



Ohio Administrative Code Rule 3745-50-11 Incorporated by reference.

Effective: June 12, 2023

When used in the hazardous waste rules, the following text or other materials are incorporated by reference. All references cited in this rule are those that existed and were available on July 1, 2022 unless a different edition or version date is specified in this rule.

(A) Code of Federal Regulations (CFR) references. These regulations can generally be found in public libraries, electronically at <http://www.ecfr.gov>, or can be purchased from "U.S. Government Printing, Superintendent of Documents, Mail Stop SSOP, Washington DC" 20402-9328. The regulations listed in this rule are those published in the July 1, 2022 CFR.

(1) 10 CFR Parts 1, 20, 61, and 71.

(2) 16 CFR Part 1115.

(3) 21 CFR Parts 7, 203, 312, and 1308.

(4) 29 CFR Part 1910.

(5) 33 CFR Parts 153, 336, and 337.

(6) 40 CFR Parts 3, 51, and 52.

(7) 40 CFR Parts 60, 61, 62, and 63, except as otherwise specifically described in the hazardous waste rules.

(8) 40 CFR Parts 112, 122, 124, 144, 146, and 148.

(9) 40 CFR Parts 232, 257, and 258.



(10) 40 CFR Parts 260 to 279.

(11) 40 CFR Parts 302, 403, and 761.

(12) 49 CFR Parts 100 to 185.

(B) Federal statute references. These laws can generally be found in public libraries, or electronically at the "Library of Congress" at <https://www.loc.gov/> using the "Library Catalog" search selection. The federal laws listed in this rule are those versions of the laws amended through July 1, 2022.

(1) The Act of August 18, 1970, 84 Stat. 825, 16 U.S.C.A. 1a-5.

(2) Atomic Energy Act of 1954, 42 U.S.C. 2011.

(3) "Chemical and Biological Warfare Program, Destruction of Existing Stockpile of Lethal Chemical Agents and Munitions," 50 U.S.C. 1521.

(4) Clean Air Act, 42 U.S.C. 7401.

(5) Clean Water Act, 33 U.S.C. 1251.

(6) Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), 42 U.S.C. 9601.

(7) Federal Food, Drug, and Cosmetic Act, 21 U.S.C. 301.

(8) Federal Insecticide, Fungicide, and Rodenticide Act, 7 U.S.C. 136.

(9) Federal Tax Code, 26 U.S.C. 501(c)(3).

(10) Federal Water Pollution Control Act, Clean Water Act of 1977, or Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1251.



- (11) Investment Company Act of 1940, 15 U.S.C. 80a-1.
- (12) Marine Protection, Research, and Sanctuaries Act of 1972, 33 U.S.C. 1401.
- (13) Nuclear Waste Policy Act, 42 U.S.C. 108.
- (14) Occupational Safety and Health Act of 1970, 29 U.S.C. 661.
- (15) Resource Conservation and Recovery Act of 1976 (RCRA), or Solid Waste Disposal Act, 42 U.S.C. 6901.
- (16) Safe Drinking Water Act, 42 U.S.C. 300f.
- (17) Toxic Substances Control Act, 15 U.S.C. 2601.
- (18) U.S.C. Title 11 (bankruptcy).
- (19) U.S. Constitution.
- (C) Government literature. The availability of these documents is provided with each paragraph.
 - (1) U.S. department of commerce, "Implicit Price Deflator for Gross National Product," available at <https://www.bea.gov/data/prices-inflation/gdp-price-deflator>.
 - (2) U.S. department of defense documents, available at www.dtic.mil.
 - (a) DD form 1348- requisition tracking form.
 - (b) DD form 1907- signature and tally record.
 - (c) DD form 626- motor vehicle inspection report.



- (d) DD form 836- special instructions for motor vehicle drivers.
- (e) DOD 6055.9-STD- ammunition and explosive safety standards.
- (3) U.S. department of transportation (DOT) shipping requirements are available at www.phmsa.dot.gov/phmsa-regulations.
- (4) U.S. department of the treasury document: "Circular 570" is published in the Federal Register annually on July first; interim changes in the circular are also published in the Federal Register. "Circular 570" is available on the treasury department's website at www.fiscal.treasury.gov/surety-bonds/circular-570.html.
- (5) U.S. EPA technical documents. These documents are generally available in libraries. Documents listed in this paragraph without an address can be ordered by calling 202/512-1800. These documents may also be obtained by writing to "National Technical Information Service, 5285 Port Royal Road, Springfield, VA" 22161. Documents listed in this paragraph with an address may also be obtained at that address. Many of these documents can also be obtained via online ordering at U.S. EPA's "National Service Center for Environmental Publications" at www.epa.gov/nscep. Some documents listed in this paragraph may be available for purchase, not free of charge.
- (a) "APTI Course 415: Control of Gaseous Emissions," EPA-450/2-81-005, December 1981.
- (b) "Alternative Validation Procedure for EPA Waste and Wastewater Methods," 40 CFR Part 63 appendix D.
- (c) "Field Evaluation of Carbon Monoxide and Hydrogen Sulfide Continuous Emission Monitors at an Oil Refinery," Ferguson, B.B., R.E. Lester, and W.J. Mitchell, August 1982, EPA-600/4-82-054, available at www.epa.gov/nscip.
- (d) U.S. EPA form 8700-22, part of the "Uniform Hazardous Waste Manifest" and instructions, are available in the appendix to 40 CFR Part 262 at www.epa.gov at the approved registered printers selection.



- (e) U.S. EPA form 8700-22A, part of the "Uniform Hazardous Waste Manifest" and instructions, are available in the appendix to 40 CFR Part 262 at www.epa.gov at the approved registered printers selection.
- (f) U.S. EPA form 8700-23, the "Part A" permit application form, is available at www.epa.gov/osw/inforesources/data/form8700/forms.htm.
- (g) "Gaseous Continuous Emissions Monitoring Systems-Performance Specification Guidelines for SO₂, NO_X, CO₂, O₂, and TRS," October 1982, EPA-450/3-82-026, available from www.epa.gov/nscep.
- (h) "Gasoline Vapor Emission Laboratory Evaluation-Part 2," August 1975, EMB report No. 76-GAS-6, available from "U.S. EPA OAQPS, Research Triangle Park, NC" 27711.
- (i) "Guidance on Metals and Hydrogen Chloride Controls for Hazardous Waste Incinerators, Volume IV of the Hazardous Waste Incineration Guidance Series," August 1989, available from www.epa.gov/nscep.
- (j) "Guideline on Air Quality Models (revised)," July 1986, EPA-450/2-78-027R, available from www.epa.gov/nscep.
- (k) "Handbook: Continuous Air Pollution Source Monitoring Systems," Jahnke, James A. and G.J. Aldina, June 1979, EPA-625/6-79-005, available from www.epa.gov/nscep.
- (l) "Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-dioxins and Dibenzofurans (CDDs and CDFs)," March 1989 update, EPA-625/3-89/016, available from www.epa.gov/nscep.
- (m) "U.S. EPA Manual for SEA (Special Environmental Area) Requirements."
- (n) "Measurement of Volatile Organic Compounds-Guideline Series," June 1978, EPA-450/2-78-041, available from www.epa.gov/nscep.



- (o) "Method 2, Determination Of Stack Gas Velocity And Volumetric Flow Rate (Type S pitot tube)," available from <https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-60/appendix-Appendix%20A-1%20to%20Part%2060>.
- (p) "Method 2A, Direct Measurement Of Gas Volume Through Pipes And Small Ducts," available from <https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-60/appendix-Appendix%20A-1%20to%20Part%2060>.
- (q) "Method 2C, Determination Of Gas Velocity And Volumetric Flow Rate In Small Stacks Or Ducts (standard pitot tube)," available from <https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-60/appendix-Appendix%20A-1%20to%20Part%2060>.
- (r) "Method 2D, Measurement Of Gas Volume Flow Rates In Small Pipes And Ducts," available from <https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-60/appendix-Appendix%20A-1%20to%20Part%2060>.
- (s) "Method 18, Measurement of Gaseous Organic Compound Emissions by Gas Chromatography," available from https://www.epa.gov/sites/default/files/2019-06/documents/method_18_0.pdf. January 2019.
- (t) "Method 21, Determination of Volatile Organic Compound Leaks," available from https://www.epa.gov/sites/default/files/2017-08/documents/method_21.pdf. August 2017.
- (u) "Method 22, Visual Determination of Fugitive Emissions from Material Sources and Smoke Emissions from Flares," available from <https://www.epa.gov/emc/method-22-visual-determination-fugitive-emissions>. January 2019.
- (v) Method 25A, Determination of Total Gaseous Organic Concentration Using A Flame Ionization Analyzer," available from <https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-60/appendix-Appendix%20A-7%20to%20Part%2060>.
- (w) "Method 25D, Determination of the Volatile Organic Concentration of Waste Samples," available from <https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-60/appendix-Appendix%20A->



7%20to%20Part%2060.

(x) "Method 25E, Determination of Vapor Phase Organic Concentration in Waste Samples," available from <https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-60/appendix-Appendix%20A-7%20to%20Part%2060>.

