



N.H. Green Yards

Environmental Guidance Manual For Motor Vehicle Recycling Yards

provided by
New Hampshire Department of Environmental Services
www.des.nh.gov

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BEST MANAGEMENT PRACTICES FOR MOTOR VEHICLE RECYCLERS



RECOVERED FUEL

Gasoline and diesel fuel are hazardous because they are ignitable and contain ingredients that, even in very small quantities, can easily pollute surface water and groundwater. These ingredients include Methyl tertiary-Butyl Ether (MtBE), benzene, toluene, and xylene. Fuels also may contain chlorinated solvents, which can cause liver and kidney cancer, stomach irritation, nervous system damage, and other health problems.

DID YOU KNOW?

- ✓ One gallon of gasoline containing MtBE can contaminate 6.3 million gallons of drinking water, which is enough water to supply 42 households for a year.
- ✓ Repeatedly spilling small quantities of fuel and/or allowing fuel to continually drip on the ground will sooner or later become a costly cleanup problem for property owners.
- ✓ Gasoline stored longer than six months will begin to degrade and become a non-usable waste fuel requiring costly disposal as a hazardous waste.

When gasoline that contains MtBE spills on the ground, the MtBE moves more readily into the groundwater than other gasoline components. Because MtBE breaks down far slower than other gasoline components, and can be detected at much lower concentrations due to its unpleasant taste and odor, gasoline spills can cause real problems for property owners and their neighbors.

Recovered fuels pose not only a pollution risk to the environment, but also a safety risk to facility employees. Handling, transferring,

storing, and disposing of fuels requires special care to prevent spills, explosions, and fires as well as human health hazards from inhalation and exposure to skin.

BEST MANAGEMENT PRACTICES

- ▶ Remove all fuel from vehicles soon after they arrive at the facility. Remove fuel from the fuel tank. Evacuate and plug fuel lines. Remove and drain excess fuel from fuel filters.
- ▶ Store all recovered fuels in closed, structurally sound, non-breakable containers.
- ▶ Remove or transfer fuel from container to container over an impervious surface only (for example, on a concrete slab) and under a roof. Make sure the impervious surface is free of cracks and holes.
- ▶ Remove fuel in a well-ventilated area, using the proper equipment. Fuel transfer devices, such as a Gas-Buggy ®, are recommended.
- ▶ Use funnels and drip pans to lessen spills when you pour, siphon, or drain fuel.

- ▶ Be careful not to handle fuel around ignition sources, including stoves, welding equipment, cigarettes, electrical devices, and areas that produce static electricity.
- ▶ Determine whether the recovered fuel is “**usable fuel**” or “**waste fuel.**” (***Waste fuel** is fuel that is contaminated with other wastes, mixed with water or too old to use.*)
- ▶ Recycle **usable fuel** in company and employee vehicles.
- ▶ Dispose of recovered **waste fuel** as a hazardous waste. (*To obtain the required hazardous waste generator identification number, telephone the DES Hazardous Waste Reporting Section at (603) 271-2921 or (603) 271-2901.*)
- ▶ Label all **usable fuel** containers either: “Recovered Gasoline” or “Recovered Diesel Fuel.”
- ▶ Label all **waste fuel** containers: “Hazardous Waste—Waste Fuel.” Also, attach the required hazardous waste label. (*For additional guidance, telephone the DES Hazardous Waste Section at (603) 271-2942.*)
- ▶ Do not mix recovered fuel with used oil, degreasing solvents, or any other waste stream.
- ▶ Store fuel containers on an impervious surface, free of holes and cracks. If stored outside, also provide secondary containment (equal to 110 percent of the storage volume) and put under a roof to keep the area dry.
- ▶ Store recovered fuels away from ignition sources, such as stoves and welding equipment. Prohibit smoking in or near fuel handling and storage areas.
- ▶ Store fuel containers at least 50 feet from catch basins, storm drains, and surface waters, and at least 75 feet from private wells, and outside the protective radius of public wells (typically 150 - 400 feet.)
- ▶ Inspect fuel storage containers monthly and keep a written inspection log on-site.
- ▶ Keep spill control equipment nearby. Clean up spills immediately.
- ▶ Immediately report large or uncontrolled spills. From 8:00 a.m. to 4:00 p.m. Monday through Friday, call DES at (603) 271-3644. All other times, call the State Police at (603) 271-3636 or 1-800-346-4009.

This guide sheet provides general guidance only.

FOR ADDITIONAL INFORMATION, CONTACT:



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VEHICLE FUEL TANKS & FILTERS

Improperly handled fuel tanks and filters from motor vehicles pose a risk to human health, safety, and the environment. Understanding these risks is important to understanding the proper handling techniques.

Used fuel tanks and filters that contain even very small amounts of fuel are a potential source of soil, groundwater, and surface water contamination. Therefore, it is very important to remove, drain, store, and dispose of vehicle fuel tanks and filters in a manner that prevents fuel from spilling or leaking onto the ground.

Used fuel tanks also can present a risk of explosion or fire. It is therefore very important to handle fuel tanks away from ignition sources, including sparks from welding equipment, heating devices, and static electricity.

DID YOU KNOW?

- ✓ Many newer vehicles are equipped with plastic, not steel, fuel tanks. This presents new recycling challenges for the motor vehicle recycling industry.
- ✓ N.H. public health officials consider it unsafe to drink water contaminated with the gasoline additive, MtBE, in concentrations exceeding 13 parts per billion. One part per billion is the equivalent of one drop of MtBE from an eyedropper in a railroad tanker truck full of water.
- ✓ According to Shell-Canada, the vapors from one cup of gasoline have the explosive force of five sticks of dynamite.

BEST MANAGEMENT PRACTICES

- ▶ Remove fuel from vehicle fuel tanks as soon as possible after vehicles arrive at the facility. Do this before you remove the tank from the vehicle.
- ▶ If a small amount of fuel remains in the tank after it is removed from the vehicle, carefully pour it into an approved fuel storage container. Use funnels and drip pans to avoid spills.
- ▶ Remove the in-tank fuel pump and wires.
- ▶ Allow empty fuel tanks to fully ventilate before crushing them, in order to reduce the potential for explosion.
- ▶ Store fuel tanks on a curbed intact concrete surface. Do not store fuel tanks on the ground.
- ▶ Store fuel tanks in a well ventilated area that is protected from rainfall.

- ▶ Store fuel tanks at least 50 feet from catch basins, storm drains, and surface waters, and at least 75 feet from private wells, and outside the protective radius of a public well (typically 150 - 400 feet.)
- ▶ Do not store un-drained fuel tanks. They are a fire and explosion hazard, and can leak.
- ▶ Do not crush a vehicle if the fuel tank is still attached.
- ▶ Have the fuel tank scrap pile removed on a regular basis. Do not store fuel tanks for very long periods of time.
- ▶ Drain excess fuel from filters into a proper fuel container. Allow the filter to drain at least 24 hours.
- ▶ Store drained fuel filters separately in a fireproof container marked “Used Fuel Filters.”
- ▶ Metal fuel filters that are **completely drained** and **dry** can be recycled with other scrap metals.

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ABOVE GROUND STORAGE TANKS

Motor vehicle recyclers collect and store significant quantities of gasoline, diesel fuel, and motor oils, sometimes in **Aboveground Storage Tanks (ASTs)**. Because leaks or spills of these fluids are serious threats to the environment and can easily contaminate water supplies, it is very important to keep ASTs in good condition and manage them properly.

By law, you must register your ASTs if you have at least one AST exceeding 660 gallons, or two or more ASTs that have a combined capacity exceeding 1,320 gallons. By registering your ASTs and keeping them in compliance with regulatory

requirements, you may be eligible for state financial assistance for expenses relating to spills and leaks. For this reason, you should register all of your ASTs even if your storage is less than the listed minimum capacities.

BEST MANAGEMENT PRACTICES

- ▶ Register your ASTs with the N.H. Department of Environmental Services (DES). Registration forms are available by calling DES at (603) 271-3644 or from the Internet at www.des.state.nh.us.
- ▶ Keep ASTs at least 50 feet from catch basins, storm drains, and surface waters, and at least 75 feet from private wells, and outside the protective radius of public wells (typically 150 - 400 feet).
- ▶ Properly label all ASTs, with information identifying the contents, safe fill volume, National Fire Protection Association (NFPA) hazard symbol, and tank identification number.
- ▶ Provide secondary containment equal to 110 percent of the AST's volume.

DID YOU KNOW?

- ✓ Six out of every ten New Hampshire residents depend on groundwater for their drinking water supplies. The greatest threat to groundwater is contamination from mismanaged activities on the land surface.
- ✓ The state has funds that help pay to clean up accidental spills or leaks from ASTs if they are registered with DES and are meeting other regulatory requirements.
- ✓ Clean-up costs for spills and leaks from unregistered ASTs are not eligible for state reimbursement funds.

