

1301:7-9-16

**Petroleum contaminated soil.****(A) Purpose and scope.**

For the purpose of prescribing rules pursuant to divisions (A) and (E) of section 3737.88 and division (B) of section 3737.882 of the Revised Code, the state fire marshal hereby adopts this rule governing the storage, treatment, and disposal of petroleum contaminated soil excavated during corrective actions undertaken in response to releases of petroleum from underground storage tanks. This rule is adopted by the state fire marshal in accordance with Chapter 119. of the Revised Code and shall not be considered a part of the "Ohio Fire Code."

**(B) Definitions.**

- (1) "Designated facility" means an area of land not open to the public that is owned by, or under a written lease or contract to, the owner and operator of an underground storage tank ~~(UST)~~ system that is used to store or treat petroleum contaminated soil generated from one or more of their UST sites.
- (2) "Disposal" means to abandon or discard.
- (3) "Excavated soil" means soil removed from the surface or subsurface in conjunction with a suspected release as that term is defined in paragraph (C) of rule 1301:7-9-13 of the Administrative Code; in conjunction with a release as that term is defined in paragraph (C) of rule 1301:7-9-13 of the Administrative Code; in conjunction with a confirmed release as that term is defined in paragraph (C) of rule 1301:7-9-13 of the Administrative Code; or in conjunction with the closure-in-place or permanent removal of an UST system pursuant to rule 1301:7-9-12 of the Administrative Code.
- (4) "Hazardous waste" has the same meaning as set forth in Chapter 3745-51 of the Administrative Code.
- (5) "Licensed disposal facility" means a facility that has obtained such permits or licenses that this or another state may require to accept materials for permanent burial, destruction, or treatment including petroleum contaminated soil.
- (6) "Off-site" means not located on the same parcel of land as the UST system that generated petroleum contaminated soil or any parcel of land contiguous thereto that is owned or under the control of the owner or operator of said UST system.
- (7) "On-site" means located on the same parcel of land as the UST system that

generated petroleum contaminated soil or any parcel of land contiguous thereto that is owned or under the control of the owner or operator of said UST system. Property separated by a public or private right-of-way or easement shall be considered contiguous.

- (8) "Petroleum contaminated soil" or "PCS" means soil that contains ~~chemical(s)~~chemicals of concern in concentrations that exceed one or more of the re-use action levels in table 1 found in paragraph (D)(1) of this rule and excludes soil defined as hazardous waste.
- (9) "Re-use" means to use a material for:
- (a) The same purpose for which it was used originally;
  - (b) A different purpose for which the generator of the material receives compensation upon transfer to another party; or
  - (c) Another purpose having commercial value to the generator or a recipient of the material.
- (10) "Soil" means solid and semi-solid earthen materials or backfill consisting of clay, silt, sand, stones, or gravel and any debris contained therein.
- (11) "Storage" means to accumulate, collect, or stockpile excavated soil or petroleum contaminated soil on-site or off-site.
- (12) "Treatment" means use of any method, process, or technique other than storage or disposal designed to remove or reduce one or more ~~chemical(s)~~chemicals of concern from petroleum contaminated soil.

(C) Characterization, sampling, and analysis.

(1) Characterization of excavated soil.

Upon excavation of soil, the owner or operator shall determine whether the excavated soil is hazardous waste. Excavated soil that is determined to be a hazardous waste shall be managed pursuant to the applicable provisions of Chapters 3745-52 to 3745-69 of the Administrative Code.

- ~~(a) Upon excavation of soil, the owner or operator shall determine whether the excavated soil is hazardous waste. Excavated soil that is determined to be a hazardous waste shall be managed pursuant to the applicable~~

~~provisions of Chapters 3745-52 to 3745-69 of the Administrative Code.~~

(2) Sampling and analysis of excavated soil.

- (a) Except as provided in paragraph (C)(2)(b) of this rule, sampling and analysis shall be conducted pursuant to rule 1301:7-9-17 of the Administrative Code.
- (b) Excavated soil that is not stored on-site but is shipped directly to a licensed disposal facility following excavation shall be sampled and analyzed prior to shipment to the extent required by the licensed disposal facility receiving the soil. Persons arranging for off-site transport and transporters of excavated soil that qualifies as "hazardous material" shall comply with "Federal Hazardous Material Transportation Rules," 49 C.F.R. Parts 171-179, as published in the October 1, ~~2011~~2016, Code of Federal Regulations. Prior to shipment, additional analyses may be necessary to determine whether excavated soil is "hazardous material".

(D) Re-use of excavated soil.

