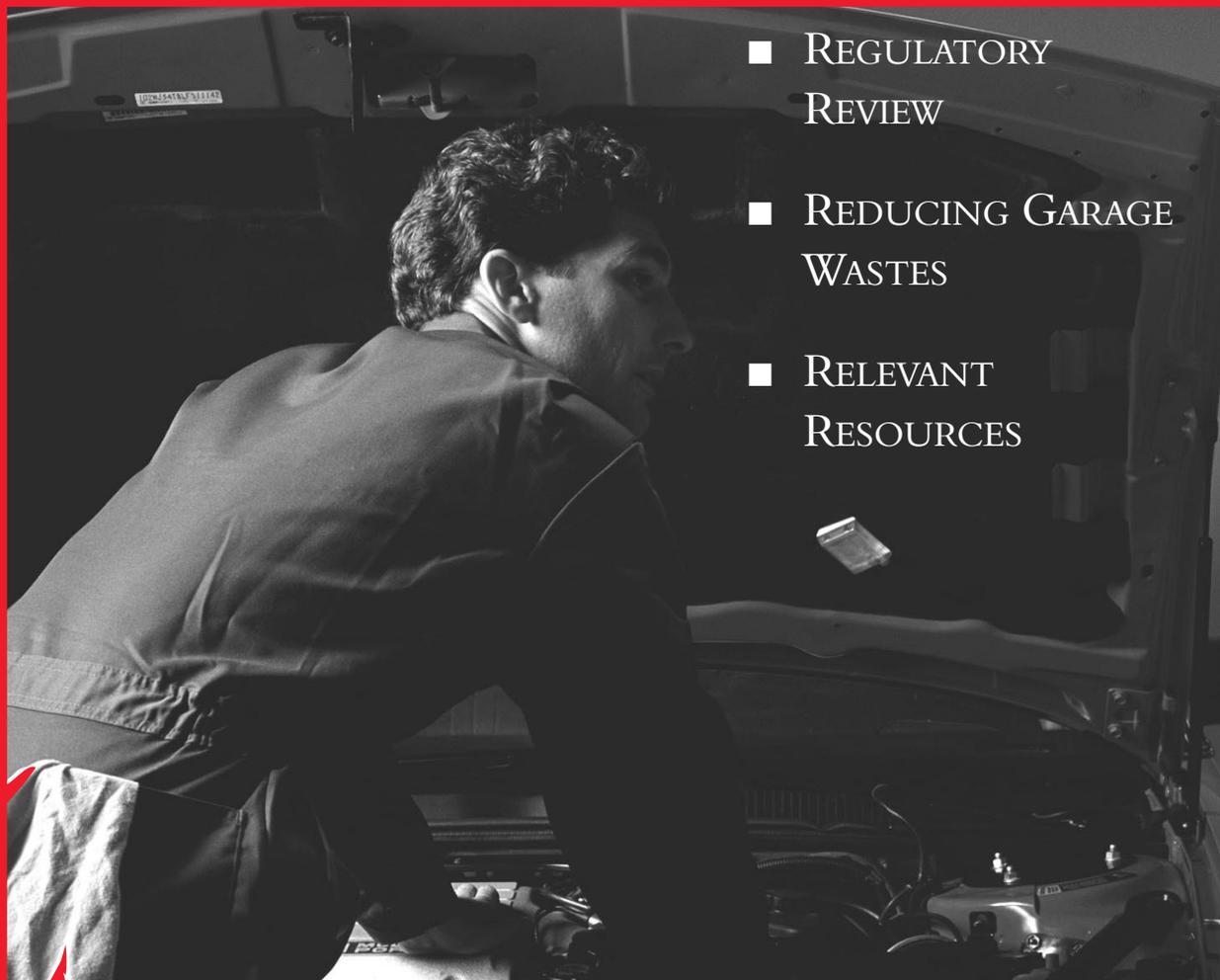


RCRA

INFOCUS

VEHICLE MAINTENANCE



- REGULATORY REVIEW
- REDUCING GARAGE WASTES
- RELEVANT RESOURCES



United States
Environmental Protection
Agency

Solid Waste and
Emergency
Response

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FOR MORE INFORMATION CALL:

RCRA Hotline

U. S. Environmental Protection Agency
800 424-9346 or TDD 800 553-7672.
In the Washington, DC, area: 703 412-9810
or TDD 703 412-3323.

FOREWORD

Foreword

Whether you are tuning an engine, replacing a battery, changing the oil, or doing body work, your vehicle maintenance operations probably generate hazardous wastes. That means you must follow regulations issued by the U.S. Environmental Protection Agency (EPA or the Agency) under a law called the Resource Conservation and Recovery Act (RCRA). Under RCRA, you are required to follow certain practices and procedures associated with the safe management of hazardous waste. *RCRA in Focus* provides an overview of the basic federal regulations covering wastes that are likely to be hazardous in your business. It also provides recycling and pollution prevention options to help businesses decrease the amount of hazardous waste they produce.

FREQUENTLY ASKED QUESTIONS ABOUT RCRA

STATE REQUIREMENTS

You may be regulated by both your state hazardous waste agency and EPA. RCRA allows states to receive legal permission, known as authorization, to implement the RCRA hazardous waste program.

You must always contact your state authority to determine which state requirements apply to your business. To operate a hazardous waste program, a state's regulations must be consistent with, and at least as stringent as, the federal program. Some states adopt more stringent requirements for facilities handling hazardous waste, which are considered part of the authorized program.

MORE QUESTIONS?

Call the RCRA Hotline at 800 424-9346 or TDD 800 533-7672 for additional information about RCRA rules and regulations. In the Washington, DC, area, call 703 412-9810 or TDD 703 412-3323.

What Is RCRA?

RCRA is a federal law that encourages environmentally sound methods for managing commercial and industrial waste as well as household and municipal waste. It regulates facilities that generate, transport, treat, store, or dispose of hazardous waste. The vast majority of vehicle maintenance facilities are considered hazardous waste generators, rather than treatment, storage, and disposal facilities (TSDFs), which are subject to more rigorous regulations.

The term "RCRA" is often used interchangeably to refer to the law, the regulations, and EPA policy and guidance. The *law* describes the waste management program mandated by Congress that gave EPA authority to develop the RCRA program. EPA *regulations* carry out the Congressional intent by providing explicit, legally enforceable requirements for waste management. EPA *guidance documents* and *policy directives* clarify issues related to the implementation of the regulations.

