



# Bristol Gases

Specialty Gas Mixtures, High Purity, Medical and Industrial Gases



**ACCREDITED & CERTIFIED**

ISO/IEC 17025:2017 & ISO 17034:2016

**Specialty Gases**



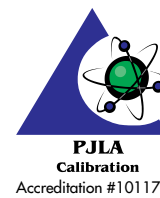
# About Bristol Gases Specialty Laboratory

Bristol Gases is a pioneer in Gas Industry for more than 2 decades serving customers in the Middle East, Africa, Central Asia and other World Regions. BGM Laboratory products and services are Speciality Gas Reference Materials, Calibration & Testing of Gas Mixtures.

BGM Laboratory is the first in the Middle East Region to have been accredited for both International Standards; ISO 17034:2016 for Reference Material Producer and ISO/IEC 17025:2017 for Testing and Calibration of gases.

State of the art Gas Chromatographs & Analysers with the latest test methodologies along with professional team in compliance to ISO Accreditation requirements meeting and exceeding the client requirements adhering quality services and on time delivery.

Using Certified Products, measurement data is internationally valid at the highest level with evidence of traceability to SI units.



## Gas Mixtures Classification

### Bristol Specialty Gas Mixtures

#### Signature-Ref

Reference Materials  
Accreditation as manufacturer  
of Reference materials

#### Elite-Mix

Mixtures with Calibration Certificate  
Accreditation as Testing / Calibration  
Laboratory

#### Spec-Gas

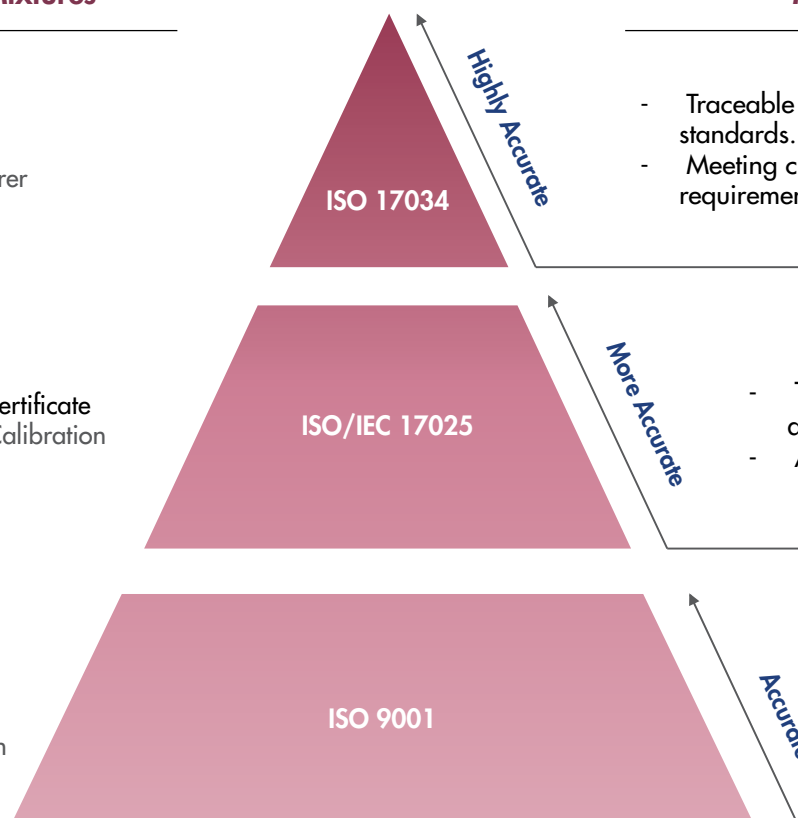
Standard Gas mixtures  
Bristol Gas QM Certification

### Metrological Properties

- Traceable to internationally accepted standards.
- Meeting customers' highest accuracy requirement.

- Traceable to internationally accepted standards
- Accuracy 1% or better.

- Traceable to internal Standards
- Meeting Customer requirements.



