

## Two Component Gas Mixtures

| Minor Component<br>Balance Gas | CGA<br>Connection<br>Number | Equipment<br>Recommendations | Page<br>No. |
|--------------------------------|-----------------------------|------------------------------|-------------|
| <b>Acetaldehyde</b>            |                             |                              |             |
| In Helium                      | 350                         | APG                          | 29          |
| In Nitrogen                    | 350                         | APG                          | 29          |
| <b>Acrylonitrile</b>           |                             |                              |             |
| In Helium                      | 350                         | APG                          | 29          |
| In Nitrogen                    | 350                         | APG                          | 29          |
| <b>Ammonia</b>                 |                             |                              |             |
| In Air                         | 660/705*                    | APG                          | 29          |
| In Argon                       | 705                         | APG                          | 29          |
| In Helium                      | 705                         | APG                          | 29          |
| In Hydrogen                    | 330/660/705*                | APG                          | 29          |
| In Nitrogen                    | 330/660/705*                | APG                          | 29          |
| <b>Argon</b>                   |                             |                              |             |
| In Helium                      | 580                         | LABE/HPE                     | 25, 27      |
| In Hydrogen                    | 350                         | LABE/HPE                     | 25, 27      |
| In Nitrogen                    | 580                         | LABE/HPE                     | 25, 27      |
| In Oxygen                      | 296                         | LABE/HPE                     | 25, 27      |
| <b>Benzene</b>                 |                             |                              |             |
| In Air                         | 590                         | LABE/HPE                     | 25, 27      |
| In Helium                      | 350                         | LABE/HPE                     | 25, 27      |
| In Nitrogen                    | 350                         | LABE/HPE                     | 25, 27      |
| <b>Butane</b>                  |                             |                              |             |
| In Air                         | 590                         | LABE/HPE                     | 25, 27      |
| In Argon                       | 350                         | LABE/HPE                     | 25, 27      |
| In Helium                      | 350                         | LABE/HPE                     | 25, 27      |
| In Hydrogen                    | 350                         | LABE/HPE                     | 25, 27      |
| In Nitrogen                    | 350                         | LABE/HPE                     | 25, 27      |
| <b>Carbon Dioxide</b>          |                             |                              |             |
| In Air                         | 580/590*                    | LABE/HPE                     | 25, 27      |
| In Argon                       | 580                         | LABE/HPE                     | 25, 27      |
| In Carbon Monoxide             | 350                         | LABE/HPE                     | 25, 27      |
| In Helium                      | 580                         | LABE/HPE                     | 25, 27      |
| In Hydrogen                    | 350                         | LABE/HPE                     | 25, 27      |
| In Nitrogen                    | 580                         | LABE/HPE                     | 25, 27      |
| In Oxygen                      | 296/540*                    | LABE/HPE                     | 25, 27      |
| <b>Carbon Disulfide</b>        |                             |                              |             |
| In Argon                       | 330                         | APG                          | 29          |
| In Helium                      | 330                         | APG                          | 29          |
| In Nitrogen                    | 330                         | APG                          | 29          |
| <b>Carbon Monoxide</b>         |                             |                              |             |
| In Air                         | 590                         | LABE/HPE                     | 25, 27      |
| In Argon                       | 350                         | LABE/HPE                     | 25, 27      |
| In Helium                      | 350                         | LABE/HPE                     | 25, 27      |
| In Hydrogen                    | 350                         | LABE/HPE                     | 25, 27      |
| In Nitrogen                    | 350                         | LABE/HPE                     | 25, 27      |
| <b>Carbonyl Sulfide</b>        |                             |                              |             |
| In Argon                       | 330                         | APG                          | 29          |
| In Helium                      | 330                         | APG                          | 29          |
| In Nitrogen                    | 330                         | APG                          | 29          |
| <b>Chlorine</b>                |                             |                              |             |
| In Argon                       | 660                         | APG                          | 29          |
| In Helium                      | 660                         | APG                          | 29          |
| In Nitrogen                    | 330/660*                    | APG                          | 29          |
| <b>Ethane</b>                  |                             |                              |             |
| In Air                         | 590                         | LABE/HPE                     | 25, 27      |
| In Argon                       | 350                         | LABE/HPE                     | 25, 27      |
| In Helium                      | 350                         | LABE/HPE                     | 25, 27      |
| In Hydrogen                    | 350                         | LABE/HPE                     | 25, 27      |
| In Nitrogen                    | 350                         | LABE/HPE                     | 25, 27      |
| <b>Ethanol</b>                 |                             |                              |             |
| In Nitrogen                    | 350                         | LABE/HPE                     | 25, 27      |

