



INTERNATIONAL
ACCREDITATION
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CERTIFICATE OF ACCREDITATION

This is to attest that

GULF CRYO SAUDI FOR INDUSTRIAL & MEDICAL GASES COMPANY

P.O.BOX 30917, 31952 2ND INDUSTRIAL CITY
DAMMAM, AL-KHOBAR, EASTERN PROVINCE
KINGDOM OF SAUDI ARABIA

Testing Laboratory TL-654

has met the requirements of AC89, *IAS Accreditation Criteria for Testing 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 December 17, 2019



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

GULF CRYO SAUDI FOR INDUSTRIAL & MEDICAL GASES COMPANY

www.gulfcryo.com

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Contact Phone +966-138126914/5

Accredited to ISO/IEC 17025:2017

Effective Date December 17, 2019

Chemical	
CGA G-4.3	Determination of Oxygen Gas Purity using Paramagnetic Oxygen Analyzer (0-100%)
CGA G-4.3-2007	Oxygen Purity (%) (by Paramagnetic Cell Method Analyzer) (0-100%)
CGA G-6.2	Determination of Carbon Dioxide (CO ₂) Percentage (%) (0.25-100%)
CGA G-6.2-2011	CO ₂ (%) (by Single Wavelength Infrared Analyzer) (0.25-100%)
CGA G-10.1	Determination of Traces of O ₂ , CO ₂ , CO, CH ₄ in Nitrogen (0-200 ppm)
CGA G-11.1	Determination of Traces of O ₂ , CO ₂ , CO, CH ₄ and N ₂ in Argon (0-200 ppm)
CGA G-10.1-2008 CGA G-11.1-2004	Traces of O ₂ , CO, CO ₂ , CH ₄ and N ₂ in ARGON, Nitrogen and Helium (by Gas Chromatography with Plasma Cell Detector) (0-200 ppm)
CGA G-6.2 CGA G-10.1 CGA G-11.1	Determination of Oxygen Traces (0-210,000 ppm)
CGA G-6.2-2011 CGA G-10.1-2008 CGA G-11.1-2004	Oxygen Traces (ppm) (by Zirconia Cell Method Analyzer) (0-210,000 ppm)
CGA G-6.2 CGA G-10.1 CGA G-11.1	Determination of Trace Moisture Concentration (0-6000 ppm)
CGA G-6.2-2011 CGA G-10.1-2008 CGA G-11.1-2004	Trace Moisture Concentration (by Hygrometry – Capacitance Analyzer) (0-6000 ppm)
EIGA 70/17 § 10 ISBT 2010 Bulk Carbon Dioxide Quality Guidelines (Method 9.0)	CO ₂ Gas Purity (by CO ₂ Absorption ZAHM NAGER Tester) (99.00% - 100%)
EIGA 70/17 § 10 ISBT 2010 Bulk Carbon Dioxide Quality Guidelines (Method 9.0)	Traces of Methanol (by Gas Chromatography with Flame Ionization Detection Cell) (0-10 ppm)
EIGA 70/17 § 10 ISBT 2010 Bulk Carbon Dioxide Quality Guidelines (Method 10.0)	Total Hydrocarbons as Methane (THC) (by Flame Ionization Analyzer) (0-10 ppm)

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EIGA 70/17 § 10 ISBT 2010 Bulk Carbon Dioxide Quality Guidelines (Method 11.0)	Traces of Acetaldehyde (by Gas Chromatography with Flame Ionization Detection Cell) (0-1.0 ppm)
EIGA 70/17 § 10 ISBT 2010 Bulk Carbon Dioxide Quality Guidelines (Method 12.0)	Traces of Benzene (by Gas Chromatography with Flame Ionization Detection Cell) (0-0.1 ppm)
ISBT 2010 Bulk Carbon Dioxide Quality Guidelines (Method 2.0)	Determination of Carbon Dioxide (CO ₂) % Purity (by Caustic Absorption Analyzers) (99.90% - 99.99%)
ISBT 2010 Bulk Carbon Dioxide Quality Guidelines (Method 9.0)	Methanol (MeOH) by Gas Chromatography and Other Selective Analyzers (0-10 ppm)
ISBT 2010 Bulk Carbon Dioxide Quality Guidelines (Method 10.0)	Total Volatile Hydrocarbon (THC) (by THC Analyzer) (0-10 ppm)
ISBT 2010 Bulk Carbon Dioxide Quality Guidelines (Method 11.0)	Acetaldehyde (AA) by Gas Chromatography and Other Selective Analyzers (THC) (by THC Analyzer) (0-1 ppm)
ISBT 2010 Bulk Carbon Dioxide Quality Guidelines (Method 12.0)	Aromatic Hydrocarbon Content (AHC) by Gas Chromatography and Other Selective Analyzers (0-100 ppb)
ISBT 2010 Bulk Carbon Dioxide Quality Guidelines (Method 13.0)	Total Sulfur Content (TSC) (by TS Analyzer) (0-200 ppb)
SGF-LSOP-01	Determination of Concentration of C1-C6 Hydrocarbons & Permanent Gases in Gas Mixtures (by Gas Chromatography-TCD & FID) [(H-C) 100 ppm to 50%] (Permanent Gases 0.1% to 50%)
SGF-LSOP-02	Determination of Concentration of Sulfur Components in Gas Mixtures (by Gas Chromatography-PFPD) (0.1 ppm to 100 ppm)
SGF-LSOP-03	Determination of Concentration of C1-C6 Hydrocarbons in Gas Mixtures (by Gas Chromatography-FID) (1.0 ppm to 50%)
SGF-LSOP-04	Determination of Concentration of Permanent Gases in Gas Mixtures (by Gas Chromatography-PDHID) (1.0 ppm to 100 ppm)
SGF-LSOP-07	Determination of Concentration of Nitric Oxide in Gas Mixtures (by UV spectroscopy) (100 – 2000 ppm)
SGF-LSOP-07	Determination of Concentration of Sulfur Dioxide in Gas Mixtures (by UV spectroscopy) (100 – 500 ppm)
SGF-LSOP-08	Determination of Concentration of Oxygen in Gas Mixtures (by Zirconia) (1.0 ppm to 25%)

CGA: Compressed Gas Association

EIGA: European Industrial Gases Association

ISBT: International Society of Beverage Technologists