

CAR WASH SUMP WASTES

Note: a separate document applies to the management of industrial sumps and pits.

Sump wastes from car wash bays are made up of water, detergents, salts, glycols, hydrocarbons (from gasoline, lube oil, and grease), and solids (dirt, grit, rust, and paint chips) resulting from the cleaning of vehicles (cars, vans, trucks, buses, and tractors).

Metals from rust, used oil, or anti-freeze are often present but rarely at levels that render these wastes hazardous. Hydrocarbons, from gasoline washed off vehicles, may occasionally render the waste hazardous when benzene, ethyl benzene, toluene, and xylene (BTEX) exceed the hazardous limit of 0.5 milligrams per litre. Glycols and BTEX, at low levels, readily degrade within the wastewater system. The management procedure described takes into account this possibility.

Legal Framework, Characterization, and Classification

The *Environmental Protection and Enhancement Act (EPEA)* and the *Waste Control Regulation (WCR)* state that any waste, including car wash sumps, must be recycled or disposed of at approved waste management facilities.

Sump wastes from car wash bays or similar operations is accepted at Class II landfills for management, irrigation or dust suppression purposes.

Alberta legislation is available on-line at www.gov.ab.ca/qp/indiv.html.

Generators of car wash sump wastes must characterize/ classify the waste by knowing what it comprises or by conducting appropriate tests on representative samples prior to shipping the waste for treatment or recycling, in order to ensure that it is properly managed. Analytical data shows that car wash sump waste is, in most cases, classified as non-hazardous when the facility operator limits the use and access to the sump (i.e., the type of vehicles and substances). Under these conditions no analytical testing of the sump waste may be required provided that the management procedures described below are respected.

To determine if a sump waste is hazardous, the person responsible can use his/her “knowledge of the waste” or conduct appropriate analytical tests. “Knowledge of the waste” implies that the owner or operator knows whether hazardous substances have or have not entered the sump. Preliminary screening tests include:

- the flash point when free hydrocarbon product is present; and
- total heavy metals.

When hazardous substances (i.e., heavy metals, gasoline, solvents, etc.) from engine washing or degreasing operations enter the sump, or when there are no controls on who has access to the sump, more detailed testing is required. In this case the testing may include without limitation the following parameters:

- flash point;
- pH;

- TCLP metals (or total metals); and
- benzene, toluene, ethyl benzene, and xylenes.

Sump waste is considered hazardous when either the flash point is less than or equal to 60.5 degrees Celsius, the pH is less than 2.0 or greater than 12.5, or the concentration of heavy metals or BTEX exceed the limits specified in the WCR (www.gov.ab.ca/env/waste/rr/index.html). The flash point is also used to determine the acceptability of car wash sump wastes into landfills and wastewater systems.

The frequency of sampling depends on the level of control over wastes entering the sump. Facilities that control the washings accessing the sump may need to test the sump waste one time, only. Process changes or allowing access of industrial vehicles may require periodic testing. Analytical results should be kept on file for future reference or compliance purposes.

Management Practices

The management of car wash sump wastes should reflect:

- acceptable industry practices,
- the generally benign characteristics of these wastes, and
- the low potential for adverse human health or environment impact

when due diligence and sound operational practices are adopted.

Typical car wash sump waste can be managed at recycling or treatment facilities. The most common management approach consists of solid-liquid separation followed by treatment, recycling, or disposal of the resulting liquid and solid phases. When free hydrocarbon product is present, it should be removed for recycling. The remaining liquid, which may have traces of metals, hydrocarbons, or glycols, can generally be discharged to the wastewater system in compliance with the local sewers use by-laws or provided that permission is first obtained from the plant operator.

Usually, both liquid and slurried solids are suitable for irrigation, or dust control within municipal landfills or as a source of moisture at compost facilities as long as the quality of the final compost is not affected. Disposal of the slurry at the local landfill is acceptable, again subject to prior permission of the landfill operator.

Solid-liquid separation is not considered waste treatment for purposes of EPEA and the ADR. As such, no EPEA approval or registration is required for phase separation of car wash sump wastes or the acceptance, re-use, or disposal of the resulting waste streams at a landfill. However, these activities should be described in the facility operations plan.

TF/assessment/waste/car wash sum waste. Prepared: March 2000/November 2005