

§ 98.37

40 CFR Ch. I (7–1–10 Edition)

(A) The total amount of sorbent used during the report year, in short tons.

(B) The molecular weight of the sorbent.

(C) The ratio (“R”) in Equation C–11 of this subpart.

(ix) For units that combust both fossil fuel and biomass, when CEMS are used to quantify the annual CO₂ emissions and biogenic CO₂ is determined according to § 98.33(e)(2), you shall report the following additional information, as applicable:

(A) The annual volume of CO₂ emitted from the combustion of all fuels, *i.e.*, V_{total} , in scf.

(B) The annual volume of CO₂ emitted from the combustion of fossil fuels, *i.e.*, V_{ff} , in scf. If more than one type of fossil fuel was combusted, report the combustion volume of CO₂ for each fuel separately as well as the total.

(C) The annual volume of CO₂ emitted from the combustion of biomass, *i.e.*, V_{bio} , in scf.

(D) The carbon-based F-factor used in Equation C–13 of this subpart, for each type of fossil fuel combusted, in scf CO₂ per mmBtu.

(E) The annual average HHV value used in Equation C–13 of this subpart, for each type of fossil fuel combusted, in Btu/lb, Btu/gal, or Btu/scf, as appropriate.

(F) The total quantity of each type of fossil fuel combusted during the reporting year, in lb, gallons, or scf, as appropriate.

(G) Annual biogenic CO₂ mass emissions, in metric tons.

(x) When ASTM methods D7459–08 and D6866–08 are used to determine the biogenic portion of the annual CO₂ emissions from MSW combustion, report:

(A) The results of each quarterly sample analysis, expressed as a decimal fraction (e.g., if the biogenic fraction of the CO₂ emissions from MSW combustion is 30 percent, report 0.30).

(B) Annual combined biomass and fossil fuel CO₂ emissions from MSW combustion, in metric tons of CO₂e.

(C) The quantities V_{ff} , V_{total} , and V_{MSW} from § 98.33(e)(4)(ii), if CEMS are used to measure CO₂ emissions.

(D) The annual volume of biogenic CO₂ emissions from MSW combustion, in metric tons.

(xi) When ASTM methods D7459–08 and D6866–08 are used to determine the biogenic portion of the annual CO₂ emissions from a unit that co-fires biogenic (other than MSW) and non-biogenic fuels, you shall report the results of each quarterly sample analysis, expressed as a decimal fraction (e.g., if the biogenic fraction of the CO₂ emissions is 30 percent, report 0.30).

(3) Within 30 days of receipt of a written request from the Administrator, you shall submit explanations of the following:

(i) An explanation of how company records are used to quantify fuel consumption, if the Tier 1 or Tier 2 Calculation Methodology is used to calculate CO₂ emissions.

(ii) An explanation of how company records are used to quantify fuel consumption, if solid fuel is combusted and the Tier 3 Calculation Methodology is used to calculate CO₂ emissions.

(iii) An explanation of how sorbent usage is quantified.

(iv) An explanation of how company records are used to quantify fossil fuel consumption in units that uses CEMS to quantify CO₂ emissions and combusts both fossil fuel and biomass.

(v) An explanation of how company records are used to measure steam production, when it is used to calculate CO₂ mass emissions under § 98.33(a)(2)(iii) or to quantify solid fuel usage under § 98.33(c)(3).

(4) Within 30 days of receipt of a written request from the Administrator, you shall submit the verification data and information described in paragraphs (e)(2)(iii), (e)(2)(v), and (e)(2)(vii) of this section.

§ 98.37 Records that must be retained.

In addition to the requirements of § 98.3(g), you must retain the applicable records specified in §§ 98.34(f) and (g), 98.35(b), and 98.36(e).

§ 98.38 Definitions.

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

Environmental Protection Agency

Pt. 98, Subpt. C, Table C-1

TABLE C-1 TO SUBPART C OF PART 98—DEFAULT CO₂ EMISSION FACTORS AND HIGH HEAT VALUES FOR VARIOUS TYPES OF FUEL

Fuel type	Default high heat value	Default CO ₂ emission factor
Coal and coke		
	mmBtu/short ton	kg CO ₂ /mmBtu
Anthracite	25.09	103.54
Bituminous	24.93	93.40
Subbituminous	17.25	97.02
Lignite	14.21	96.36
Coke	24.80	102.04
Mixed (Commercial sector)	21.39	95.26
Mixed (Industrial coking)	26.28	93.65
Mixed (Industrial sector)	22.35	93.91
Mixed (Electric Power sector)	19.73	94.38
Natural gas		
	mmBtu/scf	kg CO ₂ /mmBtu
Pipeline (Weighted U.S. Average)	1.028 × 10 ⁻³	53.02
Petroleum products		
	mmBtu/gallon	kg CO ₂ /mmBtu
Distillate Fuel Oil No. 1	0.139	73.25
Distillate Fuel Oil No. 2	0.138	73.96
Distillate Fuel Oil No. 4	0.146	75.04
Residual Fuel Oil No. 5	0.140	72.93
Residual Fuel Oil No. 6	0.150	75.10
Still Gas	0.143	66.72
Kerosene	0.135	75.20
Liquefied petroleum gases (LPG)	0.092	62.98
Propane	0.091	61.46
Propylene	0.091	65.95
Ethane	0.096	62.64
Ethylene	0.100	67.43
Isobutane	0.097	64.91
Isobutylene	0.103	67.74
Butane	0.101	65.15
Butylene	0.103	67.73
Naphtha (<401 deg F)	0.125	68.02
Natural Gasoline	0.110	66.83
Other Oil (>401 deg F)	0.139	76.22
Pentanes Plus	0.110	70.02
Petrochemical Feedstocks	0.129	70.97
Petroleum Coke	0.143	102.41
Special Naphtha	0.125	72.34
Unfinished Oils	0.139	74.49
Heavy Gas Oils	0.148	74.92
Lubricants	0.144	74.27
Motor Gasoline	0.125	70.22
Aviation Gasoline	0.120	69.25
Kerosene-Type Jet Fuel	0.135	72.22
Asphalt and Road Oil	0.158	75.36
Crude Oil	0.138	74.49
Fossil fuel-derived fuels (solid)		
	mmBtu/short ton	kg CO ₂ /mmBtu
Municipal Solid Waste ¹	9.95	90.7
Tires	26.87	85.97
Fossil fuel-derived fuels (gaseous)		
	mmBtu/scf	kg CO ₂ /mmBtu
Blast Furnace Gas	0.092 × 10 ⁻³	274.32
Coke Oven Gas	0.599 × 10 ⁻³	46.85
Biomass fuels—solid		
	mmBtu/short ton	kg CO ₂ /mmBtu
Wood and Wood Residuals	15.38	93.80
Agricultural Byproducts	8.25	118.17
Peat	8.00	111.84
Solid Byproducts	25.83	105.51
Biomass fuels—gaseous		
	mmBtu/scf	kg CO ₂ /mmBtu
Biogas (Captured methane)	0.841 × 10 ⁻³	52.07