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| <b>Ethylene</b>                |                             |                              |             |
| In Air                         | 590                         | LABE/HPE                     | 25, 27      |
| In Argon                       | 350                         | LABE/HPE                     | 25, 27      |
| In Helium                      | 350                         | LABE/HPE                     | 25, 27      |
| In Nitrogen                    | 350                         | LABE/HPE                     | 25, 27      |
| <b>Ethylene Oxide</b>          |                             |                              |             |
| In Air                         | 590                         | APG                          | 29          |
| In Nitrogen                    | 350                         | APG                          | 29          |
| <b>Halocarbon 12</b>           |                             |                              |             |
| In Air                         | 590                         | LABE/HPE                     | 25, 27      |
| In Argon                       | 580                         | LABE/HPE                     | 25, 27      |
| In Helium                      | 580                         | LABE/HPE                     | 25, 27      |
| In Nitrogen                    | 580                         | LABE/HPE                     | 25, 27      |
| <b>Helium</b>                  |                             |                              |             |
| In Argon                       | 580                         | LABE/HPE                     | 25, 27      |
| In Hydrogen                    | 350                         | LABE/HPE                     | 25, 27      |
| In Nitrogen                    | 580                         | LABE/HPE                     | 25, 27      |
| In Oxygen                      | 296                         | LABE/HPE                     | 25, 27      |
| <b>Hexane</b>                  |                             |                              |             |
| In Air                         | 590                         | LABE/HPE                     | 25, 27      |
| In Argon                       | 350                         | LABE/HPE                     | 25, 27      |
| In Helium                      | 350                         | LABE/HPE                     | 25, 27      |
| In Hydrogen                    | 350                         | LABE/HPE                     | 25, 27      |
| In Nitrogen                    | 350                         | LABE/HPE                     | 25, 27      |
| <b>Hydrogen</b>                |                             |                              |             |
| In Air                         | 590                         | LABE/HPE                     | 25, 27      |
| In Argon                       | 350                         | LABE/HPE                     | 25, 27      |
| In Helium                      | 350                         | LABE/HPE                     | 25, 27      |
| In Nitrogen                    | 350                         | LABE/HPE                     | 25, 27      |
| <b>Hydrogen Chloride</b>       |                             |                              |             |
| In Argon                       | 330                         | AG3870 Series                | 30          |
| In Helium                      | 330                         | AG3870 Series                | 30          |
| In Nitrogen                    | 330                         | AG3870 Series                | 30          |
| <b>Hydrogen Cyanide</b>        |                             |                              |             |
| In Helium                      | 350                         | AG3870 Series                | 30          |
| In Nitrogen                    | 350                         | AG3870 Series                | 30          |
| <b>Hydrogen Sulfide</b>        |                             |                              |             |
| In Air                         | 330                         | APG                          | 29          |
| In Argon                       | 330                         | APG                          | 29          |
| In Helium                      | 330                         | APG                          | 29          |
| In Hydrogen                    | 330                         | APG                          | 29          |
| In Methane                     | 330                         | APG                          | 29          |
| In Nitrogen                    | 330                         | APG                          | 29          |
| <b>Isobutane</b>               |                             |                              |             |
| In Air                         | 590                         | LABE/HPE                     | 25, 27      |
| In Argon                       | 350                         | LABE/HPE                     | 25, 27      |
| In Helium                      | 350                         | LABE/HPE                     | 25, 27      |
| In Hydrogen                    | 350                         | LABE/HPE                     | 25, 27      |
| In Nitrogen                    | 350                         | LABE/HPE                     | 25, 27      |
| <b>Methane</b>                 |                             |                              |             |
| In Air                         | 590                         | LABE/HPE                     | 25, 27      |
| In Argon                       | 350                         | LABE/HPE                     | 25, 27      |
| In Helium                      | 350                         | LABE/HPE                     | 25, 27      |
| In Hydrogen                    | 350                         | LABE/HPE                     | 25, 27      |
| In Nitrogen                    | 350                         | LABE/HPE                     | 25, 27      |
| <b>Methanol</b>                |                             |                              |             |
| In Nitrogen                    | 350                         | LABE/HPE                     | 25, 27      |
| <b>Methyl Mercaptan</b>        |                             |                              |             |
| In Helium                      | 330/350*                    | APG                          | 29          |
| In Nitrogen                    | 330/350*                    | APG                          | 29          |

