

Chapter NR 421

CONTROL OF ORGANIC COMPOUND EMISSIONS FROM
CHEMICAL, COATINGS AND RUBBER PRODUCTS
MANUFACTURING

NR 421.01	Applicability; purpose	NR 421.05	Synthetic resin manufacturing
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NR 421.01 Applicability; purpose. (1) **APPLICABILITY.** This chapter applies to all chemical, coatings and rubber products manufacturing air contaminant sources and to their owners and operators.

(2) **PURPOSE.** This chapter is adopted under ss. 144.31 and 144.38, Stats., to categorize organic compound emissions from chemical, coatings and rubber products manufacturing sources into separate organic compound air contaminant source categories and to establish emission limitations for these categories of sources in order to protect air quality.

History: Cr. Register, September, 1986, No. 369, eff. 10-1-86; am. Register, February, 1990, No. 410, eff. 3-1-90.

NR 421.02 Definitions.

(1) "Bead dipping" means the dipping of an assembled tire bead into a solvent based cement.

(2) "Blending tank" means any vessel in which resin, coating or other materials, or any combination thereof, are added to produce product blend.

History: Renum. from NR 154.01, cr. (1m), (2e), (2s), (4e), (4s), (9m), (10e), (10s), (11e) and (11s), Register, September, 1986, No. 369, eff. 10-1-86; renum. (2) and (5) to be NR 400.02 (22) and (51m), cr. (12m), Register, February, 1990, No. 410, eff. 3-1-90; renum. (10) and (11) to be (10w) and (11w) under s. 13.93 (2m) (b) 1, Stats., Register, August, 1990, No. 416; renum. (1m) to be (2), Register, May, 1992, No. 437, eff. 6-1-92; am. (2e) and (11e), Register, December, 1993, No. 456, eff. 1-1-94.

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NR 421.03 Chemical manufacture. (1) PHARMACEUTICAL MANUFACTURE. (a) *Applicability.* This subsection applies, subject to the provisions of s. NR 425.03, to all operations at pharmaceutical manufacturing facilities involved in the manufacture of pharmaceutical products by chemical synthesis, with the exception of any reactor, distillation unit, dryer, filter, crystallizer, centrifuge, or other individual operation that has an actual emission rate of less than 6.8 kilograms per day (15 pounds per day) with all emission control equipment inoperative.

(b) *Emission control requirements.* Except as provided under par. (a), the owner or operator of a synthesized pharmaceutical manufacturing facility shall:

1. Equip each vent from reactors, distillation operations, crystallizers, centrifuges, or vacuum dryers with surface condensers or an equally effective control device as approved by the department. If a surface condenser is used, the condenser outlet gas temperature may not exceed:

a. -25°C (-13°F) for VOCs with vapor pressure greater than 40 kPa (5.8 psia) as measured at 20°C (68°F);

b. -15°C (5°F) for VOCs with vapor pressure between 20 kPa (2.9 psia) and 40 kPa (5.8 psia) as measured at 20°C (68°F);

c. 0°C (32°F) for VOCs with vapor pressure between 10 kPa (1.5 psia) and 20 kPa (2.9 psia) as measured at 20°C (68°F);

d. 10°C (50°F) for VOCs with vapor pressure between 7 kPa (1.0 psia) and 10 kPa (1.5 psia) as measured at 20°C (68°F);

e. 25°C (77°F) for VOCs with vapor pressure between 3.5 kPa (0.5 psia) and 7 kPa (1.0 psia) as measured at 20°C (68°F).

2. Limit the VOC emissions from air dryer exhaust systems and production equipment exhaust systems to 15.0 kilograms per day (33 pounds per day) or to 10% of the uncontrolled emission rate of the system, whichever is less stringent.

3. Enclose all centrifuges, rotary vacuum filters, and any other filters having an exposed liquid surface, where the liquid contains VOCs and exerts a total VOC vapor pressure of 3.5 kPa (0.5 psia) or more at 20°C (68°F).

4. Install covers on all in-process tanks that contain a VOC at any time. Covers are to be closed except for necessary operator access during production, sampling, maintenance or inspection.

5. Repair all visually detectible leaks of liquid VOCs the first time the equipment is off-line for a period long enough to complete the repair.

(2) TRANSFER OF VOCs AT PHARMACEUTICAL MANUFACTURING FACILITIES. (a) *Applicability.* Subject to the provisions of s. NR 425.03, this subsection applies to all storage vessels for VOCs of more than 7,751 liter (2,000 gallon) capacity at a synthetic pharmaceutical manufacturing facility.

(b) *Emission reduction requirements.* No owner or operator of a synthetic pharmaceutical manufacturing facility may permit the delivery of VOCs with vapor pressure in excess of 28.0 kPa (4.1 psia) at 20°C from a truck or railcar to the storage vessel unless a vapor balance or equivalent

control system is provided. The system must be at least 90% effective in reducing emissions from transfer operations.

(3) STORAGE OF VOCs AT PHARMACEUTICAL MANUFACTURING FACILITIES. (a) *Applicability.* This subsection applies, subject to the provisions of s. NR 425.03, to all storage vessels for VOCs of more than 3,785 liters (1,000 gallon) capacity at synthetic pharmaceutical manufacturing facilities.

(b) *Storage requirements.* The owner or operator of any storage vessel shall install pressure-vacuum conservation vents set at ± 0.2 kPa, or an equally effective control device approved by the department, on all storage vessels that store VOCs with vapor pressures in excess of 10.5 kPa (1.52 psia) at 21°C (70°F).

