

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

---

# The Used Oil Recycling Handbook

**GUIDANCE FOR USED OIL HANDLERS**





**Kathleen Hartnett White**, *Chairman*  
**R. B. “Ralph” Marquez**, *Commissioner*  
**Larry R. Soward**, *Commissioner*  
**Glenn Shankle**, *Executive Director*

Published and distributed by  
Texas Commission on Environmental Quality  
PO Box 13087  
Austin TX 78711-3087

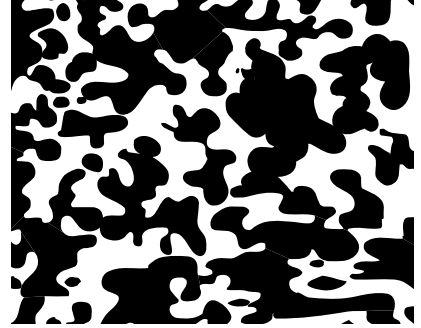
Authorization for use or reproduction of any original material contained in this publication—that is, not obtained from other sources—is freely granted. The commission would appreciate acknowledgment.

Copies of this publication are available for public use through the Texas State Library, other state depository libraries, and the TCEQ Library, in compliance with state depository law. For more information on TCEQ publications call 512/239-0028 or visit our Web site at:

[www.tceq.state.tx.us/publications](http://www.tceq.state.tx.us/publications)

**This is a guidance document and should not be interpreted as a replacement to the rules.** The rules for used oil recycling are found in 30 Texas Administrative Code (TAC) Chapter 324.

---



# The Used Oil Recycling Handbook

*RG-325 (Rev. 11/05)*

*Prepared by:*  
Permitting and Remediation Support Division, MC-129  
Texas Commission on Environmental Quality  
P.O. Box 13087  
Austin, Texas 78711-3087

GUIDANCE FOR USED OIL HANDLERS

# Contents

3	General Introduction
4	Glossary
11	Chapter 1—Basics of Used Oil Recycling
23	Chapter 2—Collection and Management of Used Oil
31	Chapter 3—Technical Aspects of Used Oil Recycling
47	Index

## List of Figures

Figure 1-1. Used Oil or Hazardous Waste? .....	15
--	----

## List of Tables

Table 1-1. Which Requirements of the Used Oil Management Standards Apply to You? .....	14
Table 1-2. Which Chapter Applies—324 or 335? .....	17
Table 2-1. Types of Used Oil Handlers .....	25
Table 2-2. Examples of Facilities Eligible for an Exemption from the Automotive Oil Fee ....	27
Table 3-1: Managing Mixtures of Used Oil and Hazardous Waste .....	34
Table 3-2: Analytical Methods for Organic Halogens Determination .....	36
Table 3-3: Specifications for Used Oil Burned for Energy Recovery .....	38
Table 3-4: Total Halogen Content for Used Oil as a Fuel .....	39
Table 3-5: Some Analytical Methods for Used Oil Fuel Specifications .....	40

# General Introduction

This handbook has been created to help used oil handlers follow state and federal regulations on recycling used oil and notifying the Texas Commission on Environmental Quality (TCEQ) about their activities. This handbook should not be interpreted as a replacement for the rules, but should be read in conjunction with them. Specifically, this handbook gives guidance on regulations in Title 30 of the Texas Administrative Code (TAC), Chapter 324 (Used Oil Recycling). The rules apply to recycled used oil that is generated, transported, stored, marketed, processed or re-refined, and burned in Texas. Correct and timely compliance with the regulations helps to protect the states's environment and safeguard the health of Texas citizens.

A glossary is included that first lists definitions of acronyms, followed by definitions of terms and phrases that occur frequently in association with used oil. Definitions found in this glossary are intended to help the reader understand how the words are being used in this handbook.



# Glossary

For readers' convenience, this glossary briefly describes acronyms and terms as they are used in the *Used Oil Recycling Handbook*. These descriptions do not replace any definitions in laws or regulations. And these lists do not include all the acronyms and terms found in reading about used oil recycling.

## Acronyms

**AST** – Aboveground storage tank  
**CERLCA** – Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (known as Superfund)  
**CESQG** – Conditionally Exempt Small-Quantity Generator  
**CFCs** – Chlorofluorocarbons  
**CFR** – Code of Federal Regulations  
**DIY** – Do-it-yourselfer  
**EPA** – Environmental Protection Agency  
**FR** – Federal Register  
**HW** – Hazardous waste  
**MSWLF** – Municipal solid waste landfill  
**NFPA** – National Fire Protection Association  
**NOR** – Notice of Registration  
**PCBs** – Polychlorinated biphenyls

**ppm** – Parts per million  
**PST** – Petroleum storage tank  
**RCRA** – Resource Conservation and Recovery Act  
**RRC** – Railroad Commission of Texas  
**SB** – Senate Bill  
**SPCC** – Spill Prevention, Control, and Countermeasures Plan  
**SSD** – Service station dealer  
**TAC** – Texas Administrative Code  
**TCEQ** – Texas Commission on Environmental Quality  
**TCLP** – Toxicity characteristic leaching procedure  
**THSC** – Texas Health and Safety Code  
**TOX** – Total organic halogens  
**TPH** – Total petroleum hydrocarbons  
**TSCA** – Toxic Substances Control Act  
**TxDOT** – Texas Department of Transportation  
**UST** – Underground storage tank

## Terms and Phrases

**Aboveground storage tank (AST)** — a stationary device made of non-earthen materials (such as steel or plastic) that is designed to hold an accumulation of petroleum products and that is located on or above the surface of the ground.

**Base stock** — used oil after it has been treated and impurities extracted.

**Bill of lading** — a document evidencing the receipt of goods for shipment issued by a person engaged in the business of transporting or forwarding goods.

**Biodegradable** — capable of being broken down by the actions of living things.

**Bioremediation** — the application of organisms to a waste (in this case, used oil and/or absorbents) to reduce or eliminate its levels of contaminants (for example, total petroleum hydrocarbons [TPH], benzene, toluene, ethylbenzene, xylene, and others).

**Characteristically hazardous used oil** — used oil that exhibits one or more of these characteristics:

- Ignitability (flash point of less than 140 degrees Fahrenheit)
- Corrosivity (pH of 2 or less or 12.5 or more)
- Reactivity (capable of violent reaction or explosion)
- Toxicity (leaches more than the maximum contaminant levels in 40 CFR 261.24, Table 1)

**Chlorinated paraffin** — a paraffin oil or wax in which some of the hydrogen atoms have been replaced by chlorine or a chlorine compound. Chlorinated paraffin is non-flammable, has low toxicity, and is used in high-pressure lubricants. Paraffin is a substance that is made of carbons and varies with increasing molecular weight from a gas to a waxy solid.

**Chlorofluorocarbons** — simple gaseous compounds containing carbon, chlorine, fluorine, and sometimes hydrogen, that are used in refrigerants, cleaning solvents, and aerosol propellants.

**Combustion engine** — a machine for converting energy through a chemical process into mechanical force and motion.

**Conditionally Exempt Small-Quantity Generator (CESQG)** — a facility or person that generates less than 100 kilograms (220 lbs.) of hazardous waste and less than 1 kilogram (2.2 lbs.) of acutely hazardous waste per month (see 40 CFR 261.5).

**Container** — any portable device in which a material is stored, transported, treated, disposed of, or otherwise handled (an example of a container is a 55-gallon drum).

**Crude oil** — oil in the natural or virgin state as it comes out of the ground, before any processing has occurred.

**De minimis** — small spills, leaks, or drippings from pumps, machinery, pipes, and other similar equipment during normal operations; or small amounts of oil lost to the wastewater treatment system during washing or draining operations.

**Distributor** — in general, a person who markets a product; and, for used oil purposes, one who annually sells more than 25,000 gallons of automotive oil.

**Do-it-yourselfer used oil collection center** — any site or facility that accepts or aggregates and stores used oil collected only from household do-it-yourselfers.

**First sale** — the first actual sale of automotive oil delivered to a location in Texas and sold to a purchaser who is not an automotive oil manufacturer or distributor.

**Flashpoint** — the lowest temperature at which a liquid generates enough vapors to ignite.

**Free-flowing oil** — a visible sign of exiting oil.

**Generator** — any person whose activity or process produces used oil or whose activity first causes the used oil to become subject to regulation (for example, automotive service center that performs oil changes for the public).

**Halogen** — any of the following five elements: fluorine, chlorine, bromine, iodine, and astatine.

**Household do-it-yourselfer used oil** — used oil from individuals who generated it from the maintenance of a personal vehicle, household appliances, or garden equipment; and—in amounts of 25 gallons or less—from farming equipment or heavy equipment.

**Hydrocarbon** — an organic compound (such as acetylene or benzene) containing only carbon and hydrogen and often occurring in petroleum, natural gas, or coal.

**Importer** — any person who imports automotive oil (or causes it to be imported) for sale, use, or consumption in Texas.

**Listed hazardous waste** — EPA's listing of hazardous wastes, which consists of the following classes: "F" listed wastes from nonspecific sources; "K" listed wastes from



specific sources; and “P” and “U” listed wastes from commercial chemical products.

**Lubricant** — a substance, such as grease or oil, that reduces friction between surfaces.

**Manifest** — a form that goes with a shipment of used oil that is being disposed of as hazardous waste.

**Off-specification used oil** — see used oil burner.

**Oil manufacturer** — any person or organization that formulates automotive oil and packages, distributes, or sells it. The term includes any person packaging or repackaging automotive oil.

**Processing** — chemical or physical operations to make used oil more suitable for production of fuel oils, lubricants, or other products derived from used oil.

**Process knowledge** — this term refers to the used oil handler’s understanding of the operations and activities that created the used oil at his facility and possible contaminants in the used oil.

**Rebuttable presumption** — used oil containing more than 1,000 ppm of total halogens is *presumed* to have been mixed with a halogenated listed hazardous waste. A used oil handler can *rebut* this presumption by proving, through documented process knowledge or analytical testing, that the used oil has not been mixed with a halogenated listed hazardous waste.

**Reclaiming** — processing material to recover a usable product or the regenerated material.

**Recycling** — reusing or re-refining used oil as a petroleum product, or burning used oil for energy recovery.

**Re-refining** — applying a process to material composed primarily of used oil to produce high-quality base stock for lubricants or other petroleum products.

**Responsible person** — in this handbook, the owner or operator of a facility or vehicle that has caused a spill of used oil; or any other person who causes or allows such a spill.

**Secondary containment system** — structures (dike, berms, and/or retaining walls) that are made of material capable of containing all potential spills and releases of used oil from tanks or containers.

**Service station dealer (SSD)** — a service station, filling station, garage, or similar retail facility that earns significant revenues from fueling, repairing, or servicing motor vehicles and that collects used oil for recycling; includes DIY used oil collection facilities run by government agencies and quick-lube shops.

**Special waste** — a state-regulated category of waste that includes petroleum-contaminated materials disposed of in municipal solid waste landfills.

**Spent material** — a material that has been used and, as a result of contamination, can no longer be used for its originally intended purpose.

**Sufficiently impervious** — prevents any used oil released into the containment system from migrating out of the system to the soil, groundwater, or surface water.

**Synthetic oils** — oils not derived from crude oil, including those derived from shale, coal, or a polymer-based starting material; and nonpolymeric synthetic fluids that are used as hydraulic fluids and heat transfer fluids, such as those based on phosphate esters, diphenyl oxide, or alkylated benzenes. Synthetic oils are generally used for the same purpose as

oils derived from crude oil, and usually are mixed and managed in the same manner. Synthetic oils present relatively the same level of hazards after use.

**Underground storage tank** — a stationary device made of non-earthen materials (such as steel or plastic) that is designed to hold an accumulation of liquid and that has 10 percent or more of its volume beneath the surface of the ground.

**Used oil** — any oil originally refined from crude or synthetic oil, that as a result of use, is contaminated by physical or chemical impurities and cannot be used for its intended purpose.

**Used oil aggregation point** — any facility that accepts and/or stores used oil generated at other sites that belong to the same owner or operator.

**Used oil burner** — a facility where used oil is burned for energy recovery. Used oil that does not meet the specification in 40 CFR 279.11 is referred to as off-specification used oil, and must be burned in devices identified in 40 CFR 279.61(a).

**Used oil collection center** — any registered facility that accepts, stores, and manages used oil collected from used oil generators who bring used oil in shipments less than

55 gallons, such as service stations, governments, and businesses. Collection centers also may accept used oil from household do-it-yourselfers.

**Used oil handlers** — term used to refer collectively to used oil transporters and transfer facilities, processors/re-refiners, and burners of off-specification used oil.

**Used oil management standards** — the federal and state laws and regulations that apply to all used oil handlers. In this handbook, these laws and regulations are referred to collectively as the used oil management standards. This term includes the following laws and regulations:

- 40 CFR Part 279, federal regulations on management of used oil;
- 30 TAC Chapter 324, state regulations on used oil recycling (adoption of 40 CFR Part 279);
- THSC Chapter 371, state law on collection, management, and recycling of used oil.

**Used oil marketer** — anyone who sends a shipment of off-specification used oil from his facility to a used oil burner or first claims that used oil that is to be burned for energy recovery meets the used oil fuel specification set forth in 40 CFR 279.11.

**Used oil processor or re-refiner** — any person or facility that makes used oil more amenable for production of fuel oils, lubricants, or other products derived from used oil.

**Used oil transfer facility** — any transportation-related facility (including loading docks and parking and storage areas) where shipments of used oil are held for more than 24 hours and not longer than 35 days during the normal course of transportation.

**Used oil transporter** — any person who transports more than 55 gallons of used oil off site or collects used oil from generators to transport it.

**Viscosity** — a fluid's or semifluid's resistance to flow.

## Basics of Used Oil Recycling

---

# Chapter 1



### Chapter Contents

- 12 Introduction
- 15 What Is Used Oil?
- 16 What Is Not Used Oil?
- 17 Used Oil or Hazardous Waste?
- 18 Some Do's, Don'ts, and Facts  
about Used Oil
- 19 Used Oil as a Resource
- 21 Highlights of Chapter 1

### List of Figures

- 15 Figure 1-1. Used Oil or Hazardous Waste?

### List of Tables

- 14 Table 1-1. Which Requirements of the Used Oil  
Management Standards Apply to You?
- 17 Table 1-2. Which Chapter Applies—324 or 335?

# Introduction

This chapter

- defines what constitutes used oil, gives examples, and helps you determine whether you are handling used oil or hazardous waste; and
- gives a brief description of applicable state and federal laws and regulations.

In addition, Chapter 1 gives some general information about used oil, how to handle it, and ways the material can be reused.

## Used Oil Regulations

With increased knowledge of the environmental hazards associated with waste disposal, methods that were once acceptable have become unacceptable and illegal. To reduce oil-related environmental pollution, the 74th Texas Legislature amended the state's used oil program (Texas Health and Safety Code Chapter 371) by passing the Used Oil Collection, Management, and Recycling Act, Senate Bill (SB) 1683.

This law became effective on September 1, 1995, and it banned the landfilling and dumping of used motor oil and created the recycling program. The purposes of SB 1683 were:

- to ensure that the state's used oil program would be consistent with and not more stringent than the federal program for the management of used oil under 40 CFR Part 279, unless otherwise required by state or federal law; and
- to establish a program for collection centers that accept used oil in small amounts (up to 55 gallons).

In March 1996, the TCEQ implemented SB 1683 by adopting a new chapter in the Texas Administrative Code (TAC). The new chapter (30 TAC Chapter 324) adopts, by reference, the Environmental Protection Agency's (EPA) used oil management standards found in 40 Code of Federal Regulations (CFR) Part 279.

*Used Oil Management Standards.* This handbook on Used Oil Recycling is intended to clearly explain the main points in federal and state laws and regulations that apply to used oil handlers. In this handbook, these laws and regulations are referred to collectively as the used oil management standards. This term includes the following laws and regulations briefly referred to in the preceding paragraphs:

- 40 CFR Part 279, federal regulations on management of used oil;

- 30 TAC Chapter 324, state regulations on used oil recycling (adoption of 40 CFR Part 279);
- THSC Chapter 371, state law on collection, management, and recycling of used oil.

## Changes in Used Oil Regulations

### *Legislative Changes*

During the regular session of the 79th Legislature, SB 1299 was passed, relating to an exception to the prohibition against commingling used oil with solid waste if the commingling is incident to the dismantling of scrap, used, or obsolete metals.

Chapter 7 Section 7.176, Subsections (a) and (c) of the Texas Water Code were amended to read as follows:

(a) A person commits an offense if the person:

(2) Knowingly mixes or commingles used oil with solid waste that is to be disposed of in landfills or directly disposes of used oil on land or in landfills, unless the mixing or commingling of used oil with solid waste that is to be disposed of in landfills is incident to and the unavoidable result of the dismantling or mechanical shredding of motor vehicles, appliances, or other items of scrap, used, or obsolete metals;

(c) It is an exception to the application of Subsection (a)(2) that the mixing or commingling of used oil with solid waste that is to be disposed of in landfills is incident to and the unavoidable result of the dismantling or mechanical shredding of motor vehicles, appliances, or other items of scrap, used, or obsolete metals.

### *Which Used Oil Requirements Apply to You?*

The first column of Table 1-1 lists the major state and federal requirements for the management of used oil. To see which of these major requirements apply to you, find your activity or activities in the top row, and then read down that column for a quick answer. For more details, see the applicable state rules (30 TAC Chapter 324) and federal regulations (40 CFR Part 279).

*Where to Obtain State Rules and Federal Regulations.*

To obtain copies of either state or federal rules,

- TCEQ's Web site at [www.tceq.state.tx.us/rules](http://www.tceq.state.tx.us/rules); or
- TCEQ's Publications unit at 512/239-0028.

If you have any questions regarding registration and reporting, call the Used Oil Program at 512/239-6832 (select Option 2). For answers to questions on waste classification, call the Waste Permits Division at 512/239-2334.

## Table 1-1. Which Requirements of the Used Oil Management Standards Apply to You?

Requirements	Generator	Collection Center	Transporter/ Transfer Facility	Processor/ Re-refiner	Marketer	Off-Spec. Burner
Storage Management	Yes	Yes	Yes	Yes	Yes	Yes
Release Response	Yes	Yes	Yes	Yes	Yes	Yes
Secondary Containment	Recommended	Recommended	Yes	Yes	Yes <sup>1</sup>	Yes
Notification to EPA	No	No	Yes	Yes	Yes	Yes
Tracking	No	No	Yes	Yes	Yes	Yes
Financial Assurance	No	No	Yes	Yes	Yes <sup>1</sup>	Yes
Rebuttable Presumption	Yes, if mixed with hazardous waste (HW)	Yes, if mixed with HW	Yes	Yes	Yes <sup>1</sup>	Yes
Register with <sup>2</sup> the TCEQ	No	Every two years	One-time	One-time	One-time	One-time
Report to the TCEQ <sup>2</sup>	No	Annually	No	Every Two Years	No	No

**Note:** This table serves only as a guideline. For more detailed information on regulations that may apply to you, please refer to state and federal used oil regulations.

<sup>1</sup> This requirement does not apply to a marketer that is also a generator or collection center. Generators must still meet the requirements listed for them in the table's second column above.

<sup>2</sup> Registration and reports must be submitted to the TCEQ Used Oil Program.

# What Is Used Oil?

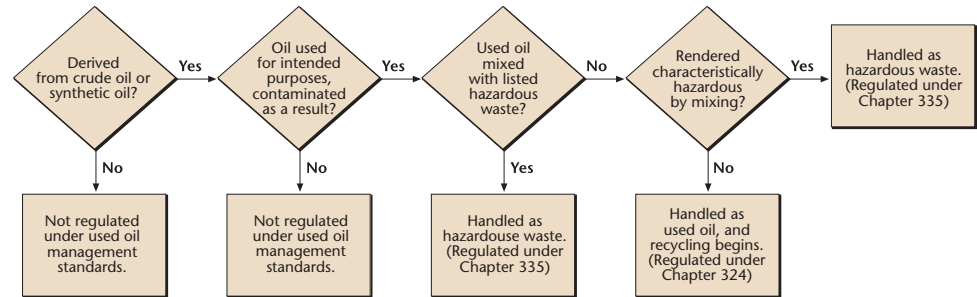
Used oil includes any of the materials listed below.

- Any oil, either synthetic or refined from crude oil, that
  - ▼ has been used for its designed and intended purposes; and
  - ▼ as a result of use, is contaminated by physical or chemical impurities; and
  - ▼ as a result, has become a spent material (that is, it can no longer be used for its originally intended purpose without processing).
- Any other material that has physical and chemical properties similar to used oil, is used in normally accepted functions of oil, and has been designated as used oil by the TCEQ.
- Used oil that is characteristically hazardous from use (as opposed to oil rendered characteristically hazardous by mixing).
- Used oil collected from household DIYs.

- Hazardous used oil or used oil mixtures from Conditionally Exempt Small-Quantity Generators (CESQGs).
- Used oil to be burned for energy recovery.

For help in determining whether you are handling used oil or hazardous waste, see Figure 1-1 below. (If you find that your waste is hazardous, see the section on “Mixtures of Used Oil and Hazardous Waste” in Chapter 3.)

**Figure 1-1. Used Oil or Hazardous Waste?**  
**Is your used oil ...**



*This chart gives general information to help you determine whether your oil is recyclable. For detailed information on how to handle a mixture of used oil and hazardous waste, please refer to Chapter 3 of this handbook.*



### *Examples of Used Oil*

A key part of the definition of used oil given above is the term, “spent material.” The following lists give some examples of oils that have become spent materials through use.

*Spent Engine Oil and Vehicle Lubricants.* Used oils include, but are not limited to, the following spent engine lubricating oils and vehicle fluids:

- automotive crankcase oil, including car, truck, marine, and aircraft engine oils not used for engine fuel;
- diesel engine crankcase oil, including car, truck, bus, marine, heavy equipment, and railroad engine oils not used for fuel;
- natural-gas-fired engine oils;
- alternative fuel engine oils;
- transmission fluids;
- brake fluids; and
- power steering fluids.

*Spent Industrial Oils.* Used oils also include, but are not limited to, the following spent industrial oils:

- compressor, turbine, and bearing oils;
- hydraulic oils or fluids;
- metalworking oils or oil emulsions, including cutting, grinding, machining, rolling, stamping, quenching, and coating oils;

- electrical insulating oils;
- refrigerator/air conditioning unit oils;
- rubber-making oils;
- cable oils;
- greases; and
- oil-like heat transfer fluids.

## What Is Not Used Oil?

The materials listed below are *not* used oil.

- Used animal or vegetable oils (they are considered food wastes rather than used oil, because they are not synthetic and not derived from crude oil).
- Unused contaminated or uncontaminated oils going for reclamation.
- Solid wastes contaminated with used oil (such as absorbents and scrap metal) that are not burned for energy recovery and that do not have free-flowing oil.
- Solvents (such as petroleum spirits, mineral spirits, petroleum ether, acetone, fuel additives, alcohols, paint thinners, brush cleaners, and other cleaners).
- Substances that cannot readily be recycled in the same processes as used oil.
- Used antifreeze.

Figure 1-1 on page 15 is designed to help you determine whether you are dealing with

- *used oil* that is regulated under the used oil recycling rules in 30 TAC *Chapter 324*; or
- *hazardous waste* that must be managed according to regulations in 30 TAC *Chapter 335*.

## Used Oil or Hazardous Waste?

Under the used oil management standards, used oil is recyclable if it is

- not mixed with a listed hazardous waste, and
- not rendered hazardous by mixing with characteristically hazardous waste.

### Table 1-2. Which Chapter Applies — 324 or 335?

Chapter 324 regulates recycled used oil that is ...	Chapter 335 regulates industrial and hazardous waste, including ...
<ul style="list-style-type: none"><li>■ nonhazardous,</li><li>■ characteristically hazardous through use as opposed to mixing,</li><li>■ mixed with CESQG or household hazardous waste,</li><li>■ mixed with characteristically hazardous waste but does not result in a characteristically hazardous mixture,</li><li>■ contained in materials that are to be burned for energy recovery, or</li><li>■ removed or drained from materials.</li></ul> <p><b>NOTE:</b> Table 3-1 in Chapter 3 of this handbook explains rules on managing mixtures of used oil and certain hazardous wastes.</p>	<ul style="list-style-type: none"><li>■ used oil that is disposed of rather than recycled,</li><li>■ mixtures of characteristically hazardous waste and used oil that exhibit hazardous characteristic(s), or</li><li>■ mixtures of listed hazardous waste and used oil.</li></ul> <p><b>NOTE:</b> If a used oil handler recycles its own used oil, then the handler does not have to include the used oil as a waste in the Notice of Registration to the TCEQ required under Chapter 335. For more information, refer to TCEQ Publication RG-22, <i>Guidelines for the Classification and Coding of Industrial and Hazardous Wastes</i>.</p>

(For an explanation of how to handle used oil that is mixed with hazardous waste, please refer to the section on “Mixtures of Used Oil and Hazardous Waste” in Chapter 3.)

In addition, used oil containing more than 1,000 ppm of total halogens can be considered recyclable if the used oil handler can prove that the used oil was not mixed with halogenated listed hazardous waste (see the section on “Mixtures of Used Oil and Halogens” in Chapter 3).

Used oil that does not meet the standards for recycling is regulated as hazardous waste under 30 TAC Chapter 335.

Table 1-2 on page 17 gives more details on materials regulated as used oil under Chapter 324 compared to those regulated as industrial and hazardous waste under Chapter 335.

***For more information:***

- on used oil regulated in 30 TAC Chapter 324, contact the TCEQ Used Oil Program at 512/239-6832 (select Option 2);
- on waste regulated under 30 TAC Chapter 335, contact the Industrial and Hazardous Waste Program at 512/239-6413.