- ▶ Do not use underground storage tanks as ASTs.
- ▶ Provide a roof over ASTs and secondary containment structures to protect them from precipitation.
- ▶ Equip all ASTs with overflow protection devices (such as a gauge) and an audible high-level alarm (such as a vent whistle.) A high-level alarm may not be necessary on tanks that are hand-filled.
- ▶ Post emergency response procedures and emergency contact information on each AST.
- ▶ Transfer liquids to and from ASTs over an intact impervious, level surface only (for example, a concrete pad), covered by a roof. Use mechanical pumps rather than risking spills by hand filling.
- ▶ Develop a plan for spill prevention, control, and countermeasures (SPCC). If you have at least one AST exceeding 660 gallons, or two or more ASTs that have a combined capacity exceeding 1,320 gallons, the plan must be written and kept on-site.
- ▶ Inspect all ASTs, the impervious surface, and the secondary containment structures at least monthly to make sure everything is in good working order and there are no holes, cracks, etc. Keep a written inspection log on-site.
- ▶ Keep the secondary containment structures clean and don't leave the secondary containment valve open when not in use.
- ▶ Treat liquids removed from secondary containment structures as hazardous waste unless tested and shown to be non-hazardous. *[For additional guidance, telephone the DES Hazardous Waste Section at (603) 271-2942.]*
- ▶ Keep spill equipment nearby. Clean up spills immediately.
- ▶ Immediately report large or uncontrolled spills. From 8:00 a.m. to 4:00 p.m. Monday through Friday, call DES at (603) 271-3644. All other times, call the State Police at (603) 271-3636 or 1-800-346-4009.

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UNDERGROUND STORAGE TANKS

An **underground storage tank (UST)** system is any tank (or combination of tanks) and connected piping having at least 10 percent of their combined volume underground. The tank system includes the tank, underground piping, other underground equipment, and any associated containment system.

DID YOU KNOW?

- ✓ Since 1986, over 2,100 leaking underground storage tanks have been identified in New Hampshire.
- ✓ Owners of UST systems may be eligible for reimbursement funds for the cost of cleaning an accidental release, if the UST systems are registered with DES and other UST regulatory requirements are being met.
- ✓ Even a pin-hole sized leak in a UST can cause serious, costly groundwater clean-up problems.

UST systems that contain regulated substances (petroleum or other hazardous substances) can threaten human safety and health, as well as the environment. Any leak or spill from a UST system can contaminate our surface water or ground water supplies. In addition, fumes from a leaking UST system can travel beneath the ground and collect in areas such as basements, living spaces, utility vaults, and parking garages. Fumes collected in these areas can pose a serious threat of explosion, fire, and asphyxiation or other health problems.

Cleaning up releases from UST systems is difficult and usually expensive. It is much easier and far less costly to prevent releases *before* they happen.

BEST MANAGEMENT PRACTICES

- ▶ Register UST systems that store more than 110 gallons of gasoline, diesel fuel, motor oil, used oil, or other regulated substances. Registration forms can be obtained by calling the N.H. Department of Environmental Services (DES) at (603) 271-3503 and from the Internet at www.des.state.nh.us.

(Note: You do not need to register UST systems that store heating oil used for on-premise heating, provided the largest tank in the system is no more than 1,100 gallons and the heating oil is not used oil.)

- ▶ Stop using and close (e.g., remove or fill in place) all single-walled steel USTs lacking cathodic protection that are over 25 years old.

- ▶ Do not install, close, or upgrade a UST system without first obtaining DES approval.
- ▶ Equip all UST systems with spill containment devices and overfill protection devices.
- ▶ Label the fill pipe with the name of the regulated substance contained in the tank.
- ▶ Do not mix different types of substances in the same tank.
- ▶ Protect UST fill and vent pipes from being hit by vehicles and other equipment, including snow plows, fork lifts, tow trucks, flat beds, customer vehicles, and the like.
- ▶ Keep tank fill pipes closed, except when adding or removing product.
- ▶ Monitor the quantity of regulated substances added to and removed from the USTs, and use the information to determine whether the system might be leaking. Keep a written log on-site.
- ▶ Keep spill control equipment nearby. Immediately contain and clean up spills and leaks.
- ▶ Immediately report large or uncontrolled spills. From 8:00 a.m. to 4:00 p.m. Monday through Friday, call DES at (603) 271-3644. All other times, call the State Police at (603) 271-3636 or 1-800-346-4009.

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USED OIL & USED OIL FILTERS

Used oil is classified as a hazardous waste in New Hampshire. However, you can avoid many of the Hazardous Waste Rule requirements if you completely drain used oil from the vehicles you recycle and either use it to heat your motor vehicle recycling facility or send it to an approved used oil marketer or recycler.

It is important to manage used oil from end-of-life vehicles in a way that protects the environment. Your decision on how to manage your used oil may be based on the quantity of used oil generated at your facility and what makes economic sense for your business. Your options include burning the used oil in a used oil space heater, taking it to an authorized marketer/recycler, or hiring a registered hazardous waste transporter to recycle it or dispose of it as a hazardous waste.

REMEMBER...

- ✓ Used oil mixed with gasoline, gas additives, degreasers, antifreeze, or solvents **cannot** be legally burned and **must** be managed as a hazardous waste.
- ✓ Never put used oil in a rusty, unlabeled, dented or leaking drum or tank.
- ✓ Never put used oil in the trash or pour it on the ground or down drains. Immediately clean up spills.

BEST MANAGEMENT PRACTICES

- ▶ Remove used oil from end-of-life vehicles soon after they arrive at the facility. Do this over an impervious surface (for example, concrete) and use a drip pan.
- ▶ Store used oil in a tank or container that is in good condition and label it: "Used Oil for Recycling." (*If you are not recycling the used oil, label the container according to hazardous waste requirements.*)
- ▶ To prevent spills, use a funnel when transferring used oil to the storage container. If spills cannot be avoided, place the container on a drip pan or similar device to collect the spilled oil.
- ▶ **Never** mix used oil with gasoline, antifreeze, solvents, or other such fluids. (*These mixtures cannot be legally burned in used oil furnaces and must be managed as a hazardous waste.*)
- ▶ Used engine oil **may** be mixed with other types of uncontaminated oil and lubricants, including transmission fluid, differential oil, brake fluid, power-steering fluid, and transaxle fluid.
- ▶ Keep all used oil containers and tanks tightly sealed when not in use.

- ▶ You must be a “Used Oil Marketer” to accept used oil from outside sources. For information on becoming a “Used Oil Marketer,” call DES at (603) 271-6426 or 1-888-TAKEOIL.
- ▶ If you give your used oil to someone else, they must be a “Used Oil Marketer” or “Registered Hazardous Waste Transporter.”
- ▶ You are allowed to transport up to 110 gallons of your own used oil at a time to an approved recycling facility or “Used Oil Marketer.” If you do this, keep a bill of lading at least three years to show proof of shipment.

USED OIL FILTERS

- ▶ **Fully drained** used oil filters are not a hazardous waste and can be sent to a scrap metal recycler with other scrap metal from your facility.
- ▶ Puncture and drain oil filters over a drip rack or drain table, at room temperature (60° F) or warmer for at least 12 hours, or use a filter crusher.
- ▶ The best way to fully drain a filter is to use a filter crusher.



Drain table, with grate on top & spigot on bottom

USED OIL FURNACES

- ▶ Operating a used oil furnace requires you to notify DES by calling (603) 271-2921 and filling out a notification form.
- ▶ Find out whether you need a permit to operate your used oil furnace. (*Most used oil furnaces smaller than 500,000 BTUs do **not** require this permit, if they are properly constructed and operated.*) For more information, contact the DES Air Resources Division at (603) 271-1370 and your local fire department.
- ▶ If you operate a used oil furnace, you must keep records describing the volume of fuel burned, days in use, and maintenance. Burn only the oil you generate on site, unless you are a “Used Oil Marketer.”
- ▶ For more information about used oil furnaces and used oil management, call the DES Used Oil Program at (603) 271-6424 or 1-888-TAKEOIL.

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SPILLS--PREVENTION & RESPONSE

Spills are the most common – and most preventable – form of environmental damage that occurs at a motor vehicle recycling facility. Spilled fluids can pollute groundwater, surface waters and wetlands, as well as affect air quality and harm people. Spills also create a financial liability for your business. To protect the environment and your business, you should establish a work routine that eliminates as many opportunities as possible for accidentally spilling gasoline, oil, radiator fluid, and other motor vehicle fluids.

However, no matter how hard you try, accidental spills can still happen and you should be prepared to respond to them quickly, safely, and effectively. Make sure you have a **spill prevention plan** and a **spill response plan**,

and that everyone working at your facility understands the plans. Post a list of emergency telephone numbers by your telephone and post a list of things to do when a spill occurs.

