

---

# Pollution Prevention for **Auto Salvage Yards**



**Small Business Environmental Assistance Program**



## What is SBEAP?

The Small Business Environmental Assistance Program (SBEAP) provides small businesses with technical assistance to achieve environmental regulatory compliance. The program supports companies in their efforts to prevent pollution and improve bottom line profits by improving environmental performance.

SBEAP services are confidential and free of charge, and are provided by phone consultation (800-578-8898); on-site technical and regulatory assistance; publications and quarterly newsletters; and presentations, workshops, and seminars.

SBEAP is administered by the Pollution Prevention Institute of Kansas State University.

The program is funded by the Kansas Department of Health and Environment (KDHE) and was initiated as a result of the Clean Air Act Amendments of 1990.



## Acknowledgements

This manual was developed with funds from the Kansas Department of Health and Environment (KDHE). I would like to thank the following organizations for their contribution of resources:

American Automobile Manufacturers Association

Automotive Recyclers Association

Coordinating Committee for Automotive Repair

Delaware Department of Natural Resources

Florida Department of Environmental Protection, Hazardous Waste Compliance Assistance

Idaho Department of Environmental Quality

Kansas Department of Health and Environment

Kansas Automobile Recycling Association

Kentucky Department for Environmental Protection

Maine Department of Environmental Protection

Michigan Department of Environmental Quality

Minnesota Pollution Control Agency

New York State Department of Environmental Conservation

North Carolina Department of Natural Resources and Community Development

Ontario Automotive Recyclers Association

United States Environmental Protection Agency

University of Florida Center for Solid Waste and Hazardous Waste Management

Vermont Department of Environmental Conservation

Vermont Department of Motor Vehicles

Washington State Department of Ecology

I would like to thank those P2 programs across the nation that developed P2 case studies and manuals used for background information contained in this manual, and also the following people for their contributions to the development of this document:

Sherry Davis for technical reviews

Mary Rankin for reviews and editing

Bob Davis for illustrations and layout design

Steve Travis, P.E., Industrial P2 Specialist

# Table of Contents

Section 1: Introduction.....	3
Definition of Pollution .....	3
History of the Development of P2.....	3
Section 2: P2 Practices for Used Fluids.....	4
Antifreeze.....	5
Aqueous Cleaners .....	6
Brake Fluid .....	7
Fuel.....	7
Refrigerants.....	8
Solvents .....	10
Used Oil .....	11
Window-Washing Fluid.....	12
Section 3: P2 Practices for Auto Parts .....	13
Airbags.....	13
Batteries .....	14
Brake Shoes and Clutches .....	14
Catalytic Converters .....	15
Engines .....	16
Glass .....	16
Fuel Tanks .....	16
Lead Parts .....	16
Mercury Switches.....	16
Radiators and Heater Cores .....	17
Tires.....	18
Torque Converters .....	18
Transmissions.....	18
Upholstery .....	19
Used Oil Filters.....	19
Section 4: Regulatory Issues.....	20
Hazardous Waste .....	20
Wastewater.....	23
Storm Water .....	24
Mobile Wash Services .....	24
Spill Reporting.....	24
Air Pollution—MACT Standards .....	25
Storage Tanks.....	25
Section 5: Where to Find Help.....	26
Section 6: For You Surfers.....	29
Section 7: P2 Checklist.....	30

## Section 1: Introduction

Salvage yards provide a valuable service that contributes to our environmental quality of life through the recycling of auto parts and scrap metals, and conservation of our natural resources. If you are a salvage yard owner or operator, this manual is designed for you. It covers pollution prevention (P2) practices that you can use to minimize the generation and release of wastes. You will learn the best ways to manage various fluids and auto parts you encounter in your day-to-day auto salvage operation. Also, it discusses environmental regulatory requirements that may apply to your business.

Implementation of these P2 practices will help you increase your competitive advantage by reducing waste disposal costs. P2 will also reduce current and future liability, improve the efficiency of your operations, and enhance goodwill and rapport with your neighbors and regulators. Closely associated with P2 are best management practices (BMPs). BMPs are P2 methods used to reduce wastes through better work practices, materials storage, and other process management techniques.

### Definition of Pollution

---

*Webster's Dictionary* defines pollution as the process of contaminating or making an environment unfit with man-made waste. Laws have been put into effect in the last 30 years to help protect our environment. Many of these laws were in response to catastrophic events in order to protect human health and the environment. Air pollution is regulated by the Clean Air Act and its amendments, water pollution by the

Clean Water Act and Safe Drinking Water Act, and solid wastes and pollution by numerous laws including the Resource Conservation and Recovery Act (RCRA). Other laws place emphasis on the rights of the public to know what chemicals and related hazards are in their communities.

### History of the Development of Pollution Prevention

---

Congress began addressing pollution in the late 1800s. The Rivers and Harbors Act of 1899 made dumping waste into the Mississippi River illegal. Since then numerous laws and agencies have been created to deal with environmental issues. The vast majority of environmental regulations, such as the Resource Conservation and Recovery Act of 1976, have focused on identification and cleanup of pollution.

However, in 1990, beginning with the Pollution Prevention Act, EPA shifted focus from “end-of-pipe” pollution treatment and cleanup to policies, technologies, and processes which prevent and minimize the generation of pollution. The underlying theory behind pollution prevention (P2) is that it is economically more sensible to prevent wastes, rather than implement expensive treatment and control technologies to insure that waste does not threaten human health and the environment.

## Section 2: P2 Practices for Used Fluids

### General P2 Practices

#### Preventing Releases

As an owner or operator of a salvage operation, you will want to prevent spills at your facility. Used fluids from auto salvage dismantling operations have the potential to impact the environment if not managed appropriately. Drain fluids in an area where spills can easily be contained, such as inside a building or on a sealed concrete surface with proper spill controls, including drip pans and absorbents. If you spill fluids on the floor, use a squeegee and dust pan to clean up as much of the spilled fluids as possible, and place them into a recovery drum. Then, use a rag to wipe up the residue left. If you use recyclable rags to clean up spilled oil or solvents, wring them out or put them in a centrifuge to recover fluids before sending them to an industrial launderer.

Rags used to clean up solvent spill must be handled as a hazardous waste when the solvent is considered a hazardous waste and should be kept in a closed container to prevent fugitive emissions from evaporation. Intentionally evaporating hazardous waste solvents and rags soaked with such solvents is considered “treatment” of a hazardous waste and is a serious violation of RCRA regulations.

Keep drip pans under the dismantled parts while you are unclipping hoses, unscrewing filters, and removing parts. To help eliminate spills, place a platform or step next to storage drums so you do not have to lift drain pans above your waist. Remember to replace drain plugs and plug all hoses after

draining. Plugs, small balls, bolts, and golf tees work well to plug rubber hoses. Crimp all metal lines.

If you drain fluids outdoors, make sure the area is covered to prevent rainwater from becoming contaminated. Fluids should be placed in properly labeled storage containers immediately after draining.

By removing all fluids initially, you will save time and labor and improve your profits. You will not have to worry about fluids leaking into the environment, because you have already removed them. Leaving the fluids in the vehicles will consume your time later in cleanup labor and analytical testing costs due to spills from tipping vehicles on their sides to remove parts, or from damaged or leaking lines, hoses, and parts. The used oil you recover can be burned in winter to provide heat for your shop in a manufactured used-oil burner. The fuel can be used for your own vehicles.

#### Wastewater

When cleaning your floors, avoid hosing off the floor when dry sweeping is possible. Hosing the floor uses a great deal of water, creates a greater risk of pollution, and is usually not effective for cleaning oils and greases. If possible, use dry cleanup methods such as a squeegee and dust pan or a dedicated mop to recover small liquid spills. Special mops designed to pick up only oil can help you remove oil from mixed liquid spills, such as antifreeze and oil. Do not put other fluids like oil, solvents, paints, or chemicals into a floor drain.

## Storm Water

Storm water can become contaminated with fluids from engines, transmissions, radiators, batteries, brake and power steering systems, and differential gears. Runoff from contaminated soil and the erosion of soil (silts) from yards are also considered pollutants.

Activities that can generate pollutants include dismantling and crushing vehicles; draining and transferring vehicle fluids; maintaining vehicles and equipment; and storing fluids, used parts, and scrap.

