



**EPA Protocol Mixtures** (continued)

| Multicomponent Mixtures   | Product Code | Cylinder Size | Content             |                     | Equipment Recommendations  | Model No.                   | Page No.   |
|---|--------------|---------------|---------------------|---------------------|--|-----------------------------|------------|
|   |              |               | US                  | Metric              |  |                             |            |
| <b>Carbon Dioxide, Oxygen in Nitrogen</b><br>Carbon Dioxide ≥ 400 ppm<br>Oxygen ≥ 0.8 %<br><i>EPA Certification: 36 months</i>  | G0844018     | 1R            | 143 ft <sup>3</sup> | 4.05 m <sup>3</sup> | Dual Stage Reg.<br>Single Stage Reg.<br>Valve Outlet CGA No.***  | Series 3120<br>Series 3530  | 299<br>313 |
|   | G0844047     | 2R            | 77 ft <sup>3</sup>  | 2.18 m <sup>3</sup> |  |                             |            |
|   | G0844059     | 3R            | 29 ft <sup>3</sup>  | 0.82 m <sup>3</sup> |  |                             |            |
| <b>Carbon Monoxide, Oxygen in Nitrogen</b><br>Carbon Monoxide ≥ 8 ppm<br>Oxygen ≥ 0.8 %<br><i>EPA Certification: 36 months</i>  | G0844218     | 1R            | 143 ft <sup>3</sup> | 4.05 m <sup>3</sup> | Dual Stage Reg.<br>Single Stage Reg.<br>Valve Outlet CGA No.***  | Series 3120<br>Series 3530  | 299<br>313 |
|   | G0844247     | 2R            | 77 ft <sup>3</sup>  | 2.18 m <sup>3</sup> |  |                             |            |
|   | G0844259     | 3R            | 29 ft <sup>3</sup>  | 0.82 m <sup>3</sup> |  |                             |            |
| <b>Carbon Monoxide, Carbon Dioxide in Nitrogen</b><br>Carbon Monoxide ≥ 8 ppm<br>Carbon Dioxide ≥ 400 ppm<br><i>EPA Certification: 36 months</i>  | G0843818     | 1R            | 143 ft <sup>3</sup> | 4.05 m <sup>3</sup> | Dual Stage Reg.<br>Single Stage Reg.<br>Valve Outlet CGA No. 350 | Series 3120<br>Series 3530  | 299<br>313 |
|   | G0843847     | 2R            | 77 ft <sup>3</sup>  | 2.18 m <sup>3</sup> |  |                             |            |
|   | G0843859     | 3R            | 29 ft <sup>3</sup>  | 0.82 m <sup>3</sup> |  |                             |            |
| <b>Carbon Monoxide, Carbon Dioxide, Oxygen in Nitrogen</b><br>Carbon Monoxide ≥ 8 ppm<br>Carbon Dioxide ≥ 400 ppm<br>Oxygen ≥ 0.8 %<br><i>EPA Certification: 36 months</i>  | G0845318     | 1R            | 143 ft <sup>3</sup> | 4.05 m <sup>3</sup> | Dual Stage Reg.<br>Single Stage Reg.<br>Valve Outlet CGA No.***  | Series 3120<br>Series 3530  | 299<br>313 |
|   | G0845347     | 2R            | 77 ft <sup>3</sup>  | 2.18 m <sup>3</sup> |  |                             |            |
|   | G0845359     | 3R            | 29 ft <sup>3</sup>  | 0.82 m <sup>3</sup> |  |                             |            |
| <b>Methane, Oxygen in Nitrogen</b><br>Methane ≥ 1 ppm<br>Oxygen ≥ 0.8 %<br><i>EPA Certification: 36 months</i>  | G0843018     | 1R            | 143 ft <sup>3</sup> | 4.05 m <sup>3</sup> | Dual Stage Reg.<br>Single Stage Reg.<br>Valve Outlet CGA No.***  | Series 3120<br>Series 3530  | 299<br>313 |
|   | G0843047     | 2R            | 77 ft <sup>3</sup>  | 2.18 m <sup>3</sup> |  |                             |            |
|   | G0843059     | 3R            | 29 ft <sup>3</sup>  | 0.82 m <sup>3</sup> |  |                             |            |
| <b>Nitric Oxide, Carbon Dioxide in Nitrogen</b><br>Nitric Oxide ≥ 10 ppm<br>Carbon Dioxide ≥ 400 ppm<br><i>EPA Certification: 24 months</i>   | G0843618     | 1R            | 143 ft <sup>3</sup> | 4.05 m <sup>3</sup> | Dual Stage Reg.<br>Single Stage Reg.<br>Valve Outlet CGA No. 660 | Series 3810<br>Series 3510  | 318<br>312 |
