

Burning Used Oil Fuel

In Vermont, used oil may be burned as fuel provided certain requirements are met. These requirements are found in Subchapter 8 of the Vermont Hazardous Waste Management Regulations (VHWMR), and Section 5-221(2) of the Air Pollution Control Regulations (APCR). While the APCR only cover “waste oil” burning, Subchapter 8 of the VHWMR establishes standards for all aspects of used oil management (i.e., storage, transportation, marketing and burning).

This fact sheet only summarizes the requirements applicable to burning “specification” used oil fuel in “small fuel burning equipment” (i.e., space heating equipment designed specifically for burning used oil fuel), an activity that is exempt from the APCR. Burning used oil fuel in larger equipment, or burning off-specification used oil, is subject to regulation under the APCR and more stringent VHWMR requirements.

This fact sheet also presumes that when used oil fuel is received by a burner from off-site, the oil is shipped in amounts that do not exceed 55 gallons at one time. When used oil is shipped in amounts greater than 55 gallons, more stringent VHWMR requirements apply to the facilities that ship, transport and receive the oil.

General used oil management requirements are summarized in the “Used Oil” fact sheet.

What is specification used oil fuel?

Specification used oil fuel meets the “allowable” constituent and property levels identified in Table 1 of VHWMR Section 7-812.

What is small fuel burning equipment and how is it regulated?

The term "small fuel burning equipment" refers to all used oil burning equipment at a facility when the **maximum operating heat input** for that equipment is equal to or less than 500,000 BTU/hr. Small fuel burning equipment is exempt from the permitting requirements of the Vermont Air Pollution Control Regulations, but still must meet the basic standards described in this fact sheet. Facilities with used oil burning equipment that exceeds the 500,000 BTU/hr heat input threshold may be required to obtain a permit and should contact the Vermont Air Pollution Control Division. For example, a facility operating two used oil burners, each with operating heat input values of 300,000 BTU/hr, may need to obtain a permit because collectively the equipment has a maximum operating heat input value of 600,000 BTU/hr.

Table 1 – Used Oil Fuel Specifications

Constituent / Property	Allowable Level
Arsenic	5 ppm maximum
Cadmium	2 ppm maximum
Chromium	10 ppm maximum
Lead	100 ppm maximum
Flash Point	100°F minimum
Total Halogens	1000 ppm maximum
PCBs	< 2 ppm maximum
Net Heat of Combustion	8000 BTU/lb minimum

Burning used oil fuel in this type of space heating equipment is allowed provided:

- Combustion gases are vented to ambient (outdoor) air;
- Stacks are not equipped with devices that would impede the upward discharge of the exhaust gases (i.e., no raincaps);
- No more than one space heater is connected to an above-ground storage tank; and
- The unit is operated with no visible smoke (except as allowed under Section 5-211 of the APCR).

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Can any type of used oil be burned in small fuel burning equipment?

The types of used oil that may be burned in small fuel burning equipment are limited to vehicle crankcase and machine gearbox oil. Other types of used oil (e.g., hydraulic fluids, compressor oils, petroleum-based power steering and transmission fluids, metal working fluids) may be burned as fuel only after approval is granted by the Waste Management Division. Approval is based on product information provided on the material safety data sheet (MSDS) and a description of the process generating the used oil.

Does used oil fuel need to be tested for all the Table 1 constituents?

- Business that either burn their own used oil on-site, or burn used oil received from off-site in shipments of less than or equal to 55 gallons:
 - ✓ Must only test the used oil (from each source) for total halogens. A field screening test kit may be used to determine if the 1,000 ppm specification limit is met for total halogens. Contact the Waste Management Division or Environmental Assistance Office for information about field screening test kits and how to obtain them.
 - ✓ If there is reason to believe that any of the remaining Table 1 specifications (i.e., those specifications other than total halogens) would not be met by a volume of used oil, that oil must be tested for the suspected constituents or properties.
- Businesses that receive used oil fuel in shipments greater than 55 gallons:
 - ✓ Must establish that the used oil fuel meets all of the Table 1 specifications; this testing may be conducted by either the burner or the used oil generator.

Note: A 1994 Vermont Agency of Natural Resource study concluded that used oil from vehicle service facilities and “do-it-yourselfer” collection sites frequently meets all Table 1 specifications.

How often do I have to test used oil fuel?

Used oil fuel from a specific source must be tested one time. The oil must be retested only if there is reason to believe that the quality of the oil, or the process generating the oil, has changed such that the Table 1 specifications would not be met. A burner does not need to test used oil fuel received from off-site if the oil has already been tested by the generator (or transporter) and found to meet Table 1 specifications.

Do I need a permit to burn used oil fuel in small fuel burning equipment?

No permit is required to burn specification used oil. However, any business that accepts used oil from off-site, or that generates hazardous waste (e.g., oily sorbent or debris), does need to notify the Waste Management Division of its used oil collection or hazardous waste activity using the **Vermont Hazardous Waste Handler Site ID Form** (available on-line or from the Waste Management Division). Businesses that *only burn used oil generated on-site*, and that do not generate any hazardous waste, are not required to notify.

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Can I burn used oil fuel that I don't generate?

Yes. In addition to burning used oil fuel that is generated on-site, burners may accept crankcase and machine gearbox oil from the following sources:

- Do-it-yourselfers (households that generate used oil);
- Off-site facilities that are owned and operated by the burner; or
- Other businesses and municipalities.

What do I need to do if I accept used oil fuel from off-site?

- When used oil fuel is received in shipments of no more than 55 gallons from do-it-yourselfers or other businesses / municipalities, notify the Waste Management Division (using the ***Vermont Hazardous Waste Handler Site ID Form***) of status as a “used oil collection facility.”
- Facilities that receive used oil in shipments larger than 55 gallons are subject to more stringent “transfer facility” standards (40 CFR § 279.40). Facilities initiating shipments of more than 55 gallons of used oil fuel may be subject to the VHWMR § 7-809 “marketer” standards.
- Maintain records of used oil fuel accepted from other businesses and municipalities documenting:
 - ✓ the quantity of used oil accepted;
 - ✓ specification testing results;
 - ✓ the name, address, telephone number and EPA identification number of any business or municipality from which used oil fuel is accepted; and
 - ✓ the name, address and EPA identification number of the transporter (if applicable).
- These records must be retained for at least three years.
- Store used oil fuel in containers, above-ground tanks, or underground storage tanks as required under Subchapter 8 of the VHWMR (*refer to the “Used Oil” fact sheet for more information*).

For more information contact:

Vermont Department of Environmental Conservation:

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