

3745-67-20 Applicability- surface impoundments.

Rules 3745-67-20 to 3745-67-30 of the Administrative Code apply to owners and operators of facilities that use surface impoundments to treat, store, or dispose of hazardous waste, except as rule 3745-65-01 of the Administrative Code provides otherwise.

Effective: 12/07/2004

119.032 review dates: Exempt

Promulgated under: 119.03

Statutory authority: 3734.12

Rule amplifies: 3734.12

Prior effective dates: 04/15/1981, 01/07/1983

3745-67-21

Design and operating requirements.

- (A) The owner or operator of each new surface impoundment unit ~~on which construction commences after January 29, 1992~~, each lateral expansion of a surface impoundment unit ~~on which construction commences after July 29, 1992~~, and each replacement of an existing surface impoundment unit ~~that is to commence reuse after July 29, 1992~~ must install two or more liners and a leachate collection and removal system between ~~such~~the liners, and operate the leachate collection and removal system, in accordance with paragraph (C) of rule 3745-56-21 of the Administrative Code, unless exempted under paragraph (D), (E), or (F) of rule 3745-56-21 of the Administrative Code. ~~"Construction commences" is as defined in rule 3745-50-10 of the Administrative Code under "existing facility."~~
- (B) The owner or operator of each unit referred to in paragraph (A) of this rule must notify the director at least sixty days prior to receiving waste. The owner or operator of each facility submitting notice must file a "Part B" application within six months of the receipt of such notice.
- (C) The owner or operator of any replacement surface impoundment unit is exempt from paragraph (A) of this rule if:
- (1) The existing unit was constructed in compliance with the design standards of Sections 3004(o)(1)(A)(i) and 3004(o)(5) of RCRA; and
 - (2) There is no reason to believe that the liner is not functioning as designed.
- (D) The double liner requirement set forth in paragraph (A) of this rule may be waived by the director for any monofill, if:
- (1) The monofill contains only hazardous wastes from foundry furnace emission controls or metal casting molding sand, and such wastes do not contain constituents which would render the wastes hazardous for reasons other than the toxicity characteristic in rule 3745-51-24 of the Administrative Code, with EPA hazardous waste numbers D004 to D017; and
 - (2)
 - (a)
 - (i) The monofill has at least one liner for which there is no evidence that such liner is leaking. For the purposes of paragraphs (D) to (D)(2)(b) of this rule, the term "liner" means a liner designed, constructed, installed, and operated to prevent hazardous waste

from passing into the liner at any time during the active life of the facility, or a liner designed, constructed, installed, and operated to prevent hazardous waste from migrating beyond the liner to adjacent subsurface soil, ground water, or surface water at any time during the active life of the facility. In the case of any surface impoundment which has been exempted from the requirements of paragraph (A) of this rule on the basis of a liner designed, constructed, installed, and operated to prevent hazardous waste from passing beyond the liner, at the closure of such impoundment the owner or operator must remove or decontaminate all waste residues, all contaminated liner material, and contaminated soil to the extent practicable. If all contaminated soil is not removed or decontaminated, the owner or operator of such impoundment must comply with appropriate post-closure requirements, including but not limited to ground water monitoring and corrective action;

(ii) The monofill is located more than one-quarter mile from an "underground source of drinking water" (as that term is defined in rule ~~3745-34-01~~3745-50-10 of the Administrative Code); and

(iii) The monofill is in compliance with generally applicable ground water monitoring requirements for facilities with permits; or

(b) The owner or operator demonstrates that the monofill is located, designed, and operated so as to assure that there will be no migration of any hazardous constituent into ground water or surface water at any future time.

(E) In the case of any unit in which the liner and leachate collection system has been installed pursuant to the requirements of paragraph (A) of this rule and in good faith compliance with paragraph (A) of this rule and with guidance documents governing liners and leachate collection systems under paragraph (A) of this rule, no liner or leachate collection system which is different from that which was so installed pursuant to paragraph (A) of this rule will be required for such unit by the director when issuing the first permit to such facility, except that the director will not be precluded from requiring installation of a new liner when the director has reason to believe that any liner installed pursuant to the requirements of paragraph (A) of this rule is leaking.

(F) A surface impoundment must maintain enough freeboard to prevent any overtopping of the dike by overfilling, wave action, or a storm. Except as provided in paragraph (B) of this rule, there must be at least sixty centimeters (two feet) of freeboard.

- (G) A freeboard level less than sixty centimeters (two feet) may be maintained if the owner or operator obtains certification by a qualified engineer that alternate design features or operating plans will, to the best of his knowledge and opinion, prevent overtopping of the dike. The certification, along with a written identification of alternate design features or operating plans preventing overtopping, must be maintained at the facility.
- (H) Surface impoundments that are newly subject to RCRA ~~section~~Section 3005(j)(1) due to the promulgation of additional listings or characteristics for the identification of hazardous waste must be in compliance with paragraphs (A), (C), and (D) of this rule not later than forty-eight months after the promulgation of the additional listing or characteristic. This compliance period must not be cut short as a result of the promulgation of land disposal restrictions under Chapter 3745-270 of the Administrative Code or the granting of an extension to the effective date of a prohibition pursuant to rule 3745-270-05 of the Administrative Code within this forty-eight month period.
- (I) All earthen dikes must have a protective cover, such as grass, shale, or rock, to minimize wind and water erosion and to preserve their structural integrity.

