

**TITLE 26 DEPARTMENT OF THE ENVIRONMENT**

**SUBTITLE 11 AIR QUALITY**

**CHAPTER 19 CONTROL OF VOLATILE ORGANIC COMPOUNDS FROM SPECIFIC PROCESSES**

**.17 Control of Volatile Organic Compound (VOC) Emissions from Yeast Manufacturing.**

**A. Definitions.**

(1) "Fermentation batch" means a fermentation cycle that normally ranges from 7 to 20 hours duration occurring in a fermenter.

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

(3) "Nutritional yeast" means yeast that becomes:

(a) An ingredient in dough for bread or any other yeast-raised baked product; or

(b) A nutritional food additive intended for consumption by humans.

(4) "Specialty yeast" means yeast that is used in the production of beer, wine, or alcoholic beverages or in the production of ethanol.

(5) "Stock fermenter" means a vessel in which yeast and nutrients are aerated to produce stock yeast.

(6) "Trade fermenter" means a vessel in which yeast and nutrients are aerated to produce liquid yeast to be processed for sale.

(7) "Yeast manufacturing installation" means a fermentation reactor or vessel used to manufacture yeast.

**B. Applicability, Exemptions, and Compliance Date.**

(1) This regulation applies to a person who owns or operates a yeast manufacturing installation at a premises that has a potential to emit from all yeast manufacturing installations on the premises 25 tons or more per year of VOC.

(2) The production of specialty yeast is limited to less than 1 percent by weight of the total annual yeast production excluding specialty yeast batches that meet the emission limits for nutritional yeast in §C(2) of this regulation.

(3) Compliance with this regulation shall be achieved beginning July 1, 2004.

C. Requirements for Yeast Manufacturing Installations.

(1) General Requirements. A person who owns or operates a yeast manufacturing installation subject to this regulation may not cause or permit VOC emissions to be discharged into the atmosphere in excess of the concentrations in §C(2) of this regulation.

(2) VOC Concentration Limits for Nutritional Yeast.

Type of Fermenter	Maximum Allowable VOC Concentration
(a) Trade fermenter	100 ppm
(b) First generation fermenter	150 ppm
(c) Stock fermenter	300 ppm

(3) Any other yeast manufacturing installation not subject to the requirements of §C(2) of this regulation shall monitor temperature, pH, and sugar content of the batch to minimize the formation and emission of VOC. The temperature shall be controlled so that it is not less than 75°F and not more than 100°F. The pH shall be controlled so that it is not less than 3.5 and not more than 7.5.

(4) Averaging Time. Compliance with the emission limits in §C(2) of this regulation shall be based on the average (arithmetic) undiluted VOC concentration during the time of a fermentation batch.

D. Determination of Compliance.

(1) Compliance with §C(2) of this regulation shall be determined with the use of continuous emission monitors.

(2) The monitors specified in §D(1) of this regulation shall be used to generate fermentation batch average concentrations for each installation.

(3) The standards in §C(2) of this regulation shall be met for at least 98 percent of all nutritional yeast batches in each rolling 12-month period beginning July 1, 2004.

E. Continuous Emission Monitor Calibration Procedures. A person subject to this regulation shall perform daily zero and span checks for the continuous emission monitor required in §D(1) of this regulation unless an alternative procedure is approved by the Department.

F. Reporting Requirements.

(1) Semiannual reports shall be submitted to the Department by the end of the month following each 6-month period beginning with the period July 1, 2004 through December 31, 2004.

(2) The semiannual report shall include:

(a) A summary of the number of batches for each month and calculations showing the percent of batches that met the VOC standards for each month;

(b) Calculations showing the percent of batches that met the VOC standards during the previous six 12-month rolling average periods; and

(c) Calculations showing the percent of batches, by fermenter, that were not monitored during the 6-month period.

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