



# **Troublesome Waste Streams**

## **Machine Shop Coolants**

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*Protecting Maine's Air, Land, and Water*

# Waste Coolant Generation

- Waste coolant is generated by skimming the tramp oil off the coolant in each machine's coolant tank.
- Waste metals (chips, shavings, turnings, swarf) are mechanically removed from individual machines.



# Typical Waste Coolant/Lubricant Characteristics

- 3 phases
- Top phase consists of lubricants (often called tramp oil) used in and on the machines
- Middle phase consists of coolant used to flood parts while being manufactured (commonly a water mixture).
- Bottom phase is waste metal particulate



# When Are Coolants Hazardous?

Coolants and Tramp Oil are suspect if used on:

- Hardened, chrome plated, and stainless metals (especially grinding/honing) for chromium
- Steels and brasses for lead
- Specialty and aerospace parts for chromium



# Waste Metal Recovery

Waste metal is frequently mechanically removed from the coolant tanks and chip beds in each machine.



# Separating Coolant/Oil From Waste Metal



Coolant and tramp oil are drained from waste metal and collected before the metal is shipped for recycling. Smaller shops gravity drain the chips.





# Separating Coolant/Oil From Waste Metal



Another chip draining set up. These chips were too large to spin in a centrifuge.



# Separating Coolant/Oil From Waste Metal

Chip/shaving centrifuge.





# Coolant Recycling

Skimmed tramp oil is often allowed to separate and coolant is reclaimed for reuse.



# Waste Coolant

Coolant eventually becomes rancid and is transferred into drums for disposal.



# Other wastes generated from coolant



Coolant and tramp oil contaminated clean-up debris and waste floor washing liquids should be tested.







Contact:

- Maine's Hazardous Waste Management Unit
- <https://www.maine.gov/dep/waste/hazardouswaste/index.html>

***[www.maine.gov/dep](http://www.maine.gov/dep)***

