

# Carbon Dioxide CO<sub>2</sub>

Synonyms: Carbonyl Anhydride, Carbonic Acid Gas

### Physical Constants of Gas

Molecular Weight ..... 44.01  
 Specific Volume ..... 8.76 CF/lb. (0.55 m<sup>3</sup>/kg)  
 Boiling Point ..... -109.2°F (-78.4°C) 1 atm  
 Gas Density 70°F 1 atm ..... 1.87 kg/m<sup>3</sup>

### Cylinder Data

CGA Valve Outlet ..... 320, 716  
 LB CGA Outlet ..... 110, 170

### Shipping Data

Shipping Class ..... 70  
 DOT/TC Name ..... Carbon Dioxide  
 DOT Class ..... 2.2 (Nonflammable Gas)  
 TC Class ..... 2.2 (Nontoxic, Nonflammable Gas)  
 WHMIS Class ..... A  
 DOT Label ..... Nonflammable Gas  
 CAS Registry No. .... 124-38-9  
 UN No./ATA No. .... UN1013

### Safety Information

Cold gas or liquid can cause frostbite.  
 Can cause rapid suffocation.  
 Can increase respiration and heart rate.

Specifications									Recommended Equipment		
Grade	Purity (Minimum)	Size	Contents		Pressure		Weight		Description Model Number	Page	
			lbs.	kg	psig	bar	lbs.	kg			
ALPHAGAZ SFE <sup>††</sup> CO < 2 ppm H <sub>2</sub> < 2 ppm H <sub>2</sub> O < 0.5 ppm N <sub>2</sub> < 20 ppm O <sub>2</sub> < 2 ppm	99.997%	30AL	39	18	1515 <sup>***</sup>	105	85	38	Two-Stage Regulator		
									Q1-318B-320	270	
									Q1-318C-320	270	
									Scale Q5-88LC	315	
ALPHAGAZ SFC <sup>†</sup> H <sub>2</sub> O < 5 ppm N <sub>2</sub> < 50 ppm O <sub>2</sub> < 2 ppm THC < 2 ppm <sup>††</sup>	99.995%	44 30AL	50	23	830	57	183	83	Heated Regulator		
			35	16	830	57	85	38	Q1-211H-320	269	
									Two-Stage Regulator Q1-318B-320	270	
									Scale Q5-88LC	315	
ALPHAGAZ 1 <sup>**</sup> H <sub>2</sub> O < 10 ppm O <sub>2</sub> < 10 ppm	99.99%	44	50	23	830	57	183	83	Heated Regulator		
			0.5	0.2	830	57	4	2	Q1-211H-320	269	
		LB								Two-Stage Regulator Q1-211B-320	269
										Single-Stage Regulator Q1-205B-320	269
										LB Regulator Q1-20B-170	294
										CO <sub>2</sub> Heater Q5-86-320	340

\* ECD responsive < 100 ppt; FID responsive < 10 ppb.  
 \*\* Oxygen analysis available for anaerobic use – please inquire.  
 \*\*\* Cylinder pressure with helium pressure pad and dip tube.  
 † Available with helium headspace – please inquire.  
 †† < 2 ppm in gas phase.  
 Please specify if dip tube is needed for liquid withdrawal.

We stock SCOTT™ regulators, manifolds, flowmeters, point-of-use panels, cabinets, valves and related equipment.

# Carbon Dioxide continued

Specifications									Recommended Equipment	
Grade	Purity (Minimum)	Size	Contents		Pressure		Weight		Description Model Number	Page
			lbs.	kg	psig	bar	lbs.	kg		
Electronic Grade 2 CO < 0.1 ppm H <sub>2</sub> O < 3 ppm N <sub>2</sub> < 8 ppm O <sub>2</sub> < 4 ppm THC < 2 ppm	99.998% Liquid Phase	44	50	23	830	57	185	84	Two-Stage Regulator Q1-318B-(**) Q1-318C-(**)	270 270
		30AL	40	18	830	57	90	41		
		16	20	9	830	57	85	39		
Electronic Grade 1 H <sub>2</sub> O < 2 ppm N <sub>2</sub> + O <sub>2</sub> < 50 ppm THC < 0.5 ppm	99.995% Vapor Phase	44	50	23	830	57	185	84	Two-Stage Regulator Q1-318B-(**) Q1-318C-(**)	270 270
		30AL	40	18	830	57	90	41		
		16	20	9	830	57	85	39		
High-Purity	99.8%	44	50	23	830	57	185	84	Two-Stage Regulator Q1-211B-320 Q1-209A-320 Single-Stage Regulator Q1-205B-320 LB Regulator Q1-20B-170	269 268 269 294
		44 x 6*	300	136	830	57	1330	607		
		LB	0.5	0.2	830	57	4.2	2		

\* Not available in Canada.

\*\* Specify CGA. Other cylinder connections are also available – please contact your Air Liquide representative.

Need advice on SCOTT™ equipment to safely deliver gas to your point-of-use? Call our Solutions Center at 800.217.2688.