## Some Do's, Don'ts, and Facts about Used Oil

### Fact.

Oil does not wear out, but it does get dirty. Through re-refining or processing, used oil can be used over and over without losing its lubricating ability.

### Fact.

Re-refining used oil takes 70 percent less energy than refining crude oil.

### Fact.

Just one quart of oil can contaminate approximately 250,000 gallons of water.

## Used Oil Do's

- Determine whether your used oil is recyclable (see Figure 1-1 on page 15).
- Store used oil in containers or tanks that are in good condition, not leaking or rusting, and clearly labeled with the words “Used Oil.”
- Keep used oil storage containers covered and out of the weather.
- Be ready to contain and clean up spills of used oil onto land or surface water (see Chapter 3 of this handbook for information about spills).
- Reuse your used oil containers, if possible.
- Obtain all necessary federal, state, and local approvals and registrations.
- Keep complete records on all used oil recycling activities.
- To find a used oil recycler who serves your area, look in the Yellow Pages under “Oils—Waste & Used” or go online to [www.renewtx.org](http://www.renewtx.org)
- When sending used oil for recycling, ask transporters, marketers, processors/re-refiners, and burners to provide proof of insurance, EPA identification number, and TCEQ used oil registration number.

## Used Oil Don'ts

- Don't dump your used oil in the trash, on the ground, or down a drain; and don't pour it onto roads or driveways to control dust. Why not? For one thing, it's illegal—you could get fined. More important, used oil may contain heavy metals and additives. If dumped on the ground, it can contaminate the soil and water and have harmful effects on *your own* health and local environment.
- Don't mix used oil with any other liquids such as antifreeze, brake cleaner, carburetor cleaner, gasoline, paint thinner, pesticides, chemicals, or solvents. Mixing used oil with any of these liquids may make the used oil unfit for recycling.
- When recycling used oil, don't use containers that held hazardous chemicals that could contaminate the used oil (for example, bleach or a hazardous solvent used as a cleanser).

## Used Oil as a Resource

When properly managed and recycled, used oil is a valuable energy resource. Used oil can be recycled into a

number of different products. The American Petroleum Institute estimated in 1996 that the amount of used lube oil released onto the land each year in the United States equals 25 times the amount of oil spilled by the Exxon Valdez tanker in Alaska. Recovering used oil is desirable for protection of human health and the environment.

## Re-refining Used Oil

Re-refining used oil produces high-quality base stock, which is used for lubricants or other petroleum products. It takes *42 gallons* of crude oil to produce 2.5 quarts of lubricating oil; the same amount of lubricating oil can be produced from only *1 gallon* of used oil.

## Re-refining versus Processing

Re-refining is not the same as processing. The major difference is that re-refined used oil has sufficient quality to be used again as a lubricating oil. By contrast, processing produces a used oil of lower quality, which can be used as a fuel for producing electricity or other purposes. Processed used oil can also be blended for marine fuel or other use. It can even be mixed with asphalts.

## What Can Be Made from Re-refined Used Oil?

Once used oil has been re-refined into base stock, it is sent to packagers for mixing with additives. Several hundred products—such as automotive oil, industrial oil, lubricants, and industrial fuels—are produced from base stock. The waste byproducts and residual oil from the re-refining process can be used as asphalt extender. Another product that can be made from such used oil is called “chain oil,” a low-grade oil for lubrication.

## Burning Used Oil for Energy Recovery

Some used oil is recycled for use as a fuel oil rather than for re-refining. Several types of fuel oils are produced from used oil, including bunker fuel (used in ships) and supplementary fuel in cement kilns. Used oil is also burned for its heating value in asphalt plants to dry the sand in the aggregate.

When used oil is received at a processing plant, water and solids are extracted as much as possible. In some cases, used oil is blended with a residual oil (for example, number 6 fuel oil) to give it the viscosity and flash point to be utilized for its heating value. The ratio for blending is approximately 75 percent used oil and 25 percent residual oil. However, this ratio depends on the type of fuel that the customer is requesting.

---

# Highlights of Chapter 1

- One-time registration applies to transporters, transfer facilities, processors, re-refiners, marketers, and off-specification used oil burners, but only processors and re-refiners are required to submit a report to the TCEQ. This report is due January 25 of every even-numbered year and covers the preceding (odd-numbered) year.
- A used oil handler is required to provide proof of financial responsibility upon registration.
- The financial responsibility requirement applies to used oil transporters, transfer facilities, processors, re-refiners, and off-specification used oil burners.
- Used animal oil or vegetable oils are considered food wastes rather than used oil, because they are not synthetic and not derived from crude oil.
- Under used oil management standards, used oil is recyclable if it is
  - ▼ not mixed with a listed hazardous waste, and
  - ▼ not rendered hazardous by mixing with characteristically hazardous waste.
- Chapter 324 regulates recyclable used oil, as noted in Table 1-2.
- Chapter 335 regulates industrial and hazardous waste, as noted in Table 1-2.
- Mixing used oil with liquids such as antifreeze, carburetor cleaner, gasoline, paint thinner, pesticides, brake cleaner, chemicals, or solvents may make your used oil unfit for recycling.
- Oil does not wear out, but it does get dirty. Through re-refining, the used oil can be used over and over again without losing its lubricating ability.

## Collection and Management of Used Oil

---

# Chapter 2



### Chapter Contents

- 24 Introduction
- 24 Types of Used Oil Handlers
- 24 Shipments of Used Oil
- 26 Used Oil Collection Centers
- 28 Highlights of Chapter 2

### List of Tables

- 25 Table 2-1. Types of Used Oil Handlers
- 27 Table 2-2. Examples of Facilities Eligible for an Exemption from the Automotive Oil Fee

# Introduction

Used oil generators, collection centers, and handlers are required to follow state and federal regulations contained in Title 30 of the Texas Administrative Code (TAC), Chapter 324; and Title 40 of the Code of Federal Regulations (CFR), Part 279. Chapter 2 of the *Used Oil Recycling Handbook* gives some general guidelines to help you comply with those requirements. Please note that this chapter is only a general guideline and does not replace the complete rules and regulations. You can obtain copies of applicable state or federal rules from the sources listed in Chapter 1 under the heading “Where to Obtain State Rules and Federal Regulations” on page 13.

## Types of Used Oil Handlers

To find out what type of used oil handler you are, see Table 2-1; the determination is based on the activities you conduct. Please notice that you may need to register as more than one type. For example, transporters of used oil who burn off-specification used oil for energy recovery must comply with regulations for off-specification used oil burners as well as applicable regulations for transporters.

## Shipments of Used Oil

All shipments of used oil must be delivered only to facilities registered with the Environmental Protection Agency (EPA) and the TCEQ. Used oil handlers are required to keep all records on used oil shipments (for example, shipping documents, bills of lading, or invoices) for a minimum of three years. Used oil shipments must comply with all requirements under the U.S. Department of Transportation regulations in 49 CFR parts 171 through 180.

## Exemptions on Shipments

If you are a generator and you transport 55 gallons or less of used oil in your own or an employee’s vehicle to a used oil collection center or to your own used oil aggregation point, you are not required to register as a used oil transporter.

## Spills Reporting

Spills of used oil must be reported to the TCEQ. For more about spills of used oil into water or onto the land, please refer to Chapter 3 of this handbook.



## Table 2-1. Types of Used Oil Handlers

If you ...	Then you should register with the TCEQ as a ...
transport used oil <sup>1</sup>	used oil transporter
collect used oil from other generators and transport it	used oil transporter
own or operate a facility where shipments of used oil are held for more than 24 hours and less than 35 days	used oil transfer facility
are involved in chemical or physical operations designed to (1) produce fuel oils, lubricants, or other products derived from used oil; or (2) make used oil more suitable for production of these products.	used oil processor/re-refiner
store used oil for more than 35 days	used oil processor/re-refiner
direct a shipment of off-specification used oil to a used oil burner or first claim that used oil to be burned for energy recovery meets the used oil specifications	used oil marketer
have used oil that does not meet the used oil fuel specification requirement and must be burned in an industrial furnace, a boiler, or a hazardous waste incinerator	burner of off-specification used oil

<sup>1</sup> If you are a generator and you transport 55 gallons or less of used oil in your own or an employee's vehicle to a used oil collection center or to your own used oil aggregation point, you are not required to register as a transporter.

# Used Oil Collection Centers

A collection center is a facility that accepts, aggregates, or stores used oil received from generators such as service stations, governments, or businesses (in shipments of not more than 55 gallons of used oil at a time). A center may accept used oil from household do-it-yourselfers (DIYs). Facilities accepting household DIY used oil must post and maintain a durable and readable sign showing that the facility is a public or household DIY used oil collection center and showing the hours used oil is collected.