All of the RCRA hazardous waste regulations can be found in the *Code of Federal Regulations (CFR)*, Title 40, Parts 260 to 279. The CFR can be accessed at <www.access.gpo.gov/nara> or purchased through the U.S. Government Printing Office (GPO).

Who Is Regulated?

Any vehicle maintenance facility that generates waste is potentially subject to RCRA hazardous waste requirements. You must conduct tests required by the regulations or use your knowledge of and familiarity with the wastes you generate to determine whether it is hazardous waste (as opposed to other types of waste). You might be subject to substantial civil and criminal penalties if you fail to properly or completely identify hazardous waste generated at your business.

What Is Hazardous Waste?

To be considered hazardous waste, a material first must be classified as a solid waste. EPA defines solid waste as garbage, refuse, sludge, or other discarded material (including solids, semisolids, liquids, and contained gaseous materials). If your waste is considered solid waste, you must then determine if it is hazardous waste. Wastes are defined as hazardous by EPA if they are specifically named on one of four lists of hazardous wastes (listed wastes) or if they exhibit one of four characteristics (characteristic wastes). Each type of RCRA hazardous waste is given a unique hazardous waste code using the letters D, F, K, P, or U and three digits (e.g., D001, F005, P039). See pages 10 to 13 for additional information on vehicle maintenance waste codes.

Listed Wastes. Wastes are listed as hazardous because they are known to be harmful to human health and the environment when not managed properly, regardless of their concentrations. The lists include the following three types of waste:

- **Non-Specific Source Wastes.** These are material-specific wastes, such as solvents, generated by several different industries. Waste codes range from F001 to F039. Examples include methylene chloride and trichloroethylene generated in the vehicle maintenance industry during car and parts washing, degreasing, and paint removal.
- **Specific Source Wastes.** These are wastes from specifically identified industries. Waste codes range from K001 to K161. Vehicle maintenance facilities typically do not generate specific source wastes.
- **Discarded Commercial Chemical Products.** Off-specification products, container residuals, spill residue runoff, or active ingredients that have spilled or are unused and that have been, or are intended to be, discarded. Waste codes range from P001 to P205 and U001 to U411.

Questions

Characteristic Wastes. Even if your waste does not appear on one of the hazardous waste lists, it still might be regulated as hazardous waste if it exhibits one or more of the following characteristics:

- **Ignitability.** Ignitable wastes create fires under certain conditions or are spontaneously combustible, and have a flash point less than 60 °C (140 °F). Examples include waste oils from oil replacement; spent solvents from paint removal, car washing, and degreasing; and methanol used for paint removal. The waste code for these materials is D001.
- **Corrosivity.** Corrosive wastes are acids or bases that are capable of corroding metal containers, such as storage tanks, drums, and barrels. Battery acid is a good example. Phosphoric, hydrochloric, and hydrofluoric acids used in the vehicle maintenance industry for parts cleaning and degreasing are also examples. The waste code for these materials is D002.
- **Reactivity.** Reactive wastes are unstable under “normal” conditions. They can cause explosions, toxic fumes, gases, or vapors when mixed with water. Examples include lithium-sulfur batteries and explosives. The waste code for these materials is D003.
- **Toxicity.** Toxic wastes are harmful or fatal when ingested or absorbed. When toxic wastes are disposed of on land, contaminated liquid may drain (leach) from the waste and pollute ground water. Toxicity is defined through a laboratory procedure called the Toxicity Characteristic Leaching Procedure (TCLP). Certain wastes used in the vehicle maintenance industry for rust-proofing, painting, paint removal and parts washing and degreasing may be considered toxic. The waste codes for these materials range from D004 to D043.

How Are Generators Regulated?

If your vehicle maintenance business generates hazardous waste, you must manage it according to regulations for your specific generator type. Hazardous waste generators are divided into three categories, according to how much they generate in a calendar month:

- **Large Quantity Generators (LQGs).** LQGs generate greater than or equal to 1,000 kg (approximately 2,200 lbs) of hazardous waste per month, or greater than 1 kg (approximately 2.2 lbs) of acutely hazardous waste per month.
- **Small Quantity Generators (SQGs).** SQGs generate more than 100 kg (approximately 220 lbs) but less than 1,000 kg (2,200 lbs) of hazardous waste per month.
- **Conditionally-Exempt Small Quantity Generators (CESQGs).** CESQGs generate less than or equal to 100 kg (220 lbs) of hazardous waste per month, and less than or equal to 1 kg (2.2 lbs) of acutely hazardous waste per month.

Some states do not recognize the CESQG class. Contact your state environmental agency to find out if the CESQG status is recognized. **To find your appropriate state contact, call the RCRA Hotline at 800 424-9346.**

Under the federal RCRA requirements, your generator status might change from one month to the next as the quantity of waste you generate changes. You must comply with whichever standard is applicable for a given month. In many cases, small businesses that fall into different generator categories at different times choose to always satisfy the more stringent requirements (usually state requirements) to simplify compliance. Generators must “count” the amount of waste generated during a calendar month, which involves adding up the total weight of all quantities of characteristic and listed waste generated at a particular facility. Certain wastes, such as those that are reclaimed or recycled continuously on site, are not counted under the federal regulations.

AM I REGULATED BY RCRA OR SUPERFUND?

RCRA regulates the treatment, storage, and disposal of hazardous waste being generated now and in the future. Superfund was created to pay for the identification, inspection, investigation, ranking, and cleanup of abandoned or uncontrolled hazardous waste sites that people responsible for contamination are unable or unwilling to clean up. Call the RCRA Hotline for more information.

HOW ARE UNDERGROUND STORAGE TANKS REGULATED?

If your vehicle maintenance facility stores petroleum on the premises in underground storage tanks (USTs), you are subject to the RCRA regulations for USTs. Regulatory requirements for USTs include instituting measures for corrosion protection, preventing spills and overfills, and implementing a leak detection program that provides monitoring for leaks at least once every 30 days. Vehicle maintenance facilities subject to the UST regulations should contact the Hotline or their state environmental agency for further guidance on UST requirements.

Frequently Asked

Do Exclusions Exist?

The RCRA regulations contain many exclusions for wastes and waste management practices that are not considered to be hazardous. Several exclusions and exemptions pertain specifically to the vehicle maintenance industry. Some states, however, do not recognize the federal exclusions.

As part of your solvent recovery operations, you probably generate wastewaters containing trace amounts of solvents. These wastewaters are typically discharged to a publicly owned treatment works (POTWs) and, therefore, are not considered hazardous waste. The following table provides a description of the exclusions and exemptions that are potentially applicable to the vehicle maintenance industry. Check with your implementing agency (state or EPA Region) for information about additional requirements or special conditions to the exclusions and exemptions.

