

SOLID WASTE ACCEPTANCE PROTOCOL

BRITISH COLUMBIA

This form will assist you in identifying if the waste(s) can be accepted and assist in the analytical testing requirements.

SECURE Landfills will accept solid hazardous waste (except those prohibited) and non-hazardous industrial/oilfield solid wastes.

EXAMPLES OF COMMON ACCEPTABLE SOLID WASTES (NO FREE LIQUIDS)

- 1 Activated Carbon
- 2 Asbestos
- 3 Catalyst(s) Sulphur and Non-Sulphur
- 4 Cement (Crushed, Dry Returns)
- 5 Contaminated Debris and Soil(s) with:
- 6 Chemical/Solvent(s)
 - Crude Oil/Condensate
 - Dry Cleaning/Industrial Related
 - Mercury/Metals
 - Methanol
 - Produced/Salt Water
 - Refined Fuel(s) (i.e. Gasoline)
 - Sulphur
- 7 Construction and Demolition (C&D) Debris
- 8 Desiccant(s)/Molecular Sieve(s)
- 9 Frac Sand (non-radioactive)
- 10 Incinerator Ash
- 11 Sand - Produced
- 12 Sludge - No Free Liquids (Solids ONLY) from:
 - Hydrocarbon
 - Lime
 - Process
 - Sulphur
 - Flare Pit
- 13 Drilling Mud/Cuttings:
 - Advanced Gel Chem
 - Gel Chem
 - Invert (Diesel Fuel)
 - Potassium Chloride (KCl)
 - Potassium Sulphate (K_2SO_4)
- 14 Treated Wood/Wood Waste (e.g. railway ties)
- 15 NORM (Naturally Occurring Radioactive Material) solid waste
(Silverberry Landfill Only)

PROHIBITED WASTES

- 1 Liquids (Paint Filter Test)
- 2 Wastes materials which contain free liquids
- 3 Wastes containing Benzene, Toluene, Ethylbenzene and/or Xylene(s) in total combined concentrations > 1,000.0 mg/kg (Total BTEX Analysis)
- 4 Containers holding free liquids
- 5 Lube oil filters (spin on/off) and containers covered under the BC Used Oil Management Association
- 6 Recyclable Oily Rags

- 7 Wastes containing halogenated organic compounds in total concentrations > 100.0 mg/kg (EOX Analysis), excluding tetrachlorethylene
- 8 Waste containing tetrachloroethylene in total concentrations > 500.0 mg/kg
- 9 Waste which contain dioxin TEQ, as defined by the Hazardous Waste Regulation, in a concentration greater than 100 parts per billion by weight
- 10 PCB Wastes
- 11 Wastes as defined by the **Transportation of Dangerous Goods Regulations of Canada** (TDG) (Transport Canada, 2011) which:
 - Fall under TDG Classes 1 to 9 but **excluding** Class 4.1 UN 3175: Solids Containing Flammable Liquids
 - Are listed as forbidden in Column 3 of Schedule 1. These are dangerous goods that must not be transported (some example substances are UN3097: Flammable Solids and UN3100: Oxidizing Solids)
- 12 Wastes as defined by the Hazardous Waste Regulation (Government of British Columbia, April 2009) which:
 - contain any liquid or solid containing > 50 ppm by weight of chlorobiphenyls (PCB)
 - contain dioxin TEQ in a concentration of > 100 ppb (dioxin TEQ is determined by adding the products of the measured concentrations of each congener listed in Schedule 1: Column 1 multiplied by the TEF in Column 2)
 - contains one or more contaminants listed in Schedule 4: Table 1 with \geq than the concentration specified in Column 2 EXCEPT BTEX (when subjected to the Modified Leachate Extraction Procedure - refer to Schedule 4: Part 2 - Modified Leachate Extraction Procedure in the Hazardous Waste Regulation)

LANDFILL DISPOSAL CRITERIA

The following is a list of landfill disposal criteria that may be required based on the description, origin and history of the solid waste:

- Analytical data provided must support the solid waste classification
- Analytical data provided must be current (not older than one (1) calendar year)
- It is the responsibility of the waste generator to determine the characteristics of the waste
- Un-used non-hazardous solid products require a SDS/Data Sheet

MULTI-WELL PADS

- A SECURE Application Form (SAF) and Analytical is required for each surface location;
- All downholes are to be listed on the SAF;
- An analytical is required for each drilling product for every SAF; and
- If the product or formation changes an updated analytical is required.

INDUSTRIAL LANDFILL DISPOSAL CRITERIA

The following associated regulatory levels are common compounds and the maximum allowable concentrations. Any material that exceeds these levels will not be approved for disposal. Refer to Schedule 4, Table 1 from the **Hazardous Waste Regulation** (as amended) for additional parameters.

