

**Environmental Protection Agency**

**§ 60.85**

concentration of sulfur dioxide entering the converter using suitable methods (e.g., the Reich test, National Air Pollution Control Administration Publication No. 999-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/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 Administrator's approval.

s=percentage of sulfur dioxide by volume in the emissions to the atmosphere determined by the continuous monitoring system required under paragraph (a) of this section.

(c) The owner or operator shall record all conversion factors and values under paragraph (b) of this section from which they were computed (i.e., CF, r, and s).

(d) Alternatively, a source that processes elemental sulfur or an ore that contains elemental sulfur and uses air to supply oxygen may use the following continuous emission monitoring approach and calculation procedures in determining SO<sub>2</sub> emission rates in terms of the standard. This procedure is not required, but is an alternative that would alleviate problems encountered in the measurement of gas velocities or production rate. Continuous emission monitoring systems for measuring SO<sub>2</sub>, O<sub>2</sub>, and CO<sub>2</sub> (if required) shall be installed, calibrated, maintained, and operated by the owner or operator and subjected to the certification procedures in Performance Specifications 2 and 3. The calibration procedure and span value for the SO<sub>2</sub> monitor shall be as specified in paragraph (b) of this section. The span value for CO<sub>2</sub> (if required) shall be 10 percent and for O<sub>2</sub> shall be 20.9 percent (air). A conversion factor based on process rate data is not necessary. Calculate the SO<sub>2</sub> emission rate as follows:

$$E_s = (C_s S) / [0.265 - (0.126 \%O_2) - (A \%CO_2)]$$

where:

E<sub>s</sub>=emission rate of SO<sub>2</sub>, kg/metric ton (lb/ton) of 100 percent of H<sub>2</sub>SO<sub>4</sub> produced.

C<sub>s</sub>=concentration of SO<sub>2</sub>, kg/dscm (lb/dscf).

S=acid production rate factor, 368 dscm/metric ton (11,800 dscf/ton) of 100 percent H<sub>2</sub>SO<sub>4</sub> produced.

%O<sub>2</sub>=oxygen concentration, percent dry basis.

A=auxiliary fuel factor,

=0.00 for no fuel.

=0.0226 for methane.

=0.0217 for natural gas.

=0.0196 for propane.

=0.0172 for No 2 oil.

=0.0161 for No 6 oil.

=0.0148 for coal.

=0.0126 for coke.

%CO<sub>2</sub>= carbon dioxide concentration, percent dry basis.

NOTE: It is necessary in some cases to convert measured concentration units to other units for these calculations:

Use the following table for such conversions:

From—	To—	Multiply by—
g/scm .....	kg/scm .....	10 <sup>-3</sup>
mg/scm .....	kg/scm .....	10 <sup>-6</sup>
ppm (SO <sub>2</sub> ) .....	kg/scm .....	2.660×10 <sup>-6</sup>
ppm (SO <sub>2</sub> ) .....	lb/scf .....	1.660×10 <sup>-7</sup>

(e) For the purpose of reports under §60.7(c), periods of excess emissions shall be all three-hour periods (or the arithmetic average of three consecutive one-hour periods) during which the integrated average sulfur dioxide emissions exceed the applicable standards under §60.82.

[39 FR 20794, June 14, 1974, as amended at 40 FR 46258, Oct. 6, 1975; 48 FR 23611, May 25, 1983; 48 FR 4700, Sept. 29, 1983; 48 FR 48669, Oct. 20, 1983; 54 FR 6666, Feb. 14, 1989; 65 FR 61753, Oct. 17, 2000]

**§ 60.85 Test methods and procedures.**

(a) In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in §60.8(b). Acceptable alternative methods and procedures are given in paragraph (c) of this section.

(b) The owner or operator shall determine compliance with the SO<sub>2</sub> acid mist, and visible emission standards in §§ 60.82 and 60.83 as follows:

(1) The emission rate (E) of acid mist or SO<sub>2</sub> shall be computed for each run using the following equation:

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$$E=(CQ_{sd})/(PK)$$

where:

E=emission rate of acid mist or SO<sub>2</sub> kg/metric ton (lb/ton) of 100 percent H<sub>2</sub>SO<sub>4</sub> produced.

C=concentration of acid mist or SO<sub>2</sub>, g/dscm (lb/dscf).

Q<sub>sd</sub>=volumetric flow rate of the effluent gas, dscm/hr (dscf/hr).

P=production rate of 100 percent H<sub>2</sub>SO<sub>4</sub>, metric ton/hr (ton/hr).

K=conversion factor, 1000 g/kg (1.0 lb/lb).

(2) Method 8 shall be used to determine the acid mist and SO<sub>2</sub> concentrations (C's) and the volumetric flow rate (Q<sub>sd</sub>) of the effluent gas. The moisture content may be considered to be zero. The sampling time and sample volume for each run shall be at least 60 minutes and 1.15 dscm (40.6 dscf).

(3) Suitable methods shall be used to determine the production rate (P) of 100 percent H<sub>2</sub>SO<sub>4</sub> for each run. Material balance over the production system shall be used to confirm the production rate.

(4) Method 9 and the procedures in § 60.11 shall be used to determine opacity.

(c) The owner or operator may use the following as alternatives to the reference methods and procedures specified in this section:

(1) If a source processes elemental sulfur or an ore that contains elemental sulfur and uses air to supply oxygen, the following procedure may be used instead of determining the volumetric flow rate and production rate:

(i) The integrated technique of Method 3 is used to determine the O<sub>2</sub> concentration and, if required, CO<sub>2</sub> concentration.

(ii) The SO<sub>2</sub> or acid mist emission rate is calculated as described in § 60.84(d), substituting the acid mist concentration for C, as appropriate.

[54 FR 6666, Feb. 14, 1989]

## Subpart I—Standards of Performance for Hot Mix Asphalt Facilities

### § 60.90 Applicability and designation of affected facility.

(a) The affected facility to which the provisions of this subpart apply is each hot mix asphalt facility. For the pur-

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pose of this subpart, a hot mix asphalt facility is comprised only of any combination of the following: dryers; systems for screening, handling, storing, and weighing hot aggregate; systems for loading, transferring, and storing mineral filler, systems for mixing hot mix asphalt; and the loading, transfer, and storage systems associated with emission control systems.

(b) Any facility under paragraph (a) of this section that commences construction or modification after June 11, 1973, is subject to the requirements of this subpart.

[42 FR 37936, July 25, 1977, as amended at 51 FR 12325, Apr. 10, 1986]

### § 60.91 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in subpart A of this part.

(a) *Hot mix asphalt facility* means any facility, as described in § 60.90, used to manufacture hot mix asphalt by heating and drying aggregate and mixing with asphalt cements.

[51 FR 12325, Apr. 10, 1986]

### § 60.92 Standard for particulate matter.

(a) On and after the date on which the performance test required to be conducted by § 60.8 is completed, no owner or operator subject to the provisions of this subpart shall discharge or cause the discharge into the atmosphere from any affected facility any gases which:

(1) Contain particulate matter in excess of 90 mg/dscm (0.04 gr/dscf).

(2) Exhibit 20 percent opacity, or greater.

[39 FR 9314, Mar. 8, 1974, as amended at 40 FR 46259, Oct. 6, 1975]

### § 60.93 Test methods and procedures.

(a) In conducting the performance tests required in § 60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in § 60.8(b).

(b) The owner or operator shall determine compliance with the particulate matter standards in § 60.92 as follows: