

## Chapter NR 484

## INCORPORATION BY REFERENCE

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NR 484.03	Code of federal regulations and other materials in chs. NR 400 to 404	NR 484.09	Other materials in chs. NR 445 to 483
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**NR 484.01 Applicability; purpose.** (1) **APPLICABILITY.** This chapter applies to all air contaminant sources governed by chs. NR 400 to 499 and to their owners and operators.

(2) **PURPOSE.** This chapter is adopted under ss. 144.31 (1) and 227.21 (2), Stats., to incorporate by reference testing, monitoring and other technical standards, established by the federal government and technical societies and organizations, to which reference is made in chs. 400 to 499.

**History:** Cr. Register, September, 1986, No. 369, eff. 10-1-86; am. Register, September, 1987, No. 381, eff. 10-1-87; am. Register, February, 1990, No. 410, eff. 3-1-90; am. Register, May, 1992, No. 437, eff. 6-1-92.

**NR 484.02 Definitions.** The definitions contained in ch. NR 400 apply to the terms used in this chapter.

**History:** Cr. Register, September, 1986, No. 369, eff. 10-1-86.

**NR 484.03 Code of federal regulations and other materials in chs. NR 400 to 404.** The federal regulations or appendix materials in effect on July 1, 1990 and other materials listed in this section are incorporated by reference for the corresponding sections of chs. NR 400 to 404. Copies of these materials are available for inspection in the offices of the department of natural resources, secretary of state and revisor of statutes, Madison, Wisconsin or may be purchased for personal use from the superintendent of documents, U.S. government printing office, Washington, DC 20402, or from the organization listed in the applicable subsection.

(1) Appendices A to K of 40 CFR part 50 for ss. NR 404.02 (4m), (8) and (11), 404.04 (5) and (8) (b) 3 and 404.06 (2).

(2) 40 CFR part 53 for s. NR 404.02 (4m).

(3) Appendix A of 40 CFR part 60 for s. NR 400.02 (77).

(4) Fundamentals of Smoke Abatement, December, 1950, Ringlemann Chart, Information Circular 7588, U.S. bureau of mines, for s. NR 400.02 (80m). Copies may be obtained from the U.S. department of interior, Washington, DC 20240.

(5) Standard Industrial Classification Manual, 1987, for s. NR 400.02 (91). Copies may be obtained from the National Technical Information Service, 5285 Port Royal Road, Springfield VA 22161 using order no. PB 87-100012.

(6) The following materials may be purchased from the American Society for Testing and Materials, 1916 Race Street, Philadelphia PA 19103:

(a) ASTM D240-87, Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter, for s. NR 400.02 (43e).

(b) ASTM D396-89a, Standard Specification for Fuel Oils, for s. NR 400.02 (80).

(c) ASTM D1826-88, Standard Test Method for Calorific Value of Gases in Natural Gas Range by Continuous Recording Calorimeter, for s. NR 400.02 (43e).

(d) ASTM D2015-91, Standard Test Method for Gross Calorific Value of Coal and Coke by the Adiabatic Bomb Calorimeter, for s. NR 400.02 (43e).

History: Cr. Register, December, 1988, No. 396, eff. 1-1-89; am. (3), Register, September, 1989, No. 405, eff. 10-1-89; renum. from NR 484.06, Register, February, 1990, No. 410, eff. 3-1-90; am. (intro.) and (3), cr. (6), Register, August, 1991, No. 428, eff. 9-1-91; am. (intro.), r. (2) and (4), renum. (1), (3), (5) and (6) to be (3), (1), (2) and (5) and am. (1) and (5), (3) renum. from NR 484.04 (3) and am., Register, May, 1992, No. 437, eff. 6-1-92; renum. (5) to be (6) and am., cr. (5), Register, May, 1993, No. 449, eff. 6-1-93.

**NR 484.04 Code of federal regulations and other materials in chs. NR 405 to 418.** The federal regulations or appendix materials in effect on July 1, 1990 and other materials listed in this section are incorporated by reference for the corresponding sections of chs. NR 405 to 418. Copies of these materials are available for inspection in the offices of the department of natural resources, secretary of state and revisor of statutes, Madison, Wisconsin or may be purchased for personal use at the address noted in the corresponding subsection.

