



Origins in 1898

Properties of Liquefied Gases*

Placed: 03/21/2006

Replaces: 8/10/04

	Anhydrous Ammonia	Propane	Butane
Formula	NH ₃	C ₃ H ₈	C ₄ H ₁₀
Boiling Point (F)	-28	-43.7	31.1
Specific Gravity of gas (Air = 1.00)	.596	1.52	2.01
Specific Gravity of Liquid (Water = 1.00)	.616	0.51	0.58
Lbs. Per Gallon of Liquid at 60°F	5.14	4.24	4.81
BTU per Gallon of Gas at 60°F		91,044	103,047
BTU per Lb. Of Gas		21,670	21,315
BTU per Cu. Ft. of Gas at 60°F		2,558	3,368
Cu. Ft. of Vapor at 60°F/Gal. Of liquid at 60°F	04.14	36.35	31.75
Cu. Ft. of vapor at 60°F/Lb. Of liquid at 60°F	2.75	8.547	6.506
Latent heat of Vaporization at Boiling Point BTU/Gal.	3,027.0	774	797
Combustion Data:			
Cu. Ft. Air Required to Burn 1 Cu. Ft. of Gas		23.82	31.97
Flash Point °F		-156	N.A.
Ignition Temperature in Air, °F		920-1020	900-1000
Maximum Flame Temperature in Air, °F		3,595	3,615
Explosive Limits, Percentage of Gas in Air Mixture:			
At Lower Limit-%		2.4	1.9
At Upper Limit-%		9.6	8.4
Octane number (ISO-Octane = 100)		Over 100	92

*Commercial Quality. Figures shown in this chart represent average values.

RESISTANCE OF VALVES & FITTINGS IN EQUIVALENT FEET OF PIPE

	PIPE SIZE						
	1	1 ¼	1 ½	2	2 ½	3	4
Elbow 90	4	4 ½	5	6	8	9	11
Elbow 45	1	2	2	2 ½	3	4	5
Tee thru side	6	8	9	12	14	17	22
Y strainer same size as pipe	25	25	25	42	42	42	60
Y strainer next larger size	16	16	16	16	14	20	
Globe valve	28	35	45	60	65	85	120
Angle valve	15	19	22	28	35	42	57
Ball valve	½	½	½	½	½	½	½
Quick-closing gate	3	3	3	3	3	3	3

Above values are approximate and will vary from one manufacturer to another

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