged to a drain or the ground.
- Spray cans that are completely empty can be disposed of in the trash. Spray cans that are only partially empty and have a malfunction generally need to be disposed of as hazardous waste if they cannot be completely used up.
- Shop rags contaminated with solvents may or may not be hazardous, depending on the type of solvent used. If you use a solvent that contains a non-F003 “listed” waste (as designated in the *Hazardous Waste Generators Handbook*) such as methyl ethyl ketone or toluene, then these rags may need to be treated as hazardous waste. Washing these rags in a home washer hooked to an on-site septic system or lagoon may cause contamination of that system and the associated groundwater and is strictly prohibited. If you are hooked up to sanitary sewer, permission to discharge this wash water is required. Whenever possible, choose less hazardous alternatives like water or alcohols. See *Solvent Contaminated Rags*, KDHE Technical Guidance, available from the KDHE Web site or by calling SBEAP.
- Most vehicle waste fluids, like used oil, antifreeze, brake fluid, and transmission fluid, are reusable or recyclable. As long as these fluids have not been contaminated with another type of fluid or solvent, label and containerize them for reuse or proper recycling. Filters from these services should be drained for 24 hours and then disposed of as solid waste or recycled through a vendor.
- Spent-lead acid batteries need to be treated as hazardous waste unless they are recycled through a licensed vendor. Cracked or leaking batteries should be handled as hazardous waste.
- Vehicle and fleet washing includes exterior washing to remove dirt and may or may not include use of soap. Washing equipment, vehicles, or pavement generates wastewater that should be diverted away from storm drain inlets and to a sanitary sewer whenever possible. Some cities in Kansas regulate by permit activity that generates this type of wash wastewater.
- When parking areas are used for vehicle storage and maintenance, and supply loading or storage, wastes related to leaking vehicle fluids and spills can become an environmental liability. Use care to capture and quickly repair vehicle fluid leaks, container leaks, and spills. Use a dry method for cleanup of this material, not a method that simply washes the spilled contents into the gutter or grass (see Spill Control section). Oils or other fluids generated as a result of equipment maintenance should be properly stored, recycled, or disposed of (see Auto Service and Small Engine Repair section).
- Storage of chemicals and wastes should be done in a manner to prevent spills and environmental contamination. Control of inventory prevents you from having to pay for a product twice –once as a material and then again as a hazardous waste. Keep an MSDS on hand for all materials, maintain original labels whenever possible, and label hazardous wastes accordingly. Inspect the area periodically for problems associated with leaks or storage incompatibilities.
- 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.

Disposal of any wastes other than domestic wastes to an on-site septic system or 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.

POLLUTION PREVENTION AND WASTE MINIMIZATION OPPORTUNITIES

- Water-based paints help reduce VOC emissions and make it possible to use water-based solvent for cleaning purposes.
- Use water-based and high-solids coatings whenever possible.
- Mix only enough paint needed for the job.
- Use thinners with a low VOC rating, and reuse and recycle waste thinner by using spent solvent to clean guns or other equipment.
- Use high-volume, low-pressure (HVLP) spray guns, and routinely attend operator training.
- Choose non-listed and non-toxic paints and solvents so that spent booth filters and rags can be disposed of in a landfill, if dry and not ignitable.
- Use enclosed gun washers; never leave a gun soaking in a container of solvent without a tight-fitting lid. This causes solvent loss.
- Use dirty solvent for precleaning, then finish-clean with a clean solvent to minimize solvent usage.
- Allow solvent from spray-gun cleaning to settle in a bulk container, then decant or pump off the clear solvent for reuse in paint thinning processes or to clean spray guns.
- Secondary containment is a recommended practice when bulk quantities of solvent are stored.
- Store spent batteries inside and protect them from damage until they can be sent for recycling.
- Plug any indoor drains not connected to a sanitary (city) sewer.
- Use catch pans to prevent leaks, drips, and spills from reaching the floor.
- Use "dry cleanup" methods. Scrape and scoop instead of washing areas down.
- Inventory your chemical storage and ensure storage in a manner to prevent spills and leaks.
- Control your inventory to prevent overuse or underuse of materials at your shop. Don't allow your raw materials to become too old and unusable, creating hazardous wastes.
- Determine which wastes are hazardous wastes, solid wastes, or recyclable.

- Properly dispose of these wastes and maintain disposal records for three or more years as required by law.
- Keep waste streams separate for reuse, recycling, or treatment. Keep non-hazardous materials from becoming contaminated. If you put hazardous waste into oil, the entire mixture can become hazardous waste.
- 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 for auto service and repair business. 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. The following laws may be applicable to this business:
 - wastewater regulations
 - hazardous and solid waste regulations
 - air regulations (shops using more than nine tons of paints/solvents annually)
 - storm water regulations
- Regulatory compliance information can be viewed or downloaded from the KDHE Web site at www.kdhe.state.ks.us.
- The Coordinating Committee for Automotive Repair (CCAR) Information Center is a federally sponsored program that has a virtual garage featured on its Web site. Users may point and click on various items for information. Go to <http://www.ccar-greenlink.org/> for more information.
- See Resources section at the back of this document.

SOURCES AND ACKNOWLEDGMENTS

- Some materials adapted from the *Auto Body Shops, A Primer on Environmental Regulations and Pollution Prevention*, a KSU document.
- Some materials adapted from *A Guide for Auto Body Shops*, Washington State Department of Ecology.

CRAFTS AND JEWELRY MAKING

WHY BE CONCERNED?

Home-based businesses often use a variety of processes and chemicals that may generate wastes that differ from domestic wastes generated by a residential home. Potential hazardous materials associated with crafts and jewelry making include paints, sealers, glues, solvents, acids, polishers, and certain metals. Home-based businesses that manufacture crafts and jewelry generate the same types of wastes that some commercial businesses do. These wastes may include spent hazardous materials, over-spray, hazardous air-pollutant emissions, and rags. These chemicals and associated wastes should be used, stored, and disposed of in a cautious manner to prevent environmental contamination and abide with the law. While it may seem that your contribution to pollution is minor, effects of chemicals, runoff, and wasted water from hundreds or thousands of homes in your region can really add up.