~~[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules, and federal statutory provisions referenced in this rule, see rule 3745-50-11 of the Administrative Code titled "Incorporated by reference."]~~

[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules, and federal statutory provisions referenced in this rule, see rule 3745-50-11 of the Administrative Code titled "Incorporated by reference."]

Effective: 09/05/2010

R.C. 119.032 review dates: Exempt

CERTIFIED ELECTRONICALLY

Certification

07/23/2010

Date

Promulgated Under: 119.03
Statutory Authority: 3734.12
Rule Amplifies: 3734.12
Prior Effective Dates: 12/30/1989, 02/11/1992, 12/07/2000, 12/07/2004

3745-67-22 Action leakage rate.

- (A) The owner or operator of surface impoundment units subject to paragraph (A) of rule 3745-67-21 of the Administrative Code must submit a proposed action leakage rate to the director when submitting the notice required under paragraph (B) of rule 3745-67-21 of the Administrative Code. Within sixty days of receipt of the notification, the director will:
- (1) Establish an action leakage rate, either as proposed by the owner or operator or modified using the criteria in this rule; or
 - (2) Extend the review period for up to thirty days.
 - (3) If no action is taken by the director before the original sixty or extended ninety day review periods, the action leakage rate will be approved as proposed by the owner or operator.
- (B) The director will approve an action leakage rate for surface impoundment units subject to paragraph (A) of rule 3745-67-21 of the Administrative Code. The action leakage rate is the maximum design flow rate that the leak detection system can remove without the fluid head on the bottom liner exceeding one foot. The action leakage rate must include an adequate safety margin to allow for uncertainties in the design (e.g., slope, hydraulic conductivity, thickness of drainage material), construction, operation, and location of the leak detection system, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the leak detection system, and proposed response actions (e.g., the action leakage rate must consider decreases in the flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressures, etc.).
- (C) To determine if the action leakage rate has been exceeded, the owner or operator must convert the weekly or monthly flow rate from the monitoring data obtained under paragraph (B) of rule 3745-67-26 of the Administrative Code, to an average daily flow rate (gallons per acre per day) for each sump. Unless the director approves a different calculation, the average daily flow rate for each sump must be calculated weekly during the active life and closure period, and if the unit closes in accordance with paragraph (A)(2) of rule 3745-67-28 of the Administrative Code, monthly during the post-closure care period when monthly monitoring is required under paragraph (B) of rule 3745-67-26 of the Administrative Code.

Effective: 12/07/2004

119.032 review dates: Exempt

Promulgated under: 119.03

Statutory authority: 3734.12

Rule amplifies: 3734.12

Prior effective dates: 04/15/1981, 01/07/1983, 01/30/1986

3745-67-24

Response actions- surface impoundments.

- (A) The owner or operator of surface impoundment units subject to paragraph (A) of rule 3745-67-21 of the Administrative Code shall ~~submit a response action plan to the director when submitting the proposed action leakage rate under rule 3745-67-22 of the Administrative Code~~ develop a response action plan and keep the response action plan on-site until closure of the facility. The response action plan shall describe the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan shall describe the actions specified in paragraph (B) of this rule.
- (B) If the flow rate into the leak detection system exceeds the action leakage rate for any sump, the owner or operator shall ~~do all of the following:~~
- (1) Notify the director in writing of the exceedance within seven days after the determination;~~;~~
 - (2) Submit a preliminary written assessment to the director within fourteen days after the determination, as to the amount of liquids, likely sources of liquids, possible location, size, and cause of any leaks, and short-term actions taken and planned;~~;~~
 - (3) Determine to the extent practicable the location, size, and cause of any leak;~~;~~
 - (4) Determine whether waste receipt should cease or should be curtailed, whether any waste should be removed from the unit for inspection, repairs, or controls, and whether or not the unit should be closed;~~;~~
 - (5) Determine any other short-term and longer-term actions to be taken to mitigate or stop any leaks;~~;~~ and
 - (6) Within thirty days after the notification that the action leakage rate has been exceeded, submit to the director the results of the analyses specified in paragraphs (B)(3), (B)(4), and (B)(5) of this rule, the results of actions taken, and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the owner or operator shall submit to the director a report summarizing the results of any remedial actions taken and actions planned.
- (C) To make the leak or remediation determinations in paragraphs (B)(3), (B)(4), and (B)(5) of this rule, the owner or operator shall ~~do either of the following:~~
- (1) ~~Conduct the following assessments and analyses:~~
 - (a) Assess the source of liquids and amounts of liquids by source;~~;~~ and

(b) Conduct a fingerprint, hazardous constituent, or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid; and

(c) Assess the seriousness of any leaks in terms of potential for escaping into the environment; or

(2) Document why such assessments are not needed.

Effective: 10/23/2022

Five Year Review (FYR) Dates: 7/20/2022 and Exempt

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Certification

10/11/2022

Date

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Prior Effective Dates: 04/15/1981, 01/07/1983, 12/07/2004, 09/05/2010,
03/24/2017

3745-67-25 Waste analysis and trial tests.