Exclusions and Exemptions	Description
Domestic Sewage Exclusion	Mixtures of domestic sewage and other wastes that pass through a sewer system to a POTW for treatment are excluded from the definition of solid waste. Generators are encouraged to contact their local POTW to find out what regulations may apply.
Wastewater Treatment Unit Exemption	A tank system used to store or treat wastewater as part of an onsite wastewater treatment facility with a National Pollutant Discharge Elimination System (NPDES) permit or subject to pretreatment standards is exempt from the RCRA regulations.

How Is Used Oil Handled?

RCRA contains special provisions for the management of used oil destined for recycling. These management standards apply to oil refined from crude oil or any synthetic oil that has become contaminated through use by chemical or physical impurities. Used oil that will be recycled is subject to special management standards, rather than the hazardous waste standards, unless it is treated as a waste (i.e., you decide to send the used oil for treatment and disposal rather than recycling).

Vehicle maintenance facilities are likely to be regulated only as *used oil generators*. Vehicle maintenance facilities might generate used oil from changing oil for their customers, from onsite equipment, or from “do-it-yourselfers” who change their own oil.

USED OIL GENERATORS

A used oil generator is any person, by site, who first causes used oil to become subject to regulation.

Used oil standards require generators to comply with basic storage requirements. Used oil can only be stored in containers and tanks that are in good condition (free of any visible leaks, structural damage, or deterioration). Containers, aboveground tanks, and fill pipes used to transfer used oil into underground storage tanks need to be clearly marked with the words “Used Oil” to prevent mixing of used oil with hazardous waste or other materials. In the event of a release from one of

REPORTING REQUIREMENTS FOR GASOLINE AND DIESEL FUEL

Under the Emergency Planning and Community Right-to-Know Act (EPCRA), retail gas stations are required to report the quantities of gasoline and diesel fuel that are stored in underground storage tanks when they reach a certain level.

continued

Questions

these units to the environment, the generator must comply with the response measures, which include stopping and containing the release, properly managing any used oil or contaminated materials, and repairing or replacing the leaking container or tank. Generators of used oil have no time or quantity limitations on storing used oil because it is a marketable commodity. Generators can burn their own used oil and used oil generated by household “do-it-yourselfers” in onsite used-oil fired space heaters without complying with regulations for used oil burners.

People who change their own oil at home, and generators who mix diesel fuel and used oil to be used in their own vehicles as a fuel, are not subject to RCRA used oil regulations. Mixers may have to comply with Clean Air Act requirements.

OFFSITE SHIPMENTS OF USED OIL

Generators are allowed to transport their own used oil as long as: (1) generators bring the used oil to either an approved collection center or self-owned or -operated collection point; (2) the used oil is delivered in shipments of 55 gallons or less; and (3) the used oil is transported in a vehicle owned by the generator or an employee of the generator. If not self-transporting, generators must ensure that their used oil is transported by a transporter who has obtained an EPA identification number.

USED OIL FUEL MARKETERS

Generators may also be considered used oil fuel marketers if they either (1) direct a shipment of off-specification used oil from that facility to a used oil burner or (2) first claim that the used oil going to be burned for energy recovery meets the specification requirements. Most generators do not act as used oil fuel marketers, so they are not required to determine whether their used oil meets the fuel specification.

For more information on the federal used oil requirements, call the RCRA Hotline. Be aware that some states have different requirements than the federal government. Vehicle maintenance facility owners should check with their state environmental agency for more information on the used oil management standards in their state.

REPORTING REQUIREMENTS *continued*

The public and emergency personnel are generally aware that gas stations store significant amounts of gasoline and diesel fuel and that there are hazards associated with these materials. The location of these stations is generally common knowledge and the public is usually welcome on site. In addition, gasoline and diesel fuel stored in underground storage tanks are subject to RCRA handling standards and reporting requirements. Because the goals of EPCRA (see page 15 for more information) are satisfied by these conditions, EPA believes that these substances do not need to be routinely reported under EPCRA when amounts do not exceed specified limits and are stored in underground storage tanks at retail gas stations.

THE LIFE CYCLE OF A TYPICAL VEHICLE MAINTENANCE WASTE

You've just finished some radiator repair work and parts washing at your business. You now have hazardous wastes to manage. You are a small business that performs this type of service on a regular basis. You know it is time to learn about the regulations and comply with them.

This example details a typical waste life cycle at a vehicle maintenance facility. The life cycle presents the hazardous waste management requirements for an SQG from waste generation to shipment off site. Other waste life cycles could be different depending on the waste, the type of waste management units used, and the facility generator status.

1 IDENTIFY WASTE

By running tests or using your knowledge of waste, identify whether the waste is hazardous. Based on these analyses, you determine that your radiator repair and parts washing wastes include waste codes D001, D002, D008, D018, F001, and F002. Keep all records of test results, waste analyses, and other determinations made in the hazardous waste identification process for 3 years.

2 COUNT WASTE

As a second step, determine how much hazardous waste you have produced in a calendar month. You do not need to count wastes discharged in compliance with the Clean Water Act directly to a public sewer leading to a POTW or waste recycled only in an onsite process according to standards.

3 SEND WASTE OFF SITE FOR TREATMENT, STORAGE, OR DISPOSAL

Using a licensed hazardous waste transporter, ship the radiator repair and parts washing waste to a RCRA hazardous waste TSDF accompanied by the appropriate manifest and land disposal restrictions notification and certification. Optional destinations for solvents include a hazardous waste incinerator that will landfill the incinerator ash, a hazardous waste fuel blender who will blend the solvents with other wastes and then burn them for energy recovery in a boiler or industrial furnace, or a facility that will recycle the solvents.

1 PREPARE APPROPRIATE NOTIFICATION AND CERTIFICATION

Ensure that all hazardous waste sent off site for treatment, storage, or disposal is accompanied by appropriate land disposal restrictions (LDRs) program notifications and certifications. (See page 9 for a description of LDRs.)

1 PREPARE HAZARDOUS WASTE MANIFEST

Send a manifest along with all hazardous waste sent off site to a TSDF and keep a copy on site for 3 years. The manifest contains a certification stating that your facility has a program in place to reduce the volume and toxicity of waste generated to the degree economically practicable.