IDENTIFY ENVIRONMENTAL RISKS

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

- Handling materials that can spill (such as solvents, paints, dyes).
- Storing paints, sealers, glues, solvents, silver polish, or other potentially hazardous materials.
- Managing wastes such as leftover paints, solvents, or dyes.
- Managing scrap wood and wood shavings.
- Managing metal-plating wastes.
- Potential indoor air quality issues such as poor ventilation.
- Have abandoned or unused well 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

- Should a spill occur, use kitty litter, vermiculite, newspaper, rags, or dirt to contain and absorb the liquid. NEVER wash it down the drain or into the gutter. Determine whether the waste is hazardous or not. If non-hazardous, place it in a plastic bag or sealable can and put in the trash. If hazardous, then see the Hazardous Waste section at the front of this publication to determine disposal options.
- Use "dry cleanup" methods. Scrape and scoop before washing down. Wearing a dust mask is a good idea whenever small chemical particles are agitated and can become airborne.
- Never dump or burn leftover chemicals on your property, particularly near wells or water sources. Burning hazardous materials may produce toxic gases, airborne particles, and hazardous ash. Never pour these products down storm sewers or sanitary sewers.
- Wastes determined to be hazardous, such as solvents, must be disposed of in an appropriate manner. If you are a business and considered a Small Quantity Generator (SQG), see the hazardous waste section at the front of this module to determine your disposal options. It is best to fully use hazardous products, when possible, so there is no waste.
- Use low-hazard materials to begin with to reduce hazardous wastes generated.

Disposal of any wastes other than domestic wastes to an on-site septic system or 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.

- Determine if you have a local recycling program and what products it accepts. Recycle what you can.
- Wood and wood shavings can be composted on site or sent to an organized compost program/location.
- Wastes generated from metal-plating baths are generally considered hazardous due to the metals and bath components. These baths and rinses need to be carefully containerized, labeled, evaluated, and then disposed of properly. Each situation may be unique, so call the SBEAP at 800-578-8898 for help identifying what disposal option is proper for your waste stream. Never dump these materials down the drain.

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POLLUTION PREVENTION AND WASTE MINIMIZATION OPPORTUNITIES

- Substitute cadmium-free solders for solders that contain cadmium. Cadmium can cause permanent kidney damage and may cause cancer. Cadmium-free solders are now available for soldering jobs.
- Substitute water-based cleaners for toxic solvents.
- Consider replacing a solvent-based, parts-cleaning system with an agitating parts washer using an aqueous cleaning solution.
- Use alkaline cleaners or ultrasonic cleaning units instead of chlorinated solvents for degreasing operations.
- When using ammonia-based cleaners, be sure to have adequate ventilation.

- Keep storage and work areas clean and well organized.
- Keep all containers properly labeled. Make sure labels are on the sides of containers so that lids cannot be switched and contents end up mislabeled.
- Inspect materials upon delivery, and immediately return unacceptable materials to the supplier. Keep the MSDS in an accessible file. See Glossary for definition of MSDS.
- Keep accurate records/inventory of raw material usage. Mark purchase date on each container and practice "first in, first out" so that older materials are used up before new ones are opened.
- Practice preventative maintenance to avoid future losses. Periodically inspect containers and equipment for leaks.
- Keep all containers tightly 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 with hazardous wastes.
- Substitute less toxic or non-toxic substances when possible.
- Conserve water. Use water-saving devices on toilets and showers.
- ALWAYS read the label and follow directions.
- Store hazardous materials in a locked cabinet or building.
- Use only safe, approved, or original sale containers for hazardous materials storage.
- Keep containers inside a bucket or other larger container that can prevent leaks from spreading.
- Think about how you would handle a spill should it occur. Keep a container of baking soda handy to neutralize acid spills.
- Store dry products separate from liquids to prevent wetting from spills. Store liquids at the lowest level to avoid leaks dripping onto other materials.

Call KDHE at 785-296-1679, if you have a significant spill that threatens to harm water or soil in the area.

INDOOR AIR QUALITY – Personal health is at risk if airborne particles and toxic fumes are not handled properly. Ventilation is critical to reduce exposure, but when possible, it is best to avoid generating particles and fumes. Many substitute chemicals of lower toxicity are available. These should be used even if the process is more expensive or time-consuming. Consider changing techniques.

WHERE TO GET MORE INFORMATION

- Your county K-State Research and Extension office.
- 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. The following laws may be applicable to this business:
 - wastewater regulations
 - solid and hazardous waste regulations

- Regulatory compliance information can be viewed or downloaded from the KDHE Web site at www.kdhe.state.ks.us.
- A Web site devoted to information about small-scale jewelry operations is www.ganoksin.com.
- *The Artist's Complete Health and Safety Guide* by Monona Rossol.
- *Health Hazards Manual for Artists and Artist Beware* by Michael McCann.
- See Resources section at the back of this document.

SOURCES AND ACKNOWLEDGMENTS

- *Hazardous Waste Minimization Checklist and Assessment Manual for Jewelry Manufacturers*, California Environmental Protection Agency, Department of Toxic Substances Control, Office of Pollution Prevention and Technology Development, September 1994.
- *Jewelry Manufacturing Industry Waste Minimization* fact sheet, California Environmental Protection Agency, Department of Toxic Substances Control, Office of Pollution Prevention and Technology Development, January 1995.

ACTION STEPS

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

Notes:

LANDSCAPING/YARD AND GARDEN MAINTENANCE

WHY BE CONCERNED?

Practices used in landscaping can affect groundwater and surface water quality. Chemical fertilizers and pesticides that are misapplied or overused can soak into the soil and contaminate groundwater or runoff, and pollute lakes and streams. Exposed soil can erode sediments, filling lakes and streams, and clouding water. Sediments may carry other contaminants. Indiscriminate watering of lawns and gardens wastes large amounts of water. While it may seem that your contribution to pollution is minor, effects of chemicals, soil loss, and wasted water from hundreds or thousands of homes in your region can add up.