- (A) In addition to the waste analyses required by rule 3745-65-13 of the Administrative Code, whenever a surface impoundment is to be used to:
- (1) Chemically treat a hazardous waste which is substantially different from waste previously treated in that impoundment; or
 - (2) Chemically treat hazardous waste with a substantially different process than any previously used in that impoundment;

The owner or operator shall, before treating the different waste or using the different process:

- (a) Conduct waste analyses and trial treatment tests, including but not limited to, bench scale or pilot plant scale tests; or
- (b) Obtain written, documented information on similar treatment of similar waste under similar operating conditions;

To show that this treatment will comply with paragraph (B) of rule 3745-65-17 of the Administrative Code.

- (B) As required by rule 3745-65-13 of the Administrative Code, the waste analyses needed to comply with rules 3745-67-29 and 3745-67-30 of the Administrative Code.
- (C) As required by rule 3745-65-73 of the Administrative Code, the owner or operator shall place the results from each waste analysis and trial test, or the documented information, in the operating record of the facility.

Effective: 01/07/1983
119.032 review dates: Exempt
Promulgated under: 119.03
Statutory authority: 3734.12
Rule amplifies: 3734.12
Prior effective dates: 04/15/1981

3745-67-26 Monitoring and inspection.

- (A) The owner or operator must inspect:
- (1) The freeboard level at least once each operating day to ensure compliance with rule 3745-67-22 of the Administrative Code; and
 - (2) The surface impoundment, including dikes and vegetation surrounding the dike, at least once a week to detect any leaks, deterioration, or failures in the impoundment.
- (B)
- (1) An owner or operator required to have a leak detection system under paragraph (A) of rule 3745-67-21 of the Administrative Code must record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period.
 - (2) After the final cover is installed, the amount of liquids removed from each leak detection system sump must be recorded at least monthly. If the liquid level in the sump stays below the pump operating level for two consecutive months, the amount of liquids in the sumps must be recorded at least quarterly. If the liquid level in the sump stays below the pump operating level for two consecutive quarters, the amount of liquids in the sumps must be recorded at least semi-annually. If at any time during the post-closure care period the pump operating level is exceeded at units on quarterly or semi-annual recording schedules, the owner or operator must return to monthly recording of amounts of liquids removed from each sump until the liquid level again stays below the pump operating level for two consecutive months.
 - (3) "Pump operating level" is a liquid level proposed by the owner or operator and approved by the director based on pump activation level, sump dimensions, and level that avoids backup into the drainage layer and minimizes head in the sump. The timing for submittal and approval of the proposed "pump operating level" will be in accordance with paragraph (A) of rule 3745-67-22 of the Administrative Code.

[Comment: As required by paragraph (C) of rule 3745-65-15 of the Administrative Code, the owner or operator must remedy any deterioration or malfunction he finds.]

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Rule amplifies: 3734.12
Prior effective dates: 04/15/1981, 01/07/1983

3745-67-28

Closure and post closure care.

(A) At closure, the owner or operator must:

- (1) Remove or decontaminate all waste residues, contaminated waste containment system components (liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste unless paragraph (D) of rule 3745-51-03 of the Administrative Code applies; or
- (2) Close the impoundment and provide post-closure care for a landfill under rules 3745-66-10 to 3745-66-21 and 3745-68-10 of the Administrative Code including the following:
 - (a) Eliminate free liquids by removing liquid wastes or solidifying the remaining wastes and waste residues;
 - (b) Stabilize remaining wastes to a bearing capacity sufficient to support the final cover; and
 - (c) Cover the surface impoundment with a final cover designed and constructed to:
 - (i) Provide long-term minimization of the migration of liquids through the closed impoundment;
 - (ii) Function with minimum maintenance;
 - (iii) Promote drainage and minimize erosion or abrasion of the cover;
 - (iv) Accommodate settling and subsidence so that the cover's integrity is maintained; and
 - (v) Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

(B) In addition to the requirements of rules 3745-66-10 to 3745-66-21 and 3745-68-10 of the Administrative Code, during the post-closure care period, the owner or operator of a surface impoundment in which wastes, waste residues, or contaminated materials remain after closure in accordance with the provisions of paragraph (A)(2) of this rule must:

- (1) Maintain the integrity and effectiveness of the final cover, including making repairs to the cover as necessary to correct the effects of settling, subsidence, erosion, or other events;
- (2) Maintain and monitor the leak detection system in accordance with paragraphs (C)(2)(d) and (C)(3) of rule ~~3745-67-21~~3745-56-21 of the Administrative Code and paragraph (B) of rule 3745-67-26 of the Administrative Code and comply with all other applicable leak detection system requirements of Chapters 3745-65 to 3745-69 and 3745-256 of the Administrative Code.
- (3) Maintain and monitor the ground water monitoring system and comply with all other applicable requirements of rules 3745-65-90 to 3745-65-94 of the Administrative Code; and
- (4) Prevent run-on and run-off from eroding or otherwise damaging the final cover.

Effective: 09/05/2010

R.C. 119.032 review dates: Exempt

CERTIFIED ELECTRONICALLY

Certification

07/23/2010

Date

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Rule Amplifies: 3734.12
Prior Effective Dates: 04/15/1981, 01/07/1983, 12/08/1988, 12/07/2004

3745-67-29 Special requirements for ignitable or reactive waste.

