



EPA Protocol Gas Mixture

Customer: Green Group Peru
CGA: 660
Customer PO#: 001-4044
Cylinder #: KR0002415

Reference#: 093019SY-B
Certification Date: 10/11/2019
Expiration Date: 10/11/2027
Pressure, psig: 2000

Method: This standard was analyzed according to EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards, Procedure G1 (May 2012).

| Components | Requested Concentration | Certified Concentration | Expanded Uncertainty | Assay Dates |
|--------------------|-------------------------|-------------------------|----------------------|-------------------|
| Nitric Oxide | 100ppm | 101.1ppm | 1.1% | 10/4/19, 10/11/19 |
| Oxides of Nitrogen | 100ppm | 101.3ppm | 1.1% | 10/4/19, 10/11/19 |
| Sulfur Dioxide | 100ppm | 101.2ppm | 1.2% | 10/4/19, 10/11/19 |
| Carbon Monoxide | 500ppm | 504ppm | 0.8% | 10/4/19 |
| Nitrogen | Balance | Balance | - | - |

| Reference Standard | Cylinder # | Concentration | Expanded Uncertainty | Expiration Date |
|--------------------------|------------|---------------|----------------------|-----------------|
| Nitric Oxide/ GMIS | GN0000333 | 100.8ppm | 0.9% | 10/30/23 |
| Oxides of Nitrogen/ GMIS | GN0000333 | 101.2ppm | 0.9% | 10/30/23 |
| Nitric Oxide/ SRM | CAL017400 | 244.5ppm | 0.5% | 11/02/15 |
| Oxides of Nitrogen/ SRM | CAL017400 | 244.7ppm | 0.5% | 11/02/15 |
| Sulfur Dioxide/ GMIS | EB0096611 | 101.2ppm | 1.0% | 01/10/25 |
| Sulfur Dioxide/ SRM | FF28126 | 490.9ppm | 0.8% | 01/15/17 |
| Carbon Monoxide/ GMIS | EB0040762 | 507ppm | 0.6% | 11/01/23 |
| Carbon Monoxide/ SRM | CAL017168 | 2438ppm | 0.2% | 11/09/15 |

| Instrument/ Model | Serial Number | Last Date Calibrated | Analytical Method |
|-------------------|---------------|----------------------|-------------------------|
| CAI/ 600 | Y09003 | 10/11/2019 | Chemiluminescence |
| Horiba/ VIA-510 | MAID39C8 | 10/11/2019 | Non-Dispersive Infrared |
| Micro GC/ Inficon | 70082698 | 10/4/2019 | Thermal Conductivity |

These mixtures were prepared gravimetrically using a high load high sensitivity electronic scale. Prior to filling the scale is verified for accuracy throughout the target mass range against applicable NIST traceable weights. We certify that the weights are calibrated to ASTM E617-97 Echelon 1 tolerances.

This report states accurately the results of the investigation made upon the material submitted to the analytical laboratory. Every effort has been made to determine objectively the information requested. However, in connection with this report, Global Calibration Gases LLC shall have no liability in excess of the established charge for this service. Assayed at Global Calibration Gases LLC, Sarasota, Florida.

The calibration results published in this certificate were obtained using equipment and standards capable of producing results that are traceable to National Institute of Standards and Technology (NIST) and through NIST to the International System of Units (SI). The expanded uncertainties, if included on this certificate, use a coverage factor of $k=2$ to approximate the 95% confidence level of the measurement, unless otherwise noted. If uncertainties are not included on this certificate, they are available upon request. This calibration certificate applies only to the item described and shall not be reproduced other than in full, without written approval from the calibration facility. Calibration certificates without signatures are not valid. This calibration meets the requirements of ISO/IEC 17025:2017. Do not use this standard when cylinder pressure is below 100 psig.

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Date: 10/11/2019

Principal Reviewer: James H. Hines
Date: 10/11/2019