

## PART 224

### SULFURIC AND NITRIC ACID PLANTS

(Statutory authority: Environmental Conservation Law, §§ 3-0301, 29-0301)

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224.1 Nitric acid production	224.4 Continuous stack monitoring
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#### Historical Note

Part (§§ 224.1-224.4) filed Jan. 18, 1973 eff. 60 days after filing.

**Section 224.1 Nitric acid production.** (a) *Existing emission sources.* No person will cause or allow emissions of nitrogen oxides (expressed as nitrogen dioxide) to the outdoor atmosphere from any existing emission source used in nitric acid production in excess of the amount permitted by Part 212 of this Title. An existing emission source is one for which an application for a permit to construct was received prior to August 18, 1971.

(b) *New emission sources and modifications.* No person will cause or allow emissions of nitrogen oxides (expressed as nitrogen dioxide) to the outdoor atmosphere from any emission source or modification used in nitric acid production, for which an application for a permit to construct is received after August 17, 1971, in excess of 2.0 pounds per ton of nitric acid produced (expressed as 100 percent nitric acid).

#### Historical Note

Sec. filed Jan. 18, 1973, repealed, new filed April 10, 1984 eff. 30 days after filing.

**224.2 Sulfuric acid production.** (a) *Sulfuric dioxide emissions.*

(1) *Existing emission sources.* No person will cause or allow emissions of sulfur dioxide to the outdoor atmosphere from any existing emission source used in sulfuric acid production in excess of the amount permitted by Part 212 of this Title. An existing emission source is one for which an application for a permit to construct was received prior to August 18, 1971.

(2) *New emission sources and modifications.* No person will cause or allow emissions of sulfur dioxide to the outdoor atmosphere from any emission source or modification used in sulfuric acid production, for which an application for a permit to construct is received after August 17, 1971, in excess of 4.0 pounds per ton of sulfuric acid produced (expressed as 100 percent  $H_2SO_4$ ).

(b) *Sulfuric acid mist.* (1) *Existing emission sources.* No person will cause or allow emissions of sulfuric acid mist to the outdoor atmosphere, from any existing emission source used in sulfuric acid production, for which an application for a permit to construct is received prior to August 18, 1971, in excess of 0.50 pounds per ton of sulfuric acid produced (expressed as 100 percent  $H_2SO_4$ ).

(2) new emission sources and modifications. No person will cause or allow emissions of sulfuric acid mist to the outdoor atmosphere from any emission source or modification used in sulfuric acid production, for which an application for a permit to construct is received after August 17, 1971, in excess of 0.15 pounds per ton of sulfuric acid produced (expressed as 100 percent  $H_2SO_4$ ).

**Historical Note**

Sec. filed Jan. 15, 1973; repealed, new filed  
April 10, 1984 eff. 30 days after filing.

**224.3 Smoke or visible emissions.** (a) No person who owns an air contamination source used in producing nitric acid or sulfuric acid, for which an application for a permit to construct is submitted after August 16, 1971, may cause or allow to be emitted, to the outdoor atmosphere, smoke or visible emissions, except water, having an average opacity equal to or greater than 10 percent (six minutes).

(b) No person who owns an air contamination source used in producing nitric acid or sulfuric acid, for which an application for a permit to construct was received before August 17, 1971, may cause or allow smoke or visible emissions, except water, having an average opacity equal to or greater than 30 percent (six minutes) to be emitted to the outdoor atmosphere.

**Historical Note**

Sec. filed Jan. 15, 1973; amd. filed April 10, 1984  
eff. 30 days after filing.

**224.4 Continuous stack monitoring.** (a) *Existing emission sources.*

(1) The owner or operator of any nitric acid plant with a production capacity greater than 300 tons per day (expressed as 100 percent nitric acid), located in an area of the State where any applicable ambient air quality standard for nitrogen dioxide is not being attained, must install, calibrate, maintain and operate a continuous stack monitoring system for the measurement of nitrogen oxides (expressed as nitrogen dioxide) from each nitric acid producing emission source.

(2) the owner or operator of any sulfuric acid plant with a production capacity of greater than 300 tons per day (expressed as 100 percent sulfuric acid) must install, calibrate, maintain and operate a continuous stack monitoring system for the measurement of sulfur dioxide from each sulfuric acid producing emission source.

(b) *New emission sources and modifications.* A continuous monitoring system for the measurement of nitrogen oxides (expressed as nitrogen dioxide) from each nitric acid production source, or sulfur dioxide from each sulfuric acid production source, must be installed, calibrated, maintained and operated by the owner or operator of any new emission source or modification subject to this Part.

(c) *Emission data reduction, record maintenance and reporting.* Any owner or operator subject to the provisions of subdivision (a) or (b) of this section must:

(1) submit a written report to the commissioner for each calendar quarter. This report must include:

(i) emission averages for periods of excess emissions (a period of excess emissions is any three-hour period during which the arithmetic average of emissions for three consecutive one-hour periods exceeds any applicable emission standard);

(ii) the time and date of each period during which the continuous monitoring system was inoperative except for zero and span checks, and the nature of system repairs or adjustments; or

(iii) information that no excess emissions have occurred and the continuous monitoring system has not been inoperative, repaired or adjusted, if such is the case;

(2) establish a conversion factor for converting stack monitoring data into units of the applicable emission standard. For sulfur dioxide continuous monitoring systems, the conversion factor will be established at least three times daily by measuring the concentration of sulfur dioxide entering the converter, using suitable methods (e.g., the Reich test, National Air Pollution Control Administration Publication No. 600-AP-13) and calculating the appropriate conversion factor for each eight-hour period as follows:

$$CF = k(1.000 - 0.015r/r-s)$$

where:

- CF = conversion factor (kg/metric ton per ppm, lb/short ton per ppm).  
 k = constant derived from material balance. For determining CF in metric units,  $k = 0.0653$ . For determining CF in English units,  $K = 0.1306$ .  
 r = percentage of sulfur dioxide by volume entering the gas converter. Appropriate corrections must be made for air injection plants, subject to the commissioner's approval.  
 s = percentage of sulfur dioxide by volume in the emissions to the atmosphere, determined by the continuous monitoring system.

For nitrogen oxide continuous stack monitoring systems, the conversion factor will be established by measuring emissions with the continuous monitoring system concurrent with measuring emissions with the applicable reference method tests. Using only that portion of the continuous monitoring emission data that represents emission measurements concurrent with the reference method test periods, the conversion factor shall be determined by dividing the reference method test data averages by the monitoring data averages to obtain a ratio expressed in units of the applicable standard to units of the monitoring data, i.e., kg/metric ton per ppm (lb/short ton per ppm):

(3) maintain records of quarterly summaries, including daily production rates, hours of operation and all other data collected either by the continuous stack monitoring system or as necessary to convert stack monitoring data to the units of the applicable emission standards, for a period of three years from the date of collection of such data; and

(4) make such records available for inspection during normal business hours by the commissioner or his representative and furnish copies of such records to the commissioner or his representative upon request.

**Historical Note**

Sec. filed Jan. 18, 1973, repealed, now filed April 10, 1984 eff. 30 days after filing.

**224.5 Compliance.** No person may operate any sulfuric or nitric acid producing emission source subject to this Part for which an application for a permit to construct is received prior to August 17, 1971, which fails to comply with any applicable emission standard, opacity limitation or other requirement contained in this Part after July 1, 1984, or such later date as determined by the commissioner.

**Historical Note**

Sec. filed April 10, 1984 eff. 30 days after filing.

**224.6 Exceptions.** (a) Upon written application by a source owner or operator, the commissioner may exempt the source owner or operator from the provisions of section 224.5(a) of this Part, and set forth alternative stack monitoring and reporting requirements if the source owner or operator can demonstrate that:

- (1) an emission source is operated infrequently;
  - (2) the installation of a continuous stack monitoring system would impose an extreme economic burden on the source owner;
  - (3) a continuous stack monitoring system cannot be installed due to physical limitations; or
  - (4) commercially available continuous stack monitoring systems would not provide accurate determinations of emissions.
- (b) Where it can be shown to the commissioner's satisfaction that an emission source subject to this Part, for which an application for a permit to construct was received prior to August 17, 1971, cannot comply with the requirements of this Part for technological or economic reasons, the commissioner may except the source owner from the requirement of this Part and accept a lesser degree of control upon submission of satisfactory evidence by the source owner.

**Historical Note**

Sec. filed April 10, 1964 eff. 20 days after filing.