Ignitable or reactive waste shall not be placed in a surface impoundment unless the waste and impoundment satisfy all applicable requirements of Chapter 3745-270 of the Administrative Code, and:

- (A) The waste is treated, rendered, or mixed before or immediately after placement in the impoundment so that:
 - (1) The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under rules 3745-51-21 and 3745-51-23 of the Administrative Code; and
 - (2) Paragraph (B) of rule 3745-65-17 of the Administrative Code is complied with; or
- (B)
 - (1) The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react; and
 - (2) The owner or operator obtains a certification from a qualified chemist or engineer that, to the best of his knowledge and opinion, the design features or operating plans of the facility will prevent ignition or reaction; and
 - (3) The certification and the basis for it are maintained at the facility; or
- (C) The surface impoundment is used solely for emergencies.

Effective: 12/07/2000

119.032 review dates: Exempt

Promulgated under: 119.03

Statutory authority: 3734.12

Rule amplifies: 3734.12

Prior effective dates: 04/15/1981, 01/07/1983, 01/30/1986, 02/11/1992

3745-67-30

Special requirements for incompatible wastes- surface impoundments.

Incompatible wastes, or incompatible wastes and materials (see the ~~Appendix~~appendix to rule 3745-66-99 of the Administrative Code for examples), shall not be placed in the same surface impoundment, unless paragraph (B) of rule 3745-65-17 of the Administrative Code is complied with.

Effective: 2/12/2018

Five Year Review (FYR) Dates: Exempt

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01/10/2018

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Rule Amplifies: 3734.12
Prior Effective Dates: 04/15/1981, 01/07/1983, 02/11/1992

3745-67-50 Applicability- waste piles.

- (A) Rules 3745-67-50 to 3745-67-60 of the Administrative Code apply to owners and operators of facilities that treat or store hazardous waste in piles, except as rule 3745-65-01 of the Administrative Code provides otherwise.
- (B) Alternatively, a pile of hazardous waste may be managed as a landfill under rules 3745-68-01 to 3745-68-16 of the Administrative Code.

Effective: 12/07/2004

119.032 review dates: Exempt

Promulgated under: 119.03

Statutory authority: 3734.12

Rule amplifies: 3734.12

Prior effective dates: 04/15/1981, 01/07/1983

3745-67-51 Protection from wind.

The owner or operator of a pile containing hazardous waste which could be subject to dispersal by wind shall cover or otherwise manage the pile so that wind dispersal is controlled.

Effective: 01/07/1983

119.032 review dates: Exempt

Promulgated under: 119.03

Statutory authority: 3734.12

Rule amplifies: 3734.12

Prior effective dates: 04/15/1981

3745-67-52 Waste analysis.

- (A) In addition to the waste analyses required by rule 3745-65-13 of the Administrative Code, the owner or operator shall analyze a representative sample of waste from each incoming movement before adding the waste to any existing pile, unless
- (1) The only wastes the facility receives which are amenable to piling are compatible with each other, or
 - (2) The waste received is compatible with the waste in the pile to which it is to be added.
- (B) The analysis conducted shall be capable of differentiating between the types of hazardous waste the owner or operator places in piles, so that mixing of incompatible waste does not inadvertently occur. The analysis shall include a visual comparison of color and texture.

[Comment: As required by rule 3745-65-13 of the Administrative Code, the waste analysis plan shall include analysis needed to comply with rules 3745-67-56 and 3745-67-57 of the Administrative Code. As required by rule 3745-65-73 of the Administrative Code, the owner or operator shall place the results of this analysis in the operating record of the facility.]

Effective: 01/07/1983
119.032 review dates: Exempt
Promulgated under: 119.03
Statutory authority: 3734.12
Rule amplifies: 3734.12
Prior effective dates: 04/15/1981

3745-67-53 Containment.

If leachate or run-off from a pile is a hazardous waste, then either:

(A)

- (1) The pile shall be placed on an impermeable base that is compatible with the waste under the conditions of treatment or storage;
- (2) The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portion of the pile during peak discharge from at least a twenty-five-year storm;
- (3) The owner or operator must design, construct, operate, and maintain a run-off management system to collect and control at least the water volume resulting from a twenty-four-hour, twenty-five-year storm; and
- (4) Collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems must be emptied or otherwise managed expeditiously to maintain design capacity of the system; or

(B)

- (1) The pile shall be protected from precipitation and run-on by some other means; and
- (2) No liquids or wastes containing free liquids may be placed in the pile.

Effective: 08/29/1985

119.032 review dates: Exempt

Promulgated under: 119.03

Statutory authority: 3734.12

Rule amplifies: 3734.12

Prior effective dates: 04/15/1981, 01/07/1983, 05/29/1985 (Emer.)

3745-67-54 Design requirements.

The owner or operator of a waste pile is subject to the requirements for liners and leachate collection systems or equivalent protection provided in rule 3745-56-51 of the Administrative Code, with respect to each new unit, replacement of an existing unit, or lateral expansion of an existing unit that is within the area identified in the "Part A" permit application, and with respect to waste received beginning on the effective date of this rule.

Effective: 12/30/1989
119.032 review dates: Exempt
Promulgated under: 119.03
Statutory authority: 3734.12
Rule amplifies: 3734.12
Prior effective dates: None

3745-67-55

Action leakage rates.