History: Renum. from NR 154.13 (2) (b), (3) (e) and (9) and am., Register, September, 1986, No. 369, eff. 10-1-86; am. (1) (b) 1. and (2) (b), Register, February, 1990, No. 410, eff. 3-1-90; am. (1) (a), Register, December, 1993, No. 456, eff. 1-1-94.

NR 421.05 Synthetic resin manufacturing. (1) APPLICABILITY. (a) Effective October 1, 1986, this section applies to reaction tanks, thinning tanks, blending tanks and other process vessels used in any synthetic resin manufacturing facility which has maximum theoretical emissions of VOCs from the processes greater than or equal to 100 tons per year and which is located in the county of Kenosha, Milwaukee, Ozaukee, Racine, Washington or Waukesha.

(b) Effective January 1, 1994, this section applies to reaction tanks, thinning tanks, blending tanks and other process vessels used in any synthetic resin manufacturing facility which:

1. Has maximum theoretical emissions of VOCs from the processes greater than or equal to 25 tons per year and which is located in the county of Kenosha, Milwaukee, Ozaukee, Racine, Washington or Waukesha, or

2. Has maximum theoretical emissions of VOCs from the processes greater than or equal to 100 tons per year and which is located in the county of Door, Kewaunee, Manitowoc, Sheboygan or Walworth.

(2) EMISSION CONTROL REQUIREMENTS. The owner or operator of a synthetic resin manufacturing facility shall:

(a)

1. A surface condenser, or equally effective control device approved by the department, and a vapor recovery or control system that reduces emissions from the surface condenser or equally effective device by 85%, or

2. An equivalent system or approach demonstrated to reliably control emissions from a process that does not include a condenser by not less than 90% as approved by the department.

(b) If a surface condenser is used, continuously record the condenser outlet gas temperature, and prevent the condenser outlet gas temperature from exceeding 32°C (90°F).

(c) Enclose all centrifuges, rotary vacuum filters, and any other filters having an exposed liquid surface, where the liquid contains VOCs;

(d) Install covers on all in-process tanks that contain a VOC at any time. Covers shall be closed except for necessary operator access during production, sampling, maintenance or inspection;

(e) Monitor each valve, pump, sealed agitator, compressor, flange and relief valve used with a process stream which contains at least 10.0% VOCs by weight using Method 21 of Appendix A, 40 CFR part 60, incorporated by reference in ch. NR 484. The monitoring schedule shall be as follows:

(f) Check bimonthly by visual inspection each valve, pump, sealed agitator, compressor, flange and relief valve for indications of dripping liquid.

(g) Repair all leaks detected as soon as practicable, but not later than 15 calendar days after leak detection unless the repair is technically in-

feasible without a process unit shutdown. In the case of such infeasibility, repair shall occur before the end of the next process unit shutdown.

(h) Document to the department all repairs of detectable leaks of VOCs for each calendar quarter. This documentation is to include a description of the equipment that leaked, date of detection, date of repair, dates of follow-up inspection, and an explanation of what caused the leak. This documentation is to be submitted to the department within one month after the close of the calendar quarter during which the leaks were detected and repaired.

(3) COMPLIANCE SCHEDULE. (a) This subsection applies only to a synthetic resin manufacturing facility which is in existence on January 1, 1994 and which is:

1. Located in the county of Door, Kewaunee, Manitowoc, Sheboygan or Walworth, or

2. Located in the county of Kenosha, Milwaukee, Ozaukee, Racine, Washington or Waukesha and which was not subject to this section prior to January 1, 1994.

(b) The owner or operator of any source identified under par. (a) shall:

1. Notify the department's bureau of air management in writing by April 1, 1994. This notification shall provide the name and location of the affected facility and include VOC emission data if necessary to support eligibility under this subsection.

2. Achieve final compliance with the requirements of this section no later than May 31, 1995.

History: Cr. Register, September, 1986, No. 369, eff. 10-1-86; am. (1), (2) (a) 1. and b. and (b), (3) (b) and (c) 4., r. and recr. (2) (e), renum. (2) (f) to be (2) (h) and am., cr. (2) (f) and (g), r. (3) (c) 5., Register, February, 1990, No. 410, eff. 3-1-90; am. (1), (2) (a) (intro.) and (b), cr. (1) (b), r. and recr. (3), Register, December, 1993, No. 456, eff. 1-1-94.

NR 421.06 Coatings manufacturing. (1) APPLICABILITY.

(b) Effective January 1, 1994, this section applies to pigment dispersion chambers, thinning tanks, tinting, straining, blending tanks and other process vessels used in any coating manufacturing facility which:

1. Has maximum theoretical emissions of VOCs from the processes greater than or equal to 25 tons of VOCs per year and is located in the county of Kenosha, Milwaukee, Ozaukee, Racine, Washington or Waukesha, or

2. Has maximum theoretical emissions of VOCs from the processes greater than or equal to 100 tons of VOCs per year and is located in the county of Door, Kewaunee, Manitowoc, Sheboygan or Walworth.

(2) EMISSION CONTROL REQUIREMENTS.

