



proficiency testing

Proficiency testing (PT) schemes provide an objective way of assessing the performance (bias, stability, and repeatability) of laboratories by a series of regular inter-laboratory comparisons.

EffectTech® is accredited by UKAS to provide the Global Gas and LNG PT scheme. The scheme is operated in accordance with ISO 17043 (ISO Guide 43) and focuses on the natural gas and LNG industries. Between 1 and 4 different ISO 17025 accredited synthetic gases (see table) are sent to the participating laboratories for analysis up to four times per year. Each laboratory reports their analytical results, which are compared to the reference values. The closeness of each laboratory's results to the reference values forms the basis of a quantitative assessment of their capability and performance. The full set of results for all laboratories are reported anonymously to the entire group, with each participant being made aware of the identity of their own results. Participation in this PT scheme provides laboratories with an objective means of assessing and demonstrating the reliability of their measurements. This may identify potential commercial risks and staff training requirements. In addition, participants are able to assess their performance in relation to other laboratories. Indeed, regular participation in PT schemes is required by accreditation bodies when assessing laboratories against ISO 17025.

The GGLNG PT scheme has been provided by EffectTech® for 3 years. Over this period as many as 50 laboratories participating in the scheme have been able to demonstrate improved performance.



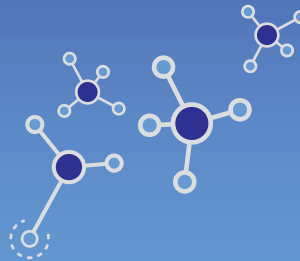
For more information regarding proficiency testing visit our website

w: www.effecttech.co.uk/proficiencytesting

e: info@effecttech.co.uk
w: www.effecttech.co.uk
t: +44 (0)1889 569229
f: +44 (0)1889 569220

EffectTech (United Kingdom)
Dove House, Dove Fields, Uttoxeter,
Staffordshire, ST14 8HU United Kingdom

EffectTech also operates laboratories in key locations in India and Qatar.



Component	Mixture 1 LNG Composition (%mol/mol)	Mixture 2 Propane Composition (%mol/mol)	Mixture 3 Mixed Refrigerant (%mol/mol)	Mixture 4 Sulphur in Methane (ppm)
ethane	0.1 - 14	0.25 - 3	20 - 35	
propane	0.05 - 5	Balance	5 - 15	
iso-butane	0.01 - 1	0.03 - 1		
n-butane	0.01 - 1	0.03 - 1		
iso-pentane	0.005 - 0.35	0.02 - 0.08		
n-pentane	0.005 - 0.35	0.02 - 0.08		
n-hexane	0.001 - 0.35			
nitrogen	0.1 - 8	0.1 - 3	4 - 16	
carbon dioxide	0.05 - 8			
methane	balance		balance	balance
hydrogen sulphide				0.2 to 40
carbonyl sulphide				0.2 to 40
methyl mercaptan				0.2 to 40
ethyl mercaptan				0.2 to 40
dimethyl sulphide				0.2 to 40





calibration gases

EffecTech®, through its UKAS accredited calibration laboratories, provides the highest quality reference gas mixtures with world leading accuracy and uncertainty.

Using EffecTech® calibration gases can greatly reduce the uncertainty of the gas measurements you make whether it be underpinning your fiscal, contractual or environmental obligations. We ensure you receive the best solution for your application, drawing on years of experience in gas metrology. EffecTech® produces calibration gases to the highest international standards according to their scope of accreditation awarded by UKAS. Our ISO 17025 accredited calibration gases ensure accurate and traceable calibrations through an unbroken chain of measurements back to the SI unit amount of substance, the mole. Inaccurate, non-traceable calibration gases have the greatest potential for introducing errors into your gas composition measurements and in calculated physical properties such as calorific value or carbon emission factors.

EffecTech® offers ISO 17025 accredited calibration gases for the following applications:

- LNG
- Refinery gas
- Blast furnace gas
- Natural gas (up to C₁₀)
- LPG
- Mixed refrigerants
- Trace sulphur / odorant (H₂S, COS)
- Stack emission (CO, CO₂, NO, SO₂ & O₂)



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Standard delivery for hydrocarbon mixtures is 2 – 3 weeks and sulphur mixtures is 4 – 5 weeks delivered to the UK or ex works Worldwide.

Express delivery for hydrocarbon mixtures only is 1 week delivered to the UK or ex works Worldwide. This is due to our state-of-the-art gravimetric production facility located at our ISO 17025 accredited calibration laboratory.

No cylinder rental charge
Your cylinder is purchased outright initially with the first mixture and refilled by us when required at a lower cost. Cylinder pressure tests are included and we will arrange this service at no extra cost.