(1) The code of federal regulations documents listed in this subsection may be purchased from the superintendent of documents, U.S. government printing office, Washington DC 20402.

(a) Section IV, Appendix S of 40 CFR part 51 for s. NR 405.11 (1) (e).

(b) Appendix B of 40 CFR part 58 for s. NR 405.11 (3).

(2) The following materials may be purchased from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161:

(a) Workbook for the Comparison of Air Quality Models (U.S. environmental protection agency, office of air quality planning and standards, Research Triangle Park, NC 27711, May 1978) for s. NR 405.10 (5).

(b) Federal Information Processing Standards Publication 8-5, 1984 October 31, Metropolitan Statistical Areas (including CMSAs, PMSAs, and NECMAs), U.S. department of commerce, national bureau of standards, for s. NR 406.02 (3).

(c) Guidelines on Air Quality Models (Revised) (OAQPS 1.2-080, U.S. environmental protection agency, office of air quality planning and standards, Research Triangle Park, NC 27711, July 1986) for s. NR 405.10 (1).

(d) Standard Industrial Classification Code Manual, 1987, NTIS order no. PB 87-100012, for s. NR 405.02 (8), 407.04 (1) (a), 408.02 (5) and 410.02 (4).

(4) American National Standard for Domestic Gas-Fired Incinerators, number Z21.6 - 1973, approved April 4, 1973 by American National Standards Institute, Inc., with addenda Z21.6a - 1975, approved October 2, 1975, and addenda Z21.6b - 1978, approved June 28, 1978, for s. NR 415.07 (1) (b) 2 and (2) (a) 4. Copies of this standard and addenda may be obtained from the American Gas Association Laboratories, 8501 East Pleasant Valley Road, Cleveland, OH 44131.

(5) ASME standard number APS-1, second edition, November, 1968, copyright 1969, for ss. NR 415.06 (1) (a), (b) and (c) 1 and 418.035. Copies of standard number APS-1 may be obtained from the American Society of Mechanical Engineers, 345 East 47th Street, New York, NY 10017.

(6) ASTM C136-84a, Standard Method for Sieve Analysis of Fine and Coarse Aggregates, for s. NR 415.02 (9). Copies may be obtained from the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

**History:** Cr. Register, August, 1991, No. 428, eff. 9-1-91; am. (intro.), (5) and (6), renum. (3) to be NR484.03 (4) and am., renum. (4) and (7) to be (3) and (4) and am. (4), Register, May, 1992, No. 437, eff. 6-1-92; renum. (2), (3) (intro.) (a) to (c) to be (2) (d), (intro.), (c), (a) and (b) and am. (2) (d), Register, May, 1993, No. 449, eff. 6-1-93.

**NR 484.05 Code of federal regulations and other materials in chs. NR 419 to 438.** The federal regulations or appendix materials in effect on July 1, 1990 and other materials listed in this section are incorporated by reference for the corresponding sections of chs. NR 419 to 438. Copies of these materials are available for inspection in the offices of the department of natural resources, secretary of state and revisor of statutes, Madison, Wisconsin or may be purchased for personal use from the superintendent of documents, U.S. government printing office, Washington, DC 20402, or from the organization listed in the applicable subsection.

(1) Test Method 21 in Appendix A of 40 CFR part 60 is incorporated by reference for ss. NR 420.02 (39m), 421.02 (12m), 421.05 (2) (e) and 421.06 (2) (e).

(2) National Bureau of Standards, Voluntary Product Standard PS-59-73, Prefinished Hardwood Paneling, for s. NR 422.02 (7). Copies of this document may be obtained from the National Institute of Standards and Technology, Quince Orchard and Clopper Roads, Gaithersburg, MD 20899.

(3) The following materials may be purchased from the National Technical Information Service, 5285 Port Royal Road, Springfield VA 22161:

(a) Recommended Industrial Ventilation Guidelines, U.S. department of health, education and welfare, national institute of occupational safety and health, 1976, NTIS order no. PB-266 227, for s. NR 421.04 (3) (c) 2.