(a) Keep all portable mixing vats covered with lids, except to add ingredients or to take samples. The lids:

1. Shall extend at least $\frac{1}{2}$ inch beyond the outer rim of the vat or be attached to the rim of the vat;

2. Shall be maintained in good condition such that, when in place, they the rim of the vat; and

3. May have a slit to allow clearance for insertion of a mixer shaft. The slit shall be covered after insertion of the mixer, except to allow safe clearance for the mixer shaft.

(b) Keep all stationary vats covered, except to add ingredients or take samples;

(c) Clean all portable mixing vats, stationary vats, high speed dispersion mills, grinding mills, and roller mills in a way which minimizes the emissions of VOCs into the atmosphere and which is approved by the department;

(d) Equip any grinding mill installed after October 1, 1986 with fully enclosed screens;

(e) Monitor each valve, pump, sealed agitator, compressor, flange and relief valve used with a process stream which contains at least 10.0 percent VOCs by weight using Method 21 of Appendix A, 40 CFR part 60, incorporated by reference in ch. NR 484. The monitoring schedule shall be as follows:

(f) Check bimonthly by visual inspection each valve, pump, sealed agitator, compressor, flange and relief valve for indications of dripping liquid.

(g) Repair all leaks detected as soon as practicable, but not later than 15 calendar days after leak detection unless the repair is technically in-feasible without a process unit shutdown. In the case of such in-feasibility, repair shall occur before the end of the next process unit shutdown.

(h) Document to the department all repairs of detectable leaks of VOCs for each calendar quarter. This documentation is to include a description of the equipment that caused the leak, date of detection, date of repair, date of follow-up inspection, and an explanation of what caused the leak. This documentation is to be submitted to the department within one month after the close of the calendar quarter during which the leaks were detected and repaired.

(3) COMPLIANCE SCHEDULE. (a) This subsection applies only to a coating manufacturing facility which is in existence on January 1, 1994 and which is:

1. Located in the county of Door, Kewaunee, Manitowoc, Sheboygan or Walworth, or

2. Located in the county of Kenosha, Milwaukee, Ozaukee, Racine, Washington or Waukesha and which was not subject to this section prior to January 1, 1994.

(b) The owner or operator of any source identified under par. (a) shall:

1. Notify the department's bureau of air management in writing by April 1, 1994. This notification shall provide the name and location of the affected facility and include VOC emission data if necessary to support eligibility under this subsection.

2. Achieve final compliance with the requirements of this section no later than May 31, 1995.

History: Cr. Register, September, 1986, No. 369, eff. 10-1-86; am. (1) and (3) (c) 4., r. and recr. (2) (e), renum. (2) (f) to be (2) (h) and am., cr. (2) (f) and (g), r. (3) (c) 5., Register, February, 1990, No. 410, eff. 3-1-90; am. (1), cr. (1) (b), r. and recr. (3), Register, December, 1993, No. 456, eff. 1-1-94.

ORDER OF THE STATE OF WISCONSIN
NATURAL RESOURCES BOARD REPEALING, RENUMBERING,
RENUMBERING AND AMENDING, AMENDING AND CREATING RULES