Some recommended best management practices (BMPs) for reducing the amount of pollutants in storm water discharges follow:

- Inspect the scrap yard weekly for evidence of leaks.
- Immediately cleanup detected leaks, using a dry absorbent.
- Place drip pans under any detected leaks.
- Place absorbent oil socks on storm sewer inlets as a secondary preventative measure to collect fluids from any undetected leaks.

## Antifreeze

---

Recycling helps keep antifreeze from being improperly dumped into waterways or on land. Antifreeze, made of ethylene glycol, water, and corrosion inhibitors, is toxic to humans and animals. Used antifreeze may contain metals that can contaminate soil and groundwater. Recycling antifreeze saves money because

- less new product will need to be purchased,
- disposal costs are avoided, and
- cleanup and liability costs for improper disposal are avoided.

You can hire a mobile recycling company to come to your business, recycle the antifreeze, and leave the recycled product for you to reuse. Prices vary but may be as high as \$100 per 55-gallon drum of antifreeze. You can also hire a recycling company to pick up your used antifreeze and recycle it at a central facility. Prices vary, so check with the vendors in your area. You may also want to purchase antifreeze recycling equipment for your facility.

Antifreeze recycling equipment starts at \$2,000 for filtration units; however, filtration does not remove dissolved contaminants. Vacuum distillation units start at \$8,000, and ion-exchange units start at \$9,000.

Antifreeze can be reused in facility vehicles or machinery, sold as used antifreeze, or given away.

## Antifreeze Regulations

KDHE has adopted a new policy with respect to used antifreeze. Generators of used antifreeze who intend to recycle this material either on site or through a legitimate commercial recycling service will no longer need to test used antifreeze for hazardous waste characteristics. KDHE will not view antifreeze destined for recycling as a potential hazardous waste, and the used antifreeze can be transported under a bill of lading or contractual arrangement rather than under a hazardous waste manifest. KDHE changed its policy because manufacturers of late-model cars and trucks now are using less lead in radiator construction and have ceased testing engine blocks with perchloroethylene.

KDHE still requires testing for antifreeze that is not being recycled, and all applicable generator requirements for management of hazardous wastes apply. In addition, users of on-site antifreeze distillation or recycling systems must characterize any residues, including still bottoms and filters, to determine if they are hazardous waste. If such residues are hazardous, they must be managed in accordance with all applicable hazardous waste regulations.

KDHE does not regulate used antifreeze as hazardous waste unless it contains high enough levels of certain metals such as lead, cadmium, or chromium. It can also be a hazardous waste if it has been mixed with other wastes such as gasoline or solvents. If you are generating antifreeze at your company, you must evaluate it to determine if it is a hazardous waste. You must also properly manage and dispose of spent antifreeze. You cannot dispose of used antifreeze by pouring it into your septic system, a storm water drain, ditches, on the ground, or in the trash.

As used antifreeze is accumulated, it should be stored in closed containers labeled with the words "Used Antifreeze." Any business generating or accumulating used antifreeze is strongly encouraged not to mix it with waste oil or any potential hazardous waste. Mixing other wastes into the used antifreeze may render the mixture hazardous or may make it more difficult to recycle.

The volume of hazardous waste could be increased as a result of mixing hazardous waste with non-hazardous waste or water. These waste streams should be stored separately and covered to keep unwanted materials or liquids out.

## Aqueous Cleaners

---

Aqueous cleaners are water-based solutions that, unlike petroleum-based solvents, are typically nonflammable and contain little or no volatile organic compounds (VOCs). Instead of dissolving grease and solids, they rely on heat, agitation, and soap action to break soils into smaller particles.

Aqueous cleaners can be used in enclosed spray washers, hot dip tanks, pressure washers, and steam cleaning. They can become hazardous from regulated solvents and metals such as chrome, cadmium, and lead. Waste aqueous cleaners must never be poured down the drain if your shop has an on-site septic tank system. Discharging aqueous cleaners to a septic tank system is NOT allowed at any time. Septic tank systems, wells, leach fields, cesspools, and similar disposal sites are regulated by federal and state rules designed to prevent contamination of underground drinking water supplies.

Have your aqueous cleaner tested to determine if it is a hazardous waste. If it is, it will have to be transported by a permitted hazardous waste hauler to a permitted hazardous waste treatment facility for disposal.

If your hot-soap parts washer has an evaporator, the fluid must be tested before it can be evaporated. It can be evaporated if it is not hazardous. Sludge from these units also needs to be tested before disposal.

Oil skimmed from aqueous cleaners can be managed as used oil and recycled. Most recyclers will accept skimmed oil with used motor oil as long as it is not contaminated with solvent. If contaminated with solvent and unable to be recycled, it must be managed as a hazardous waste.

The following BMPs are recommended for aqueous cleaning operations:

- Remove caked-on grease and oil from parts with a scraper or knife before aqueous cleaning to extend cleaner life, and reduce cleaning time and water usage.
- Install an on-site, capture-and-reuse system for wastewater. These are commonly used by auto recycling facilities in association with pressure washers and enclosed spray washers.
- Conduct cleaning operations on a contained or indoor impervious surface.

## **Brake Fluid**

---

Brake fluids are synthetic oils formulated from glycol or silicon compounds. They are not petroleum-based and do not mix well with used oil. Also, brake fluids will interfere with the used-oil refining process. However, used-oil recycling companies will accept used oil containing a small amount of brake fluid. Check with your used-oil recycler to determine how much brake fluid is acceptable in used oil.

Brake fluids sometime contain traces of chlorinated solvents. Check with your recycler to find out what level of chlorinated compounds is acceptable. Recycling companies will usually accept used oil if it contains less than 1,000 parts per million of chlorinated compounds.

KDHE does not regulate brake fluid formulated from glycol or silicon compounds as used oil. But if nonhazardous brake fluid is mixed with used oil, then it is regulated as used oil.

If brake fluid exhibits a hazardous characteristic or has been mixed with a listed haz-

ardous waste such as chlorinated brake-cleaning solvent (excluding trace residual amounts of solvent used to flush a brake system), the brake fluid is considered a hazardous waste.

If a Kansas or EPA generator mixes hazardous waste brake fluid with used oil, then the entire mixture is regulated as a hazardous waste. If a small quantity generator mixes hazardous waste brake fluid with used oil, the mixture would remain regulated as used oil unless it has exhibited a hazardous characteristic.

Brake fluid should not be reused after it has been drained from a brake system because it can easily become contaminated by dust, air, and moisture.

## **Fuel**

---

Both waste fuel and useable fuel pose not only an environmental risk to facilities but also a safety risk to employees. Handling, storing, and disposing of fuel requires special care to prevent spills, explosions, and fires, as well as human health risks due to exposure. Useable gasoline or diesel can be used in facility or employee vehicles.

### **Waste Fuel**

Waste fuel is gasoline or diesel that has been mixed with water or other wastes, or is too old to be reused. Waste fuel that is not acceptable for on-site reuse can be picked up by a fuel blender as a non-hazardous waste. For safety, do NOT mix waste fuel with used oil. There could be an explosion if a mixture of waste fuel and used oil is burned in a used-oil space heater. Waste fuel that is unacceptable to fuel blenders must be managed as a hazardous waste.

## Storage and Handling of Fuel

Follow these steps when storing useable or waste fuel in drums or other portable containers:

- a) Store fuel in DOT-approved containers such as drums or aboveground storage tanks. Place the containers on a covered, curbed, impervious surface with spill controls, including drip pans and absorbents.
- b) Containers in which fuel will be placed and the container from which the fuel is being poured need to be grounded so that static electricity will not cause a spark, which could ignite the fuel.
- c) Keep storage containers closed and remove open-topped funnels when not in use.
- d) Inspect fuel storage containers often.
- e) Pump the fuel from dismantled vehicles using an air-driven pump (electric pumps could spark and ignite the fuel).
- f) Label fuel storage containers appropriately as “Useable Gasoline” or “Useable Diesel,” or “Waste Gasoline,” or “Waste Diesel.” Also, if your waste fuel is unacceptable to a fuel blender, then it must be re-labeled as hazardous waste.

## Refrigerants

---

Currently, R-134a, also known as hydrofluorocarbon-134a and HFC-134a, is the only refrigerant approved by the EPA and fully tested and specified by auto manufacturers in their retrofit guidelines.