*Registration and Reporting.* Used oil collection centers must register with the TCEQ's Used Oil Program within 30 days of starting operation. Collection centers must re-register no later than January 25 of *odd-numbered years*. Also, no later than January 25 of *every year*, used oil collection centers must report to TCEQ the amounts of used oil collected during the previous year. The TCEQ will send a reporting form to registered collection centers by December 1 of each year.

*Updating Registration.* Used oil collection centers are requested to notify the TCEQ in writing within 30 days whenever:

- the office address has changed,
- the registered facility name has changed,
- additional vehicles are acquired to transport used oil or used oil filters,

- there is a change in ownership, or
- the operations or management methods are no longer adequately described in the existing registration.

Send notifications to the TCEQ Used Oil Program, MC-129, P.O. Box 13087, Austin, TX 78711-3087.

## CERCLA Liability Exemption for Service Station Dealers

### *What Is CERCLA Liability?*

The Comprehensive Environmental Response, Compensation, and Liability Act addresses who is responsible when used oil is released into the environment. A qualified service station dealer (SSD) can be exempted from certain liability provisions of CERCLA—namely, response costs, damage, and injunctive relief. This exemption applies only to releases that occur after used oil has left the SSD—for example, when the used oil is with a transporter or at a recycling facility.

### *What Is an SSD?*

An SSD is a retail facility—such as a service station, filling station, quick-lube center, or garage—that receives most of its business from fueling and servicing motor vehicles.

### *How Does an SSD Qualify for the Exemption?*

To qualify for the exemption, a retail facility must fulfill all of the following conditions:

- the facility meets the definition of an SSD according to CERCLA, and accepts used oil from household DIYs;
- the used oil has not been mixed with any hazardous substance; and
- the SSD's used oil activities are managed according to used oil management standards.

### *When Does the Exemption Not Apply?*

The exemption does not apply to

- any used oil mixed with a hazardous waste; or
- any used oil spilled at the SSD's own facility.

## **Automotive Oil Fee Exemption**

Automotive oil is any lubricating oil intended for use in an internal combustion engine, crankcase, transmission, gearbox, or differential for an automobile, bus, or truck. The term includes oil that

- is not labeled for this specific use but
- is suitable and has been accepted for this use by industry specifications.

The first sale of new automotive oil is subject to a fee collected by the Texas Comptroller of Public Accounts. The fee is one cent per quart, or four cents per gallon.

**Table 2-2. Examples of Facilities Eligible for an Exemption from the Automotive Oil Fee**

Type of Facility	Example	Activities
Retailers	Discount retailers, grocery stores	Accept used oil from household do-it-yourselfers and involved in activities where automotive oil is changed, used, consumed, or sold to individuals
Commercial	Lube centers	Same as above
Other	Distributors	Collect used oil from household do-it-yourselfers and sell oil to individuals.

An exemption from the automotive oil fee can be obtained by used oil collection centers that

- are registered with the TCEQ,
- accept used oil from household DIYs during business hours, and
- provide automotive oil sales and service to the public.

Table 2-2 on page 27 shows some examples of facilities eligible for exemption from the automotive oil fee. This fee exemption is an incentive to encourage creation of DIY used oil collection centers around the state.

---

## Highlights of Chapter 2

- You may need to register as more than one type of used oil handler. See Table 2-1 for more information.
- Shipments of used oil must be delivered only to facilities registered with the Environmental Protection Agency (EPA) and the TCEQ.
- Used oil handlers are required to keep all records on used oil (for example, shipping documents, bills of lading, or invoices) for a minimum of three years.
- Used oil collection centers must register with the TCEQ's Used Oil Program, Permitting and Remediation Support Division, within 30 days of starting operation. Collection centers must re-register no later than January 25 of odd-numbered years. Also, no later than January 25 of *every year*, used oil collection centers must report to TCEQ the amounts of used oil collected during the previous year.
- A qualified service station dealer (SSD) can be exempted from certain liability provisions of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)—namely, response costs, damage, and injunctive relief. This exemption applies only to *releases that occur after used oil has left the SSD*—for example, when the used oil is with a transporter or at a recycling facility.

- An SSD is a retail facility—such as a service station, filling station, quick-lube center, or garage—that receives most of its business from fueling and servicing motor vehicles.
- The first sale of new automotive oil is subject to a fee collected by the Texas Comptroller of Public Accounts.
- The fee is one cent per quart, or four cents per gallon.
- An exemption from this fee can be obtained by used oil collection centers that are registered with the TCEQ, accept used oil from household do-it-yourselfers (DIY), and provide automotive oil sales and service to the public.

## Technical Aspects of Used Oil Recycling

---

# Chapter 3



### Chapter Contents

- 32 Introduction
- 32 What is Hazardous Waste?
- 33 Mixtures of Used Oil and Hazardous Waste
- 35 Mixtures of Used Oil with Halogens
- 37 Used Oil Containing PCBs
- 38 Wastewater Containing Used Oil
- 39 Used Oil Fuel Specifications
- 41 Spills of Used Oil
- 42 Used Oil Absorbents
- 45 Highlights of Chapter 3

### List of Tables

- 34 Table 3-1: Managing Mixtures of Used Oil and Hazardous Waste
- 36 Table 3-2: Analytical Methods for Organic Halogens Determination
- 38 Table 3-3: Specifications for Used Oil Burned for Energy Recovery
- 39 Table 3-4: Total Halogen Content for Used Oil as a Fuel
- 40 Table 3-5: Some Analytical Methods for Used Oil Fuel Specifications

# Introduction

This chapter addresses technical aspects of used oil recycling activities for generators, collection centers, transporters, processors and re-refiners, marketers, and off-specification used oil burners. Important technical aspects of used oil recycling include determining

- whether a *characteristically hazardous waste* has become mixed with used oil and rendered the mixture characteristically hazardous; or
- whether used oil may be contaminated with *listed hazardous wastes* or with PCBs. (The terms in italics are explained in this chapter's next section.)

Also, this chapter discusses various used oil absorbents, mixtures of used oil and wastewater, total halogen content in used oil, and the specifications that used oil must meet to be burned for fuel.

## What Is Hazardous Waste?

A generator of solid waste is required to determine whether that waste is hazardous, as defined in Title 40 Code of Federal

Regulations Part 261 (40 CFR 261). The regulatory definition can be found in 40 CFR Part 261, Subpart C (characteristic hazardous waste) and Subpart D (listed hazardous waste).

## Listed Hazardous Wastes

The first step in making a hazardous waste determination is to decide whether a waste is a listed hazardous waste. There are three categories.

*Nonspecific-Source "F" Listed Wastes.* The "F" listed wastes come from *nonspecific* sources. Examples are degreasing agents and spent solvents such as toluene and carbon tetrachloride.

*Specific-Source "K" Listed Wastes.* The "K" listed wastes come from *specific* industrial processes. Examples are bottom sediment sludges from wood preservation operations using creosote and/or pentachlorophenol.

*Commercial Chemical Product "P" and "U" Listed Wastes.* "P" and "U" listed wastes are commercial chemical products discarded, or to be discarded, or spilled. They include off-specification products, container residues, and spill residues of commercial chemical products. "P" listed wastes are *acutely hazardous* because of their toxicity.

For more information please refer to 40 CFR Part 261, Subpart D; or to TCEQ Publication RG-22, *Guidelines for the Classification and Coding of Industrial and Hazardous Wastes*.

## Characteristic Hazardous Wastes

If a waste is not one of those listed as hazardous, the second step is to decide whether it has hazardous characteristics. Waste with any of four characteristics can be hazardous.

*Ignitable Wastes.* Liquids that have a flash point of less than 140° Fahrenheit (F), solids that have a tendency to ignite and burn.

*Corrosive Wastes.* Generally, water-containing liquids with a pH of 2.0 or less or 12.5 or more.

*Reactive Wastes.* Explosive wastes or wastes that are normally unstable and react vigorously.

*Toxic Wastes.* Wastes that leach more than the maximum allowable concentrations listed in 40 CFR Part 261 Subpart C, Table 1. This determination is made by a testing method called the toxicity characteristic leaching procedure (TCLP).

For more information, please refer to 40 CFR Part 261 Subpart C or to TCEQ Publication RG-22, *Guidelines for the Classification and Coding of Industrial and Hazardous Wastes*.

## Mixtures of Used Oil and Hazardous Waste

Used oil generators and handlers are responsible for ensuring that used oil is not intentionally mixed with a hazardous waste. If listed hazardous waste or characteristically hazardous waste does become mixed with used oil, the resulting mixture may have to be managed as hazardous waste. If the resulting mixture is not hazardous, it is managed as a used oil.

- Mixtures of used oil and listed hazardous waste are managed as listed hazardous waste.
- Mixtures of used oil and ignitable-only characteristically hazardous waste are managed as used oil, *unless the resulting mixture exhibits the characteristic of ignitability.*
- Mixtures of used oil and characteristically hazardous waste are managed as used oil, *unless the resulting mixture exhibits any hazardous characteristic.*
- Mixtures of used oil and nonregulated hazardous waste are managed as used oil.
- Mixtures of used oil and fuel products are managed as used oil.