The Wisconsin Natural Resources Board adopts an order to **repeal** NR 400.02(61m), 405.02(5), 405.04(3), 415.09(1)(a) to (e), 417.06(3), 417.07(6)(a)1. to 5. and (b) to (d) and (9), 418.025(2)(intro.) and (a) to (e), 418.03(2)(intro.) and (a) to (e), 418.04(2)(a) to (e), 418.05(2), (3)(a) to (e), 418.06(2)(b) to (e), 418.07(2)(intro.) and (a) to (e), 421.04(4), 422.05(3), 422.09(2)(c), (3)(a), (c), (e), (f) and (h) and (4)(a), (c) and (e), 423.03(6)(b)1. to 5., 424.03(2)(b)1. and 2., 425.03(2)(a)1. to 5. and (b), (3)(a)1. to 7., (c)2., (d)1. to 4., (e)1. to 6. and (f), (4)(a)1. to 5. and (b), (5)(a)1. to 4., (b) and (c) and (6)(b)1. to 3., 439.095(2)(a) and (b), 447.02(4), 484.03(5) and (6), 484.11(1)(c), 485.045(1)(a), 488.06(1)(d) Note and 493.02(2); to **renumber** NR 400.02(100)(u), 411.02(6) and Note, 418.06(2)(f), 419.02(1m), (1p), (1s), (1t), (1u), (2), (3), (3c), (3e), (3m), (4), (6), (6m) and (7), 420.02(28), 421.02(2e) to (13), 422.02(1e) to (6), (7m) to (11m), (12d) to (33j), (34) to (47e), (48) to (52) and 499.07(2)(a) to (m); to **renumber and amend** NR 417.07(6)(a)(intro.), 418.025(2)(f), 418.03(2)(f), 418.07(2)(f), 419.02(8), 422.02(7), (12), (33m) and (47m), 424.03(2)(b)(intro.), 425.03(2)(a)(intro.), (4)(a)(intro.) and (5)(a)(intro.) and 499.07(2)(n)(intro.); to **amend** NR 30.03(2)(f), 30.04(2)(f), 400 Note, 400.02(41), (77), (79), (90) and (100)(t), 400.03(2), 401.04, 404.04(2)(a)1. and 2. and (6), 404.06(1)(a) and (4)(b), 405.01(2) Note, 405.02(1)(d), (2)(intro.), (3)(intro.) and (a), (4)(a)(intro.), 1. and 2. and (b)1. and 2., (7), (12), (21)(intro.), (b)3. and 5.a. and b., 6. and 8.a., (22)(a)1. and 2., (24)(d), (25g)(b) and (d), (25m)(a) and (c), (25s)(intro.) and (a), (27)(c) and (28), 405.04(1)(a) and (e), (4)(intro.) and (a), 405.05(1), (4)(intro.), (5) and (6), 405.07(3), (4)(intro.) and (b)27. and (5), 405.08(3), 405.10(4), 405.14(1), (2) and (4) 405.15(2)(d), 406.04(1)(intro.), (g), (h), (j) and (2)(intro.), (c), (f)3m., (h) and (i), (4)(a)6., 406.11(1)(f), 407.03(1)(g), (h), (o), (2)(b) and (4), 407.05(4)(c)1. and Table 2 footnote 8, 407.09(4)(a)3.c., 408.02(4), (20)(e)5.a. and b. and (21)(intro.), 409.02(76)(intro.), 409.06(8)(d), 415.02(5), 415.04(1)(b), (2)(a)(intro.), (b)(intro.) and (c)(intro.), (3)(a) and (4)(b), 415.05(2), 415.07(1)(a)(intro.), (b)(intro.) and 2., 415.075(2)(a)5., 415.08(1), 415.09(1)(intro.) and (3), 417.01(1), 417.02(intro.), 417.06(1) and (2), 417.07(7)(a)(intro.) and 1. to 3., 418.01(1), 418.04(1)(a)2. and (2)(intro.), 418.05(3)(intro.) and (4)(intro.), 418.06(2)(intro.), 419.02(intro.), 420.02(intro.), 420.03(1)(b), 420.035(2)(b) and (3)(c), 420.04(2)(a)(intro.) and 2., 420.045(1)(a), (b)(title), (c), (d)1.(intro.) and (e) and (10)(intro.), 421.02(intro.), 421.05(2)(a)(intro.), (2)(e)1. and 2., 421.06(2)(e)1. and 2., 422.03(intro.), (2), (3), (4), (4m)(b) and (c) and (5)(intro.), 422.04(1)(a), (2)(intro.) and (3)(b)(intro.), 422.132(1)(intro.) and (2)(b), 422.14(2)(c)(intro.), 423.02(intro.), 423.03(4)(intro.) and (m), (5)(intro.), (6)(a)(intro.) and (b)(intro.) and (9), 424.03(1)(a)3. and 4., 425.03(3)(a)(intro.), (b), (d)(intro.), (e)(intro.), (6)(b)(intro.), (7)(e), (7m)(intro.) and (a) and (8), 425.035(2)(f) and (3)(a)3. Note, 425.04(1)(b), 426.04, 429.02(intro.) and (1), 436.02(intro.), 436.05(2)(b) and (5), 438.03(1)(b) and Table 1, 439.03(1)(c) and (4)(a)(intro.), 439.075(2)(a)(intro.) and 4., 439.095(2)(intro.), 445.01(1), 445.02(intro.), (2) and (6), 445.04(3)(c)6., (4r)(a)Note and (b)4., (6)(a)(intro.), (b)4. and Tables 2, 3 and 5, 445.05(3)(a) and (c)7., (4r)(b)4. and (6)(bm)4.(intro.), (c) and (e), 447.02(intro.), (16) and (18) Note, 447.07(3)(a) and (d)(intro.), 447.12(3)(b) Note, 447.16(2) 447.18(1) Note, 448.02(intro.), 448.04(2), 449.02(intro.), 449.09(6)(a)3. and 4., (d)2. and (e)1.(intro.), 449.12(3)(a) and (b)5., 484.04(18), 484.05(3), 484.11(1)(a), 488.02(2) Note, 488.03(3)(b) Note, 488.04(3) Note, 488.08, 488.11(1)(b), 493.02(intro.), 493.04(2) and (3), 499.06(2)(intro.), (e) and (g) and 499.07(2)(intro.); and to **create** NR 400.02(53s) Note, (100)(u) and (v), 405.02(21m), (22m), 406.04(7), 419.02(10), 421.05(2)(e)3., 421.06(2)(e)3., 422.03(7), 424.03(2)(c), 425.03(14), 436.05(2)(bm) and 484.04(18m) relating to clarification and cleanup changes in NR 30 and throughout the NR 400 series.

AM-9-95

Analysis Prepared by the Department of Natural Resources

Authorizing statutes: ss. 144.31(1)(a), 144.391(6) and 227.11(2)(a), Stats.

Statutes interpreted: s. 144.31(1)(f), Stats. The State Implementation Plan developed under that provision is revised.

These rule changes affect Wisconsin's existing environmental protection air pollution control rules. Changes affecting most elements of the air pollution control program are made, including; definition of terms, permitting, compliance schedules, emission testing, emission limitations, emission monitoring and incorporation by reference. These changes also affect diverse source categories and pollutants. However, these changes are of a cleanup nature, and are intended to correct errors in content or style, or to improve consistency or clarify existing policy or procedures.

The consent of the Attorney General and the Revisor of Statutes will be sought for the incorporation by reference of two appendices in Title 40 of the Code of Federal Regulations containing test methods and the incorporation by reference of a previously approved document from the American Conference of Governmental Industrial Hygienists for two additional citations.