- (1) If excavated soil sampled and analyzed pursuant to ~~the~~ paragraph (C) of this rule does not exceed re-use action levels in table 1 of this rule for any ~~chemical(s)~~chemicals of concern, then the owner or operator may use the soil for any lawful purpose. This paragraph shall not be interpreted as authorizing use of such soil for purposes prohibited or otherwise restricted by any applicable federal, state, or local laws and regulations.

Table 1 Re-Use Action Levels

CHEMICAL OF CONCERN	ACTION LEVEL
Benzene	<del>0.015</del> <u>0.0246</u>
Toluene	<del>4.91</del> <u>7.07</u>
Ethylbenzene	<del>4.55</del> <u>8.45</u>
Total Xylenes	<del>15.70</del> <u>42.7</u>
<u>Naphthalene</u>	<u>0.051</u>
<u>1,2,4 Trimethyl benzene</u>	<u>0.237</u>
Methyl Tertiary Butyl Ether (MTBE)	<del>0.047</del> <u>0.158</u>

<u>1,2-Dibromoethane (EDB)</u>	<u>0.000982</u>
<u>1,2-Dichloroethane (EDC)</u>	<u>0.0101</u>
<del>Benzo(a)Anthracene</del> <u>Benzo(a)anthracene</u>	<del>2.200</del> <u>12</u>
Benzo(b)fluoranthene	<del>5.53</del> <u>12</u>
Benzo(k)fluoranthene	<del>1.97</del> <u>120</u>
Benzo(a)pyrene	<del>1.10</del> <u>1.2</u>
Chrysene	<del>1.27</del> <u>1200</u>
Dibenz(a,h)anthracene	<del>0.94</del> <u>1.2</u>
Indeno(1,2,3-cd)pyrene	<del>0.15</del> <u>12</u>
<del>Naphthalene</del>	<del>3.98</del> <u>0</u>
TPH (C <sub>6</sub> -C <sub>12</sub> )	1000
TPH (C <sub>10</sub> -C <sub>20</sub> )	2000
TPH (C <sub>20</sub> -C <sub>34</sub> )	5000

All chemical concentrations expressed in milligrams per kilogram (mg/kg)

- (2) If excavated soil sampled in accordance with paragraph (C) of this rule does not exceed the applicable action levels listed in rule 1301:7-9-13 of the Administrative Code, then the excavated soil may be deposited in the original excavation without further treatment. Following placement in the excavation, the soil shall be covered with a minimum of one foot of clean fill.
- (3) Following approval from the state fire marshal, excavated soil that exceeds the applicable action levels listed in rule 1301:7-9-13 of the Administrative Code may be deposited in the original excavation for the purpose of remediation pursuant to the corrective action requirements of rule 1301:7-9-13 of the Administrative Code.
- (4) When soil samples have been collected, but the analytical results have not been received, the excavated soil may be deposited in the original excavation if the excavation is lined with a synthetic liner having a minimum thickness of ten mil.
- (5) If closure samples collected and analyzed pursuant to paragraph (I) of rule

1301:7-9-12 of the Administrative Code are below action levels developed pursuant to paragraph (I) of rule 1301:7-9-12 of the Administrative Code and PCS which was deposited in the original lined excavation pursuant to paragraph (D)(4) of this rule is determined to be above action levels, owners and operators are required to conduct one of the following:

- (a) Submit a PCS treatment plan pursuant to paragraph (I)(2) of this rule; or
  - (b) Excavate and properly dispose of the PCS within ninety days of collecting samples for the permanent removal of a UST system or portion of the UST system in accordance with paragraph (G) of rule 1301:7-9-12 of the Administrative Code.
- (6) The state fire marshal may approve the re-use of excavated soil in lieu of or in conjunction with the treatment requirements of this rule on a case-by-case basis where such re-use will provide a benefit to the citizens of Ohio and not cause harm to human health or the environment. The owner or operator may make a request in writing to the state fire marshal describing the proposed re-use. Should the state fire marshal approve the request, the state fire marshal may approve such terms or conditions, including treatment of the excavated soil prior to re-use, that the state fire marshal deems necessary to assure that the proposed re-use will not harm human health or the environment.

(E) On-site storage of excavated soil.

- (1) Excavated soil remaining on-site shall be stored as follows:
- (a) In portable containers that are free of holes or other damages that may allow a release of material, are secured with lids or covers to prevent infiltration of rainwater, and are individually labeled with the date of excavation and the words: "Non-hazardous soil or backfill. May contain soil contaminated by petroleum products."
  - (b) In stockpiles protected by a synthetic cover that prevents infiltration from rainwater or run-off of soil and by berms or other devices that diverts run-on of storm water. A twenty-four hour once in ten-year rain event shall be used to design such controls.
  - (c) During storage, stockpiles shall be placed on an asphalt pad, concrete pad, compatible synthetic liner having a minimum thickness of ten mil, or another material specifically approved by the state fire marshal that

prevents the leaching of ~~chemical(s)~~chemicals of concern. Synthetic liners shall be installed with overlaps of not less than twelve inches and shall be free of rips, tears, or other damage. Excavated soil shall be placed on the liner in a manner that insures liner integrity. A temporary fence, barrier, or other device shall be used to prevent unauthorized entry to storage areas.