3 DETERMINE GENERATOR STATUS

Based on waste counting, determine your generator status. In this case, your vehicle maintenance facility produces between 100 and 1,000 kg (220 to 2,200 lbs) each month, making it an SQG. If the amount of waste you generate fluctuates from month to month, you may wish to satisfy the more stringent requirements each month to simplify compliance.

4 OBTAIN EPA IDENTIFICATION NUMBER

To identify your business as a hazardous waste generator, obtain an EPA identification number by submitting Form 8700-12 (Notification of Regulated Waste Activity), which can be obtained from your state hazardous waste agency. Remember, your state requirements might be different.

5 PLACE WASTE IN ACCUMULATION UNIT

When the waste is generated, place it in the appropriate accumulation unit. Mark accumulation tanks and containers with the date the waste was placed in the unit as well as the words "Hazardous Waste." Ensure that containers are not rusty or leaking, are stored in areas with adequate ventilation and drainage, and are kept closed except to add or remove waste. You may store your radiator repair and parts washing wastes in the same container provided they are compatible.

6 IMPLEMENT EMERGENCY PREPAREDNESS AND PREVENTION REQUIREMENTS

Check to be sure that emergency preparedness and prevention requirements are met. These include identifying an emergency response coordinator and notifying local emergency response authorities. Post emergency response information near the telephone.

10 FOLLOW U.S. DEPARTMENT OF TRANSPORTATION (DOT) PACKAGING STANDARDS

Before shipping waste off site for treatment, storage or disposal, you should package, label, and mark waste containers in accordance with all applicable DOT requirements. Call the DOT Hotline at 800 467-4922 for information.

9 CONTRACT WITH HAZARDOUS WASTE TRANSPORTER

To send waste off site to a TSDF, contract with a registered hazardous waste transporter. To locate a reliable transporter, contact a colleague to obtain a reference.

8 IMPLEMENT PERSONNEL TRAINING

Be sure your personnel are thoroughly familiar with hazardous waste handling and emergency response procedures.

7 IMPLEMENT CONTINGENCY PROCEDURES

Ensure that a contingency plan is prepared in accordance with standards to minimize hazards from fires, explosions, and unplanned releases. Keep a copy of the contingency plan on site.

REQUIREMENTS FOR REGULATED VEHICLE MAINTENANCE FACILITIES

The following table presents an overview of the federal RCRA regulatory requirements for vehicle maintenance facilities that are either LQGs, SQGs, or CESQGs. As noted, your state might have different or more stringent requirements.

RCRA REGULATORY REQUIREMENTS

REGULATORY REQUIREMENT	LQGs	SQGs	CESQGs	IMPLEMENTATION EXPLANATION
EPA Identification Number	✓	✓		<ul style="list-style-type: none"> Obtain an EPA identification number for each facility within your company. EPA and states use this 12-character identification number to track hazardous waste activities. Obtain an EPA identification number by submitting form 8700-12 (Notification of Regulated Waste Activity), which is provided by your state hazardous waste agency. This is a one-time notification. Contact your state regarding the need for renotification if circumstances at your facility change.
Hazardous Waste Identification				<ul style="list-style-type: none"> Identify whether you generate hazardous waste to determine if you are subject to the RCRA hazardous waste regulations. Test procedures are described in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, SW-846," or tests can be performed by a local laboratory.
Used Oil Standards	✓	✓	✓	<ul style="list-style-type: none"> If you generate used oil, you are subject to a separate set of management standards from the hazardous waste management standards, if the used oil will be recycled. If used oil is to be treated and disposed of, perform the hazardous waste identification step listed above.
Waste Counting	✓	✓	✓	<ul style="list-style-type: none"> Determine how much hazardous waste you generate to determine your generator status.
Accumulation Area	✓	✓		<ul style="list-style-type: none"> You can accumulate waste in a "satellite accumulation area" with minimal regulatory burden. This area must be at or near the point of generation and under the control of the operator of the process generating the waste. There is no time limit on accumulation in the satellite accumulation area for waste under 55 gallons. There is a 55-gallon accumulation limit in the satellite accumulation area. Excess waste beyond the 55-gallon limit must be moved from the satellite accumulation area within 3 days. You must accumulate the waste in containers. Waste containers must be marked with the words "Hazardous Waste" or other words that identify their contents. This waste is exempt from other accumulation provisions while in the satellite accumulation area.
Other Accumulation Areas (Time and Quantity Limits)	✓	✓	✓	<ul style="list-style-type: none"> If waste accumulation does not meet the requirements for satellite accumulation, it is subject to more stringent requirements. LQGs can accumulate waste on site for up to 90 days without a permit. SQGs can accumulate waste for 180 days, or 270 days if the SQG must transport the waste more than 200 miles to a destination facility. Begin counting accumulation time when waste is first generated or removed from satellite accumulation area. Waste must be put in an exempt unit, recycled, or sent off site within the proper time period stated above. If an LQG or SQG accumulates wastes beyond the allotted time period, the facility is fully subject to the requirements of a hazardous waste storage facility unless granted an exemption. SQGs cannot accumulate more than 6,000 kg of hazardous waste at any time. CESQGs cannot accumulate more than 1,000 kg of hazardous waste, more than 1 kg of acutely hazardous waste, or 100 kg of spill residue from acutely hazardous waste at any time.
Accumulation Unit Requirements	✓	✓		<ul style="list-style-type: none"> Accumulate waste only in units that are in good condition, remain closed except when adding or removing, are inspected at least weekly, are compatible with the types of waste, and meet special standards for ignitable waste and incompatible reactive waste. LQGs can use accumulation tanks and containers that have been assessed for integrity, have a secondary containment system, and are inspected each operating day. (SQGs can use certain accumulation tanks and containers). LQGs can use containment buildings. For all units, the date that the accumulation period begins must be clearly marked and visible on each container. All containers and tanks must be clearly marked or labeled with the words "Hazardous Waste," and accumulation units must be shut down and closed permanently in accordance with standards at the end of the unit life. LQGs and SQGs can treat their waste without a RCRA storage permit in accumulation units that meet standards.
Air Emissions	✓			<ul style="list-style-type: none"> LQGs must comply with organic air emissions requirements.
Preparedness and Prevention	✓	✓		<ul style="list-style-type: none"> LQGs and SQGs must comply with preparedness and prevention requirements, including the following: <ul style="list-style-type: none"> - An adequate internal alarm or communications system. - A device capable of summoning emergency personnel. - Portable fire control equipment.

