



Hydrogen

Description	
Formula:	H ₂
Gas Data	
Molecular Weight:	2.02
Density:	0.08235 kg/m ³ @ 25°C, 101.325 kPa 0.00521 lb/ft ³ @ 77°F, 14.696 psia
Specific Volume:	12.0 m ³ /kg @ 21.1°C, 101.325 kPa 192 ft ³ /lb @ 70°F, 14.696 psia
Safety Information	
LFL in Air:	4%
UFL in Air:	74%
Shipping Information	
CAS Registry Number:	1333-74-0
UN Number:	UN 1049
ECCN Number:	1C980
DOT Proper Shipping Name:	Hydrogen, Compressed
DOT Classification:	2.1 (Flammable Gas)
DOT Label:	FLAMMABLE GAS
TC Shipping Name:	Hydrogen, Compressed
TC Classification:	2.1
TC Label:	FLAMMABLE GAS

Cylinder Specifications					
Cylinder Size	Valve Outlet CGA No.	Pressure psig @ 70°F	Pressure kPa @ 21.1°C	Approximate Ship Weight	
				lb	kg
1H	695	3,500	24,132	198	90
1L	350	2,400	16,547	148	67
1A	350	2,200	15,168	132	60
2	350	2,000	13,790	74	34
3	350	2,000	13,790	39	18
4	350	2,000	13,790	22	10
6	350	1,585	10,928	20	9
7B	350	1,650	11,376	6	3
7A	350	825	5,688	6	3
7	350	225	1,551	6	3
LB	170	1,775	12,238	6	3

Gas Grade Purity Specifications	Product Code	Cylinder Size	Content US	Content Metric	Equipment Recommendations	Model No.	Page No.
Hydrogen, Research Purity 99.9999%	G2146101	1A	213 ft ³	6.03 m ³	Dual Stage Reg.	Consult Factory	
<i>Guaranteed Specifications</i>	G2146140	2	76 ft ³	2.15 m ³	Single Stage Reg.	Consult Factory	
Carbon Dioxide < 0.1 ppm	G2146150	3	30 ft ³	0.85 m ³	Cross Purge	Consult Factory	
Carbon Monoxide < 0.1 ppm	G2146165	4	10 ft ³	0.28 m ³	Flash Arrestor	6104A	434
Nitrogen < 0.5 ppm	G2146178	6	3.53 ft ³	100 L	Personal Monitor	IQ250	398
Oxygen < 0.1 ppm	G2146183	7B	1.77 ft ³	50 L	Leak Detector	8057	402
THC < 0.1 ppm	G2146182	7A	0.88 ft ³	25 L	Leak Detector	8066	406
Water < 0.5 ppm	G2146181	7	0.25 ft ³	7 L	Leak Detector	8081A	404
					Detector Tube	8014-137U	392
					Cyl. Valve Wrench	TW-5	430

A Certificate of Analysis is available on request at a nominal charge.

Hydrogen, Matheson Purity 99.9995%	G1851112	1L	258 ft ³	7.31 m ³	Dual Stage Reg.	Series 3810-350	318
<i>Guaranteed Specifications</i>	G1851101	1A	213 ft ³	6.03 m ³	Single Stage Reg.	Series 3610A-350	316
Argon < 2 ppm	G1851140	2	76 ft ³	2.15 m ³	Cross Purge	4774-350	422
Carbon Dioxide < 1 ppm	G1851150	3	30 ft ³	0.85 m ³	Flash Arrestor	6104A	434
Carbon Monoxide < 1 ppm	G1851165	4	10 ft ³	0.28 m ³	Personal Monitor	IQ250	398
Nitrogen < 3 ppm					Leak Detector	8057	402
Oxygen < 1 ppm					Leak Detector	8066	406
THC < 0.5 ppm					Leak Detector	8081A	404
Water < 1 ppm					Detector Tube	8014-137U	392
					Cyl. Valve Wrench	TW-5	430

A Certificate of Analysis is available on request at a nominal charge.

Hydrogen, UHP Enable 99.999%	G2671453	1L	258 ft ³	7.31 m ³	Dual Stage Reg.	Series 3810-350	318
<i>Guaranteed Specifications</i>	G2671092	1A	213 ft ³	6.03 m ³	Single Stage Reg.	Series 3610A-350	316
CO + CO ₂ < 1 ppm					Cross Purge	4774-350	422
Nitrogen < 4 ppm					Flash Arrestor	6104A	434
Oxygen < 1 ppm					Personal Monitor	IQ250	398
THC < 1 ppm					Leak Detector	8057	402
Water < 1 ppm					Leak Detector	8066	406
					Leak Detector	8081A	404
					Detector Tube	8014-137U	392
					Cyl. Valve Wrench	TW-5	430

A Certificate of Analysis is available on request at a nominal charge.



