



# Isobutane

## Description

Synonym: 2-Methylpropane  
Formula: C<sub>4</sub>H<sub>10</sub>

## Gas Data

Molecular Weight: 58.12  
Density: 2.4787 kg/m<sup>3</sup> @ 21.1°C, 101.325 kPa  
0.15474 lb/ft<sup>3</sup> @ 70°F, 14.696 psia  
Specific Volume: 0.40344 m<sup>3</sup>/kg @ 21.1°C, 101.325 kPa  
6.4625 ft<sup>3</sup>/lb @ 70°F, 14.696 psia

## Safety Information

LFL in Air: 1.8%  
UFL in Air: 8.4%

## Shipping Information

CAS Registry Number: 75-28-5  
UN Number: UN 1969  
ECCN Number: 1C982  
DOT Proper Shipping Name: Isobutane  
DOT Classification: 2.1 (Flammable Gas)  
DOT Label: FLAMMABLE GAS  
TC Shipping Name: Isobutane  
TC Classification: 2.1  
TC Label: FLAMMABLE GAS

## Cylinder Specifications

Cylinder Size	Valve Outlet CGA No.	Pressure		Approximate Ship Weight	
		psig @ 70°F	kPa @ 21.1°C	lb	kg
1F	510	31	211	198	90
1A	510	31	211	167	76
2	510	31	211	89	40
3	510	31	211	44	20
4	510	31	211	24	11
6	510	31	211	21	10
7	510	31	211	6	3
LB	170	31	211	6	3

Gas Grade Purity Specifications	Product Code	Cylinder Size	Content US	Metric	Equipment Recommendations	Model No.	Page No.	
<b>Isobutane, Research Purity 99.995%</b>	G2257106	1F	116 lb	52.62 kg	Single Stage Reg. LB Regulator Tee Purge Personal Monitor Detector Tube Outlet Plug Wrench Flash Arrestor	Series 3530-510	313	
<i>Typical Analysis (mol/mol units)</i>	G2257101	1A	35 lb	15.88 kg		Series 3550-170	314	
<i>Liquid Phase Analysis</i>	G2257140	2	15 lb	6.80 kg		4753-510	423	
Nitrogen < 10 ppm	G2257150	3	5 lb	2.27 kg		IQ250	398	
Oxygen < 2 ppm	G2257165	4	2 lb	0.91 kg		8014-113SB	392	
Other Hydrocarbons < 45 ppm	G2257178	6	0.88 lb	400 gm		TW-4	430	
Sulfur < 1 ppm	G2257181	7	0.44 lb	200 gm		6103A-F	434	
Water < 2 ppm								
<i>A Certificate of Analysis is available on request at a nominal charge. Analysis for sulfurs, alcohols and hydrides can be done on a custom basis. Please inquire for more information.</i>								
<b>Isobutane, Matheson Purity 99.99%</b>	G1852606	1F	116 lb	52.62 kg		Single Stage Reg. LB Regulator Tee Purge Personal Monitor Detector Tube Outlet Plug Wrench Flash Arrestor	Series 3530-510	313
<i>Typical Analysis (mol/mol units)</i>	G1852601	1A	35 lb	15.88 kg	Series 3550-170		314	
<i>Liquid Phase Analysis</i>	G1852640	2	15 lb	6.80 kg	4753-510		423	
n-Butane < 25 ppm	G1852650	3	5 lb	2.27 kg	IQ250		398	
1-Butene < 25 ppm	G1852665	4	2 lb	0.91 kg	8014-113SB		392	
2,2-Dimethylpropane < 2 ppm	G1852678	6	0.88 lb	400 gm	TW-4		430	
Ethane < 3 ppm	G1852681	7	0.44 lb	200 gm	6103A-F		434	
Ethylene < 2 ppm								
Isobutylene < 15 ppm								
Isopentane < 2 ppm								
Methane < 2 ppm								
Nitrogen < 20 ppm								
Oxygen < 5 ppm								
Other Hydrocarbons < 90 ppm								
Propane < 15 ppm								
Propylene < 3 ppm								
Sulfur < 1 ppm								
Water < 2 ppm								
<i>A Certificate of Analysis is available on request at a nominal charge. *Analysis for sulfurs, alcohols and hydrides can be done on a custom basis. Please inquire for more information.</i>								



