


# Schedule of Accreditation

issued by

## United Kingdom Accreditation Service

2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

 <p>Accredited to ISO/IEC 17025:2017</p>	<b>EffecTech Limited</b>	
	<b>Issue No: 031    Issue date: 25 September 2024</b>	
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<b>Testing performed at the above address only</b>		

### DETAIL OF ACCREDITATION

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	
NATURAL GAS	<b>Chemical Analysis</b>		
	amount fraction	(%mol/mol)	
	nitrogen	0.1 to 22	<b>In-house method TM001/UT</b>  Analysis of natural gas using gas chromatography (GC-TCD and GC-FID)  Where the lower limit of the range is given as nil or zero amount fraction then, if the component is not detected in the sample, the certificate shall include the amount fraction in the form <x.xxxxx where x.xxxxx is a value at or above the limit of quantification (LoQ) determined for that component.  Note [1]: the amount fraction of a grouped component is the sum of all isomers in that group except for those identified separately  Note [2]: the sum of all hydrocarbons containing six carbon atoms or greater
	carbon dioxide	0.05 to 15	
	methane	34 to 100	
	ethane	0.1 to 35	
	propane	0 to 15	
	iso-butane	0 to 2	
	n-butane	0 to 2	
	neo-pentane	0 to 0.35	
	iso-pentane	0 to 0.35	
	n-pentane	0 to 0.35	
	2-methylpentane	0 to 0.1	
	3-methylpentane	0 to 0.1	
	2,2-dimethylbutane	0 to 0.1	
	n-hexane	0 to 0.1	
	hexanes [1]	0 to 0.1	
	benzene	0 to 0.1	
	cyclohexane	0 to 0.1	
	n-heptane	0 to 0.1	
	heptanes [1]	0 to 0.1	
	toluene	0 to 0.1	
	methylcyclohexane	0 to 0.1	
	n-octane	0 to 0.05	
	octanes [1]	0 to 0.05	
	n-nonane	0 to 0.02	
	nonanes [1]	0 to 0.02	
n-decane	0 to 0.005		
decanes [1]	0 to 0.005		
helium	0 to 0.2		
hydrogen	0 to 0.2		
oxygen	0 to 1		
argon	0 to 0.05		
C <sub>6</sub> + [2]	0 to 0.35		



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NATURAL GAS	<p>Calculated values from composition</p> <p>superior calorific value inferior calorific value relative density density superior Wobbe index inferior Wobbe index molar mass compression factor</p> <p>gross calorific value net calorific value relative density density gross Wobbe index net Wobbe index molar mass compression factor</p> <p>gross heating value net heating value relative density compressibility factor</p> <p>gross heating value net heating value relative density compressibility factor</p> <p>Calculated values from composition</p> <p>carbon dioxide emission factor (gross combustion energy basis)</p> <p>carbon dioxide emission factor (net combustion energy basis)</p> <p>carbon dioxide emission factor (volume basis)</p>	<p><b>In-house method TM001/UT</b></p> <p>Values calculated according to <b>ISO 6976:1995</b> (including amendment No 1, May 1998) on a <i>real or ideal</i> gas basis assuming mixture is dry (free from water)</p> <p>Combustion properties can be expressed in units of the Joule (J) or in kilowatt hours (kWh)</p> <p>Values calculated according to <b>ISO 6976:2016</b> on a <i>real or ideal</i> gas basis assuming mixture is dry (free from water)</p> <p>Combustion properties can be expressed in units of the Joule (J) or in kilowatt hours (kWh)</p> <p>Calculated values according to methods given in <b>GPA 2172-19</b> (2019) using data tables from <b>GPA 2145-16</b></p> <p>Calculated values according to methods given in <b>ASTM D3588-98</b> (2017) using data tables from <b>GPA 2145-16</b></p> <p><b>In-house method TM001/UT</b></p> <p>Calculated values in support of the COMMISSION REGULATION (EU) No 601/2012 of 21 June 2012 on the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC of the European Parliament and of the Council of Brussels, 18/VII/2007 C (2007) 3416 final (publ EU Commission 18th July 2007)</p>



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NATURAL GAS	<p><b>Chemical Analysis</b></p> <p>amount fraction (mol/mol)</p> <p>hydrogen sulphide 0 to 10</p> <p>carbonyl sulphide 0 to 10</p> <p>methanethiol (methyl mercaptan) 0 to 10</p> <p>ethanethiol (ethyl mercaptan) 0 to 10</p> <p>2-methyl-2-propanethiol (tert-butyl mercaptan) 0 to 10</p> <p>propanethiol (n-propyl mercaptan) 0 to 10</p> <p>butanethiol (n-butyl mercaptan) 0 to 10</p> <p>2-propanethiol (iso-propyl mercaptan) 0 to 10</p> <p>dimethyl sulphide 0 to 10</p> <p>ethyl methyl sulphide (methyl ethyl sulphide) 0 to 10</p> <p>diethyl sulphide 0 to 10</p> <p>tetrahydrothiophene (THT) 0 to 10</p>	<p><b>In-house method TM002/UT</b></p> <p>Analysis of sulphur components in natural gas using gas chromatography with sulphur chemiluminescence detection (SCD)</p> <p>Where the lower limit of the range is given as nil or zero amount fraction then, if the component is not detected in the sample, the certificate shall include the amount fraction in the form &lt;x.xx where x.xx is a value at or above the limit of quantification (LoQ) determined for that component.</p>
END		