3745-40-09 **Approved sampling methods, monitoring frequency requirements, record retention and annual reporting requirements.**

[Comment: Definitions relevant to this chapter can be found in rule 3745-40-01 of the Administrative Code.]

[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 3745-40-01 of the Administrative Code.]

(A) Approved sampling methods.

(1) Except as provided in paragraph (A)(2) of this rule, a permittee shall collect and analyze, as applicable, representative samples of biosolids in accordance with table A-1 of this rule, or any other method as approved under 40 C.F.R. 503. The following methods shall be used to analyze samples of biosolids and are adopted by reference in this chapter.

Table A-1: approved methods for sampling.

Sample	Approved method
Enteric viruses	ASTM D 4994-89
Fecal coliform	Part 9221 E. or part 9222 D., "Standard Methods for the Examination of Water and Wastewater"
Helminth ova	Yanko, W.A. "Occurrence of Pathogens in Distribution and Marketing Municipal Sludges"
Inorganic pollutants	"EPA SW-846 - Test Methods for Evaluating Solid Waste, Physical/Chemical Methods"
Salmonella sp. bacteria	Part 9260 D., "Standard Methods for the Examination of Water and Wastewater" or Kenner, B.A. and H.P. Clark, "Detection and Enumeration of Salmonella and Pseudomonas aeruginosa," journal of the water pollution control federation, vol. 46, no. 9, September 1974, pp. 2163-2171. Water environment federation, 601 Wythe street, Alexandria, VA 22314
Specific oxygen uptake rate	Part 2710 B., "Standard Methods for the Examination of Water and Wastewater"
Total, fixed, and volatile solids	Part 2540 G., "Standard Methods for the Examination of

	Water and Wastewater"

(2) The director may approve alternative sampling methods to those listed in table A-1 of this rule provided the permittee submits a copy of the alternative sampling method being proposed and any necessary support documentation to the director for consideration prior to any sampling being done.

(B) Monitoring frequencies requirements. For any NPDES permit issued by the director, monitoring frequencies shall be in accordance with paragraphs (B) to (B)(4) of this rule. In addition to the monitoring frequencies in paragraphs (B) to (B)(4) of this rule, the director may require additional monitoring to protect public health or the environment.

(1) Total solids.

(a) Each day when sewage sludge or biosolids are removed from the wastewater treatment plant for disposal, a representative composite sample of the sewage sludge or biosolids, as applicable, shall be collected and analyzed for total solids.

(b) Each day when biosolids are removed from the wastewater treatment plant for beneficial use or disposal, a representative composite sample of the biosolids shall be collected and analyzed for total solids.

(c) Each day when sewage sludge or biosolids are transfered to another treatment works, the total volume of sewage sludge or biosolids removed for transfer shall be documented.

(2) Vector attraction and pathogen reduction. Except as provided in paragraph (B)(2)(c) of this rule, to ensure that vector attraction requirements and pathogen reduction requirements are met prior to beneficial use, monitoring shall occur for vector attraction reduction and pathogen reduction prior to beneficial use.

(a) Monitoring for pathogen reduction and vector attraction reduction shall be performed as necessary to show compliance with all processing requirements and, at a minimum, in accordance with table B-1 of this rule.

(b) Monitoring is still required if a hauling event does not occur during the reporting period. If a hauling event occurs during a reporting period:

(i) The required biosolids monitoring shall be completed prior to the initial hauling event of the reporting period; and

(ii) The monitoring results shall be available prior to beneficial use

occurring.

(c) Monitoring for vector attraction reduction is not required when vector attraction reduction options VAR-9 or VAR-10, in accordance with rule 3745-40-04 of the Administrative Code, are utilized.

(3) Metals.

(a) For any NPDES permit that was issued by the director prior to the effective date of this rule, the monitoring frequencies for metals in the currently effective NPDES permit or the monitoring frequencies for metals in accordance with 40 C.F.R. 503 shall be followed until a modification or renewal NPDES permit is issued.

(b) For any NPDES permit issued by the director after the effective date of this rule, minimum frequency of monitoring for metals shall be in accordance with table B-1 of this rule.