SECTION 87. NR 421.02(intro.) is amended to read:

NR 421.02 DEFINITIONS. (intro.) The definitions contained in chs. NR 400, 419 and 420 apply to the terms used in this chapter. In addition, the following definitions in this section apply to the terms used in this chapter and in chs. NR 421 422 to 425. ~~In addition, the definitions in chs. NR 400, 419 and 420 apply to the terms used in this chapter.~~

SECTION 88. NR 421.02(2e) to (13) are renumbered 421.02(3) to (22).

SECTION 89. NR 421.04(4) is repealed.

SECTION 90. NR 421.05(2)(a)(intro.), (e)1. and 2. are amended to read:

NR 421.05(2)(a)(intro.) Equip each vent from reaction tanks, and all blending tanks and thinning tanks, with an emission control system which meets one of the conditions listed in this paragraph. Any equally effective control method or equivalent system approved by the department under this paragraph shall be submitted to, and will not become effective for federal purposes until approved by, the administrator ~~of the U.S. environmental protection agency~~ or designee as a source-specific revision to the department's state implementation plan for ozone. The emission control system shall be:

(e)1. Monitor each valve, pump, sealed agitator, compressor, ~~flange~~ and relief valve that is located within 2.0 meters (6.6 feet) of a permanent support surface once during each calendar quarter.

2. Monitor all other valves, pumps, sealed agitators, compressors, ~~flanges,~~ and relief valves, and all

flanges, once during each calendar year.

SECTION 91. NR 421.05(2)(e)3. is created to read:

NR 421.05(2)(e)3. Notwithstanding subd. 1., if less than or equal to 2% of the valves monitored pursuant to subd. 1. are found not to leak for 5 consecutive quarters, monitoring of valves under subd. 1. shall not be required for the following 3 consecutive quarters. Monitoring shall be conducted during the next quarter and every fourth quarter thereafter. If, during monitoring required under this subdivision, more than 2% of valves monitored are found to leak, quarterly monitoring under subd. 1. shall be reinstated in the next quarter.

SECTION 92. NR 421.06(2)(e)1. and 2. are amended to read:

NR 421.06(2)(e)1. Monitor each valve, pump, sealed agitator, compressor, ~~flange~~ and relief valve that is located within 2.0 meters (6.6 feet) of a permanent support surface once during each calendar quarter.

2. Monitor all other valves, pumps, sealed agitators, compressors, ~~flanges~~, and relief valves, and all flanges, once during each calendar year.

SECTION 93. NR 421.06(2)(e)3. is created to read:

NR 421.06(2)(e)3. Notwithstanding subd. 1., if less than or equal to 2% of the valves monitored pursuant to subd. 1. are found not to leak for 5 consecutive quarters, monitoring of valves under subd. 1. shall not be required for the following 3 consecutive quarters. Monitoring shall be conducted during the next quarter and every fourth quarter thereafter. If, during monitoring required under this subdivision, more than 2% of valves monitored are found to leak, quarterly monitoring under subd. 1. shall be reinstated in the next quarter.

Chapter NR 421

CONTROL OF ORGANIC COMPOUND EMISSIONS FROM CHEMICAL, COATINGS AND RUBBER PRODUCTS MANUFACTURING

NR 421.01 Applicability; purpose
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NR 421.05 Synthetic resin manufacturing
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NR 421.02 Definitions.

(18m) “Tote tank” means any transportable container used to convey coatings, inks, adhesives, or any other related materials, with a capacity equal to or greater than 209 liters (55 gallons).

(23) “Wipe cleaning” means cleaning which utilizes a material such as a rag wetted with a solvent, prior to a physical rubbing process to remove contaminants from surfaces.

History: Renum from NR 154 01, cr (1m), (2e), (2s), (4e), (4s), (9m), (10e), (10s), (11e) and (11s), Register, September, 1986, No 369, eff 10-1-86; renum (2) and (5) to be NR 400 02 (22) and (51m), cr (12m), Register, February, 1990, No 410, eff 3-1-90; renum (10) and (11) to be (10w) and (11w) under s 13 93 (2m) (b) 1, Stats, Register, August, 1990, No 416; renum (1m) to be (2), Register, May, 1992, No 437, eff 6-1-92; am (2e) and (11e), Register, December, 1993, No 456, eff 1-1-94; am (intro), renum (2e) to (13) to be (3) to (22) and am (3), (17) and (21), Register, December, 1995, No 480, eff 1-1-96; CR 11-005; cr. (18m), (23) Register January 2012 No. 673, eff. 2-1-12.

NR 421.05 Synthetic resin manufacturing.

(1) APPLICABILITY (a) Effective October 1, 1986, subs. (2) and (3) (a) and (b) apply to reaction tanks, thinning tanks, blending tanks, and other process vessels used in any synthetic resin manufacturing facility which has maximum theoretical emissions of VOCs from the processes greater than or equal to 100 tons per year and which is located in the county of Kenosha, Milwaukee, Ozaukee, Racine, Washington, or Waukesha.

(b) Effective January 1, 1994, subs. (2) and (3) (a) and (b) apply to reaction tanks, thinning tanks, blending tanks, and other process vessels used in any synthetic resin manufacturing facility which has maximum theoretical emissions of VOCs from the processes greater than or equal to one of the following:

(c) Subsections (2m), (3) (c), and (4) apply to facilities with synthetic resin manufacturing operations as described in par. (a) located in the county of Kenosha, Milwaukee, Ozaukee, Racine, Sheboygan, Washington, or Waukesha if VOC emissions from all industrial cleaning operations, before consideration of controls, equal or exceed 3 tons per year on a 12 consecutive month rolling basis.

