

§ 98.314

Where:

- E_p = Annual CO₂ mass emissions from chloride process line p (metric tons).
- $C_{p,n}$ = Calcined petroleum coke consumption for process line p in month n (tons).
- 44/12 = Ratio of molecular weights, CO₂ to carbon.
- 2000/2205 = Conversion of tons to metric tons.
- CCF_n = Carbon content factor for petroleum coke consumed in month n from the supplier or as measured by the applicable method incorporated by reference in § 98.7 according to § 98.314(c) (percent by weight expressed as a decimal fraction).
- n = Number of month.

(3) If facility generates carbon-containing waste, you must calculate the total annual quantity of carbon-containing waste produced from all process lines using Equation EE-3 of this section and its carbon contents according to § 98.314(e) and (f):

$$TWC = \sum_{p=1}^m \sum_{n=1}^{12} WC_{p,n} \quad (\text{Eq. EE-3})$$

Where:

- TWC = Annual production of carbon-containing waste from titanium dioxide production facility (tons).
- $WC_{p,n}$ = Production of carbon-containing waste in month n from chloride process line p (tons).
- p = Process line.
- m = Total number of process lines.
- n = Number of month.

(c) If GHG emissions from a chloride process line are vented through the same stack as any combustion unit or process equipment that reports CO₂ emissions using a CEMS that complies with the Tier 4 Calculation Methodology in subpart C of this part (General Stationary Fuel Combustion Sources), then the calculation methodology in paragraph (b) of this section shall not be used to calculate process CO₂ emissions. The owner or operator shall report under this subpart the combined stack emissions according to the Tier 4 Calculation Methodology in § 98.33(a)(4) and all associated requirements for Tier 4 in subpart C of this part.

§ 98.314 Monitoring and QA/QC requirements.

(a) You must measure your consumption of calcined petroleum coke using plant instruments used for accounting purposes including direct measurement

weighing the petroleum coke fed into your process (by belt scales or a similar device) or through the use of purchase records.

(b) You must document the procedures used to ensure the accuracy of monthly calcined petroleum coke consumption measurements.

(c) You must determine the carbon content of the calcined petroleum coke each month based on reports from the supplier. Alternatively, facilities can measure monthly carbon contents of the petroleum coke using ASTM D3176–89 (Reapproved 2002) Standard Practice for Ultimate Analysis of Coal and Coke (incorporated by reference, see § 98.7) and ASTM D5373–08 Standard Test Methods for Instrumental Determination of Carbon, Hydrogen, and Nitrogen in Laboratory Samples of Coal (incorporated by reference, see § 98.7).

(d) For quality assurance and quality control of the supplier data, you must conduct an annual measurement of the carbon content from a representative sample of the petroleum coke consumed using ASTM D3176–89 and ASTM D5373–08.

(e) You must determine the quantity of carbon-containing waste generated from the each titanium production line dioxide using plant instruments used for accounting purposes including direct measurement weighing the carbon-containing waste not used during the process (by belt scales or a similar device) or through the use of sales records.

(f) You must determine the carbon contents of the carbon-containing waste from each titanium production line on an annual basis by collecting and analyzing a representative sample of the material using ASTM D3176–89 and ASTM D5373–08.

§ 98.315 Procedures for estimating missing data.

For the petroleum coke input procedure in § 98.313(b), a complete record of all measured parameters used in the GHG emissions calculations is required (e.g., carbon content values, etc.). Therefore, whenever the monitoring and quality assurance procedures in § 98.315 cannot be followed, a substitute data value for the missing parameter shall be used in the calculations as

Environmental Protection Agency

§ 98.316

specified in the paragraphs (a) through (c) of this section. You must document and keep records of the procedures used for all such estimates.

(a) For each missing value of the monthly carbon content of calcined petroleum coke the substitute data value shall be the arithmetic average of the quality-assured values of carbon contents for the month immediately preceding and the month immediately following the missing data incident. If no quality-assured data on carbon contents are available prior to the missing data incident, the substitute data value shall be the first quality-assured value for carbon contents obtained after the missing data period.

(b) For each missing value of the monthly calcined petroleum coke consumption and/or carbon-containing waste, the substitute data value shall be the best available estimate of the monthly petroleum coke consumption based on all available process data or information used for accounting purposes (such as purchase records).

(c) For each missing value of the carbon content of carbon-containing waste, you must conduct a new analysis following the procedures in § 98.314(f).

§ 98.316 Data reporting requirements.

In addition to the information required by § 98.3(c), each annual report must contain the information specified in paragraphs (a) or (b) of this section, as applicable for each titanium dioxide production line.

(a) If a CEMS is used to measure CO₂ emissions, then you must report the relevant information required under § 98.36(e)(2)(vi) for the Tier 4 Calculation Methodology and the following information in this paragraph (a).

(1) Identification number of each process line.

(2) Annual consumption of calcined petroleum coke (tons).

(3) Annual production of titanium dioxide (tons).

(4) Annual production capacity of titanium dioxide (tons).

(5) Annual production of carbon-containing waste (tons), if applicable.

(b) If a CEMS is not used to measure CO₂ emissions, then you must report

the information listed in this paragraph (b):

(1) Identification number of each process line.

(2) Annual CO₂ emissions from each chloride process line (metric tons/year).

(3) Annual consumption of calcined petroleum coke for each process line (tons).

(4) Annual production of titanium dioxide for each process line (tons).

(5) Annual production capacity of titanium dioxide for each process line (tons).

(6) Calcined petroleum coke consumption for each process line for each month (tons).

(7) Annual production of carbon-containing waste for each process line (tons), if applicable.

(8) Monthly production of titanium dioxide for each process line (tons).

(9) Monthly carbon content factor of petroleum coke from the supplier (percent by weight expressed as a decimal fraction).

(10) Whether monthly carbon content of the petroleum coke is based on reports from the supplier or through self measurement using applicable ASTM standard methods.

(11) Carbon content for carbon-containing waste (percent by weight expressed as a decimal fraction).

(12) If carbon content of petroleum coke is based on self measurement, the ASTM standard methods used.

(13) Sampling analysis results of carbon content of petroleum coke as determined for QA/QC of supplier data under § 98.314(d) (percent by weight expressed as a decimal fraction).

(14) Number of separate chloride process lines located at the facility.

(15) The number of times in the reporting year that missing data procedures were followed to measure the carbon contents of petroleum coke (number of months); petroleum coke consumption (number of months); carbon-containing waste generated (number of months); and carbon contents of the carbon-containing waste (number of times during year).