CONSTITUENTS	REGULATORY LEVELS	CONSTITUENTS	REGULATORY LEVELS
BTEX:		Common Leachable Substances:	
Total combined BTEX	1,000.0 mg/kg	Arsenic	2.5 mg/L
Benzene*	0.5 mg/L	Barium	100.0 mg/L
Ethylbenzene*	0.24 mg/L	Boron	500.0 mg/L
Toluene*	2.4 mg/L	Cadmium	0.5 mg/L
Xylenes*	30.0 mg/L	Chromium	5.0 mg/L
*Leachable BTEX levels classified as Hazardous Waste if > stated regulatory levels:		Cyanide	20.0 mg/L
Halogenated Organic Compounds:		Copper	100.0 mg/L
EOX (Extractable Organic Halides)	100.0 mg/kg (total)	Fluorides	150.0 mg/L
Tetrachloroethylene	500.0 mg/kg	Lead	5.0 mg/L
Volatile Organic Compounds (VOCs):		Mercury	0.1 mg/L
Discrete compound limits		Nitrate	4,500.0 mg/L
Other:		Nitrite	320.0 mg/L
Additionally, the waste must meet the following requirements:		Selenium	1.0 mg/L
<ul style="list-style-type: none"> pH \geq 2.0 and \leq 12.5 (Except Wood Ash) No Free Liquids can be present (US EPA Method 9095 Paint Filter Test) 		Silver	5.0 mg/L
		Uranium	10.0 mg/L
		Zinc	500.0 mg/L
		PCBs:	50.0 mg/kg
		NORM Waste (Silverberry Only):	\leq 70 Bq/g and Radium 226 at \leq 5 Bq/g

Note(s):

- Not all regulated compounds are listed. Refer to Schedule 4, Table 1 above from the **Hazardous Waste Regulation** (as amended) for additional parameters
- Dry Cleaner and/or other Industrial related impacted solids may require specific analytical parameters; please contact SECURE for full details

INDUSTRIAL LANDFILL DISPOSAL CRITERIA

BASIC PARAMETERS

The following **basic** analytical testing is required for all wastes regardless of the composition:

FP – Flash point for solid samples

pH – pH of solid waste material

TBTX – Total Benzene, Ethylbenzene, Toluene and Xylene(s)

LBTEX – Leachable Benzene, Ethylbenzene, Toluene and Xylene(s) (TCLP and/or MLEP)

LMETALS – Leachable Metals (TCLP and/or MLEP)

LMERCURY – Leachable Mercury (TCLP and/or MLEP)

PFT – Paint Filter Test

ANALYTICAL REQUIREMENTS: SUPPLEMENTAL WASTE SPECIFIC PARAMETERS

The following additional analysis **MAY** be required depending on the waste description and/or type (refer to guidance below). Additional analysis may be requested depending on the type of waste and source of generation.

Sol Scan – Landfill Solvent Screen in solid waste EPA 8240

PCB – Polychlorinated Biphenyls

PAH – Polycyclic Aromatic Hydrocarbons

EOX – Extractable Halogenated Organic Compounds (TCLP and/or MLEP)

VOC – Volatile Organic Compounds (TCLP and/or MLEP)

Waste Oil – Means automotive lubrication oil, cutting oil, fuel oil, gear oil, hydraulic oil and any other refined petroleum based oil or synthetic oil, including diesel fuel where the oils in the waste in a total concentration greater than 3% by weight and the oils through use, storage or handling have become unsuitable for the original purpose due to the presence of impurities or loss of original properties (if the total concentration of oil in waste is > 3% by weight, the waste is considered waste oil and falls under the definition for hazardous waste)

Spontaneous Combustion (Self-Heating)

Sulphur – Elemental Sulphur (S⁰) and Sulphides (S²⁻)

Water Reactivity (ΔT)

% ANC – % Acid Neutralizing Capacity – Additional testing **recommended** for Sulphur impacted wastes

% CCE – % Calcium Carbonate Equivalent – Additional testing **recommended** for Sulphur impacted wastes

WASTE SPECIFIC ANALYTIC PARAMETERS

WASTE DESCRIPTION	ANALYTICAL REQUIREMENTS
1 Activated Carbon	Basic and Spontaneous Combustion (Self-Heating)*
2 Catalyst (sulphur)	Basic, Elemental Sulphur and Sulphides, Spontaneous Combustion (Self-Heating)*
3 Catalyst (non-sulphur)	Basic, Spontaneous Combustion (Self-Heating)*
4 Desiccant(s)/Molecular Sieve(s)	Basic, Water Reactivity (ΔT)*
5 NORM Solids	Radiochemistry (Bq/g)

***Please contact the Facility Manager to discuss the requirements of these parameters.**

Note: The analytical requirements for waste approval include but are not limited to those listed above. SECURE may request additional testing prior to issuing approval. If a waste differs from the descriptions above please contact the SECURE facility.

HELPFUL INFORMATION (Laboratory Requirements)

- Spontaneous combustion testing requires a four (4) liter pail of sample.
- BTEX sampling requires methanol preservation, EPA 5035A.
- Analytical reports must be the signed copy.

The following analyses are used to aid in the determination of the waste classification:

- 1 **FP** – Flash Point for solid samples (solids with a flash point < to 60.5°C using the closed-cup test method are considered flammable, fall under the category TDG Class 4.1 UN3175 Solids Containing Flammable Liquids, are acceptable at the Silverberry and Northern Rockies landfill).
- 2 **Leachable Toxic Waste** – Means waste when subjected to the extraction procedure described in the US EPA Method 1311 produces an extract with a contaminant concentration greater than those prescribed in Table 1 of Schedule 4 of the Hazardous Waste Regulations.
- 3 **Waste Oil** – Determination of Waste Oil Content in Solids and Liquids for HWR – PBM (March 31,2005)
- 4 **Modified Leachate Extraction Procedure (MLEP)** – Method used to determine suitability for waste disposal in a SECURE landfill, see Schedule 4 Part 2 of the Hazardous Waste Regulation.