



Physical Properties of Commercial Propane & Butane	Commercial Propane	Commercial Butane
Formula	C3H8	C4H10
Normal State, 60°F. 30" Mercury	Gas	Gas
Freezing Point (or Melting), °F	-310	-210
Boiling Point, °F. at 30" Mercury	-44	32
Specific Gravity of Gas (Air = 1) at 60°F., 30" Hg.	1.52	2.00
Specific Gravity of Liquid (Water = 1) 60°F/60°F.	0.51	0.58
Weight Per Gallon of Liquid at 60°F., lbs.	4.24	4.85
Gallons Per Pound of Liquid at 60°F.	0.236	0.206
BTU Per Gallon (Vaporized)	91,500	102,600
BTU Per Pound (Vaporized)	21,560	21,180
BTU Per Cubic Foot (Vaporized)	2,520	3,260
Latent Heat of Vaporization at Boiling Point, BTU/lb.	185	166
Latent Heat of Vaporization at Boiling Point, BTU/Gal.	785	807
Specific Heat of Gas, BTU/Lb./°F. at 60°F	0.405	0.385
Specific Heat of Liquid, BTU/Lb./°F. at 60°F.	.0590	0.550
Density of Gas, Pounds per cubic foot	0.116	0.153
Density of Liquid, Pounds per cubic foot	31.7	36.0
Cu. Ft. of Gas/Gal. Liquid at 60°F., 30" Hg.	36.5	31.0
Cu. Ft. of Gas/Lb. Liquid at 60°F, 30" Hg.	8.55	6.51
Vapor Pressure, Lbs./sq. in. Gauge	
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
Combustion Data:		
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
Octane Number (Iso-Octane 100)	125	91
Products of Complete Combustion:		
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