				<ul style="list-style-type: none"> - Portable fire control equipment. - Adequate water pressure to operate fire control systems. - Adequate testing and maintenance of all emergency systems. - Access to communication or alarm systems during waste handling activities. - Adequate aisle space for emergency response. - An arrangement with local emergency response authorities.
Contingency Plan	✓	✓		<ul style="list-style-type: none"> • LQG facilities must prepare a facility contingency plan in accordance with regulations. • The contingency plan must be designed to minimize hazards from fires, explosions, or any unplanned release of hazardous waste or constituents. • A copy of the contingency plan must be kept on site and an additional copy must be submitted to all local emergency services providers. • LQGs and SQGs must have an emergency coordinator on site or on call at all times to respond to emergencies. • Emergency response information must be posted next to the telephone. • In the event of a fire, explosion, or release that could threaten human health outside the facility, or when a spill has reached surface water, the emergency coordinator must notify the National Response Center at 800 424-8802.
Personnel Training	✓	✓		<ul style="list-style-type: none"> • LQGs must have a personnel training program in accordance with regulatory standards. - Training must instruct facility personnel about hazardous waste management procedures and emergency response. - Training must be completed within 6 months from the applicability of requirements. - The facility must undertake an annual review of initial training. • SQGs must ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures relevant to their responsibilities.
DOT Packaging	✓	✓	✓	<ul style="list-style-type: none"> • Before being transported, waste must be packaged, labeled, and marked in accordance with applicable DOT requirements. Call the DOT hazardous materials information line at 202 366-4488 for information.
Offsite Management of Waste	✓	✓	✓	<ul style="list-style-type: none"> • Hazardous waste sent off site for handling may only be sent to a hazardous waste TSDf or recycling facility unless otherwise exempt • CESQGs: See onsite management of waste below.
Onsite Management of Waste			✓	<ul style="list-style-type: none"> • CESQGs may either treat waste on site, if the generator qualifies as one of the following types of facilities, or ensure delivery of waste to one of the following types of facilities: permitted RCRA TSDf; interim status TSDf; state-authorized to handle hazardous waste; permitted, licensed, or registered by state to handle municipal solid waste according to standards; permitted, licensed, or registered by state to handle non-municipal waste; if managed after January 12, 1998, facility is permitted, licensed, or registered by state to handle non-hazardous waste in accordance with standards; facility beneficially uses or reuses, or legitimately recycles or reclaims its waste; facility treats its waste prior to beneficial use, reuse, or legitimate recycling or reclamation; or a universal waste handler in accordance with standards.
Manifest	✓	✓		<ul style="list-style-type: none"> • Hazardous waste sent off site must be accompanied by a manifest, a multipage form that documents the waste's progress through treatment, storage, and disposal. It can be obtained from your state agency. • The manifest must have enough copies to provide the generator, each transporter, and the destination facility with one copy for their records and a second copy to be returned to the generator after completion by the destination facility operator. • SQGs that have a contractual agreement with a waste reclaimer that specifies the types and frequencies of shipments do not need to manifest the wastes if they retain a copy of the agreement in their files.
Land Disposal Restrictions Notification	✓	✓		<ul style="list-style-type: none"> • Waste must meet certain treatment standards under the LDR program. Waste must be treated to reduce the hazardous constituents to levels set by EPA or the waste must be treated using a specified technology. All waste sent off site for treatment, storage, and disposal must be accompanied by appropriate LDR program notifications and certifications. There are no required forms, but these papers must indicate whether or not wastes meet treatment standards, or whether the waste is excluded from the definition of hazardous or solid waste or is otherwise exempt.
Hazardous Waste Minimization	✓	✓		<ul style="list-style-type: none"> • To encourage generators to produce less hazardous waste, LQGs are required to have a program in place to reduce the volume and toxicity of waste generated to the degree economically practicable, and must select a currently available treatment, storage, or disposal method that minimizes present and future threats. • LQGs and SQGs must sign a certification of hazardous waste minimization on the manifest. • SQGs must make a good faith effort to minimize waste generation and to select the best available waste management method that they can afford.
Biennial Report	✓			<ul style="list-style-type: none"> • LQGs must submit biennial reports of waste generation and management activity by March 1 of every even-numbered year. EPA, other agencies, and the public use this information to track trends in hazardous waste management.
Recordkeeping	✓	✓		<ul style="list-style-type: none"> • LQGs must maintain personnel training records until the facility closes. • LQGs must keep copies of each biennial report for 3 years. • LQGs and SQGs must keep a copy of each manifest for 3 years. • LQGs and SQGs must keep records of test results, waste analyses, and other hazardous waste determinations for 3 years.

REDUCE OR MINIMIZE THE HAZARDOUS WASTES YOU GENERATE

The following examples show hazardous wastes typically generated by the vehicle maintenance industry and provide suggestions for how to recycle, treat, or dispose of them according to federal regulations.

Recycling and pollution prevention measures can significantly reduce your regulatory burden and may save your facility considerable money. This section presents information on hazardous wastes typically generated by various vehicle maintenance activities and provides suggestions for how to recycle them or implement pollution prevention measures. This list might not cover all chemicals used or wastes produced by the vehicle maintenance industry. Consult the hazardous waste lists and characteristics to determine if you generate other hazardous wastes.

Only the federal hazardous waste codes are provided here. Your state might have different codes for some waste streams. You should check with your state hazardous waste authority for additional waste codes and requirements.

PROCESS

Chemicals Used and/or Generated

Possible RCRA Waste Codes

Potential Pollution Prevention Methods

PROCESS

Chemicals Used and/or Generated

Possible RCRA Waste Codes

Potential Recycling Treatment and Disposal Methods

Potential Pollution Prevention Methods

PROCESS

Chemicals Used and/or Generated

Possible RCRA Waste Codes

Air Conditioner Maintenance	
Chemicals Used and/or Generated	Dichlorodifluoromethane (CFC-12).
Possible RCRA Waste Codes	U075 (if unused).
Potential Pollution Prevention Methods	<ul style="list-style-type: none"> Reclaim spent CFCs.
Battery Replacement	
Chemicals Used and/or Generated	Lead dross, zinc, copper, and spent sulfuric acid.
Possible RCRA Waste Codes	D002 and D008.
Potential Recycling Treatment and Disposal Methods	<ul style="list-style-type: none"> Arrange for spent battery collection and recycling. Ship waste using a registered transporter to a hazardous waste TSDf for treatment and disposal.
Potential Pollution Prevention Methods	<ul style="list-style-type: none"> Install longer life batteries.
Body Repair and Refinishing	
Chemicals Used and/or Generated	Scrap metal.
Possible RCRA Waste Codes	D006, D007, and D008.