Hydrogen (continued)

Gas Grade Purity Specifications	Product Code	Cylinder Size	Content US	Content Metric	Equipment Recommendations	Model No.	Page No.
Hydrogen, Ultra High Purity 99.999%	G1939112	1L	258 ft ³	7.31 m ³	Dual Stage Reg.	Series 3810-350	318
<i>Guaranteed Specifications</i>	G1939101	1A	213 ft ³	6.03 m ³	Single Stage Reg.	Series 3610A-350	316
Nitrogen < 7 ppm	G1939140	2	76 ft ³	2.15 m ³	LB Regulator	Series 3570-170	314
Oxygen < 2 ppm	G1939150	3	30 ft ³	0.85 m ³	Cross Purge	4774-350	422
THC < 0.5 ppm	G1939165	4	10 ft ³	0.28 m ³	Flash Arrestor	6104A	434
Water < 3 ppm	G1939175	LB	2 ft ³	56 L	Personal Monitor	IQ250	398
					Leak Detector	8057	402
					Leak Detector	8066	406
					Leak Detector	8081A	404
					Detector Tube	8014-137U	392
					Cyl. Valve Wrench	TW-5	430
<i>A Certificate of Conformance will be provided on request.</i>							
<i>A lot analysis is available at a nominal charge.</i>							
Hydrogen, Zero Gas 99.99%	G2040112	1L	258 ft ³	7.31 m ³	Dual Stage Reg.	Series 3120-350	299
<i>Guaranteed Specifications</i>	G2040101	1A	213 ft ³	6.03 m ³	Single Stage Reg.	Series 3530-350	313
Oxygen < 5 ppm	G2040140	2	76 ft ³	2.15 m ³	LB Regulator	Series 3550-170	314
THC < 0.5 ppm	G2040150	3	30 ft ³	0.85 m ³	Tee Purge	4753-350	423
Water < 10 ppm	G2040165	4	10 ft ³	0.28 m ³	Flash Arrestor	6103A-F	434
	G2040175	LB	2 ft ³	56 L	Personal Monitor	IQ250	398
	G2040244	1Lx12	3096 ft ³	87.67 m ³	Leak Detector	8057	402
	G2040338	1Lx6	1548 ft ³	43.83 m ³	Leak Detector	8066	406
	G2040139	1Lx4	1032 ft ³	29.22 m ³	Leak Detector	8081A	404
					Detector Tube	8014-137U	392
					Cyl. Valve Wrench	TW-5	430
<i>A lot analysis is available on request. Please inquire for individual cylinder analysis.</i>							
Hydrogen, Prepurified 99.99%	G1150112	1L	258 ft ³	7.31 m ³	Dual Stage Reg.	Series 3120-350	299
	G1150101	1A	213 ft ³	6.03 m ³	Single Stage Reg.	Series 3530-350	313
	G1150140	2	76 ft ³	2.15 m ³	LB Regulator	Series 3550-170	314
	G1150150	3	30 ft ³	0.85 m ³	Tee Purge	4753-350	423
	G1150165	4	10 ft ³	0.28 m ³	Flash Arrestor	6103A-F	434
	G1150175	LB	2 ft ³	56 L	Personal Monitor	IQ250	398
					Leak Detector	8057	402
					Leak Detector	8066	406
					Leak Detector	8081A	404
					Detector Tube	8014-137U	392
					Cyl. Valve Wrench	TW-5	430
<i>A Certificate of Conformance will be provided on request.</i>							
Hydrogen, Extra Dry 99.9%	G1150212	1L	258 ft ³	7.31 m ³	Dual Stage Reg.	Series 1250-350	296
	G1150201	1A	213 ft ³	6.03 m ³	Single Stage Reg.	Series 3530-350	313
	G1150240	2	76 ft ³	2.15 m ³	LB Regulator	Series 3550-170	314
	G1150250	3	30 ft ³	0.85 m ³	Tee Purge	4753-350	423
	G1150265	4	10 ft ³	0.28 m ³	Flash Arrestor	6103A-F	434
	G1150275	LB	2 ft ³	56 L	Personal Monitor	IQ250	398
					Leak Detector	8057	402
					Leak Detector	8066	406
					Leak Detector	8081A	404
					Detector Tube	8014-137U	392
					Cyl. Valve Wrench	TW-5	430
<i>A Certificate of Conformance will be provided on request.</i>							
Hydrogen, 3500 psig 99.95%	G1150308	1H	322 ft ³	9.12 m ³	Single Stage Reg.	Series 3060-695	298
					Personal Monitor	IQ250	398
					Leak Detector	8057	402
					Leak Detector	8066	406
					Leak Detector	8081A	404
					Detector Tube	8014-137U	392
<i>A Certificate of Conformance will be provided on request.</i>							

**Hydrogen** *(continued)*

Gas Grade Purity Specifications	Product Code	Cylinder Size	Content		Equipment Recommendations	Model No.	Page No.
			US	Metric			
Hydrogen, CP Grade 99.0%	G1362012	1L	258 ft ³	7.31 m ³	Dual Stage Reg.	Series 81-350	293
	G1362138	1Lx6	1548 ft ³	43.83 m ³	Single Stage Reg. Tee Purge Flash Arrestor Personal Monitor Leak Detector Leak Detector Leak Detector Detector Tube Cyl. Valve Wrench	Series 18-350 4753-350 6103A-F IQ250 8057 8066 8081A 8014-137U TW-5	292 423 434 398 402 406 404 392 430

⚠ WARNING: This product can expose you to chemicals including Carbon Monoxide, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.