in §98.113(d), you must maintain records of the total amount of each alloy product produced for the specified reporting period, and the appropriate alloy-product specific emission factor used to calculate the CH₄ emissions.

### Definitions

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

### Table K-1 to Subpart K of Part 98—Electric Arc Furnace (EAF) CH₄ Emission Factors

<table>
<thead>
<tr>
<th>Alloy product produced in EAF</th>
<th>CH₄ emission factor (kg CH₄ per metric ton product)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EAF Operation</td>
</tr>
<tr>
<td></td>
<td>Batch-charging</td>
</tr>
<tr>
<td>Silicon metal</td>
<td>1.5</td>
</tr>
<tr>
<td>Ferrosilicon 90%</td>
<td>1.4</td>
</tr>
<tr>
<td>Ferrosilicon 75%</td>
<td>1.3</td>
</tr>
<tr>
<td>Ferrosilicon 65%</td>
<td>1.3</td>
</tr>
</tbody>
</table>

*a* Sprinkle-charging is charging intermittently every minute.

*b* Temperature measured in off-gas channel downstream of the furnace hood.

Subparts L–M [Reserved]

Subpart N—Glass Production

### Definition of the source category.

(a) A glass manufacturing facility manufactures flat glass, container glass, pressed and blown glass, or wool fiberglass by melting a mixture of raw materials to produce molten glass and form the molten glass into sheets, containers, fibers, or other shapes. A glass manufacturing facility uses one or more continuous glass melting furnaces to produce glass.

(b) A glass melting furnace that is an experimental furnace or a research and development process unit is not subject to this subpart.

### Reporting threshold.

You must report GHG emissions under this subpart if your facility contains a glass production process and the facility meets the requirements of either §98.2(a)(1) or (2).

### GHGs to report.

You must report:

(a) CO₂ process emissions from each continuous glass melting furnace.

(b) CO₂ combustion emissions from each continuous glass melting furnace.

(c) CH₄ and N₂O combustion emissions from each continuous glass melting furnace. You must calculate and report these emissions under subpart C of this part (General Stationary Fuel Combustion Sources) by following the requirements of subpart C.

### Calculating GHG emissions.

You must calculate and report the annual process CO₂ emissions from each continuous glass melting furnace using the procedure in paragraphs (a) and (b) of this section.

(a) For each continuous glass melting furnace that meets the conditions specified in §98.33(b)(4)(i)(i) or (iii), you must calculate and report under this subpart the combined process and combustion CO₂ emissions by operating and maintaining a CEMS to measure CO₂ emissions according to the Tier 4 Calculation Methodology specified in §98.33(a)(4) and all associated requirements for Tier 4 in subpart C of this part.
Environmental Protection Agency

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Monitoring and QA/QC requirements.

(a) You must measure annual amounts of carbonate-based raw materials charged to each continuous glass melting furnace from monthly measurements using plant instruments used for accounting purposes, such as calibrated scales or weigh hoppers. Total annual mass charged to glass melting furnaces from the raw material supplier, a value of 1.0 can be used for the mass fraction (MF) of carbonate-based mineral i in Equation N-1 of this section.

(v) You must calculate the total process CO₂ emissions from continuous glass melting furnaces at the facility using Equation N-2 of this section:

\[ \text{CO}_2 = \sum_{i=1}^{n} \text{E}_{\text{CO}_2i} \]  

Where:

- \( \text{CO}_2 \) = Annual process CO₂ emissions from glass manufacturing facility (metric tons).
- \( \text{E}_{\text{CO}_2i} \) = Annual CO₂ emissions from glass melting furnace i (metric tons).
- \( n \) = Number of continuous glass melting furnaces.

(b) For each continuous glass melting furnace that is not subject to the requirements in paragraph (a) of this section, calculate and report the process and combustion CO₂ emissions from the glass melting furnace by using either the procedure in paragraph (b)(1) of this section or the procedure in paragraphs (b)(2) through (b)(7) of this section, except as specified in paragraph (c) of this section.

(i) For each carbonate-based raw material charged to the furnace, obtain from the supplier of the raw material the carbonate-based mineral mass fraction.

(ii) Determine the quantity of each carbonate-based raw material charged to the furnace, as shown in Table N-1 to this subpart.

(iii) Apply the appropriate emission factor for each carbonate-based raw material charged to the furnace, as shown in Table N-1 to this subpart.

(iv) Use Equation N-1 of this section to calculate process mass emissions of CO₂ for each furnace:

\[ E_{\text{CO}_2} = \sum_{i=1}^{n} \text{MF}_i \cdot \left( \frac{M_i \cdot 2000}{2205} \right) \cdot \text{EF}_i \cdot F_i \]  

(Eq. N-1)

Where:

- \( E_{\text{CO}_2} \) = Process emissions of CO₂ from the furnace (metric tons).
- \( n \) = Number of carbonate-based raw materials charged to furnace.
- \( \text{MF}_i \) = Annual average mass fraction of carbonate-based mineral i in carbonate-based raw material i (percentage, expressed as a decimal).
- \( M_i \) = Annual amount of carbonate-based raw material i charged to furnace (tons).
- \( 2000/2205 \) = Conversion factor to convert tons to metric tons.
- \( \text{EF}_i \) = Emission factor for carbonate-based raw material i (metric ton CO₂ per metric ton carbonate-based raw material as shown in Table N-1 to this subpart).
- \( F_i \) = Fraction of calcination achieved for carbonate-based raw material i, assumed to be equal to 1.0 (percentage, expressed as a decimal).

(v) You must calculate the total process CO₂ emissions from continuous glass melting furnaces at the facility using Equation N-2 of this section:

\[ \text{CO}_2 = \sum_{i=1}^{k} \text{E}_{\text{CO}_2i} \]  

(Eq. N-2)

Where:

- \( \text{CO}_2 \) = Annual process CO₂ emissions from glass manufacturing facility (metric tons).
- \( \text{E}_{\text{CO}_2i} \) = Annual CO₂ emissions from glass melting furnace i (metric tons).
- \( k \) = Number of continuous glass melting furnaces.

(c) As an alternative to data provided by the raw material supplier, a value of 1.0 can be used for the mass fraction (MF) of carbonate-based mineral i in Equation N-1 of this section.

§ 98.144 Monitoring and QA/QC requirements.

(a) You must measure annual amounts of carbonate-based raw materials charged to each continuous glass melting furnace from monthly measurements using plant instruments used for accounting purposes, such as calibrated scales or weigh hoppers. Total annual mass charged to glass melting furnaces from the raw material supplier, a value of 1.0 can be used for the mass fraction (MF) of carbonate-based mineral i in Equation N-1 of this section.