|   | G0843647     | 2R            | 77 ft <sup>3</sup>  | 2.18 m <sup>3</sup> |  |                             |            |
|   | G0843659     | 3R            | 29 ft <sup>3</sup>  | 0.82 m <sup>3</sup> |  |                             |            |
| <b>Nitric Oxide, Carbon Monoxide in Nitrogen</b><br>Nitric Oxide ≥ 4 ppm<br>Carbon Monoxide ≥ 8 ppm<br><i>EPA Certification: 24 months; if either concentration is less than the above, shelf life is six (6) months.</i> | G0843418     | 1R            | 143 ft <sup>3</sup> | 4.05 m <sup>3</sup> | Dual Stage Reg.<br>Single Stage Reg.<br>Valve Outlet CGA No. 660 | Series 3810<br>Series 3510  | 318<br>312 |
|   | G0843447     | 2R            | 77 ft <sup>3</sup>  | 2.18 m <sup>3</sup> |  |                             |            |
|   | G0843459     | 3R            | 29 ft <sup>3</sup>  | 0.82 m <sup>3</sup> |  |                             |            |
| <b>Nitric Oxide, Carbon Monoxide, Carbon Dioxide in Nitrogen</b><br>Nitric Oxide ≥ 10 ppm<br>Carbon Monoxide ≥ 20 ppm<br>Carbon Dioxide ≥ 400 ppm<br><i>EPA Certification: 24 months</i>                                  | G0845718     | 1R            | 143 ft <sup>3</sup> | 4.05 m <sup>3</sup> | Dual Stage Reg.<br>Single Stage Reg.<br>Valve Outlet CGA No. 660 | Series 3810<br>Series 3510  | 318<br>312 |
|   | G0845747     | 2R            | 77 ft <sup>3</sup>  | 2.18 m <sup>3</sup> |  |                             |            |
|   | G0845759     | 3R            | 29 ft <sup>3</sup>  | 0.82 m <sup>3</sup> |  |                             |            |
| <b>Nitric Oxide, Sulfur Dioxide in Nitrogen</b><br>Nitric Oxide ≥ 10 ppm<br>Sulfur Dioxide ≥ 40 ppm<br><i>EPA Certification: 24 months</i>  | G0844418     | 1R            | 143 ft <sup>3</sup> | 4.05 m <sup>3</sup> | Dual Stage Reg.<br>Single Stage Reg.<br>Valve Outlet CGA No. 660 | Series 3810<br>Series 3610A | 318<br>316 |
|   | G0844447     | 2R            | 77 ft <sup>3</sup>  | 2.18 m <sup>3</sup> |  |                             |            |
|   | G0844459     | 3R            | 29 ft <sup>3</sup>  | 0.82 m <sup>3</sup> |  |                             |            |
| <b>Nitric Oxide, Sulfur Dioxide, Carbon Dioxide in Nitrogen</b><br>Nitric Oxide ≥ 10 ppm<br>Sulfur Dioxide ≥ 40 ppm<br>Carbon Dioxide ≥ 400 ppm<br><i>EPA Certification: 24 month</i>                                     | G0845418     | 1R            | 143 ft <sup>3</sup> | 4.05 m <sup>3</sup> | Dual Stage Reg.<br>Single Stage Reg.<br>Valve Outlet CGA No. 660 | Series 3810<br>Series 3510  | 318<br>312 |
|   | G0845447     | 2R            | 77 ft <sup>3</sup>  | 2.18 m <sup>3</sup> |  |                             |            |
|   | G0845459     | 3R            | 29 ft <sup>3</sup>  | 0.82 m <sup>3</sup> |  |                             |            |
| <b>Nitric Oxide, Sulfur Dioxide, Carbon Monoxide in Nitrogen</b><br>Nitric Oxide ≥ 10 ppm<br>Sulfur Dioxide ≥ 40 ppm<br>Carbon Monoxide ≥ 20 ppm<br><i>EPA Certification: 24 month</i>                                    | G0845618     | 1R            | 143 ft <sup>3</sup> | 4.05 m <sup>3</sup> | Dual Stage Reg.<br>Single Stage Reg.<br>Valve Outlet CGA No. 660 | Series 3810<br>Series 3510  | 318<br>312 |
|   | G0845647     | 2R            | 77 ft <sup>3</sup>  | 2.18 m <sup>3</sup> |  |                             |            |
|   | G0845659     | 3R            | 29 ft <sup>3</sup>  | 0.82 m <sup>3</sup> |  |                             |            |



