



PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

Perry Johnson Laboratory Accreditation, Inc. has assessed the Laboratory of:

Alchemie Gases & Chemicals Pvt. Ltd.

T-112, M.I.D.C. Tarapur, Boisar Railway Station Dist., Palghar, Maharashtra, 401506 India

(Hereinafter called the Organization) and hereby declares that Organization is accredited in accordance with the recognized International Standard:

ISO/IEC 17025:2005

This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (as outlined by the joint ISO-ILAC-IAF Communiqué dated January 2009):

Chemical Calibration ***(As detailed in the supplement)***

Accreditation claims for such testing and/or calibration services shall only be made from addresses referenced within this certificate. This Accreditation is granted subject to the system rules governing the Accreditation referred to above, and the Organization hereby covenants with the Accreditation body's duty to observe and comply with the said rules.

For PJLA:

Tracy Szerszen
President/Operations Manager

Initial Accreditation Date:

May 20, 2013

Issue Date:

May 12, 2017

Expiration Date:

August 31, 2019

Accreditation No:

75840

Certificate No:

L17-222

Perry Johnson Laboratory
Accreditation, Inc. (PJLA)
755 W. Big Beaver, Suite 1325
Troy, Michigan 48084

The validity of this certificate is maintained through ongoing assessments based on a continuous accreditation cycle. The validity of this certificate should be confirmed through the PJLA website: www.pjllabs.com



Certificate of Accreditation: Supplement

Alchemie Gases & Chemical Pvt. Ltd.

T-112, M.I.D.C. Tarapur, Palghar, Maharashtra, 401506 India
 Contact: Nipun Bhatt Phone: 982-000-8879

Accreditation is granted to the facility to perform the following calibrations:

Chemical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Gas Mixture, Natural Gas Mixture Cylinder - Carbon Dioxide ^F	0.05 % mol fraction to 8 % mol fraction	(0.005 95 - 0.000 134 C + 0.000 187C ²) % mol fraction	Calibration Gas Mixtures in Accordance with ISO6143:2001 using Gas Chromatography with Thermal Conductivity Detector (TCD) & Based on ISO/6974-1:2012 ISO/6974-2:2012 ISO 6974-5:2000/ IS 15130 (Part 5) : 2002
Gas Mixture, Natural Gas Mixture Cylinder - Ethane ^F	0.1 % mol fraction to 14 % mol fraction	(0.003 6 + 0.000 5 C + 0.000 1C ²) % mol fraction	
Gas Mixture, Natural Gas Mixture Cylinder - Iso-Butane ^F	0.01 % mol fraction to 1.2 % mol fraction	(0.000 686 - 0.000 277 C + 0.004 54C ²) % mol fraction	
Gas Mixture, Natural Gas Mixture Cylinder - Iso-pentane ^F	0.005 % mol fraction to 0.35 % mol fraction	(0.000 339 + 0.002 72C) % mol fraction	
Gas Mixture, Natural Gas Mixture Cylinder - Methane ^F	64 % mol fraction to 100 % mol fraction	(0.166 - 0.001 6C) % mol fraction	
Gas Mixture, Natural Gas Mixture Cylinder - n-Butane ^F	0.01 % mol fraction to 0.7 % mol fraction	(0.000 8) % mol fraction	
	0.7 % mol fraction to 1.2 % mol fraction	(0.0341 - 0.085 9 C + 0.054 8C ²) % mol fraction	
Gas Mixture, Natural Gas Mixture Cylinder - n-Hexane ^F	0.005 % mol fraction to 0.22 % mol fraction	(0.000 8) % mol fraction	
	0.22 % mol fraction to 0.35 % mol fraction	(- 0.005 37 + 0.028C) % mol fraction	
Gas Mixture, Natural Gas Mixture Cylinder - n-Pentane ^F	0.005 % mol fraction to 0.35 % mol fraction	(0.000 6 + 0.000 8C) % mol fraction	
Gas Mixture, Natural Gas Mixture Cylinder - Neo-pentane ^F	0.005 % mol fraction to 0.35 % mol fraction	(0.003 14 - 0.027 6 C + 0.079 3C ²) % mol fraction	
Gas Mixture, Natural Gas Mixture Cylinder - Nitrogen ^F	0.1 % mol fraction to 6.5 % mol fraction	(0.009 6) % mol fraction	
	6.5 % mol fraction to 12 % mol fraction	(-0.035 9 + 0.007C) % mol fraction	
Gas Mixture, Natural Gas Mixture Cylinder - Propane ^F	0.05 % mol fraction to 8 % mol fraction	(0.000 511 + 0.002 54C) % mol fraction	



