

## Chapter NR 424

## CONTROL OF ORGANIC COMPOUND EMISSIONS FROM PROCESS LINES

NR 424.01 Applicability; purpose.  
 NR 424.02 Definitions.  
 NR 424.03 Process lines emitting organic compounds.

NR 424.04 Aerosol can filling.  
 NR 424.05 Yeast manufacturing.

**Note:** Corrections made under s. 13.93 (2m) (b) 6. and 7., Stats., Register, December, 1996, No. 492.

**NR 424.01 Applicability; purpose. (1) APPLICABILITY.** This chapter applies to all process lines which are direct air contaminant sources and to their owners and operators.

**(2) PURPOSE.** This chapter is adopted under ss. 285.11, 285.13 and 285.17, Stats., to categorize organic compound emissions from process lines into a separate organic compound air contaminant source category and to establish emission limitations for this category 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 424.02 Definitions.** The definitions contained in chs. NR 400, 419, 420 and 421 apply to the terms used in this chapter. In addition, the following definitions apply to the terms used in this chapter:

**(1)** "Aerosol can filling facility" means any facility which operates one or more aerosol can filling lines.

**(2)** "Aerosol can filling line" means any process line which inserts aerosol propellants composed of butanes, isobutanes, propane or any other VOC into cans.

**(3)** "Fermentation batch" means a fermentation cycle occurring in a fermenter.

**(4)** "First generation fermenter" means a vessel in which yeast and nutrients are aerated to produce yeast for a trade fermenter.

**(5)** "Liquid yeast" means a hypothetical weight of yeast determined by multiplying an actual weight of yeast by the actual weight percent solids divided by 30%.

**(6)** "Stock fermenter" means a vessel in which yeast and nutrients are aerated to produce yeast for a first generation fermenter.

**(7)** "Trade fermenter" means a vessel in which yeast and nutrients are aerated to produce the final fermentation batch.

**History:** Cr. Register, September, 1986, No. 369, eff. 10-1-86; am. (1) and cr. (2), Register, April, 1988, No. 388, eff. 5-1-88; cr. (3) to (7), Register, June, 1994, No. 462, eff. 7-1-94; am. (intro.), Register, October, 1999, No. 526, eff. 11-1-99.

**NR 424.03 Process lines emitting organic compounds. (1) EXEMPTIONS.** (a) This section applies to all process lines which emit organic compounds, solvents or mixtures, with the following exceptions:

1. Process lines outside the Southeastern Wisconsin Intrastate AQCR on which construction or modification commenced on or before April 1, 1972.

2. Organic compound-water separation systems that process 757 liters (200 gallons) per day or less.

3. Enclosed paint spraying operations from which volatile organic compound emissions are never greater than 13.6 kilograms (30 pounds) in any day.

4. All other process lines from which volatile organic compound emissions are never greater than 6.8 kilograms (15 pounds) in any day.

(b) Where process lines are subject to emission limitations listed elsewhere in chs. NR 419 to 423, the requirements of this section shall apply in accord with the provisions of s. NR 425.03 (7) (b).

(c) This section does not apply to any individual cold cleaning, batch vapor degreasing, or conveyorized degreasing operation that is subject to ch. NR 469.

**(2) EMISSION LIMITATIONS.** Process lines to which this section applies shall meet the following emission limitations:

(a) Process lines on which construction or modification commenced before August 1, 1979, shall control emissions of photochemically reactive organic compounds by 85%.

(b) Process lines on which construction or modification commenced on or after August 1, 1979, and which are not subject to emission limitations listed elsewhere in chs. NR 419 to 423 shall control volatile organic compound emissions by at least 85%.

(c) Where 85% control as required under either par. (a) or (b) has been demonstrated to be technologically infeasible for a specific process line, the owner or operator shall use the latest available control techniques and operating practices demonstrating best current technology, as approved by the department.

**(3) ELECTION.** Surface coating and printing processes subject to the requirements of this section may instead elect, with the approval of the department, to meet the emission limitations of ss. NR 422.01 to 422.155, notwithstanding ss. NR 422.03 (1) or (3) and 425.03, provided that all of the following requirements are met:

(a) The process line meets the specific applicability requirements of ss. NR 422.05 to 422.155.

(b) The owner or operator submits a written request to the department. Written requests under this paragraph shall include, in the case of sources constructed prior to August 1, 1979, a schedule for meeting the requirements of ss. NR 422.01 to 422.155.