- (d) All storage techniques shall be constructed and maintained to minimize the release of petroleum vapors and odors.
  - (2) The owner or operator of the UST site used for storage of PCS shall inspect all storage areas monthly for damage to or unauthorized removal of drums, drum lids, labels, covers, berms, fences, other barriers, or signs used to deter unauthorized entry. A written log of such inspections shall be maintained for a period of five years. The log shall be made available for inspection during normal working hours upon twenty-four hours advance notice by the state fire marshal. Within forty-eight hours of discovery of damage or receipt of notice from the state fire marshal that damage has occurred, the owner or operator shall confirm whether damage has occurred, initiate such repairs as necessary to return the storage area to compliance with this rule, and place in the inspection log a description of the damage found and actions taken.
  - (3) PCS may be stored on-site in portable containers for a period not to exceed one hundred eighty days from the date the soil was first placed in the containers.
  - (4) PCS may be stored on-site in a stockpile for a period not to exceed one hundred ~~and~~ twenty days from the date the soil was first placed in the stockpile.
  - (5) The owner or operator shall maintain a record for five years of the estimated volume of the excavated soil being stored and the date the soil was first placed in containers or a stockpile.
- (F) Off-site transportation of excavated soil and related documentation.
- (1) Prior to the off-site shipment of excavated soil, the owner or operator shall prepare a transport manifest identifying the origin, amount, and destination of the shipment. The owner or operator of the UST site or agent thereof shall sign the delivery record at the time of shipment. Following delivery, the transporter shall sign the record and return it to the owner or operator, who shall retain the record for a period of five years. The record shall be made available for inspection during normal working hours upon twenty-four hours advance notice by the state fire marshal.

- (2) Existing federal, state, and local transportation laws and regulations shall continue to apply to the shipment of PCS. This rule is not intended to displace or revise such laws and regulations.

(G) Temporary off-site storage areas.

- (1) PCS from one or more UST ~~site(s)~~sites owned or under the control of the same owner or operator may be transported from the UST site to an off-site storage area and stored for a period not to exceed ninety days from date of excavation. The off-site storage area must be owned or under the control of the owner or operator of the UST ~~site(s)~~sites, that generated the PCS.
- (2) The owner or operator shall submit, on a form prescribed by the state fire marshal, the details of the origin, transportation and storage of the soil stored off-site within ten days of commencing off-site storage.
- (3) PCS delivered to a storage area shall be stored in accordance with the requirements of paragraphs (E)(1), (E)(2), and (E)(5) of this rule.
- (4) Prior to further transport of the PCS from the storage area, the owner or operator shall add the date of transport and destination to the delivery record required by paragraph (F)(1) of this rule.

(H) Disposal of petroleum contaminated soil.

- (1) Excavated PCS shall not be disposed on-site or off-site without first being treated to reduce ~~chemical(s)~~chemicals of concern in accordance with this rule, unless the soil is disposed of at a licensed disposal facility.
- (2) Following disposal of PCS at a licensed disposal facility, owners and operators shall prepare a report that describes the final disposition of the excavated soil on a form prescribed by the state fire marshal.
- (3) All PCS containing concentrations of ~~chemicals(s)~~chemicals of concern shall be managed in a manner that complies with applicable federal, state, and local requirements.

(I) Treatment of petroleum contaminated soil PCS.

- (1) Applicability.

(a) A "PCS Treatment Plan" shall be submitted in accordance with this paragraph ~~(I)(2) to (I)(5) of this rule~~ for approval to the state fire marshal, unless one of the following occurs:

(i) The PCS was not returned to the original excavation and is disposed of at a licensed disposal facility;

(ii) The PCS is managed pursuant to rule 1301:7-9-13 of the Administrative Code; or

(iii) The PCS meets the criteria in paragraph (D)(2) of this rule.

(b) PCS must be treated at one of the following locations:

(i) The UST site;

(ii) A designated facility; or

(iii) A licensed disposal facility.

(2) PCS treatment plan contents.

