Glass Furnace Emission Summary
Arglass Yamamura, LLC.
Valdosta Georgia

Greenhouse Gas - Glass Production: 40 CFR Part 98 Subpart N

Carbonate-Based Raw Material	Carbonate-Based Raw Material- Mineral	Material Consumed (pounds per year)	CO_2 Emission Factor (metric tons CO_2/metric tons carbonate-based raw material)[1]	CO_2 (Metric tons)[2]	CO_2 (tons)
Limestone	$CaCO_3$	72,054,830	0.440	14,378.3	15,849.3
Dolomite	$CaMg(CO_3)_2$	25,922,164	0.477	5,607.7	6,181.4
Soda Ash	Na_2CO_3	68,100,602	0.415	12,817.1	14,128.4
Barium Carbonate	$BaCO_3$	0	0.223	N/A	N/A
Potassium Carbonate	K_2CO_3	0	0.318	N/A	N/A
Lithium Carbonate	Li_2CO_3	0	0.596	N/A	N/A
Strontium Carbonate	$SrCO_3$	0	0.298	N/A	N/A
			Total =	32,803.1	36,159.1

1. Default emission factors from 40 CFR Subpart N, Table N–1, CO_2 Emission Factors for Carbonate-Based Raw Materials.

2. Process emissions calculated based on Equation N-1 of 40 CFR 98 Subpart N.

3. Total process CO_2 emissions from continuous glass melting furnaces at the facility were calculated based on Equation N-2 of 40 CFR 98 Subpart N.

Subpart N Inputs - MF_i and F_i

Carbonate-Based Raw Material	Carbonate-Based Raw Material- Mineral	MF_i[1]		F_i[2]	
		Value	Basis	Value	Basis
Limestone	$CaCO_3$	1.0	Default	1.0	Default
Dolomite	$CaMg(CO_3)_2$	1.0	Default	1.0	Default
Soda Ash	Na_2CO_3	1.0	Default	1.0	Default
Barium Carbonate	$BaCO_3$	N/A	N/A	N/A	N/A
Potassium Carbonate	K_2CO_3	N/A	N/A	N/A	N/A
Lithium Carbonate	Li_2CO_3	N/A	N/A	N/A	N/A
Strontium Carbonate	$SrCO_3$	N/A	N/A	N/A	N/A

1. As per 40 CFR 98.144(b), you must measure carbonate-based mineral mass fractions at least annually to verify the mass fraction data provided by the supplier of the raw material; such measurements shall be based on sampling and chemical analysis using ASTM D3682–01 (Reapproved 2006) Standard Test Method for Major and Minor Elements in Combustion Residues from Coal Utilization Processes (incorporated by reference, see §98.7) or ASTM D6349–09 Standard Test Method for Determination of Major and Minor Elements in Coal, Coke, and Solid Residues from Combustion of Coal and Coke by Inductively Coupled Plasma—Atomic Emission Spectrometry (incorporated by reference, see §98.7). Alternatively, a default value of 1.0 can be used for the mass fraction (MF_i) of carbonate-based mineral i in Equation N–1 of Subpart N (40 CFR 98.143(c)).

2. As per 40 CFR 98.144(d), you must determine on an annual basis the calcination fraction for each carbonate consumed based on sampling and chemical analysis using an industry consensus standard. This chemical analysis must be conducted using an x-ray fluorescence test or other enhanced testing method published by an industry consensus standards organization (e.g., ASTM, ASME, API, etc.). Alternatively, you may assume the calcination fraction for a carbonate-based raw material to be equal to 1.0 as per 40 CFR 98.143(b)(2)(iv).

Note: PM10 and PM2.5 = filterable + condensable

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