(b) Standard Industrial Classification Manual, 1987, NTIS order no. PB 87-100012, for s. NR 438.02 (1).

(c) Compilation of Air Pollutant Emission Factors, USEPA-OAQPS, AP-42, Volume 1: Stationary Point and Area Sources, as amended by Supplement B in September, 1989, Supplement C in September, 1990, and Supplement D in September, 1991, for s. NR 438.03 (5).

(d) Toxic Air Pollutant Emission Factors for Selected Air Toxic Compounds and Sources, USEPA-OAQPS, EPA-450/2-90-066a, October, 1990, for s. NR 438.03 (5).

(e) AIRS Facility Subsystem source Class Codes and Emission Factors, EPA 450/4-90-003, March, 1990, for s. NR 438.02 (2).

(4) Industrial Ventilation: A Manual of Recommended Practice, 20th ed., American Conference of Governmental Industrial Hygienists, 1988, for s. NR 421.04 (3) (c) 1. Copies may be obtained from the American Conference of Governmental Industrial Hygienists, Committee on Industrial Ventilation, 6500 Glenway Ave., Building D-7, Cincinnati, OH 45211.

(5) The Architectural Aluminum Manufacturer's Association publication number AAMA 605.2-1985 is incorporated by reference for s. NR 422.02 (21m). The publication may be purchased for personal use from the Architectural Aluminum Manufacturer's Association, 2700 River Road, Suite 118, Des Plaines, IL 60018.

(6) American Petroleum Institute Publication 2517, Evaporative Loss from External Floating Roof Tanks, 3rd edition, February 1989 for s. NR 420.02 (33) and 420.03 (3) (c). Copies may be obtained from the American Petroleum Institute, 1220 L Street, NW, Washington, DC 20005.

(7) The following materials may be purchased from the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

(a) ASTM D97-87, Standard Test Methods for Pour Point of Petroleum Oils, for s. NR 420.02 (41).

(b) ASTM D323-89, Standard Test Method for Vapor Pressure of Petroleum Products (Reid Method), for s. NR 420.02 (31).

(c) ASTM D396-89a, Standard Specification for Fuel Oils, for s. NR 420.03 (1) (a).

(d) ASTM D975-89a, Standard Specification for Diesel Fuel Oils, for s. NR 420.03 (1) (a).

(e) ASTM D2880-89, Standard Specification for Gas Turbine Fuel Oils, for s. NR 420.03 (1) (a).

(8) The 1990-1991 Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, published by the American conference of governmental industrial hygienists (publication ISBN: 0-936712-86-4), is incorporated by reference for s. NR 438.03 (1) (b). This publication may be purchased for personal use from the American Conference of Governmental Industrial Hygienists (ACGIH), 6500 Glenway Avenue, Cincinnati, OH 45211.

**History:** Cr. (intro.) and (1), (2) renum. from NR 484.03 (2) and am. Register, February, 1990, No. 410, eff. 3-1-90; cr. (2) to (4), (6) and (7), renum. (2) to be (5), Register, August, 1991, No. 428, eff. 9-1-91; am. (1), (4) to (6), renum (7) (a) to (c) to be (7) (c) to (e) and am., Register, May, 1993, No. 449

cr. (7) (a) and (b), Register, May, 1992, No. 437, eff. 6-1-92; am. (1), Register, January, 1993, No. 445, eff. 2-1-93; am. (3), cr. (3) (b) to (e) and (8), Register, May, 1993, No. 449, eff. 6-1-93.

**NR 484.06 Code of federal regulations and other materials in ch. NR 439.**  
(1) APPENDICES OF 40 CFR PART 60. Appendices A and B of 40 CFR part 60 and test methods in these appendices, as in effect on July 1, 1990, are incorporated by reference for ch. NR 439. Copies of these appendices are available for inspection in the offices of the department of natural resources, secretary of state and revisor of statutes, Madison, Wisconsin, or may be purchased for personal use from the superintendent of documents, U.S. government printing office, Washington, DC 20402.