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## **BGM Laboratory supplies Signature-Ref CRM mixtures,Elite-Mix Calibration and Testing mixtures and Spec-Gas**

Standard gas mixtures are classified according to the degree of accuracy required, produced in coordinated levels of mixing tolerance, accuracy and metrological traceability. Highly optimised production processes and analysis methods allow us to offer mixtures that accurately match customer requirements in terms of precision while satisfying all definitive norms as the above hierarchy.

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### **Certified Reference materials (CRM)**

BGM Laboratory is accredited to ISO 17034:2016 to produce Certified Reference materials to meet customers' requirements in terms of Accuracy and Traceability. Production of the reference materials are based on the International Standard ISO 6142-1:2015 "Gas Analysis – Preparation of Calibration Gas Mixtures – Gravimetric Method". Determination of reference values are based on the Analysis using International Metrology Laboratories Reference Standards.

**Signature-Ref** CRM mixture analytical results are traceable to SI units and gas standards as per National Metrology Laboratories such as NIST, VSL & NPL.

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### **Calibration Gas Mixtures**

BGM Laboratory accreditations of ISO/IEC 17025:2017 Standard include Testing and Calibration of binary and multicomponent mixtures covering all major industries. Elite-Mix calibration mixture is provided in a wide range of cylinders' sizes and different valves standards.

Our accredited calibration mixtures are traceable to internationally recognised reference materials of NIST, NPL, VSL and our own BGM reference materials.

**Elite-Mix** is highly and precisely accurate mixture; BGM Laboratory is able to mix gases up to 20 and more components in one mixture with shortest delivery period.

Additionally, Testing services for speciality gas mixtures are provided to customers including recalibration services for the returning mixtures.

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### **BGM Laboratory Capabilities**

High accuracy is achieved when using state-of-the-art equipment and analysis methodologies in providing mixtures from PPB to Percentage level. BG Laboratory use equipment and methodologies such as Gas Chromatography (GC- FID,

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GC-TCD, GC-PFPD), Paramagnetic Oxygen, Zirconia Oxygen, Chemiluminescence, Pulse Florescence, Galvanic and Electrochemical testing principle.

## Reference Weights (E2 Class)

BGM Laboratory uses E2 Class Weights ranging from 2g to 50kgs, where E2 Class is highly accurate that are used as reference Standard Weights for production of calibration gas mixtures.

Gravimetric Filling using Mass Comparator

BGM Laboratory provides customer with gas mixtures that are precisely-formulated, calculated and strictly adhering to the requirements of ISO 6142-1:2015 Standard. BGM Laboratory holds the highest standards of expertise in terms of quality and safety.

Mass comparator is used for gravimetric filling process to guarantee highest degree of accuracy products traceable to SI units are supplied to the customer.

## Metrological Traceability

Chain of un-broken calibrations links customer measurements data to National Metrology standards assuring International comparability and is a requirement for the Industrial sectors to have measuring results to be comparable. This requirement is satisfied by International Standards such as ISO 17034:2016 and ISO/IEC 17025:2017, these Standards call for the metrological traceability of measuring results using Certified Reference Materials (CRM) as the basis for comparability.

## Proficiency Testing Participation

BGM Laboratory evaluates its results or performance against pre-established criteria by means of interlaboratory comparisons through Proficiency Testing with International PT providers.

This helps us in

- » Evaluation of the performance of BGM Laboratory for specific tests or measurements and monitoring laboratories' continuing performance
- » Provision of additional confidence to BGM Laboratory customers
- » Establishment of the effectiveness and comparability of test or measurement methods
- » Identification of problems in laboratories and initiation of actions for improvement
- » Education of participating laboratories based on the outcomes of such comparisons
- » Validation of uncertainty claims

BGM Laboratory has recently achieved highly accurate PT On-Demand results from VSL national Metrology Institute Netherlands. These results are concreting the confidence on the Certified Bristol Gas Products.