IDENTIFY ENVIRONMENTAL RISKS

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

- Selecting plants.
- Designing landscapes.
- Designing irrigation systems.
- Designing site drainage.
- Storing, mixing, or applying fertilizers.
- Storing, mixing, or applying pesticides.
- Managing pests.
- Maintaining landscapes.
- Handling materials that can spill (such as gasoline and pesticides).
- Managing wastes such as leftover pesticides or used vehicle fluids.
- Disposing containers for plant seedlings, pesticides, or fertilizers.
- Disposing or composting plant debris.
- Clearing and grading land.
- Using concrete or other cement-related mortars.
- Landscaping near surface water bodies or other sensitive areas.
- Have abandoned or unused well 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

- Return plastic seedling containers or trays to the nursery for reuse, or recycle the plastic.
- Recycle or safely dispose of engine maintenance products. (See chapter on Auto Service and Small Engine Repair.)
- Triple-rinse pesticide containers to be disposed of and pour rinsate in applicator. Dispose of containers in sanitary landfill.
- Should a spill occur, use kitty litter, vermiculite, newspaper, rags, or dirt to contain and absorb the liquid. NEVER wash it down the drain or into the gutter. Determine whether the waste is hazardous or not. If non-hazardous, place it in a plastic bag or sealable can, and put it in the trash. If hazardous, then see the Hazardous Waste Section at the front of this publication to determine disposal options.
- Use "dry cleanup" methods. Scrape and scoop before washing down.
- Never dump or burn leftover pesticides or used vehicle fluids on your property, particularly near wells or water sources. Never pour these products down storm sewers or sanitary sewers.
- Never burn hazardous materials as they may produce toxic gases, airborne particles, and hazardous ash.
- Compost plant clippings, leaves, grass clippings, and other yard wastes.

- Determine if you have a local recycling program and what products it accepts. Recycle what you can.
- Wastes determined to be hazardous, such as pesticides, must be disposed of in an appropriate manner. If you are a business and considered a small quantity generator (SQG), you cannot take your waste to a household hazardous waste collection facility. See the Hazardous Waste Section at the front of this module to determine your hazardous waste generator category and disposal options.
- Keep waste streams separate for reuse, recycling, or treatment. Keep non-hazardous materials from becoming contaminated.
- 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.

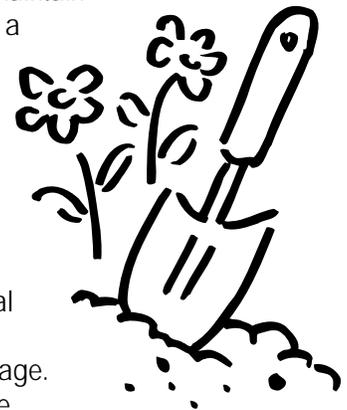
Disposal of any wastes other than domestic wastes to an on-site septic system or lagoon is prohibited. Never dump wastes onto the ground or into a storm drain. This practice can result in the contamination of streams, lakes, or groundwater.

POLLUTION PREVENTION AND WASTE MINIMIZATION OPPORTUNITIES

- Consider "Xeriscaping." Landscape with plants that are adapted to your region and climate (requires less watering), and are resistant to insects and diseases.
- Protect soil and reduce erosion by planting ground-cover vegetation, or using woodchip mulch or landscape fabric. Terraces or retaining walls on slopes can also help prevent soil loss.
- Provide buffer strips of unmowed vegetation along streambanks and lakeshores.
- Landscape yards to slow the flow of stormwater, and provide areas where water soaks into the ground to minimize the amount that leaves the property.
- Minimize paved surfaces for walkways, patios, and other areas.
- Conduct soil tests to determine if your lawn or garden needs fertilizer, and if so, how much and where. Do not apply on a routine basis.

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- Apply pesticides only where pests occur. Select chemicals labeled specifically for the pest you are trying to control. Do not apply on a routine basis.
- ALWAYS read the label and follow directions.
- Purchase and store minimum amounts of chemicals and fuel for short periods. Try to avoid having leftover chemicals or fuel at the end of a season.
- Keep storage and work areas clean and well organized. Keep pesticides and fertilizers dry and out of the way of activities that might rip open a bag or allow rain to enter a bulk container.
- Should a bag be accidentally ripped, chemicals should be confined to the immediate area and promptly recovered.
- Provide pallets to keep bags off the floor.
- Store or mix pesticides and fertilizers downslope and at least 400 feet from your well to provide reasonable assurance well water will not be contaminated. Separation should be greater if the site has sandy soils or fractured bedrock near the land surface.
- When mixing, place receiving container in a larger pan or on an absorbant pad that can be discarded.
- When mixing chemicals, NEVER let the end of the hose hang into the opening in the top of the sprayer tank, to prevent siphoning back into your home's plumbing. Maintain an air gap or attach a backflow prevention device.
- Store pesticides and fertilizers in a locked cabinet or building.
- Use only safe, approved, or original sale containers for chemical or fuel storage. Containers should be



clearly labeled and fitted with a spout or other device to allow pouring without spilling.

- Keep containers inside a bucket or other container that can prevent leaks from spreading.
- Think about how you would handle a spill, should it occur.
- Store dry products separate from liquids to prevent wetting from spills.
- If you plan to store large bulk tanks, provide a large enough containment area to confine 110 percent of the contents of the largest bulk container, plus the displaced volume of any storage tanks.
- Periodically check for leaks from storage containers and fuel-driven devices, especially if they have not been used for some time.
- Abandoned wells should be plugged and reported in accordance with the KDHE regulations (see Water section).

WHERE TO GET MORE INFORMATION

- Your county K-State Research and Extension office.
- Farm*A*Syst at K-State Research and Extension at 785-532-5813.

- 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. The following laws may be applicable to this business:
 - wastewater regulations
 - solid and hazardous waste regulations
 - storm water regulations
- Regulatory compliance information can be viewed or downloaded from the KDHE Web site at www.kdhe.state.ks.us.
- See Resources section at the back of this document.

SOURCES AND ACKNOWLEDGMENTS

- Alabama Small Business Environmental Assistance fact sheet, *Landscaping Businesses*.

