



# Ethylene

## Description

Synonym: Ethene  
Formula: C<sub>2</sub>H<sub>4</sub>

## Gas Data

Molecular Weight: 28.05  
Density: 1.26 kg/m<sup>3</sup> @ 0°C, 101.325 kPa  
0.0787 lb/ft<sup>3</sup> @ 32°F, 14.696 psia  
Specific Volume: 0.793 m<sup>3</sup>/kg @ 0°C, 101.325 kPa  
12.7 ft<sup>3</sup>/lb @ 32°F, 14.696 psia

## Safety Information

LFL in Air: 2.7%  
UFL in Air: 36%

## Shipping Information

CAS Registry Number: 74-85-1  
UN Number: UN 1962  
ECCN Number: 1C982  
DOT Proper Shipping Name: Ethylene, Compressed  
DOT Classification: 2.1 (Flammable Gas)  
DOT Label: FLAMMABLE GAS  
TC Shipping Name: Ethylene, Compressed  
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
1A	350	1,200	8,274	152	69
1R	350	1,200	8,274	67	30
2	350	1,200	8,274	75	34
3	350	1,200	8,274	34	16
6	350	1,200	8,274	5	2
7	350	1,200	8,274	6	3
LB	170	1,200	8,274	6	3

Gas Grade Purity Specifications	Product Code	Cylinder Size	Content US	Content Metric	Equipment Recommendations	Model No.	Page No.	
<b>Ethylene, Research Purity 99.999%</b>	G2250101	1A	30 lb	13.61 kg	Dual Stage Reg. Single Stage Reg. LB Regulator Tee Purge Personal Monitor Leak Detector Detector Tube	Series 3120-350	299	
<i>Typical Analysis (mol/mol units)</i>	G2250118	1R	18 lb	8.16 kg		Series 3530-350	313	
Acetylene < 2 ppm	G2250140	2	11 lb	4.99 kg		Series 3550-170	314	
Carbon Dioxide < 2 ppm	G2250150	3	4.5 lb	2.04 kg		4753-350	423	
Carbon Monoxide < 2 ppm	G2250178	6	0.62 lb	280 gm		IQ250	398	
Nitrogen < 2 ppm	G2250181	7	0.31 lb	140 gm		8057	402	
Oxygen < 2 ppm						8014-108B	391	
Other Hydrocarbons < 8 ppm								
Water < 3 ppm								
<i>A Certificate of Analysis is available on request at a nominal charge.</i>								
<i>Analysis for sulfurs, alcohols and hydrides can be done on a custom basis. Please inquire for more information.</i>								
<i>Not for use as a plant growth regulator.</i>								
<b>Ethylene, Matheson Purity 99.995%</b>	G1827901	1A	30 lb	13.61 kg	Dual Stage Reg. Single Stage Reg. LB Regulator Tee Purge Personal Monitor Leak Detector Detector Tube	Series 3120-350	299	
<i>Typical Analysis (mol/mol units)</i>	G1827918	1R	18 lb	8.16 kg		Series 3530-350	313	
Acetylene < 4 ppm	G1827940	2	11 lb	4.99 kg		Series 3550-170	314	
Carbon Dioxide < 5 ppm	G1827950	3	4.5 lb	2.04 kg		4753-350	423	
Carbon Monoxide < 2 ppm	G1827978	6	0.62 lb	280 gm		IQ250	398	
Nitrogen < 5 ppm	G1827981	7	0.31 lb	140 gm		8057	402	
Oxygen < 2 ppm						8014-108B	391	
Other Hydrocarbons < 80 ppm								
Water < 3 ppm								
<i>A Certificate of Analysis is available on request at a nominal charge.</i>								
<i>Analysis for sulfurs, alcohols and hydrides can be done on a custom basis. Please inquire for more information.</i>								
<i>Not for use as a plant growth regulator.</i>								



Ethylene (continued)

Gas Grade Purity Specifications	Product Code	Cylinder Size	Content US	Content Metric	Equipment Recommendations	Model No.	Page No.
<b>Ethylene, Ultra High Purity 99.95%</b>	G1920801	1A	30 lb	13.61 kg	Dual Stage Reg.	Series 3120-350	299
<i>Typical Analysis</i>	G1920818	1R	18 lb	8.16 kg	Single Stage Reg.	Series 3530-350	313
Carbon Dioxide < 10 ppm	G1920840	2	11 lb	4.99 kg	LB Regulator	Series 3550-170	314
Ethane < 300 ppm	G1920850	3	4.5 lb	2.04 kg	Tee Purge	4753-350	423
Oxygen < 10 ppm	G1920878	6	0.62 lb	280 gm	Personal Monitor	IQ250	398
Propane < 10 ppm	G1920881	7	0.31 lb	140 gm	Leak Detector	8057	402
Propylene < 50 ppm	G1920875	LB	0.25 lb	113 gm	Detector Tube	8014-108B	391
Water < 5 ppm							
<i>A lot analysis will be provided with each cylinder. 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>Not for use as a plant growth regulator.</i>							
<b>Ethylene, Polymer Purity 99.9%</b>	G1358401	1A	30 lb	13.61 kg	Dual Stage Reg.	Series 3120-350	299
<i>Typical Analysis</i>	G1358440	2	11 lb	4.99 kg	Single Stage Reg.	Series 3530-350	313
Oxygen < 10 ppm	G1358450	3	4.5 lb	2.04 kg	LB Regulator	Series 3550-170	302
Water < 5 ppm	G1358475	LB	0.25 lb	113 gm	Tee Purge	4753-350	423
					Personal Monitor	IQ250	398
					Leak Detector	8057	402
					Detector Tube	8014-108B	391
<i>A Certificate of Conformance will be provided upon request.</i>							
<i>A lot analysis is available at a nominal charge.</i>							
<i>Not for use as a plant growth regulator.</i>							
<b>Ethylene, CP Grade 99.5%</b>	G1358201	1A	30 lb	13.61 kg	Dual Stage Reg.	Series 1250-350	296
	G1358240	2	11 lb	4.99 kg	Single Stage Reg.	Series 3530-350	313
	G1358250	3	4.5 lb	2.04 kg	LB Regulator	Series 3550-170	314
	G1358275	LB	0.25 lb	113 gm	Tee Purge	4753-350	423
					Personal Monitor	IQ250	398
					Leak Detector	8057	402
					Detector Tube	8014-108B	391
<i>A Certificate of Conformance will be provided on request.</i>							
<i>Not for use as a plant growth regulator.</i>							