In December 1995, production of R-12, also known as chlorofluorocarbon-12, CFC-12, or freon, was ended in the United States. R-12 can still be used, but it is no longer produced. CFCs are chlorine-containing compounds that react with sunlight in a way

that destroys the protective ozone layer in the earth’s atmosphere. This allows the amount of ultraviolet (UV) radiation reaching the earth’s surface to increase. Over exposure to UV rays may cause skin cancer, eye cataracts, and a weakened immune system.

If you open an air conditioner (A/C), contain all of the refrigerant using equipment approved by the EPA. This includes R-12 and alternative refrigerants such as R-134a. You must recover the refrigerant before discarding, reselling, or recycling the A/C unit as part of a dismantling or crushing operation. An employee of a salvage operation who recovers refrigerant from vehicles bound for disposal does not have to be a certified technician.

Verify that all vehicles entering the facility without refrigerant have had the refrigerant removed using approved recovery methods. Verification consists of a signed statement by the person or organization from whom the vehicles were received. This statement should include the name and address of the person who removed the refrigerant and the date it was removed.

If refrigerant is not present because the air-conditioning unit was damaged or because of vehicle age, verification must include a statement to that effect. Keep all records for a minimum of three years. Seal all air-conditioning unit openings and hoses after removing refrigerant to prevent any remaining refrigerant from leaking out of the unit and contaminating components that may be reused.

If a customer buys a salvage A/C system, you might suggest that he or she consider having the system retrofitted to use R-134a.

## **Recovering Refrigerants**

Check the air-conditioning units and remove refrigerant from all vehicles that enter the facility. Assume that all units contain refrigerant, and then remove it using approved recovery equipment. Refrigerant recovery equipment must be certified by an independent standards testing organization approved by the EPA. The EPA prohibits venting any automotive refrigerants, no matter what combination of chemicals is in the refrigerant.

Recovering contaminated R-134a refrigerant into recycling equipment may damage the equipment. The best way to recover contaminated or unfamiliar refrigerant is to dedicate a recover-only unit to anything that is not pure R-12 or R-134a. Some equipment manufacturers may also be marketing new types of recover-only stations specifically designed to remove these refrigerants. Some mixtures of air and R-134a are combustible at high pressure, so do not use compressed air to test equipment using R-134a.

If the refrigerant you extract into a recovery unit contains a high level of flammable substances such as propane and butane, a fire hazard may result if the refrigerant comes into contact with an ignition source within the equipment. Whether you are purchasing a new piece of equipment to handle your contaminated and unfamiliar refrigerants, or you are converting a piece of existing equipment for this purpose, make sure you talk to your sales representative about what features have been incorporated into the equipment to guard against risks of ignition.

## **Storing Refrigerants**

Uncontaminated R-12 or R-134a should be stored in separate, labeled tanks. Store con-

taminated or unidentified refrigerants in a “junk” refrigerant tank. Refrigerant tanks must meet Department of Transportation (DOT) or Underwriters Laboratories (UL) standards. Disposable refrigerant containers should not be reused for recovering refrigerant. Do not overfill storage tanks. Storage tanks should be filled to a maximum of 60 percent of the gross weight rating listed on the tank, or 80 percent of the tank’s rated volume at 70 degrees Fahrenheit.

## **Labeling Requirements**

Federal law requires labeling of products containing ozone-depleting substances such as CFCs. Therefore, R-12 A/C units, refrigerant equipment, and any containers must be labeled clearly. The label must read “WARNING Contains R-12, a substance which harms public health and the environment by destroying ozone in the upper atmosphere.” An A/C system retrofitted to use an alternative refrigerant must have a label telling what refrigerant is in the system.

It is a good idea to label empty refrigerant containers with the word “EMPTY.” Check with refrigerant suppliers to see if the containers can be returned for reuse or recycling.

## **Reclaiming Refrigerants**

If the refrigerant in your “junk” recovery tank is a mixture of refrigerants, it should be sent off site to reclaimers who will break up the mixture into its chemical components and purify each. Some reclaimers can handle tanks sent to them from anywhere in the nation. A reclaimer does not necessarily have to be located in your area.

Due to the expense involved in reclaiming, some reclaimers may not accept less than 500-pound or 1,000-pound quantities of

contaminated or mixed refrigerant. In addition, you should be aware that not all reclaimers have the technology to handle all contaminated or mixed refrigerants. However, if one tells you that he or she is not interested in receiving your tank, don't necessarily assume that the next reclaimer you call will say the same thing.

Before you enter into any agreement with either your waste hauler or a reclaimer, make sure you understand all of the costs involved; there may be separate charges for identifying the material, transporting it, and destroying it. If you are responsible for shipping the tank, make sure the hauler or reclaimer explains to you how to comply with any applicable DOT, state, and local requirements relating to shipping.

Sell removed refrigerant only to certified reclaiming facilities or CFC collectors who will reclaim it to its original purity specifications. Supply documentation to facilities where the vehicle or equipment will be crushed, stating that the refrigerant was removed using approved methods.

### **Recycling Refrigerants**

A refrigerant should not be recycled on site unless it is uncontaminated R-12 or R-134a. Also, EPA regulations currently prohibit technicians from recycling blended substitute refrigerants (contaminated or not).

## **Solvents**

---

Spent parts-washer solvents are considered a hazardous waste if they are an EPA-listed hazardous waste, or if they are a characteristic hazardous waste with a flash point less than 140 degrees Fahrenheit or have a toxic metals concentration above regulatory levels.

Waste solvents must be stored in containers that are in good condition and made of materials or lined with materials that are compatible with the stored wastes. The container must always be closed during storage, except when it is necessary to add or remove wastes. It also cannot be opened, handled, or stored in a manner that may cause it to rupture or leak. Containers holding hazardous waste must be clearly marked with the words "Hazardous Waste" and managed as such.

The following BMPs are recommended for solvent cleaning:

- Reduce the quantity of solvent used by implementing a two-stage cleaning system. The first stage should clean the dirtiest parts. The second stage uses cleaner solvent for final cleaning and rinsing. When the cleaning solution in the second stage is no longer effective, it can then be used to replace the solvent in the first stage. Fresh solvent is then used to replace the second stage.
- Parts washers should have a recirculating feature with built-in filtration to continuously remove dirt and contaminants. This will extend the life of the solvent.
- Drip racks or trays can help increase drainage from parts to minimize solvent loss.
- When not in use, lids on parts washers should be kept closed to reduce evaporative solvent loss.
- Do not dispose of used solvent on the ground or in a storm drain.
- Do not combine spent solvent with used oil. Even if the spent solvent is not a hazardous waste, it could be dangerous burning a used-oil and solvent mixture.
- Contract with a solvent management company to supply and recycle solvent.

## Used Oil

---

Used oils include, but are not limited to, the following petroleum-based fluids: motor oil, transmission fluid, power-steering fluid, differential oil, and transaxle fluid. It is important that used oils be collected, stored, recycled, or disposed of properly. Used oil that is handled improperly can cause serious problems. For example, one gallon of used oil can contaminate up to one million gallons of water, making it unfit to drink, as well as harmful to wildlife and the environment.

### Used-Oil Storage

Store used oils in leak-proof, closed containers such as drums or storage tanks. The storage containers should be placed on a curbed, lined, concrete surface with a berm to catch possible spills. Regularly check all used-oil storage containers for leaks and fluid levels. Keep all storage containers closed when not in use and remove open-topped funnels after filling tanks. Otherwise, the container may become contaminated with rain, which can cause used oil to overflow. Use “pop-up” filler gauges to prevent overfilling drums. Label all used-oil storage containers as “Used Oil.”

You can mix used oils together and store them in the same container. However, if used oils are mixed with hazardous wastes, such as regulated solvents, the entire mixture is considered a hazardous waste. Hazardous wastes cannot be offered to used-oil collectors for recycling or burned on site in a space heater for your facility.

### Used-Oil Transportation

Used-oil generators may transport used oil in quantities of 55 gallons or less, provided they transport the oil to a used-oil collection center or to a collection site owned by the

used-oil generator. A registered used-oil transporter must be used to transport more than 55 gallons of used oil.

While a hazardous waste manifest is not required for shipments of used oil being recycled, always keep receipts, bills of lading, and other records of your used-oil shipments.

