

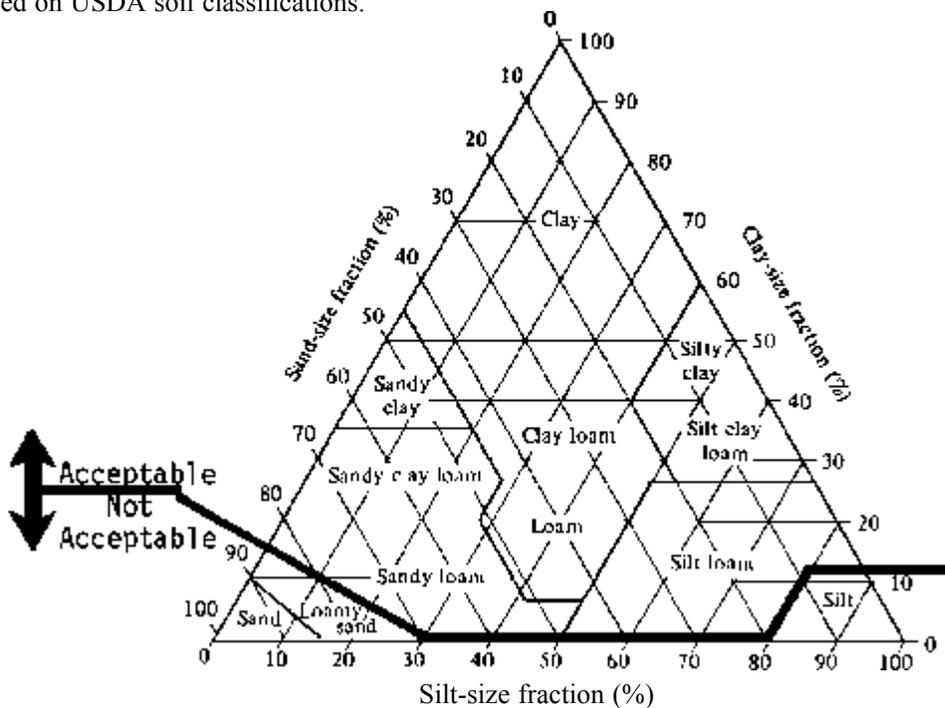
**567—121.6(455B) Permit exemptions.** No permit is required for land application of the following solid wastes under the following circumstances. (Land applications that do not comply with these rules must have obtained a permit under rule 121.7(455B).)

**121.6(1) Solid wastes.** Solid wastes (other than petroleum contaminated soil) may be land applied without permit if the land application does not violate the following:

a. Land application of sludge and other solid waste shall be conducted in accordance with the following criteria:

(1) The maximum application rate shall not exceed two tons per acre per year, measured on a dry weight basis. The maximum application rate shall be reduced if soil tests indicate that a two ton per acre per year rate would provide nutrient levels significantly in excess of crop nutrient requirements or would provide heavy metals concentrations in the soil at levels which may be detrimental to crop production or hazardous to human health.

(2) The sludge or solid waste shall be applied only to soils classified as acceptable throughout the top five feet of soil profile. The acceptability of a soil shall be determined using the following chart based on USDA soil classifications.



U.S.D.A. textural classification chart, Sand size particles 2-0.05 mm, silt-size particles, 0.05-0.002 mm; and clay size particles; less than 0.002 mm.

(3) Land application sites shall have soil pH maintained between 6.5 and 8.4 for sludges with cadmium levels up to 15 mg/kg. The soil pH may be maintained below 6.5 but not below 6.0 if the cadmium level is 8.0 mg/kg or the sludge has been stabilized to a pH of 10-12. If the soil pH is below these levels, it is acceptable to use agricultural lime to increase the pH to an acceptable level prior to land application of sludge.

(4) The department recommends that all sludge be injected on the contour or applied to the surface and mechanically incorporated into the soil as soon as possible but not later than 48 hours after application.