ACTION STEPS

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

Notes:

MOBILE CLEANING SERVICES

WHY BE CONCERNED?

Home-based businesses often use a variety of processes and chemicals that may generate wastes that differ from domestic wastes generated by a residential home. Home-based businesses that offer mobile cleaning services generate carpet-cleaning, engine-degreasing and fleet-cleaning wastes similar to wastes generated by commercial businesses. These chemicals and associated wastes should be labeled, used, stored, and disposed of in a responsible manner to prevent environmental contamination and to comply with the law. While it may seem that your contribution to pollution is minor, effects of chemicals, runoff, and wasted water 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 you identify potential sources of pollution.

IDENTIFY ENVIRONMENTAL RISKS

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

- Carpet cleaning.
- Engine degreasing.
- Fleet washing.
- Surface cleaning.
- Chemical storage – outdated inventory or leaking chemical storage.
- Use of caustic or hazardous chemicals.
- Waste wash water recycling and disposal.
- Hazardous waste disposal.
- Unused or abandoned well 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

- Carpet-cleaning wastewaters contain soaps and other chemicals and should only be disposed of via a municipal sanitary sewer with permission. Disposal of these wastewaters to the storm drain, septic system, or lagoon is an unsafe practice, as this type of waste cannot be fully treated by these systems. In fact, these wastes are known to cause an increase in the biochemical oxygen demand of these systems, resulting in system failure or death of aquatic life.
- Engine-degreasing activities that utilize solvents must be done in a controlled environment. These waste solvents should be contained and handled as hazardous wastes.
- Fleet washing includes exterior washing to remove dirt and may or may not include use of soap. Again, this wastewater should be disposed of through a sanitary sewer with permission. If your equipment allows, the wash water may be left for evaporation.

Disposal of any wastes other than domestic wastes to an on-site septic system or 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.

- Surface cleaning done as a result of an oil or hazardous material spill needs to be contained and evaluated for disposal as a hazardous waste. If a hazardous material release has occurred, the

local fire department should be contacted. Cleaning of sidewalks, plazas, or paved parking lots, with or without soaps, should be done in a manner to prevent release of the wash water to the storm drain. Best management practices dictate that area storm drains should be sealed, the area swept, solid waste debris disposed of, oil spots cleaned with an absorbent material if necessary, and all wash water disposed of into a proper sanitary sewer system. If oil and grit are present, the wash water should pass through an oil/water separator prior to disposal. The oil and solids need to be disposed of properly.

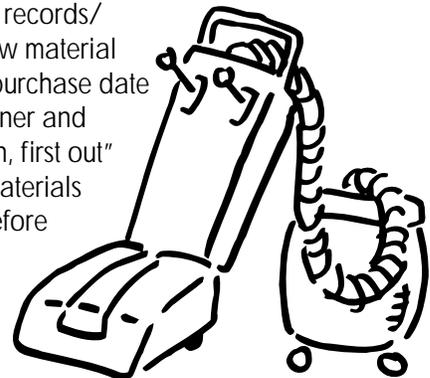
- Storage of chemicals and wastes should be done in a manner to prevent spills and environmental contamination. Inventory control prevents you from having to pay for a product twice—once as a material and then as a hazardous waste. Keep MSDSs on hand for all materials, maintain original labels whenever possible, and label hazardous wastes accordingly. Inspect the area periodically for problems associated with leaks or storage incompatibilities.
- Use of caustic or hazardous chemicals should be kept to a minimum, in an effort to prevent injuries and avoid the need for disposal of hazardous waste.
- Waste wash water recycling systems conserve water and prevent runoff. Water is sometimes filtered or evaporated. Dirt and sludge from these units can usually be disposed of as a solid waste. However, if it has been in contact with hazardous materials, it will need to be tested accordingly to determine the proper disposal method.
- As a waste generator, you must determine if the waste is hazardous and what the proper method for handling and disposal is (see Hazardous Waste section).
- 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 cities in Kansas require Mobile Wash businesses be permitted or licensed.

POLLUTION PREVENTION AND WASTE MINIMIZATION OPPORTUNITIES

- Use “dry cleanup” methods. Scrape and scoop before wash-down cleaning, and dispose of the waste as either solid waste or hazardous waste.
- Obtain written permission from the local sewage treatment plant to dispose of non-hazardous wash waters to its system.
- Seal storm drains if there is any chance that waste could drain into these areas.
- Design a system to capture all wash water for disposal via a municipal sanitary system.
- Report spills or releases to the local fire department; do not try to clean them up with your service. This could create a large hazardous waste expense for you.
- Avoid the use of hazardous cleaners such as solvents or caustics; substitute less toxic or non-toxic substances as cleaning agents. (See Health Education fact sheet at the back of this module.)
- Keep storage and work areas clean and well organized, and keep all containers properly labeled.
- Inventory your chemical storage and ensure storage in a manner to prevent spills and leaks. Obtain material safety data sheets.
- Keep all containers covered to prevent evaporation, contamination, spillage, or drying out of contents.
- Inspect materials upon delivery, and immediately return unacceptable materials to the supplier.
- Keep accurate records/inventory of raw material usage. Mark purchase date on each container and practice “first in, first out” so that older materials are used up before new ones are opened.

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- Keep waste streams separate for reuse, recycling, or treatment. Keep non-hazardous materials from becoming contaminated with hazardous ones.
- Properly dispose of these wastes and maintain disposal records for three or more years as required by law.
- Educate any employees to prevent pollution and apply the best management practice wherever possible.
- Abandoned wells should be plugged and reported in accordance with KDHE regulations (see Water section).

- For questions, call 800-578-8898. All services are free and confidential.
- A summary of environmental laws is found in the introduction/preface. The following laws may be applicable to this business:
 - wastewater regulations, state and sometimes local regulations
 - hazardous and solid waste regulations
 - storm water regulations, state and local
- Regulatory compliance information can be viewed or downloaded from the KDHE Web site at **www.kdhe.state.ks.us**.
- See Resources section at the back of this document.

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.

SOURCES AND ACKNOWLEDGMENTS

- Some materials adapted with permission from the City of Wichita, *Mobile Wash Policy*.