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|--------------------------------|-----------------------------|------------------------------|-------------|
| <b>Moisture</b>                |                             |                              |             |
| In Argon                       | 580                         | LABE/HPE                     | 25, 27      |
| In Helium                      | 580                         | LABE/HPE                     | 25, 27      |
| In Hydrogen                    | 350                         | LABE/HPE                     | 25, 27      |
| In Nitrogen                    | 580                         | LABE/HPE                     | 25, 27      |
| <b>Nitric Oxide</b>            |                             |                              |             |
| In Argon                       | 660                         | APG                          | 29          |
| In Helium                      | 660                         | APG                          | 29          |
| In Nitrogen                    | 660                         | APG                          | 29          |
| <b>Nitrogen</b>                |                             |                              |             |
| In Argon                       | 580                         | LABE/HPE                     | 25, 27      |
| In Helium                      | 580                         | LABE/HPE                     | 25, 27      |
| In Hydrogen                    | 350                         | LABE/HPE                     | 25, 27      |
| In Oxygen                      | 296                         | LABE/HPE                     | 25, 27      |
| <b>Nitrogen Dioxide</b>        |                             |                              |             |
| In Air                         | 660                         | APG                          | 29          |
| In Argon                       | 660                         | APG                          | 29          |
| In Helium                      | 660                         | APG                          | 29          |
| In Nitrogen                    | 660                         | APG                          | 29          |
| <b>Nitrous Oxide</b>           |                             |                              |             |
| In Air                         | 590                         | LABE/HPE                     | 25, 27      |
| In Nitrogen                    | 590                         | LABE/HPE                     | 25, 27      |
| <b>Oxygen</b>                  |                             |                              |             |
| In Argon                       | **                          | LABE/HPE                     | 25, 27      |
| In Helium                      | **                          | LABE/HPE                     | 25, 27      |
| In Nitrogen                    | **                          | LABE/HPE                     | 25, 27      |
| <b>Pentane</b>                 |                             |                              |             |
| In Air                         | 590                         | LABE/HPE                     | 25, 27      |
| In Argon                       | 350                         | LABE/HPE                     | 25, 27      |
| In Helium                      | 350                         | LABE/HPE                     | 25, 27      |
| In Hydrogen                    | 350                         | LABE/HPE                     | 25, 27      |
| In Nitrogen                    | 350                         | LABE/HPE                     | 25, 27      |
| <b>Propane</b>                 |                             |                              |             |
| In Air                         | 590                         | LABE/HPE                     | 25, 27      |
| In Argon                       | 350                         | LABE/HPE                     | 25, 27      |
| In Helium                      | 350                         | LABE/HPE                     | 25, 27      |
| In Hydrogen                    | 350                         | LABE/HPE                     | 25, 27      |
| In Nitrogen                    | 350                         | LABE/HPE                     | 25, 27      |
| <b>Propylene</b>               |                             |                              |             |
| In Air                         | 590                         | LABE/HPE                     | 25, 27      |
| In Argon                       | 350                         | LABE/HPE                     | 25, 27      |
| In Helium                      | 350                         | LABE/HPE                     | 25, 27      |
| In Hydrogen                    | 350                         | LABE/HPE                     | 25, 27      |
| In Nitrogen                    | 350                         | LABE/HPE                     | 25, 27      |
| <b>Sulfur Dioxide</b>          |                             |                              |             |
| In Air                         | 330/660*                    | APG                          | 29          |
| In Argon                       | 660                         | APG                          | 29          |
| In Helium                      | 660                         | APG                          | 29          |
| In Nitrogen                    | 330/660*                    | APG                          | 29          |
| <b>Sulfur Hexafluoride</b>     |                             |                              |             |
| In Air                         | 590                         | LABE/HPE                     | 25, 27      |
| In Argon                       | 580                         | LABE/HPE                     | 25, 27      |
| In Helium                      | 580                         | LABE/HPE                     | 25, 27      |
| In Nitrogen                    | 580                         | LABE/HPE                     | 25, 27      |
| <b>Toluene</b>                 |                             |                              |             |
| In Air                         | 350                         | LABE/HPE                     | 25, 27      |
| In Helium                      | 350                         | LABE/HPE                     | 25, 27      |
| In Nitrogen                    | 350/510*                    | LABE/HPE                     | 25, 27      |
| <b>Vinyl Chloride</b>          |                             |                              |             |
| In Air                         | 590                         | LABE/HPE                     | 25, 27      |
| In Helium                      | 350                         | LABE/HPE                     | 25, 27      |
| In Nitrogen                    | 350                         | LABE/HPE                     | 25, 27      |

\* CGA connection may vary depending upon cylinder size or gas manufacturer.  
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\*\* CGA 590 when oxygen concentration is A.23%. CGA 296 when oxygen concentration is > 23%.