



Cal-MAT™ Daily Standards

Cal-MAT™ Daily Standards mixtures are designed to meet your daily calibration needs when an EPA Protocol mix is not required.

Cal-MAT-2™ is manufactured with a certification accuracy of ±2% of the minor component.

Matheson offers two grades of Cal-MAT™ Daily Standards. Cal-MAT-1™ mixtures are manufactured with a certification accuracy of ±1% relative of the component.

If the mixtures you need are not listed in the table below, please contact Matheson to discuss your needs in detail.

Shipping Information

UN Number: UN 1956
 DOT Proper Shipping Name: Compressed Gas, nos
(List of Components)
 DOT Classification: 2.2 (Nonflammable Gas)
 DOT Label: NON-FLAMMABLE GAS
 TC Shipping Name: Compressed Gas, nos
(List of Components)
 TC Classification: 2.2
 TC Label: NON-FLAMMABLE GAS,
 NON-POISONOUS GAS

Cylinder Specifications

Cylinder Size	Valve Outlet CGA No.	Pressure		Approximate Ship Weight	
		psig @ 70°F	kPa @ 21.1°C	lb	kg
1R	**	2,000	13,904	69	36
2R	**	2,000	13,904	48	22
3R	**	2,000	13,904	28	13

**See Equipment Recommendations for Valve Outlet CGA Number.

Binary Mixtures	Cal-MAT-1™ Product Code	Cal-MAT-2™ Product Code	Cylinder Size	Content		Equipment Recommendations	Model No.	Page No.
				US	Metric			
Ammonia in Air Ammonia 10 ppm-1% Air Balance	N/A	G0833118	1R	145 ft ³	4.11 m ³	Dual Stage Reg. Single Stage Reg. Valve Outlet CGA No. 590	Series 3810	318
	N/A	G0833147	2R	78 ft ³	2.21 m ³		Series 3510	312
	N/A	G0833159	3R	29 ft ³	0.82 m ³			
Ammonia in Nitrogen Ammonia 10 ppm-10% Nitrogen Balance	N/A	G2659733	1R	143 ft ³	4.05 m ³	Dual Stage Reg. Single Stage Reg. Valve Outlet CGA No. 705	Series 3810	318
	N/A	G2659734	2R	77 ft ³	2.18 m ³		Series 3510	312
	N/A	G2659735	3R	29 ft ³	0.82 m ³			
Carbon Dioxide in Air Carbon Dioxide 100 ppm-30% Air Balance	G0823218	G0834318	1R	145 ft ³	4.11 m ³	Dual Stage Reg. Single Stage Reg. Valve Outlet CGA No. 590	Series 1250	296
	G0823247	G0834347	2R	78 ft ³	2.21 m ³		Series 3530	313
	G0823259	G0834359	3R	29 ft ³	0.82 m ³			
Carbon Dioxide in Nitrogen Carbon Dioxide 100 ppm-30% Nitrogen Balance	G0823418	G0834518	1R	143 ft ³	4.05 m ³	Dual Stage Reg. Single Stage Reg. Valve Outlet CGA No. 580	Series 1250	296
	G0823447	G0834547	2R	77 ft ³	2.18 m ³		Series 3530	313
	G0823459	G0834559	3R	29 ft ³	0.82 m ³			
Carbon Monoxide in Air Carbon Monoxide 1 ppm-1% Air Balance	G0823618	G0834718	1R	145 ft ³	4.11 m ³	Dual Stage Reg. Single Stage Reg. Valve Outlet CGA No. 590	Series 3120	299