### Used-Oil Space Heaters

Used oil can also be burned on site in a used-oil space heater. Before selecting or operating a space heater, however, you should be aware of the requirements set by the KDHE. The space heater you select must be designed to have a capacity of no more than 0.5 million British thermal units (BTUs) per hour. Also, combustion gases from the space heater must be vented to the outside of the building. Acceptable oils for burning include used crankcase oils from automobiles and trucks, used lubricating oils, 90 W. gear oil, automatic transmission fluid, hydraulic oil, and heat-transfer fluids. You may also burn used oil generated by other businesses too; however, their used oil must be tested by a laboratory certified by KDHE to determine if the oil is “on-spec” and not contaminated with solvents, antifreeze, gasoline, or other materials that should not be mixed in with it. The used oil is “on-spec” if it meets the following standards:

- arsenic content less than 5 parts per million (ppm)
- cadmium content less than 2 ppm
- chromium content less than 10 ppm
- lead content less than 100 ppm
- total halogens content less than 1,000 parts per million (ppm)
- minimum flash point of 100°F

If you decide to burn “on-spec” used oil generated by other businesses, make sure the oil has been tested before you take it and obtain copies of the test results from the generators. You must keep these test results for at least three years. If the used oil is untested and you decide to test it, the test costs around \$130 and takes two weeks.

## **Window-Washing Fluid**

---

Window-washing fluid is considered non-hazardous because it contains mainly alcohol, water, detergent, and possibly antifreeze. Window-washing fluid should be carefully drained, stored, and recycled to prevent pollution from spills. You can sell or give away removed window-washing fluid to customers and employees, or reuse the window-washing fluid in your salvage facility.

Unless window-wiper fluid is mixed with other fluids, it can be recycled without any regulatory impacts. Window-washing fluid cannot be disposed of onto the ground, or in septic tanks, sewer systems, or storm drains.

If window-washing fluid is combined with other fluids, the mixture may be a hazardous waste and you should perform a hazardous waste determination.



## Section 3: P2 Practices for Auto Parts

### General P2 Practices

Preventing pollution instead of treating or disposing of wastes can save money, protect the environment, and reduce risks to yourself and your employees. You can prevent pollution by properly draining and storing auto parts, especially radiators, in leak-proof, covered containers or in a roofed area to keep rainwater and snow from coming into contact with them. This will help prevent polluted runoff from contaminating surrounding soil or surface waters.

By removing the valuable parts initially, the only time you will need to revisit the scrap vehicle will be to remove usable body parts, which you already inventoried. Parts inventoried and categorized make for easy access once a customer arrives.

Your waste hauler may offer separate containers and rates for recyclables. Separate and store recyclable materials by type and store them where they will stay clean and dry.

Before crushing vehicles, drain and recover fuel and automotive fluids as completely as mechanically possible. Vehicle crushers should be placed on a bermed, impervious surface, preferably under a roof and protected from the weather. The floor surface should be sloped to contain fluids. Mobile crushers should always be situated on an impervious surface or heavy-duty plastic sheeting. Containers designed to be fitted to the crusher can help capture fluids.

Any liquid wastes that drain from crushing onto the pad should be drained into a sump or oil/water separator. The collected fluid should be picked up by a permitted used-oil transporter.

### Air Bags

Air bags, whether made of plastic, vinyl, or metal, have cartridges containing a propellant called sodium azide, a hazardous substance, which is dangerous if inhaled and may burn exposed skin. Air-bag cartridges that have not been deployed can also damage vehicle shredders by releasing sodium azide into the processing equipment and ultimately into the auto “fluff.”

Contaminated fluff requires costly handling and disposal methods.

In order to protect yourself and your equipment, remove or deploy unused air bags prior to crushing or performing other maintenance on the vehicle. If the air bag is removed, it can be resold if it meets industry approval. Store unused air-bag units indoors, away from sources of ignition and protected from the weather.

If you decide to deploy the air bags instead of removing them, disconnect cables from the vehicle’s battery. Wait 20 minutes for the unit’s internal battery to discharge completely. Then, deploy air bags remotely using a jumper harness/wiring system or by using the manufacturer’s recommended method. If a vehicle contains a deployed air bag, it does not need to be removed prior to crushing. Air bags that have been deployed do not present a human or an environmental risk. Air-bag cartridges that have not been deployed are a hazardous waste unless they are reclaimed. If they are reclaimed, they are not a hazardous waste. If you plan to dispose of air-bag cartridges, follow the storage, transportation, recordkeeping, and reporting rules for hazardous waste.

## Batteries

---

Used lead-acid batteries, which contain lead and corrosive chemicals, pose potential pollution risks and can cause special handling problems at your facility. Improperly managed and stored batteries are not only a safety hazard, but can pollute the environment if they crack and leak, particularly when stored outdoors and when subjected to freezing temperatures. Used batteries sent to recycling centers are not regulated as hazardous waste. However, used batteries that are not recycled are considered hazardous waste because of corrosivity of the acid and toxicity of the lead. The following BMPs are recommended for used batteries:

- Remove batteries before crushing vehicles.
- Test batteries to determine usability or resale quality.
- Check batteries for leaks and cracks prior to storing.
- Place cracked or leaking batteries in a closed, watertight, acid-resistant storage container.
- Neutralize spilled battery acid with a basic material such as lime or baking soda. Residue from battery cleanup should be managed as a hazardous waste because of lead.
- Store batteries inside.
- Store batteries upright on wooden pallets on a bermed, impermeable surface.
- Stack batteries no more than four high.
- Recycle lead parts with a metals or battery recycler.

## Brake Shoes and Clutches

---

Brake shoes and clutches are not typically removed for reuse and are crushed with the vehicle. However, if handled, they should be wetted down to prevent asbestos particles

from becoming airborne. Asbestos is known to cause cancer, so be very careful to keep asbestos dust out of the atmosphere.

### Preventing Asbestos Contamination

To keep asbestos particles from becoming airborne, clean brakes or clutch assemblies using a high-efficiency particulate air filter (HEPA) vacuum cleaner, or use a wet towel to wipe off the dust. If you use a HEPA vacuum, use it and disposable bags only for brake dust. Do not clean brakes or clutches with air hoses or ordinary shop vacuums. When you remove brake shoes or clutches, use specially designed low-pressure spray equipment that wets down brake or clutch dust and catches the runoff to help prevent asbestos from being released.

Since small asbestos particles may escape, it is a good idea to wear a respirator approved for filterable particulate material. Paper filter masks do not seal well enough to stop asbestos particulates, so use a half- or full-face respirator with particulate canisters. If the respirator is negative-pressure design, the user has to be fit-tested.

Also, do not eat, smoke, or drink in asbestos work areas and wash hands before eating. Change into clean clothes before going home. Asbestos particles can become embedded in clothing and carried into your home.

### Asbestos Disposal

Before you send asbestos materials to a landfill, you must obtain a special waste authorization from KDHE. If you are in Johnson County, you must obtain a special waste authorization from Johnson County. Asbestos is regulated as a special waste, not a hazardous waste.

Keep asbestos brake pads and clutch assemblies separated from your other trash. The recommended practice is to double-bag the asbestos waste into heavy-duty, 6-mil plastic bags. After placing the wet asbestos material in a plastic bag, and without squeezing the air out of the bag, twist the bag opening into a “gooseneck” and wrap duct tape around it. Place the first bag into a second bag and seal that bag with duct tape in the same manner. Place the double-bagged asbestos materials into a labeled container. When the container is full, notify your trash collection service that you have asbestos-containing material to be picked up. The service may want to pick up the material separately from your regular trash, depending on how the local landfill operates.

### **Asbestos Regulations**

Asbestos is regulated under the Toxic Substances Control Act (TSCA). The Occupational Safety and Health Administration (OSHA) may also have regulations that apply to you. The OSHA asbestos fact sheet can be found at the following Web site: <http://www.pp.okstate.edu/ehs/training/oshasbes.htm>.

## **Catalytic Converters**

---

Catalytic converters which contain platinum, a valuable, recyclable metal, are seldom resold as parts by facilities. Before they can be resold, catalytic converters must be tested using expensive equipment. Instead, most facilities recycle catalytic converters by selling them to core buyers or scrap recyclers.