Table B-1
Minimum Frequency of Monitoring Required for the Beneficial Use of Biosolids
Based on Amount of Sewage Sludge Generated per Calendar Year

Sampling parameters	Amount of Sludge Generated (dry U.S. tons per calendar year)			
	Greater than zero and less than three hundred twenty	Greater than or equal to three hundred twenty but less than one thousand six hundred fifty	Greater than or equal to one thousand six hundred fifty but less than sixteen thousand five hundred	Greater than or equal to sixteen thousand five hundred
• Arsenic • Cadmium • Copper • Lead • Mercury • Molybdenum • Nickel • Selenium • Zinc • Total Kjeldahl nitrogen • Ammonia nitrogen	Annual monitoring	Once per quarter (four times per year)	Once every sixty days (six times per year)	Once per month (twelve times per year)
Pathogen reduction	Annual monitoring	Once per quarter (four times per year)	Once every sixty days (six times per year)	Once per month (twelve times per year)
Vector attraction reduction	Annual monitoring	Once per quarter (four times per year)	Once every sixty days (six times per year)	Once per month (twelve times per year)

(4) Dioxin monitoring requirements.

(a) To protect public health or the environment, the director may require monitoring for dioxin for any treatment works with an average daily final effluent flow greater than or equal to one hundred thousand

gallons per day to:

(i) Determine whether a significant increase is occurring in the dioxin concentration; and

(ii) Assist in identifying the source of any such significant increase.

(b) For any treatment works that generates more than three hundred and twenty dry tons of sewage sludge per year and that does not have an approved pretreatment program in accordance with Chapters 3745-3 and 3745-36 of the Administrative Code, the treatment works shall, within twelve months of the effective date of this rule, monitor for dioxin in sewage sludge, where:

(i) All analyses for dioxin in sewage sludge that are required by this rule are performed by a laboratory equipped to provide accurate results;

(ii) All test results for dioxin are submitted to the appropriate Ohio environmental protection agency district office and the Ohio environmental protection agency central office;

(iii) The 2, 3, 7, 8-TCDD total toxicity equivalence of the dioxin in sewage sludge, calculated from the twenty-nine dioxin congeners defined in rule 3745-40-01 of the Administrative Code, shall be reported as part of the permittee's monthly operating report;

(iv) All dioxin in sewage sludge monitoring results shall be retained by the permittee for a minimum of five years and shall be submitted to the Ohio environmental protection agency upon request. The results shall include the following:

(a) Total class concentrations of the dibenzo-p-dioxins and dibenzofurans in parts per trillion;

(b) Concentrations of the twenty-nine individual congeners in parts per trillion; and

(c) Calculation of the 2, 3, 7, 8-TCDD total toxicity equivalence in parts per trillion;

(v) The following analytical methods shall be used for the analysis of dioxin in sewage sludge:

(a) United States environmental protection agency method number 1613B shall be used for the seven 2, 3, 7, 8 chlorinated dibenzo-p-dioxin congeners and ten 2, 3, 7, 8

chlorinated dibenzofuran congeners; and

[Comment: Method number 1613B may be obtained from: "National Technical Information Service No. PB93-236024, (800) 553-NITS, or Educational Resources Information Center Number W-105, (800) 443-ERIC".]

(b) United States environmental protection agency method number 1668A (USEPA number 821/C-97-005821/C-97-005) shall be used for the twelve coplanar polychlorinated biphenyl congeners;

[Comment: Method number 1668A may be obtained from: "Office of Water Methods and Guidance Diskette 2, Office of Water Resource Center, (202) 260-7786".]

(vi) Non-detected values shall be reported as one half of the detection limit;

(vii) The toxicity equivalence factors (TEF) listed in table B-5 of this rule shall be used in the calculation of the 2, 3, 7, 8-TCDD total toxicity equivalence;

Table B-5: toxicity equivalent factors.

Congener	Toxicity equivalent factor
2, 3, 7, 8-tetrachlorodibenzo-p-dioxin	1.0
1, 2, 3, 7, 8-pentachlorodibenzo-p-dioxin	0.5
1, 2, 3, 4, 7, 8-hexachlorodibenzo-p-dioxin	0.1
1, 2, 3, 6, 7, 8-hexachlorodibenzo-p-dioxin	0.1
1, 2, 3, 7, 8, 9-hexachlorodibenzo-p-dioxin	0.1
1, 2, 3, 4, 6, 7, 8-heptachlorodibenzo-p-dioxin	0.01
1, 2, 3, 4, 6, 7, 8, 9-octachlorodibenzo-p-dioxin	0.001
2, 3, 7, 8-tetrachlorodibenzofuran	0.1
1, 2, 3, 7, 8-pentachlorodibenzofuran	0.05
2, 3, 4, 7, 8-pentachlorodibenzofuran	0.5
1, 2, 3, 4, 7, 8-hexachlorodibenzofuran	0.1

