



Deuterium

Description

Synonym: Heavy Hydrogen
Formula: D₂

Gas Data

Molecular Weight: 4.03
Density: 0.167 kg/m³ @ 21.1°C, 101.325 kPa
0.0104 lb/ft³ @ 70°F, 14.696 psia
Specific Volume: 5.99 m³/kg @ 21.1°C, 101.325 kPa
95.9 ft³/lb @ 70°F, 14.696 psia

Shipping Information

CAS Registry Number: 7782-39-0
UN Number: UN 1957
ECCN Number: 0C004
DOT Proper Shipping Name: Deuterium, Compressed
DOT Classification: 2.1 (Flammable Gas)
DOT Label: FLAMMABLE GAS
TC Shipping Name: Deuterium, 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
1L	350	2,500	17,236	147	67
1A	350	1,760	12,135	134	61
1R	350	1,760	12,135	55	25
2	350	890	6,136	75	34
3	350	1,090	7,515	39	18
4	350	630	4,344	22	10
LBA	170	1,740	11,997	6	3
LBB	170	685	4,723	6	3

Gas Grade Purity Specifications	Product Code	Cylinder Size	Content US	Content Metric	Equipment Recommendations	Model No.	Page No.
Deuterium, Research Grade 99.999%*	G2671530	1L	251 ft ³	7100 L	Dual Stage Reg.	Series 3120-350	299
Isotopic Enrichment 99.8%	G2688953	1A	212 ft ³	6000 L	Single Stage Reg.	Series 3530-350	313
<i>Impurities</i>	G2671541	1R	124 ft ³	3500 L	LB Regulator	Series 3550-170	314
Carbon Dioxide < 2 ppm	G2671581	2	35 ft ³	1000 L	Tee Purge	4753-350	423
Carbon Monoxide < 1 ppm	G2671582	3	18 ft ³	500 L	Personal Monitor	1Q250	398
Deuterium Hydride (HD) < 5000 ppm	G2671583	4	3.53 ft ³	100 L	Leak Detector	8066	406
Hydrogen < 150 ppm	G2671584	LBA	1.77 ft ³	50 L	Cyl. Valve Wrench	TW-5	430
Nitrogen < 5 ppm							
Oxygen < 1 ppm							
Total Hydrocarbons < 1 ppm							
Water/Deuterated Water < 5 ppm							
<i>*Chemical purity excludes H₂ and HD</i>							
Deuterium, UHP Grade 99.995%*	G2671550	1L	251 ft ³	7100 L	Dual Stage Reg.	Series 3120-350	299
Isotopic Enrichment 99.7%	G2671542	1A	212 ft ³	6000 L	Single Stage Reg.	Series 3530-350	313
<i>Impurities</i>	G2671552	2	35 ft ³	1000 L	LB Regulator	Series 3550-170	314
Carbon Dioxide ≤ 4 ppm	G2671578	3	18 ft ³	500 L	Tee Purge	4753-350	423
Carbon Monoxide ≤ 2 ppm	G2671579	4	3.53 ft ³	100 L	Personal Monitor	1Q250	398
Deuterium Hydride (HD) ≤ 5000 ppm	G2671580	LBA	1.77 ft ³	50 L	Leak Detector	8066	406
Hydrogen ≤ 200 ppm					Cyl. Valve Wrench	TW-5	430
Nitrogen ≤ 10 ppm							
Oxygen ≤ 2 ppm							
Total Hydrocarbons ≤ 2 ppm							
Water/Deuterated Water ≤ 5 ppm							
<i>*Chemical purity excludes H₂ and HD</i>							