REMEMBER...

- ✓ You must report to DES any petroleum spill greater than 25 gallons.
- ✓ You must report to DES any petroleum spill, large or small, that is not immediately contained and cleaned up within 24 hours.
- ✓ You must report to DES any petroleum spill, large or small, that contaminates groundwater or surface water.
- ✓ You need to know what to do and practice it before a spill happens.

BEST MANAGEMENT PRACTICES--*Spill Prevention*

- ▶ Remove fluids from vehicles, parts, and cores in one centralized location and over an impervious surface (for example, concrete). Plug all hoses after draining.
- ▶ Use drip pans, funnels, mechanical pumps, and hoses when removing and transferring fluids.
- ▶ Drain parts and cores on a drain table before moving them to a storage area.
- ▶ Place fluids in leak tight, non-breakable, labeled storage containers, or tanks immediately after draining. Keep the containers and tanks tightly closed, except when adding or removing fluids.
- ▶ Store fluids on an impervious surface under cover and in a place where the containers will not be accidentally tipped over. Provide secondary containment, as required.
- ▶ Regularly inspect fluid containers and tanks for leaks, rust, dents, or other deterioration.
- ▶ Keep facility equipment, such as crushers, forklifts, hydraulic lifts, company vehicles, and fluid transfer equipment in good condition and free of leaks.

- ▶ Do not crush vehicles on bare ground. Clean vehicle crushers regularly by wiping up and properly disposing of accumulated grease and oil--this will reduce the chance for contaminating storm water.
- ▶ If you have many small spills or use a large quantity of sorbents (for example, *Speedi-Dri*), review your spill prevention strategies and find ways to improve them.

BEST MANAGEMENT PRACTICES--*Spill Response*

- ▶ Clean up spills right away! **First**, eliminate the source of the spill. **Second**, take action to keep the spill from spreading. **Third**, remove and properly dispose of all spilled and contaminated material.
- ▶ Keep spill sorbents (material to soak up the spill) and a "spill kit" in each area where fluids are handled and stored.
- ▶ Sorbents contaminated with oil usually can be disposed of with the regular trash. Sorbents contaminated with gasoline should be disposed of as a hazardous waste, unless testing proves otherwise. *To find out what to do, call the DES Hazardous Waste Section at (603) 271-2942.*
- ▶ Minimize the amount of contaminated sorbent you toss out.

A "spill kit" for small spills should include: gloves, safety glasses, spill sorbents (such as "Speedi-Dri" or sorbent pads), wisk broom, squeegee, dustpan, small shovel or scoop, heavy duty plastic bags, and other items to keep spills from spreading and to clean them up. Put these items in a 5-gallon, covered plastic pail, or something similar. Label it "Spill Kit".

- ▶ Do not hose contaminated granular sorbents with water. Shovel or sweep the granular absorbent from the spill area and place it in a proper disposal container.
- ▶ Report all petroleum spills involving 25 gallons or more. Also report any spill that is not cleaned up within 24 hours, and any spill that contaminates groundwater or surface water. Call DES at (603) 271-3644 Monday through Friday from 8:00 a.m. to 4:00 p.m. All other times, call the State Police at (603) 271-3636 or 1-800-346-4009.

Try these sorbent-saving ideas and see if they can work for you:

- ✓ *Use a squeegee and dustpan to pick up small spills.*
- ✓ *Use reusable sorbents, such as special pads or socks that can be wrung out and reused.*
- ✓ *Use clumping granular sorbent--sift out the clumps, and reuse the left over uncontaminated granular material to clean up other spills.*

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STORING END-OF-LIFE VEHICLES

Abandoned, discarded, wrecked, ruined, or worn out vehicles that cannot or will not be repaired and put back into service are called "end-of-life vehicles." End-of-life vehicles have value as a source of used parts, scrap metal, and other material for recycling and repair work.

End-of-life vehicles should be stored in a way that protects their value and protects the surrounding environment. End-of-life vehicles contain hazardous fluids and other components that can

IMPORTANT WORK PRACTICES...

- ✓ Keep a written record of the vehicles you have stored and make sure they are not leaking.
- ✓ Remove fluids and the fuel tank before storing any end-of-life vehicle.
- ✓ Establish a routine for preparing vehicles for storage and stick with it, so you know the condition of every vehicle you are storing.

pollute the soil, water, and air. For example, when leaking fluids soak into the ground they contaminate the upper soil layers and underlying groundwater. Likewise, storm water run-off from rainfall and snowmelt can be contaminated if it comes in contact with greasy, oily parts, or flows over contaminated soils or through puddles of vehicle fluids. Contaminated storm water run-off can spread pollution on your property and onto your neighbor's property. If refrigerants (such as Freon) are allowed to es-

cape from air conditioning units in end-of-life vehicles, they can spread to the upper atmosphere and destroy parts of the earth's protective ozone layer.

In addition to storing end-of-life vehicles in an environmentally protective manner, there are good reasons to also store these vehicles in an orderly, tidy manner. Organizing your vehicle storage area will help you keep track of your inventory so you can get to the desired vehicle faster. It will also allow you to easily check for leaks and other potential problems, and respond to them quickly. In addition, it demonstrates business pride and improves community relations.

BEST MANAGEMENT PRACTICES

- ▶ Do not store end-of-life vehicles until the fuel, oil, antifreeze, and other fluids are completely drained, and the fuel tank, radiator, and other fluid containing parts have been removed. (*Be careful the fluids do not leak or drip onto the ground. Use drip pans and funnels to prevent this from happening.*)
- ▶ Do not store end-of-life vehicles until the refrigerants from the air conditioning system have been removed. A qualified person using certified equipment must do this.

- ▶ Do not store an end-of-life vehicle until the battery has been removed.
- ▶ Store end-of-life vehicles where they are not sitting in water and/or where water will not be flowing under the vehicle during rain or snow melt periods. If possible, store vehicles on an impervious surface, such as concrete.
- ▶ If engines or greasy parts are exposed, cover them with a tarpaulin or other covering to prevent rain and snow contact.
- ▶ Do not store end-of-life vehicles in the flood hazard zone or in wetlands.
- ▶ Do not store end-of-life vehicles along or over property boundaries, public rights-of-way, or easements.
- ▶ Get a junkyard license from the town, as required, to authorize the storage of junk vehicles. In your license application, show the boundaries of your vehicle storage area on a site sketch.
- ▶ Keep vandals and other unauthorized persons from entering the vehicle storage area. Erect a fence if necessary and post “no trespassing” signs.
- ▶ Park end-of-life vehicles in rows, with enough aisle space between the rows to allow individual vehicles to be inspected and removed as needed.
- ▶ Store end-of-life vehicles in an upright position and do not stack or pile the vehicles on top of each other.
- ▶ Keep an inventory of the end-of-life vehicles stored on your lot. Record the make, model, and year of each vehicle, the date the vehicle arrived, the date it was last inspected for leaks, and other information needed to control the flow of your inventory.
- ▶ Do not accumulate end-of-life vehicles that no longer have parts value. Prepare them for crushing and send them to a scrap processor for material recovery as soon as possible.
- ▶ Inspect the storage area regularly to be certain there are no problems and keep a record of your inspections.

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BEST MANAGEMENT PRACTICES FOR MOTOR VEHICLE RECYCLERS



ANTIFREEZE

Automotive antifreeze contains chemicals that can be toxic to people, plants and animals. Therefore, antifreeze from end-of-life vehicles should be managed and stored to prevent spills that can pollute soil, groundwater, or surface water.

In order to properly manage used antifreeze, first determine whether it is **waste antifreeze** or **usable antifreeze**. **Waste antifreeze** is too old or contaminated to perform well as an engine coolant. It must be sent to a proper disposal facility or, preferably, put through a recycling process to restore its quality and make it reusable. **Usable antifreeze** can be reused “as is” and does not need to be recycled to remove impurities and restore its properties as an engine coolant.

To determine whether used antifreeze can be reused “as is” you need to consider its ability to still perform well as an engine coolant. For example, over time, antifreeze can break down to form acids that can corrode a vehicle’s cooling system. Antifreeze may also lose its ability to efficiently cool engines and withstand sub-zero temperatures. In addition, antifreeze can become contaminated with traces of fuel, oil, metal particles, and grit from the vehicle’s engine and this can impact the performance quality of the antifreeze.

REMEMBER...

- ✓ Never put antifreeze in the trash, on the ground, or down the drain.
- ✓ Antifreeze made with ethylene glycol is particularly dangerous because animals and children are attracted to its sweet flavor. Drinking ethylene glycol can cause coma or death.
- ✓ You should only offer used antifreeze to others as a product when you know its quality is as good as new antifreeze.