# Products and Services

| Industry/Location             | Gases Mixtures   | Applications   |
|-------------------------------|--|--|
| Laboratories                  | Certified Gas Mixtures<br>Calibration Gas Mixtures   | Instrument Calibration<br>Eg: Analyzers, Gas Chromatophy,<br>Gas Detectors   |
| Environmental Monitoring      | Calibration gas Mixtures<br>Eg: LEL mixtures of<br>CH <sub>4</sub> , C <sub>3</sub> H <sub>8</sub> , IC <sub>4</sub> , NC <sub>4</sub> ,<br>Detectors of H <sub>2</sub> S, NH <sub>3</sub> , SO <sub>2</sub> | Environment, Emission<br>Monitoring Equipment                                |
| Oil & Gas Industry            | Natural Gas Mixtures C1 to C10<br>upto 20 components, LEL mixtures   | Calibration of Instrument<br>that measures calorific<br>value of Natural Gas |
| Pharmaceuticals               | High Purity Gases<br>N <sub>2</sub> , Ar, CO <sub>2</sub> , He, H <sub>2</sub> , O <sub>2</sub>  | Inerting, Blanketing,<br>Freezing and packaging in<br>manufacturing          |
| Hospital and Medical Industry | NO, CO, CO <sub>2</sub> , He, NO <sub>2</sub> , mixtures   | Use in Hospital Medical<br>Equipments  |
| Food Industry                 | Mixtures of N <sub>2</sub> & CO <sub>2</sub> , Ar, He, Air   | For packaging, preservation, Carrier for<br>Gas Chromatography               |
| Automotive Industry           | CO <sub>2</sub> , C <sub>3</sub> H <sub>8</sub> , CO, SO <sub>2</sub> and NO<br>mixtures   | Compliance with Gas Emission/Testing   |

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|  <p><b>PERRY JOHNSON LABORATORY ACCREDITATION, INC.</b></p> <p><i>Certificate of Accreditation</i></p> <p><i>Perry Johnson Laboratory Accreditation, Inc. has assessed the Laboratory of:</i></p> <p><b>Bristol Gases Manufacturing, LLC</b><br/>11<sup>th</sup> Street, Al Quoz Industrial Area 3, Dubai, United Arab Emirates</p> <p><i>(Hereinfter called the Organization) and hereby declares that Organization is accredited in accordance with the recognized International Standard:</i></p> <p><b>ISO/IEC 17025:2017</b></p> <p>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-IAP Communique dated April 2017):</p> <p><b>Chemical Calibration</b><br/><i>(As detailed in the supplement)</i></p> <p>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.</p> <p>For PILA:</p>  <p>Tracy Szareszen<br/>President</p> <p>Perry Johnson Laboratory Accreditation, Inc. (PILA)<br/>755 W. Big Beaver, Suite 1325<br/>Troy, Michigan 48064</p> <p><i>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 PILA website: <a href="http://www.pila.com">www.pila.com</a></i></p> <p>Initial Accreditation Date: February 28, 2023    Issue Date: February 28, 2023    Expiration Date: April 30, 2025<br/>Accreditation No.: 101170    Certificate No.: 123-162</p> <p>Page 1 of 3</p> |  <p><b>PERRY JOHNSON LABORATORY ACCREDITATION, INC.</b></p> <p><i>Certificate of Accreditation</i></p> <p><i>Perry Johnson Laboratory Accreditation, Inc. has assessed the Laboratory of:</i></p> <p><b>Bristol Gases Manufacturing, LLC</b><br/>11<sup>th</sup> Street, Al Quoz Industrial Area 3, Dubai, United Arab Emirates</p> <p><i>(Hereinfter called the Organization) and hereby declares that Organization is accredited in accordance with the recognized International Standard:</i></p> <p><b>ISO/IEC 17025:2017</b></p> <p>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-IAP Communique dated April 2017):</p> <p><b>Chemical Testing</b><br/><i>(As detailed in the supplement)</i></p> <p>Accreditation claims for such testing and/or calibration services shall only be made from addresses referenced within this certificate. 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ISO/IEC 17025:2017 & ISO 17034:2016



ISO 9001  
ISO 14001  
ISO 45001  
BUREAU VERITAS  
Certification



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