## Isobutane (continued)

Gas Grade Purity Specifications	Product Code	Cylinder Size	Content US	Content Metric	Equipment Recommendations	Model No.	Page No.
<b>Isobutane, Ultra High Purity 99.95%</b>	G1931106	1F	116 lb	52.62 kg	Single Stage Reg.	Series 3530-510	313
<i>Typical Analysis (mol/mol units)</i>	G1931101	1A	35 lb	15.88 kg	LB Regulator	Series 3550-170	314
<i>Liquid Phase Analysis</i>	G1931140	2	15 lb	6.80 kg	Tee Purge	4753-510	423
Nitrogen < 20 ppm	G1931150	3	5 lb	2.27 kg	Personal Monitor	IQ250	398
Oxygen < 5 ppm	G1931165	4	2 lb	0.91 kg	Detector Tube	8014-113SB	392
Other Hydrocarbons < 500 ppm	G1931178	6	0.88 lb	400 gm	Outlet Plug Wrench	TW-4*	430
Sulfur < 1 ppm	G1931181	7	0.44 lb	200 gm	Flash Arrestor	6103A-F	434
Water < 3 ppm	G1931175	LB	0.375 lb	170 gm			
<i>A lot analysis is available upon request. Please inquire for individual cylinder analysis.</i>							
<i>Analysis for sulfurs, alcohols and hydrides can be done on a custom basis. Please inquire for more information.</i>							
<i>*Except LB</i>							
<b>Isobutane, Instrument Purity 99.5%</b>	G2457106	1F	116 lb	52.62 kg	Single Stage Reg.	Series 3530-510	313
<i>Guaranteed Specifications</i>	G2457101	1A	35 lb	15.88 kg	LB Regulator	Series 3550-170	314
Air < 0.05 %	G2457140	2	15 lb	6.80 kg	Tee Purge	4753-510	423
	G2457150	3	5 lb	2.27 kg	Personal Monitor	IQ250	398
	G2457165	4	2 lb	0.91 kg	Detector Tube	8014-113SB	392
	G2457178	6	0.88 lb	400 gm	Outlet Plug Wrench	TW-4*	430
	G2457181	7	0.44 lb	200 gm	Flash Arrestor	6103A-F	434
	G2457175	LB	0.375 lb	170 gm			
<i>LPG 5 and 10 gallon steel cylinders available with single or dual port CGA510 valves, FLET, and head pressure. Inquire.</i>							
<i>Liquid phase, weight/weight%</i>							
<i>A Certificate of Conformance will be provided on request.</i>							
<i>A lot analysis is available at a nominal charge.</i>							
<i>*Except LB</i>							
<b>Isobutane, CP Grade 99%</b>	G1363106	1F	116 lb	52.62 kg	Single Stage Reg.	Series 18-510	292
	G1363101	1A	35 lb	15.88 kg	LB Regulator	Series 3320-170	302
	G1363140	2	15 lb	6.80 kg	Tee Purge	4753-510	423
	G1363150	3	5 lb	2.27 kg	Personal Monitor	IQ250	398
	G1363165	4	2 lb	0.91 kg	Detector Tube	8014-113SB	392
	G1363175	LB	0.375 lb	170 gm	Outlet Plug Wrench	TW-4*	430
					Flash Arrestor	6103A-F	434
<i>LPG 5 and 10 gallon steel cylinders available with single or dual port CGA510 valves, FLET, and head pressure. Inquire.</i>							
<i>Liquid phase, weight/weight%</i>							
<i>A Certificate of Conformance will be provided on request.</i>							
<i>By request, all except LB can be furnished with full length eductor tubes for liquid withdrawal.</i>							
<i>For liquids, use manual control only.</i>							
<i>*Except LB</i>							