



INTERNATIONAL
ACCREDITATION
SERVICE®

CERTIFICATE OF ACCREDITATION

This is to attest that

SAUDI INDUSTRIAL GAS COMPANY

STREET #67, 2ND INDUSTRIAL CITY
DAMMAM 31952, KINGDOM OF SAUDI ARABIA

Calibration Laboratory CL-180

has met the requirements of AC204, *IAS Accreditation Criteria for Calibration Laboratories*, and has demonstrated compliance with ISO/IEC Standard 17025:2017, *General requirements for the competence of testing and calibration laboratories*. This organization is accredited to provide the services specified in the scope of accreditation.

Effective Date August 10, 2023

Expiration Date February 1, 2026



A handwritten signature in black ink, reading 'Raj Nathan'.

President

Visit www.iasonline.org for current accreditation information.

SCOPE OF ACCREDITATION

International Accreditation Service, Inc.

3060 Saturn Street, Suite 100, Brea, California 92821, U.S.A. | www.iasonline.org

SAUDI INDUSTRIAL GAS COMPANY

Contact Name Jamaldeen Ibrahim

Contact Phone + 966-5577-12694

Accredited to ISO/IEC 17025:2017

Effective Date August 10, 2023

CALIBRATION AND MEASUREMENT CAPABILITY (CMC)*

MEASURED QUANTITY or DEVICE TYPE CALIBRATED	RANGE	UNCERTAINTY ^{1,2} (±)	CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)
Chemical/Gas			
Carbon Monoxide in Nitrogen or Synthetic Air	10 ppm to 1000 ppm	3 %	Lab Work Instruction No: LTCM-01 Calibration of gas mixtures using gas chromatography with Methanizer & flame ionization detector (GC-Methanizer-FID)
Carbon Monoxide in Nitrogen	0.10 % to 10 %	2 %	Lab Work Instruction No: LTCM-01 & LTCM-04 Calibration of gas mixtures using gas chromatography with Methanizer-flame ionization detector & Thermal Conductivity Detector (GC-Methanizer-FID & TCD)
Carbon Dioxide in Nitrogen or Synthetic Air	10 ppm to 1000 ppm	3 %	Lab Work Instruction No: LTCM-01 Calibration of gas mixtures using gas chromatography with Methanizer & flame ionization detector (GC-Methanizer-FID)

* If information in this CMC is presented in non-SI units, the conversion factors stated in NIST Special Publication 811 "Guide for the Use of the International System of Units (SI)" apply.

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Carbon Dioxide in Nitrogen or Synthetic Air	0.10 % to 30 %	2 %	Lab Work Instruction No: LTCM-01 & LTCM-04 Calibration of gas mixtures using gas chromatography with Methanizer-flame ionization detector & Thermal Conductivity Detector (GC-Methanizer-FID & TCD)
Methane in Nitrogen or Synthetic Air	5 ppm to 1000 ppm	3 %	Lab Work Instruction No: LTCM-01 Calibration of gas mixtures using gas chromatography with Methanizer & flame ionization detector (GC-Methanizer-FID)
Methane in Nitrogen	0.10 % to 50 %	2 %	Lab Work Instruction No: LTCM-01 & LTCM-04 Calibration of gas mixtures using gas chromatography with Methanizer and flame ionization detector (GC-Methanizer-FID & FID)
Propane in Nitrogen	5 ppm to 1000 ppm 0.10 % to 5 %	3 % 2 %	Lab Work Instruction No: LTCM-06 & LTCM-04 Calibration of gas mixtures using gas chromatography with flame ionization detector (GC-FID)
Oxygen in Nitrogen	10 ppm to 1000 ppm 0.10 % to 25 %	3 % 2 %	Lab Work Instruction No: LTCM-02 & LTCM-03 Calibration of oxygen in gas mixtures by using Zirconia & Paramagnetic O2 Analyzers

