

**RULE 458 LARGE COMMERCIAL BREAD BAKERIES****Adopted 6-7-94  
(Amended 9-5-96)****INDEX****100 GENERAL**

- 101 PURPOSE
- 110 EXEMPTION, SMALL BAKERIES
- 111 EXEMPTION, CHEMICALLY LEAVENED PRODUCTS

**200 DEFINITIONS**

- 201 BREAD
- 202 EXEMPT COMPOUND
- 203 LARGE COMMERCIAL BREAD BAKERY
- 204 LEAVEN
- 205 OVEN
- 206 PROOFING BOX
- 207 VOLATILE ORGANIC COMPOUND (VOC)

**300 STANDARDS**

- 301 EMISSION CONTROL REQUIREMENTS, NEW AND EXISTING OVENS

**400 ADMINISTRATIVE REQUIREMENTS**

- 401 OPERATION AND MAINTENANCE PLAN
- 402 PROCEDURE FOR PROCESSING OPERATION AND MAINTENANCE PLAN
- 403 COMPLIANCE SCHEDULE
- 404 CALCULATION FOR VOC MASS EMISSION RATE AND PERCENT CONTROL EFFICIENCY
- 405 CALCULATION FOR SMALL BAKERIES EXEMPTION

**500 MONITORING AND RECORDS**

- 501 USAGE RECORDS
- 502 TEST METHODS

This Page Intentionally Left Blank

**100 GENERAL**

- 101 **PURPOSE:** To limit the emission of volatile organic compounds from bread ovens at large commercial bread bakeries.
- 110 **EXEMPTION, SMALL BAKERIES:** This rule shall not apply to bakeries whose total VOC emissions for each and every operating day are less than 100 pounds, as determined by Section 405.
- 111 **EXEMPTION, CHEMICALLY LEAVENED PRODUCTS:** This rule does not apply to equipment used exclusively for the baking of bakery products leavened chemically in the absence of yeast.

**200 DEFINITIONS**

- 201 **BREAD:** A perishable foodstuff prepared from a yeast-leavened dough which is baked into products commonly referred to as pan bread, buns, rolls, or other similar yeast-leavened products.
- 202 **EXEMPT COMPOUND:** For the purposes of this rule, "exempt compound" has the same meaning as in Rule 101—GENERAL PROVISIONS AND DEFINITIONS.
- 203 **LARGE COMMERCIAL BREAD BAKERY:** Any bakery producing equal to or more than 100 pounds of VOC per operating day.
- 204 **LEAVEN:** To raise a dough by causing gas to thoroughly permeate it through the use of a chemical agent such as baking powder or a fermentation-producing agent such as yeast.
- 205 **OVEN:** An enclosed compartment supplied with heat, typically from the combustion of natural gas, used to bake bread, buns, and rolls. This does not include proofing boxes.
- 206 **PROOFING BOX:** A warm (typically about 100° F), humid chamber where yeast-leavened dough is allowed to rise to the volume desired for baking.
- 207 **VOLATILE ORGANIC COMPOUND (VOC):** For the purposes of this rule, "volatile organic compound" has the same meaning as in Rule 101—GENERAL PROVISIONS AND DEFINITIONS.

**300 STANDARDS**

- 301 **EMISSION CONTROL REQUIREMENTS, NEW AND EXISTING OVENS:** All ovens shall vent emissions to a control system meeting the following standards:
- 301.1 An emissions collection system shall capture emissions from all oven stacks.
- 301.2 Collected emissions shall be vented to an approved emission control device which has a control efficiency of at least 95% on a mass basis, as determined pursuant to Section 502.1 of this rule.

**400 ADMINISTRATIVE REQUIREMENTS**

- 401 **OPERATION AND MAINTENANCE PLAN:** Any person required to use an emissions control device pursuant to Section 301 must submit an Operation and Maintenance Plan for the emissions control device to the Air Pollution Control Officer for approval. The Plan shall specify operation and maintenance procedures which will demonstrate continuous operation of the emissions control device, pursuant to Section 301, during periods of emissions-producing operations. The Plan shall also specify which daily records must be kept to document these operation and maintenance procedures. These records shall

comply with the requirements of Sections 501.1 and 501.2. The Plan shall be implemented upon approval by the Air Pollution Control Officer.