(y) "Method 27, Determination of vapor tightness of gasoline delivery tank using pressure-vacuum test," available from <https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-60/appendix-Appendix%20A-8%20to%20Part%2060>.

(z) "Method 301, Field Validation of Pollutant Measurement Methods from Various Waste Media," available https://www.epa.gov/sites/default/files/2018-03/documents/method_301_3-26-2018_1.pdf.
March 2018.

(aa) "Method 1664, n-Hexane Extractable Material (HEM; Oil and Grease) and Silica Gel Treated n-Hexane Extractable Material (SGT-HEM; Nonpolar Material) by Extraction and Gravimetry," available from www.epa.gov/nscep.

(i) Revision A, EPA-821-R-98-002, February 1999.

(ii) Revision B, EPA-821-R-10-001, February 2010.

(bb) "Performance Test Results and Comparative Data for Designated Reference Methods for Carbon Monoxide," Michie, Raymond, M. Jr., et. al., September 1982, EPA-600/S4-83-013, available from www.epa.gov/nscep.

(cc) "Quality Assurance Handbook for Air Pollution Measurement Systems: Volume I. Principles," December 1984, EPA-600/9-76-006, available from www.epa.gov/nscep.

(dd) "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, U.S. EPA publication SW-846 [third edition (November 1986), available from U.S. EPA's "National Technical Information Service, 5285 Port Royal Road, Springfield, VA" 22161. The following methods also may be available at www.epa.gov/hsw846:



- (i) Method 0010, "Modified Method 5 Sampling Train, Revision 1," dated August 2018.
- (ii) Method 0011, "Sampling for Selected Aldehyde and Ketone Emissions from Stationary Sources, Revision 1," dated August 2018.
- (iii) Method 0020, "Source Assessment Sampling System (SASS), Revision 1," dated August 2018.
- (iv) Method 0023A, "Sampling Method for Polychlorinated Dibenzo-p-dioxins and Polychlorinated Dibenzofuran Emissions from Stationary Sources, Revision 2," dated August 2018.
- (v) Method 0030, "Volatile Organic Sampling Train," dated September 1986 and in the basic manual.
- (vi) Method 0031, "Sampling Method for Volatile Organic Compounds (SMVOC)," dated December 1996 and in "Update III."
- (vii) Method 0040, "Sampling of Principal Organic Hazardous Constituents from Combustion Sources Using Tedlar Bags," dated December 1996 and in "Update III."
- (viii) Method 0050, "Isokinetic HCl/Cl₂ Emission Sampling Train," dated December 1996 and in "Update III."
- (ix) Method 0051, "Midget Impinger HCl/Cl₂ Emission Sampling Train, Revision 1," dated August 2018.
- (x) Method 0060, "Determination of Metals in Stack Emissions," dated December 1996 and in "Update III."
- (xi) Method 0061, "Determination of Hexavalent Chromium Emissions from Stationary Sources," dated December 1996 and in "Update III."
- (xii) Method 1010B, "Test Methods for Flash Point by Pensky-Martens Closed Cup Tester," dated



December 2018.

(xiii) Method 1020C, "Standard Test Methods for Flash Point by Setaflash (Small Scale) Closed Cup Apparatus," dated December 2018.

(xiv) Method 1110A, "Corrosivity Toward Steel," dated November 2004 and in "Update IIIB."

(xv) Method 1310B, "Extraction Procedure (EP) Toxicity Test Method and Structural Integrity Test," dated November 2004 and in "Update IIIB."

(xvi) Method 1311, "Toxicity Characteristic Leaching Procedure," dated July 1992 and in "Update I."

(xvii) Method 1312, "Synthetic Precipitation Leaching Procedure," dated September 1994 and in "Update III."

(xviii) Method 1320, "Multiple Extraction Procedure," dated September 1986 and in the basic manual.

(xix) Method 1330A, "Extraction Procedure for Oily Wastes," dated July 1992 and in "Update I."

(xx) Method 9010C, "Total and Amenable Cyanide: Distillation," dated November 2004 and in "Update IIIB."

(xxi) Method 9012B, "Total and Amenable Cyanide (Automated Colorimetric, with Off-Line Distillation)," dated November 2004 and in "Update IIIB."

(xxii) Method 9040C, "pH Electrometric Measurement," dated November 2004 and in "Update IIIB."

(xxiii) Method 9045D, "Soil and Water pH," dated November 2004 and in "Update IIIB."

(xxiv) Method 9060A, "Total Organic Carbon," dated November 2004 and in "Update IIIB."