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Accreditation is granted to the facility to perform the following calibrations:

Chemical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Calculation of Physical Properties - Carbon Dioxide ^F	< 15 % mol fraction	Gross Calorific Value: 0.1 % mol fraction relative	ISO 6976:1995 IS 14504: 1998
Calculation of Physical Properties – Ethane ^F	< 15 % mol fraction	Relative Density: 0.1 % mol fraction relative	
Calculation of Physical Properties – Methane ^F	No restriction	Wobble Index : 0.1 % mol fraction relative	
Calculation of Physical Properties - Nitrogen ^F	< 30 % mol fraction	Net Calorific Value: 0.1 % mol fraction relative	
Calculation of Physical Properties - Other Components ^F	< 5 % mol fraction	Gas Density: 0.1 % mol fraction relative	
Gas Mixture Cylinder - Carbon Dioxide (CO ₂) in Nitrogen (N ₂) ^F	14 % mol fraction to 25 % mol fraction	(0.010 604 + 0.004 725C) % mol fraction	Chromatograph (TCD)
Gas Mixture Cylinder - Carbon Monoxide (CO) in Nitrogen (N ₂) ^F	8 % mol fraction to 10 % mol fraction	(0.002 237 + 0.004 947C) % mol fraction	
Gas Mixture Cylinder - Helium (HE) in Hydrogen (H ₂) ^F	58 % mol fraction to 62 % mol fraction	(0.347 374 + 0.000 055C) % mol fraction	Alchemie SOP #QSP/34 (Analyzer (TCD))
Gas Mixture Cylinder - Nitric Oxide (NO) in Nitrogen (N ₂) ^F	0.1 % mol fraction to 0.4 % mol fraction	(0.001 048C) % mol fraction	Alchemie SOP #QSP/33 (Chemiluminous)
Gas Mixture Cylinder - Propane (C ₃ H ₈) in Nitrogen (N ₂) ^F	25 parts per million (ppm) to 100 parts per million (ppm)	0.004 2	Alchemie SOP #QSP/27 (Gas Chromatograph (FID))

1. The CMC (Calibration and Measurement Capability) stated for calibrations included on this scope of accreditation represents the smallest measurement uncertainty attainable by the laboratory when performing a more or less routine calibration of a nearly ideal device under nearly ideal conditions. It is typically expressed at a confidence level of 95 % using a coverage factor k (usually equal to 2). The actual measurement uncertainty associated with a specific calibration performed by the laboratory will typically be larger than the CMC for the same calibration since capability and performance of the device being calibrated and the conditions related to the calibration may reasonably be expected to deviate from ideal to some degree.
2. The laboratories range of calibration capability for all disciplines for which they are accredited is the interval from the smallest calibrated standard to the largest calibrated standard used in performing the calibration. The low end of this range must be an attainable value for which the laboratory has or has access to the standard referenced. Verification of an indicated value of zero in the absence of a standard is common practice in the procedure for many calibrations but by its definition it does not constitute calibration of zero capacity.
3. The presence of a superscript F means that the laboratory performs calibration of the indicated parameter at its fixed location. Example: Outside Micrometer^F would mean that the laboratory performs this calibration at its fixed location.



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4. "C" represents concentration of the component in % mol fraction
5. "P" represents concentration of the component in parts per million (ppm)