ACTION STEPS

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

Notes:

PHOTO-PROCESSING SERVICES

WHY BE CONCERNED?

Home-based businesses often use a variety of processes and chemicals that may generate wastes that differ from the basic domestic wastes generated by a residential home. Home-based businesses and hobbyists that offer photo-finishing services generate the same types of wastes that some commercial businesses do. These chemicals and associated wastes should be labeled, used, stored, and disposed of in a responsible manner to prevent pollution and to comply by the law. While it may seem that your contribution to pollution is minor, effects of chemicals, runoff, and wasted water 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 you identify potential sources of pollution.

IDENTIFY ENVIRONMENTAL RISKS

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

- Photo processing, using traditional developer and fixer solutions.
- Disposal of developer and silver-rich fixer.
- Disposal of rinse water and wash solutions.
- Disposal of spent/old film.
- Chemical storage – outdated inventory.
- Unused or abandoned wells.

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)

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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

- Photo processing, using traditional developer and fixer solutions, generates waste solutions periodically. 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 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 dealt with by the vendor who provides the service or can be cashed in for a rebate. In some cases, a business may be permitted to transfer small quantities of silver-bearing wastes to a shop that has a recovery unit.
- Disposal of rinse water and wash solutions, if these materials are non-hazardous (see Hazardous Waste section, if needed), may be disposed of through the sanitary sewer with permission. If you utilize a lagoon or on-site septic system for disposal of your wastewater, it may be most practical for you to collect the waste solutions and then periodically dispose of them via the sanitary sewer.

- 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 recommendations. 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 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.

- Chemical storage and outdated chemical inventory can create an environmental risk if the product is not safely stored, monitored for leaks, or disposed of properly. 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.
- 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

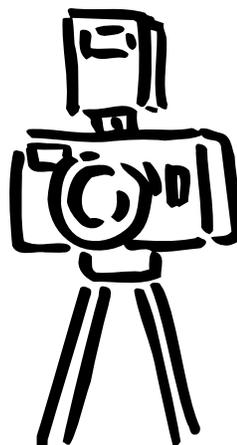
- Utilize a silver recovery system for treatment of silver-rich solution. Some systems on the market can put money in your pocket.
- Obtain written permission from the local sewage treatment plant to dispose of non-hazardous solutions to its system.
- Avoid the use of hazardous cleaners such as solvents 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 or outdated materials to the supplier.
- 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.
- Practice preventative maintenance to avoid future losses. Periodically inspect containers and equipment for leaks.
- 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.
- 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. The following laws may be applicable to this business:
 - wastewater regulations
 - hazardous and solid waste 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 at <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 Photo Processors.

ACTION STEPS

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

Notes:

PROPERTY/BUILDING MANAGEMENT

WHY BE CONCERNED?

Home-based businesses and hobbyists often use a variety of processes and chemicals that may generate wastes that differ from the domestic wastes generated by a residential home. Home-based businesses that offer property and building maintenance services generate the same types of wastes, paints, solvents, and cleaners that some commercial businesses do. These chemicals and associated wastes should be used, stored, and disposed of in a responsible manner to prevent contamination and to comply with the law. While it may seem that your contribution to pollution is minor, effects of chemicals, runoff, and wasted water 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 you identify potential sources of pollution.

IDENTIFY ENVIRONMENTAL RISKS

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

- Painting, plastering, or other activities using paints, solvents, or adhesives.
- Preserving wooden roofs.
- Sealing driveways.
- Washing equipment, vehicles, pavement, or buildings.
- Producing wastes such as carpet-cleaning wash water.
- Use of parking area for parking, loading, or storage.
- Using or maintaining vehicles and mechanical equipment.
- Storage of chemicals and wastes—outdated inventory.
- Disposal of wastes or outdated inventory.
- Disposal of construction and demolition debris.
- Disposal of clean rubble.
- Handling and disposal of lead- or asbestos-containing materials.
- Unused or abandoned well on site.

IDENTIFY METHODS OF WASTE DISPOSAL

Check the waste disposal methods that you use.

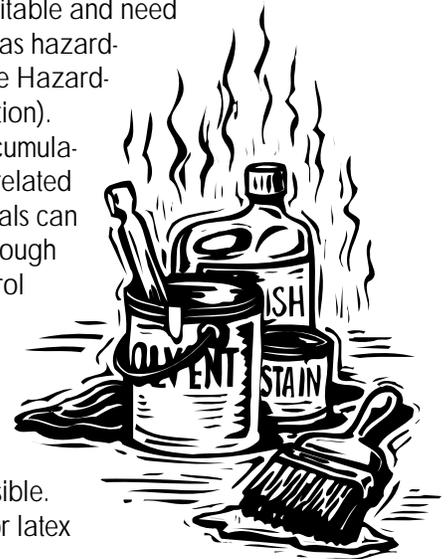
- Municipal sanitary sewer
- Septic system or lagoon
- Ground, storm sewer, or surface water

- 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

- Activities such as painting, plastering, or other activities using paints, solvents, or adhesives can generally create the most problematic waste streams for this occupation. Often times small amounts of leftover product purchased for a special job can accumulate or get lost in other inventory. Solvent-based paints, thinners, and adhesives that become wastes are generally considered ignitable and need to be handled as hazardous wastes (see Hazardous Waste section). Waste and accumulation problems related to these materials can be avoided through inventory control measures and use of non-hazardous (latex) products whenever possible. Water-based or latex



paints and associated wastes are not considered hazardous unless they contain metals such as lead, mercury, or chrome (consult the MSDS).

When these types of product (non-hazardous) become wastes, they can simply be solidified with an absorbent material, like kitty litter, and then be put in the regular trash. Empty containers can also be put in the trash.



- Wastes generated as a result of preserving wooden roofs are often hazardous due to toxicity and/or ignitability. These need to be evaluated, handled carefully, and disposed of as hazardous wastes (see Hazardous Waste section).
- Wastes generated as a result of sealing driveways should be rare. Chemicals should be used up during the process. If wastes do result, they are generally considered hazardous due to their ignitability, and must be properly handled as hazardous waste. When working with this type of project, have a plan in place that will address spill control.
- Washing equipment, vehicles, pavement, or buildings generates wastewater that should be diverted away from storm drain inlets and to a sanitary sewer whenever possible. Some cities in Kansas regulate by permit an activity that generates this type of wash wastewater (see Mobile Cleaning Services section).