(2m) INDUSTRIAL CLEANING OPERATIONS (a) Except as provided in par. (b), the owner or operator of a facility subject to this subsection shall use any of the following methods when cleaning mixing vats, high dispersion mills, grinding mills, tote tanks, and roller mills:

1. Use a solvent or solvent solution that either contains less than 0.20 kilograms of VOC per liter (1.67 pounds per gallon) or has a VOC composite partial vapor pressure of less than or equal to 8 mm of Hg at 20°C. The solvent or solvent solution shall be collected and stored in closed containers.

2. Implement the following work practices:
 - a. Maintain the equipment being cleaned as leak free.
 - b. Drain VOC-containing cleaning materials from the cleaned equipment upon completion of cleaning.
 - c. Store or dispose of VOC-containing cleaning materials, including waste solvent, in a manner that will prevent evaporation into the atmosphere.
 - d. Store all VOC-containing cleaning materials in closed containers.
3. Collect and vent the emissions from equipment cleaning to an emission control system that has an overall control efficiency of 80% or more on a mass basis. If incineration is used to control emissions, at least 90% of the organic carbon shall be oxidized to carbon dioxide.

4. Use no more than 228 liters (60 gallons) of virgin solvent per month. Solvent or solvent solution that is reused or recycled (either onsite or offsite), for further use in equipment cleaning or the manufacture of coating is not included in this limit.

(b) The owner or operator of a facility engaged in wipe cleaning may not use open containers for the storage of solvent or solvent solution used for cleaning or for the storage or disposal of any material impregnated with solvent or solvent solution used for cleaning.

(3) COMPLIANCE SCHEDULE (a) Paragraph (b) applies only to a synthetic resin manufacturing facility which is in existence on January 1, 1994 and which meets one of the following criteria:

(c) The owner or operator of a synthetic resin manufacturing facility subject to sub. (2m) shall achieve final compliance with sub. (2m) no later than February 1, 2013.

(4) RECORDKEEPING (a) Except as provided in par. (c) and in addition to the applicable recordkeeping requirements in s. NR 439.04, the owner or operator of a synthetic resins manufacturing facility subject to sub. (2m) shall collect and record the following information, as applicable:

1. Total volume of virgin solvent used per month.
2. VOC content in kilograms per liter or pounds per gallon.
3. VOC composite partial vapor pressure in mm of Hg at 20°C.

(b) The owner or operator of a synthetic resins manufacturing facility shall maintain the information under par. (a) at the facility for a minimum of 5 years and shall make the information available to an authorized department representative at any time during normal working hours.

(c) The provisions of par. (a) do not apply to solvent or solvent solution which is used to clean or flush a mill or vat during the manufacture of a synthetic resin and which is subsequently incorporated into the same batch.

History: Cr Register, September, 1986, No 369, eff 10-1-86; am (1), (2) (a) 1 and b and (b), (3) (b) and (c) 4, r and recr (2) (e), renum (2) (f) to be (2) (h) and am, cr (2) (f) and (g), r (3) (c) 5, Register, February, 1990, No 410, eff 3-1-90; am (1), (2) (a) (intro) and (b), cr (1) (b), r and recr (3), Register, December, 1993, No 456, eff 1-1-94; am (2) (a) (intro), (e) (intro) and 2, cr (2) (e) 3, Register, December, 1995, No 480, eff 1-1-96; am (1) (b), (2) (a) (intro), 1, (3) (a), Register, August, 1996, No 488, eff 9-1-96; am (2) (e) 3, Register, October, 1999, No 526, eff 11-1-99; **CR 11-005: am. (1) (a), (b) (intro.), (3) (a) (intro.), cr. (1) (c), (2m), (3) (c), (4) Register January 2012 No. 673, eff. 2-1-12.**

NR 421.06 Coatings manufacturing. (1) APPLICABILITY (a) Effective October 1, 1986, subs. (2) and (3) (a) and (b) apply to pigment dispersion chambers, thinning tanks, tinting, straining, blending tanks, and other process vessels used in any coatings manufacturing facility which has maximum theoretical emissions of VOCs from the processes greater than or equal to 100 tons per year and which is located in the county of Kenosha, Milwaukee, Ozaukee, Racine, Washington, or Waukesha.

(b) Effective January 1, 1994, subs. (2) and (3) (a) and (b) apply to pigment dispersion chambers, thinning tanks, tinting, straining, blending tanks and other process vessels used in any coatings manufacturing facility which has maximum theoretical emissions of VOCs from the processes greater than or equal to one of the following:

(c) Subsections (2m), (3) (c), and (4) apply to facilities with coatings manufacturing operations as described in par. (a) located in the county of Kenosha, Milwaukee, Ozaukee, Racine, Sheboygan, Washington, or Waukesha if VOC emissions from all industrial cleaning operations, before consideration of controls, equal or exceed 3 tons per year on a 12 consecutive month rolling basis.

(2m) INDUSTRIAL CLEANING OPERATIONS (a) Except as provided in par. (b), the owner or operator of a facility subject to this subsection shall use any of the following methods when cleaning mixing vats, high dispersion mills, grinding mills, tote tanks, and roller mills:

1. Use a solvent or solvent solution that either contains less than 0.20 kilograms of VOC per liter (1.67 pounds per gallon) or has a VOC composite partial vapor pressure of less than or equal to 8 mm of Hg at 20°C. The solvent or solvent solution shall be collected and stored in closed containers.

