

CERTIFICATE OF ANALYSIS

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Issued by **EffecTech**
Date of issue **02 April 2025**Certificate number **25/0055/04**Approved signatory
Name: **Ryan Richards**
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Customer : Southern Gas Networks plc
Fullarton House, 1 Fullarton Drive, Cambuslang, G32 8FD.

Analysis method : Sample analysed by comparison with a reference gas mixture using a single-point calibration design (SPO) 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 using high precision gas chromatography with a sulphur chemiluminescence detector (GC-SCD)

Sample identification : Sample point: Beattock Compressor Station, 2025-03-20, 14:30 hrs, line pressure 60.57 bar, line temperature 6.3 °C, sampled by RB/SJ.

Date of analysis : 01 April 2025

This laboratory was not responsible for the sampling stage as the sample and sample identification information was provided by the customer. The results presented in this certificate apply to the sample analysed on an as received basis.

Composition

component	amount fraction ($\mu\text{mol/mol}$)
hydrogen sulphide	1.214 ± 0.054
carbonyl sulphide	<0.030
methyl mercaptan	<0.030
ethyl mercaptan	<0.030
dimethyl sulphide	0.332 ± 0.037
methyl ethyl sulphide	<0.030
iso-propyl mercaptan	<0.030
n-propyl mercaptan	<0.030
tert-butyl mercaptan	0.971 ± 0.055
diethyl sulphide	<0.030
n-butyl mercaptan	<0.030

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 JCGM 100:2008 - *Evaluation of measurement data - Guide to the expression of uncertainty in measurement* (GUM).

EffecTech is accredited by UKAS to undertake the analysis presented in this certificate according to ISO/IEC 17025:2017.

This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. It provides traceability of measurement to the SI system of units and/or to units of measurement realised at the National Physical Laboratory or other recognised national metrology institutes. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

The laboratory activities reported were performed at the location of the issuing body
The reference values reported relate only to the specific sample identified in this certificate