402 **PROCEDURE FOR PROCESSING OPERATION AND MAINTENANCE PLAN:**

402.1 **APPROVAL OF PLAN:** The Air Pollution Control Officer shall determine whether the Operation and Maintenance Plan meets the requirements of Section 401 not later than 30 days after receipt of the Plan, or within a longer period of time agreed upon by the parties. The Air Pollution Control Officer shall approve an Operation and Maintenance Plan unless it fails to demonstrate continuous operation of the emissions control device during periods of emissions producing operations, according to the standards set forth in Section 301, and/or it fails to specify which daily records, in accordance with the requirements of Sections 501.1 and 501.3, are kept to document the operation and maintenance procedures set forth in the Plan.

402.2 **REVISION OF PLAN:** If the Air Pollution Control Officer does not approve an Operation and Maintenance Plan, the source shall receive written notice of the deficiency, and shall have an additional 30 days from the date of the notification of the deficiency to correct and resubmit the Operation and Maintenance Plan. The decision of the Air Pollution Control Officer regarding the resubmitted Operation and Maintenance Plan shall be final. Failure to correct the deficiency in an Operation and Maintenance Plan upon resubmittal shall constitute a violation of this rule that is subject to the penalties set forth in Health and Safety Code section 42400 et seq.

403 **COMPLIANCE SCHEDULE:**

403.1 For all bakeries subject to this rule with total VOC emissions greater than or equal to 25 tons per year, the application for Authority to Construct an emission control device must be submitted pursuant to Rule 201, General Permit Requirements, with the Operation and Maintenance Plan by August 7, 1994. For all bakeries subject to this rule with total VOC emissions less than 25 tons per year, the application for Authority to Construct an emission control device must be submitted pursuant to Rule 201, General Permit Requirements, with the Operation and Maintenance Plan by November 7, 1995.

403.2 Operation and Maintenance Plans for emissions control devices installed as of June 7, 1994, if not previously submitted, must be submitted by December 7, 1994, and receive approval by the Air Pollution Control Officer.

403.3 Effective May 31, 1995, all ovens, except those exempt pursuant to Sections 110, 111, and 403.4, shall be in compliance with this rule.

403.4 Effective June 7, 1996, all bakeries with total VOC emissions of less than 25 tons per year shall be in compliance with this rule.

404 **CALCULATION FOR VOC MASS EMISSION RATE AND PERCENT CONTROL EFFICIENCY:**

The VOC mass emission rate shall be calculated both upstream and downstream of the emissions control device based on the respective VOC mass concentration and volumetric flowrate, pursuant to Section 502.1 and the following equation:

$$M = (Q)(C)(60 \text{ min/hr})$$

Where: M = VOC mass emission rate, in lb/hr.  
 Q = the volumetric flowrate of the exhaust stack, in scfm.  
 C = the VOC mass concentration, in lb/scf, as measured by EPA Method 25.

The percent control efficiency is calculated as follows:

$$\%CE = (MU - MD) + MU$$

Where: CE = control efficiency.  
 MU = the upstream VOC mass emission rate, in lb/hr.  
 MD = the downstream VOC mass emission rate, in lb/hr.

- 405 **CALCULATION FOR SMALL BAKERIES EXEMPTION:** VOC emissions to determine exemption status pursuant to Section 110 of this rule shall be calculated using the following equation:

$$VOC = (P)(0.95Y + 0.195T - 0.51S - 0.86ST + 1.90)$$

Where: VOC = emissions in pounds per day  
 P = tons of product per day  
 Y = initial baker's percent of yeast  
 T = total yeast action time in hours  
 S = final (spike) baker's percent of yeast  
 ST = spiking time in hours

## 500 MONITORING AND RECORDS

- 501 **USAGE RECORDS:** In addition to any existing permit conditions issued pursuant to Rule 201, any person subject to this rule shall comply with the following requirements:
- 501.1 **CONTROL EQUIPMENT:** Any person using an emission control system pursuant to Section 300 shall maintain such records as required by the Operation and Maintenance Plan in Section 401 on a daily basis.
- 501.2 **LIST OF PRODUCT:** A current list of products shall be kept which includes, for each product, the initial baker's percent of yeast, the total yeast action time, the final (spike) baker's percent of yeast, and the spiking time.
- 501.3 **DURATION OF RECORDS:** Such records shall be maintained on-site for a continuous two-year period and made available to the Air Pollution Control Officer upon request.
- 502 **TEST METHODS**
- 502.1 **DETERMINATION OF CONTROL EFFICIENCY:** Control efficiency of the emissions control device shall be determined in accordance with EPA Method 18, 25, 25A, EPA Method 2 or 2C (whichever is applicable), and Section 404.

This Page Intentionally Left Blank