Environmental Protection Agency

§ 98.204

\[
E_x = \left( I_{B,x} - I_{E,x} + A_x - D_x \right) \times 0.001 \quad \text{(Eq. T-1)}
\]

Where:

- \( E_x \) = Emissions of each cover gas or carrier gas, \( X \), in metric tons over the reporting year.
- \( I_{B,x} \) = Inventory of each cover gas or carrier gas stored in cylinders or other containers at the beginning of the year, including heels, in kg.
- \( I_{E,x} \) = Inventory of each cover gas or carrier gas stored in cylinders or other containers at the end of the year, including heels, in kg.
- \( A_x \) = Acquisitions of each cover gas or carrier gas during the year through purchases or other transactions, including heels in cylinders or other containers returned to the magnesium production or processing facility, in kg.
- \( D_x \) = Disbursements of each cover gas or carrier gas to sources and locations outside the facility through sales or other transactions during the year, including heels in cylinders or other containers returned by the magnesium production or processing facility to the gas supplier, in kg.
- 0.001 = Conversion factor from kg to metric tons.
- \( X \) = Each cover gas or carrier gas that is a GHG.

(2) To estimate emissions of cover gases or carrier gases by monitoring changes in the masses of individual containers as their contents are used, emissions of each cover gas or carrier gas shall be estimated using Equation T-2 of this section:

\[
E_{\text{GHG}} = \sum_{p=1}^{n} Q_p \times 0.001 \quad \text{(Eq. T-2)}
\]

Where:

- \( E_{\text{GHG}} \) = Emissions of each cover gas or carrier gas, \( X \), over the reporting year (metric tons).
- \( Q_p \) = The mass of the cover or carrier gas consumed (kg) over the container-use period \( p \) (e.g., one month).
- \( n \) = The number of container-use periods in the year.
- 0.001 = Conversion factor from kg to metric tons.
- \( X \) = Each cover gas or carrier gas that is a GHG.

(b) For purposes of Equation T-2 of this section, the mass of the cover gas used over the period \( p \) for an individual container shall be estimated by using Equation T-3 of this section:

\[
Q_p = M_B - M_E \quad \text{(Eq. T-3)}
\]

Where:

- \( Q_p \) = The mass of the cover or carrier gas consumed (kg) over the container-use period \( p \) (e.g., one month).
- \( M_B \) = The mass of the container’s contents (kg) at the beginning of period \( p \).
- \( M_E \) = The mass of the container’s contents (kg) at the end of period \( p \).

(c) If a facility has mass flow controllers (MFC) and the capacity to track and record MFC measurements to estimate total gas usage, the mass of each cover or carrier gas monitored may be used as the mass of cover or carrier gas consumed (\( Q_p \)), in kg for period \( p \) in Equation T-2 of this section.

§ 98.204 Monitoring and QA/QC requirements.

(a) For calendar year 2011 monitoring, the facility may submit a request to the Administrator to use one or more best available monitoring methods as listed in §98.3(d)(1)(i) through (iv). The request must be submitted no later than October 12, 2010 and must contain the information in §98.3(d)(2)(ii). To obtain approval, the request must demonstrate to the Administrator’s satisfaction that it is not reasonably feasible to acquire, install, and operate a required piece of monitoring equipment by January 1, 2011. The use of best available monitoring methods will not be approved beyond December 31, 2011.

(b) Emissions (consumption) of cover gases and carrier gases may be estimated by monitoring the changes in individual container weights and inventories using Equation T-1 of this subpart, by monitoring the changes in individual container weights as the contents of each container are used using Equations T-2 and T-3 of this subpart, or by monitoring the mass flow of the pure cover gas or carrier gas into the gas distribution system. Emissions must be estimated at least annually.
§ 98.205 Procedures for estimating missing data.

(a) A complete record of all measured parameters used in the GHG emission calculations is required. Therefore, whenever a quality-assured value of a required parameter is unavailable, a substitute data value for the missing parameter will be used in the calculations as specified in paragraph (b) of this section.

(b) Replace missing data on the emissions of cover or carrier gases by multiplying magnesium production during the missing data period by the average cover or carrier gas usage rate from the most recent period when operating conditions were similar to those for the period for which the data are missing. Calculate the usage rate for each cover or carrier gas using Equation T–4 of this section:

\[ R_{GHG} = \frac{C_{GHG}}{Mg} \times 0.001 \]  

(Eq. T-4)

Where:

- \( R_{GHG} \) = The usage rate for a particular cover or carrier gas over the period of comparable operation (metric tons gas/metric ton Mg).
- \( C_{GHG} \) = The consumption of that cover or carrier gas over the period of comparable operation (kg).
- \( Mg \) = The magnesium produced or fed into the process over the period of comparable operation (metric tons).
- 0.001 = Conversion factor from kg to metric tons.

(c) If the precise before and after weights are not available, it should be assumed that the container was emptied in the process (i.e., quantity purchased should be used, less heel).

§ 98.206 Data reporting requirements.

In addition to the information required by §98.3(c), each annual report must include the following information at the facility level:

(a) Emissions of each cover or carrier gas in metric tons.

(b) Types of production processes at the facility (e.g., primary, secondary, die casting).