	G0823647	G0834747	2R	78 ft ³	2.21 m ³		Series 3530	313
	G0823659	G0834759	3R	29 ft ³	0.82 m ³			
Carbon Monoxide in Nitrogen Carbon Monoxide 1 ppm-1% Nitrogen Balance	G0823818	G0834918	1R	143 ft ³	4.05 m ³	Dual Stage Reg. Single Stage Reg. Valve Outlet CGA No. 350	Series 3120	299
	G0823847	G0834947	2R	77 ft ³	2.21 m ³		Series 3530	313
	G0823859	G0834959	3R	29 ft ³	0.82 m ³			
Hydrogen Chloride in Nitrogen Hydrogen Chloride 10 ppm-5% Nitrogen Balance	N/A	G0839723	1Q	213 ft ³	6.05 m ³	Dual Stage Reg. Single Stage Reg. Valve Outlet CGA No. 590	Series 3810	318
	N/A	G0839755	3Q	35 ft ³	0.99 m ³		Series 3610A	316
Hydrogen Sulfide in Air Hydrogen Sulfide 2 ppm-0.1% Air Balance	G2659736	G2659739	1I	145 ft ³	4.11 m ³	Dual Stage Reg. Single Stage Reg. Valve Outlet CGA No. 660	Series 3810	318
	G2659737	G2659740	2I	78 ft ³	2.21 m ³		Series 3610A	316
	G2659738	G2659741	3I	29 ft ³	0.82 m ³			
Hydrogen Sulfide in Nitrogen Hydrogen Sulfide 1 ppm-0.1% Nitrogen Balance	G0825818	G0836918	1I	143 ft ³	4.05 m ³	Dual Stage Reg. Single Stage Reg. Valve Outlet CGA No. 330	Series 3810	318
	G0825847	G0836947	2I	77 ft ³	2.18 m ³		Series 3610A	316
	G0825859	G0836959	3I	29 ft ³	0.82 m ³			
Methane in Air Methane 1 ppm-0.1% Air Balance	G0824018	G0835118	1R	145 ft ³	4.11 m ³	Dual Stage Reg. Single Stage Reg. Valve Outlet CGA No. 590	Series 3120	299
	G0824047	G0835147	2R	78 ft ³	2.21 m ³		Series 3530	313
	G0824059	G0835159	3R	29 ft ³	0.82 m ³			
Nitric Oxide in Nitrogen Nitric Oxide ≥10 ppm Nitrogen Balance	G0826018	G0839918	1R	143 ft ³	4.05 m ³	Dual Stage Reg. Single Stage Reg. Valve Outlet CGA No. 660	Series 3810	318
	G0826047	G0839947	2R	77 ft ³	2.18 m ³		Series 3510	312
	G0826059	G0839959	3R	29 ft ³	0.82 m ³			
	G2659674	G2659678	1R	143 ft ³	4.05 m ³			
	G2659675	G2659679	2R	77 ft ³	2.18 m ³			
	N/A	G2659676	1R	143 ft ³	4.05 m ³			
Nitrogen Dioxide in Air Nitrogen Dioxide 20 ppm-500 ppm Air Balance	N/A	G0837518	1R	145 ft ³	4.11 m ³	Dual Stage Reg. Single Stage Reg. Valve Outlet CGA No. 660	Series 3810	318
	N/A	G0837547	2R	78 ft ³	2.21 m ³		Series 3510	312
	N/A	G0837559	3R	29 ft ³	0.82 m ³			
Nitrogen Dioxide in Nitrogen Nitrogen Dioxide 20 ppm-100 ppm Nitrogen Balance	N/A	G2659731	1R	143 ft ³	4.05 m ³	Dual Stage Reg. Single Stage Reg. Valve Outlet CGA No. 660	Series 3810	318
	N/A	G2659732	2R	77 ft ³	2.18 m ³		Series 3510	312
	N/A	N/A	3R	29 ft ³	0.82 m ³			



Cal-MAT™ Daily Standards (continued)