**Potential Recycling,
Treatment, and
Disposal Methods**

PROCESS

**Chemicals Used
and/or Generated**

**Possible RCRA
Waste Codes**

**Potential Recycling,
Treatment, and
Disposal Methods**

**Potential Pollution
Prevention Methods**

PROCESS

Wastes Generated

**Possible RCRA
Waste Codes**

**Potential Recycling,
Treatment, and
Disposal Methods**

**Potential Pollution
Prevention Methods**

PROCESS

Wastes Generated

**Possible RCRA
Waste Codes**

**Potential Recycling,
Treatment, and
Disposal Methods**

- Send parts to be rebuilt or recycled as scrap metal.
- Sweep or vacuum dust for proper disposal.

Car Washing

Methylene chloride, trichloroethylene, aromatic, and chlorinated hydrocarbons.

D001, F002, D040, U080, and U228.

- Filter and reuse wastewaters.
- Collect wastewaters and ship off site using a registered transporter to a hazardous waste TSDF for treatment and disposal.
- Pretreat (if necessary) and discharge wastewaters following Clean Air Act requirements.
- Use a grit separator before discharging wastewaters.

Oil and Fluid Replacement

Used oil, oil filters, and fuel filters contaminated with cadmium, chromium, lead, benzopyrene; ethylene glycol (antifreeze) contaminated with lead; petroleum distillates; and chlorinated hydrocarbons.

D001, D006, D007, and D008.

- Store fluids separately to make it easier to recycle.
- Recycle used oil and antifreeze.
- Recycle drained oil filters and fuel filters as scrap metal.
- Ship hazardous waste using a registered transporter to a hazardous waste TSDF for treatment and disposal.
- Use drip pans to prevent contamination of the floor and subsequent floor-cleaning solutions.
- Use a long-lasting, high-performance oil that needs less frequent changing.
- Use fluids (e.g., brake, transmission, etc.) that do not contain chlorinated hydrocarbons.

Rustproofing, Painting, and Paint Removal

Spent halogenated and nonhalogenated solvents such as acetone, toluene, benzene, xylene, methanol, methylene chloride, isopropyl alcohol; waste paint thinner and paint; paint filters; and spent rags and wipes.

D001, D035, F002, and F003.

- Keep waste paint and paint sludge separate from waste thinner.
- Collect rustproofing drippage and dispose of properly.
- Collect hazardous waste and ship it using a registered transporter to a hazardous waste TSDF for treatment and disposal.
- Reclaim solvents and paint thinners on site (small stills are available in a variety of volumes), or send for recycling.
- Give leftover paint to the customer.
- Use recyclable paint filters.

Potential Pollution Prevention Methods

- Use mechanical paint stripping methods such as plastic blast media instead of solvents.
- Use high transfer efficiency equipment (e.g., equipment with a low over-spray) to reduce air emissions.
- Replace chlorinated solvents with nonchlorinated products.
- Use water-based paint when possible (the number of less hazardous paint choices is increasing).

PROCESS

Parts Washing and Degreasing

Wastes Generated

Benzene, phosphoric acid, hydrochloric acid, hydrofluoric acid, sodium hydroxide, heavy metals, petroleum distillates, and spent rags and wipes.

Possible RCRA Waste Codes

D001, D002, D018, D008, and F001.

Potential Recycling, Treatment, and Disposal Methods

- Ship hazardous waste using a registered transporter to a hazardous waste TSDF for treatment and disposal.
- Reclaim used solvents on site, or contract with a recycling facility.
- Reuse solvents; for example, rinse with used solvent followed by a small amount of fresh solvent.

Potential Pollution Prevention Methods

- Don't over-clean parts and use as little solvent as necessary.
- Keep solvent containers sealed when possible to prevent volatilization and reduce emissions.
- Use a self-contained recirculating solvent sink. Contract with a solvent service company to take sludges and used solvent and maintain the sink.
- Substitute aqueous or alkaline cleaners instead of hazardous solvents.
- Use steam cleaners, heat baths, or high-pressure washing units instead of units using solvents. These methods can also be used to preclean, lessening solvent use and contamination.
- Preclean parts with dry rags or brushes to limit use and contamination of solvents, then reuse rags and solvents.
- Install a drip rack over cleaning tanks to confine drips to the cleaning process.
- Allow more drainage time.
- Skim off petroleum contaminants and reuse rinse waters.

PROCESS

Product Storage and Storage Tank Cleaning

Wastes Generated

Various solvents and petroleum products potentially outdated or off-specification.

Possible RCRA Waste Codes

D001 and F001.

Potential Recycling, Treatment, and Disposal Methods

- Ship off-specification and outdated products using a registered transporter to a hazardous waste TSDF for treatment and disposal.
- Reclaim/reuse off specification products.

Potential Pollution Prevention Methods

- Use a first in, first out policy in storage areas to prevent materials from becoming outdated.
- Computerize inventory control.
- Routinely inspect storage areas.
- Comply with UST design standards and monitoring to prevent leaks.

PROCESS

Wastes Generated

Radiator Repair

Zinc chloride (coolant), chlorinated solvents, and lead solder.

Possible RCRA Waste Codes

D001, D002, D008, and F002.

Potential Recycling, Treatment, and Disposal Methods

- Collect and reclaim solvents. Store them separately, do not contaminate.
- Ship hazardous waste using a registered transporter to a hazardous waste TSD for treatment and disposal.

Potential Pollution Prevention Methods

- Adjust process to reduce solvent use (e.g., use compressed air to blow out residual alkaline solution after removing from boil-out tank, then collect and return to tank).
- Employ lead-free or reduced lead solder.
- Use a recyclable type of radiator fluid and collect flushing liquid for reuse.

PROCESS

Tire Replacement

Wastes Generated

Scrap tires.

Possible RCRA Waste Codes

None.

Potential Recycling, Treatment, and Disposal Methods

- Ship scrap tires using a registered hauler to a scrap tire processor, such as a licensed energy recovery facility, or a reuse, retreading or recycling facility.
- Ship scrap tires using an appropriate hauler to a permitted, nonhazardous waste landfill. Be sure the landfill accepts tires.

PROCESS

Shop Cleanup

Wastes Generated

Used oil and drain or sump sludges contaminated with metals, petroleum, solvents, and spent rags and wipes.

Possible RCRA Waste Codes

D001, D002, D008, and F002.