**History:** Renum. from NR 154.13 (11), Register, September, 1986, No. 369, eff. 10-1-86; corrections in (1) (b) and (3) (a) made under s. 13.93 (2m) (b) 7., Stats., Register, April, 1988, No. 388; r. (2) (b), renum. (2) (c) to be (2) (b) and am., Register, April, 1989, No. 400, eff. 5-1-89; am. (3), Register, August, 1989, No. 404, eff. 9-1-89; am. (1) (a) (intro.), 3. and 4., (b), (2) (intro.) and (3) (intro.), Register, February, 1990, No. 410, eff. 3-1-90; am. (1) (a) 3. and 4., renum. (2) (b) (intro.) to (2) (b) and am., r. (2) (b) 1. and 2., cr. (2) (c), Register, December, 1995, No. 480, eff. 1-1-96; am. (3) (intro.), Register, December, 1996, No. 492, eff. 1-1-97; am. (3) (intro.), Register, October, 1999, No. 526, eff. 11-1-99; CR 02-146: cr. (1) (c) Register October 2003 No. 574, eff. 11-1-03; correction in (3) (intro.) made under s. 13.92 (4) (b) 7., Stats., Register February 2012 No. 674.

**NR 424.04 Aerosol can filling. (1) APPLICABILITY.** (a) Effective October 1, 1986, this section applies to any aerosol can filling facility which has maximum theoretical emissions of VOCs 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 any aerosol can filling facility which has maximum theoretical emissions of VOCs from the facility greater than or equal to one of the following:

1. 25 tons per year for a facility located in the county of Kenosha, Milwaukee, Ozaukee, Racine, Washington or Waukesha.

2. 100 tons per year for a facility located in the county of Door, Kewaunee, Manitowoc, Sheboygan or Walworth.

**(2) EMISSION LIMITATIONS.** The owner or operator of an aerosol can filling facility shall install and operate a through-the-valve filling system on the aerosol can filling line, or install and operate a vapor recovery system or other device approved by the

department, in order to reduce the amount of VOCs emitted from the aerosol can filling line by at least 52% by weight, as compared to uncontrolled VOC emissions from the line. Compliance shall be measured by a flame ionization detector or other device approved by the department. Any approval of an alternative device issued by the department under this subsection shall be submitted to, and will not become effective for federal purposes until approved by, the administrator or designee as a source-specific revision to the department's state implementation plan for ozone.

**(3) COMPLIANCE REQUIREMENTS AND SCHEDULE.** (a) This subsection applies only to an aerosol can filling facility which is in existence on January 1, 1994 and which meets one of the following criteria:

1. The facility is located in the county of Door, Kewaunee, Manitowoc, Sheboygan or Walworth.
2. The facility is located in the county of Kenosha, Milwaukee, Ozaukee, Racine, Washington or Waukesha and 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.

**Note:** "Maximum theoretical emissions" has the meaning given in s. NR 419.02 (11).

**History:** Cr. Register, September, 1986, No. 369, eff. 10-1-86; am. (2) and (3) c) 4., Register, April, 1988, No. 388, eff. 5-1-88; am. (1), Register, February, 1990, No. 410, eff. 3-1-90; renum. (1) to be (1) (a) and am., cr. (1) (b), am. (2), r. and recr. (3), Register, December, 1993, No. 456, eff. 1-1-94; am. (1) (b), (2), (3) (a), Register, December, 1996, No. 492, eff. 1-1-97.

**NR 424.05 Yeast manufacturing. (1) APPLICABILITY.**

(a) This section applies to any yeast manufacturing facility which has maximum theoretical emissions of VOCs from the facility greater than or equal to one of the following:

1. 25 tons per year for a facility located in the county of Kenosha, Milwaukee, Ozaukee, Racine, Washington or Waukesha.
2. 100 tons per year for a facility located in the county of Kewaunee, Manitowoc or Sheboygan.

(b) Any facility that becomes or is currently subject to this section by exceeding the applicability thresholds in par. (a) shall remain subject to this section even if its emissions later fall below the applicability threshold.

**(2) EMISSION LIMITATIONS.** (a) Except as provided in pars. (b) and (c), no owner or operator of a yeast manufacturing facility may cause, allow or permit the average concentration of VOCs in the exhaust gas stream from a fermenter over the duration of a fermentation batch to exceed the levels in subs. 1. to 3. These levels are on a saturated water basis and are based on total VOCs expressed as propane.