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.

- Carpet-cleaning services generate wastewater that should never be diverted to a storm drain. This wash water should be recycled whenever possible and then drained to a sanitary sewer with permission (see Mobile Cleaning Services section).
- When parking areas are used for vehicle storage,

maintenance, supply loading, or storage, wastes related to leaking vehicle fluids and possible spills can become an environmental liability. Use care to capture and quickly repair vehicle fluid leaks, container leaks, and spills. Use a dry method for cleanup of this material, not a method that simply washes the spilled contents into the gutter or grass (see Spill Control section). Oils or other fluids generated as a result of equipment maintenance should be properly stored, recycled, or disposed of (see Vehicle/Small Engine Service and Repair section).

- Storage of chemicals and wastes should be done in a manner to prevent spills and environmental contamination. Control of inventory prevents you from having to pay for a product twice – once as a material, and then as a hazardous waste. Keep MSDSs on hand for all materials, maintain original labels whenever possible, and label hazardous wastes accordingly. Inspect the area periodically to prevent problems associated with leaks or storage incompatibilities.
- Construction and demolition debris should be disposed of at a C&D landfill rather than a sanitary landfill, whenever possible, in an effort to save valuable sanitary landfill space and save user fees. This waste is specifically defined to consist of solid wastes from construction and demolition projects, not wastes that contain friable asbestos, furniture, or garbage. Clean rubble can sometimes be disposed of on site with permission of the state or local authority. See Construction and Demolition Wastes and Clean Rubble, a KDHE Technical Guidance Document, available through the KDHE Web site or by calling SBEAP.
- Asbestos and lead-containing materials can be hazardous to human health and the environment if they are not properly removed, handled, and then disposed of. Contractors who work with this type of material attend specialized classes and are

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Contact the SBEAP at 800-578-8898 or www.sbeap.org if you have questions.

licensed. For more information, contact KDHE at 785-296-1550.

- 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 785-296-3565.

POLLUTION PREVENTION AND WASTE MINIMIZATION OPPORTUNITIES

- Select latex paints, stains, and adhesives whenever possible, and use drop cloths to prevent environmental contamination.
- Purchase and use the least hazardous roof preservatives and driveway sealant, and store these materials off the ground or floor in a covered area.
- When a roof or driveway must be cleaned prior to chemical application, ensure that moss, leaves, pine needles, and excess chemicals are not allowed to enter the storm drain.
- Avoid use of hazardous cleaners such as solvents or caustics; substitute less toxic or non-toxic substances as cleaning agents. See the *Cleaners in the Home*, KDHE fact sheet, downloadable from the KDHE Web site or available by calling the SBEAP.
- Wastewaters from equipment washing and carpet cleaning should be recycled and captured for disposal via a sanitary sewer system.
- Obtain permission from the wastewater treatment plant to periodically dispose of wash water to its system, in an effort to prevent the wastewater from draining to the storm or on-site septic system or lagoon.
- 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.
- Keep accurate records/inventory of raw material usage. Mark a purchase date on each container and practice "first in, first out" so that older materials are used up before new ones are opened.
- Inventory your chemical storage and ensure storage in a manner to prevent spills and leaks. Obtain material safety data sheets.

If you do not have a "spill kit" and a spill occurs, use kitty litter, vermiculite, newspaper, rags, or dirt to contain and absorb the liquid. NEVER wash it down the drain or into the gutter. Determine whether the waste is hazardous or not. If non-hazardous, place it in a plastic bag or sealable can and put it in the trash. If hazardous, then see the Hazardous Waste section at the front of this publication to determine disposal options.

- Determine which wastes are hazardous wastes, solid wastes, or recyclable.
- Properly dispose of these wastes and maintain disposal records for three or more years as required by law.
- Recycle used oil, antifreeze, and other equipment fluids.
- 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.
- Conserve water. Use automatic shutoffs on hoses and at wash stations. Use high-pressure, low-volume washing systems.
- Use "dry cleanup" methods. Scrape and scoop before washing down.
- Educate any employees to prevent pollution and apply best management practices wherever possible.
- 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 listed 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. The following laws may be applicable to this business:
 - wastewater regulations
 - hazardous and solid waste regulations
 - air and radiation regulations

- Regulatory compliance information can be viewed or downloaded from the KDHE Web site at www.kdhe.state.ks.us.
- See Resources section at the back of this document.

SOURCES AND ACKNOWLEDGMENTS

- Some materials adapted with permission from the *Alabama Small Business Environmental Assistance Program*.
- Kansas Home*A*Syst

ACTION STEPS

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

Notes:

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.

WOOD FINISHING AND FURNITURE REPAIR

WHY BE CONCERNED?

Home-based businesses often use a variety of processes and chemicals that may generate wastes that differ from the domestic wastes generated by a residential home. Potential hazardous materials associated with wood finishing and furniture repair include paints, sealers, glues, solvents, stain, and topcoats. Home-based businesses that offer wood finishing/furniture repair services generate the same types of wastes that some commercial businesses do. These wastes may include spent hazardous materials, over-spray, hazardous air pollutant emissions, and rags. These chemicals and associated wastes should be used, stored, and disposed of in a cautious manner to prevent environmental contamination and abide with the law. While it may seem that your contribution to pollution is minor, effects of chemicals, runoff, and wasted water from hundreds or thousands of homes in your region can add up.

