



Physical Properties of Commercial Propane & Butane	Commercial Propane	Commercial Butane
<b>Formula</b>	<b>C3H8</b>	<b>C4H10</b>
<b>Normal State, 60°F. 30" Mercury</b>	<b>Gas</b>	<b>Gas</b>
<b>Freezing Point (or Melting), °F</b>	<b>-310</b>	<b>-210</b>
<b>Boiling Point, °F. at 30" Mercury</b>	<b>-44</b>	<b>32</b>
<b>Specific Gravity of Gas (Air = 1) at 60°F., 30" Hg.</b>	<b>1.52</b>	<b>2.00</b>
<b>Specific Gravity of Liquid (Water = 1) 60°F/60°F.</b>	<b>0.51</b>	<b>0.58</b>
<b>Weight Per Gallon of Liquid at 60°F., lbs.</b>	<b>4.24</b>	<b>4.85</b>
<b>Gallons Per Pound of Liquid at 60°F.</b>	<b>0.236</b>	<b>0.206</b>
<b>BTU Per Gallon (Vaporized)</b>	<b>91,500</b>	<b>102,600</b>
<b>BTU Per Pound (Vaporized)</b>	<b>21,560</b>	<b>21,180</b>
<b>BTU Per Cubic Foot (Vaporized)</b>	<b>2,520</b>	<b>3,260</b>
<b>Latent Heat of Vaporization at Boiling Point, BTU/lb.</b>	<b>185</b>	<b>166</b>
<b>Latent Heat of Vaporization at Boiling Point, BTU/Gal.</b>	<b>785</b>	<b>807</b>
<b>Specific Heat of Gas, BTU/Lb./°F. at 60°F</b>	<b>0.405</b>	<b>0.385</b>
<b>Specific Heat of Liquid, BTU/Lb./°F. at 60°F.</b>	<b>.0590</b>	<b>0.550</b>
<b>Density of Gas, Pounds per cubic foot</b>	<b>0.116</b>	<b>0.153</b>
<b>Density of Liquid, Pounds per cubic foot</b>	<b>31.7</b>	<b>36.0</b>
<b>Cu. Ft. of Gas/Gal. Liquid at 60°F., 30" Hg.</b>	<b>36.5</b>	<b>31.0</b>
<b>Cu. Ft. of Gas/Lb. Liquid at 60°F, 30" Hg.</b>	<b>8.55</b>	<b>6.51</b>
<b>Vapor Pressure, Lbs./sq. in. Gauge</b>		....
Temperature -10°F	20	....
0°F	28	....
10°F	45	....
32°F	60	....
60°F	100	12
80°F	130	22.5
100°F	190	37
120°F	240	55
<b>Combustion Data:</b>		
Cu. Ft. Air Required to Burn 1 cu. ft. Gas	23.5	30.0
Cu. Ft. Oxygen Required to Burn 1 cu. ft. Gas	5	6.25
Cu. Ft. Air Required to Burn 1 lb. of Gas	200	195
Ignition Temperature	920-1020	900-1000
Maximum Flame Temperature	3600	3625
Per cent Gas in Air for Max. Flame Temp.	4.4	3.5
Max. Rate of Flame Propagation in 1" Tube, inches/sec.	32	33
Limits of Inflammability, Percentage of Gas in Air Mixture		
Percent at Lower Limit	2.4	1.9
Percent at Maximum Rate of Flame Propagation	4.8	3.8
Percent at Upper Limit	9.5	8.5
<b>Octane Number (Iso-Octane 100)</b>	<b>125</b>	<b>91</b>
<b>Products of Complete Combustion:</b>		
Cu. Ft. CO2 per Cu. Ft. Gas	3.0	3.9
Cu. Ft. Water Vapor per Cu. Ft. Gas	4.0	5.0
Cu. Ft. N2 per Cu. Ft. Gas	18.5	23.6
Lbs. CO2 per Lbs. Gas	3.0	3.1
Lbs. H2O per Lbs. Gas	1.6	1.5
Lbs. N2 per Lbs. Gas	12.0	11.8
Ultimate CO2 Per cent by Volume	13.9	14.1