Owners or operators shall submit a PCS treatment plan to the state fire marshal within ninety days of the UST system removal date or the date of generating the PCS stockpile. Treatment target concentrations shall be the re-use action levels from table 1 of this rule unless a variance is granted by the state fire marshal. The PCS treatment plan shall include, but is not limited to the following information:

(a) Name of owner or operator;

(b) Name, address, and facility number of the UST site;

(c) Address of the designated facility or licensed disposal facility, if applicable;

(d) Contact person for the PCS treatment plan;

(e) The volume, in cubic yards, of soil to be treated;

- (f) A description of the PCS treatment process to be implemented;
- (g) A conceptual design of the PCS treatment system (detailed engineering drawings are not necessary);
- (h) A brief description of the treatment alternatives considered, including a discussion of the reliability, effectiveness, cost, and time needed for completion, and the rationale for the selected program;
- (i) A monitoring plan that describes the monitoring to be used to determine whether treatment target concentrations are being achieved;
- (j) A description of the reporting frequency and proposed content of reports;
- (k) A description of any permits (e.g., air emission, water discharge) or other governmental approvals required for implementation of the plan;
- (l) An implementation schedule and the projected completion date of the proposed PCS treatment activities; and
- (m) Site maps or drawings that accurately depict the location of the designated facility, the property boundaries, street locations, above ground structures, underground structures and utilities, soil stockpiles, PCS treatment areas, and other pertinent features.

(3) Public participation.

- (a) For each PCS treatment plan submitted to the state fire marshal, the owner ~~and/or~~ or operator shall provide notice to the public.
- (b) Public notice shall be by means designated to reach those members of the public directly affected by the release and the planned treatment activities. This notice may include, but is not limited to, public notice in local newspapers, block advertisements, public service announcements, ~~publication in a state register~~, letters to individual households, or personal contacts by field staff.
- (c) The state fire marshal shall ensure the UST site release information and decisions concerning the PCS treatment plan are made available to the public for inspection upon request.

- (d) Before approving a PCS treatment plan the state fire marshal may hold a public meeting to consider comments on the proposed PCS treatment plan if there is sufficient public interest or for any other reason.

(4) Implementation of PCS treatment plan.

- (a) Upon approval of the PCS treatment plan, owners or operators shall implement the plan. Owners or operators shall monitor, evaluate, and report to the state fire marshal the results of implementation efforts in accordance with the reporting requirements contained in the plan.
- (b) If the treatment technology approved by the state fire marshal in the plan has been installed and operated for a minimum of one year and the technology is unable to reduce the concentrations of ~~chemical(s)~~chemicals of concern to a level at or below applicable action levels, then the owner and operator must:
  - (i) Re-evaluate the assumptions and parameters used in the PCS Treatment Plan;
  - (ii) Re-evaluate the treatment alternatives; and
  - (iii) Submit a revised PCS treatment plan.
- (c) If treatment is able to reduce concentrations of ~~chemical(s)~~chemicals of concern to a level at or below applicable action levels, ~~than~~ then no further treatment is required.

(5) Reporting.

Following completion of PCS treatment in accordance with the approved plan, owners or operators shall prepare a PCS treatment completion report that demonstrates that the treatment objectives have been met. The report shall contain documentation supporting termination of treatment activities in accordance with paragraph (I)(2) of this rule, including a description of the final disposition of the excavated soil, on a form prescribed by the state fire marshal.

(J) Releases from PCS treatment and storage facilities.

- (1) When directed by the state fire marshal, owners and operators shall assess the

soil and ~~ground-water~~ groundwater under any designated facility or UST site if the treatment or storage of PCS may, in the judgment of the state fire marshal, pose a current or potential threat to human health or the environment.

- (2) Upon the discovery of a petroleum impact suspected to be the result of the treatment or storage of PCS, the owner and operator shall conduct the following:
  - (a) Cease all additional applications of PCS until otherwise instructed by the state fire marshal;
  - (b) Notify the state fire marshal within twenty-four hours of the discovery of the soil or groundwater contamination; and
  - (c) Perform immediate corrective action in accordance with the requirements of rule 1301:7-9-13 of the Administrative Code and continue with the corrective action process, as necessary, to contain and clean up the release.

(K) Variances.

- (1) Owners and operators may submit a variance request to the state fire marshal to deviate from any method or requirement specified in this rule by demonstrating that the proposed variance is at least as effective as those required by this rule. Written approval must be obtained from the state fire marshal prior to implementation. If the variance is approved by the state fire marshal, the owners and operators shall comply with any conditions imposed by the state fire marshal. The state fire marshal may grant, modify, or deny any extension request at his sole discretion.
- (2) The state fire marshal may approve the variance for use at a specific UST site or for use at all UST sites. If the state fire marshal approves a variance for use at all UST sites, the owners and operators shall comply with any conditions imposed by the state fire marshal on the use of the variance.

Effective:

Five Year Review (FYR) Dates: 05/17/2017

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Certification

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Date

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