Binary Mixtures		Cal-MAT-1™ Product Code	Cal-MAT-2™ Product Code	Cylinder Size	Content		Equipment Recommendations	Model No.	Page No.
					US	Metric			
Oxygen in Nitrogen		G0826818	G0837718	1R	143 ft³	4.05 m³	Dual Stage Reg.	Series 3120	299
Oxygen	0.5-49%	G0826847	G0837747	2R	77 ft³	2.18 m³	Single Stage Reg.	Series 3530	313
Nitrogen	Balance	G0826859	G0837759	3R	29 ft³	0.82 m³	Valve Outlet CGA No. ***		
Propane in Air		G0822218	G0833318	1R	145 ft³	4.11 m³	Dual Stage Reg.	Series 3120	299
Propane	1 ppm-1.3%	G0822247	G0833347	2R	78 ft³	2.21 m³	Single Stage Reg.	Series 3530	313
Air	Balance	G0822259	G0833359	3R	29 ft³	0.82 m³	Valve Outlet CGA No. 590		
Propane in Nitrogen		G0822418	G0833518	1R	143 ft³	4.05 m³	Dual Stage Reg.	Series 3120	299
Propane	1 ppm-3%	G0822447	G0833547	2R	77 ft³	2.18 m³	Single Stage Reg.	Series 3530	313
Nitrogen	Balance	G0822459	G0833559	3R	29 ft³	0.82 m³	Valve Outlet CGA No. 350		
Sulfur Dioxide in Air		G0827018	G0837918	1R	145 ft³	4.11 m³	Dual Stage Reg.	Series 3810	318
Sulfur Dioxide	5 ppm-1%	G0827047	G0837947	2R	78 ft³	2.21 m³	Single Stage Reg.	Series 3510	312
Air	Balance	G0827059	G0837959	3R	29 ft³	0.82 m³	Valve Outlet CGA No. 660		
Sulfur Dioxide in Nitrogen		G0827218	G0838118	1R	143 ft³	4.05 m³	Dual Stage Reg.	Series 3810	318
Sulfur Dioxide	5 ppm-1%	G0827247	G0838147	2R	77 ft³	2.18 m³	Single Stage Reg.	Series 3510	312
Nitrogen	Balance	G0827259	G0838159	3R	29 ft³	0.82 m³	Valve Outlet CGA No. 660		

*** Valve Outlet CGA Number is CGA 580 for concentration of Oxygen ≤ 5%, CGA 590 for concentration of Oxygen > 5% but ≤ 23%, and CGA 296 for concentration of Oxygen > 23%.

Note:

1. Some mixes may not be available due to critical mix limitations and safety considerations.
2. Please contact Matheson if your specific mix requirements are not listed.

Multicomponent Mixtures		Cal-MAT-1™ Product Code	Cal-MAT-2™ Product Code	Cylinder Size	Content		Equipment Recommendations	Model No.	Page No.
					US	Metric			
Carbon Dioxide, Oxygen in Nitrogen		G0825618	G0836718	1R	143 ft³	4.05 m³	Dual Stage Reg.	Series 3120	299
Carbon Dioxide	400 ppm-30%	G0825647	G0836747	2R	77 ft³	2.18 m³	Single-Stage Reg.	Series 3530	313
Oxygen	0.1%-50%	G0825659	G0836759	3R	29 ft³	0.82 m³	Valve Outlet CGA No. ***		
Nitrogen	Balance								
Carbon Monoxide, Oxygen in Nitrogen		G0825418	G0836518	1R	143 ft³	4.05 m³	Dual Stage Reg.	Series 3120	299
Carbon Monoxide	10 ppm-1%	G0825247	G0836547	2R	77 ft³	2.18 m³	Single Stage Reg.	Series 3530	313
Oxygen	0.1%-50%	G0825459	G0836559	3R	29 ft³	0.82 m³	Valve Outlet CGA No. ***		
Nitrogen	Balance								
Carbon Monoxide, Carbon Dioxide in Nitrogen		G0824418	G0835518	1R	143 ft³	4.05 m³	Dual Stage Reg.	Series 3120	299
Carbon Monoxide	10 ppm-1%	G0824447	G0835547	2R	77 ft³	2.18 m³	Single-Stage Reg.	Series 3530	313
Carbon Dioxide	400 ppm-30%	G0824459	G0835559	3R	29 ft³	0.82 m³	Valve Outlet CGA No. 350		
Nitrogen	Balance								
Carbon Monoxide, Carbon Dioxide, Oxygen in Nitrogen		G0825018	G0836118	1R	143 ft³	4.05 m³	Dual Stage Reg.	Series 3120	299
Carbon Monoxide	10 ppm-1%	G0825047	G0836147	2R	77 ft³	2.18 m³	Single Stage Reg.	Series 3530	313
Carbon Dioxide	400 ppm-30%	G0825059	G0836159	3R	29 ft³	0.82 m³	Valve Outlet CGA No. ***		
Oxygen	0.2%-23%								
Nitrogen	Balance								
Methane, Oxygen in Nitrogen		G0824218	G0835318	1R	143 ft³	4.05 m³	Dual Stage Reg.	Series 3120	299
Methane	1 ppm-999 ppm	G0824247	G0835347	2R	77 ft³	2.18 m³	Single-Stage Reg.	Series 3530	313
Oxygen	0.1%-23%	G0824259	G0835359	3R	29 ft³	0.82 m³	Valve Outlet CGA No. ***		
Nitrogen	Balance								
Nitric Oxide, Carbon Dioxide in Nitrogen		G0826418	G0837318	1R	143 ft³	4.05 m³	Dual Stage Reg.	Series 3810	318
Nitric Oxide	20 ppm-5000 ppm	G0826447	G0837347	2R	77 ft³	2.18 m³	Single-Stage Reg.	Series 3510	312
Carbon Dioxide	400 ppm-20%	G0826459	G0837359	3R	29 ft³	0.82 m³	Valve Outlet CGA No. 660		
Nitrogen	Balance								
Nitric Oxide, Carbon Monoxide, Carbon Dioxide in Nitrogen		G0824818	G0835918	1R	143 ft³	4.05 m³	Dual Stage Reg.	Series 3810	318
Nitric Oxide	20 ppm-5000 ppm	G0824847	G0835947	2R	77 ft³	2.18 m³	Single Stage Reg.	Series 3510	312
Carbon Monoxide	10 ppm-1%	G0824859	G0835959	3R	29 ft³	0.82 m³	Valve Outlet CGA No. 660		
Carbon Dioxide	400 ppm-20%								
Nitrogen	Balance								