To recycle catalytic converters, remove them from vehicles as soon as possible after they enter the facility. Recycle catalytic converters at a catalytic converter collection center. Test catalytic converters with federally approved testing equipment if the converters are to be resold at the facility. Catalytic converters that have not been tested and approved in this manner cannot be sold to the public. Catalytic converters are important pollution prevention devices designed for use with specific makes and models of cars. Untested and unproved catalytic converters may not protect the environment from air pollution.



## Engines

---

Inspect engines before draining to determine the condition and usability of it or its parts. The engine oil should be drained to prevent oil from leaking out of vents and plugs during storage. Leave dipsticks in and tighten all bolts and plugs to prevent leaking of any fluid left in the engine.

## Glass

---

Although glass can be sent to a landfill, a better option is to recycle it. If you store glass before recycling, store it apart from other recyclable materials. Keeping other materials from mixing with the glass makes recycling easier, and may increase the price the recycler pays or reduce the price the recycler charges.

If you plan to dispose of automobile glass, contact your landfill and waste hauler to see if they have any special handling requirements. You can also reduce the amount of waste glass by careful handling of glass windows to avoid breakage and by discounting the price of parts with small defects. Automotive glass may be removed if in good condition, stored, and resold.

## Fuel Tanks

---

Always remove the fuel tank before crushing a vehicle. Drain and remove fuel tanks as soon as possible, because it is dangerous to store fuel tanks containing fuel.

If you pump fuel from a tank, use an air-driven pump instead of an electric pump. Sparks from electric pumps could ignite vapors. Also, do not mix waste fuel with usable fuel or other fluids

Empty tanks should be stored outdoors in such a way that the tank can ventilate and not accumulate rain. It is a best management practice to recycle the fuel tanks. If you send a fuel tank to a landfill, it is a good idea to cut it in half.

## Lead Parts

---

Remove lead tire weights and battery cable ends before crushing vehicles. Battery cable ends may be left on unusable batteries and disposed of along with the batteries. Remove other known sources of lead from vehicles. Lead can be found in radiators, heater cores, steering columns, in any soldered parts such as circuit boards, and in electronic components.

Store the lead parts in a covered container that is capable of handling heavy weight. Some facilities store lead tire weights with batteries in battery boxes. If you use this method, make sure weights are not placed under batteries or allowed to roll around in the box. This makes the stack unstable and increases the possibility of puncturing the batteries. Dispose of lead parts with a metals or battery smelter facility.

## Mercury Switches

---

Mercury is a highly toxic metal. Liquid mercury and mercury vapor are hazardous to both humans and the environment. Once released into the environment, mercury cannot be degraded. It will stay in the environment forever.

If mercury switches are not removed from vehicles prior to crushing and shredding, the reclaimed metals can become contaminated with mercury. When these metals are processed in electric arc furnaces, the mercur-

ry is vaporized and released out of the stack. Eventually, the mercury emissions can deposit on land and water and accumulate through the food chain.

Therefore, it is a best management practice to remove all mercury switches from vehicles as soon as they are brought into your facility. Kansas has no specific regulatory requirement to remove mercury switches from salvage vehicles. However, KDHE recommends that you remove them.

If you do remove mercury switches from vehicles before crushing and shredding, store them in a closed container. Never dispose of mercury switches in the regular trash. Mercury that is thrown in the regular trash is considered a hazardous waste.

In 1995, automakers committed to removing mercury switches from their vehicles as new models were replaced. As of January 1, 2003, the use of mercury switches in autos has been phased out. In older vehicles, however, there are several sources of mercury, including

- hood and trunk light switches,
- anti-lock braking systems,
- high-intensity headlights, and
- virtual-image instrument panels.

Following is a list of some mercury-recycling companies in the Midwest:

#### **A-Tec Recycling**

P.O. Box 7391  
Des Moines, IA 50309  
Phone: 800-551-4912  
Fax: 515-263-6970

#### **Environmental Compliance Enterprises LLC**

1321 North 68th Street  
Lincoln, NE 68505  
Phone: 402-466-2268  
Toll-Free: 888-212-2839

#### **Midwest Recycling and Mercury Recovery**

860 White Road  
Daybrook, IA 52001  
Phone: 800-311-9636  
Fax: 608-275-6765

Mercury-recycling companies charge approximately \$10 per pound to recycle mercury switches. Some recyclers will pick up the switches at your facility. If you ship more than one pound of mercury switches to a recycler by ground transportation, they must be packaged as a Department of Transportation (DOT) hazardous substance at the Packing Group III level. For air transportation, all shipments of mercury switches must meet DOT Packing Group I requirements.

For more information on auto mercury switches, including specific models and years of cars containing mercury switches, go to the Web site for the *Michigan Mercury Switch Study* at <http://www.deq.state.mi.us/documents/deq-ess-p2-mercury-michigan-switchstudy.pdf>, or go to the Web site for the *Switch Out Auto Dismantlers' Guide* at <http://www.pollutionprobe.org/Reports/merchout.pdf>.

#### **Radiator and Heater Cores**

---

Drain antifreeze from radiators and heater cores as soon as possible after vehicles enter the facility. Place drip pans under radiators and heater cores while draining. Cut hoses with a side cutter. Plug the ends of all hoses. Recycle used radiators and heater cores regularly.

## Tires

---

Many used tires can be resold. Used tires that cannot be resold should be sent regularly to a used-tire recycler to avoid fire hazard and health-related storage problems. Waste tires present two unique pollution and public safety concerns: the potential for fires, and the possibility of providing a breeding ground for disease-carrying mosquitoes and rodents. Although waste tires do not ignite easily, once on fire, they burn very hot and are difficult to extinguish. Extinguishing methods are costly and can produce an oil runoff that can pollute soil and nearby surface and groundwater. If improperly stored, tires may collect rainwater, which can create an ideal breeding ground for mosquitoes.

Starting July 1, 2003, if you do not sell new or used tires and you are not a permitted tire collection center, your tire storage piles must not exceed 50 tires. If you crush vehicles at your salvage yard, it is acceptable practice to place up to four used tires in each vehicle prior to crushing.

If you sell new or used tires, you are considered to be a tire retailer and must meet Kansas used-tire storage standards if you store more than 500 used tires outdoors for more than 30 days. These standards, which are also good management practices for any tire piles, are as follows:

- Locate tire piles outside of wetlands and 10-year flood plains.
- Store tires on racks, on tread, or by rick-ing.
- Limit the tire to 50 feet in width, 5,000 square feet in area, and 10 feet in height.
- Control mosquitoes and rodents.
- Between March 1 and November 1, drain, process, or treat the tires with pesticide for mosquito control.

If you are a tire retailer and store more than 1,500 used tires outdoors for more than 30 days, you must meet the following additional standards:

- Tire piles must be located at least 60 feet from each building.
- Develop a 50-foot-wide fire line around each tire pile.
- Demonstrate to KDHE that fire fighting equipment can reach each pile.
- Prohibit open flames and smoking within 25 feet of each pile.
- Maintain vegetation within 100 feet of each pile to minimize fire hazards.

## Torque Converters

---

Remove and drain torque converters when removing transmissions. Torque converters are difficult to drain because of their round shape. They should be tipped at different angles to remove as much fluid as possible. Plug torque converters to prevent leaks. Seal all fluid lines after draining so they do not leak. Metal lines can be crimped or bent; rubber hoses can be plugged with clamps, balls, or golf tees. Drain differential fluid on all rear-wheel and four-wheel-drive vehicles. Waste differential fluid can be considered used oil and may be stored with other used oils in accordance with used-oil regulations.

## Transmissions

---

Transmission fluid is difficult to remove and spills are a very common problem. For this reason, extra care should be taken to properly drain transmissions so that spills do not occur. Up to eight quarts of fluid can be drained from a transmission.

Drain transmissions on a draining rack or over a drip pan, or use a funnel to drain flu-

ids directly into a storage container. Drain the transmissions by either removing the transmission drain plug or, if necessary, by drilling a hole in the pan. Replace the pan after draining and seal holes. Self-drilling or self-tapping screws work well for drilling drain holes because they can be used to easily re-plug holes. Sealing holes stops leaking of fluids that may be left after draining. Leave dipsticks in the transmissions and tighten all bolts on the oil pans to prevent leaking of any fluid left in the transmission. Leave drive-shaft yokes on transmissions to prevent leaks.