2. Implement the following work practices:

- Maintain the equipment being cleaned as leak free.
- Drain VOC-containing cleaning materials from the cleaned equipment upon completion of cleaning.
- Store or dispose of VOC-containing cleaning materials, including waste solvent, in a manner that will prevent evaporation into the atmosphere.
- Store all VOC-containing cleaning materials in closed containers.

3. Collect and vent the emissions from equipment cleaning to an emission control system that has an overall control efficiency of 80% or more on a mass basis. If incineration is used to control emissions, at least 90% of the organic carbon shall be oxidized to carbon dioxide.

4. Use no more than 228 liters (60 gallons) of virgin solvent per month. Solvent or solvent solution that is reused or recycled (either onsite or offsite), for further use in equipment cleaning or the manufacture of coating is not included in this limit.

(b) The owner or operator of a facility engaged in wipe cleaning using a solvent or solvent solution may not do either of the following:

- Use open containers for the storage or disposal of cloth or paper impregnated with solvent or solvent solution that is used for cleanup, or coating removal.
- Store solvent or solvent solutions for cleanup or coating removal in open containers.

(3) COMPLIANCE SCHEDULE (a) Paragraph (b) applies only to a coatings manufacturing facility which is in existence on January 1, 1994 and which meets one of the following criteria:

(c) The owner or operator of a coatings manufacturing facility subject to sub. (2m) shall achieve final compliance with sub. (2m) no later than February 1, 2013.

(4) RECORDKEEPING (a) Except as provided in par. (c) and in addition to the applicable recordkeeping requirements in s. NR 439.04, the owner or operator of a synthetic resins manufacturing facility subject to sub. (2m) shall collect and record the following information, as applicable:

- Total volume of virgin solvent used per month.
- VOC content in kilograms per liter or pounds per gallon.
- VOC composite partial vapor pressure in mm of Hg at 20°C.

(b) The owner or operator of a synthetic resins manufacturing facility shall maintain the information under par. (a) at the facility for a minimum of 5 years and shall make the information available to an authorized department representative at any time during normal working hours.

(c) The provisions of par. (a) do not apply to solvent or solvent solution which is used to clean or flush a mill or vat during the manufacture of a synthetic resin and which is subsequently incorporated into the same batch.

History: Cr Register, September, 1986, No 369, eff 10-1-86; am (1) and (3) (c) 4, r and recr (2) (e), renum (2) (f) to be (2) (h) and am, cr (2) (f) and (g), r (3) (c) 5, Register, February, 1990, No 410, eff 3-1-90; am (1), cr (1) (b), r and recr (3), Register, December, 1993, No 456, eff 1-1-94; am (2) (e), cr (2) (e) 3, Register, December, 1995, No 480, eff 1-1-96; am (1) (b), (2) (a) (intro), (3) (a), r (2) (a) 1 to 3, Register, December, 1996, No 492, eff 1-1-97; am (2) (e) 3, Register, October, 1999, No 526, eff 11-1-99; **CR 11-005: am. (1) (a), (b) (intro.), (3) (a) (intro.), cr. (1) (c), (2m), (3) (c), (4) Register January 2012 No. 673, eff. 2-1-12.**

NR 421.07 Synthetic organic chemical manufacturing industry. (1) APPLICABILITY (a) This section applies to the owner or operator of any facility that is located in the county of Milwaukee, Waukesha, Washington, Ozaukee, Racine, Kenosha, or Sheboygan, and that operates an air oxidation unit, distillation operation, or reactor processes, as those activities are defined in ss. NR 440.675 (2) (c), 440.686 (2) (e), and 440.705 (2) (o), respectively, to produce any chemical as a product, coproduct, byproduct, or intermediate that is identified as follows:

1. For any reactor process or distillation operation, any chemical listed in Table A-1 of Appendix A of Control of Volatile Organic Compound Emissions from Reactor Processes and Distillation Operations Processes in the Synthetic Organic Chemical Manufacturing Industry, EPA-450/4-91-031, incorporated by reference in s. NR 484.06 (4) (g), for which an x appears in the column titled Reactor and distillation CTG.

2. For any oxidation unit, any chemical listed in s. NR 440.675 (8).

3. Notwithstanding s. NR 440.675 (6) (a), each owner or operator subject to this section shall notify the department how the facility will comply with the specific provisions of s. NR 440.675 (3) no later than June 1, 2010 or no later than 60 days after becoming subject to this section, whichever is later.

4. Section NR 440.675 (7) does not apply.

(3) DISTILLATION OPERATIONS (a) Unless exempt under par. (b), the owner or operator of a facility with distillation operations subject to this section shall comply with the requirements of s. NR 440.686, subject to the following exceptions:

5. Notwithstanding s. NR 440.686 (8), the chemicals affected by this subsection are those identified in sub. (1) (a) 1.

(4) REACTOR PROCESSES (a)

5. Notwithstanding s. NR 440.705 (8), the chemicals affected by this subsection are those identified in sub. (1) (a) 1.

(5) COMPLIANCE EMISSION TESTING The owner or operator of a facility subject to this section shall conduct compliance emission testing in accordance with s. NR 439.075 (2) (c) 3. j.