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Carbon Monoxide	0.20 % to 10 %	2 %	Lab Work Instruction No: LTCM-04
Carbon Dioxide	0.30 % to 30 %	2 %	
Propane	100 ppm to 0.5 %	3 %	
Nitrogen	Balance (Matrix)	2 %	
			Calibration of gas mixtures using gas chromatography with flame ionization detector and Thermal Conductivity Detectors.
			(GC-FID & TCD)
Helium	0.25 % to 0.75 %	2 %	Lab Work Instruction No: LTCM-05
Oxygen	0.25 % to 0.75 %	2.2 %	
Nitrogen	2.50 % to 7.50 %	2 %	
Carbon Dioxide	0.25 % to 1.50 %	2 %	
Carbon monoxide	0.25 % to 1.50 %	2 %	Calibration of gas mixtures using gas chromatography with flame ionization detector and Thermal Conductivity Detectors.
Hydrogen	0.50 % to 2.0 %	2 %	
Ethene	0.25 % to 0.75 %	2 %	
Ethane	1.0 % to 3.0 %	2 %	
Propene	0.25 % to 0.75 %	2 %	Matrix gas: Methane (GC-FID & TCD)
Propane	0.5 % to 2.0 %	2.1 %	
n-Butane	0.1 % to 0.3 %	2 %	
iso-Butane	0.1 % to 0.3 %	2 %	
n-Pentane	0.03 % to 0.07 %	2 %	
iso-Pentane	0.03 % to 0.07 %	2.2 %	
n-Hexane	0.03 % to 0.07 %	2.3 %	
Methane (Balance/Matrix)	78.69 % to 93.71 %	2 %	
Carbon Monoxide	0.50 % to 50 %	2 %	Lab Work Instruction No: LTCM-04, LTCM-06 & LTCM-03
Carbon Dioxide	0.50 % to 50 %	2 %	
Methane	10 ppm to 50 %	2 %	
Propane	10 ppm to 10 %	2 %	
Helium	0.25 % to 50 %	2 %	Calibration of gas mixtures using gas chromatography with Flame ionization detector and Thermal Conductivity Detectors and Paramagnetic Analyzer.
Oxygen	0.10 % to 50 %	2 %	
Hydrogen	0.10 % to 50 %	2 %	
Nitrogen (Balance/Matrix)	0.10 % to 100 %	2 %	
Ethene	10 ppm to 10 %	2 %	Matrix gas: Nitrogen (GC-FID & TCD) and Paramagnetic Oxygen Analyzer
Ethane	10 ppm to 10 %	2 %	
Propene	10 ppm to 10 %	2.2 %	
n-butane	10 ppm to 10 %	2 %	
iso-Butane	10 ppm to 10 %	2 %	
n-Pentane	10 ppm to 10 %	2 %	

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iso-Pentane	10 ppm to 10 %	2 %	Lab Work Instruction No: LTCM-04, LTCM-06 & LTCM-03
cis-2-butene	10 ppm to 0.5 %	2 %	
trans-2-Butene	10 ppm to 0.5 %	2 %	
Isobutylene	10 ppm to 0.5 %	2 %	Calibration of gas mixtures using gas chromatography with Flame ionization detector and Thermal Conductivity Detectors and Paramagnetic Analyzer. Matrix gas: Nitrogen (GC-FID & TCD) and Paramagnetic Oxygen Analyzer
1-butene	10 ppm to 0.5 %	2 %	
n-Hexane	10 ppm to 0.5 %	2 %	

¹The uncertainty covered by the Calibration and Measurement Capability (CMC) is expressed as the expanded uncertainty having a coverage probability of approximately 95 %. It is the smallest measurement uncertainty that a laboratory can achieve within its scope of accreditation when performing calibrations of a best existing device. The measurement uncertainty reported on a calibration certificate may be greater than that provided in the CMC due to the behavior of the calibration item and other factors that may contribute to the uncertainty of a specific calibration.

²When uncertainty is stated in relative terms (such as percent, a multiplier expressed as a decimal fraction or in scientific notation), it is in relation to instrument reading or instrument output, as appropriate, unless otherwise indicated.

ppm = parts in 10⁶