## **Upholstery**

---

Upholstery can be removed and resold or crushed with the vehicle, and then disposed of with the shredder fluff. Upholstery should not be burned, because the combustion products can be toxic.

## **Used Oil Filters**

---

Used oil filters are a potential source of pollution if the engine oil contained in them is spilled during draining, crushing, or storage. KDHE allows most drained and crushed used oil filters to be disposed of as a solid waste.

Design an oil-filter draining area on a coated or lined concrete surface. Include spill controls, such as drip pans and absorbents. Drain oil filters of all free-flowing oil by poking holes in the top of the filter and draining it for 24 hours with the filter threads facing up. This method bypasses the check valves in the filter, ensuring that most of the oil is removed.

Store drained oil filters in a closed, leak-proof storage container marked “USED OIL FILTERS.” Recycle used oil filters that have been drained. Oil filters should be transported in drums or other leak-proof containers. Oil filters that have not been drained are considered used oil and must be managed as such. Keep receipts of used oil filter shipments.

### **Remember:**

- Do not leave oil filters on engines.
- Do not drain, crush, or store used oil filters on unprotected ground.
- Do not store used oil filters outdoors in uncovered containers.
- Do not put undrained filters in the dumpster.



## Section 4: Regulatory Issues

### Hazardous Waste

Hazardous waste regulations began with the 1976 Resource Conservation and Recovery Act (RCRA). In 1985, the Environmental Protection Agency (EPA) gave the Kansas Department of Health and Environment (KDHE) authorization to administer hazardous waste regulations in Kansas.

A waste is hazardous if it is on one of the four lists of specific chemicals that define hazardous wastes, or if it exhibits one of the four hazardous waste characteristics: ignitability, reactivity, corrosivity, or toxicity.

The hazardous waste list of most concern to auto salvage yards is the F-list, which includes solvents used in degreasing. Listed hazardous waste compounds can be found in carburetor cleaners, brake cleaners, and other cleaning solvents. These solvents can contain listed hazardous compounds such as xylene, methanol, ethyl ether, or methyl isobutyl ketone. You can determine if your cleaner contains listed hazardous compounds by checking its material safety data sheet (MSDS).

Ignitable hazardous wastes have a flashpoint less than 140°F and include gasoline, some solvents, and possibly used oil and antifreeze. Used oil and antifreeze could become ignitable hazardous waste if waste solvents or waste fuel are added by mistake.

Corrosive hazardous wastes have a pH less than 2 (strong acids) or greater than 12.5 (strong bases), and include battery acid, caustic paint strippers, and some floor-cleaner concentrates.

Reactive hazardous wastes are unstable, react violently, or create toxic gases. Sodium azide used in air bags is an example of a reactive hazardous waste.

Toxic hazardous wastes are determined by the toxicity characteristic leaching procedure (TCLP) test, a laboratory procedure that simulates the potential of wastes to release toxic chemicals into water if buried in the ground. The TCLP test includes eight toxic metals, 11 volatile compounds, 13 base-neutral acids, six pesticides, and two herbicides.

Hazardous waste is considered yours if your actions or business operations cause clean material to become contaminated and unusable for its intended, original purpose. If waste is on your property, even if someone else dumped it there or left it behind, you are responsible for it. The greatest economic and environmental benefits come from avoiding the generation of waste in the first place.

You should ensure hazardous wastes are handled properly in accordance with Kansas hazardous waste management statutes and regulations. You can reduce your hazardous waste liability by carefully inspecting salvage brought to your facility and requesting test results for suspect materials. Once you have taken the material on site, responsibility and cost for hazardous waste disposal shifts to you.

## Regulatory Levels of Hazardous Waste in Kansas

---

### Small Quantity Generator (SQG)

Small quantity generators in the state of Kansas are those generators that create less than 55 pounds of hazardous waste in a one-month period; or accumulate no more than 2200 pounds of hazardous waste, or no more than 2.2 pounds of acutely toxic (P-listed) hazardous waste, or no more than 55 pounds of debris and cleanup materials from acutely toxic (P-listed) waste spills.

SQGs are required to handle the hazardous waste they generate in an environmentally sound manner, and they are not subject to any notification or reporting requirements. Small quantity generators may use any of the following alternatives to handle their hazardous wastes when disposed of in quantities less than 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.

Hazardous wastes such as solvents, sludge, and pesticides are not suitable for discharge to the sanitary sewer. 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, discharging to a septic system with a lateral field, or by using wastes such as solvents for killing weeds. The small quantity generator regulations are located at Kansas Administrative Regulations (K.A.R.) 28-31-4(m). Regulations for all categories of hazardous waste generators can be found at the following Web site: <http://www2.kumc.edu/safety/kdhehw/uhwr.html>.

### Kansas Generators

Kansas generators are those that create between 55 and 2200 pounds of hazardous waste in a calendar month; generate no more than 2.2 pounds of acutely hazardous waste or 55 pounds of debris and cleanup materials from acutely toxic waste spills; and accumulate no more than 2200 pounds of hazardous waste, or no more than 2.2 pounds of acutely hazardous waste, or no more than 55 pounds of debris and cleanup materials from acutely hazardous waste spills.

Kansas generators must comply with the following regulatory requirements:

- A. Identify and classify all hazardous wastes generated by the facility.
- B. Obtain an EPA identification number by submitting a hazardous waste notification form to the Kansas Department of Health and Environment.
- C. Prepare a manifest for all shipments of hazardous waste. Package, label, mark, and placard all shipments of hazardous waste in accordance with pre-transportation requirements.
- D. Prepare and maintain the following records for three years:
  - 1) a signed copy of all manifests initiated
  - 2) annual and biennial report(s)
  - 3) manifest exception report(s)
  - 4) hazardous waste analyses
  - 5) weekly inspection reports
- E. Meet all storage requirements for containers and/or tanks.
- F. Meet emergency preparedness requirements.
- G. Report all international shipments of hazardous waste to the Kansas Department of Health and Environment and the Environmental Protection Agency.

## EPA Generators

EPA generators meet any of the following requirements: create or accumulate more than 2200 pounds of hazardous waste in a calendar month at their facility; or generate or accumulate 2.2 pounds or more of acutely hazardous waste; or generate or accumulate more than 55 pounds of hazardous waste and debris from cleanup of hazardous waste spills.

EPA generators are subject to all regulations for Kansas generators, except for the emergency preparedness requirements, as well as the following additional requirements:

- A. Provide a personnel training program to ensure that facility personnel are able to respond effectively to a hazardous waste emergency, which must include the following:
  - 1) A director trained in hazardous waste procedures.
  - 2) Instruction which teaches facility personnel about the location of emergency response and monitoring equipment; maintenance and operation of such equipment; and communications procedures and response procedures for fires, explosions, and contamination incidents. Training must be completed within six months after the date an employee enters a position.
  - 3) An annual review of the initial training.
  - 4) Development of job titles and job descriptions, a description of training to be given each job title, and a record of all training which occurs.
- B. Adequately provide for preparedness and prevention with the following precautions:
  - 1) Proper maintenance of facilities to minimize releases of hazardous waste.
  - 2) Where appropriate for the type of waste generated, provide an internal communications or alarm system, a telephone or two-way radio, and fire-extinguishing and control equipment. All required equipment must be tested and maintained to ensure proper operation.
  - 3) Provide personnel working directly with hazardous waste with immediate access to communications and alarm equipment.
  - 4) Maintain aisle space sufficient to allow passage of personnel and fire, spill control, and decontamination equipment.
  - 5) Make arrangements with the local hospital, police department, fire department, and emergency response team to familiarize them with the plant layout and hazards involved with the wastes generated. Such arrangements should be documented.
- C. Prepare a contingency plan and implement emergency procedures to ensure that releases of hazardous waste are properly handled. The contingency plan must provide for the following:
  - 1) A description of the actions facility personnel must take to respond to a release.
  - 2) A description of the arrangements made with local authorities for emergency services.
  - 3) Designation of primary and secondary emergency coordinators and listing of their addresses and phone numbers. Assure that an emergency coordinator is on site or on call at all times.
  - 4) A list of all emergency equipment on site, its capabilities, and its location.
  - 5) An evacuation plan where the potential need for evacuation exists.
  - 6) Copies of the contingency plan to be maintained at the facility and submitted

to the local police department, fire department, hospital, and emergency response team.

- 7) The contingency plan to be periodically reviewed and maintained as current.