1, 2, 3, 6, 7, 8-hexachlorodibenzofuran	0.1
1, 2, 3, 7, 8, 9-hexachlorodibenzofuran	0.1
2, 3, 4, 6, 7, 8-hexachlorodibenzofuran	0.1
1, 2, 3, 4, 6, 7, 8-heptachlorodibenzofuran	0.01
1, 2, 3, 4, 7, 8, 9-heptachlorodibenzofuran	0.01
1, 2, 3, 4, 6, 7, 8, 9-octachlorodibenzofuran	0.001
3, 3', 4, 4'-tetrachlorobiphenyl	0.0001
3, 4, 4', 5-tetrachlorobiphenyl	0.0001
3, 3', 4, 4', 5-pentachlorobiphenyl	0.1
2, 3, 3', 4, 4'-pentachlorobiphenyl	0.0001
2, 3', 4, 4', 5-pentachlorobiphenyl	0.0001
2', 3, 4, 4', 5-pentachlorobiphenyl	0.0001
2, 3, 4, 4', 5-pentachlorobiphenyl	0.0005
3, 3', 4, 4', 5, 5'-hexachlorobiphenyl	0.01
2, 3, 3', 4, 4', 5-hexachlorobiphenyl	0.0005
2, 3, 3', 4, 4', 5'-hexachlorobiphenyl	0.0005
2, 3', 4, 4', 5, 5'-hexachlorobiphenyl	0.00001
2, 3, 3', 4, 4', 5, 5'-heptachlorobiphenyl	0.0001

(viii) If the initial sample shows results above thirty parts per trillion total toxicity equivalence, the test shall be repeated annually. If the initial sample shows results equal to or less than thirty parts per trillion total toxicity equivalence, the test shall be repeated once per NPDES permit cycle; and

(ix) If the initial sample shows results above fifty parts per trillion total toxicity equivalence, all sludge shall be injected or incorporated until the test result is equal to or below fifty parts per trillion total toxicity equivalence.

(C) Record retention requirements. Record retention is required by the:

(1) Permittee of exceptional quality biosolids. In addition to the recordkeeping requirements in rule 3745-40-04 of the Administrative Code, the permittee who prepares exceptional quality biosolids for the purpose of beneficial use or distribution shall develop the following information, shall retain the following information for a minimum of five years at the treatment works, and shall make the following information available to the director or an authorized representative upon request:

(a) The results of all analyses as required in paragraph (B) of rule 3745-40-09 of the Administrative Code;

(b) The following certification statement;

"I certify, under penalty of law, that the information that will be used to determine compliance with the class A pathogen reduction requirements in rule 3745-40-04 of the Administrative Code and the vector attraction reduction requirement [insert one of the vector attraction reduction options in rule 3745-40-04 of the Administrative Code, Option VAR-1 to Option VAR-8] in rule 3745-40-04 of the Administrative Code was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

(c) A narrative description of how the pathogen reduction alternative being utilized meets the applicable requirements of a class A pathogen reduction alternative, in accordance with paragraphs (B)(8) to (B)(16) of rule 3745-40-04 of the Administrative Code;

(d) A narrative description of how the vector attraction reduction option being utilized meets the applicable requirements of the vector attraction reduction option, in accordance with paragraphs (C)(1) to (C)(8) of rule 3745-40-04 of the Administrative Code; and

(e) A narrative description of the notice and necessary information that is provided to each initial recipient of the biosolids;

(2) Beneficial user of bulk exceptional quality biosolids. The person who beneficially uses bulk exceptional quality biosolids shall develop the following information, shall retain the following information for a minimum of five years, and shall make the following information available to the director or an authorized representative upon request:

(a) A narrative description of how the storage is achieved in accordance with rule 3745-40-07 of the Administrative Code;

(b) A narrative description of how the beneficial use requirements in rule 3745-40-08 of the Administrative Code are met at each site including, but not limited to, the soil pH, the soil phosphorous levels and the agronomic rate calculations; and

(c) The date the bulk biosolids were land applied to each land application site and the quantity of biosolids (in dry tons) that were applied to each site on that date;

(3) Permittee of class A biosolids. In addition to the recordkeeping requirements in rule 3745-40-04 of the Administrative Code, the permittee who prepares class A biosolids for the purpose of beneficial use shall develop the following information, shall retain the following information for a minimum of five years at the treatment works, and shall make the following information available to the director or an authorized representative upon request:

(a) The results of all analyses as required in paragraph (B) of rule 3745-40-09 of the Administrative Code;