(2) OTHER MATERIALS. The materials listed in this subsection are incorporated by reference for the corresponding sections noted. Some of the materials are also incorporated for Appendix A or B of 40 CFR part 60 as in effect on July 1, 1990. Since these Appendices are incorporated by reference in this chapter by sub. (1), materials listed in this subsection which are incorporated by reference for the Appendices are hereby also incorporated by reference and made a part of this chapter and ch. NR 439. The materials are available for inspection in the offices of the department of natural resources, secretary of state and revisor of statutes, Madison, Wisconsin or may be purchased for personal use at one of the following addresses: American Society for Testing and Materials (ASTM), 1916 Race Street, Philadelphia, PA 19103; or the University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106; or the address listed in the applicable paragraph.

(a) ASTM D129-64 (1978), Standard Test Method for Sulfur in Petroleum Products (General Bomb Method), for 40 CFR part 60, Appendix A, Method 19 and for s. NR 439.08 (2) (b).

(b) ASTM D240-87, Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter, for 40 CFR part 60, Appendix A, Method 19 and for s. NR 439.08 (2) (c).

(c) ASTM D1193-77 (1983), Standard Specification for Reagent Water, for 40 CFR part 60, Appendix A, Method 6, par. 3.1.1., Method 7, par. 3.2.2., Method 7A, par. 3.2., Method 7C, par. 3.1.1., Method 7D, par. 3.1.1., Method 8, par. 3.1.3., Method 11, par. 6.1.3., Method 12, par. 4.1.3., and Method 13A, par. 6.1.2.

(d) ASTM D1475-60 (1980), Standard Test Method for Density of Paint, Varnish, Lacquer, and Related Products, for 40 CFR part 60, Appendix A, Method 24, par. 2.1. and Method 24A, pars. 2.2. and 2.3.

(e) ASTM D1826-77, Standard Test Method for Calorific Value of Gases in Natural Gas Range by Continuous Recording Calorimeter, for 40 CFR part 60, Appendix A, Method 19.

(f) ASTM D2013-86, Standard Method of Preparing Coal Samples for Analysis, for 40 CFR part 60, Appendix A, Method 19 and for s. NR 439.08 (1) (b).

(g) ASTM D2015-85, Standard Test Method for Gross Calorific Value of Coal and Coke by the Adiabatic Bomb Calorimeter, for 40 CFR part 60, Appendix A, Method 19 and for s. NR 439.08 (1) (d).

(h) ASTM D2234-89, Standard Test Methods for Collection of a Gross Sample of Coal, for 40 CFR part 60, Appendix A, Method 19 and for ss. NR 439.08 (1) (a) and 439.085 (2) (a) 1, (b) 1 and (c) 1.

(i) ASTM D2369-81, Standard Test Method for Volatile Content of Coatings, for 40 CFR part 60, Appendix A, Method 24, par. 2.2.

(j) ASTM D2986-71 (1978), Standard Method for Evaluation of Air Assay Media by the Monodisperse DOP (Diocetyl Phthalate) Smoke Test, for 40 CFR part 60, Appendix A, Method 5, par. 3.1.1., Method 12, par. 4.1.1., Method 13A, par. 6.1.1.2., and Method 17, par. 3.1.1.

(k) ASTM D3173-87, Standard Test Method for Moisture in the Analysis Sample of Coal and Coke, for 40 CFR part 60, Appendix A, Method 19 and for s. NR 439.08 (1) (f).

(l) ASTM D3174-89, Standard Test Method for Ash in the Analysis Sample of Coal and Coke From Coal, for s. NR 439.08 (1) (e).

(m) ASTM D3176-89, Standard Practice for Ultimate Analysis of Coal and Coke, for s. NR 439.08 (1) (g).

(n) ASTM D3177-89, Standard Test Methods for Total Sulfur in the Analysis Sample of Coal and Coke, for 40 CFR part 60, Appendix A, Method 19 and for s. NR 439.08 (1) (c).