IDENTIFY ENVIRONMENTAL RISKS

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

- Cutting/sawing.
- Sanding.
- Painting and/or staining.
- Washing paint brushes, spray equipment.
- Handling materials that can spill (such as solvents, paints, stains).
- Storing paints, sealers, glues, solvents, stains, or other potentially hazardous materials.
- Managing wastes such as leftover paints or stains.
- Have abandoned or unused well 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

- Determine which wastes are hazardous wastes, solid wastes, or recyclable.
- Solvent-based paints, thinners, and adhesives that become wastes are generally considered ignitable, and need to be handled as hazardous wastes (see Hazardous Waste section).
- Water-based or latex paints and associated wastes are not considered hazardous unless they contain metals such as lead, mercury, or chrome (consult the MSDS). When these types of products become wastes, they can simply be solidified with an absorbent material, like kitty litter, and then be sent to a permitted sanitary landfill.
- Empty containers can be sent to a permitted sanitary landfill (see Introduction for definition of "empty containers").
- Wood preservative that becomes waste may be hazardous due to its toxicity and/or ignitability. The waste need to be evaluated, handled carefully, and disposed of as hazardous wastes (see Hazardous Waste section).



- Should a spill occur, use kitty litter, vermiculite, newspaper, rags, or dirt to contain and absorb the liquid. NEVER wash it down the drain or into the gutter. Determine whether the waste is hazardous or not. If non-hazardous, place in plastic bag or sealable can and put in trash. If hazardous, then see hazardous waste section at the front of this publication to determine disposal options.
- Use “dry cleanup” methods. Scrape and scoop before washing down.
- Never dump or burn leftover paints, solvents, etc. on your property, particularly near wells or water sources. Never pour these products down storm sewers or sanitary sewers.
- Never burn hazardous materials, as they may produce toxic gases, airborne particles, and hazardous ash.
- Compost untreated sawdust and tiny wood scraps.
- Wastes determined to be hazardous, such as solvents, must be disposed of in an appropriate manner. If you are a business and considered a small quantity generator (SQG), see the Hazardous Waste section at the front of this module to determine your disposal options. It is best to fully use hazardous products, when possible, so there is no waste.
- Keep waste streams separate for reuse, recycling, or treatment. Keep non-hazardous materials from becoming contaminated.
- Properly dispose of hazardous wastes and maintain disposal records for three or more years. Depending on the amount you generate, this may be required by law (see Hazardous Waste section).
- 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 publication, or call KDHE at 785-296-3565.

Disposal of any wastes other than domestic wastes to an on-site septic system or 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.

POLLUTION PREVENTION AND WASTE MINIMIZATION OPPORTUNITIES

- When using spray guns, look for an ideal air and fluid pressure. It should be high enough to provide good atomization. Overspray, blowback, and worker exposure should be minimized.
- Position larger pieces behind smaller ones to catch overspray.
- Adjust spray patterns to fit the size of pieces you are spraying.
- Minimize cleanup solvent waste by dedicating guns for certain materials or scheduling jobs in batches.
- Minimize the number of times you clean your equipment. Apply light-colored finishing materials first, then progressively use darker coatings whenever possible.
- Flush equipment first with dirty solvent before final cleaning with virgin solvent, or preclean items with rags before cleaning with solvents.
- Use solvents until they lose their effectiveness, as opposed to when they look dirty.
- Use rubber wipers instead of rags to remove coatings from tank walls.
- ALWAYS read the label and follow directions.
- Substitute less toxic or non-toxic substances, where possible. Consider using water-based paints and solvents if you are currently using solvent-based.
- Purchase and store minimum amounts of products for short periods.
- Keep storage and work areas clean and well organized. Keep all containers properly labeled.
- Store products in a manner to prevent spills, leaks, and environmental contamination. Obtain material safety data sheets.
- If mixing is needed, place receiving container in a larger pan or on an absorbant pad that can be discarded.
- Store paints, solvents, etc. in a locked cabinet or building. Ventilate the area.
- Use only safe, approved, or original sale containers for storage.

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 containers inside a bucket or other larger container that can prevent leaks from spreading.
- Think about how you would handle a spill, should it occur.
- Periodically inspect containers for leaks.
- Keep accurate records/inventory of material usage. Mark purchase date on each container and practice “first in, first out” so that older materials are used up before new ones are opened.
- Keep all containers covered to prevent evaporation, contamination, spillage, or drying out of contents.
- If your business is not connected to a municipal wastewater treatment facility, obtain permission from the local wastewater treatment plant to periodically dispose of wash water to its system. This will prevent wastewater from draining to the storm or on-site septic system or lagoon.
- Abandoned wells should be plugged and reported in accordance with KDHE regulations (see Water section).

WHERE TO GET MORE INFORMATION

- Your county K-State Research and Extension office.
- 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. The following laws may be applicable to this business:
 - wastewater regulations
 - solid and hazardous waste regulations
 - storm water regulations
- Regulatory compliance information can be viewed or downloaded from the KDHE Web site at www.kdhe.state.ks.us.
- See Resources section at the back of this document.

ACTION STEPS

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

Notes:

ACRONYMS AND GLOSSARY

BMP — Best Management Practice — Methods that have been determined to be the most effective, practical means of preventing or reducing pollution.

Domestic sewage — Sewage originating primarily from kitchen, bathroom, and laundry sources, including waste from food preparation, dishwashing, garbage-grinding, toilets, baths, showers, and sinks. Domestic sewage does not include wastewater generated by a commercial, manufacturing, or industrial process that includes chemicals not normally found in domestic sewage.

EPA — Environmental Protection Agency—The federal agency that enforces environmental laws.

KDHE — Kansas Department of Health and Environment — The KDHE's mission is to optimize the promotion and protection of the health of Kansans through efficient and effective public health programs and services and through preservation, protection, and remediation of natural resources of the environment.

Lagoon — A shallow, artificial treatment pond where sunlight, bacterial action, and oxygen work to purify wastewater—a stabilization pond. An aerated lagoon is a treatment pond that uses oxygen to speed up the natural process of biological decomposition of organic wastes. A lagoon is regulated as a point source under the Clean Water Act, if there is a direct surface water discharge.

Material Safety Data Sheet (MSDS) — Documentation required for hazardous materials that identifies certain reportable hazardous ingredients, safety and health considerations, and safe handling procedures. The supplier or manufacturer furnishes these documents to the user.