Cal-MAT™ Daily Standards (continued)

Multicomponent Mixtures	Cal-MAT-1™ Product Code	Cal-MAT-2™ Product Code	Cylinder Size	Content US	Content Metric	Equipment Recommendations	Model No.	Page No.	
Nitric Oxide, Sulfur Dioxide, in Nitrogen	G0828218	G0839118	1R	143 ft ³	4.05 m ³	Dual Stage Reg. Single Stage Reg. Valve Outlet CGA No. 660	Series 3810 Series 3510	318 312	
	Nitric Oxide 20 ppm-5000 ppm	G0828247	G0839147	2R	77 ft ³				2.18 m ³
	Sulfur Dioxide 20 ppm-5000 ppm	G0828259	G0839159	3R	29 ft ³				0.82 m ³
Nitrogen Balance									
Nitric Oxide, Sulfur Dioxide, Carbon Dioxide in Nitrogen	G0827818	G0838718	1R	143 ft ³	4.05 m ³	Dual Stage Reg. Single Stage Reg. Valve Outlet CGA No. 660	Series 3810 Series 3510	318 312	
	Nitric Oxide 20 ppm-5000 ppm	G0827847	G0838747	2R	77 ft ³				2.18 m ³
	Sulfur Dioxide 20 ppm-5000 ppm	G0827859	G0838759	3R	29 ft ³				0.82 m ³
Carbon Dioxide 400 ppm-30%									
Nitrogen Balance									
Nitric Oxide, Sulfur Dioxide, Carbon Monoxide in Nitrogen	G0828418	G0839318	1R	143 ft ³	4.05 m ³	Dual Stage Reg. Single Stage Reg. Valve Outlet CGA No. 660	Series 3810 Series 3510	318 312	
	Nitric Oxide 20 ppm-5000 ppm	G0828447	G0839347	2R	77 ft ³				2.18 m ³
	Sulfur Dioxide 20 ppm-5000 ppm	G0828459	G0839359	3R	29 ft ³				0.82 m ³
Carbon Monoxide 20 ppm-1%									
Nitrogen Balance									
Propane, Carbon Dioxide, Oxygen in Nitrogen	G0823018	G0834118	1R	143 ft ³	4.05 m ³	Dual Stage Reg. Single Stage Reg. Valve Outlet CGA No. ***	Series 3120 Series 3530	299 313	
	Propane 1 ppm-1.23%	G0823047	G0834147	2R	77 ft ³				2.18 m ³
	Carbon Dioxide 400 ppm-30%	G0823059	G0834159	3R	29 ft ³				0.82 m ³
Oxygen 0.2%-23%									
Nitrogen Balance									
Propane, Carbon Monoxide in Air	G0822618	G0833718	1R	145 ft ³	4.11 m ³	Dual Stage Reg. Single Stage Reg. Valve Outlet CGA No. 590	Series 3120 Series 3530	299 313	
	Propane 1 ppm-1.23%	G0822647	G0833747	2R	77 ft ³				2.21 m ³
	Carbon Monoxide 10 ppm-1%	G0822659	G0833759	3R	29 ft ³				0.82 m ³
Air Balance									
Propane, Carbon Monoxide, Oxygen in Nitrogen	G0822818	G0839118	1R	143 ft ³	4.05 m ³	Dual Stage Reg. Single Stage Reg. Valve Outlet CGA No. ***	Series 3120 Series 3530	299 313	
	Propane 1 ppm-1.23%	G0822847	G0839147	2R	77 ft ³				2.18 m ³
