



CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

Customer & Order Information

PRAXAIR PKG SLATERSVILLE RI HPS
21 STEEL ST
SLATERSVILLE RI 02876

Certificate Issuance Date: 02/06/2020
Praxair Order Number: 71223342
Part Number: NI CD11CO15E-AS
Customer PO Number: 79211678

Fill Date: 01/30/2020
Lot Number: 304342030003
Cylinder Style & Outlet: AS CGA 590
Cylinder Pressure and Volume: 2000 psig 140 ft3

Certified Concentration

Expiration Date:	02/06/2028	NIST Traceable
Cylinder Number:	SA13314	Expanded Uncertainty
5018 ppm	Carbon monoxide	± 0.5 %
11.04 %	Carbon dioxide	± 0.7 %
11.02 %	Oxygen	± 0.2 %
Balance	Nitrogen	

ProSpec EZ Cert



Certification Information:

Certification Date: 02/06/2020 Term: 96 Months Expiration Date: 02/06/2028

This cylinder was certified according to the 2012 EPA Traceability Protocol, Document #EPA-600/R-12/531, using Procedure G1.
Do Not Use this Standard if Pressure is less than 100 PSIG

Analytical Data:

(R=Reference Standard, Z=Zero Gas, C=Gas Candidate)

1. Component: Carbon monoxide
Requested Concentration: 5000 ppm
Certified Concentration: 5018 ppm
Instrument Used: HORIBA VIA-3000
Analytical Method: NDIR
Last Multipoint Calibration: 01/07/2020

First Analysis Data:				Date
Z: 0	R: 5006	C: 5019	Conc: 5019	02/06/2020
R: 5005	Z: 0	C: 5016	Conc: 5016	
Z: 0	C: 5019	R: 5007	Conc: 5019	
UOM: ppm				Mean Test Assay: 5018 ppm

Reference Standard: Type / Cylinder #: GMIS / SA14089
Concentration / Uncertainty: 5006 ppm ±0.508%
Expiration Date: 05/06/2023
Traceable to: SRM # / Sample # / Cylinder #: 2638a / 55-F-47 / FF23337
SRM Concentration / Uncertainty: 4935 PPM / ±11 ppm
SRM Expiration Date: 04/07/2018

Second Analysis Data:				Date
Z: 0	R: 0	C: 0	Conc: 0	
R: 0	Z: 0	C: 0	Conc: 0	
Z: 0	C: 0	R: 0	Conc: 0	
UOM: ppm				Mean Test Assay: ppm

2. Component: Carbon dioxide
Requested Concentration: 11 %
Certified Concentration: 11.04 %
Instrument Used: HORIBA VIA-510
Analytical Method: NDIR
Last Multipoint Calibration: 01/07/2020

First Analysis Data:				Date
Z: 0	R: 15.23	C: 11.03	Conc: 11.03	02/06/2020
R: 15.23	Z: 0	C: 11.04	Conc: 11.04	
Z: 0	C: 11.04	R: 15.23	Conc: 11.04	
UOM: %				Mean Test Assay: 11.04 %

Reference Standard: Type / Cylinder #: GMIS / SA8799
Concentration / Uncertainty: 15.23 % ±0.25%
Expiration Date: 03/30/2023
Traceable to: SRM # / Sample # / Cylinder #: 2745 / 9-C-34 / CAL016129
SRM Concentration / Uncertainty: 15.633% / ±0.037 %
SRM Expiration Date: 02/07/2025

Second Analysis Data:				Date
Z: 0	R: 0	C: 0	Conc: 0	
R: 0	Z: 0	C: 0	Conc: 0	
Z: 0	C: 0	R: 0	Conc: 0	
UOM: %				Mean Test Assay: %

3. Component: Oxygen
Requested Concentration: 11 %
Certified Concentration: 11.02 %
Instrument Used: SIEMENS OXYMAT 5F
Analytical Method: Paramagnetic
Last Multipoint Calibration: 01/07/2020

First Analysis Data:				Date
Z: 0	R: 11.9	C: 11.04	Conc: 11.04	02/06/2020
R: 11.9	Z: 0	C: 11.02	Conc: 11.02	
Z: 0	C: 11.02	R: 11.88	Conc: 11.02	
UOM: %				Mean Test Assay: 11.02 %

Reference Standard: Type / Cylinder #: GMIS / CC102021
Concentration / Uncertainty: 11.89 % ±0.128%
Expiration Date: 12/02/2024
Traceable to: SRM # / Sample # / Cylinder #: 2659a / 71-E-24 / FF18300
SRM Concentration / Uncertainty: 20.863% / ±0.021 %
SRM Expiration Date: 08/23/2021

Second Analysis Data:				Date
Z: 0	R: 0	C: 0	Conc: 0	
R: 0	Z: 0	C: 0	Conc: 0	
Z: 0	C: 0	R: 0	Conc: 0	
UOM: %				Mean Test Assay: %

Analyzed By

Remzy Jemat

Certified By

Megha Patel