# Gas Mixtures – Products for Specialty Gas Applications

## Environmental Compliance Standards

### EPA Protocol Mixtures (continued)

| Multicomponent Mixtures   | Product Code | Cylinder Size | Content             |                     | Equipment Recommendations  | Model No.                  | Page No.   |
|---|--------------|---------------|---------------------|---------------------|--|----------------------------|------------|
|   |              |               | US                  | Metric              |  |                            |            |
| <b>Propane, Carbon Dioxide, Oxygen in Nitrogen</b><br>Propane ≥ 8 ppm<br>Carbon Dioxide ≥ 400 ppm<br>Oxygen ≥ 0.8 %<br><i>EPA Certification: 36 months</i>  | G0845218     | 1R            | 143 ft <sup>3</sup> | 4.05 m <sup>3</sup> | Dual Stage Reg.<br>Single Stage Reg.<br>Valve Outlet CGA No.***  | Series 3120<br>Series 3530 | 299<br>313 |
|   | G0845247     | 2R            | 77 ft <sup>3</sup>  | 2.18 m <sup>3</sup> |  |                            |            |
|   | G0845259     | 3R            | 29 ft <sup>3</sup>  | 0.82 m <sup>3</sup> |  |                            |            |
|   |              |               |                     |                     |  |                            |            |
| <b>Propane, Carbon Monoxide in Air</b><br>Propane ≥ 1 ppm<br>Carbon Monoxide ≥ 8 ppm<br><i>EPA Certification: 36 months</i>   | G0843118     | 1R            | 145 ft <sup>3</sup> | 4.11 m <sup>3</sup> | Dual Stage Reg.<br>Single Stage Reg.<br>Valve Outlet CGA No. 590 | Series 3120<br>Series 3530 | 299<br>313 |
|   | G0843147     | 2R            | 78 ft <sup>3</sup>  | 2.21 m <sup>3</sup> |  |                            |            |
|   | G0843159     | 3R            | 29 ft <sup>3</sup>  | 0.82 m <sup>3</sup> |  |                            |            |
|   |              |               |                     |                     |  |                            |            |
| <b>Propane, Carbon Monoxide, Oxygen in Nitrogen</b><br>Propane ≥ 1 ppm<br>Carbon Monoxide ≥ 8 ppm<br>Oxygen ≥ 0.8 %<br><i>EPA Certification: 36 months</i>  | G0845018     | 1R            | 143 ft <sup>3</sup> | 4.05 m <sup>3</sup> | Dual Stage Reg.<br>Single Stage Reg.<br>Valve Outlet CGA No.***  | Series 3120<br>Series 3530 | 299<br>313 |
|   | G0845047     | 2R            | 77 ft <sup>3</sup>  | 2.18 m <sup>3</sup> |  |                            |            |
|   | G0845059     | 3R            | 29 ft <sup>3</sup>  | 0.82 m <sup>3</sup> |  |                            |            |
|   |              |               |                     |                     |  |                            |            |
| <b>Propane, Carbon Monoxide, Carbon Dioxide in Nitrogen</b><br>Propane ≥ 1 ppm<br>Carbon Monoxide ≥ 8 ppm<br>Carbon Dioxide ≥ 400 ppm<br><i>EPA Certification: 36 months</i>                      | G0845518     | 1R            | 143 ft <sup>3</sup> | 4.05 m <sup>3</sup> | Dual Stage Reg.<br>Single Stage Reg.<br>Valve Outlet CGA No. 350 | Series 3120<br>Series 3530 | 299<br>313 |
|   | G0845547     | 2R            | 77 ft <sup>3</sup>  | 2.18 m <sup>3</sup> |  |                            |            |
|   | G0845559     | 3R            | 29 ft <sup>3</sup>  | 0.82 m <sup>3</sup> |  |                            |            |
|   |              |               |                     |                     |  |                            |            |
| <b>Sulfur Dioxide, Oxygen in Nitrogen</b><br>Sulfur Dioxide 40 to 499 ppm<br>Oxygen ≥ 0.8 %<br><i>EPA Certification: 24 months</i>  | G0843518     | 1R            | 143 ft <sup>3</sup> | 4.05 m <sup>3</sup> | Dual Stage Reg.<br>Single Stage Reg.<br>Valve Outlet CGA No.***  | Series 3810<br>Series 3510 | 318<br>312 |
|   | G0843547     | 2R            | 77 ft <sup>3</sup>  | 2.18 m <sup>3</sup> |  |                            |            |
