

2.108 Synthetic Fiber Production Facilities

2.108.1 Applicability and Designation of Affected Facility

- (a) Except as provided in paragraph (b) of this section, the affected facility to which the provisions of this source category apply is each solvent-spun synthetic fiber process that produces more than 500 megagrams of fiber per year.
- (b) The provisions of this source category do not apply to any facility that uses the reaction spinning process to produce spandex fiber or the viscose process to produce rayon fiber.
- (c) The provisions of this source category apply to each facility as identified in paragraph (a) of this section and that commences construction or reconstruction after November 23, 1982. The provisions of this source category do not apply to facilities that commence modification but not reconstruction after November 23, 1982.

2.108.2 Test Methods and Procedures

- (a) Section 60.8(f) does not apply to the performance test procedures required by this source category.
- (b) Each owner or operator of an affected facility shall determine compliance with the applicable standard in §60.602(a) by determining and recording monthly the VOC emissions per Mg solvent feed from each affected facility for the current and preceding 5 consecutive calendar months and using these values to calculate the 6-month average emissions. Each calculation is considered a performance test. The owner or operator of an affected facility shall use the following procedure to determine VOC emissions for each calendar month:
 - (1) Install, calibrate, maintain, and operate monitoring devices that continuously measure and permanently record for each calendar month the amount of makeup solvent and solvent feed. These values shall be used in calculating VOC emissions according to paragraph (b)(2) of this section. All monitoring devices, meters, and peripherals equipment shall be calibrated and any error recorded. Total compound error of the flow measuring and recording devices shall not exceed 1 percent accuracy over the operating range. As an alternative to measuring solvent feed, the owner or operator may:
 - (i) Measure the amount of recovered solvent returned to the solvent feed storage tanks, and use the following equation to determine the amount of solvent feed:

(ii)
$$\text{Solvent Feed} = \text{Makeup Solvent} + \text{Recovered}$$

M
e
a
s
u
r
$$\text{Solvent} + \text{Change in the Amount of Solvent}$$

$$\text{Contained in the Solvent Feed Holding Tank.}$$

and record the amount of polymer introduced into the affected facility and the solvent-to-polymer ratio of the spinning solutions, and use the following equation to determine the amount of solvent feed:

where subscript "i" denotes each particular spinning solution used during the test period; v:

$$(2) \quad \text{Solvent Feed} = \sum_{i=1}^n (Polymer Used)_i \times (Solvent - to - Polymer Ratio)_i$$

v
o
c

emissions shall be determined each calendar month by use of the following equations:

$$E = \frac{M_w}{S_w} - N - I \quad \text{and} \quad M_w = M_v S_p D$$

$$S_w = \frac{S_v S_p D}{1000} \quad I = \frac{I_E - I_S}{S_w}$$

where all values are for the calendar month only and where:

- E = Emissions in kg per mg solvent feed;
- S_v = Measured or calculated volume of solvent feed in liters;
- S_w = Weight of solvent feed in mg;
- M_v = Measured volume of makeup solvent in liters;
- M_w = Weight of makeup in kg;
- N = Allowance for nongaseous losses per mg solvent feed; (13 kg/mg);
- S_p = Fraction of measured volume that is actual solvent (excludes water);
- D = Density of the solvent in kg/liter;
- I = Allowance for solvent inventory variation or changes in the amount of solvent contained in the affected facility per mg solvent feed (may be positive or negative);
- I_s = Amount in kg of solvent contained in the affected facility at the beginning of test period, as determined by owner or operator;
- I_E = Amount in kg of solvent contained in the affected facility at the close of test period, as determined by owner or operator.

- (i) N, as used in the equation in paragraph (b)(2) of this section, equals 13 kg per mg solvent feed to the spinning solution preparation system and precipitation bath. This value shall be used in all cases unless an owner or operator demonstrates to the satisfaction of the Director that greater nongaseous losses occur at the affected facility. In this case, the greater value may be substituted in the equation.

2.108.3 Reporting Requirements

- (a) The owner or operator of an affected facility shall submit a written report to the Director of the following:
 - (1) The results of the initial performance test; and
 - (2) The results of subsequent performance tests that indicate that VOC emissions exceed the standards in §60.602¹. These reports shall be submitted semiannually, at six month intervals after the initial performance test.
- (b) Solvent-spun synthetic fiber producing facilities exempted from these standards in §60.600(a)¹ (those producing less than 500 megagrams annually) shall report to the Director within 30 days whenever extruded fiber for the preceding 12 calendar months exceeds 500 megagrams.

¹Code of Federal Regulations, Title 40, Part 60.