

ELEMENTS OF COMBUSTION OF NATURAL GAS

$1 \text{ ft}^3 \text{ natural gas} + 10 \text{ ft}^3 \text{ air} + \text{flame} = 8 \text{ ft}^3 \text{ nitrogen} +$
 $1 \text{ ft}^3 \text{ carbon dioxide} + 2 \text{ ft}^3 \text{ water vapor}$

Heat of Combustion (for Various Materials)

Raw Material	Formula	Gross Btu/lb
Carbon	C	14,093
Hydrogen	H ₂	61,095
Carbon Monoxide	CO	4,347
Methane	CH ₄	23,875
Ethane	C ₂ H ₄	22,323
Propane	C ₃ H ₈	21,669
n-Butane	C ₄ H ₁₀	21,321
Isobutane	C ₄ H ₁₀	21,271
n-Pentane	C ₅ H ₁₂	21,095
Isopentane	C ₅ H ₁₂	21,047
Neopentane	C ₅ H ₁₂	20,978
n-Hexane	C ₆ H ₁₄	20,966
Ethylene	C ₂ H ₄	21,636
Propylene	C ₃ H ₆	21,048
n-Butene	C ₄ H ₈	20,854
Isobutene	C ₄ H ₈	20,737
n-Pentene	C ₅ H ₁₀	20,720

Benzene	C₆H₆	18,184
Toluene	C₇H₈	18,501
Xylene	C₈H₁₀	18,651
Acetylene	C₂H₂	21,502
Napthalene	C₁₀H₈	17,303
Methyl alcohol	CH₃OH	10,258
Ethyl alcohol	C₂H₅OH	13,161
Ammonia	NH₃	9,667