The above list is an abbreviated version of the requirements that hazardous waste generators must fulfill to be in compliance. For a complete listing of requirements associated with hazardous waste, please consult the *Kansas Hazardous Waste Generator Handbook* and the Kansas Statutes Annotated, Article 34, and the Administrative Regulations, Article 31.

## **Wastewater**

---

Sanitary wastewater from your lavatories, washrooms, showers, and drinking fountains must be sent to the city sanitary sewer, an approved lagoon, or to an on-site septic system.

Industrial wastewater includes the water going into floor drains from areas such as dismantling, water from steam cleaning and equipment wash down, mop water from floor cleaning, or water from any other sources where it comes into contact with dismantled parts or equipment. The best disposal option for your industrial wastewater, such as from your floor drains and shop sinks, is to send it to your city sanitary sewer system. Other industrial wastewater disposal options may be expensive, banned, or highly regulated.

### **Discharge to City Sanitary Sewer**

City sanitary sewers or publicly owned treatment works (POTWs) are specifically designed to treat wastes from homes, not industrial wastewaters that can carry chemi-

icals and heavy metals. Some industrial wastewater discharges to POTWs can disrupt the public sewer system operation. Therefore, if you would like to discharge industrial wastewater to a POTW, you should contact the city to obtain a permit or written permission to discharge. Each city's POTW has its own set of parameters for contaminants it can treat without causing a failure of its system. A copy of the city's sewer use or wastewater ordinance will list those parameters.

### **Discharge to Waste Disposal Wells**

Floor drains or sinks in service bays that are tied into a shallow disposal system are considered "motor vehicle waste disposal wells." Most commonly, these shallow disposal systems are septic systems or dry wells, but any underground system that receives motor vehicle waste would be considered a motor vehicle waste disposal well. A variety of names are used to describe shallow disposal systems including cesspools, catch basins, sink holes, underground vaults, or drain tanks to name a few.

The following are federal rules for motor vehicle waste disposal wells:

- New motor vehicle waste disposal wells are banned nationwide as of April 5, 2000.
- Existing motor vehicle waste disposal wells are banned in groundwater protection areas and other sensitive groundwater areas.

### **Discharge to Surface**

Any salvage yard that wants to discharge industrial wastewater on the surface to waters of the state needs to get a National Pollutant Discharge Elimination System

(NPDES) permit from KDHE. Examples of waters of the state include streams, rivers, lakes, ponds, marshes, waterways, ground-water, and springs. If your floor drains lead to any waters of the state, you must have an NPDES discharge permit for this activity. You must apply to the KDHE at least 180 days before the proposed discharge. An NPDES permit must be obtained for every site where you intend to discharge to waters of the state.

### **Wastewater Lagoons**

Wastewater lagoons that receive industrial wastewater and do not discharge because of evaporation, seepage, or irrigation are required to have a Kansas Water Pollution Control Permit and receive KDHE authorization prior to construction.

### **Storm Water**

---

The EPA has determined that many industries, including salvage yards, have the potential to contaminate storm water. The storm water permit program was authorized by Congress under the Clean Water Act of 1972. Subsequently, the EPA authorized KDHE to administer the storm water program in Kansas and prepare a general storm water permit covering a wide variety of industries.

Although KDHE has not finalized the Kansas General Permit for Storm Water Discharges Associated with Industrial Activity (general permit), KDHE requires automobile salvage yards (including SIC 5015, used motor vehicle parts and SIC 5093, scrap and waste materials) to submit a Notice of Intent (NOI) form.

The NOI is a simple one-page form identifying the facility operator, location, and site activity. The NOI also notifies KDHE that the facility intends to be covered by a storm water permit. Submitting an NOI to KDHE is currently the only storm water requirement. The NOI will be used to notify businesses covered by the NPDES general permit and will fulfill your legal requirements for this regulation. You can download an NOI form at the Web site [http://www.kdhe.state.ks.us/stormwater/resources/noi\\_industrial.pdf](http://www.kdhe.state.ks.us/stormwater/resources/noi_industrial.pdf).

### **Mobile Wash Services**

---

If you are using a mobile power-wash service at your business facility, the wash water is considered industrial wastewater regardless of what kind of material is washed off or the biodegradability of the detergents. The wash water may be sent to a publicly owned treatment works (POTW), which may require oil or grit removal before leaving your facility. KDHE may allow you to discharge wash water on the ground if only the outside of the vehicle is washed (no engine washing) and no detergents are used. However, KDHE may require a water pollution control permit for this activity. Salvage yards washing vehicles outside should contact Joe Mester, 785-296-6804, at KDHE to see if a water pollution control permit will be required. Each situation is handled on a case-by-case basis.

### **Spill Reporting**

---

All spills that impact soil, surface water, or groundwater must be reported to KDHE. The KDHE environmental spill numbers are 785-296-1679 (daytime) and 785-296-0614 (after hours). KDHE will determine what response action is required.

When you have a spill, the safety of yourself and other people is the first concern. Do nothing that puts you in danger. Notify everyone in the immediate area, and contact the appropriate local safety and law enforcement agencies. If the spill is in progress and you can safely proceed, the first action to take is to stop the flow from the container. To prevent further damage, retrieve any pooled material. Sometimes this can be done by scooping out a hole in the soil or building an earthen dam to prevent the spill from spreading.

Use a pump to recover the spilled material before it can soak into the ground, and place it in a container. Absorb the remaining liquid by using kitty litter, oil dry, or other absorbent materials. The liquid, absorbent, and contaminated soil may be considered a hazardous waste or a special waste. KDHE can help you make a determination.

## **Air Pollution—MACT Standards**

---

Aluminum sweat furnaces are used at auto salvage yards to recycle scrap aluminum into ingots or blocks. The aluminum scrap is often contaminated with oils, coatings, flux, or other contaminants that can generate highly toxic dioxins and furans when the furnace is operated. Health effects associated with exposure to these air toxics include cancer, respiratory irritation, and damage to the nervous system. Consequently, the EPA is regulating all aluminum sweat furnaces in the U.S. regardless of size or location.

Permits from KDHE are required for installation and operation of all sweat furnaces. The federal Maximum Achievable Control Technology (MACT) requirements will be included as part of these state permits. If

you own or operate an aluminum sweat furnace, contact KDHE to obtain a permit application.

In order to comply with the MACT standard, the furnace must either pass a dioxin and furan emission test or operate and maintain an afterburner that destroys dioxins and furans. Most of the older furnaces have not been tested and have not been equipped with an afterburner to destroy dioxins and furans.

## **Storage Tanks**

---

If you have an aboveground storage tank with a volume of 660 gallons or greater containing flammable or combustible liquids, the tank must be registered and permitted with KDHE. If you are installing a new aboveground storage tank greater than 660 gallons, you must obtain approval from the State Fire Marshal's office. Also, KDHE requires underground tanks with a volume greater than 110 gallons to be registered and permitted.

If you have more than 1,320 gallons of total aboveground storage capacity, including all containers 55 gallons or greater, you need to have a Spill Prevention Control and Countermeasure (SPCC) Plan. You also need an SPCC if your total underground storage capacity is greater than 42,000 gallons. EPA Region 7 oversees SPCC plans.