1. 100 ppm from a trade fermenter.
2. 150 ppm from a first generation fermenter.
3. 300 ppm from a stock fermenter.

(b) The emission limitations of par. (a) do not apply to the emissions resulting from the fermentation of any yeast variety which comprises less than 1% by weight of the facility's total annual liquid yeast production.

(c) Compliance with the emission limitations in par. (a) shall be achieved for at least 98% of all fermentation batches subject to the emission limitations in par. (a) over any 12 consecutive month period.

**(3) COMPLIANCE DEADLINES.** Compliance shall be achieved for each fermenter subject to the emission limitations of sub. (2) (a) by:

(a) May 31, 1995 for each fermenter for which compliance is achieved through methods other than installation of emission control equipment.

(b) November 30, 1995 for each fermenter for which compliance is achieved through the installation of emission control equipment.

**(4) NOTIFICATION AND COMPLIANCE CERTIFICATION.** (a) *Notification.* The owner or operator of any yeast manufacturing facility subject to the compliance deadline in sub. (3) (b) for any fermenter, shall submit a notification to the department no later than May 31, 1995, which contains the following information, at a minimum:

1. The name and location of the facility.
2. Identification of each fermenter at the facility.
3. The applicable emission limitation for each fermenter.
4. Whether add-on control equipment will be used to achieve compliance with sub. (2) (a) for each fermenter.

(b) *Initial compliance certification.* The owner or operator of any yeast manufacturing facility to which this section applies shall, by the applicable compliance deadline in sub. (3), submit a certification for each fermenter that the fermenter is in compliance with the applicable emission limitation, as demonstrated by the continuous emission monitoring required under sub. (5) (a) for fermenters meeting the deadline in sub. (3) (a) and as demonstrated by the compliance emission testing required under sub. (5) (b) for fermenters meeting the deadline in sub. (3) (b).

**(5) TEST METHODS AND PROCEDURES.** (a) The owner or operator of a yeast manufacturing facility shall, for each fermenter for which compliance with the emission limitations of sub. (2) (a) is achieved through methods other than emission control equipment, install, calibrate, maintain and operate a continuous emission monitor in accordance with ss. NR 439.09 and 439.095 in order to determine compliance with the emission limitations of sub. (2) (a).

(b) The owner or operator of a yeast manufacturing facility shall, for each fermenter for which compliance with the emission limitations of sub. (2) (a) is achieved through use of emission control equipment, comply with the requirements of ss. NR 439.055, 439.06, 439.07 and 439.075. Compliance emission testing under this paragraph shall be conducted at least once every 24 months. Each biennial test shall be performed within 90 days of the anniversary date of the test conducted to certify compliance as required under sub. (4) (b).

(c) Testing under pars. (a) and (b) shall be conducted at a point in the exhaust gas stream prior to the introduction of any dilution air. Dilution air, for purposes of this paragraph, is considered to be any air not needed to control the fermentation process.

**(6) RECORDKEEPING.** In addition to meeting the recordkeeping requirements of s. NR 439.04 (1) to (3), the owner or operator of a facility subject to this section shall:

- (a) Record in a daily log:
1. Operation time for all control devices and monitoring equipment.
  2. Details of all routine and non-routine maintenance performed on all control devices and monitoring equipment including dates and duration of any outages.
  3. The fermentation cycle for which a fermenter is being used, recorded as either trade, first generation or stock.

(b) Maintain records of:

1. The pounds of liquid yeast produced each year for each yeast variety.

2. The total pounds of liquid yeast produced each year.
3. The weight percent that each yeast variety represents of the facility's total annual liquid yeast production.
4. The information required under par. (a).
5. For each fermentation batch subject to an emission limitation in sub. (2) (a), the average concentration of VOC in the exhaust gas stream over the duration of the fermentation batch.
6. The number of fermentation batches subject to an emission

limitation in sub. (2) (a) completed during each month.

7. The percent of all completed fermentation batches in compliance with the applicable emission limitation in sub. (2) (a) over the previous 12 consecutive month period.

**Note:** "Maximum theoretical emissions" has the meaning given in s. NR 419.02 (11).

**History:** Cr. Register, June, 1994, No. 462, eff. 7-1-94; am. (1) (a), Register, December, 1996, No., 492, eff. 1-1-97; CR 05-055; am. (2) (a) and (6) (a) 3., cr. (2) (c) and (6) (b) 5. to 7. Register December 2005 No. 600, eff. 1-1-06.