TABLE C-1 TO SUBPART C OF PART 98—DEFAULT CO₂ EMISSION FACTORS AND HIGH HEAT VALUES FOR VARIOUS TYPES OF FUEL—Continued

Fuel type	Default high heat value	Default CO ₂ emission factor
Biomass Fuels—Liquid	mmBtu/gallon	kg CO ₂ /mmBtu
Ethanol (100%)	0.084	68.44
Biodiesel (100%)	0.128	73.84
Rendered Animal Fat	0.125	71.06
Vegetable Oil	0.120	81.55

¹ Allowed only for units that do not generate steam and use Tier 1.

TABLE C-2 TO SUBPART C OF PART 98—DEFAULT CH₄ AND N₂O EMISSION FACTORS FOR VARIOUS TYPES OF FUEL

Fuel type	Default CH ₄ emission factor (kg CH ₄ /mmBtu)	Default N ₂ O emission factor (kg N ₂ O/mmBtu)
Coal and Coke (All fuel types in Table C-1)	1.1×10^{-2}	1.6×10^{-3}
Natural Gas	1.0×10^{-3}	1.0×10^{-4}
Petroleum (All fuel types in Table C-1)	3.0×10^{-3}	6.0×10^{-4}
Municipal Solid Waste	3.2×10^{-2}	4.2×10^{-3}
Tires	3.2×10^{-2}	4.2×10^{-3}
Blast Furnace Gas	2.2×10^{-5}	1.0×10^{-4}
Coke Oven Gas	4.8×10^{-4}	1.0×10^{-4}
Biomass Fuels—Solid (All fuel types in Table C-1)	3.2×10^{-2}	4.2×10^{-3}
Biogas	3.2×10^{-3}	6.3×10^{-4}
Biomass Fuels—Liquid (All fuel types in Table C-1)	1.1×10^{-3}	1.1×10^{-4}

Note: Those employing this table are assumed to fall under the IPCC definitions of the “Energy Industry” or “Manufacturing Industries and Construction”. In all fuels except for coal the values for these two categories are identical. For coal combustion, those who fall within the IPCC “Energy Industry” category may employ a value of 1g of CH₄/MMBtu.

¹ Allowed only for units that do not generate steam and use Tier 1.

TABLE C-2 TO SUBPART C TO PART 98—DEFAULT CH₄ AND N₂O EMISSION FACTORS FOR VARIOUS TYPES OF FUEL

Fuel type	Default CH ₄ emission factor (kg CH ₄ /mmBtu)	Default N ₂ O emission factor (kg N ₂ O/mmBtu)
Coal and Coke (All fuel types in Table C-1)	1.1×10^{-2}	1.6×10^{-3}
Natural Gas	1.0×10^{-3}	1.0×10^{-4}
Petroleum (All fuel types in Table C-1)	3.0×10^{-3}	6.0×10^{-4}
Municipal Solid Waste	3.2×10^{-2}	4.2×10^{-3}
Tires	3.2×10^{-2}	4.2×10^{-3}
Blast Furnace Gas	2.2×10^{-5}	1.0×10^{-4}
Coke Oven Gas	4.8×10^{-4}	1.0×10^{-4}
Biomass Fuels—Solid (All fuel types in Table C-1)	3.2×10^{-2}	4.2×10^{-3}
Biogas	3.2×10^{-3}	6.3×10^{-4}
Biomass Fuels—Liquid (All fuel types in Table C-1)	1.1×10^{-3}	1.1×10^{-4}

Note: Those employing this table are assumed to fall under the IPCC definitions of the “Energy Industry” or “Manufacturing Industries and Construction”. In all fuels except for coal the values for these two categories are identical. For coal combustion, those who fall within the IPCC “Energy Industry” category may employ a value of 1 g of CH₄/MMBtu.

Editorial Note: At 74FR56374, Oct. 30, 2009, part 98 was added. The added part included two tables identified as C-2 to Subpart C.

Subpart D—Electricity Generation

§98.40 Definition of the source category.

(a) The electricity generation source category comprises electricity generating units that are subject to the requirements of the Acid Rain Program and any other electricity generating units that are required to monitor and

report to EPA CO₂ emissions year-round according to 40 CFR part 75.

(b) This source category does not include portable equipment, emergency equipment, or emergency generators, as defined in §98.6.