

INDUSTRIAL SUMP AND PIT WASTES

This information sheet describes Alberta Environment's requirements and acceptable management practices for sump and pit wastes associated with industrial processing, manufacturing and service activities. A separate document applies to the management of car bay wash sump wastes.

What are Industrial Sump Wastes?

Sump or pit wastes from industrial or service activities are generally complex mixtures of water, dirt, grime, and grit and may include detergents, oils, grease, metals, solvents and other chemicals that reflect the nature of the activity served. Most industrial sumps require assessment on a case-by-case basis and are costly to characterize, specifically when no waste segregation takes place at the facility served by the sump.

Industrial sumps differ from car wash sumps as the former serve a broad array of industry activities and require specific assessment and management.

Legal Framework

The *Environmental Protection and Enhancement Act (EPEA)*, the *Waste Control Regulation (WCR)*, and the *Activities Designation Regulation (ADR)*, complemented by the *Alberta User Guide for Waste Managers*, provide the legal framework for the management of wastes, including industrial sump and pit wastes. This legislation requires that any waste that is moved off-site must be characterized, classified, and managed at approved facilities or in accordance with the written authorization of the Director. Alberta's legislation is available on-line at www.qp.gov.ab.ca/index.cfm.

Characterization and Classification

Persons responsible for industrial sump or pit wastes have an obligation to know the nature and characteristics of their wastes, in order to ensure their appropriate management. The variety of wastes received, types of equipment served, products used, and operational practices are important factors consider to properly characterize, classify and manage these wastes.

To determine if a sump waste is hazardous, the person responsible can use his/her "knowledge of the waste" entering the sump or conduct appropriate analytical tests on representative samples. "Knowledge of the waste" implies that the owner or operator knows whether hazardous wastes have or have not entered the sump.

The parameters needed to characterize representative samples of industrial sumps for classification and management purposes are case specific. Often, they may include but not be limited to

- pH,
- flash point,
- total petroleum hydrocarbons,

- benzene, toluene, ethyl benzene, and xylenes (BTEX),.
- organic solvents, and
- leachable metals (TCLP)

As mentioned above, the identification of the individual chemicals or wastes entering the sump and preliminary screening tests are useful as part of the waste characterization. Additional tests may be required depending on the presence of specific substances and intended management.

The waste is hazardous when either the flash point is less or equal to 60.5 degrees Celsius, the pH value is less than 2.0 or greater than 12.5, or the concentration of heavy metals or BTEX exceeds the respective limit specified in the *WCR* and Table 2 of the *Alberta User Guide for Waste Managers*, available at:

environment.gov.ab.ca/info/home.asp. The presence of specific chemicals may require the review of additional references.

The frequency of sampling depends on how often process changes take place, or on the level of control over wastes entering the sump. Facilities that do not change their processes and control the wastes going into the sump may only need to test the sump waste at least once for initial characterization and annually thereafter. Analytical results should be kept on file for future reference or compliance purposes.

Management of Industrial Sump Wastes

Identification, segregation and separate collection and characterization of the individual waste substances entering an industrial sump or pit is one of the best ways to reduce costs and effectively manage industrial sump or pit wastes. This approach is used successfully at specialized shops and industries such as engine or industrial equipment washing, car body and radiator shops, chemical manufacture or blending, or metal finishing operations (i.e., solvent degreasing, electroplating, paint spray booths, etc.).

When the industrial generating process is unknown or segregation is not feasible, and the sump or pit acts as an equalization tank. In this case, carefully designed sampling and analytical protocols are required to determine the appropriate characterization, classification and management of the sump waste.

If the sump or pit waste is non-hazardous, upon phase separation the resulting wastes or recyclables may be re-used or disposed of, if solid, into the local landfill or into the local wastewater system, if a liquid, provided that prior permission is obtained. Off-site management may include recovery, waste-to-energy, incineration, or deepwell injection. Treatment at the municipal wastewater plant of certain sump wastewaters is a viable option. In all cases, prior permission from the facility operator is required.

When testing results show hazardous characteristics, the generator has to treat or dispose of the waste at a facility approved to handle this hazardous waste. Alternative treatment of sump components at the local municipal treatment or disposal facilities might be possible provided that heavy metals or persistent halogenated organics are not present. In this case prior permission in writing from the plant operator or the Director is required

Prior to shipping hazardous wastes to an off-site facility the owner/operator must obtain and complete a Personal Identification Number, a manifest or a recycle docket to ensure that the waste is properly documented during transportation. Additional information, forms, and a list of Alberta's approved hazardous waste management facilities are available at www.gov.ab.ca/env/waste/rr/index.html.

Record Keeping

Although the responsibility for proper sump waste management lies with the person responsible for the sump, waste service companies who transport or accept the waste share this responsibility. To document proper management and due diligence, Alberta Environment recommends that the sump owner/operator and the service company keep records of the following information:

- name of the sump generator company;
- source and estimated quantity of the sump waste;
- copies of analytical testing and sump waste classification; and
- name, address, and location including legal land description of the facility receiving the waste.

Summary of Management Options

Alberta Environment's requirements and acceptable management practices for industrial sump or pit wastes discussed before are summarized in the following table.

MANAGEMENT OF INDUSTRIAL SUMP AND PIT WASTES

Sump	Testing Required	Management Options
Vehicle service shops (including radiator repair, automotive maintenance and repair, oil/antifreeze changes, etc.)	Once for initial characterization and classification and every time there is a change in the wastes collected in the sump.	<p><i>Non-hazardous waste</i></p> <ul style="list-style-type: none"> • Solid-liquid separation • Discharge to the local municipal wastewater system subject to prior municipality approval, • Disposal/use at Class I, II, or III landfills, • Deepwell injection, • Class I compost facilities • Land application/irrigation/reclamation if approved in writing by the Director, • Other management options if approved in writing by the Director, and • Record keeping. <p><i>Hazardous waste</i> All of the above and the following, as applicable:</p> <ul style="list-style-type: none"> • Segregation and product recovery, • Treatment to a non-hazardous condition, or • Landfill disposal/re-use of dewatered solids at Class I or Class II landfills, as appropriate.
Industrial plants	Individual sampling and analytical protocols. Frequency dictated by changes in process and wastes collected.	<ul style="list-style-type: none"> • Case-by-case assessment and management; • Management at approved waste facilities; • As described in an EPEA approval; or • As approved in writing by the Director.

References

Alberta's applicable waste regulations and guidelines include:

- *Waste Control Regulation* (AR 192/1996 and AR 162/2005);
- *Activities Designation Regulation, Division 1* (AR 176/2003 and 157/2005);
- *Alberta User Guide for Waste Managers*; and
- *Waste Management Information for Businesses that Store Hazardous Waste and Hazardous Recyclables*.

These documents are available on-line at www3.gov.ab.ca/env/waste.html.

Information on waste treatment and disposal companies, qualified waste management professionals, or Alberta's approved facilities is available from the Alberta Environmental Services Association at www.esaa.org. For local issues and authorizations, the Alberta Environment Regional Services can be contacted at www3.gov.ab.ca/env/regions.html. The local yellow pages telephone directory is often another valuable resource. Look under *waste* or *environmental services*.

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