- (A) The owner or operator of waste pile units subject to rule 3745-67-54 of the Administrative Code must submit a proposed action leakage rate to the director when submitting the notice required under rule 3745-67-54 of the Administrative Code. Within sixty days ~~of~~after receipt of the notification, the director will:
- (1) Establish an action leakage rate, either as proposed by the owner or operator or modified using the criteria in this rule; or
 - (2) Extend the review period for up to thirty days.
 - (3) If no action is taken by the director before the original sixty or extended ninety day review periods, the action leakage rate will be approved as proposed by the owner or operator.
- (B) The director will approve an action leakage rate for ~~surface impoundment~~waste pile units subject to rule 3745-67-54 of the Administrative Code. The action leakage rate is the maximum design flow rate that the leak detection system can remove without the fluid head on the bottom liner exceeding one foot. The action leakage rate must include an adequate safety margin to allow for uncertainties in the design (e.g., slope, hydraulic conductivity, thickness of drainage material), construction, operation, and location of the leak detection system, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the leak detection system, and proposed response actions (e.g., the action leakage rate must consider decreases in the flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressures, etc.).
- (C) To determine if the action leakage rate has been exceeded, the owner or operator must convert the weekly flow rate from the monitoring data obtained under rule 3745-67-60 of the Administrative Code, to an average daily flow rate (gallons per acre per day) for each sump. Unless the director approves a different calculation, the average daily flow rate for each sump must be calculated weekly during the active life and closure period.

Effective: 09/05/2010

R.C. 119.032 review dates: Exempt

CERTIFIED ELECTRONICALLY

Certification

07/23/2010

Date

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Rule Amplifies: 3734.12
Prior Effective Dates: 12/07/2004

3745-67-56 Special requirements for ignitable or reactive waste.

Ignitable or reactive wastes shall not be placed in a pile unless the waste and pile satisfy all applicable requirements of Chapter 3745-270 of the Administrative Code, and:

- (A) Addition of the waste to an existing pile
 - (1) Results in the waste or mixture no longer meeting the definition of ignitable or reactive waste under rule 3745-51-21 or 3745-51-23 of the Administrative Code, and
 - (2) Complies with paragraph (B) of rule 3745-65-17 of the Administrative Code, or
- (B) The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react.

Effective: 12/07/2000

119.032 review dates: Exempt

Promulgated under: 119.03

Statutory authority: 3734.12

Rule amplifies: 3734.12

Prior effective dates: 04/15/1981, 01/07/1983, 02/11/1992

3745-67-57

Special requirements for incompatible wastes- waste piles.

- (A) Incompatible wastes, or incompatible wastes and materials (see the ~~Appendix~~appendix of rule 3745-66-99 of the Administrative Code for examples), shall not be placed in the same pile, unless paragraph (B) of rule 3745-65-17 of the Administrative Code is complied with.
- (B) A pile of hazardous waste that is incompatible with any waste or other material stored nearby in other containers, piles, open tanks, or surface impoundments shall be separated from the other materials, or protected from ~~them~~the other materials by means of a dike, berm, wall, or other device.
- (C) Hazardous waste shall not be piled on the same area where incompatible wastes or materials were previously piled, unless the area has been decontaminated sufficiently to ensure compliance with paragraph (B) of rule 3745-65-17 of the Administrative Code.

[Comment: The purpose of this rule is to prevent fires, explosions, gaseous emissions, leaching, or other discharge of hazardous waste or hazardous waste constituents which could result from the contact or mixing of incompatible wastes or materials.]

Effective: 2/12/2018

Five Year Review (FYR) Dates: Exempt

CERTIFIED ELECTRONICALLY

Certification

01/10/2018

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Prior Effective Dates: 04/15/1981, 01/07/1983, 02/11/1992

3745-67-58 Closure and post-closure care.

- (A) At closure, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste unless paragraph (D) of rule 3745-51-03 of the Administrative Code applies; or
- (B) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures, and equipment as required in paragraph (A) of this rule, the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, he must close the facility and perform post-closure care in accordance with the closure and post-closure requirements that apply to landfills (rule 3745-68-10 of the Administrative Code).

Effective: 08/29/1985

119.032 review dates: Exempt

Promulgated under: 119.03

Statutory authority: 3734.12

Rule amplifies: 3734.12

Prior effective dates: 05/29/1985 (Emer.)

3745-67-59

Response actions- waste piles.

- (A) The owner or operator of waste pile units subject to rule 3745-67-54 of the Administrative Code shall ~~submit a response action plan to the director when submitting the proposed action leakage rate under rule 3745-67-55 of the Administrative Code~~ develop a response action plan and keep the response action plan on-site until closure of the facility. The response action plan shall describe the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan shall describe the actions specified in paragraph (B) of this rule.
- (B) If the flow rate into the leak determination system exceeds the action leakage rate for any sump, the owner or operator shall ~~do the following:~~
- (1) Notify the director in writing of the exceedance within seven days after the determination;~~;~~
 - (2) Submit a preliminary written assessment to the director within fourteen days after the determination, as to the amount of liquids, likely sources of liquids, possible location, size, and cause of any leaks, and short-term actions taken and planned;~~;~~
 - (3) Determine to the extent practicable the location, size, and cause of any leak;~~;~~
 - (4) Determine whether waste receipts should cease or should be curtailed, whether any waste should be removed from the unit for inspection, repairs, or controls, and whether or not the unit should be closed;~~;~~
 - (5) Determine any other short-term and longer-term actions to be taken to mitigate or stop any leaks;~~;~~ and
 - (6) Within thirty days after the notification that the action leakage rate has been exceeded, submit to the director the results of the analyses specified in paragraphs (B)(3), (B)(4), and (B)(5) of this rule, the results of actions taken, and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the owner or operator shall submit to the director a report summarizing the results of any remedial actions taken and actions planned.
- (C) To make the leak or remediation determinations in paragraphs (B)(3), (B)(4), and (B)(5) of this rule, the owner or operator shall ~~do either of the following:~~
- (1) ~~Conduct the following assessments and analyses:~~
 - (a) Assess the source of liquids and amounts of liquids by source;~~;~~ and

(b) Conduct a fingerprint, hazardous constituent, or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid; and

(c) Assess the seriousness of any leaks in terms of potential for escaping into the environment; or

(2) Document why such assessments are not needed.

