10-12 Howard Way
Cromwell Business Centre
Newport Pagnell
Bucks MK16 9QS

Tel: 01908 612598
Fax: 01908 217974

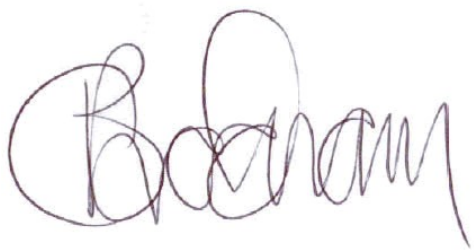
E-mail: service@djblabcare.co.uk
Website: www.djblabcare.co.uk

Equipment: G100 Gas Analyser
Serial number: IN14113

Analysers are calibrated up to 7 days prior to any pending CO_2 calibrations in accordance with DJB Labcare procedures

Method
All calibrations are carried out using reference gases providing traceability to UKAS ISO17025 standards and in accordance with manufacturer procedures.

Approved by: Colin Bradnam



CERTIFICATE OF CALIBRATION

Approved signatory
Name: **Amy Karvir**
Signature

Issued by **EffecTech**
Date of Issue **10 February 2020** Certificate Number **20/0255/01**

EffecTech
Global Leaders in Gas Measurement
Dove House
Dove Fields
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Staffordshire ST14 8HU
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www.effectech.co.uk

ilac-MRA
UKAS CALIBRATION
0590

Customer	: DJB Labcare Limited Unit 12 Howard Way, Cromwell Business Centre, Newport Pagnell, Buckinghamshire, MK16 9QS.
Customer reference	: PO No.NS22632
Product Description	: Certified Reference Material (CRM) for use as a calibration gas mixture in emissions gas analysis **carbon dioxide** in nitrogen
Preparation method	: Mixture prepared by ISO 6142-1:2015 - *Gas Analysis - Preparation of calibration gas mixtures - Part 1 : Gravimetric method for Class I mixtures*
Calibration method	: Mixture calibrated by comparison with reference gases generated dynamically in accordance with ISO 6145 - *Gas Analysis - Preparation of calibration gas mixtures using dynamic volumetric methods Part 7 : Thermal Mass Flow Controllers* using a two-point calibration design with bracketing (TPC) in accordance with ISO 12963 - *Gas analysis - Comparison methods for the determination of the composition of gas mixtures based on one- and two-point calibration*
Traceability	: Mixture classified as a Secondary Reference Gas Mixture (SRGM) at Level-2 in the metrological hierarchy of traceability by direct analytical comparison with a Primary Reference Gas Mixture (PRGM)
Cylinder number	: D527722
Date of calibration	: 10 February 2020
Contents pressure	: 150 bar
Cylinder size	: 5 litres
Cylinder material	: aluminium
Valve outlet connection	: BS341 - No.3

Minimum usage pressure	: 3 bar
Usage temperature range	: 0 to 50°C
Storage (transport) temperature range	: 0 to 50°C

The reference values presented in this certificate apply to the calibration of the individual and unique gas mixture identified above

Composition

component	amount fraction (%mol/mol)
carbon dioxide	4.985 ± 0.026

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor $k=2$, which for a normal distribution provides a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.

The following information provided on stability and the expiry date is outside the scope of UKAS accreditation but is required to fulfil the mandatory requirements of ISO 6141:2015 - *Gas Analysis - Contents of certificates for calibration gas mixtures*

Stability	: EffecTech stability studies of similar gas mixtures in this type of cylinder/valve combination have demonstrated a shelf-life of 5 years, providing the contents pressure and usage/storage temperature remain within the limits stated in the table above.
Expiry date	: 10 February 2025

To re-order this gas mixture contact EffecTech quoting certificate number 20/0255/01.
tel: +44(0)1889 569229 email: sales@effectech.co.uk