## Section 5: Where to Find Help

Work with vendors, trade associations, technical assistance programs, and other experts to find appropriate alternative products, techniques, and equipment which enhance operational pollution prevention and environmental compliance. Other helpful contacts are as follows:

### **Kansas State University Pollution Prevention Institute**

SBEAP (Small Business Assistance Program): 800-578-8898

Free and confidential technical and regulatory advice

### **Kansas Department of Health and Environment (KDHE)**

**KDHE Bureau of Waste Management** regulates the generation, transportation, storage, treatment, and disposal of solid and hazardous waste generated in Kansas. Do you have questions about a particular waste material or fluid? Call the following personnel for more information:

General waste management questions: 785-296-1600

Used-oil compliance: Roger Carman, 785-291-3746

Waste tires: Minta Rumsey, 785-296-1605

Antifreeze: Lynda Ramsey, 785-296-0681, or John Mitchell, 785-296-1608

Batteries: Richard Bronaugh, 785-296-1120

Waste fuel: Richard Bronaugh, 785-296-1120, or John Mitchell, 785-296-1608

Petroleum-contaminated soil: Richard Bronaugh, 785-296-1120

Mercury: John Mitchell, 785-296-1608

**KDHE Bureau of Air and Radiation** regulates programs for air quality and chemical information reporting. Call the following people for questions relating to the issues listed below:

Chemical information: Scott Bangert, 785-296-1689

Tier II and Right-to-Know: Scott Bangert, 785-296-1689

Aluminum smelting (sweat furnaces): Sean Bergin, 785-296-1581, or Mindy Bowman, 785-296-6421

Shredding: Sean Bergin, 785-296-1581, or Mindy Bowman, 785-296-6421

Incineration: Russell Brichacek, 785-296-1544

Open burning: Russell Brichacek, 785-296-1544

Wire burners: Russell Brichacek, 785-296-1544

## Where to Find Help (continued)

**KDHE Bureau of Water** oversees numerous programs to protect the quality of surface and groundwater. Those programs related to salvage operations may include wastewater treatment facilities and storm water discharges from salvage yards. Questions on water-related issues can be answered by these personnel:

Septic systems: Mike Cochran, 785-296-5560

Non-discharging lagoons: Joe Mester, 785-296-6804

Pretreatment: Steve Caspers, 785-296-5551

Storm water: Joe Mester, 785-296-6804

Discharge to surface waters: Joe Mester, 785-296-6804

Public water supply: Dave Waldo, 785-296-5503  
(serving more than 25 people)

**KDHE Bureau of Environmental Remediation** responds to environmental contamination by controlling pollution at the source, containment, cleanup actions, and environmental emergencies. Call the following numbers with questions about remediation:

Voluntary cleanup program: Frank Arnwine, 785-296-1665

Storage tank requirements: Tom Win, 785-296-1678

Contaminated sites: Rick Bean, 785-296-1673

Spill reporting: Kent Schierkolk, 785-296-1679, or Leo Henning, 785-296-1914,  
after 5:00 p.m., 785-296-0614  
(KDHE will also provide site-specific cleanup instructions.)

**KDHE Bureau of Environmental Field Services** has a public advocate that will answer questions, investigate complaints, and support the public as needed. This bureau oversees the Small Business Environmental Assistance Program (SBEAP) run by Kansas State University's Pollution Prevention Institute. The public advocate may suggest that businesses contact SBEAP for technical help. The KDHE Public Advocate is Cathy Colglazier, 785-296-0669.

**State Fire Marshal**, 785-296-3401

The state fire marshal is responsible for approving requests for new aboveground storage tanks with volumes of 660 gallons or greater.

## Where to Find Help (continued)

### **Environmental Protection Agency (EPA)**

EPA Region 7 is the federal regulatory agency responsible for the quality of the environment in Kansas, Missouri, Iowa, and Nebraska. For the auto salvage industry, EPA oversees refrigerant-recovery requirements and spill-control plans. If you have questions in these areas, call the following:

Refrigerant recovery: Alice Law, 913-551-7623

Spill prevention control and countermeasure (SPCC): Allen Hancock, 913-551-7649

Chemical accident prevention: Scott Hayes, 913-551-7670

The EPA also offers assistance on asbestos handling.

**U.S. EPA Asbestos Hotline**, 800-368-5888

Other telephone numbers:

Mid-America Tire Dealers Association, Waste tire hotline, 1-866-8KS-TIRE

**National Institute of Occupational Safety and Health**, 800-356-4674

**National Response Center Hotline**, 800-424-8802

## Section 6: For You Surfers...

The amount of information on the Internet just keeps growing. Following are the home pages for the EPA, OSHA, KDHE, Kansas SBEAP, and Pollution Prevention Institute at Kansas State University, respectively.

<http://www.epa.gov>

<http://www.osha.gov>

<http://www.kdhe.state.ks.us>

<http://www.sbeap.org>

Many other good sites exist for salvage yards, and a few are listed below. This is by no means a complete list.

<http://www.ccar-greenlink.org>, CCAR-GreenLink<sup>®</sup> is a partnership between the EPA and the Coordinating Committee for Automotive Repair (CCAR<sup>®</sup>).

<http://www.autorecyc.org>, Auto Recyclers Association

<http://www.isri.org>, Institute of Scrap Recycling Industries

<http://www.MATDA.org>, Mid-America Tire Dealers Association

<http://www.recycle.net/Auto/WreckingServices>, Auto wrecking services, products, and supplies

<http://www.uscar.org>, Vehicle recycling partnership

[http://www.kdhe.state.ks.us/stormwater/resources/noi\\_industrial.pdf](http://www.kdhe.state.ks.us/stormwater/resources/noi_industrial.pdf), KDHE storm water Notice of Intent (NOI) form

<http://ww2.kumc.edu/safety/kdhehw/uhwr.html>, KDHE hazardous waste generator regulations

<http://www.deq.state.mi.us/documents/deq-ess-p2-mercury-michiganswitchstudy.pdf>, Michigan mercury switch study

<http://www.pollutionprobe.org/Reports/mercswitchout.pdf>, Switch Out: Auto Dismantlers' Guide for Mercury Switches

<http://www.pp.okstate.edu/ehs/training/oshasbes.htm>, OSHA asbestos fact sheet

## Section 7: Checklist

### P2 Practices Checklist Yes/No

You can use the following P2 checklist to minimize health risks, environmental risks, and liability:

- Yes  No  Are all fluids drained before auto parts are stored on site?
- Yes  No  Do you close off all cut fluid lines to prevent drips and leaks?
- Yes  No  Are drip pans placed under leaking vehicles?
- Yes  No  If a municipal sanitary sewer is unavailable, is industrial wastewater discharged to a holding tank for removal by a licensed industrial waste hauler?
- Yes  No  Is a portion of the auto disassembly area paved and sloped to capture all spilled fluids?
- Yes  No  Do you use compatible storage containers with sealed lids for all fluids?
- Yes  No  Do your fluid-storage containers have level indicators on them to prevent overfilling?
- Yes  No  Do you avoid stacking waste-fluid containers?
- Yes  No  Are your storage containers labeled?
- Yes  No  Are oil-absorbent socks placed on storm system outlets?
- Yes  No  Is scrap metal shipped off site within 30 days to prevent excessive rust generation?
- Yes  No  Do you sweep all floors before washing them to prevent discharges of contaminated wash water?
- Yes  No  Do you have material safety data sheets available for hazardous materials handled at your facility?
- Yes  No  Are batteries stored upright, stacked no more than four high, and stored inside?

## Checklist (continued)

- Yes  No  Do you recycle used oil, oil filters, antifreeze, brake fluid, batteries, and solvent?
- Yes  No  Do you use an industrial laundry service to recycle rags?
- Yes  No  Is debris and trash cleaned up regularly?
- Yes  No  Do you know your Kansas hazardous waste generator status and hazardous waste management requirements?
- Yes  No  Have you identified all your waste streams and determined which ones are hazardous?
- Yes  No  Have you submitted a storm water Notice of Intent (NOI) form to KDHE?

If you answered NO to any of these questions, consider what improvements you can make in your operations in order to satisfy these concerns, or call the Kansas SBEAP specialists if you would like help with a specific waste stream or regulation.



## Notes



**Notice of nondiscrimination**

Kansas State University is committed to nondiscrimination on the basis of race, sex, national origin, disability, religion, age, sexual orientation, or other nonmerit reasons, in admissions, educational programs or activities and employment (including employment of disabled veterans and veterans of the Vietnam Era), as required by applicable laws and regulations. Responsibility for coordination of compliance efforts and receipt of inquiries concerning Title VI of the Civil Rights Act of 1984, Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, the Age Discrimination Act of 1975, and the Americans with Disabilities Act of 1990, has been delegated to Clyde Howard, Director of Affirmative Action, Kansas State University, 214 Anderson Hall, Manhattan, KS 66506-0124, 785-532-6220.

Printed on recycled paper



The Small Business Environmental Assistance Program's (SBEAP) mission is to help Kansas small businesses comply with environmental regulations and identify pollution prevention opportunities. SBEAP is funded through a contract with the Kansas Department of Health and Environment. SBEAP services are free and confidential. For more information, call 800-578-8898, send an e-mail to [SBEAP@ksu.edu](mailto:SBEAP@ksu.edu), or visit our Web site at <http://www.sbeap.org>. Kansas State University is an EEO/AA provider.