- Mixtures of used oil with hazardous waste from a CESQG or household are managed as used oil.

Table 3-1 presents the same mixtures in an “if-then” format. In the first two columns find the mixture that occurred in your situation; in the third column find how the mixture must be managed.

*Exemption.* Used oil is exempt from hazardous waste regulations if the used oil:

- is destined to be recycled;
- is not rendered hazardous by mixing with characteristically hazardous waste; and
- is not mixed with a listed hazardous waste.

**Table 3-1: Managing Mixtures of Used Oil and Hazardous Waste**

If used oil becomes mixed with...	And the resulting mixture shows...	Then the mixture must be managed as...
Listed hazardous waste	(No specific condition required)	Listed hazardous waste <sup>1</sup>
Ignitable-only waste (e.g., mineral spirits)	No characteristics of ignitability	Used oil
Ignitable-only waste	Characteristics of ignitability	Hazardous waste <sup>1</sup>
Any characteristically hazardous waste	Any hazardous characteristic <sup>2</sup>	Hazardous waste
Any characteristically hazardous waste	No hazardous characteristics	Used oil
Nonregulated hazardous waste <sup>3</sup>	(No specific condition required)	Used oil
Fuel product	(No specific condition required)	Used oil

**Note:** This table applies to all used oil handlers, including generators.

<sup>1</sup> For information on hazardous waste, contact the TCEQ's Industrial and Hazardous Waste Permits Section at 512/239-6412.

<sup>2</sup> Even if the resulting characteristic is from the used oil itself.

<sup>3</sup> Nonregulated hazardous waste is hazardous waste from a household or from a Conditionally Exempt Small-Quantity Generator (CESQG).

Used oil containing more than 1,000 ppm of total halogens is presumed hazardous unless the used oil generator or handler can demonstrate that the used oil was not mixed with listed hazardous waste. (See the following subsection, “Mixtures of Used Oil with Halogens”).

Any mixing or blending of used oil with hazardous waste to bring down the level of a hazardous concentration is considered a hazardous waste treatment activity and may require a hazardous waste permit.

## Mixtures of Used Oil with Halogens

A generator must evaluate used oil at the time it is generated. Each used oil handler—transporter, processor/refiner, marketer, and burner—must prove that used oil was not mixed with a listed waste; the proof can be made either by adequate documentation or by testing the used oil. This requirement does not apply to used oil generated by a household do-it-yourselfer or by a CESQG. It also does not apply to a collection center that only accepts household used oil.

### The Rebuttable Presumption

Used oil containing more than 1,000 parts per million (ppm) of total halogens is presumed to be mixed with a

halogenated listed hazardous waste. This presumption is known as the “rebuttable presumption.” To rebut it, a used oil handler must prove that the used oil containing more than 1,000 ppm total halogens does not contain halogenated listed hazardous waste. This proof must be supported either by analytical data or by process knowledge. (The most common halogens are fluorine, chlorine, and bromine.)

**Caution:** Mixing or blending used oils, or diluting such mixtures to bring the level of halogens down to less than 1,000 ppm, is considered a processing activity and requires a hazardous waste treatment permit.

### Process Knowledge versus Analytical Data

There are two general approaches to proving that used oil destined for recycling is not mixed with hazardous waste: analytical testing (described in the subsection titled “Analytical Data”) or documented process knowledge.

#### *Documented Process Knowledge*

The term “process knowledge” refers to a used oil handler’s understanding of the operations and activities that created the used oil at his facility and possible contaminants in the used oil. The word “documented” refers to records of the used oil’s origin, use, processes it has

## Table 3-2: Analytical Methods for Organic Halogens Determination (EPA SW 846 Methods)

Determination	Sample Preparation Method	Sample Analysis Method
Total halogens	N/A	9075, 9076, 9077
Total halogens	5050	9056, 9253
Individual halogens	3585 (liquid organic matrix)	8260 or 8021
Halogenated Pesticides	3580	8081A

SOURCE: EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (SW 846), 3rd ed.

undergone, identification of possible contaminants, and other information on used oil activities. If enough documented process knowledge is available to show that mixing did not occur, then the used oil handler may eliminate the cost of analytical testing.

### ***Analytical Data***

The Environmental Protection Agency (EPA) recommended test methods for the rebuttable presumption are listed in Table 3-2. Methods listed in the table are used to determine total halogen content and specific halogens, to demonstrate that used oil has not been mixed with a listed hazardous waste. However, other EPA-approved test methods may be used to demonstrate the analytical results.

- *Total halogen* content can be determined by EPA methods (nonspecific determination) listed in Table 3-2. If the total halogen content is more than 1,000 ppm, then a more specific test method should be used to determine the level of individual halogenated compounds.
- *Specific halogen* content can be determined using one of the methods also listed in Table 3-2. For example, to determine halogen-containing volatile compounds in used oil, EPA Method 3585 is used for sample preparation, and Method 8260 or 8021 may be used for sample analysis. For analysis of halogenated pesticides, Method 8081A is recommended.

## Exemptions

The following used oils are exempt from the rebuttable presumption. In other words, you don't have to prove that they have not been mixed with halogenated listed waste.

- Metal-working oils contaminated with chlorinated paraffins are not subject to the rebuttable presumption, if the used oils are reclaimed through a tolling arrangement. A tolling arrangement is a contract between a processor/re-refiner and a generator stating that the used oil reclaimed is to be returned to the generator. The generator uses the reclaimed oil as a lubricant, cutting oil, or coolant.
- If the used oil is not included in a metal-working tolling arrangement, the presumption may be rebutted if the generator can prove that the source of the total halogen content is chlorinated paraffins and the used oil was not mixed with a chlorinated hazardous waste.
- Used oil from households or a CESQG facility is not subject to the rebuttable presumption.
- Used oil contaminated with chlorofluorocarbons (CFCs) removed from refrigeration units is exempt from the rebuttable presumption

when the CFCs are destined for reclamation. However, CFC-contaminated used oils that have been mixed with used oil from sources other than refrigeration units are not exempt from the rebuttable presumption.

## Used Oil Containing PCBs

PCBs (polychlorinated biphenyls) are man-made organic chemicals that range in consistency from heavy, oily liquids to waxy solids. They are used for their cooling properties because they only boil at high temperature and do not readily react with other chemicals.

Used oil containing PCBs can be burned for energy recovery, but only in combustion units that thermally degrade the PCBs; for example, rotary kilns, cement kilns, liquid injection incinerators, and high-temperature boilers.

The regulations you have to follow depend on the concentration of PCBs in the used oil.

### From 2 ppm to Less Than 50 ppm

Used oil that is to be burned for energy recovery is presumed to contain 2 ppm or more PCBs unless the person

generating the used oil can document, by testing or process knowledge, that the oil contains no detectable PCBs.

Used oil containing between 2 ppm and less than 50 ppm of PCBs that is to be burned for energy recovery is subject to the following regulations:

- the used oil management standards (as defined in this handbook’s glossary); and
- 40 CFR 761.20(e)—federal regulations implementing the Toxic Substances Control Act (TSCA); includes requirements on marketing, burning, testing, and record keeping.

**Table 3-3: Specifications for Used Oil Burned for Energy Recovery**

Constituent	Allowable Level
Arsenic	5 ppm maximum
Cadmium	2 ppm maximum
Chromium	10 ppm maximum
Lead	100 ppm maximum
Total halogens	4,000 ppm maximum
Flash point	100°F minimum

## Less Than 2 ppm

Used oil that is to be burned for energy recovery and contains less than 2 ppm PCBs is not regulated under TSCA but under 40 CFR Part 279.

For more information on PCBs, contact EPA Region 6 at 214-665-7224, or call the TSCA Assistance Information Line at 202-554-1404.

## Wastewater Containing Used Oil

Discharge of wastewater contaminated with *de minimis* (small) quantities of used oil is subject to the Clean Water Act, and is not regulated as used oil. *De minimis* quantities of used oil are small spills, leaks, or drips from pumps, machinery, and pipes during normal operations; or small amounts of oil lost to the wastewater treatment system during washing or draining operations.

This exception does not apply to the following situations:

- Used oil discarded as a result of abnormal manufacturing operations resulting in substantial leaks, spills, or other releases.
- Used oil recovered from wastewater—such oil is subject to the used oil management standards.

When a generator separates used oil from wastewater generated on-site, in order to make the water acceptable for discharge or reuse, this activity is not considered processing of used oil.

## Used Oil Fuel Specifications

Used oil to be burned for energy recovery is divided into two classes: (1) on-specification used oil, which contains no more than the allowable levels of contaminants shown in Table 3-3; and (2) off-specification used oil, which exceeds the allowable levels.