(o) ASTM D3792-79, Standard Test Method for Water Content of Water-Reducible Paints by Direct Injection into a Gas Chromatograph, for 40 CFR part 60, Appendix A, Method 24, par. 2.3.

(p) ASTM D4017-81, Standard Test Method for Water in Paints and Paint Materials by Karl Fischer Method, for 40 CFR part 60, Appendix A, Method 24, par. 2.4.

(q) ASTM D4057-88, Standard Practice for Manual Sampling of Petroleum and Petroleum Products, for s. NR 439.08 (2) (a).

(r) ASTM D4177-82, Standard Method for Automatic Sampling of Petroleum and Petroleum Products, for s. NR 439.08 (2) (a).

(s) ASTM D4239-85, Standard Test Methods for Sulfur in the Analysis Sample of Coal and Coke Using High Temperature Tube Furnace Combustion Methods, for 40 CFR part 60, Appendix A, Method 19 and for s. NR 439.08 (1) (c).

(t) ASTM D4294-83, Standard Test Method for Sulfur in Petroleum Products by Non-Dispersive X-Ray Fluorescence Spectrometry, for s. NR 439.08 (2) (b).

(u) San Diego Air Pollution Control District Test Procedure TP-91-1, Pressure Decay/Leak Test Procedure, Phase I and Phase II Vapor Recovery Installations, for s. NR 439.06 (3) (i). Copies may be obtained from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161 or from the San Diego Air Pollution Control District, 9150 Chesapeake Drive, San Diego, CA 92123-1095.

(v) San Diego Air Pollution Control District Test Procedure TP-91-2, Pressure Drop vs. Flow/Liquid Blockage Test Procedure, Phase II Balance System Installations, for s. NR 439.06 (3) (i). Copies may be obtained from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161 or from the San Diego Air Pollution Control District, 9150 Chesapeake Drive, San Diego, CA 92123-1095.

History: Cr. Register, September, 1987, No. 381, eff. 10-1-87; renum. from NR 484.04 and am. (1) (b) and (2) (c), cr. (1) (zp), Register, February, 1990, No. 410, eff. 3-1-90; renum. (1) (zk) to (zp) to be (zl) to (zp) and (zk), renum. (2) (a) to (t) to be (j), (c), (h), (f), (n), (s), (k), (g), (l), (q), (r), (b), (a), (t), (e), (d), (i), (o), (p) and (m), and am. (c), (l) and (t), Register, August, 1991, No. 428, eff. 9-1-91; am. (1) (intro.), (2) (intro.), (a) to (c), (e) to (h), (k) to (t), Register, May, 1992, No. 437, eff. 6-1-92; am. (2) (intro.), cr. (2) (u) and (v), Register, January, 1993, No. 445, eff. 2-1-93.

**NR 484.08 Code of federal regulations in chs. NR 445 to 483.** The federal regulations or appendix materials in effect on July 1, 1990 listed in this section are incorporated by reference for the corresponding sections of chs. NR 445 to 483. Copies of these materials are available for inspection in the offices of the department of natural resources, secretary of state and revisor of statutes, Madison, Wisconsin or may be purchased for personal use from the superintendent of documents, U.S. government printing office, Washington DC 20402.

(1) 29 CFR s. 1910.145 (d) (4) for ss. NR 447.12 (4) (a) 2, 447.14 (2) (a) 2 and 447.17 (2) (a) 2.

(2) 29 CFR s. 1910.1001 (j) (2) or 1926.58 (k) (2) (iii) for s. NR 447.13 (1) (a) 4.

(3) 29 CFR s. 1926.58, appendix G for s. NR 447.02 (20) Note.

(4) Test Method 3, Appendix A of 40 CFR part 60 for s. NR 449.09 (6) (a) 3.

(5) Test Method 5, Appendix A of 40 CFR part 60 for Test Method 101, Appendix B, 40 CFR part 61.

(6) Appendix B of 40 CFR part 61 for s. NR 445.02 (9m) and chs. NR 446 to 483.

(7) 40 CFR s. 61.07 for s. NR 447.18 (1) Note.