Effective: 10/23/2022

Five Year Review (FYR) Dates: 7/20/2022 and Exempt

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Certification

10/11/2022

Date

Promulgated Under: 119.03
Statutory Authority: 3734.12
Rule Amplifies: 3734.12
Prior Effective Dates: 12/07/2004, 09/05/2010, 03/24/2017

3745-67-60 Monitoring and inspection.

An owner or operator required to have a leak detection system under rule 3745-67-54 of the Administrative Code must record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period.

Effective: 12/07/2004
119.032 review dates: Exempt
Promulgated under: 119.03
Statutory authority: 3734.12
Rule amplifies: 3734.12
Prior effective dates: None

3745-67-70 Applicability- land treatment.

Rules 3745-67-70 to 3745-67-82 of the Administrative Code apply to owners and operators of hazardous waste land treatment facilities, except as rule 3745-65-01 of the Administrative Code provides otherwise.

Effective: 12/07/2004

119.032 review dates: Exempt

Promulgated under: 119.03

Statutory authority: 3734.12

Rule amplifies: 3734.12

Prior effective dates: 04/15/1981, 01/07/1983

3745-67-72 General operating requirements.

- (A) Hazardous waste shall not be placed in or on a land treatment facility unless such waste can be made less hazardous or non-hazardous by degradation, transformation, or immobilization processes occurring in or on the soil.
- (B) The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portions of the facility during peak discharge from at least a twenty-five-year storm.
- (C) The owner or operator must design, construct, operate, and maintain run-off management system capable of collecting and controlling a water volume at least equivalent to a twenty-four-hour, twenty-five-year storm.

[Comment: If the collected run-off is a hazardous waste under Chapter 3745-51 of the Administrative Code, such waste shall be managed in accordance with all the applicable requirements of the hazardous waste rules.]

- (D) Collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems must be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system.
- (E) If the treatment zone contains particulate matter which may be subject to wind dispersal, the owner or operator must manage the unit to control wind dispersal.

Effective: 01/30/1986

119.032 review dates: Exempt

Promulgated under: 119.03

Statutory authority: 3734.12

Rule amplifies: 3734.12

Prior effective dates: 04/15/1981, 01/07/1983, 05/29/1985 (Emer.), 08/29/1985

3745-67-73

Waste analysis.

In addition to the waste analyses required by rule 3745-65-13 of the Administrative Code, before placing a hazardous waste in or on a land treatment facility, the owner or operator ~~shall~~must:

- (A) Determine the concentrations in the waste of any substances which exceed the maximum concentrations contained in ~~Table~~Table 1 of rule 3745-51-24 of the Administrative Code that cause a waste to exhibit the toxicity characteristic;
- (B) For any waste listed as a hazardous waste in rules 3745-51-30 to 3745-51-35 of the Administrative Code, determine the concentrations of any substances which caused the waste to be listed; and

[Comment: ~~see appendices to~~See 40 CFR Part 261 appendices, and the appendices to ~~the following rules~~ 3745-51-11, 3745-51-20, ~~3745-51-24~~, and 3745-51-30 of the Administrative Code.]

- (C) If food chain crops are grown, determine the concentrations in the waste of each of the following constituents: arsenic, cadmium, lead, and mercury, unless the owner or operator has written, documented data that show that the constituent is not present.

Effective: 02/16/2009

R.C. 119.032 review dates: Exempt

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01/13/2009

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Statutory Authority: 3734.12
Rule Amplifies: 3734.12
Prior Effective Dates: 04/15/1981, 01/07/1983, 02/11/1992, 02/14/1995,
09/02/1997

3745-67-76 Food chain crops.

- (A) An owner or operator of a hazardous waste land treatment facility on which food chain crops are being grown, or have been grown and will be grown in the future, must notify the director within sixty days after April 15, 1981.

[Comment: the growth of food chain crops at a facility which has never before been used for this purpose is a significant change in process under rule 3745-50-51 of the Administrative Code. Owners or operators of such land treatment facilities who propose to grow food chain crops after April 15, 1981 must comply with rule 3745-50-51 of the Administrative Code.]

(B)

- (1) Food chain crops must not be grown on the treated area of a hazardous waste land treatment facility unless the owner or operator can satisfactorily demonstrate, based on field testing, that any arsenic, lead, mercury, or other constituents identified under paragraph (B) of rule 3745-67-73 of the Administrative Code:
- (a) Will not be transferred to the food portion of the crop by plant uptake or direct contact, and will not otherwise be ingested by food chain animals (e.g., by grazing); or
 - (b) Will not occur in greater concentrations in the crops grown on the land treatment facility than in the same crops grown on untreated soils under similar conditions in the same region.
- (2) The information necessary to make the demonstration required by paragraph (B)(1) of this rule must be kept at the facility and must, at a minimum:
- (a) Be based on tests for the specific waste and application rates being used at the facility; and
 - (b) Include descriptions of crop and soil characteristics, sample selection criteria, sample size determination, analytical methods, and statistical procedures.

