Agilent Technologies
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PRAXAIR

# Certificate of Analysis

## RGA Gas Calibration Standard

**Agilent Part No:** 5184-3538, 5184-3543 **Sample Lot No:** BP022602A

### Concentrations (±mole%):

| | | | |
|---|---|---|---|
| Hydrogen | 12.2% (±5%) | iso-Butylene | 0.298%(±5%) |
| Nitrogen | 64.06% (±5%) | trans-2-Butene | 0.299% (±5%) |
| Carbon Monoxide | 1.03% (±5%) | cis-2-Butene | 0.298% (±5%) |
| Carbon Dioxide | 3.00% (±5%) | 1,3-Butadiene | 0.298% (±5%) |
| Methane | 5.01% (±5%) | iso-Pentane | 0.0999% (±5%) |
| Ethane | 4.00% (±5%) | n-Pentane | 0.0996% (±5%) |
| Ethylene | 2.00% (±5%) | 1-Pentene | 0.0994% (±5%) |
| Acetylene | 1.00% (±5%) | cis-2-Pentene | 0.0957% (±5%) |
| Propane | 2.00% (±5%) | trans-2-Pentene | 0.0994% (±5%) |
| Propylene | 1.00% (±5%) | 2-Methyl-2-Butene | 0.0498% (±5%) |
| 1,2 Propadiene | 0.996% (±5%) | n-Hexane | 0.0499% (±5%) |
| Methyl Acetylene | 1.02% (±5%) | BTU value | 219 BTU/mol |
| iso-Butane | 0.298% (±5%) | Water content | <5 ppm |
| n-Butane | 0.298% (±5%) | Other impurities | <1 ppm |
| 1-Butene | 0.298% (±5%) | | |

### Traceability:

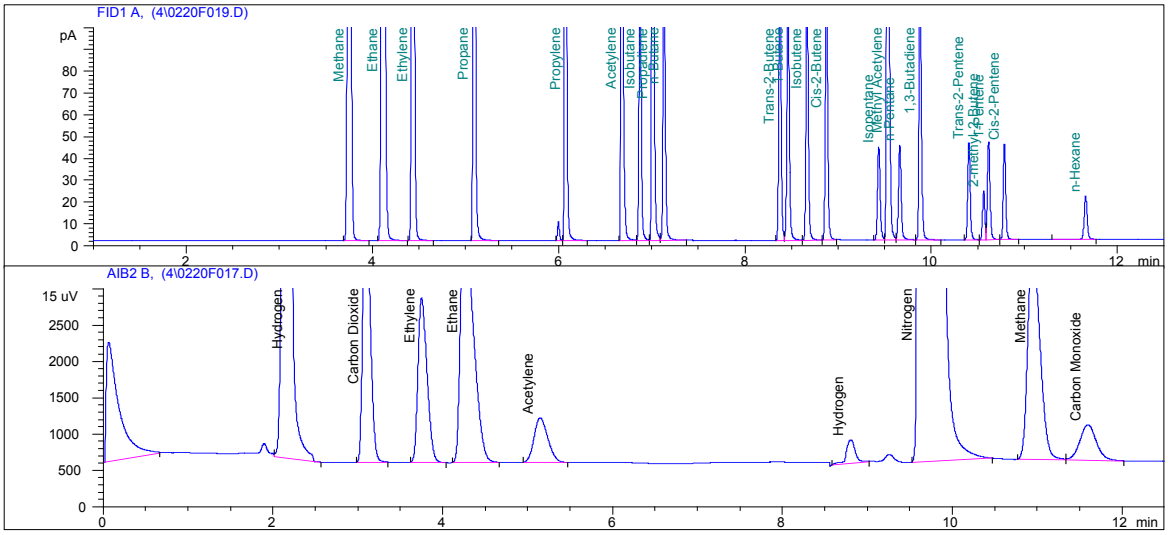
This standard was produced gravimetrically following Specialty Gas Work Instruction #15. Balances used are calibrated per POIS 2.140, traceable to NIST. Concentrations were verified on an Agilent model 6890 gas chromatograph, using a Wasson valve switch, Variable Pressure Control and multiple packed/capillary columns.

### Standards Used:

Praxair RGA Primary Standard, serial #12064AW; source # ND15704.

### Analytical GC Chromatogram:

Analytical columns: Agilent MS-5A PLOT, U-PLOT
TCD: 1.0 ml loop; He carrier at 35 ml/min; oven temp = 90degC
FID: 0.1 ml loop; He carrier at 30 ml/min; split ratio=25:1; Ramp 75degC for 6 min to 180degC for 1.25 min at 20degC/min




Date of Release: 12 March, 2002
Expiration Date: 12 March, 2004

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