

Properties of Propane and Butane

		Propane	n-Butane	Note	
Formula		C^3H^8	C^4H^{10}		
Molecular Weight		44	58		
Specific Volume of Gas (Normal)		0.509m ³ /kg	0.386m ³ /kg		
Specific Gravity of Gas (Normal)		1.52	2.00	Heavier than air	
Density of Gas(A) (Normal)		1.96 kg/m ³	2.59 kg/m ³		
Density of Liquid(B) (0°C, Saturated Vapor Pressure)		530 kg/m ³	603 kg/m ³	Half weight of water(Saturation State)	
Volume Ratio of Gas to Liquid (A) / (B)		Approx. 270	Approx. 230		
Boiling Point (at Atmospheric Pressure)		-42 °C	-0.5 °C		
Vapor Pressure (20°C)(Gauge Pressure)		7.3 bar	1.1 bar		
Thermal Expansion of Liquid (Compare with water)		Approx. 20 times	Approx. 9 times		
Character of Combustion	Calorific Value	Per 1kg	Approx. 50 MJ	Propane and Butane has the same Calorific value in the same mass. Butane calorific value is bigger than propane's in the same volume.	
		Per 1m ³	Approx. 99 MJ		Approx. 128 MJ
	Required Theoretical Air Volume for Perfect Combustion		Approx. 24 times	Approx. 31 times	
	Range of Inflammability (%)		2.1 ~ 9.5	1.8 ~ 8.4	
Others		Melt oils, fats, and natural rubber			