material, if a value other than 1.0 is used to calculate process mass emissions of CO_2.

(7) Method used to determine fraction of calcination.

(8) Total number of continuous glass melting furnaces.

(9) The number of times in the reporting year that missing data procedures were followed to measure monthly quantities of carbonate-based raw materials or mass fraction of the carbonate-based minerals for any continuous glass melting furnace (months).

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66462, Oct. 28, 2010]

§ 98.147 Records that must be retained.

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

(a) If a CEMS is used to measure emissions, then you must retain the records required under § 98.37 for the Tier 4 Calculation Methodology and the following information specified in paragraphs (a)(1) and (a)(2) of this section:

(1) Monthly glass production rate for each continuous glass melting furnace (tons).

(2) Monthly amount of each carbonate-based raw material charged to each continuous glass melting furnace (tons).

(b) If process CO_2 emissions are calculated according to the procedures specified in § 98.143(b), you must retain the records in paragraphs (b)(1) through (b)(5) of this section.

(1) Monthly glass production rate for each continuous glass melting furnace (metric tons).

(2) Monthly amount of each carbonate-based raw material charged to each continuous glass melting furnace (metric tons).

(3) Data on carbonate-based mineral mass fractions provided by the raw material supplier for all raw materials consumed annually and included in calculating process emissions in Equation N–1 of this subpart.

(4) Results of all tests used to verify the carbonate-based mineral mass fraction for each carbonate-based raw material charged to a continuous glass melting furnace, including the data specified in paragraphs (b)(4)(i) through (b)(4)(v) of this section.

(i) Date of test.

(ii) Method(s), and any variations of the methods, used in the analyses.

(iii) Mass fraction of each sample analyzed.

(iv) Relevant calibration data for the instrument(s) used in the analyses.

(v) Name and address of laboratory that conducted the tests.

(5) The fraction of calcination achieved for each carbonate-based raw material (percentage, expressed as a decimal), if a value other than 1.0 is used to calculate process mass emissions of CO_2.

(c) All other documentation used to support the reported GHG emissions.

§ 98.148 Definitions.

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

TABLE N–1 TO SUBPART N OF PART 98—CO_2 EMISSION FACTORS FOR CARBONATE-BASED RAW MATERIALS

Carbonate-based raw material—mineral	CO_2 emission factor[a]
Limestone—$CaCO_3$	0.440
Dolomite—$CaMg(CO_3)_2$	0.477
Sodium carbonate/soda ash—Na_2CO_3	0.415
Barium carbonate—$BaCO_3$	0.223
Potassium carbonate—K_2CO_3	0.318
Lithium carbonate (Li_2CO_3)	0.596
Strontium carbonate ($SrCO_3$)	0.298

[a] Emission factors in units of metric tons of CO_2 emitted per metric ton of carbonate-based raw material charged to the furnace.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66462 , Oct. 28, 2010]

Subpart O—HCFC–22 Production and HFC–23 Destruction

§ 98.150 Definition of the source category.

The HCFC–22 production and HFC–23 destruction source category consists of HCFC–22 production processes and HFC–23 destruction processes.

(a) An HCFC–22 production process produces HCFC–22 (chlorodifluoromethane, or $CHClF_2$) from chloroform ($CHCl_3$) and hydrogen fluoride (HF).

(b) An HFC–23 destruction process is any process in which HFC–23 undergoes destruction. An HFC–23 destruction process may or may not be co-located with an HCFC–22 production process at the same facility.

§ 98.151 Reporting threshold.

You must report GHG emissions under this subpart if your facility contains an HCFC–22 production or HFC–23 destruction process and the facility meets the requirements of either § 98.2(a)(1) or (a)(2).

§ 98.152 GHGs to report.

(a) You must report under subpart C of this part (General Stationary Fuel Combustion Sources) the emissions of CO_2, CH_4, and N_2O from each stationary combustion unit following the requirements of subpart C.

(b) You must report HFC–23 emissions from HCFC–22 production processes and HFC–23 destruction processes.

§ 98.153 Calculating GHG emissions.

(a) The mass of HFC–23 generated from each HCFC–22 production process shall be estimated by using one of two methods, as applicable:

(1) Where the mass flow of the combined stream of HFC–23 and another reaction product (e.g., HCl) is measured, multiply the weekly (or more frequent) HFC–23 concentration measurement (which may be the average of more frequent concentration measurements) by the weekly (or more frequent) mass flow of the combined stream of HFC–23 and the other product. To estimate annual HFC–23 production, sum the weekly (or more frequent) estimates of the quantities of HFC–23 produced over the year. This calculation is summarized in Equation O–1 of this section:

$$G_{23} = \sum_{p=1}^{n} c_{23} * F_p * 10^{-3} \qquad \text{(Eq. O-1)}$$

Where:

G_{23} = Mass of HFC–23 generated annually (metric tons).

c_{23} = Fraction HFC–23 by weight in HFC–23/other product stream.

F_p = Mass flow of HFC–23/other product stream during the period p (kg).

p = Period over which mass flows and concentrations are measured.

n = Number of concentration and flow measurement periods for the year.

10^{-3} = Conversion factor from kilograms to metric tons.

(2) Where the mass of only a reaction product other than HFC–23 (either HCFC–22 or HCl) is measured, multiply the ratio of the weekly (or more frequent) measurement of the HFC–23 concentration and the weekly (or more frequent) measurement of the other product concentration by the weekly (or more frequent) mass produced of the other product. To estimate annual HFC–23 production, sum the weekly (or more frequent) estimates of the quantities of HFC–23 produced over the year. This calculation is summarized in Equation O–2 of this section, assuming that the other product is HCFC–22. If the other product is HCl, HCl may be substituted for HCFC–22 in Equations O–2 and O–3 of this section.

$$G_{23} = \sum_{p=1}^{n} \left(\frac{c_{23}}{c_{22}} \right) * P_{22} * 10^{-3} \qquad \text{(Eq. O-2)}$$

Where:

G_{23} = Mass of HFC–23 generated annually (metric tons).

c_{23} = Fraction HFC–23 by weight in HCFC–22/HFC–23 stream.

c_{22} = Fraction HCFC–22 by weight in HCFC–22/HFC–23 stream.

P_{22} = Mass of HCFC–22 produced over the period p (kg), calculated using Equation O–3 of this section.

p = Period over which masses and concentrations are measured.

n = Number of concentration and mass measurement periods for the year.

10^{-3} = Conversion factor from kilograms to metric tons.

(b) The mass of HCFC–22 produced over the period p shall be estimated by using Equation O–3 of this section:

$$P_{22} = LF * \left(O_{22} - U_{22} \right) \qquad \text{(Eq. O-3)}$$

Where:

P_{22} = Mass of HCFC–22 produced over the period p (kg).