

3745-103-34 **Actual SO₂ emissions rate.**

[Comment: For dates and availability of non-regulatory government publications, publications of recognized organizations and associations, federal rules, and federal statutory provisions referenced in this rule, see paragraph (C) of rule 3745-103-01 of the Administrative Code titled "Referenced materials."]

(A) Data requirements. The designated representative of a combustion source shall submit the calculations under this rule based on data submitted under rule 3745-103-33 of the Administrative Code for the following calendar year:

(1) For combustion sources that commenced operation prior to January 1, 1985, the calendar year for calculating the actual SO₂ emissions rate shall be 1985.

(2) For combustion sources that commenced operation after January 1, 1985, the calendar year for calculating the actual SO₂ emissions rate shall be the first year of the three consecutive calendar years of the alternative baseline under paragraph (B)(2) of rule 3745-103-33 of the Administrative Code.

(3) For combustion sources meeting the requirements of paragraph (C) of rule 3745-103-33 of the Administrative Code, the calendar year for calculating the actual SO₂ emissions rate shall be the first year of the three consecutive calendar years to be used as alternative data under paragraph (C) of rule 3745-103-33 of the Administrative Code.

(B) SO₂ emissions factor calculation. The SO₂ emissions factor for each type of fuel consumed during the specified year, expressed in pounds per thousand tons for coal, pounds per thousand barrels for oil and pounds per million cubic feet at standard conditions for gas, shall be calculated as follows:

SO₂ emissions factor = (Average percent of sulfur by weight) x (K), where,

Average per cent of sulfur by weight

= Annual average, for a combustion source submitting annual data

= Monthly average, for a combustion source submitting monthly data

K = 39,000 for bituminous coal or anthracite

= 35,000 for subbituminous coal

= 30,000 for lignite

= 5,964 for distillate (light) oil

= 6,594 for residual (heavy) oil

= 0.6 for natural gas

For other fuels, the combustion source must specify the SO₂ emissions factor.

(C) Annual SO₂ emissions calculation. Annual SO₂ emissions for the specified calendar year, expressed in pounds, shall be calculated as follows:

(1) For a combustion source submitting monthly data,

$$\text{Annual SO}_2 \text{ Emissions} = \sum_{\text{Month} = \text{Jan}}^{\text{Dec}} \sum_{\text{Fuel TYPES}} \left[\begin{array}{l} \text{Quantity Of Fuel Consumed} \\ \times \text{SO}_2 \text{ Emissions Factor} \\ \times (1 - \text{Control System Efficiency}) \\ \times (1 - \text{Fuel Pre-Treatment Efficiency}) \end{array} \right]$$

(2) For a combustion source submitting annual data:

$$\text{Annual SO}_2 \text{ Emissions} = \sum_{\text{Fuel Types}} \left[\begin{array}{l} \text{Quantity Of Fuel Consumed} \\ \times \text{SO}_2 \text{ Emissions Factor} \\ \times (1 - \text{Control System Efficiency}) \\ \times (1 - \text{Fuel Pre-Treatment Efficiency}) \end{array} \right]$$

Where,

"Quantity of fuel consumed" is as defined under paragraph (A)(2)(a) of rule 3745-103-33 of the Administrative Code; "SO₂ emissions factor" is as defined under paragraph (B) of this rule; "control system efficiency" is as defined under 40 CFR ~~60.48a~~60.48Da and 40 CFR Part 60, Appendix A, Method 19, if applicable; and "fuel pre-treatment efficiency" is as defined under 40 CFR ~~60.48a~~60.48Da and 40 CFR Part 60, Appendix A, Method 19, if applicable.

(D) Annual fuel consumption calculation. Annual fuel consumption for the specified calendar year, expressed in MMBtu, shall be calculated as defined under paragraph (B)(1) or (B)(2) of rule 3745-103-33 of the Administrative Code.

(E) Actual SO₂ emissions rate calculation. The actual SO₂ emissions rate for the specified calendar year, expressed in pounds per MMBtu, shall be calculated as follows:

$$\text{Actual SO}_2 \text{ Emissions Rate} = \frac{\text{Annual SO}_2 \text{ Emissions}}{\text{Annual Fuel Consumption}}$$

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Certification

Date

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