

**§ 98.197**

**40 CFR Ch. I (7–1–10 Edition)**

- (2) Monthly emission factors for each lime type.
- (3) Monthly emission factors for each sold byproduct/waste by lime type.
- (4) Standard method used (ASTM or NLA testing method) to determine chemical compositions of each lime type and lime byproduct/waste type.
- (5) Monthly results of chemical composition analysis of each lime product and byproduct/waste sold.
- (6) Annual results of chemical composition analysis of each type of lime byproduct/waste not sold.
- (7) Method used to determine the quantity of lime sold.
- (8) Monthly amount of lime product sold, by type (tons).
- (9) Method used to determine the quantity of lime byproduct/waste sold.
- (10) Monthly amount of lime byproduct/waste sold, by type (tons).
- (11) Annual amount of lime byproduct/waste not sold (tons).
- (12) Monthly mass of each lime type produced (tons).
- (13) Beginning and end of year inventories for each lime product.
- (14) Beginning and end of year inventories for lime byproducts/wastes.
- (15) Annual lime production capacity (tons) per facility.

- (16) Number of times in the reporting year that missing data procedures were followed to measure lime production (months) or the chemical composition of lime products sold (months).
- (17) Indicate whether CO<sub>2</sub> was used on-site (i.e. for use in a purification process). If CO<sub>2</sub> was used on-site, provide the information in paragraphs (b)(17)(i) and (b)(17)(ii) of this section.
  - (i) The annual amount of CO<sub>2</sub> captured for use in the on-site process.
  - (ii) The method used to determine the amount of CO<sub>2</sub> captured.

**§ 98.197 Records that must be retained.**

In addition to the records required by § 98.3(g), you must retain the records specified in paragraphs (a) and (b) of this section.

- (a) Annual operating hours in calendar year.
- (b) Records of all analyses (e.g. chemical composition of lime products, by type) and calculations conducted.

**§ 98.198 Definitions.**

All terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part.

TABLE S-1 TO SUBPART S OF PART 98—BASIC PARAMETERS FOR THE CALCULATION OF EMISSION FACTORS FOR LIME PRODUCTION

Variable	Stoichiometric ratio
SR <sub>CaO</sub> .....	0.7848
SR <sub>MgO</sub> .....	1.0918

**Subpart T [Reserved]**

**Subpart U—Miscellaneous Uses of Carbonate**

**§ 98.210 Definition of the source category.**

(a) This source category includes any equipment that uses carbonates listed in Table U-1 in manufacturing processes that emit carbon dioxide. Table U-1 includes the following carbonates: limestone, dolomite, ankerite, magnesite, siderite, rhodochrosite, or sodium carbonate. Facilities are considered to emit CO<sub>2</sub> if they consume at

least 2,000 tons per year of carbonates heated to a temperature sufficient to allow the calcination reaction to occur.

(b) This source category does not include equipment that uses carbonates or carbonate containing minerals that are consumed in the production of cement, glass, ferroalloys, iron and steel, lead, lime, phosphoric acid, pulp and paper, soda ash, sodium bicarbonate, sodium hydroxide, or zinc.

(c) This source category does not include carbonates used in sorbent technology used to control emissions from stationary fuel combustion equipment. Emissions from carbonates used in sorbent technology are reported under 40 CFR 98, subpart C (Stationary Fuel Combustion Sources).

**§ 98.211 Reporting threshold.**

You must report GHG emissions from miscellaneous uses of carbonate if your facility uses carbonates as defined in § 98.210 of this subpart and the facility

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meets the requirements of either §98.2(a)(1) or (a)(2).

**§ 98.212 GHGs to report.**

You must report CO<sub>2</sub> process emissions from all miscellaneous carbonate use at your facility as specified in this subpart.

**§ 98.213 Calculating GHG emissions.**

You must determine CO<sub>2</sub> process emissions from carbonate use in accordance with the procedures specified in either paragraphs (a) or (b) of this section.

(a) Calculate the process emissions of CO<sub>2</sub> using calcination fractions with Equation U-1 of this section.

$$E_{CO_2} = \sum_{i=1}^n M_i * EF_i * F_i * \frac{2000}{2205} \quad (\text{Eq. U-1})$$

Where:

E<sub>CO<sub>2</sub></sub> = Annual CO<sub>2</sub> mass emissions from consumption of carbonates (metric tons).

M<sub>i</sub> = Annual mass of carbonate type i consumed (tons).

EF<sub>i</sub> = Emission factor for the carbonate type i, as specified in Table U-1 to this subpart, metric tons CO<sub>2</sub>/metric ton carbonate consumed.

F<sub>i</sub> = Fraction calcination achieved for each particular carbonate type i (decimal frac-

tion). As an alternative to measuring the calcination fraction, a value of 1.0 can be used.

n = Number of carbonate types.

2000/2205 = Conversion factor to convert tons to metric tons.

(b) Calculate the process emissions of CO<sub>2</sub> using actual mass of output carbonates with Equation U-2 of this section.

$$E_{CO_2} = \left[ \sum_{k=1}^m (M_k * EF_k) - \sum_{j=1}^n (M_j * EF_j) \right] * \frac{2000}{2205} \quad (\text{Eq. U-2})$$

Where:

E<sub>CO<sub>2</sub></sub> = Annual CO<sub>2</sub> mass emissions from consumption of carbonates (metric tons).

M<sub>k</sub> = Annual mass of input carbonate type k (tons).

EF<sub>k</sub> = Emission factor for the carbonate type k, as specified in Table U-1 of this subpart (metric tons CO<sub>2</sub>/metric ton carbonate input).

M<sub>j</sub> = Annual mass of output carbonate type j (tons).

EF<sub>j</sub> = Emission factor for the output carbonate type j, as specified in Table U-1 of this subpart (metric tons CO<sub>2</sub>/metric ton carbonate input).

m = Number of input carbonate types.

n = Number of output carbonate types.

**§ 98.214 Monitoring and QA/QC requirements.**

(a) The annual mass of carbonate consumed (for Equation U-1 of this subpart) or carbonate inputs (for Equation U-2 of this subpart) must be deter-

mined annually from monthly measurements using the same plant instruments used for accounting purposes including purchase records or direct measurement, such as weigh hoppers or weigh belt feeders.

(b) The annual mass of carbonate outputs (for Equation U-2 of this subpart) must be determined annually from monthly measurements using the same plant instruments used for accounting purposes including purchase records or direct measurement, such as weigh hoppers or belt weigh feeders.

(c) If you follow the procedures of §98.213(a), as an alternative to assuming a calcination fraction of 1.0, you can determine on an annual basis the calcination fraction for each carbonate consumed based on sampling and chemical analysis using a suitable method such as using an x-ray fluorescence