Contamination can also cause antifreeze to “test” positive as a hazardous waste. Therefore, waste antifreeze cannot be poured down the drain or thrown out with the regular trash. Because it can be very costly to send waste antifreeze to a hazardous disposal facility, it makes more sense to have it recycled. In New Hampshire, you can do this under a relaxed set of hazardous waste requirements known as the “*Universal Waste Rule*”. Compared to the more strict *N.H. Hazardous Waste Rules*, the *Universal Waste Rule* greatly simplifies what you have to do to recycle your waste antifreeze. For more information about managing waste antifreeze under the *Universal Waste Rule*, contact the DES Hazardous Waste Assistance Hotline at (603) 271-2942.

BEST MANAGEMENT PRACTICES

- ▶ Drain antifreeze from radiators and heater cores soon after vehicles arrive at your facility. Do this over an impervious surface (for example, concrete) and use a drip pan.
- ▶ Determine whether the antifreeze is **usable antifreeze** or **waste antifreeze**.

- ▶ Sell or give away **usable antifreeze** to persons who will reuse it. Make sure they know the antifreeze is used.
- ▶ Recycle **waste antifreeze** to restore its quality. Recycling options include: (1) purchasing the proper equipment and doing it yourself, (2) hiring a contractor to come to your facility with a mobile recycling unit, or (3) transporting the waste antifreeze to a “universal waste destination facility” or “universal waste handler” that you know will actually recycle the antifreeze and that meets all other requirements in the *Universal Waste Rule*.
- ▶ Do not discharge antifreeze to septic tanks, sewer systems, storm drains, outside surface waters, or the ground.
- ▶ Store antifreeze in containers or tanks that are in good condition and compatible with the antifreeze. Keep the tanks and containers on a concrete or other impervious surface designed to contain spills and leaks.
- ▶ Do not mix antifreeze with any other fluid or waste.
- ▶ Clearly label each container or tank with one of the following phrases to show how the antifreeze is being managed: “Waste Antifreeze for Recycling,” “Waste Antifreeze for Disposal,” “Used Antifreeze for Reuse,” or “Recycled Antifreeze for Reuse”.
- ▶ Clearly mark each container or tank with the date the antifreeze was first added. Reuse, recycle or dispose of it within a year of that date.
- ▶ Keep antifreeze containers and tanks closed at all times, except when antifreeze is being added to or removed from the container.
- ▶ If you store containers of antifreeze outside, you must cover them and provide secondary containment equaling 110% or more of the largest container stored.
- ▶ Do not use collection equipment and storage containers that have been previously used to collect other hazardous waste or materials, unless the equipment has been first cleaned.
- ▶ Immediately contain and clean up all spills and leaks. Keep spill control equipment near by.
- ▶ Before shipping any antifreeze, make sure the receiving facility has agreed to receive the shipment and is authorized under state law to receive it.

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BEST MANAGEMENT PRACTICES FOR MOTOR VEHICLE RECYCLERS



SOLVENTS & PARTS WASHERS

Solvents and solvent based parts washers offer a quick, easy way to clean grease, oil, and dirt off used parts. Unfortunately, many solvents are flammable, toxic, and emit dangerous vapors, making them harmful to workers and the environment. Most used solvents are hazardous waste regulated under the *N.H. Hazardous Waste Rules*. Additionally, some solvents, like carburetor cleaners, contain ingredients like methylene chloride and acetone that require special handling and, in certain cases, a special permit under the *N.H. Rules Governing the Control of Air Pollution*. Although they can be effective, solvents are costly, dangerous, and highly regulated.

There are several alternatives to solvent-based cleaning. These include water-based cleaners, hot soap washers, steam washing and semi-aqueous cleaners. These cleaners are usually far less toxic than solvents and may not become a hazardous waste when they are spent. Some types can also be “regenerated” by using absorbents and even bacteria to remove oils and greases. For more information about switching to one of these alternatives, call the DES Pollution Prevention Program at (603) 271-6460. In the meantime, if you must use a solvent for cleaning and degreasing, follow the best management practices listed below.

IMPORTANT!

- ✓ Never mix spent solvents with used oil or with anything else.
- ✓ Stop and think: Do you really need to clean that part? Can you just clean off the heavy dirt and still use it?
- ✓ Find out whether you need a permit under the NH Air Toxic Rules for your solvents. Call (603) 271-1370 for more information.

BEST MANAGEMENT PRACTICES

- ▶ Never dispose of any solvents or cleaning fluids into drains, on the ground, in the regular trash, or by evaporating to the air.
- ▶ Clean only those parts that really need cleaning. *Note: Some motor vehicle recyclers simply stopped cleaning parts before offering them for sale...and no one complained!*
- ▶ Try “pre-cleaning” heavily soiled parts with a wire brush, paper towel or rag before using a solvent or water-based cleaning step.
- ▶ Try using two cleaning stations: (1) A “heavy-dirt” station and (2) a “light-clean” station. Use the light-clean station for parts that are only slightly dirty. Use the heavy-dirt station to pre-clean heavily soiled parts before putting them in the light-clean station. When the

solvent in the light-clean station becomes too soiled, add it to the heavy dirt station. This extends the life of each station, generating less waste.

- ▶ Always keep the lid on the parts washer closed to prevent fumes and valuable product from escaping.
- ▶ Ask your supplier for the least hazardous solvent you can use.
- ▶ If you have a parts washer service contract, have your supplier replace the solvent only when it needs it, rather than on a routine schedule. Remember: each time your solvent is replaced you have generated hazardous waste and have to pay for new solvent.
- ▶ Make sure you dispose of your spent solvent through a licensed hazardous waste transporter. For information, contact the DES Hazardous Waste Assistance Hotline at (603) 271-2942.
- ▶ Do not mix waste solvents with your used oil or other fluids. This causes the entire mixture to be regulated as a hazardous waste.
- ▶ Do not burn solvent in a used oil furnace.
- ▶ Make sure you have a “Material Safety Data Sheet” (MSDS) for each of the solvents you use. Obtain these sheets from the distributor or manufacturer.
- ▶ Put warning signs on the solvent cleaning stations and identify what type of solvent is being used.
- ▶ Keep parts washers on an impervious surface (for example, concrete) and clean parts over an impervious surface only. Use drip pans to catch spills.
- ▶ Never clean parts in a sink that drains to a septic system.
- ▶ Clean up solvent spills immediately. Keep spill control equipment nearby.
- ▶ Routinely inspect all solvent cleaning stations and waste solvent containers to make sure they are sealed and not leaking.
- ▶ Reconsider your need to use solvents to clean parts and seek less hazardous alternatives.

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BEST MANAGEMENT PRACTICES FOR MOTOR VEHICLE RECYCLERS



VEHICLE CRUSHING

Crushing end-of-life vehicles can lead to environmental contamination and loss of salvage value if not properly performed. Vehicles should be completely drained of fluids and stripped of other hazardous materials before crushing. Spilling these dangerous substances can cause soil, groundwater, surface water, and storm water contamination.

Vehicles should be properly prepared before they are crushed. Preparing vehicles for crushing is time well spent. It will protect your property from becoming a source of contamination, protect the health and safety of you and your employees, and save you money. Most motor vehicle fluids can be recycled at no cost to you if they are kept separate by type. However, if you do not drain the fluids before the vehicle is crushed, you will end up with a mixture of fluids that must be handled as a hazardous waste. This requires costly disposal using a licensed hazardous waste transporter.

TAKE NOTE ...

- ✓ Completely drain vehicle fluids before crushing.
- ✓ Crush vehicles on an impervious surface -- never on bare ground.
- ✓ Ensure that mobile crusher operators follow best management practices.

BEST MANAGEMENT PRACTICES

- ▶ Before crushing a motor vehicle:
 - ✓ Drain all fluids (fuel, oil, radiator fluid, windshield washer fluid, etc.) over a concrete pad or other impervious surface, preferably under cover, and use drip pans to avoid spills.
 - ✓ Do not mix fluids. Recycle and reuse them. Store them in labeled leak tight containers, under cover.
 - ✓ Evacuate the air conditioning refrigerant, using certified equipment operated by qualified technicians.
 - ✓ Remove and separate recyclable and potentially hazardous components, including the gas tank, radiator, tires, battery, catalytic converter, air bag units, and mercury switches.
- ▶ Locate the vehicle crusher on a bermed or self-contained concrete pad or other impervious surface, preferably under a roof and protected from the weather. The surface should be sloped to contain fluids. Position the crusher toward the center of the surface or concrete pad rather than near the edge.