Potential Recycling, Treatment, and Disposal Methods

- Properly store wastes in hazardous waste accumulation tanks or containers.
- Ship hazardous waste using a registered transporter to a hazardous waste TSD for treatment and disposal.

Potential Pollution Prevention Methods

- Use good housekeeping practices to prevent contaminants from reaching the floor (drip pans, worker training and incentives, proper containers for wastes).
- Use less hazardous cleaners (biodegradable when possible).
- Do not use solvents for cleaning floors.
- Avoid disposing of partially used rags or absorbents. Use them to their limit.

OTHER ENVIRONMENTAL LAWS AFFECTING THE VEHICLE MAINTENANCE INDUSTRY

THE CLEAN WATER ACT

The Water Pollution Control Act, commonly known as the Clean Water Act (CWA), is the federal program designed to restore and maintain the integrity of the nation's surface waters. CWA controls direct discharges to surface waters (e.g., through a pipe) from industrial processes or stormwater systems associated with an industrial activity. It also regulates indirect discharges, or discharges to publicly owned treatment works (POTWs) through a public sewer system, by requiring industrial facilities to pretreat their waste before discharging to a public sewer. Industrial pollutants from the vehicle maintenance industry that the CWA may regulate include toluene, trichloroethylene, and metals such as lead and cadmium.

CWA Resources:

- 40 CFR Parts 100 to 129 and 400 to 503
- EPA Office of Water home page: <www.epa.gov/OW>
- EPA Office of Water: 202 260-5700
- Your state water authority, regional EPA office, and your local POTW

Oil Pollution Prevention Under the CWA

The Oil Pollution Prevention regulations were promulgated under the authority of the CWA. These regulations establish requirements for facilities to prevent oil spills from reaching the navigable waters of the United States or adjoining shorelines. The regulations apply to non-transportation-related facilities with a specific aboveground or underground oil storage capacity that, because of their location, can reasonably be expected to discharge oil into the navigable waters of the United States.

Vehicle maintenance facilities may be subject to spill prevention control countermeasures (SPCC) under the CWA. A facility is subject to SPCC if it has 1,320 gallons or more of aboveground storage capacity (or 660 gallons or greater oil storage capacity in a single container). Vehicle maintenance facilities subject to SPCC must develop an SPCC Plan, which includes provisions for appropriate containment or diversionary structures to prevent spills of oil from reaching navigable waters.

Oil Pollution Prevention Regulation Resources:

- 40 CFR Part 112
- Internet access: <www.epa.gov>

THE CLEAN AIR ACT

The Clean Air Act (CAA) regulates air pollution. It includes national emission standards for new stationary sources within particular industrial categories. It also includes national emission standards for hazardous air pollutants, which are designed to control the emissions of particular hazardous air pollutants (HAPs). Vehicle maintenance facilities might have to comply with NESHAP regulations if they use halogenated solvent cleaning machines. The CAA also seeks to prevent the accidental release of certain hazardous chemicals and to minimize the consequences of such releases.

CAA Resources:

- 40 CFR Parts 50 to 99
- Control Technology Center, Office of Air Quality, Planning and Standards, EPA, general information: 919 541-0800, publications: 919 541-2777
- Internet access: <www.epa.gov/ttn/catc>

COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (CERCLA OR SUPERFUND)

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, commonly known as Superfund, authorizes EPA to respond to releases, or threatened

CFR GUIDE TO HAZARDOUS WASTE REGULATIONS

To review the RCRA regulations referred to in this document, consult the following citations in Title 40 of the *Code of Federal Regulations*:

Part 260—Hazardous waste management system: general.

Part 261—Identification and listing of hazardous waste.

Part 262—Standards applicable to generators of hazardous waste.

Part 263—Standards applicable to transporters of hazardous waste.

Part 264—Standards for owners and operators of hazardous waste and specific types of hazardous waste management facilities.

Part 265—Interim status standards for owners and operators of hazardous waste TSDFs.

Part 266—Standards for the management of specific hazardous wastes and specific types of hazardous waste management facilities.

continued

Laws Affecting Vehicle

releases, of hazardous substances that might endanger public health, welfare, or the environment, that might come from any source. Superfund also grants EPA the authority to force parties responsible for environmental contamination to clean it up or to reimburse response costs incurred by EPA. If vehicle maintenance facility operators or their landlords, for instance, are responsible for ethylene glycol contamination by having ethylene-glycol-containing wastewater leak through sewer pipes, they may be held liable. The person in charge at your business must report to the National Response Center (phone: 800 424-8802) any release of a hazardous substance that exceeds a designated “reportable quantity” for that substance within a 24-hour period.

Superfund Resources:

- Internet access: <www.epa.gov/superfund>

THE EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT

The Superfund Amendments and Reauthorization Act (SARA) of 1986 created the Emergency Planning and Community Right-to-Know Act (EPCRA). This law was designed to improve community access to information about potential chemical hazards and to facilitate the development of chemical emergency response plans by state and local governments. The EPCRA regulations establish several types of reporting obligations for facilities that store or manage specified chemicals over certain quantities. A release of methylene chloride into the environment from a vehicle maintenance facility exceeding 1,000 lbs within a 24-hour period would require an emergency release notification, for example. Many of the chemicals used by vehicle maintenance facilities, such as ethylene glycol, toluene, and trichloroethylene, may be considered hazardous chemicals by the Occupational Safety and Health Administration as well. These are subject to additional requirements under EPCRA.

EPCRA Resources:

- 40 CFR Parts 350 to 372
- The State Emergency Response Commission (contact available from RCRA Hotline)
- Internet access: <www.epa.gov/opptintr/tri/index.htm> and <www.epa.gov/swercepp>

SAFE DRINKING WATER ACT

The Safe Drinking Water Act (SDWA) mandates that EPA establish regulations to protect human health from contaminants present in drinking water. Under the authority of the SDWA, EPA developed national drinking water standards and created a joint federal-state system to ensure compliance with these standards. EPA also regulates underground injection of liquid wastes under the SDWA to protect underground sources of drinking water.

SDWA Resources:

- 40 CFR Parts 141 to 148
- SDWA Hotline: 800 426-4791
- Internet access: <www.epa.gov/ogwdw>

TOXIC SUBSTANCES CONTROL ACT

The Toxic Substances Control Act (TSCA) allows EPA to collect data on chemicals to evaluate, assess, mitigate, and control risks that might be posed by their manufacture, processing, and use. The vehicle maintenance industry is required to report information as necessary to allow EPA to develop and maintain this inventory.