	Carbon Monoxide 10 ppm-1%	G0822859	G0839159	3R	29 ft ³				0.82 m ³
Oxygen 0.23%-50%									
Nitrogen Balance									
Propane, Carbon Monoxide, Carbon Dioxide in Nitrogen	G0824618	G0835718	1R	143 ft ³	4.05 m ³	Dual Stage Reg. Single Stage Reg. Valve Outlet CGA No. 350	Series 3120 Series 3530	299 313	
	Propane 1 ppm-3%	G0824647	G0835747	2R	77 ft ³				2.18 m ³
	Carbon Monoxide 10 ppm-1%	G0824659	G0835759	3R	29 ft ³				0.82 m ³
Carbon Dioxide 400 ppm-30%									
Nitrogen Balance									
Sulfur Dioxide, Oxygen in Nitrogen	G0828618	G0839518	1R	143 ft ³	4.05 m ³	Dual Stage Reg. Single-Stage Reg. Valve Outlet CGA No. 660	Series 3810 Series 3510	318 312	
	Sulfur Dioxide 20 ppm-1%	G0828647	G0839547	2R	77 ft ³				2.18 m ³
	Oxygen 0.1%-23%	G0828659	G0839559	3R	29 ft ³				0.82 m ³
Nitrogen Balance									
Sulfur Dioxide, Carbon Dioxide in Nitrogen	G0827418	G0838318	1R	143 ft ³	4.05 m ³	Dual Stage Reg. Single-Stage Reg. Valve Outlet CGA No. 660	Series 3810 Series 3510	318 312	
	Sulfur Dioxide 20 ppm-1%	G0827447	G0838347	2R	77 ft ³				2.18 m ³
	Carbon Dioxide 400 ppm-30%	G0827459	G0838359	3R	29 ft ³				0.82 m ³
Nitrogen Balance									
Sulfur Dioxide, Carbon Dioxide, Carbon Monoxide in Nitrogen	G0827618	G0838518	1R	143 ft ³	4.05 m ³	Dual Stage Reg. Single Stage Reg. Valve Outlet CGA No. 660	Series 3810 Series 3510	318 312	
	Sulfur Dioxide 20 ppm-5000 ppm	G0827647	G0838547	2R	77 ft ³				2.18 m ³
	Carbon Dioxide 400 ppm-30%	G0827659	G0838559	3R	29 ft ³				0.82 m ³
Carbon Monoxide 20 ppm-5000 ppm									
Nitrogen Balance									
Sulfur Dioxide, Carbon Dioxide, Oxygen in Nitrogen	G0828018	G0838918	1R	143 ft ³	4.05 m ³	Dual Stage Reg. Single Stage Reg. Valve Outlet CGA No. ***	Series 3810 Series 3510	318 312	
	Sulfur Dioxide 20 ppm-5000 ppm	G0828047	G0838947	2R	77 ft ³				2.18 m ³
	Carbon Dioxide 400 ppm-30%	G0828059	G0838959	3R	29 ft ³				0.82 m ³
Oxygen 0.2%-23%									
Nitrogen Balance									

*** Valve Outlet CGA Number is CGA 580 for concentration of Oxygen ≤ 5%, CGA 590 for concentration of Oxygen > 5% but ≤ 23%, and CGA 296 for concentration of Oxygen > 23%.

Note:

1. Some mixes may not be available due to critical mix limitations and safety considerations.
2. Please contact Matheson if your specific mix requirements are not listed.