History: CR 08-114; cr Register July 2009 No 643, eff 8-1-09; correction in (4) (a) 1 made under s 13.92 (4) (b) 7, Stats, Register July 2009 No 643; CR 11-005: renum. (1) (a) to be (1) (a) (intro.) and am., cr. (1) (a) 1., 2., (3) (a) 5., (4) (a) 5., am. (5) Register January 2012 No. 673, eff. 2-1-12.

Chapter NR 421

CONTROL OF ORGANIC COMPOUND EMISSIONS FROM CHEMICAL, COATINGS AND RUBBER PRODUCTS MANUFACTURING

NR 421-01 ~~Applicability; purpose~~
 NR 421-02 ~~Definitions~~
 NR 421-03 ~~Chemical manufacture~~
 NR 421-04 ~~Pneumatic rubber tire manufacture~~

NR 421-05 ~~Synthetic resin manufacturing~~
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 NR 421-07 Synthetic organic chemical manufacturing industry

NR 421.07 Synthetic organic chemical manufacturing industry. (1) APPLICABILITY

(b) For purposes of this section, any references to total organic compounds or TOC in ss. NR 440.675, 440.686 or 440.705 shall be considered to be volatile organic compounds as defined in s. NR 400.02 (162).

(2) AIR OXIDATION UNIT PROCESSES (a) Unless exempt under par. (b), the owner or operator of a facility operating air oxidation unit processes subject to this section shall comply with the requirements of s. NR 440.675, subject to the following exceptions:

1. Notwithstanding s. NR 440.675 (1) (b) (intro.), for purposes of this section, an affected facility shall be one that is described by the criteria in s. NR 440.675 (1) (b) 1. to 3., without consideration of the specific date of the construction, modification or reconstruction of the facility.

2. Notwithstanding s. NR 440.675 (3) (intro.), for purposes of this section, the owner or operator of an affected facility shall comply with s. NR 440.675 (3) (a), (b) or (c) no later than August 1, 2010.

3. Notwithstanding s. NR 440.675 (6) (a), each owner or operator subject to this section shall notify the department how the facility will comply with the specific provisions of s. NR 440.675 (3) no later than June 1, 2010 or no later than 60 days after becoming subject to this section, whichever is later.

4. Section NR 440.675 (7) does not apply.

(b) Exemptions listed in s. NR 440.675 (1) (c) shall apply to an owner or operator subject to this subsection.

(3) DISTILLATION OPERATIONS (a) Unless exempt under par. (b), the owner or operator of a facility with distillation operations subject to this section shall comply with the requirements of s. NR 440.686, subject to the following exceptions:

1. Notwithstanding s. NR 440.686 (1) (b) (intro.), for purposes of this section, an affected facility shall be one that is described by the criteria in s. NR 440.686 (1) (b) 1. to 3., without consideration of the specific date of the construction, modification or reconstruction of the facility.

2. Notwithstanding s. NR 440.686 (3) (intro.), for purposes of this section, the owner or operator of an affected facility shall comply with s. NR 440.686 (3) (a), (b) or (c) no later than August 1, 2010.

3. Notwithstanding s. NR 440.686 (6) (a), each owner or operator subject to this section shall notify the department how the facility will comply with the specific provisions of s. NR 440.686 (3) no later than June 1, 2010 or no later than 60 days after becoming subject to this section, whichever is later.

4. Section NR 440.686 (7) does not apply.

(b) Exemptions listed in s. NR 440.686 (1) (c) shall apply to an owner or operator subject to this subsection.

(4) REACTOR PROCESSES (a) Unless exempt under par. (b), the owner or operator of a facility with reactor processes subject to this section shall comply with the requirements of s. NR 440.705, subject to the following exceptions:

1. Notwithstanding s. NR 440.705 (1) (b) (intro.), for purposes of this section, an affected facility shall be one that is described by the criteria in s. NR 440.705 (1) (b) 1. to 3., without consideration of the specific date of the construction, modification or reconstruction of the facility.

2. Notwithstanding s. NR 440.705 (3) (intro.), for purposes of this section, the owner or operator of an affected facility shall comply with s. NR 440.705 (3) (a), (b) or (c) no later than August 1, 2010.

3. Notwithstanding s. NR 440.705 (6) (a), each owner or operator subject to this section shall notify the department how the facility will comply with the specific provisions of s. NR 440.705 (3) no later than June 1, 2010 or no later than 60 days after becoming subject to this section, whichever is later.

4. Section NR 440.705 (7) does not apply.

(b) Exemptions listed in s. NR 440.705 (1) (c) shall apply to an owner or operator subject to this subsection.

(6) DELAYED COMPLIANCE If the owner or operator of a facility employs a VOC emission control device that, on August 1, 2009 does not achieve compliance with an emission limitation in s. NR 440.675 (3), 440.686 (3) or 440.705 (3), applicable under this section, the owner or operator is not required to comply with the emission limitation until the control device is replaced for reasons other than compliance, including normal maintenance, malfunction, accident, and obsolescence. A control device is considered to be replaced when either of the following occur:

(a) All of the control device is replaced.

(b) The cost of repair of the control device or the cost of replacement of part of the control device exceeds 50% of the cost of replacing the entire control device with a control device that is capable of complying with the respective requirement of s. NR 440.675 (3), 440.686 (3) or 440.705 (3).

History: CR 08-114: cr. Register July 2009 No. 643, eff. 8-1-09; correction in (4) (a) 1. made under s. 13.92 (4) (b) 7., Stats., Register July 2009 No. 643.