- ▶ Make sure the crusher is fitted with a device to capture residual fluids. Collect mixed residual crusher fluids in a spill-proof container and manage the mixture as a hazardous waste.
- ▶ Do not allow fluids to spill or drip on the ground.
- ▶ Do not pour residual fluids inside the next vehicle to be crushed. Mixed fluids must be treated as a hazardous waste. Contact the DES Hazardous Waste Assistance Hotline at (603) 271-2942 for free information about how to properly manage hazardous waste.
- ▶ Keep the crusher drain clear so that it does not back up, clog, and overflow onto the ground.
- ▶ Clean the crusher regularly by wiping off accumulated oil and grease and removing dirt and debris from the crushing area. Properly dispose of the soiled cleaning materials and debris.
- ▶ Clean up incidental spills immediately, whether they occur on the ground or on the pad.
- ▶ If you hire a mobile crusher operator to crush your vehicles, make sure best management practices are followed and agree who will be responsible for properly disposing of the residual fluids and other hazardous wastes generated by crushing activities.
- ▶ Maintain disposal receipts from mobile crusher operators for all wastes generated and transported off-site for disposal
- ▶ Be alert and stay safe! Contact the Occupational Safety and Health Administration (telephone: (603) 225-1629) or the N.H. Occupational Safety and Health Consultation Service (telephone: (603) 271-2024) for additional guidance about avoiding injury and other hazards associated with dangerous motor vehicle crushing activities. These dangerous activities include moving vehicles with a forklift or bucket loader, running hydraulic equipment, and loading crushed vehicles onto trailers for transportation.



Concrete crusher pad under construction at local yard.



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BEST MANAGEMENT PRACTICES FOR MOTOR VEHICLE RECYCLERS



DISMANTLING END-OF-LIFE VEHICLES

Motor vehicles are the number one recycled consumer product in the United States. Nationwide, over 11 million vehicles reach the end of their useful service lives every year. Approximately 10 million of these end-of-life motor vehicles are dismantled for reuse of parts and scrap material recycling. Motor vehicle recyclers typically reuse and recycle between 75 and 85 percent (by weight) of the material content of end-of-life vehicles. The industry deserves recognition for benefiting the environment by saving natural resources and reducing landfill needs.

However, careless dismantling practices can result in polluting the environment. Fluid spills are most likely to occur while dismantling, draining, and storing vehicles, parts, and cores. Proper dismantling and draining procedures help prevent pollution caused by motor vehicle fluids seeping into groundwater and air-conditioning refrigerant escaping into the air. In addition, properly storing dismantled vehicles, parts, and cores can also help prevent pollution caused by storm water run-off coming in contact with greasy, oily parts.

Proper dismantling and draining procedures help prevent pollution caused by motor vehicle fluids seeping into groundwater and air-conditioning refrigerant escaping into the air. In addition, properly storing dismantled vehicles, parts, and cores can also help prevent pollution caused by storm water run-off coming in contact with greasy, oily parts.

REMEMBER...

- ✓ Dismantle and drain vehicles on an impervious surface—never on bare ground.
- ✓ Drain differential fluid from all rear-wheel and four-wheel drive vehicles. There are approximately 1–2 quarts of differential fluid that should be stored and recycled with used oil.
- ✓ Do not mix fluids. Recycle and reuse them. Store them in labeled leak-tight containers that are under cover.

BEST MANAGEMENT PRACTICES

- ▶ Prior to removing parts and dismantling vehicle components, completely drain all vehicle fluids, including antifreeze, brake fluids, engine oils, transmission fluids, windshield washer fluid, power steering fluid, rear axle housing fluids, etc. Do this over an impervious surface.
- ▶ Do not mix the fluids. Recycle, reuse, or dispose of fluids in an appropriate manner.
- ▶ Dismantle and drain vehicles, parts, scrap, and cores in one centralized location that is under a roof and over an impervious surface (for example, concrete). Make sure there are no open drains or cracks in the surface.
- ▶ Use drip pans when unclipping hoses, unscrewing filters, and removing parts. Replace drain plugs when done draining.

- ▶ Fully drain parts and cores on a drain table or drip rack before moving them to a storage area.
- ▶ Keep spill control equipment nearby. Clean up spills immediately.
- ▶ Seal all fluid lines after draining to prevent leaks. Metal lines can be crimped or bent; rubber hoses can be plugged with clamps, balls, or golf tees.
- ▶ Remove and separate recyclable and potentially hazardous components, including the fuel tank, radiator, tires, battery, catalytic converter, air bag units, and mercury switches.
- ▶ Remove and capture air conditioning refrigerants (R-12 and R-134a). Qualified persons, using certified equipment, must perform this work.
- ▶ Remove engines through the hood. Do not tip vehicles on their sides, because this allows fluids to run out and spill on the ground.
- ▶ Establish a good routine for dismantling vehicles and stick with it.
- ▶ At “you-pull-it” facilities (where customers are allowed to remove parts), make sure the fluids are drained from vehicles before customers are allowed to remove parts. Instruct customers on proper procedures to prevent leaks during removal of parts, and provide spill control supplies for convenient customer use.
- ▶ Store engines, transmissions, and other oily, greasy parts off the ground, over an impervious surface, and under cover to prevent soil, groundwater, and storm water contamination. Have spill controls, including drip pans and absorbents handy.
- ▶ Keep an inventory of the vehicles and parts stored at the facility.
- ▶ Be alert and stay safe! Contact the Occupational Safety and Health Administration at (603) 225-1629, or the N.H. Occupational Safety and Health Consultation Service at (603) 271-2024 for additional guidance about avoiding injury and other hazards associated with dangerous motor vehicle dismantling practices.



Dismantle vehicles over a concrete surface and use drain tables to fully drain parts



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BEST MANAGEMENT PRACTICES FOR MOTOR VEHICLE RECYCLERS



LEAD ACID BATTERIES

Lead acid batteries from motor vehicles contain sulfuric acid and lead. Both are hazardous chemicals that can cause pollution to the environment and pose health and safety risks to humans. Sulfuric acid is corrosive and can burn the skin and eyes. Lead is soluble in water, especially in acidic conditions, and can easily reach groundwater through runoff. Exposure to lead can cause learning and behavior problems in children, fatigue, stomach problems, headaches, depression, anemia, and permanent damage to the kidneys and brain of humans. Batteries can also start fires if the poles are allowed to cross. Therefore, batteries must be handled and stored in a manner that prevents the release of battery acid and lead to the environment and keeps the poles from crossing.

DID YOU KNOW?

- ✓ Approximately 400,000 used motor vehicle batteries are discarded in New Hampshire each year.
- ✓ The average motor vehicle battery contains about one gallon of sulfuric acid and 18-20 pounds of lead.
- ✓ New batteries are 99 percent recyclable and are comprised of previously recycled materials.

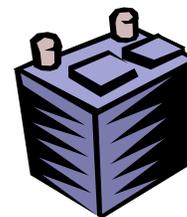
In New Hampshire, lead-acid batteries cannot be incinerated or disposed of in a landfill. Instead, used batteries should be recharged, rebuilt for resale, or sent to a processor for material salvage.

If the battery is cracked or leaking, the acid must be collected and managed as a hazardous waste. Batteries that are to be disposed of, rather than reused or recycled, are fully regulated as a hazardous waste.

BEST MANAGEMENT PRACTICES

- ▶ Remove batteries from vehicles soon after they arrive at the facility.
- ▶ Test batteries to determine whether they can be recharged and reused, or must be sent to a scrap processor for recycling.
- ▶ If the battery is to be scrapped, leave the lead cable ends attached. If it will be recharged and reused, remove the lead cable ends and place cable ends in a container for recycling.
- ▶ Store batteries in either a closed, leak-proof, acid-proof container or over a coated concrete, asphalt, or other non-reactive impervious surface.
- ▶ Store batteries indoors if possible. If stored outdoors, cover the area to keep rainwater from collecting or running off.

- ▶ Stack batteries no more than five high. Place heavy cardboard or wood between each layer of batteries to provide stability and to prevent terminal posts from puncturing the battery above.
- ▶ Store batteries in an upright position to prevent leaks from vent holes. Make sure the cell plugs are in place and locate batteries so that side post terminals do not touch each other.
- ▶ Do not overfill storage containers. Batteries on the bottom may be crushed and the storage containers may become difficult to move.
- ▶ Spread neutralizers, such as lime or baking soda, in the bottom of battery storage bins to help neutralize any spilled battery acid.
- ▶ Place cracked or leaking batteries in a closed, leak proof, acid proof storage container, with a neutralizer in the bottom. Five-gallon buckets work well.
- ▶ Wear gloves and goggles when handling batteries. If you get battery acid on yourself, wash or flush the area with water immediately and seek medical attention. Put baking soda on clothes where battery acid has splashed.
- ▶ Never stand near an uncapped battery while a motor vehicle is running and keep all sources of fire, including cigarettes and other smoking materials, away from batteries. Batteries produce explosive gases that are easily ignited.
- ▶ Inspect batteries and storage areas at least weekly for leaks and cracks.
- ▶ Manage all spilled materials and absorbents as a hazardous waste.
- ▶ Do not drain batteries onto the ground or into a storm drain or surface water. Do not flush battery acid down the toilet or work sink.
- ▶ Keep batteries in one area of the facility. Storing and charging batteries in one place decreases the chance of spills and leaks throughout the yard and helps you control inventory.
- ▶ Do not accumulate batteries for a long period of time. Dispose of them regularly.