(b) The following certification statement:

"I certify, under penalty of law, that the information that will be used to determine compliance with the class A pathogen reduction requirements in rule 3745-40-04 of the Administrative Code was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

(c) A narrative description of how the pathogen reduction alternative being utilized meets the applicable requirements of one of the class A pathogen reduction alternatives in accordance with paragraphs (B)(8) to (B)(16) of rule 3745-40-04 of the Administrative Code; and

(d) A narrative description of the notice and necessary information that is provided to each initial recipient of the biosolids;

(4) Beneficial user of class A biosolids. The person who beneficially uses class A biosolids shall develop the following information, shall retain the following information for a minimum of five years, and shall make the following information available to the director or an authorized representative upon request:

(a) The following certification statement:

"I certify, under penalty of law, that the information that will be used to determine compliance with the beneficial use requirements of rule 3745-40-08 of the Ohio Administrative Code, and the vector attraction reduction requirement [insert either vector attraction reduction option 9 or 10 from paragraph (C) of rule 3745-40-04 of the Administrative Code] rule 3745-40-04 of the Ohio Administrative Code, was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

(b) A narrative description of how the beneficial use meets the beneficial use requirements in accordance with rule 3745-40-08 of the Administrative Code including, but not limited to, the soil pH, the soil phosphorus levels and the agronomic rate calculations;

(c) A description of how the vector attraction reduction option being utilized at each site meets the applicable requirements of the vector attraction reduction option in accordance with paragraph (C)(9) or (C)(10) of rule 3745-40-09 of the Administrative Code; and

(d) The date the bulk biosolids were beneficially used at each site and the quantity of biosolids (in dry tons) that were beneficially used at each beneficial use site on that date;

(5) Permittee of class B biosolids. In addition to the recordkeeping requirements in rule 3745-40-04 of the Administrative Code, the permittee who prepares class B biosolids for the purpose of beneficial use shall develop the following information, shall retain the following information for a minimum of five years at the treatment works, and shall make the following information available to the director or an authorized representative upon request:

(a) The results of all analyses as required in paragraph (B) of rule 3745-40-09 of the Administrative Code;

(b) The following certification statement:

"I certify, under penalty of law, that the information that will be used to determine compliance with the class B pathogen reduction requirements in rule 3745-40-04 of the Administrative Code and the vector attraction reduction requirement in [insert one of the vector attraction reduction options in rule 3745-40-04 of the Administrative Code, Option VAR-1 to Option VAR-8 if one of those requirements is met] was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false

certification including the possibility of fine and imprisonment."

(c) A narrative description of how one of the class B pathogen reduction requirements in paragraphs (B)(1) to (B)(7) of rule 3745-40-04 of the Administrative Code is met;

(d) If applicable, a narrative description of how one of the vector attraction reduction requirements in paragraphs (C)(1) to (C)(8) of rule 3745-40-04 of the Administrative Code is met;

(e) A copy of the soil pH and phosphorous monitoring analyses as required in rule 3745-40-08 of the Administrative Code; and

(f) A narrative description of the notice and necessary information that is provided to each initial recipient of the biosolids;

(6) Beneficial user of class B biosolids. The person who beneficially uses class B biosolids shall develop the following information, shall retain the following information for a minimum of five years, and shall make the following information available to the director or an authorized representative upon request:

(a) The following certification statement:

"I certify, under penalty of law, that the information that will be used to determine compliance with the storage requirements of rule 3745-40-07 of the Ohio Administrative Code, the beneficial use requirements of rule 3745-40-08 of the Ohio Administrative Code, and the vector attraction reduction requirement in [insert either vector attraction reduction option 9 or 10 from paragraph (C) of rule 3745-40-04 of the Administrative Code, if applicable] rule 3745-40-04 of the Ohio Administrative Code, was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

(b) A narrative description of how the storage requirements in rule 3745-40-07 and the beneficial use requirements in rule 3745-40-08 are met at each site, including agronomic rate calculations for each site where biosolids are applied and how the additional class B site restrictions are met;

(c) If applicable, a narrative description of how the vector attraction reduction requirements in either paragraph (C)(9) or (C)(10) of rule 3745-40-04 of the Administrative Code are met at each site; and

(d) The date bulk biosolids were beneficially used at each beneficial use site and the quantity of biosolids (in dry tons) that were beneficially used at each beneficial use site on that date;