TSCA Resources:

- 40 CFR Parts 702 to 799
- TSCA Hotline: 202 554-1404
- Internet access: <www.epa.gov/internet/oppts>

CFR GUIDE

continued

Part 268—Land disposal restrictions.

Part 270—EPA administered permit programs: the Hazardous Waste Permit Program.

Part 271—Requirements for authorization of state hazardous waste programs.

Part 272—Approved state hazardous waste management programs.

Part 273—Standards for universal waste management.

Part 279—Standards for the management of used oil.

See the regulations at <www.access.gpo.gov/nara>.

FOR MORE INFORMATION

For additional information on any of these laws, contact the RCRA Hotline at 800 424-9346 or 703 412-9810 in the Washington, DC, area. TDD (hearing impaired): 800 553-7672 or 703 412-3323 in the Washington, DC, area.

CONTACTS AND RESOURCES

Contacts

HOTLINES AND INFORMATION CENTERS

RCRA Hotline

U.S. Environmental Protection Agency
Phone: 800 424-9346 or
TDD 800 553-7672.

In the Washington, DC, area: 703 412-9810, or TDD 703 412-3323.

Home page: <www.epa.gov/epaoswer/hotline>

Answers questions on matters related to RCRA solid waste, hazardous waste, and underground storage tanks, EPCRA, and CERCLA.

RCRA Information Center

U.S. Environmental Protection Agency
RCRA Information Center (5305W)

401 M Street, SW.
Washington, DC 20460
Phone: 703 603-9230
Fax: 703 603-9234

E-mail: rcra-docket@epa.gov

Holds and provides public access to all regulatory materials on RCRA and distributes technical and nontechnical information on RCRA issues.

Small Business Ombudsman Clearinghouse/Hotline

U.S. Environmental Protection Agency
Small Business Ombudsman (2131C)
401 M Street, SW.

Washington, DC 20460
Phone: 800 368-5888
Fax: 202 401-2302

Home page:
<www.smallbiz-enviroweb.org>

Helps private citizens, small businesses, and smaller communities with questions on all program aspects within EPA.

EPA Headquarters Library

U.S. Environmental Protection Agency
Headquarters Library
401 M Street, SW, Room 2904
Washington, DC 20460

Phone: 202 260-5921 or 5922
Fax: 202 260-6257

E-mail: library-HQ@epa.gov

Home page: <www.epa.gov/natlibra/liblists.html>

Maintains environmental reference materials for EPA staff and the general public, including books, journals, abstracts, newsletters, and audiovisual materials generated by government agencies and the private sector. Also provides access to online computer service bulletin boards and CD-ROM systems.

Pollution Prevention Information Clearinghouse (PPIC)

U. S. Environmental Protection Agency
Pollution Prevention Clearinghouse (PPIC)

401 M Street (7409)
Washington, DC 20460
Phone: 202 260-1023
Fax: 202 260-4659

E-mail: ppic@epa.gov

U.S. Department of Transportation

Hazardous Materials Information Center
Phone: 800 467-4922

Provides information about DOT's hazardous materials regulations.

U.S. Government Printing Office

Superintendent of Documents
P.O. Box 371954

Pittsburgh, PA 15250-7954
Phone: 202 512-1800
Fax: 202 512-2250

Home page: <www.access.gpo.gov>

Prints and distributes the *Code of Federal Regulations*. Title 40, Parts 260 to 299, contains most of the RCRA requirements.

National Response Center (NRC)

Phone: 800 424-8802

In the event of a fire, explosion, or other release of hazardous waste that could threaten human health outside the facility, call the NRC to report the emergency. The NRC will evaluate the situation and help you make appropriate emergency decisions.

ADDITIONAL INTERNET ADDRESSES

EPA Home Page

<www.epa.gov>

EPA RCRA Hazardous Waste Resources

<www.epa.gov/osw/topics.htm>

Code of Federal Regulations

<www.epa.gov/docs/epacfr40>

Envirosense

<es.inel.gov>

(contains technical, policy, and general information on pollution prevention topics)

Office of Enforcement and Compliance Assurance

<es.epa.gov/oeca/mfcac.html>

(provides easy to understand compliance information targeted to specific industry sectors)

RCRA Online

<www.epa.gov/rcraonline>

(searchable database with interpretive memos and other information written by EPA to clarify regulations)

Coordinating Committee for Automotive Repair

<www.ccar-greenlink.org> (contains links to more than 25 automotive industry Internet sites)

OTHER INDUSTRY CONTACTS

Coordinating Committee for Automotive Repair
11301 Nall Avenue; Suite 203
Leawood, KS 66211
Phone: 1 888 GRN-LINK (476-5465)
E-mail: ccarinfo@unicom.net
(CCAR is a coalition of the automotive repair industry representing more than 25 affiliate organizations.)

OTHER RESOURCES

Vehicle Maintenance Industry Overview (EPA530-SW-90-027a) explains some of the areas of vehicle maintenance that might generate hazardous waste and lists ways to minimize the generation of hazardous wastes. This document can be ordered from the National Center for Environmental Publications and Information: 800 490-9198.

Call the RCRA Hotline (800 424-9346) to order any of the following documents:

Understanding the Hazardous Waste Rules: A Handbook for Small Businesses, 1996 Update (EPA530-K-95-001) provides an overview to help small business owners and operators understand how best to comply with federal hazardous waste management regulations. This booklet defines the three categories of hazardous waste generators and assists small businesses in determining if federal regulations apply. This document also explains

how to obtain an EPA identification number, manage waste on site and ship waste off site.

RCRA: Reducing Risk From Waste (EPA530-K-97-004) provides a brief overview of the national RCRA program and the role of the states. This booklet defines RCRA hazardous waste and how the RCRA regulations apply to generators, transporters, and TSDFs. It focuses on hazardous waste by also addresses municipal and industrial nonhazardous solid waste. It provides examples of waste and waste treatment and disposal methods, waste minimization tips, links to other environmental laws related to hazardous substances, a glossary of terms, and a guide to the RCRA sections of the *Code of Federal Regulations*.

Call the EPA Office of Enforcement and Compliance (202 564-7032, Everett Bishop) to order the following:

Consolidated Screening Checklist for Automotive Repair Facilities Guidebook (EPA305-8-97-005) This screening checklist and guidebook provides the basic information a shop owner and facility manager needs to know to be in substantial compliance with federal environmental regulations.

Fuel for Thought...How to Reduce Wastes at Your Shop (EPA305-K-96-002) lists practical pollution prevention tips for vehicle maintenance shops.



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