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BEST MANAGEMENT PRACTICES FOR MOTOR VEHICLE RECYCLERS



WASTE TIRES

Stockpiles of waste tires can cause safety and health problems. Be aware of the hazards of collecting and storing tires, and take care to prevent the problems that can arise from this practice.

Although tires are difficult to ignite, once lit, they are almost impossible to extinguish. When tires burn, they emit toxic fumes that pollute the air and cause respiratory problems for nearby residents and firefighters. Fire also melts the rubber in tires and generates oil (called “pyrolytic oil”) that can pollute the ground and surface water.

Rainwater collected inside tires is an excellent breeding ground for mosquitoes. The stagnant water provides the right environment for mosquito larvae to develop. This is a concern, since mosquitoes transmit illnesses, including West Nile Virus and encephalitis.

Waste tires can also be expensive to dispose of. It costs money to handle and transport waste tires, even if the receiver takes them for free. Some salvage yard operators have collected large quantities of tires, believing that they will one day find a lucrative market for them. Although recycling markets for waste tires are improving, the number of waste tires stockpiled in this country, plus the number being generated each year, far exceeds the market demand. Therefore, speculative accumulation of tires is more likely to result in costs than profits.

BEST MANAGEMENT PRACTICES

- ▶ Do not accept excess tires. Take only those tires that come with the vehicle. *Note: receiving waste tires from other sources requires you to obtain a permit. For more information, contact the DES Solid Waste Management Bureau at (603) 271-2925.*
- ▶ Good tires may be sold or given to a tire recapping operation.
- ▶ Do not burn or bury tires, ever.
- ▶ Ship tires off-site as soon as you accumulate a full load (approximately 1000 to 1500 tires). Make sure you send them to a facility that has approval to accept them.

DID YOU KNOW?

- ✓ About 242 million tires are scrapped in the United States each year.
- ✓ Tires must be split, quartered, or shredded before they can be landfilled in New Hampshire. In New Hampshire, waste tires may be landfilled at authorized facilities only.
- ✓ Currently, more than 75% of the scrap tires generated in the U.S. are being put to productive use.

- ▶ Tires may be collected and stored in outdoor transfer containers or on the ground, although collecting them in a trailer keeps them dry and ready for prompt shipping without additional handling.
- ▶ If tires must be stored outside in the open, cover the pile with plastic to help minimize the collection of water.
- ▶ Store tires in a sunny location to allow evaporation of standing water and to kill heat-intolerant mosquito larvae that carry such diseases as West Nile Virus and encephalitis.



Don't accumulate excess tires. Remove tires from your facility on a regular basis

- ▶ Use citrus oil or baking soda to kill larvae in water that collects in tires.
- ▶ Check with the local fire officials and configure waste tire stockpiles according to their instructions. In no case should the stockpiles be larger than 25 feet in diameter and 15 feet in height. Provide fire lanes at least 25 feet wide around each stockpile. Also, construct a berm at least 12 inches high around each stockpile to contain the pyrolytic oils and other liquids resulting from fire and fire fighting.
- ▶ Keep equipment, cover material, and other supplies, including water, nearby to help control a fire until the nearest fire company can arrive to extinguish the fire.

- ▶ If waste tires cannot be processed in a timely manner, leave them on the rims to avoid problems with mosquitoes. Remove the rims right before the tires are processed.
- ▶ If stored indoors, the storage facility must comply with the Standards for Storage of Rubber Tires, N.F.P.A. 231D, 1994 edition, as adopted by the National Fire Protection Association, and as it may be amended from time to time.
- ▶ Cover loads of tires before transporting them over highways.

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BEST MANAGEMENT PRACTICES FOR MOTOR VEHICLE RECYCLERS



FLOOR DRAINS

Many of the solvents, oils, fuels, and other solutions handled by motor vehicle recyclers can cause cancer if ingested. Therefore, it is very important to prevent motor vehicle fluids and other hazardous substances from contaminating groundwater and other drinking water supplies. Floor drains are one way hazardous substances can be released to the environment and contaminate drinking water supplies. If you have floor drains at your facility, you need to know where they discharge, and you need to keep hazardous substances from entering them.

At most motor vehicle recycling yards, it is best to permanently close all floor drains by sealing them with concrete. If floor drains are left open, they must be either:

REMEMBER ...

- ✓ Verify the discharge point of all floor drains.
- ✓ Floor drains cannot discharge into or onto the ground, or into surface waters.
- ✓ Eliminate the use or storage of hazardous chemicals from the area served by the floor drain.

- (1) Connected to a municipal sanitary sewer (with permission); *or*
- (2) Connected to a registered holding tank that is regularly pumped out by an authorized waste or wastewater hauler.

Because it can cost hundreds of thousands of dollars to clean up groundwater and other contamination, “an ounce of prevention is worth a pound of cure.” Motor vehicle recyclers can reduce their risk of causing contamination and minimize their potential cleanup costs by following the best management practices listed below.

BEST MANAGEMENT PRACTICES

- ▶ If you have floor drains, make sure you know where they discharge.
- ▶ If you currently discharge motor vehicle fluids or any associated industrial wastewater to a septic system, dry well, surface water, ditch, swale, or other uncontained area, *stop immediately and find another way to manage the wastewater.*
- ▶ If floor drains are connected to a municipal sanitary sewer, notify DES (telephone (603) 271-2858) and verify that the municipal sewer authorities know about the discharge activity. The municipal sewer authority may require you to install an oil/water separator or treat the wastewater before it is discharged. Contact them for specific requirements in your town.

- ▶ If floor drains are connected to a holding tank, make sure the tank is registered with DES and that it meets all DES design requirements (telephone (603) 271-2858). Also, make sure an authorized waste hauler regularly pumps the tank out and properly disposes of the contents at an approved treatment facility.
- ▶ Stop using floor drains that are not properly connected to a registered holding tank or municipal sanitary sewer. To make the necessary arrangements for connecting the drains to a proper outlet, contact the DES at (603) 271-2858.
- ▶ Permanently close all floor drains that are not needed, by sealing them with concrete. Before permanently closing a floor drain, contact the DES at (603) 271-2858.
- ▶ Remove hazardous chemicals and work sinks from all areas served by floor drains.
- ▶ Reduce the amount of industrial wastewater generated at the facility. For example, do not hose or flush spills down the drain. Instead, use sorbents and squeegees to clean up spills, and dry sweep floors to keep them clean.
- ▶ If you must generate wastewater, consider installing a closed loop wash water system that connects floor drains to an oil/water separator and registered holding tank, and then reuse the wastewater collected in the registered holding tank by recirculating it.
- ▶ Test all soil, gravel, sludge, liquids, or other materials removed from drains and sumps to determine whether they must be managed as a hazardous waste due to heavy metal or solvent content. Alternatively, you can assume that these materials are a hazardous waste and hire a registered hazardous waste transporter to properly dispose of the materials.
- ▶ For more information about floor drains and non-domestic wastewater disposal, contact the DES Underground Injection Control program at (603) 271-2858.

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BEST MANAGEMENT PRACTICES FOR MOTOR VEHICLE RECYCLERS



STORM WATER MANAGEMENT

When it rains or snow melts at a motor vehicle recycling yard, the water that runs off can carry oils, fuels, antifreeze, metals, and other contaminants off-site onto neighboring properties. These materials can end up in ditches, wetlands, streams, rivers, lakes, and other surface waters, harming aquatic life and seriously polluting the water bodies we use to swim, fish, boat, and sometimes drink. Even stormwater that is collected in a detention pond instead of flowing off the property can cause problems because it infiltrates the ground beneath the pond, where it can contaminate groundwater.

Polluted runoff is a growing problem mostly due to increased land development. Motor vehicle recycling yard practices can contribute to this problem. Everything that runs off a motor vehicle recycling yard mixes

with pollution that runs off properties located downstream, including pesticides, animal waste, and a range of other materials from business and residential property. This can add up to a big problem for the entire community.

Motor vehicle recyclers can do their part to keep stormwater clean, by changing a few work habits and acting responsibly all of the time. Follow the best management practices listed below and take pride in the work you are doing to protect the environment.