- On-specification used oil burned for energy recovery is not subject to the used oil management standards so long as (1) the used oil is not mixed with or contaminated by hazardous waste; and (2) it meets the marketer requirements in 40 CFR 279.72–73 and 279.74 (b).
- A used oil burner may mix off-specification used oil with virgin oil or with on-specification oil. But if the used oil is mixed to produce on-specification used oil fuel, the burner becomes subject to the standards for a used oil processor and possibly to the marketer requirements.

**Table 3-4: Total Halogen Content for Used Oil as a Fuel**

Total halogens	Hazardous waste or used oil?	May be burned in an ...
Less than 1,000 ppm	used oil	on-specification unit <sup>1</sup>
From 1,000 to less than 4,000 ppm	used oil (if hazardous waste presumption successfully rebutted)	on-specification unit <sup>1</sup>
More than 4,000 ppm	used oil (if hazardous waste presumption successfully rebutted)	off-specification unit or undergo further processing to be burned in an on-specification unit

<sup>1</sup> If all other requirements shown in Table 3-3 have been met.

## Total Halogen Content for Used Oil as a Fuel

Used oil burned for energy recovery is subject to the used oil management standards. One requirement concerns total halogen content. If the total halogen content is 1,000 ppm or more, but less than 4,000 ppm, and the used oil handler can successfully prove the used oil was not mixed with listed halogenated hazardous waste, the used oil can be burned as an on-specification fuel for energy recovery, provided all other requirements listed in Table 3-3 are met.

Table 3-4 on page 39 shows how total halogen content affects burning used oil as a fuel.

## Approved Test Methods for Used Oil Fuel Specifications

Table 3-5 below includes some of the EPA-recommended SW 846 test methods to determine used oil specification levels. However, other EPA-approved test methods may be used to demonstrate the analytical results.

**Table 3-5: Some Analytical Methods for Used Oil Fuel Specifications**

DETERMINATION	METHODS	
	Sample Preparation	Sample Analysis
Multi-element analysis including arsenic, cadmium, chromium, and lead	3051	6010A, 6020
Arsenic	3051	7060A, 7061A, 7062
Cadmium	3051	7130, 7131A
Chromium	3051	7190, 7191
Lead	3051	7420, 7421

*SOURCE: EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (SW 846), 3rd ed.*

# Spills of Used Oil

Persons who store used oil near either navigable waters or storm drains leading to such waters are subject to applicable spill prevention, control, and countermeasures in 40 CFR Part 112. Whenever a release or discharge of used oil reaches the environment, the “responsible person” (see glossary for definition) must immediately take corrective action to protect human health and the environment.

## What Spills Must Be Reported?

The answer depends on the type of facility at which the spill occurs. The following list covers some of the more common situations.

- **Any facility** must report a spill of used oil that is large enough to cause a sheen on water.
- A **do-it-yourselfer used oil collection center** must report a spill of
  - ▼ automotive engine used oil, or
  - ▼ a mixture of automotive used oil and other used oil,in the amount of 25 gallons or more that goes into the environment (outside of secondary containment).

- A spill or overflow of used oil at **an underground storage tank** must be reported when it results in a release to the environment that exceeds 25 gallons or that causes a sheen on nearby surface water.
- For **facilities exempted from certain requirements of the petroleum storage tank (PST) program**, the reportable threshold is 210 gallons or more for spills or discharges of used oil onto land. Some of these exempted facilities are electric generating facilities; petrochemical plants; petroleum refineries; bulk loading facilities; and pipeline facilities exempted from the PST program. Also included are farms or residences that have tanks with capacity of 1,100 gallon or less used for storing motor fuel for noncommercial use. For information on petroleum storage tanks, refer to 30 TAC 334 (Underground and Aboveground Storage Tanks).

## When Must a Spill Be Reported?

A spill must be reported to the regional TCEQ office as soon as possible and not later than 24 hours after it is discovered.



## How Should a Spill Be Reported?

- During normal business hours, the responsible person may notify the TCEQ office for the region where the discharge or spill occurred; or
- the responsible person may call the 24-hour number of TCEQ's Emergency Response Team at 512/239-2507 or the state toll-free, 24-hour Spill Reporting Hot Line at 800-832-8224.

## Who Reports a Spill during Transportation?

If used oil is spilled during transportation, the transporter must take immediate action to protect human health and the environment. If the spill creates an imminent health threat, the responsible person must immediately notify and cooperate with the local emergency authorities. The responsible person must take immediate action to prevent any environmental impact (dike the discharge area) and clean up any environmental contamination. Additional notification may be required by other local, state, or federal law.

## What Information Should a Spill Report Contain?

- The initial notification should include information such as the name, address, and telephone number

of the person making the report; the date, time, and location of the spill; a description or identification of the used oil spilled; and an estimate of the quantity spilled.

- As soon as possible, but no later than two weeks after the spill, the responsible person must attempt to notify the owner and any residents of the property where the spill occurred and residents of any other property that the spill may adversely affect.
- Within 30 days of the spill, the responsible person must send the TCEQ regional office a detailed written description of the spill and actions taken in response.

## Used Oil Absorbents

Used oil contains many toxic metals and additives that may pollute the environment if not managed correctly. Absorbents, when properly selected and used, can soak up and slow the movement of used oil. Many factors affect the performance and cost of using absorbents for cleaning up used oil spills, including safety, capacity, characteristics, applicability, reuse, and disposal.

## General Classes of Absorbents

The three general classes of absorbents are synthetic pads, clay (commonly called “Kitty Litter”), and cellulose materials.

**Synthetic pads**, made of polypropylene, are water repellent so that moisture will not affect their usefulness. Such pads are not biodegradable. However, they can be disposed of by incineration, and the pads have low ash content. Synthetic pads can also be burned for energy recovery, which is preferable to incineration or land disposal. Some absorbent pads are made to be reusable, which makes them more desirable for recycling and saves on disposal costs when the used oil has been properly removed.

**Clay, commonly called Kitty Litter**, is more like an adsorbent (where the oil sticks to the surface) rather than an absorbent material (where the oil soaks into the material). Clay is heavy, highly abrasive, and not biodegradable. It also has a high ash content and low heating value—qualities that make it the least desirable of the three classes to incinerate or use in fuel blending.

**Cellulose materials** are biodegradable organic absorbents, such as peat moss, corn cobs, or recycled paper products. Cellulose materials can be burned for energy recovery.

## Federal Regulations on Absorbents

Absorbent materials with signs of free-flowing oil are managed as used oil. If there are no visible signs of free-flowing oil, these materials are not regulated as used oil—unless they are burned for energy recovery. If they are to be disposed of in a landfill, absorbent materials are solid waste and subject to a hazardous waste determination (see “What Is Hazardous Waste?” in this chapter.)

## State Regulations on Absorbents

The TCEQ categorizes petroleum-contaminated materials as “special waste” when disposed of in municipal solid waste landfills (MSWLFs). Regulations covering the management of special waste are found in 30 TAC 330.136.

Please contact the TCEQ Municipal Solid Waste Permits Section at 512/239-2334 for regulations and authorization to dispose of absorbent materials in MSWLFs.

## Proper Management of Used Oil Absorbents

The best approach, of course, is to prevent spills and thereby minimize the need for used oil absorbents. However,

once this waste is generated, there are several options for proper management. Recycling such absorbents by reuse or by burning for energy recovery is the next most desirable option, followed by bioremediation and incineration. TCEQ considers disposing of used oil absorbents in landfills the least environmentally responsible option. Please call the TCEQ Used Oil Program at 512/239-6832 (select Option 2) for a list of used oil handlers.

### ***Recycling***

There are several options for recycling used oil absorbents. One is to wring the oil out of the absorbent pad, reclaim the used oil, and reuse the pads. Another option is to send the used oil absorbent material to a facility that burns it for energy recovery.

Absorbent materials recycled by burning for energy recovery are regulated as used oil and must meet the used oil specifications requirements in Table 3-3 of this chapter.

To find other options for recycling used absorbents, go online to [www.renewtx.org](http://www.renewtx.org) or call 512/239-3100 and ask for information about the RENEW program.

### ***Incineration***

Incineration offers the greatest control of toxic organic contamination, combined with very low human health risks.

Hydrocarbons, in particular, incinerate well because of their organic content and energy value. Hazardous waste incinerators are regulated under Title 40 CFR Parts 264 or 265.

### ***Bioremediation***

This method involves applying organisms or oxygen and mineral nutrients, such as phosphate and nitrogen, to the contaminated used oil absorbent material. Under a controlled environment, bioremediation can be a cost-effective alternative to landfill disposal. This method can:

- reduce liability and expenses associated with using landfills; and
- reduce or eliminate levels of contaminants such as TPH (total petroleum hydrocarbons) and BTEX (benzene, toluene, ethylbenzene, and xylenes).

Bioremediation of absorbents that do not contain free-flowing oil is not subject to the used oil management standards. For more information, call the Texas Bioremediation Council at 800-626-6598.

### ***Landfill Disposal***

Disposal in municipal solid waste landfills (MSWLFs) requires the absorbent materials to be sampled, tested, and

certified as nonhazardous waste before disposal. Because the TPH of absorbent materials contaminated with used oil is usually high, it is generally preferable to have those materials burned for energy recovery. For more information on current state regulations for disposal of absorbent materials in an MSWLF, please contact the TCEQ Municipal Solid Waste Permits Section at 512/239-2334.

## **Analytical Testing of Absorbents before Landfill Disposal**

A generator may use process knowledge to eliminate unnecessary testing. If there is insufficient documentation to support using process knowledge, then analytical data must be used to classify the waste for landfill disposal. The kind of analytical testing done depends on the source of contamination. Generally, analytical tests for used oil absorbents are:

- total petroleum hydrocarbons (TPH)
- toxicity characteristic leaching procedure (TCLP)
- total organic halogens (TOX)

Before landfill disposal, the generator is required to:

- determine the amount of waste to be disposed of,
- explore reuse/recycling options,
- contact the landfill about its restrictions, and
- obtain prior approval from the TCEQ Municipal Solid Waste Permits Section on a case-by-case basis.

## **Railroad Commission of Texas Permit**

If the generator of used oil absorbents is under the jurisdiction of the Railroad Commission of Texas (RRC), contact that agency (at 512/463-6887) for additional requirements.

---

## **Highlights of Chapter 3**

- Used oil handlers are responsible for ensuring that used oil is not intentionally mixed with a hazardous waste.
- Used oil is exempt from hazardous waste regulations if the used oil:
  - ▼ is destined to be recycled;

- ▼ is not rendered hazardous by mixing with characteristically hazardous waste; and
- ▼ is not mixed with a listed hazardous waste.
- If used oil containing more than 1,000 ppm of total halogens can be proven not to have been mixed with listed halogenated hazardous waste, then it is regulated as used oil (not hazardous waste).
- There are two general approaches to proving that used oil destined for recycling is not mixed with hazardous waste: analytical testing or documented process knowledge.
- Used oil containing between 2 and less than 50 ppm of PCBs that is to be burned for energy recovery is subject to the used oil management standards, in addition to requirements in 40 CFR 761.20(e) implementing the Toxic Substances Control Act (TSCA).
- Used oil that is to be burned for energy recovery is presumed to contain 2 ppm or more PCBs, unless this presumption is rebutted by testing or process knowledge.
- Used oil that is burned for energy recovery is not subject to the used oil management standards under the following conditions: (1) it meets the fuel specification; (2) the used oil is not hazardous waste; and (3) it meets the marketing requirements in 40 CFR 279.72–73 and 279.74(b).
- The used oil fuel specification applies only to used oil that is to be burned for energy recovery.
- Absorbent materials are managed as follows:
  - ▼ If they show signs of free-flowing oil, they are managed as used oil.
  - ▼ If they show no visible signs of free-flowing oil, they are solid waste. (If they are to be disposed of in a landfill, you must perform a hazardous waste determination.)
  - ▼ If they are to be burned for energy recovery, they are subject to used oil management standards.

# Index

1-800 numbers outside back cover

## A

aboveground storage tank (AST) 4  
absorbents. *See* used oil absorbents  
aggregation point 8, 25  
analytical data 35-36, 45. *See also* rebuttable presumption  
automotive oil fee exemption 27

## B

bill of lading 5

## C

CERCLA liability exemption 26  
CFCs (chlorofluorocarbons) 4-5, 37  
Chapter 324. *See* TCEQ rules  
Chapter 335. *See* TCEQ rules  
Chapter 371 9, 12-13  
characteristically hazardous used oil 5  
characteristic hazardous waste 32-33  
collection centers. *See* used oil  
Conditionally Exempt Small-Quantity Generator (CESQG) 5

## D

de minimis. *See* spills of used oil  
documented process knowledge 7, 35-36. *See also* rebuttable presumption

## E

Emergency Response Team. *See* TCEQ exemptions 37

## F

financial responsibility, state-required 21

## H

halogens. *See* total halogens  
hazardous waste  
    characteristic. *See* characteristic hazardous waste listed. *See* listed hazardous waste

## L

listed hazardous waste 6, 32

## M

manifest 7

## O

off-specification used oil 7-8, 21, 24-25, 32, 39  
on-specification used oil 39

## P

petroleum storage tank (PST) 41  
process knowledge. *See* documented process knowledge

## R

Railroad Commission of Texas Permit 45  
rebuttable presumption 7, 35  
registration  
    biannual 14  
    one-time 14  
reporting spills of used oil. *See* spills of used oil  
re-refining used oil. *See* used oil  
rules, state and federal, obtaining copies 13

## S

- Senate Bill (SB) 1299 (2005 amendment to the Texas Water Code, Chapter 7ss 7.176(a)(a) Violations Relating To Handling of Used Oil) 13
- Senate Bill (SB) 1683 (1995 amendments to the Used Oil Collection, Management, and Recycling Act) 12
- Service Station Dealer (SSD) 8, 26-27
- shipping document 24
- special waste 8, 43
- spent material 8, 16
- spills of used oil
  - in *de minimis* quantities 6, 38
  - general reporting instructions 41-42
  - reporting for DIY collection centers 41
  - reporting for PST-exempted facilities 41
- SSD. *See* Service Station Dealer

## T

- TAC (Texas Administrative Code) Title 30, Chapter 324. *See* TCEQ rules
- TAC Title 30, Chapter 335. *See* TCEQ rules
- TCEQ
  - Emergency Response Team 42
  - Municipal Solid Waste Permit Section outside back cover
  - Used Oil Program 14, 26, 28, 44
  - Web pages outside back cover
- TCEQ rules
  - Chapter 324 3, 9, 12, 18
  - Chapter 335 17-18
  - obtaining copies 13

## test methods

- for total halogens 36
- for used oil fuel specifications 39-40
- TH&SC (Texas Health & Safety Code) Chapter 371 9, 12-13
- toll-free telephone numbers outside back cover
- total halogens 4, 7, 18, 36-38, 46. *See also* rebuttable presumption
- TSCA (Toxic Substances Control Act) 38

## U

- underground storage tank (UST) 41
- used oil absorbents
  - analytical tests before disposal 47
  - federal and state regulations 45
  - management options 13
  - types of 44-45
- used oil
  - aggregation point 8, 25
  - as energy resource 19-20
  - collection center 8, 12, 26, 28, 29, 41
  - containing PCBs 37-38
  - exempted 37
  - fuel specifications 38-40
  - handlers, types of 24-25
  - management standards 9, 12, 17, 21, 27, 38-40, 44, 46
  - regulations, changes in 12-13
  - re-refining 20

## W

- wastewater 38

## How to Contact Sources Mentioned in This Booklet

**TCEQ Used Oil Program—**  
512/239-6832 (select Option 2)

**TCEQ Municipal Solid Waste Permits Section—**  
512/239-2334

**TCEQ Industrial and Hazardous Waste Permits Section—**  
512/239-6412

**TCEQ Industrial and Hazardous Waste Program—**  
512/239-6413

**TCEQ Emergency Response Team (24-hour number)—**  
512/239-2507

**Railroad Commission of Texas—**  
512/463-6887

**EPA Region 6 Office—**  
214/665-7224

**TSCA Assistance Information Line—**  
202/554-1404

## Toll-Free Numbers

**Spill Reporting Hot Line—**  
800-832-8224 (24-hour number)

**TCEQ Used Oil Collection Center Information Line—**  
800-CLEAN-UP (prerecorded, menu-driven system that lets you to listen to selected information)

**TCEQ Small Business Assistance Hotline—**  
800-447-2827

**Texas Bioremediation Council—**  
800-626-6598

## TCEQ Publications

### Internet

**for rules:** [www.tceq.state.tx.us/rules](http://www.tceq.state.tx.us/rules)

**for publications:** [www.tceq.state.tx.us/publications](http://www.tceq.state.tx.us/publications)

**Fax:** 512/239-4488

**Voice:** 512/239-0028



The TCEQ is an equal opportunity/affirmative action employer. The agency does not allow discrimination on the basis of race, color, religion, national origin, sex, disability, age, sexual orientation or veteran status. In compliance with the Americans with Disabilities Act, this document may be requested in alternate formats by contacting the TCEQ at 512/239-0028, Fax 512/239-4488 or 1-800-RELAY-TX (TDD), or by writing P.O. Box 13087, Austin, TX 78711-3087.