

CERTIFICATE OF ANALYSIS

Grade of Product: EPA Protocol

Airgas, Inc.

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Add
05/16

Part Number: E04NI99E15A0013	Reference Number: 82-124549305-1
Cylinder Number: CC481703	Cylinder Volume: 144.4 CF
Laboratory: ASG - Riverton - NJ	Cylinder Pressure: 2015 PSIG
PGVP Number: B52016	Valve Outlet: 660
Gas Code: CO,NO,NOX,SO2,BALN	Certification Date: Apr 21, 2016

Expiration Date: Apr 21, 2024

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a volume/volume basis unless otherwise noted.

Do Not Use This Cylinder below 100 psig, i.e. 0.7 megapascals.

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
NOX	800.0 PPM	793.4 PPM	G1	+/- 0.8% NIST Traceable	04/13/2016, 04/21/2016
CARBON MONOXIDE	800.0 PPM	796.4 PPM	G1	+/- 0.9% NIST Traceable	04/13/2016
NITRIC OXIDE	800.0 PPM	793.4 PPM	G1	+/- 0.8% NIST Traceable	04/13/2016, 04/21/2016
SULFUR DIOXIDE	800.0 PPM	797.7 PPM	G1	+/- 0.6% NIST Traceable	04/13/2016, 04/21/2016
NITROGEN	Balance				

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NTRMplus	14060126	CC434317	990.9 PPM CARBON MONOXIDE/NITROGEN	+/- 0.6%	Nov 18, 2019
PRM	12312	680179	10.01 PPM NITROGEN DIOXIDE/NITROGEN	+/- 2.0%	Oct 15, 2014
NTRM	15060210	CC449784	997.2 PPM NITRIC OXIDE/NITROGEN	+/- 0.5%	Nov 07, 2020
GMIS	124206889121	CC323027	4.614 PPM NITROGEN DIOXIDE/NITROGEN	+/- 2.0%	Oct 13, 2017
NTRMplus	12062637	CC366719	996.8 PPM SULFUR DIOXIDE/NITROGEN	+/- 0.5%	Jun 22, 2018
NTRMplus	12062619	CC366230	996.8 PPM SULFUR DIOXIDE/NITROGEN	+/- 0.5%	Jun 22, 2018

The SRM, PRM or RGM noted above is only in reference to the GMIS used in the assay and not part of the analysis.

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Nicolet 6700 AHR0801933 CO	FTIR	Apr 06, 2016
Nicolet 6700 AHR0801933 NO	FTIR	Apr 07, 2016
Nicolet 6700 AHR0801933 NO2	FTIR	Apr 07, 2016
Nicolet 6700 AHR0801933 SO2	FTIR	Mar 30, 2016

Triad Data Available Upon Request



 Approved for Release