BEST MANAGEMENT PRACTICES

- ▶ When a vehicle first arrives at the facility, inspect it for leaks and unwanted materials.
- ▶ When spills and leaks happen, quickly clean up as much of the fluid as you can and scrape up any stained dirt or gravel. Dispose of the contaminated cleanup materials and dirt as required by state and federal regulation.
- ▶ Dismantle vehicles and drain fluids on an impervious surface, under a roof.
- ▶ Transfer motor vehicle fluids to or from containers over an impervious surface only, and use drip pans and funnels.

Helpful Tips...

- ✓ Make sure the only liquid leaving your property came from the sky and isn't contaminated.
- ✓ Controlling the amount of dirt that runs off your property is important because harmful pollutants can attach themselves to dirt particles and flow off the property with storm water.
- ✓ Most motor vehicle recycling yards need an EPA Storm Water Discharge Permit. By following the Best Management Practices in this series of guide sheets, you will be well on the way toward meeting the permit requirements.

- ▶ Store engines, transmissions, and other oily, greasy parts in a way that keeps them from being exposed to rain and snow.
- ▶ Remove batteries for recycling, and place them either on an impervious surface in a covered storage area or in plastic containers with lids.
- ▶ Control the amount of soil that runs off the property, by using vegetation, stone or grass lined trenches, basins, sediment traps, buffer strips, or other measures to slow down the water and trap sediment. Remove sediment as often as necessary to keep the system working.
- ▶ Sweep and clean paved surfaces often to reduce sediment and contaminant buildup.
- ▶ Never use vehicle fluids for dust control on dirt roads, parking areas, and other ground surfaces.
- ▶ Dispose of wash water from equipment, work areas, or shop floors properly, and recycle it whenever possible. Prevent wash water from contacting storm water.
- ▶ Make sure customers who remove parts do so properly. The mess they leave is your mess.
- ▶ Never crush a vehicle without first draining all the fluids and removing gas tanks, tires, and batteries.
- ▶ Make sure facility employees understand that storm water management is important and train them to use best management practices.
- ▶ The next time it rains, make a rough sketch that shows where all the rain flows across and off your property, and look for ways to keep it from becoming polluted by controlling where it goes and what it contacts.
- ▶ Obtain a Storm Water Discharge Permit from U.S. Environmental Protection Agency (EPA) through its Region I office in Boston. For more information, telephone 1-888-372-7341 or (617) 918-1615 and visit their website at www.epa.gov.

This guide sheet provides general guidance only.

FOR ADDITIONAL INFORMATION, CONTACT:



N.H. Department of Environmental Services
 Waste Management Division--N.H. Green Yards Program
 29 Hazen Drive, PO Box 95, Concord, NH 03302-0095
telephone: (603) 271-2925; *fax:* (603) 271-2456
e-mail: nhgreenyards@des.state.nh.us
website: www.des.state.nh.us



Funding for this guide sheet was provided in part by a grant from the N.H. Department of Environmental Services with funds from the U.S. Environmental Protection Agency under Section 319 of the Clean Water Act.



BEST MANAGEMENT PRACTICES FOR MOTOR VEHICLE RECYCLERS



VEHICLE REFRIGERANTS

Refrigerants used in vehicle air conditioners, including R-12 (Freon) used in older cars and R-134a used in newer cars, harm the earth's atmosphere when they escape into the air. R-12 belongs to a family of chemicals known as chlorofluorocarbons (CFCs). CFCs rise into the upper atmosphere where they destroy the ozone layer that protects the earth from high-energy ultraviolet radiation. Increased exposure to this radiation raises the risk of skin cancer and damages

plants and animals. R-134a belongs to a family of chemicals known as hydrofluorocarbons (HFCs) and is also known as a "greenhouse gas" because it contributes to global climate change.

DID YOU KNOW?

- ✓ Skin cancer is one of the fastest growing forms of cancer. In the US, one person dies of skin cancer every hour.
- ✓ Freon can only be sold to certified technicians or to certified reclamation facilities that will reclaim it to its original purity specifications.
- ✓ Although manufacturers were required to stop producing Freon by the end of 1995, they can continue to use it until existing supplies are depleted.

It is important to manage refrigerants from end-of-life vehicles in a way that protects the environment. In fact, it is illegal to vent *any* refrigerant to the atmosphere. Instead, motor vehicle recyclers must evacuate refrigerants from end-of-life vehicles using equipment that meets the U.S. Environmental Protection Agency's (EPA) requirements.

In addition, refrigerants recovered from end-of-life vehicles must be stored in approved tanks, and shipped back to the manufacturer or an approved off-site reclamation facility, or used to recharge other vehicle air conditioning units.

BEST MANAGEMENT PRACTICES

- ▶ Before crushing vehicles, remove the refrigerants using labeled recycling / recovery equipment that meets EPA requirements. Provide a signed written statement to the crusher operator verifying the refrigerant has been removed as required.
- ▶ Do not vent refrigerants or allow them to evaporate to the atmosphere.
- ▶ Do not mix different types of refrigerants.
- ▶ Store refrigerants in tanks that meet U.S. Department of Transportation (DOT) or Underwriters Laboratories (UL) standards.

- ▶ Label the tanks “REFRIGERANTS” and include the type, for example “R-12” or “R-134a.”
- ▶ Label empty tanks “EMPTY.”
- ▶ Write “EVACUATED” on each vehicle air conditioning unit when it is evacuated. Include the evacuation date for reference.
- ▶ Recycle refrigerant by using it at your salvage yard to recharge operating vehicle air conditioners or send it off-site to an EPA-certified technician for the same use. Alternatively, send it back to the manufacturer or to a reclamation facility that meets EPA standards.
- ▶ Keep all refrigerant purchase, sale, on-site recycling, and reclamation records for at least three years. Records of off-site reclamation should include the volume and final destination.
- ▶ Certify to EPA that you are using equipment that meets EPA standards. To obtain the appropriate certification form, call the EPA Stratospheric Ozone Information Hotline (1-800-296-1996).
- ▶ Do not use automobile air-conditioning recovery equipment to recover refrigerant from appliances. Appliances require a different type of recovery system.
- ▶ Do not use compressed air to test R-134a equipment. Some mixtures of air and R-134a are combustible at high pressure.
- ▶ If a customer buys a second-hand air conditioning system that uses R-12, suggest having the system retrofitted to use the preferred alternative, R-134a.
- ▶ For more information about managing refrigerants, call the EPA Stratospheric Ozone Information Hotline at 1-800-296-1996.

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BEST MANAGEMENT PRACTICES FOR MOTOR VEHICLE RECYCLERS



MERCURY SWITCHES

Mercury is a highly toxic metal that is hazardous to both humans and wildlife. Mercury occurs in both liquid and vapor form, and is used in various automobile components. Capsules of mercury are found in the tilting hood and trunk light switch assemblies of GM, Ford, Chrysler, and other motor vehicles. Mercury is also found in other motor vehicle devices, including ABS sensors, display screen back lighting, and HID head lamps.

Mercury can be released to the environment when motor vehicles are crushed, shredded, or put through a smelter. Unfortunately, once mercury is released to the environment, it does not break down into less toxic components. Instead, it accumulates and persists in the environment, where it can contaminate water and enter the food chain.

IMPORTANT POINTS TO REMEMBER.

- ✓ Mercury is extremely toxic to the human nervous system, and can impair the way we see, hear, walk, talk and think.
- ✓ Removing mercury switches before a vehicle is crushed prevents the mercury from being released to the environment.
- ✓ Mercury does not break down. Once it is released to the environment, it stays there **forever**.

The best way for motor vehicle recyclers to manage mercury is to take charge of the problem and remove mercury-containing parts for recycling. Mercury switches are easy to remove. The mercury-containing capsule in the lighting assembly is almost always attached to the base of the light bulb (see photos at right). It is fairly simple to pry it loose and collect it for recycling. By following the best management practices listed below, you can help reduce the amount of mercury released to the environment, and protect your health and the health of future generations.



BEST MANAGEMENT PRACTICES

- ▶ Establish a routine for dismantling vehicles that includes removing mercury switches before storing or crushing the car.
- ▶ Know which vehicles are likely to have mercury switches. Many older vehicles have mercury switches, while only a few newer models do. For a list of vehicles that have mercury switches, call the Department of Environmental Services (DES) at (603) 271-2956.