- (C) Food chain crops must not be grown on a land treatment facility receiving waste that contains cadmium unless all requirements of paragraphs (C)(1)(a) to (C)(1)(c) of this rule or all requirements of paragraphs (C)(2)(a) to (C)(2)(d) of this rule are met.

(1)

- (a) The pH of the waste and soil mixture is 6.5 or greater at the time of each waste application, except for waste containing cadmium at concentrations of two mg/kg (dry weight) or less;

- (b) The annual application of cadmium from waste does not exceed 0.5 kilograms per hectare (kg/ha) on land used for production of tobacco, leafy vegetables, or root crops grown for human consumption. For other food chain crops, the annual cadmium application rate does not exceed:

Time Period	Annual Cd Application Rate (kg/ha)
Until June 30, 1984	2.0
July 1, 1984 to Dec. 31, 1986	1.25
Beginning Jan. 1, 1987	0.5

- (c) The cumulative application of cadmium from waste does not exceed the levels in either paragraph (C)(1)(c)(i) or (C)(1)(c)(ii) of this rule.

- (i) Maximum cumulative application (kg/ha)

Soil cation exchange capacity (meq/100g)	Background soil pH less than 6.5	Background soil pH greater than 6.5
less than 5	5	5
5 - 15	5	10
greater than 15	5	20

- (ii) For soils with a background pH of less than 6.5, the cumulative cadmium application rate does not exceed the levels below: provided, that the pH of the waste and soil mixture is adjusted to and maintained at 6.5 or greater whenever food chain crops are grown.

Soil cation exchange capacity (meq/100g)	Maximum cumulative application (kg/ha)
less than 5	5
5 - 15	10
greater than 15	20

- (a) The only food chain crop produced is animal feed.
- (b) The pH of the waste and soil mixture is 6.5 or greater at the time of waste application or at the time the crop is planted, whichever occurs later, and this pH level is maintained whenever food chain crops are grown.
- (c) There is a facility operating plan which demonstrates how the animal feed will be distributed to preclude ingestion by humans. The facility operating plan describes the measures to be taken to safeguard against possible health hazards from cadmium entering the food chain, which may result from alternative land uses.
- (d) Future property owners are notified by a stipulation in the land record or property deed which states that the property has received waste at high cadmium application rates and that food chain crops must not be grown except in compliance with paragraph (C)(2) of this rule.

[Comment: as required by rule 3745-65-73 of the Administrative Code, if an owner or operator grows food chain crops on his land treatment facility, he must place the information developed in this rule in the operating record of the facility.]

Effective: 03/13/2002

119.032 review dates: 09/28/2001, Exempt

Promulgated under: 119.03

Statutory authority: 3734.12

Rule amplifies: 3734.12

Prior effective dates: 04/15/1981, 01/07/1983, 05/29/1985 (Emer.), 08/29/1985

3745-67-78 Unsaturated zone (zone of aeration) monitoring.

- (A) The owner or operator shall have in writing, and shall implement, an unsaturated zone monitoring plan which is designed to:
- (1) Detect the vertical migration of hazardous waste and hazardous waste constituents under the active portion of the land treatment facility, and
 - (2) Provide information on the background concentrations of the hazardous waste and hazardous waste constituents in similar but untreated soils nearby; this background monitoring shall be conducted before or in conjunction with the monitoring required under paragraph (A)(1) of this rule.
- (B) The unsaturated zone monitoring plan shall include, at a minimum:
- (1) Soil monitoring using soil cores, and
 - (2) Soil-pore water monitoring using devices such as lysimeters.
- (C) To comply with paragraph (A)(1) of this rule, the owner or operator shall demonstrate in his unsaturated zone monitoring plan that:
- (1) The depth at which soil and soil pore water samples are to be taken is below the depth to which the waste is incorporated into the soil:
 - (2) The number of soil and soil-pore water samples to be taken is based on the variability of:
 - (a) The hazardous waste constituents, as identified in paragraphs (A) and (B) of rule 3745-67-73 of the Administrative Code, in the waste and in the soil; and
 - (b) The soil type(s); and
 - (3) The frequency and timing of soil and soil-pore water sampling is based on the frequency, time, and rate of waste application, proximity to ground water, and soil permeability.
- (D) The owner or operator shall keep at the facility his unsaturated zone monitoring plan, and the rationale used in developing this plan.
- (E) The owner or operator shall analyze the soil and soil-pore water samples for the hazardous waste constituents that were found in the waste during the waste analysis under paragraphs (A) and (B) of rule 3745-67-73 of the Administrative Code.

[Comment: as required by rule 3745-67-73 of the Administrative Code, all data and information developed by the owner or operator under this rule shall be placed in the operating record of the facility.]

Effective: 01/07/1983
119.032 review dates: Exempt
Promulgated under: 119.03
Statutory authority: 3734.12
Rule amplifies: 3734.12
Prior effective dates: 04/15/1981

3745-67-79 Recordkeeping.