(7) Permittee who generates class B biosolids subject to cumulative pollutant loading rates. In addition to the recordkeeping requirements in rule 3745-40-04 of the Administrative Code, the permittee who prepares class B biosolids that are subject to cumulative pollutant loading rates, for the purpose of beneficial use, shall develop the following information, shall retain the following information for a minimum of five years at the treatment works, and shall make the following information available to the director or an authorized representative upon request:

(a) The results of all analyses as required in paragraph (B) of rule 3745-40-09 of the Administrative Code;

(b) The following certification statement:

"I certify, under penalty of law, that the information that will be used to determine compliance with the class B pathogen reduction requirements in rule 3745-40-04 of the Administrative Code and the vector attraction reduction requirement in [insert one of the vector attraction reduction options in rule 3745-40-04 of the Administrative Code, Option VAR-1 to Option VAR-8 if one of those requirements is met] was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

(c) A narrative description of how one of the class B pathogen reduction requirements in paragraphs (B)(1) to (B)(7) of rule 3745-40-04 of the Administrative Code is met;

(d) If applicable, a narrative description of how one of the vector attraction reduction requirements in paragraphs (C)(1) to (C)(8) of rule 3745-40-04 of the Administrative Code is met;

(e) A copy of the soil pH and phosphorous monitoring analyses as required in rule 3745-40-08 of the Administrative Code; and

(f) A narrative description of the notice and necessary information that is provided to each initial recipient of the biosolids.

(8) Beneficial user of class B biosolids subject to cumulative pollutant loading rates. The person who beneficially uses class B biosolids subject to cumulative pollutant loading rates shall develop the following information,

shall retain the following information indefinitely, and shall make the following information available to the director or an authorized representative upon request:

(a) The location, by either street address or latitude and longitude, of each site on which bulk biosolids are applied;

(b) The number of acres upon each beneficial use site where the bulk biosolids are beneficially used;

(c) The date the biosolids were beneficially used at the beneficial use site;

(d) The cumulative amount of each metal listed in table B-2 of this rule that is beneficially used at each site;

(e) The amount of biosolids, measured in dry tons, that are beneficially used at each beneficial use site;

(f) The following certification statement:

"I certify, under penalty of law, that the information that will be used to determine compliance with the requirement to obtain information in paragraph (D)(5) of rule 3745-40-04 of the Administrative Code was prepared for each site on which bulk sewage sludge was applied under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

(g) A description of how the requirements to obtain information in paragraph (D)(5) of rule 3745-42-04 of the Administrative Code are met;

(h) The following certification statement:

"I certify, under penalty of law, that the information that will be used to determine compliance with the storage requirements of rule 3745-40-07 of the Ohio Administrative Code, the beneficial use requirements of rule 3745-40-08 of the Ohio Administrative Code, and the vector attraction reduction requirement in [insert either vector attraction reduction option VAR-9 or VAR-10 from paragraph (C) of rule 3745-40-04 of the Administrative Code, if applicable] in rule 3745-40-04 of the Ohio Administrative Code, was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

(i) A narrative description of how the storage requirements in rule 3745-40-07 of the Administrative Code and the beneficial use requirements in rule 3745-40-08 of the Administrative Code are met at each site, including the agronomic rate calculations for each site where biosolids are applied and how the additional class B site restrictions are met; and

(j) If applicable, a narrative description of how the vector attraction reduction requirements in either paragraph (C)(9) or (C)(10) of rule 3745-40-04 of the Administrative Code are met at each site; and

(9) Beneficial user of bulk biosolids. The beneficial user of bulk biosolids shall develop and maintain the following information at the beneficial use site during the period bulk biosolids are beneficially used:

(a) The name of the permittee who generates the bulk biosolids being beneficially used at the beneficial use site;

(b) The agronomic rate of bulk biosolids calculated for the beneficial use site; and

(c) The applicable isolation distances for the beneficial use of bulk biosolids that must be satisfied at the beneficial use site.

(D) Annual reporting requirements. A permittee shall submit an annual sewage sludge or biosolids report to the director or an authorized representative. The annual sewage sludge or biosolids report shall include, but not be limited to:

(1) The information requested in Ohio environmental protection agency form number 4229, including copies of the certification statements required in paragraph (C) of rule 3745-40-09 of the Administrative Code; and

[Comment: Ohio environmental protection agency form number 4229 can be found on the agency's web site at the following web link: http://www.epa.state.oh.us/dsw/sludge/annual_report.html.]

(2) Any records, as required in accordance with rule 3745-40-04 of the Administrative Code.

Effective:

R.C. 119.032 review dates:

_____

Certification

_____

Date

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