(xxv) Method 9070A, "n-Hexane Extractable Material (HEM) for Aqueous Samples," dated November 2004 and in "Update IIIB."

(xxvi) Method 9071B, "n-Hexane Extractable Material (HEM) for Sludge, Sediment, and Solid Samples," dated April 1998 and in "Update IIIA."

(xxvii) Method 9095B, "Paint Filter Liquids Test," dated November 2004 and in "Update IIIB."

(ee) "Procedure T- Criteria for and Verification of a Permanent or Temporary Total Enclosure," 40 CFR 52.741 appendix B.

(ff) "Traceability Protocol for Establishing True Concentrations of Gases Used for Calibration and Audits of Continuous Source Emission Monitors (Protocol No. 1)," June 1978, available from www.epa.gov/nscep.

(6) U.S. natural resources conservation service information regarding soils and soil particle size is available at <https://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/survey/class/>.

(7) Occupational safety and health (OSHA) exposure levels to mercury are available at www.osha.gov/SLTC/mercury/standards.html.

(8) Ohio EPA documents.

(a) These forms are portions of the hazardous waste biennial report, and are in the "Hazardous Waste Biennial Report Instructions" available at http://www.epa.ohio.gov/static/Portals/32/annualreport/HWAR_Instructions.pdf:

(i) Ohio EPA form EPA 9027.

(ii) Ohio EPA form EPA 9028.

(iii) Ohio EPA form EPA 9029.



(b) This document is available at

https://www.rvaap.org/docs/pub/F_OEPA_TGM_HIG_WM_1995_30_00VB.pdf: "Technical Guidance Manual for Hydrogeologic Investigations and Ground Water Monitoring."

(9) U.S. postal service (USPS) shipping requirements are available at <http://www.usps.com>.

(10) GSA standard form 1103- government bill of lading. Federal employees can order this form at www.gsa.gov/forms-library/u-s-government-bill-lading.

(D) Private publications. These publications are generally available at libraries.

(1) "An Analysis of Variance Test for Normality (complete samples)," Shapiro, S.S. and Wilk, M.B. (1965), "Biometrika," 52, 591-611.

(2) "Correlation of Land Use and Cover with Meteorological Anomalies," "Journal of Applied Meteorology," pp. 636-643, 1978.

(3) "Fate of Metals in Waste Combustion Systems," Barton, R.G., W.D. Clark, and W.R. Seeker. (1990). "Combustion Science and Technology," 74, 1-6, p. 327.

(4) "Statistical Concepts and Methods," Bhattacharyya, G.K. and R.A. Johnson (1977), John Wiley and sons, New York.

(5) "The Partitioning of Metals in Rotary Kiln Incineration," Carroll, G.J., R.C. Thurnau, R.E. Murnighan, L.R. Waterland, J.W. Lee, and D.J. Fournier. "Proceedings of the Third International Conference on New Frontiers for Hazardous Waste Management." NTIS document number EPA-600/9-89/072, p. 555 (1989).

(6) Available from the "American National Standards Institute (ANSI), 25 West 43rd Street, New York, NY" 10036 or 212/642-4900, or www.ansi.org:

(a) "Petroleum Refining System," ANSI standard B31.3.



(b) "Liquid Petroleum Transportation Piping System," ANSI standard B31.4.

(7) Available for purchase from the "American Petroleum Institute (API), 1220 L Street, Northwest, Washington, DC" 20005 or api.org:

(a) "Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems," API publication 1632.

(b) "Evaporative Loss from External Floating-Roof Tanks," API publication 2517, third edition, February 1989.

(c) "Guide for Inspection of Refinery Equipment," 4th edition, 1981.

(d) "Installation of Underground Petroleum Storage Systems," API publication 1615, November 1979.

(8) "American Society for Testing and Materials" (ASTM) methods referenced in the hazardous waste rules are generally available in public libraries or are available from "ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA" 19428-2959, at 610/832-9555, or at ASTM.org.

(a) The following methods may be available for purchase at the ASTM web site. Some of the methods may be no longer available on the web site and may be found in libraries:

(i) "ASTM Standard Method for Analysis of Reformed Gas by Gas Chromatography," ASTM standard D1946-82 (2011), approved in 1990 and reapproved in 2011.

(ii) "ASTM Standard Practice for Determining Resistance of Synthetic Polymer Materials to Fungi," ASTM method G21-70(1984a).

(iii) "ASTM Standard Practice for Determining Resistance of Plastics to Bacteria," ASTM method G22-76(1996).