(8) 40 CFR s. 61.10 and Appendix A of 40 CFR part 61 for s. NR 447.16 (2).

(9) Subpart F, appendix A, section 1, of 40 CFR part 763, Polarized Light Microscopy, for ss. NR 447.02 (1), (16), (27) and (36) and 447.09 (1).

History: Renum. from NR 154.19 (7) (a) and am. Register, September, 1986, No. 369, eff. 10-1-86; am. (1), Register, December, 1988, No. 396, eff. 1-1-89; renum. from NR 484.025 and am. (intro.), (4) and (5), Register, February, 1990, No. 410, eff. 3-1-90; am. (intro.), renum. (1) to (5) to be (5), (3), (4), (1) and (2), Register, May, 1992, No. 437, eff. 6-1-92; am. (1) and (2), renum. (3) to (5) to be (4) to (6), cr. (3) and (7) to (9), Register, October, 1992, No. 442, eff. 11-1-92.

Register, January, 1993, No. 445

**NR 484.09 Other materials in chs. NR 445 to 483.** The materials listed in this section are incorporated by reference for the corresponding sections noted. Some of the materials are also incorporated for Appendix B of 40 CFR part 61 as in effect on July 1, 1990. Since Appendix B is incorporated by reference in s. NR 484.08, materials incorporated by reference for that Appendix are hereby also incorporated by reference and made a part of this section. The materials are available for inspection in the offices of the department of natural resources, secretary of state and revisor of statutes, Madison, Wisconsin or may be purchased for personal use at the corresponding address noted.

(1) The following materials are available for purchase from at least one of the following addresses: American Society for Testing and Materials (ASTM), 1916 Race Street, Philadelphia, PA 19103, or the University Microfilms International, 300 North Zeeb Raod, Ann Arbor, MI 48106.

(a) ASTM D737-75 (1980), Standard Test Method for Air Permeability of Textile Fabrics, for s. NR 447.15 (1) (a) 1.

(b) ASTM D1193-77 (1983), Standard Specification for Reagent Water, for 40 CFR part 61, Appendix B, Method 101, par. 6.1.1.

(c) ASTM D2986-71 (1978), Standard Method for Evaluation of Air Assay Media by the Monodisperse DOP (Dioctyl Phthalate) Smoke Test, for 40 CFR part 60, Appendix A, Method 5, par. 3.1.1.

(2) The threshold limit values and biological exposure indices for 1987-1988, published by the American conference of governmental industrial hygienists (publication ISBN: 0-936712-72-4), are incorporated by reference for ss. NR 445.04 (1) (a) 1 and 2 and (b) and (2) (a) and (b) and 445.05 (1) (a) 1 and 2 and (b) and (2) (a) and (b). This publication may be purchased for personal use from the American Conference of Governmental Industrial Hygienists (ACGIH), 6500 Glenway Avenue, Cincinnati, OH 45211.

(3) The 1990-1991 Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, published by the American conference of governmental industrial hygienists (publication ISBN: 0-936712-86-4), is incorporated by reference for ss. NR 445.04 (4) (a) 1 and 2 and (b), 445.05 (4) (a) 1 and 2 and (b) and 445.06 (4). This publication may be purchased for personal use from the American Conference of Governmental Industrial Hygienists (ACGIH), 6500 Glenway Avenue, Cincinnati, OH 45211.

(4) Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects, FP-85, Section 401, 1985, is incorporated by reference for s. NR 447.04 (1) (c).

**History:** Renum. from NR 154.19 (7) (b) and am. Register, September, 1986, No. 369, eff. 10-1-86; cr. (2), Register, July, 1988, No. 391, eff. 8-1-88; renum. from NR 484.03 and 484.05 and am. (intro.) and (1) (a), renum (2) to be NR 484.05 (2), Register, February, 1990, No. 410, eff. 3-1-90; am. (intro.), (1) (a) to (c) and (2), cr. (3), Register, May, 1992, No. 437, eff. 6-1-92; am. (1) (a), cr. (4), Register, October, 1992, No. 442, eff. 11-1-92.