(5) If the sludge is applied to land on which the soil loss exceeds the soil loss limits established by the county soil conservation district, the sludge shall be injected on the contour or shall be applied to the surface and mechanically incorporated into soil within 48 hours of application. The sludge shall not be applied to ground having greater than 9 percent slope.

(6) If the sludge is applied to land subject to flooding more frequently than once in ten years, the sludge shall be injected or shall be applied to the surface and mechanically incorporated into the soil within 48 hours. Information on which land is subject to flooding more frequently than once in ten years is available from the department.

(7) Sludge application on frozen or snow-covered ground should be avoided. If application on frozen or snow-covered ground is necessary, it shall be limited to land areas of less than 5 percent slope.

(8) If sludge is applied within 200 feet of a stream, lake, sinkhole or tile line surface intake located downgradient of the land application site, it shall be injected or applied to the surface and mechanically incorporated into the soil within 48 hours of application.

*b.* The waste shall not be land applied or made available for land application if the waste contains constituents in excess of the levels specified below.

<u>Constituents</u>	<u>Levels</u>	<u>Cumulative Loading Rate</u>	
Arsenic	41 mg/kg	41 kg/ha	36 lb/ac
Cadmium	39 mg/kg	39 kg/ha	34 lb/ac
Chromium	1200 mg/kg	3000 kg/ha	2670 lb/ac
Copper	1500 mg/kg	1500 kg/ha	1335 lb/ac
Lead	300 mg/kg	300 kg/ha	267 lb/ac
Mercury	17 mg/kg	17 kg/ha	15 lb/ac
Molybdenum	75 mg/kg	75 kg/ha	66 lb/ac
Nickel	420 mg/kg	420 kg/ha	373 lb/ac
Selenium	36 mg/kg	100 kg/ha	89 lb/ac
Zinc	2800 mg/kg	2800 kg/ha	2490 lb/ac

If the waste has other toxic constituents, the toxic constituents shall not be in excess of levels where there is a threat to human, animal, or plant life as determined by the department.

*c.* **Macronutrients.**

(1) The application of nitrogen available from the waste and any other sources does not exceed the nitrogen needs of the vegetation to be grown on the site over the next year, and

(2) The total application of phosphorus and potassium does not exceed the acceptable agronomic application rates for the site and crops involved.

*d.* The waste does not have a sodium absorption ratio in excess of levels where there is a threat to plant life. If high sodium absorption ratios are suspected, analytical testing may be required.

*e.* **Stabilized sludge.** If land applying sludge or other wastes containing pathogens, the waste must be treated to reduce pathogen content by methods specified in 567—Chapter 67 prior to land application.

*f.* The waste does not contain a waste having direct process stream contact with the following listed organics: Petroleum products, organic solvents, pesticides, pharmaceuticals, polychlorinated biphenyls (PCBs). The waste does not originate from a process which may release the previously mentioned compounds.

*g.* **Assimilation capabilities.** The waste would not be readily present in a visual analysis of a random sample collected two years following application.

*h.* **General public health aspects.** The waste is not putrescible, or is incorporated (or otherwise managed) to prevent runoff and odor problems.

*i.* **Separation distance.** Waste shall not be applied within 200 feet of an occupied residence nor within 500 feet of a well.

*j.* **Operating requirements.** A generator who intends to dispose of its waste by land application shall:

(1) Analyze the waste to determine if any sources exist which may contribute significant quantities of potentially hazardous chemicals or other toxic substances. If any are found, the generator shall inform the department of their presence and shall analyze the waste for chemicals or substances in accordance with guidelines provided by the department.

(2) Sample and analyze the waste to determine whether it meets the criteria in 121.6(1).

(3) Unless rules for specific programs under USEPA or department authority provide otherwise, or unless other methods are approved by the department for a specific situation, samples taken and analyses made to document contamination under this chapter shall be conducted in accordance with the following:

1. Samples. "A Compendium of Superfund Field Operations Methods," USEPA, Office of Emergency and Remedial Response, Washington, D.C. 20460 (EPA/540/p-87/001, OSWER Directive 93.55.0-14).

2. Analyses. "Test Methods for Evaluation of Solid Waste, Physical — Chemical Methods SW-846," USEPA, Third Edition, November 1986, as revised through December 1988. Until the department adopts rules regarding certification of laboratories, analyses shall be conducted at a laboratory that certifies to the department that the approved analytical procedure has been utilized, or a laboratory which has been approved under EPA's Contract Laboratory Program. Upon adoption of rules by the department regarding certification of laboratories, all analyses shall be made at a certified laboratory.

*k.* Land application program. All generators intending to land apply their waste routinely shall establish and maintain in writing a long-range program for land application of its waste. This program shall be developed for a minimum period of five years and shall be updated annually. A copy of this program shall be available at the facility for inspection by the department. As a minimum this program shall contain the following information in detail for the next calendar year and in general terms for the following four years. The plan shall include, but not be limited to, the following:

(1) An outline of the waste sampling schedule and procedures which will be followed to ensure that the waste being applied to land continues to meet the criteria in 121.6(1).

(2) A determination of the amount of land required to allow disposal to be conducted in accordance with the requirements of 121.6(1).

(3) An identification of the land and waste application methods which will be used to dispose of the waste. Those areas and application methods shall be selected as necessary to ensure that land application can be conducted in accordance with the land application criteria in 121.6(1).

(4) The names of the owners and operators of all land to be used for waste disposal, and identification of any legal arrangements made relative to use of these areas. The programs should also outline any restrictions or special conditions which exist regarding use of these areas for waste disposal.

(5) An overall schedule for the disposal of the waste. This schedule should indicate the areas being used, the time of year that disposal on each area will be conducted, and the proposed application rates for each area.

(6) A determination of the types and capacities of the equipment required to dispose of the waste in accordance with the developed disposal schedule. The program shall also outline how the required disposal equipment will be made available and who will be responsible for conducting land disposal operations.

(7) A determination of the volumes and types of storage and handling facilities required to allow waste disposal to be conducted in accordance with the waste disposal schedule. The program shall also outline how any required additional waste storage or handling facilities will be provided.

(8) A plan to construct or obtain any additional waste storage, handling or disposal facilities or equipment which are required by the waste disposal program.

*l.* Other requirements.

(1) If the waste is being supplied to other persons for land application, the generating facility shall inform them of the applicable requirements of the waste disposal program, 567—subrules 101.3(2) and 121.6(1).

(2) If the generating facility determines that a person being supplied waste for land application is not complying with applicable requirements of the waste disposal program or the land application criteria, the generating facility shall work with them to obtain compliance with the requirements. If subsequent compliance cannot be achieved, the generating facility shall not supply additional waste to the person.

(3) The generating facility must inform all persons involved in waste disposal operations of the potential health hazards associated with waste disposal, including informing them of the cautions and recommended practices which should be followed to minimize these hazards.

(4) The generating facility shall maintain records of sample analysis and waste disposal operations to document compliance with 567—121.6(455B).

(5) If waste is applied to land subject to use by the general public (e.g., golf courses, parks), public access to the waste application site shall be restricted for a period of one month after waste application. In no case shall waste be applied to areas where direct body contact with the soil is likely (e.g., school yards, playground areas, picnic areas).

(6) Waste shall not be applied to land for the commercial production of human consumption food crops.

(7) If sludge is applied to land where crops being grown will be grazed by or fed to livestock within two months of sludge application, or where cereal grains will be harvested within two months of sludge application, the sludge shall be injected or shall be applied to the surface and mechanically incorporated into the soil.

*m.* Notification. Before opening a disposal site the department shall be notified in writing of the location of the disposal operation. This notice shall also contain the legal description of the site, the landowner, the responsible official, the quantities and type of waste (including chemical analyses which the department may require to adequately define the waste).

**121.6(2)** *Petroleum-contaminated soil.* Rescinded IAB 9/15/04, effective 10/20/04.

**121.6(3)** *Flood plains.* Rescinded IAB 9/15/04, effective 10/20/04.