- (iv) "ASTM Standard Practice for Packed Column Gas Chromatography," ASTM standard E260-96 (2011, approved in 1996 and reapproved in 2011.)
- (v) "ASTM Standard Practices for General Techniques of Infrared Quantitative Analysis," ASTM standard E168-06, amended in 2006.
- (vi) "ASTM Standard Practices for General Techniques of Ultraviolet-Visible Quantitative Analysis," ASTM standard E169-04(2104), approved in 2004 and reapproved in 2014.
- (vii) "ASTM Standard Test Method for Vapor Pressure- Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope," ASTM standard D2879-10, amended in 2010.
- (viii) "ASTM Standard Test Methods for Flash Point by Pensky-Martens Closed Cup Tester," ASTM standard D93-79 or D93-80.
- (ix) "ASTM Standard Test Methods for Flash Point of Liquids by Setaflash Closed Cup Tester," ASTM standard D3278-78.
- (x) "ASTM Standard Test Methods for Preparing Refuse-Derived Fuel (RDF) Samples for Analyses of Metals," ASTM standard D926-08(2013), approved in 2008 and reapproved in 2013, test method C-bomb, acid digestion method.
- (xi) ASTM D8174-18, "Standard Test Method for Finite Flash Point Determination of Liquid Wastes by Small Scale Closed Cup Tester," approved March 15, 2018.
- (xii) ASTM D8175-18, "Standard Test Method for Finite Flash Point Determination of Liquid Wastes by Pensky-Martens Closed Cup Tester," approved March 15, 2018.
- (xiii) ASTM E681-85, "Standard Test Method for Concentration Limits of Flammability of Chemicals (Vapors and Gases)," approved November 14, 1985.



(xiv) ASTM D2267-88, "Standard Test Method for Aromatics in Light Naphthas and Aviation Gasolines by Gas Chromatography."

(xv) ASTM D2382-83, "Standard Test Method for Heat of Combustion of Hydrocarbon Fuels by Bomb Calorimeter (High-Precision Method)".

(xvi) ASTM D323-20a, "Standard Test Method for Vapor Pressure of Petroleum Products (Reid Method)," approved in 2020.

(xvii) Representative sampling methods for:

(a) "Standard Guide for Representative Sampling for Management of Waste and Media," ASTM standard D6044-96(2009), approved in 1996 and reapproved in 2009.

(b) "Practice for Sampling Soils and Contaminated Media with Hand Operated Bucket Auger," D6907-2005(2010), approved in 2005 and reapproved in 2010.

(c) Extremely viscous liquid- ASTM standard D140/D140M-14, approved in 2014.

(d) Crushed or powdered material- ASTM standard D346/D346M-11, approved in 2011.

(b) The following older approved equivalent methods are not available from the ASTM web site, but are available in libraries:

(i) "ASTM Standard Test Method for Vapor Pressure of Petroleum Products," ASTM standard D323.

(ii) Representative sampling methods for:

(a) Soil or rock-like material- ASTM standard D420-69.

(b) Fly ash-like material- ASTM standard D2234-76, approved in 1976.



- (c) Extremely viscous liquid- ASTM standard D140-70, approved in 1970.
- (d) Crushed or powdered material- ASTM Standard D346-75, approved in 1975.
- (e) Soil like material- ASTM Standard D1452-65, approved in 1965.
- (9) Available from the "National Association of Corrosion Engineers" (NACE) at www.nace.org:
- (a) "Recommended Practice (RP-02-85)- Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems."
- (b) [Reserved.]
- (10) Available for purchase from the "International Chamber of Commerce," "Uniform Customs and Practices for Documentary Credits" (also known as the "Uniform Commercial Code") at <https://2go.iccwbo.org/>.
- (11) Available for purchase from the "National Fire Protection Association (NFPA), 1 Batterymarch Park, P.O. Box 9101, Quincy, MA" 02269-9101 or www.nfpa.org:
- (a) "Flammable and Combustible Liquids Code" NFPA 30 (2018).
- (b) "Flammable and Combustible Liquids Code" NFPA 704 (2017).
- (12) Available for purchase from the "Organisation for Economic Cooperation and Development, Environment (OECD) Directorate, 2 rue Andre Pascal, F-75775 Paris Cedex 16, France," or at www.oecdlibrary.org/.
- (a) "Guidance Manual for the Control of Transboundary Movements of Recoverable Wastes, copyright 2009, Annex B: OECD Consolidated List of Wastes Subject to the Green Control Procedures, and Annex C: OECD Consolidated List of Wastes Subject to the Amber Control Procedure."



(b) [Reserved.]

(13) Available from libraries: "STI Standard for Dual-Wall Underground Steel Storage Tanks."