The owner or operator of a land treatment facility must include hazardous waste application dates and rates in the operating record required in rule 3745-65-73 of the Administrative Code.

Effective: 12/07/2004

119.032 review dates: Exempt

Promulgated under: 119.03

Statutory authority: 3734.12

Rule amplifies: 3734.12

Prior effective dates: 04/15/1981, 01/07/1983

3745-67-80

Closure and post-closure.

- (A) In the closure plan under rule 3745-66-12 of the Administrative Code, and the post-closure plan under rule 3745-66-18 of the Administrative Code, the owner or operator must address the following objectives and indicate how they will be achieved:
- (1) Control of the migration of hazardous waste and hazardous waste constituents from the treated area into the ground water;
 - (2) Control of the release of contaminated run-off from the facility into surface water;
 - (3) Control of the release of airborne particulate contaminants caused by wind erosion; and
 - (4) Compliance with rule 3745-67-76 of the Administrative Code concerning the growth of food chain crops.
- (B) The owner or operator must consider, at a minimum, the following factors in addressing the closure and post-closure care objectives of paragraph (A) of this rule:
- (1) Type and amount of hazardous waste and hazardous waste constituents applied to the land treatment facility;
 - (2) The mobility and the expected rate of migration of the hazardous waste and hazardous waste constituents;
 - (3) Site location, topography, and surrounding land use, with respect to the potential effects of pollutant migration (e.g., proximity to ground water, surface water and drinking water sources);
 - (4) Climate, including amount, frequency, and pH of precipitation;
 - (5) Geological and soil profiles and surface and subsurface hydrology of the site, and soil characteristics, including cation exchange capacity, total organic carbon, and pH;
 - (6) Unsaturated zone monitoring information obtained under rule 3745-67-78 of the Administrative Code; and

- (7) Type, concentration, and depth of migration of hazardous waste constituents in the soil as compared to their background concentrations.
- (C) The owner or operator must consider, at a minimum, the following methods in addressing the closure and post-closure care objectives of paragraph (A) of this rule:
- (1) Removal of contaminated soils;
 - (2) Placement of a final cover, considering:
 - (a) Functions of the cover (e.g., infiltration control, erosion and run-off control, and wind erosion control), and
 - (b) Characteristics of the cover, including material, final surface contours, thickness, porosity and permeability, slope, length of run of slope, and type of vegetation on the cover; and
 - (3) Monitoring of ground water.
- (D) In addition to the requirements of rules 3745-66-10 to 3745-66-21 of the Administrative Code, during the closure period the owner or operator of a land treatment facility must:
- (1) Continue unsaturated zone monitoring in a manner and frequency specified in the closure plan, except that soil pore liquid monitoring may be terminated ninety days after the last application of waste to the treatment zone;
 - (2) Maintain the run-on control system required under paragraph (B) of rule 3745-67-72 of the Administrative Code;
 - (3) Maintain the run-off management system required under paragraph (C) of rule 3745-67-72 of the Administrative Code; and
 - (4) Control wind dispersal of particulate matter which may be subject to wind dispersal.
- (E) For the purpose of complying with rule 3745-66-15 of the Administrative Code, when closure is completed the owner or operator may submit to the director certification both by the owner or operator and by an independent, qualified soil scientist, in lieu

of ~~an independent registered~~ a qualified professional engineer, that the facility has been closed in accordance with the specifications in the approved closure plan.

(F) In addition to the requirements of rule 3745-66-17 of the Administrative Code, during the post-closure care period the owner or operator of a land treatment unit must:

- (1) Continue soil-core monitoring by collecting and analyzing samples in a manner and frequency specified in the post-closure plan;
- (2) Restrict access to the unit as appropriate for its post-closure use;
- (3) Assure that growth of food chain crops complies with rule 3745-66-76 of the Administrative Code; and
- (4) Control wind dispersal of hazardous waste.

Effective: 09/05/2010

R.C. 119.032 review dates: Exempt

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Prior Effective Dates: 04/15/1981, 01/07/1983, 05/29/1985 (Emer.),
08/29/1985, 12/07/2004

3745-67-81 Special requirements for ignitable or reactive waste.

The owner or operator shall not apply ignitable or reactive waste to the treatment zone unless the treatment zone and the waste meet all applicable requirements in Chapter 3745-270 of the Administrative Code, and:

- (A) The waste is immediately incorporated into the soil so that:
 - (1) The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under rule 3745-51-21 or 3745-51-23 of the Administrative Code; and
 - (2) Paragraph (B) of rule 3745-65-17 of the Administrative Code is complied with; or
- (B) The waste is managed in such a way that it is protected from any material or conditions that may cause it to ignite or react.

Effective: 12/07/2000

119.032 review dates: Exempt

Promulgated under: 119.03

Statutory authority: 3734.12

Rule amplifies: 3734.12

Prior effective dates: 04/15/1981, 01/07/1983, 05/29/1985 (Emer.), 08/29/1985, 02/11/1992

3745-67-82

Special requirements for incompatible wastes- land treatment.

Incompatible wastes, or incompatible wastes and materials (see the ~~Appendix~~appendix to rule 3745-66-99 of the Administrative Code for examples), shall not be placed in the same land treatment area, unless paragraph (B) of rule 3745-65-17 of the Administrative Code is complied with.

Effective: 2/12/2018

Five Year Review (FYR) Dates: Exempt

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