OSHA — Occupational Safety and Health Administration — The Williams-Steiger Occupational Safety and Health Act of 1970 (OSHA) is a law designed to protect the health and safety of industrial workers and also the operators of water supply systems and treatment plants. OSHA also refers to the federal and state agencies which administrate OSHA regulations.

Pollution Prevention (P2) — Preventing wastes rather than using expensive treatment and control technologies on end-of-pipe wastes. P2 can decrease environmental liabilities, reduce waste disposal costs, and improve working conditions. It examines ways to eliminate or reduce pollution before it is generated, by changing working materials, practices, or technology, and by increasing efficient use of raw materials, energy, water, and other resources. P2 may be as simple as preventing spills and leaks through better housekeeping and maintenance, or as complex as switching solvent cleaning systems.

SBEAP — Small Business Environmental Assistance Program — Provides guidance in compliance and technical matters to businesses that would not have access to such help because of financial constraints. SBEAP staff will work with businesses to implement pollution prevention practices such as material substitution, process optimization, waste minimization, and recycling. All services are completely confidential, nonregulatory, and free. The SBEAP program is administered by the Pollution Prevention Institute (PPI) at Kansas State University for the Kansas Department of Health and Environment (KDHE). Contact PPI at 1-800-578-8898 or by e-mail at SBEAP@ksu.edu.

Septic system — An on-site system designed to treat and dispose of domestic sewage. A typical septic system consists of a tank and a soil absorption field, also known as laterals, drain field, or tile field. The tank receives waste from a residence or business and allows the solids to settle. Perforated piping distributes the liquids to the soil absorption field where the effluent is treated by natural physical, chemical, and biological processes. The sludge that remains in the tank after decomposition of the solids by bacteria must be pumped out periodically.

REFERENCES

Kansas State University Pollution Prevention Institute has numerous publications on environmental compliance and pollution prevention opportunities for small businesses. A publication list and order form is attached. Many publications are available on the World Wide Web at www.sbeap.org or by calling the Small Business Environmental Assistance Program hotline at 800-578-8898. Kansas State University Research and Extension has several bulletins on protecting your water supply. Publications from Research and Extension are available on the World Wide Web at <http://www.oznet.ksu.edu> or by contacting Biological & Agricultural Engineering at 785-532-5813. Publications from the Kansas Department of Health and Environment are available on its Web site at <http://www.kdhe.state.ks.us/environment/index.html> or by calling 785-296-1535. Some references that may be helpful to your business are presented below.

PRIVATE WATER WELLS:

- Extension: *Private Water Well Owner/Operator Manual, MF-2409*
- Extension: *Private Well Location and Construction, MF-970*
- Extension: *Shock Chlorination for Private Water Systems, MF-911*
- Extension: *Recommended Water Tests for Private Wells, MF-871*
- Extension: *Testing To Help Ensure Safe Drinking Water, MF-951*
- *Hazardous Waste Minimization Checklist & Assessment Manual for Jewelry Manufacturers*, California Environmental Protection Agency, Department of Toxic Substances Control, Office of Pollution Prevention and Technology Development, September 1994. (916-322-3670)
- *Jewelry Manufacturing Industry Waste Minimization* fact sheet, California Environmental Protection Agency, Department of Toxic Substances Control, Office of Pollution Prevention and Technology Development, January 1995. (916-322-3670)

WELL AND HOLE PLUGGING:

- Extension: *Plugging Abandoned Wells, MF-935*
- Extension: *Plugging Cisterns, Cesspools, Septic Tanks and Other Holes, MF-2246*

WASTEWATER:

- KDHE Inventory Forms
- KDHE *Bulletin 4-2, Minimum Standards for Design and Construction of On-site Wastewater Systems*

STORM WATER:

- SBEAP Fact Sheet: *Storm Water: Questions & Answers*

WASTE:

- KDHE *Hazardous Waste Generator Handbook*
- KDHE Technical Guidance Documents are available at www.kdhe.state.ks.us/waste or by calling 785-296-1600

AIR INFORMATION:

- SBEAP Fact Sheet: *What Is the Kansas Air Quality Act?*
- SBEAP Fact Sheet: *Preventing Accidental Releases Under the Clean Air Act*

HOUSEHOLD PRODUCTS:

- KDHE Fact Sheet: *Cleaners in the Home*

HEALTH INFORMATION FOR ARTISTS:

- *The Artist's Complete Health and Safety Guide*, Monona Rossol
- *Health Hazards Manual for Artists*, Michael McCann
- *Artist Beware*, Michael McCann

FOR ASSISTANCE, PLEASE CONTACT:

- Small Business Environmental Assistance Program at
KSU Pollution Prevention Institute (800-578-8898) www.sbeap.org
- Local health or environmental office
- County or district extension office
- K-State Research and Extension, Bio. & Ag. Engineering (785-532-5813)
- Kansas Geological Survey (785-864-3965) www.kgs.ukans.edu
- KDHE, Division of Environment, Non-point Source Section (785-296-4195) www.kdhe.state.ks.us/nps
- KDHE On-site Septic Systems (785-296-5560)
- KDHE On-site Lagoons (785-296-6804)
- KDHE Water Well Program (785-296-3565)

KDHE District Offices

– Northwest District Office
2301 East 13th Street
Hays, KS 67601-2651
Phone 785-625-5663

NWDO@kdhe.state.ks.us

– Southwest District Office
302 West McArtor Road
Dodge City, KS 67801-6098
Phone 316-225-0596

SWDO@kdhe.state.ks.us

– North Central District Office
2501 Market Place, Suite D
Salina, KS 67401
Phone 785-827-9639

NCDO@kdhe.state.ks.us

– South Central District Office
130 South Market, 6th Floor
Wichita, KS 67202-3802
Phone 316-337-6020

SCDO@kdhe.state.ks.us

– Northeast District Office
800 West 24th Street
Lawrence, KS 66046-4417
Phone 785-842-4600

NEDO@kdhe.state.ks.us

– Southeast District Office
1500 West 17th
Chanute, KS 66720-9701
Phone 316-431-2390

SEDO@kdhe.state.ks.us

FOR SPILL REPORTING:

KDHE Spill Line: 785-296-1679

After business hours: 785-296-0614

Notes: