



**Canadian
Petroleum
Products
Institute**

**Institut
canadien
des produits
pétroliers**

Best Management Practices

Automotive Repair Operations that Discharge to a Sanitary Sewer System

**Prepared by the Canadian Petroleum Products Institute
(CPPI)**

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1.0 Introduction

This Best Management Practices (BMP) is intended to provide guidance to operators of CPPI member company identified facilities **that have vehicle service bays and an oil/water separator that discharges effluent to a municipal sanitary sewer system**. The BMP will assist operators to minimize the effects of their operations on the quantity and quality of wastewater and contaminants discharged to sewers.

The Best Management Practice (BMP) is a document that, when adopted by a municipality into its by-law, provides an alternate and efficient sewer discharge management tool. Should there be any discrepancy between the BMP and applicable Federal and Provincial Acts and Regulations and/or Municipal By-laws, the Acts, Regulations and/or By-laws take precedence.

1.1 Why is Effluent from an Automotive Repair Operation a Concern?

While a single automotive repair operation might contribute only small quantities of substances of concern to a sewer system, collectively all operations can be a significant contributor. It is therefore critical that each and every operator does whatever is economically practical to reduce substances of concern that are discharged into sewers.

The issue is that some substances can structurally damage sewer systems by plugging or corrosion while others, being highly toxic even in very low concentrations, can put worker health at risk and/or kill the microorganisms used in bio-treatment systems. Therefore, control of these substances at the source is paramount for the protection of human health, the environment and structural integrity of the sewer system.

2.0 Background

To protect aquatic environments, public health and safety, sewage works, wastewater treatment processes and control biosolids quality, Federal and Provincial governments have regulations that limit the quality and quantity of substances of concern discharged into the environment via municipal sewer systems. As a result, municipalities have by-laws that control the quality and quantity of substances discharged into their sanitary and storm water sewer systems by waste generators or “point sources” within their jurisdictions.

The automotive repair industry is one of the generator/“point source” groups targeted by these by-laws. This group includes service stations with service bays, vehicle dealerships, mechanical and collision repair shops, towing services, vehicle recycling operations, radiator repair shops, quick lubes and trucking firms.

Most municipalities undertake some form of treatment before wastewater from sanitary sewer systems is discharged into marine environments such as creeks, rivers, lakes and oceans. Wastewater that enters stormwater sewers does not generally receive treatment before being discharged into a watercourse.

Substances of concern from automotive repair operations include antifreeze and windshield washer glycols, brake fluids, oil and grease, total suspended solids (TSS) and gasoline and diesel components such as benzene, toluene, ethyl-benzene, xylene (BTEX) and Poly Aromatic Hydrocarbons (PAHs). It is not important that operators understand how substance limits are established but rather that they do everything practical to reduce the quantity and types of substances discharged into sewers.

Canadian Petroleum Products Institute (CPPI) member companies operate in every Canadian Province and Territory. However, it would not be practical nor good management practice to develop different BMPs for each province or municipality.

3.0 Mandatory Requirements

3.1 Discharge Limitations

The following non-domestic wastes should not be discharged into sewers. (The following terminologies may change from jurisdiction to jurisdiction so it is the operator's responsibility to be aware of what wastes cannot be discharged into sewers in their jurisdiction).

- **Prohibited waste** – anything that could cause a fire or explosion, block the sewers, cause odours, or corrode the sewer system.
- **Special waste** – anything governed by Regulation, i.e. paint, flammable material, acid and waste antifreeze.
- **Uncontaminated water**, other than from washrooms, in quantities greater than 2 cubic metres per day. (Uncontaminated water takes up valuable capacity that could be used to handle wastewater that needs treatment).
- **Restricted waste** as defined in the applicable jurisdiction's by-law (e.g. 50 mg/L for iron, 0.2 mg/L for total xylenes and 350 mg/L for total suspended solids).
- **Oil and grease** in a concentration exceeding 50 mg/L.
- **Waste water from engine cleaning/shampooing**
- **Trucked liquid waste**
- **Wastewater from oily rag washing or cleaning**
- **Rinse water from vehicle parts that have been cleaned in solvent**
- **Water that accumulates in a fuel storage tank** (This water should not be pumped into either the sanitary or stormwater sewer system).

Stormwater should not be discharged into a sanitary sewer connected to a sewage facility unless it originates from:

- A fueling station (most are uncovered and incidental stormwater from these areas can be discharged into the sanitary sewer. A proper spill response plan for fuel spills should be posted because of the extreme hazard created when fuel enters a sewer system. See Section 3.4).
- Above ground storage tank containment areas (these areas should not have drains that connect directly to the sewer system. See Section 3.3).

3.2 Oil/Water Separators

3.2.1 Standards

- All facilities that discharge non-domestic wastewater into a sanitary sewer should have oil/water separator(s) installed and all non-domestic wastewater from the operation should flow into the separator(s). Non-domestic wastewater is from sources other than washrooms and kitchen facilities.
- Separators should be easily accessible and have sampling ports available for sampling, inspection and maintenance.
- The oil/water separator should provide a minimum retention time of two hours based on the maximum expected flow or be designed to ensure that effluent at the point of discharge does not contain oil and grease in a concentration exceeding 50 mg/L. Should the operation have an employee hand wash sink in the vehicle service area it should be clearly designated as “for hand washing only”.
- For ease of inspection, the oil/water separators should have sampling ports. The ports shall be located either at the outlet of the oil/water separator or downstream of the separator, but upstream of any discharge of other wastes.
- The sampling ports shall be the same diameter as the oil/water separator outlet pipe and should open in a direction at right angles to, and vertically above, the flow in the sewer pipe.

3.2.2 Inspection and Maintenance

- The sampling ports should be easily accessible at all times.
- The oil/water separator should be inspected at least once every three months by measuring the depth of bottom sludge and of the floating oil.
- Bottom sludge should not exceed of the lesser of 15 cm or 25 percent of the wetted height of the oil/water separator.
- Floating oil and grease should not exceed the lesser of five (5) cm or five (5) percent of the wetted height of the oil/water separator¹. Due to the volatile nature of some oils, solvents and fuels, these materials should not be left to accumulate as they could cause health and safety concerns. (The efficiency of the interceptor decreases as the level of floating material increases).
- The oil/water separator should be cleaned out using a vacuum power unit within seven days if during inspection the measured depth of floating oil or bottom sludge exceeds the criteria noted in either of the two points immediately above.

¹ As the design and capacity of oil water separators may vary, the manufacturer’s maximum recommended levels may be used as alternative maximum floating oil and grease levels.

- The oil/water separator should be cleaned out using a vacuum power unit at least once every twelve months regardless of the amount of floating oil or bottom sludge. This will ensure that the interceptor receives at least a minimum level of maintenance on a regular basis. Clean out should be done by a provincially licensed and approved waste collector.
- The oil/water separator should be inspected immediately after clean out to ensure that it has been properly cleaned and that the water level has been restored.
- When the oil/water separator is cleaned, the oil and grease or solids should not be disposed of into the sewer connected to a sewage facility or in any place where it may be introduced to a storm sewer or a watercourse.
- Compartment covers should be tightly closed to ensure that all floor drainage is directed to the first compartment.
- Hot water, detergents, solvents or any other chemical agents should not be used to flush oil through the oil/water separator. (If the bay floor is to be washed, first wipe up all spills and do not use hot water or detergents as this causes oil and grease to emulsify and thereby not float to the surface for skimming off).

3.3 Storage and Containment

The operator should ensure that the following materials are stored using spill containment:

- used acid-filled batteries
- spent solvents, used antifreeze, used oils, used oil filters, used brake fluid, used transmission fluid and other hazardous waste materials
- aboveground fuel storage tanks
- solvents, antifreeze, oil, or other hazardous materials stored at floor level in containers over 50 litres and not contained in permanent engineered containers that are protected from vehicle contact.

The containment areas should not be connected directly to a sanitary sewer or storm sewer. Draining or pumping of accumulated stormwater out of the secondary containment area to the sediment pits and oil/water separators should be supervised at all times.

3.4 Spill Response

Automotive repair operations should have an up-to-date and tested spill response plan.

- The spill response plan should be posted in a conspicuous location and clean-up equipment and supplies should be kept in stock at all times.
- The operator should respond immediately to clean up spills.
- After spill clean up, the oil/water separator should be inspected and cleaned if necessary before resuming wastewater discharge from the operation.

3.5 Record Keeping and Retention

The operator of an automotive repair operation should keep written records of site activities to show due diligence and to demonstrate that Best Management Practices have been followed. Design drawings should be retained for the entire time that an oil/water separator is on site and in use.

Accurate and up-to-date records should be kept of the oil/water separator inspections and maintenance procedures for a period of two (2) years from the date of inspection and/or maintenance:

- dates of inspection or maintenance
- description of inspection or maintenance
- measured depth of bottom sludge
- measured depth of floating material
- the type and quantity of material removed from the oil/water separator; and
- the TDG manifest provided by the company cleaning the oil/water separator

Sample log sheets for sites with oil/water separators are included in the Appendix that follows. These may be changed to suit the facility or be substituted by another record keeping system.

4.0 Best Management Practices (BMP)

Best Management Practices (BMP) will assist operators to reduce the amount of contaminants discharged to the environment, to comply with regulations and to improve overall waste management. BMPs are based on the pollution prevention (P2) principle that emphasizes reducing or eliminating pollutants and toxic material at their source rather than removing them from a mixed waste stream. Preference should be given to practices highest in the following P2 hierarchy:

- Avoidance, elimination or substitution of polluting products or materials
- Reduction in the use of polluting products or materials
- Elimination and reduction of the generation of polluting by-products
- Re-use and recycling of polluting by-products
- Energy recovery from polluting by-products
- Treatment or containment of polluting residual by-products
- Remediation of contaminated sites.

The following BMPs have been developed to help automotive repair operations decrease the quantity of contaminants entering the sewer system, comply with regulations, improve their

operations and save money through applications of pollution prevention principles. Operators are also encouraged to influence their suppliers by requesting and purchasing less-toxic alternative cleaning products and buying from suppliers who accept materials and containers back for recycling.

4.1 Employee Education

- Ensure employees are trained whenever new equipment is installed or new procedures are implemented. They should be familiar with the hazards associated with the material they are using and be aware of potential sources of contamination.
- Make sure employees are familiar with and understand the purpose of a spill response plan and are properly trained to carry it out.
- Maintain awareness of best available technology (BAT), as many companies now consider environmental issues when designing and manufacturing their products.
- Ensure employees are familiar with the location of, and purpose of, Material Safety Data Sheets (MSDS).

4.2 Spill Response

- Follow procedures in the facility's spill response plan (Section 3.4).
- Consider purchasing re-usable spill sorbents (absorbent material). Reusable pads are highly absorbent and can be used several times before disposal. The pads can be passed through a wringer to remove a large amount of the spilled product, allowing the pads to be reused and the spilled material to be recycled.
- Designate two containers: one for partially saturated rags to be re-used and one for saturated rags to be disposed. All rags, floor sweeps, absorbent pads and towels used to wipe, absorb or clean up spills should be covered with the substance before being disposed. Wring out saturated rags (recycling the collected material if possible) before disposal. Used rags may be considered a special waste, so do not throw them into the garbage. It is not recommended that used rags be laundered. However, if laundering is done, use a professional laundry facility that will handle the used rags in a safe and environmentally responsible manner.

4.3 Antifreeze

- Handle antifreeze containing ethylene glycol with care. Ethylene glycol is a water-soluble organic compound with a high biological oxygen demand (BOD) and is potentially toxic to aquatic mammals at relatively low concentrations. Consider substituting ethylene glycol with propylene glycol, a biodegradable product that readily degrades in activated waste treatment systems.
- Make sure waste antifreeze is properly contained and labeled in case of a spill or leak.
- Do not use antifreeze as a de-icing agent.
- If possible, use an antifreeze recycling unit that simultaneously filters the fluid, flushes the vehicle cooling systems and returns the antifreeze to the cooling system. This will reduce both the purchase and disposal costs of antifreeze.

4.4 Oil and Oil Filters

- Properly dispose of waste oil and oil filters containing greater than 3 percent oil by weight. In some provinces, having more than 3 percent oil makes them special wastes. Always ensure that whoever picks up used oil and/or filter is a government approved and licensed collector. Automotive waste oils include crankcase oils, gear and metal-working oils, and transmission and hydraulic fluid. Brake fluid is not a petroleum product so should not be put in a used oil container.
- Puncture oil filters and allow them to drain for 24 hours prior to recycling. To avoid injury, only use a puncture tool designed for this task. Store used filters in a separate and properly labeled container.
- Keep used oil in a separate, marked, watertight, rodent-proof container in a secure place prior to recycling. Make sure tanks or drums have proper containment in case of spill or leak. See Section 3.4. If the storage area is exposed to traffic, ensure it is protected from vehicle contact.

4.5 Spent Lead-Acid Batteries

- Recycle all lead-acid batteries. Until the batteries are collected by a government approved and licensed or taken to a government approved and licensed waste receiver, store them upright in a covered place away from drains. Avoid storing in areas where freezing can occur. Check routinely for leaks and cracks. Acid resistant tubs can be used for storing batteries. Keep an acid spill response kit nearby and avoid long-term storage.

4.6 Brake Fluid and Carburetor Emulsifier

- Collect and store brake fluid in a separate, marked, closed container and dispose of it with assistance from a government approved and licensed waste disposal company.
- Never put brake fluid into your used oil container because brake fluid is not an oil based product.

4.7 Parts Cleaning and Degreasing

If you use hazardous solvents in your parts washing system, consider replacing the solvents and/or degreaser with a non-hazardous substitute. Spent solvents are one of the largest hazardous wastes, by volume, produced by the automotive industry. Spent solvents are hazardous to workers because they are toxic and emit harmful fumes.

- When not in use, cover solvent cleaning tanks and close their drain plugs. Solvent losses due to inappropriate usage, equipment leaks, spills and evaporation can be up to 40 percent of total solvent usage.

- Solvent should be replaced when the contamination level reaches 2 to 3 percent. Reduce the frequency of solvent disposal or replacement by increasing the amount of pre-cleaning. Pre-clean parts in a container with a squeegee, rag or wire brush before soaking them in a parts washer.
- Do not change the solvent until it is necessary to do so. Consider having two tanks – one with old solvent to pre-soak and remove most of the dirt and grease and one with new solvent. This will extend the life of the solvent bath.
- Avoid chlorinated solvents and other solvents with a specific gravity greater than 1.0 (check the Material Safety Data Sheet (MSDS) for details). Aqueous or alkaline cleaners may be substituted for solvent-based cleaners in some applications, particularly for non-aluminum parts.
- Use spray cleaners only when parts cannot be removed from a vehicle and the placement of a cleaning sink or a pan under the part to catch drips is not possible.
- Consider replacing the solvent sink with an aqueous-based parts washing system. Two methods are immersion with agitation (ultrasonic or mechanical) and pressurized jet-spray washers using heat and a caustic detergent to physically and chemically remove organic and inorganic contaminants.

4.8 Engine Cleaning/Shampooing

- Collect wastewater for reuse, recycling or for treatment and disposal as engine cleaning products can contain toxic solvents to remove oil and dirt.
- Do not allow the wash area to drain to sanitary or storm sewers.
- Consider steam cleaning using small amounts of detergent as an alternative method for engine cleaning.

4.9 Radiator Repair

- Place boil tanks for rinsing cleaned radiators in a secure area with spill containment.
- Use the solution in the boil tanks as long as possible. When it can no longer be used, dispose of it using a government approved and licensed waste disposal contractor.

4.10 Used Tires and Other Solid Waste

- Store as few used tires on site as possible as they pose a fire hazard.
- Store materials such as scrap metal and old machine parts under a roof, if possible, to protect them from the elements and to prevent the potential for contaminated runoff.

4.11 Refrigerants

- Have only certified technicians recover refrigerants for proper disposal or recycling.
- Do not vent or evaporate refrigerants.
- Recycle spent filters, condensers, evaporators and compressors for their metal content.

4.12 Fueling Stations

- Refer to the Stormwater Runoff from Petroleum Facilities BMP for spill and pollution prevention at the pump island.

4.13 Service Bays

- Do not drain shop wastes into a stormwater drain, septic tank, onto the ground or into surface water.
- Place drip pans underneath vehicles and equipment when performing maintenance such as parts removal, unscrewing filters and unclipping hoses. Do not leave drip pans or other open containers lying around.
- Place dirty parts in drip pans instead of on the floor.
- Never hose down spills with water.

4.14 Materials Storage

- All materials should be stored in the proper containers with the correct label in accordance with the appropriate Workplace Hazardous Material Information Sheet (WHMIS) procedures. An up-to-date MSDS, available from the product's supplier, should be kept for each hazardous product.
- If your shop towels contain solvents, store them in a double-bottomed drum to allow the solvent to drain so that it can be collected for reuse, recycling or disposal.
- Store materials and wastes indoors or under cover whenever possible to prevent moisture from seeping into the container. The storage areas should be locked and fenced if vandalism is a problem.
- Store flammable and combustible materials in fireproof cabinets.
- Ensure separate storage of incompatible chemicals to prevent cross contamination and chemical reactions.

4.15 General Maintenance

- Use a government approved and licensed waste disposal contractor to dispose of wastes, shop recyclables and catch basin and oil/water separator wastes. If hazardous waste is dumped illegally, your shop may be held responsible.

4.16 Vehicle Washing Area

If there are vehicle washing activities in your shop, refer to the BMP for “Vehicle Wash Operations”.

4.17 Non-Hazardous Office Wastes

To help improve overall environmental performance:

- Choose products with the least packaging and the highest recyclable material content.
- Recycle regular office waste whenever possible.
- Recycle waste paper, aluminum cans, newspaper, glass, cardboard and plastic containers.
- If you occupy space in larger premises, check with the property manager to find out if any recycling programs are already established in the building.

4.18 Water Pumped from Fuel Tanks

If water is found and removed from fuel storage tanks, it should not be dumped into the oil/water separator but taken for proper disposal by a provincially licensed contractor.

5.0 Provincial Regulatory Contacts

Should there be questions on the acceptable use of sewer systems and/or disposal of waste products, first contact your applicable municipality. Should there be no such group in your area, i.e. a village or hamlet, then call your applicable provincial Ministry and if they are unable to help then call your petroleum supplier's Environment, Health & Safety department.

6.0 Glossary of Terms

Contaminant: A substance that is not naturally present in the environment or is present in elevated amounts, which, if in sufficient concentration, can adversely affect flora, fauna and/or the environment.

Effluent: Liquid flowing out from a facility or household into a sewer system or water body.

Heavy metals: Metallic elements with high atomic weights, such as silver, iron, zinc, copper, lead, mercury, cadmium and arsenic. They are generally persistent in the environment, have the potential to accumulate in the food chain and sewage treatment plant sludge and can cause health effects in organisms.

Milligrams per litre (mg/L): The weight of a substance in milligrams in one litre of wastewater (may also be referred to as parts per million or ppm).

Oil and grease: An organic substance recoverable by procedures set out in *Standard Methods* or procedures and includes, but is not limited to, hydrocarbons, esters, fats, oils, waxes and high-molecular weight carboxylic acids.

Pollution prevention: The use of processes, practices, materials and energy that avoid or minimize the creation of processing and other wastes.

Sanitary sewer: A collection system for domestic, commercial, institutional and industrial wastewater or any combination thereof.

Spill containment: Any impervious structure that surrounds a container or works that is sufficient to hold the larger of 110 percent of the largest volume of free liquid in the container or works or 25 percent of the total volume of free liquid in storage.

Spill response plan: A written plan developed by the operator to respond to any spills at an automotive repair operation site. As a minimum, the plan should define the roles and responsibilities for spill response, contact names and numbers for the appropriate agencies, and a checklist of all spill response equipment.

Standard Methods: The latest edition of *Standard Methods for the Examination of Water and Wastewater* jointly prepared and published from time to time by the American Public Health Association, American Water Works Association, and the Water Environmental Federation.

Storm sewer: A pipe conduit, drain or other equipment or facilities for the collection and transmission of stormwater or uncontaminated water.

Trucked liquid waste: Any waste that is collected and transported from the site where the waste originated by means other than discharge to a sewer.

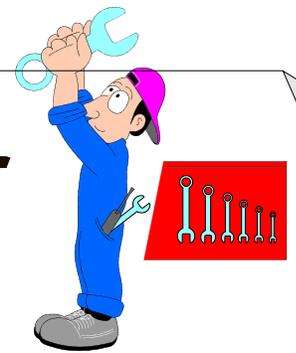
Vehicle: A vehicle as defined under the provincial *Motor Vehicle Act* as may be amended from time to time.

Wastewater: The spent or used water of a community or an industry.

Wetted height: The depth from the static water line to the bottom of the grease interceptor.



Best Management Practices for Automotive Repair Operations



The operator of an automotive repair operation that discharges to a sanitary sewer has the responsibility to ensure compliance with all Federal, Provincial and Municipal Acts, Regulations and By-laws applicable to effluent discharges into sewer systems.

To assist operators to minimize the risk of hazardous substances entering into sewer systems, Best Management Practices should be implemented. **The Best Management Practice (BMP) is a document that, when adopted by a municipality into its by-law, provides an alternate and efficient sewer discharge management tool. Should there be any discrepancy between the BMP and applicable Federal and Provincial Acts and Regulations and/or Municipal By-laws, the Acts, Regulations and/or By-laws take precedence.**

This information should be posted in the work area so that it is both conspicuous and readily accessible to all employees.



Oil/Water Separators: Inspection, Cleaning & Operation

1. Should be inspected at least once every three months.
2. Measure the depth of accumulated bottom solids and floating oils in all compartments.
3. Bottom solids should not be allowed to accumulate in excess of the lesser of 15 cm or 25% of the wetted height of the separator compartment.
4. Floating oil and grease should not exceed the lesser of five (5) cm or five (5) percent² of the wetted height of the separator compartment.
5. The separator should be vacuum cleaned by a provincially licensed contractor within seven days whenever the limits set out in either of the points 3 and 4 above are exceeded.
6. The separator should be vacuum cleaned by a provincially approved and licensed contractor at least once every 12 months regardless of the depth of bottom solids or floating oil.
7. Records should be kept for a minimum of two (2) years of all vacuum cleanings.
8. The interceptor should be refilled with water to ensure floating oils do not have access to out flow ports.
9. Separator compartment covers should be tightly sealed to ensure floor drainage enters only the first compartment.
10. No automotive fuel or cleaning solvents shall be intentionally dumped into the interceptor.
11. Service bays floors should not be washed with hot water and soap as this can emulsify oils and prevents their separating out and floating to the surface.

² As the design and capacity of oil/water separators may vary, the manufacturer's maximum recommended levels may be used as alternative maximum floating oil and grease levels.



Spill Clean-up



1. All service bay spills, other than water, should be immediately cleaned-up with rags or sorbents.
2. Fuel spills should be immediately cleaned-up using sorbents and waste sorbents disposed of according to applicable provincial regulations.
3. Rags used for spill clean-up should be stored in closed containers awaiting collection and cleaning.
4. Sorbents used for spill clean-up should be stored in closed containers awaiting disposal by a government licensed contractor.

Storage of Used Oil

1. All used oil should be stored in a sealed tank used exclusively for that purpose.
2. No products other than used oil shall be dumped into the used oil tanks, i.e. antifreeze, brake fluid, gasoline or diesel, glycol, etc.
3. The tank should be tightly capped to minimize water seepage.
4. Used oil should be collected and disposed of by a provincially licensed contractor.
5. All spills should be immediately reported to the proper provincial authorities and CPPI member company.
6. Records should be kept for a minimum of two (2) years of all used oil collections.

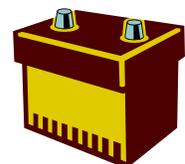


Storage of Used Oil Filters

1. Using a tool designed for puncturing, puncture and drain all filters for a minimum 24 hours before storing in a properly labeled container.
2. If possible, crush the filters so that more can be placed in the container.
3. Have filters collected by a provincially licensed contractor.
4. Records should be kept for a minimum of two (2) years of used filter collections.

Used Lead-Acid Batteries

1. Store batteries awaiting collection upright in a covered, heated area away from sewer drains. It is recommended an acid resistant tub be used to store the batteries. Check batteries monthly for leaks.
2. Have all used batteries collected for recycling by a provincially licensed contractor.
3. Keep an acid spill response kit on hand.
4. Records should be kept for a minimum of two (2) years of battery collections.





Antifreeze

1. Handle antifreeze containing ethylene glycol with care. Consider substituting ethylene glycol with biodegradable propylene glycol.
2. Store waste antifreeze in a WHMIS labeled container.
3. It is recommended that antifreeze recycling units be used that simultaneously filters the fluid, flushes the vehicle cooling system and returns the antifreeze to the equipment. This reduces waste quantity.
4. Have waste antifreeze collected by a provincially licensed contractor.
5. Records should be kept for a minimum of two (2) years of all used antifreeze collections.



Brake Fluid

1. Store used brake fluid in a WHMIS labeled container waiting collection by a provincially licensed contractor.
2. Never put used brake fluid in the used oil tank, as brake fluid is not a petroleum based product.

Solvent

1. When not in use, cover all solvent cleaning tanks and close the drain plugs.
2. To reduce the quantity of waste solvent, pre-clean parts with a rag or brush prior to putting them in the solvent tank. Alternately, consider having two tanks, one with old solvent for use as a pre-soak.
3. Do not dispose of solvent until its contamination level reaches 2 or 3%.
4. Avoid chlorinated solvents and other solvents that have a specific gravity greater than 1.0 (refer to MSDS). Aqueous or alkaline cleaners may be substituted for solvent-based cleaners for non-aluminum parts.
5. Use spray cleaners, and an under vehicle drip pan, only when parts cannot be removed.
6. Consider replacing solvent tanks with an aqueous-based part washing system. Two types are immersion with agitation and pressurized jet-spray using heat and caustic detergent.
7. Records should be kept for a minimum of two (2) years of all solvent collections.

Engine Cleaning/Shampooing

1. Collect wastewater for reuse, recycling or treatment and disposal as engine cleaning products can contain toxic solvents.
2. Do not allow wash areas to drain to storm or sanitary sewers.
3. Consider using steam and small amounts of detergents instead of “engine cleaning” products containing toxic solvents.





Radiator Repairs

1. It is recommended radiators be sent to a radiator repair “specialty” shop.
2. Place boil tanks for rinsing cleaned radiators in a secure area with spill containment.
3. Use the solution in boil tanks as long as possible. When no longer useable, have it collected and disposed of by a provincially licensed contractor.

Used Tires and Other Solid Waste

1. Store as few used tires as possible, as they are a fire risk. Have tires collected by a provincially licensed contractor.
2. Store scrap metal and old machine parts out of the weather. Have them collected regularly by a provincially licensed contractor.



Refrigerants

1. Only certified technicians should recover refrigerants for disposal or recycling.
2. Do not vent or evaporate refrigerants.
3. Recycle spent filters, condensers, evaporators and compressors as scrap metal.