- ▶ Remove the entire switch assembly and carefully pry the mercury-containing capsule out, over or in a containment device, such as a drip pan or tray.
- ▶ Take care not to puncture or break the capsules. NEVER break open any mercury-containing device nor try to remove the mercury yourself.
- ▶ Store the mercury switch capsules in a sturdy plastic container with a lid. Do not store mercury switches in metal containers because leaked mercury may combine with the metal and leak through seams.
- ▶ Label the plastic container: “Universal Waste Mercury-Containing Devices for Recycling. Do NOT Throw in the Garbage. Close Lid When Not in Use,” and mark it with the fill-start date.
- ▶ Recycle mercury switches and other mercury-containing devices within a year of collection. For a list of approved mercury recyclers, call the DES at (603) 271-2956 or view the list at www.des.nh.gov/SWTAS/lamplist.htm.
- ▶ If mercury switches are not sent to a recycling company, they must be sent to a hazardous waste disposal facility.
- ▶ Keep records at least three years to show how many switches you have recycled, who transported them, the date, and where they were recycled. A bill of lading is acceptable.
- ▶ Store mercury switches in a safe area, where there is little threat of fire and away from heavy traffic.
- ▶ Keep a spill kit nearby. It should contain a medicine dropper, latex or rubber gloves, fine steel wool, plastic or cardboard scraper, tweezers, and a sturdy plastic container with a lid.
- ▶ If mercury is spilled, contact the DES Emergency Response Program at (603) 271-3899 for assistance. Post this contact information in an easily visible location.
- ▶ If the spill is small, you may be able clean it up yourself with guidance provided by the DES Emergency Response Program and using the spill kit items described above.
- ▶ Never vacuum up spilled mercury.

This guide sheet provides general guidance only.

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GLOSSARY OF ENVIRONMENTAL TERMS

Air Pollutant:

Any substance in air that could cause a threat to public health or the environment. Pollutants may be solid particles, liquid droplets, or gases (alone or in combination). Generally, they fall into the following categories: solids, sulfur compounds, volatile organic chemicals, nitrogen compounds, oxygen compounds, halogen compounds, radioactive compounds, and odors.

Chlorofluorocarbons (CFCs):

A family of chemicals used in refrigeration, air conditioning, packaging, insulation, or as solvents and aerosol propellants.

Direct Discharger:

A municipal or industrial facility that introduces pollution directly to a waterway through a conveyance system such as outlet pipes.

EPA Identification Number:

A 12-character, site-specific identification number required by hazardous waste facilities, including small and large quantity generators.

Indirect Discharge:

Commercial or industrial facilities that discharge pollutants through local sewers into a publicly owned waste-treatment system.

Large Quantity Generator:

Facility that generates 1000 kg (2200 lbs) or more of hazardous waste, or more than 1 kg (2.2 lbs) of acutely hazardous waste in any month.

National Pollutant Discharge Elimination System (NPDES):

A provision of the Clean Water Act that prohibits discharge of pollutants into waters of the United States unless a permit is issued.

POTWs (Publicly Owned Treatment Works):

Public sewage/wastewater treatment facilities. POTWs are usually owned and operated by cities or municipalities.

Pretreatment:

Processes used to reduce or eliminate wastewater pollutants before they are discharged into a POTW.

SIC Codes:

Standard Industrial Classification codes. An indexing and classification system of business types. The SIC was developed by the U.S. Department of Commerce and is used for census and statistical information.

Sanitary Waste:

Waste discharged from sinks, showers, kitchens, rest rooms or other non-industrial operations.

Small Quantity Generator (SQG):

A facility that generates more than 100 kg (220 lbs) and less than 1000 kg (2200 lbs) of hazardous waste in a month.

Storm Water:

Runoff from a storm event, snowmelt runoff, surface runoff and drainage.

Storm Sewer:

A system of pipes (separate from sanitary sewers) that carries only water runoff from buildings and land surfaces.



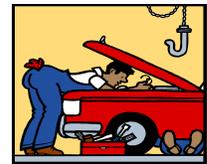
Best Management Practices for Backyard Mechanics and Hobbyists

Every year homeowners, backyard mechanics, and hobbyists spill or dispose of gas, oil, antifreeze and other motor vehicle or power equipment fluids that end up in the groundwater the majority of New Hampshire's residents use as a drinking water source.

Restoring contaminated groundwater can cost millions, and sometimes billions, of dollars. Here in New Hampshire an estimated \$400,000/month is spent on remediation of MtBE alone, and that's only one of the constituents in gasoline that can pollute our drinking water.

Backyard mechanics and motor vehicle enthusiasts can easily help prevent groundwater contamination of drinking water supplies by following a few simple practices to prevent spills, leaks, and other potential sources of contamination. These practices are easy to follow and usually cost nothing but a little time and effort.

- Never pour used oil, gasoline, transmission fluid, or antifreeze on the ground or down a drain. Local garages, waste transfer facilities, or household hazardous waste collection sites usually accept these used fluids for recycling, often for little or no charge.
- Refuel or repair engines over an impervious surface such as a concrete garage floor or a tarp on the ground. Always use a drip pan large enough to contain the motor vehicle or power equipment fluids being replaced or drained.
- Completely drain used oil filters over a drip pan or pail before disposal. Filters can take at least two days to fully drain. Many transfer facilities accept fully drained used oil filters for recycling. Store and transport used oil filters in a covered leak-proof container, like a plastic 5-gallon pail, until disposal.
- Always use a funnel or similar device when transferring new or used motor vehicle fluids from one container to another or from a container to the vehicle.
- Store as little gasoline or kerosene as possible around the home and always in UL-listed containers stored under cover and on an impervious surface. Make sure the containers' built-in spouts pour without spilling. Check all containers of motor vehicle fluids for leaks, at least once a month.
- Drain all fluids from used motor vehicle parts before removing them from the vehicle (Do this over a drip pan or impervious surface.) and store them on an impervious surface under cover or inside a covered leak-proof container, such as a large lidded tub.
- Keep absorbent materials such as pads, Speedee-Dri, kitty litter, or other clay-based products handy to the work area and clean up all spills as soon as they occur. Dispose of all used absorbents immediately in a leak-proof receptacle.



Did you know?

- **Home vehicle repair enthusiasts in this country dump nearly 50 times more used oil on the ground in a year than the Exxon Valdes spilled in Prince William Sound.**
- **One quart of oil or ½ cup of gasoline can contaminate as much as 250,000 gallons of drinking water.**

For additional information contact the Department of Environmental Services at 271-7017 or 271-2947. Find additional information regarding pollution prevention and other waste recycling programs at the website:

www.des.nh.gov/waste_programs.htm



**HELPFUL CONTACTS
FOR
MOTOR VEHICLE RECYCLING YARDS**
updated January 31, 2007



Environmental Concerns

N.H. Dept. of Environmental Services
Waste Management Division
P.O. Box 95
29 Hazen Drive
Concord, NH 03302-0095
Main Telephone: (603) 271-2900
Website: www.des.nh.gov

Above Ground Storage Tanks: (603) 271-6058
Complaint Investigation: (603) 271-3899
Groundwater Protection: (603) 271-1168
Hazardous & Universal Waste: (603) 271-2942
N.H. Green Yards Program: (603) 271-2938
Pollution Prevention Program: (603) 271-6460
Small Business Ombudsman: (603) 271--5629
Solid (Non-Hazardous) Waste: (603) 271-2925
Spill Response: (603) 271-3899 or state police
Underground Storage Tanks: (603) 271-2986
Used Oil Management: (603) 271-6424

U.S. Environmental Protection Agency
Region I
1 Congress Street, Suite 1100
Boston, MA 02114-2023
Website: www.epa.gov
Main Telephone: (888) 372-7341 (Toll free)
For storm water management permit information,
telephone: Thelma Murphy, (617) 918-1615

License to Operate Near Certain Highways

N.H. Dept. of Transportation
Bureau of Traffic
Outdoor Advertising & Junkyard Control
Sheep Davis Road
Concord, NH 03301
Telephone: (603) 271-8124

Dealer Licenses & Title Issues

N.H. Dept. of Safety
Division of Motor Vehicles
33 Hazen Drive
Concord, NH 03301
Telephone: (603) 271-2330 (Dealer Licenses)
(603) 271-3111 (Titles)

Trade Associations

N.H. Auto & Truck Recyclers Association
Jeff Kantor, President
c/o Car World
134 Raymond Road
Candia, NH 03034
(603) 483-2366

N.H. Automobile Dealers Association
P.O. Box 2337
507 South Street
Concord, NH 03302-2337
1-800-852-3372
www.nhada.com

N.H. Towing Association
P.O. Box 5438
Manchester, NH 03108
www.nhtowingassociation.org
nhta@adelphia.net

Automotive Recyclers Association
3975 Fair Ridge Drive, Suite 20-North
Fairfax, VA 22033
888-385-1005
www.a-r-a.org

Other Helpful Websites

www.nh.gov *At this website, you will find links to various state agencies, N.H. laws, and related N.H. administrative rules.*

www.ecarcenter.org *This website offers nationwide environmental information for auto recyclers.*

www.epa.gov/region01/assistance/salvageyard
This links you to the U.S. Environmental Protection Agency New England Region's salvage yard and auto recycler's webpage.

www.des.nh.gov/SW/GreenYards *This links you to the N.H. Department of Environmental Services Green Yards Program webpage, offering a range of information about auto recycling concerns in N.H.*