|   | G0843559     | 3R            | 29 ft <sup>3</sup>  | 0.82 m <sup>3</sup> |  |                            |            |
|   |              |               |                     |                     |  |                            |            |
| <b>Sulfur Dioxide, Carbon Dioxide in Nitrogen</b><br>Sulfur Dioxide 40 to 499 ppm<br>Carbon Dioxide ≥ 400 ppm<br><i>EPA Certification: 24 months</i>  | G0843718     | 1R            | 143 ft <sup>3</sup> | 4.05 m <sup>3</sup> | Dual Stage Reg.<br>Single Stage Reg.<br>Valve Outlet CGA No. 660 | Series 3810<br>Series 3510 | 318<br>312 |
|   | G0843747     | 2R            | 77 ft <sup>3</sup>  | 2.18 m <sup>3</sup> |  |                            |            |
|   | G0843759     | 3R            | 29 ft <sup>3</sup>  | 0.82 m <sup>3</sup> |  |                            |            |
|   |              |               |                     |                     |  |                            |            |
| <b>Sulfur Dioxide, Carbon Dioxide, Carbon Monoxide in Nitrogen</b><br>Sulfur Dioxide 40 to 499 ppm<br>Carbon Dioxide ≥ 400 ppm<br>Carbon Monoxide ≥ 20 ppm<br><i>EPA Certification: 24 months</i> | G0845818     | 1R            | 143 ft <sup>3</sup> | 4.05 m <sup>3</sup> | Dual Stage Reg.<br>Single Stage Reg.<br>Valve Outlet CGA No. 660 | Series 3810<br>Series 3510 | 318<br>312 |
|   | G0845847     | 2R            | 77 ft <sup>3</sup>  | 2.18 m <sup>3</sup> |  |                            |            |
|   | G0845859     | 3R            | 29 ft <sup>3</sup>  | 0.82 m <sup>3</sup> |  |                            |            |
|   |              |               |                     |                     |  |                            |            |
| <b>Sulfur Dioxide, Carbon Dioxide, Oxygen in Nitrogen</b><br>Sulfur Dioxide 40 to 499 ppm<br>Carbon Dioxide ≥ 400 ppm<br>Oxygen ≥ 0.8 %<br><i>EPA Certification: 24 months</i>                    | G0845118     | 1R            | 143 ft <sup>3</sup> | 4.05 m <sup>3</sup> | Dual Stage Reg.<br>Single Stage Reg.<br>Valve Outlet CGA No.***  | Series 3810<br>Series 3510 | 318<br>312 |
|   | G0845147     | 2R            | 77 ft <sup>3</sup>  | 2.18 m <sup>3</sup> |  |                            |            |
|   | G0845159     | 3R            | 29 ft <sup>3</sup>  | 0.82 m <sup>3</sup> |  |                            |            |
|   |              |               |                     |                     |  |                            |            |
| <b>Sulfur Dioxide, Carbon Dioxide, Oxygen in Nitrogen</b><br>Sulfur Dioxide ≥ 500 ppm<br>Carbon Dioxide ≥ 400 ppm<br>Oxygen ≥ 0.8 %<br><i>EPA Certification: 36 months</i>                        |              |               |                     |                     |  |                            |            |
|   |              |               |                     |                     |  |                            |            |
|   |              |               |                     |                     |  |                            |            |
|   |              |               |                     |                     |  |                            |            |

\*\*\* 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. Mixes that do not meet the specifications described above, have a maximum shelf life of six (6) months
2. Certification periods are as prescribed by the EPA Protocol September 1997.
3. Mixes defined with a six (6) month shelf life can be recertified for a length of time defined by the higher concentration standard if the guidelines defined by the Protocol stability requirements are met.
4. Some mixes may not be available due to critical mix limitations and safety considerations.
5. To maintain mix stability, EPA Protocol gas mixes should not be used below 150 psig.
6. Please contact Matheson if your specific mix requirements are not listed.