



Air Hygiene International, Inc.

Company: XYZ Power
Location: XYZ Power Plant
Date: April 9, 2003

Gas Component		Mole (%)	Molecular Weight (lb/lb-mole)	lb Component per lb-Mole of Gas	Weight % of Component	Fuel Heat Value [HHV] (Btu/scf) ¹	Fuel Heat Value [LHV] (Btu/scf) ¹
Methane	CH4	96.491	16.04	15.477	92.97	974.27	877.20
Ethane	C2H6	2.115	30.07	0.636	3.82	37.41	34.22
Propane	C3H8	0.186	44.1	0.082	0.49	4.68	4.31
iso-Butane	iC4H10	0.019	58.12	0.011	0.07	0.62	0.57
n-Butane	nC4H10	0.023	58.12	0.013	0.08	0.75	0.69
Iso-Pentane	iC5H12	0.008	72.15	0.006	0.03	0.32	0.30
n-Pentane	nC5H12	0.005	72.15	0.004	0.02	0.20	0.19
Hexanes	C6H14	0.025	86.18	0.022	0.13	1.19	1.10
Heptanes	C7H16	0.000	100.21	0.000	0.00	0.00	0.00
Octanes	C8H18	0.000	114.23	0.000	0.00	0.00	0.00
Carbon Dioxide	CO2	0.510	44.01	0.224	1.35	0.00	0.00
Nitrogen	N2	0.618	28.01	0.173	1.04	0.00	0.00
Hydrogen Sulfide	H2S	0.000	34.08	0.000	0.00	0.00	0.00
Oxygen	O2	0.000	32	0.000	0.00	0.00	0.00
Helium	He	0.000	4	0.000	0.00	0.00	0.00
Hydrogen	H2	0.000	2	0.000	0.00	0.00	0.00
Totals (dry)		100.000		16.648	100.00	1019.44	918.57
Totals (wet)						1001.66	902.55

¹ Standardized to 60°F and 1 atm to match fuel flow data

Characteristics of Fuel Gas	
Molecular Weight of gas =	16.648 lb/lb-mole
Btu per lb. of gas =	23239.7689 gross (HHV)
Btu per lb. of gas =	20940.2961 net (LHV)
wt % VOC in fuel gas =	0.83 %
Specific Gravity =	0.5749

Component	Weight %
carbon	73.71
oxygen	0.98
hydrogen	24.27
nitrogen	1.04
helium	0.00
sulfur	0.00
Total	100.00

F-Factor (scf dry exhaust per MMBtu [HHV] = 8641.17 (Based on EPA RM-19) at 68°F and 1 atm
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F-Factor Calculation:

$$F\text{-Factor} = 1,000,000 * ((3.64 * \%H) + (1.53 * \%C) + (0.57 * \%S) + (0.14 * \%N) - (0.46 * \%O)) / GCV$$

%H, %C, %S, %N, & %O are percent weight values calculated from fuel analysis and have units of (scf/lb)/%

GCV = Gross Btu per lb. of gas (HHV)

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