


Schedule of Accreditation

issued by

United Kingdom Accreditation Service

21 - 47 High Street, Feltham, Middlesex, TW13 4UN, UK

 <p>2770</p> <p>Accredited to ISO/IEC 17025:2005</p>	<h3>INEOS Chemicals Grangemouth Ltd</h3> <p>Issue No: 005 Issue date: 31 March 2011</p>	
	<p>PO Box 21 Bo'ness Road Grangemouth Stirlingshire FK3 9XH</p>	<p>Contact: Ms C Gallacher Tel: +44 (0)1324 493322 Fax: +44 (0)1324 493646 E-Mail: carole.gallacher@ineos.com Website: www.ineos.com</p>
<p>Testing performed at the above address only</p>		

DETAIL OF ACCREDITATION

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
PETROLEUM and PETROLEUM PRODUCTS	<u>Chemical and Physical Tests</u>	
	Ash content	IP 4/05 EN ISO 6245:02
	Density and relative density of liquids by digital density meter	IP 365/97(04) EN ISO 12185:96
	Sulphur in petroleum products by energy dispersive X-ray fluorescence	IP 336/04 EN ISO 8754:03
	Water content - distillation method	IP 74/00 ISO 3733:99
	Determination of Carbon Content of Fuel Oil by Leco SC144DR	Documented in-house method LM-Hydrocarbon-60
NATURAL GAS	C ₁ - C ₅ alkanes, > C ₅ alkanes, air, CO ₂	ASTM D 1945-03 (2010) (Modified)
LIQUIFIED PETROLEUM GAS	Propane and butane	BS EN 27941 (1994) (Modified)



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PETROLEUM and PETROLEUM PRODUCTS cont REFINERY GAS	<p><u>Chemical and Physical Tests cont</u></p> <p>Determination of Composition of Fuel Gas Streams Chemical composition: Amount fraction (% mol/mol and % m/m)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Component</th> <th style="text-align: left;">(% mol)</th> </tr> </thead> <tbody> <tr><td>Methane</td><td>0.01 to 91.1</td></tr> <tr><td>Ethane</td><td>0.01 to 99.9</td></tr> <tr><td>Ethene</td><td>0.01 to 36.3</td></tr> <tr><td>Propane</td><td>0.01 to 99.9</td></tr> <tr><td>Propene</td><td>0.01 to 20.0</td></tr> <tr><td>n-Butane</td><td>0.01 to 23.4</td></tr> <tr><td>iso-Butane</td><td>0.01 to 10.2</td></tr> <tr><td>trans-2-Butene</td><td>0.01 to 4.0</td></tr> <tr><td>iso-Butene</td><td>0.01 to 2.0</td></tr> <tr><td>1-Butene</td><td>0.01 to 4.1</td></tr> <tr><td>cis-2-Butene</td><td>0.01 to 2.0</td></tr> <tr><td>1,3 Butadiene</td><td>0.01 to 5.8</td></tr> <tr><td>n-Pentane</td><td>0.01 to 3.1</td></tr> <tr><td>iso-Pentane</td><td>0.01 to 4.2</td></tr> <tr><td>Cyclopropane</td><td>0.01 to 0.09</td></tr> <tr><td>Propadiene</td><td>0.01 to 1.9</td></tr> <tr><td>Acetylene</td><td>0.01 to 2.0</td></tr> <tr><td>>n-Pentane</td><td>0.01 to 4.0</td></tr> <tr><td>Hydrogen</td><td>0.1 to 2.0</td></tr> <tr><td>Sulphide</td><td></td></tr> <tr><td>Hydrogen</td><td>0.01 to 99.9</td></tr> <tr><td>Helium</td><td>0.01 to 99.9</td></tr> <tr><td>Carbon Dioxide</td><td>0.02 to 10.0</td></tr> <tr><td>Carbon Monoxide</td><td>0.02 to 6.2</td></tr> <tr><td>Nitrogen</td><td>0.02 to 75</td></tr> <tr><td>Oxygen</td><td>0.02 to 20.0</td></tr> </tbody> </table>	Component	(% mol)	Methane	0.01 to 91.1	Ethane	0.01 to 99.9	Ethene	0.01 to 36.3	Propane	0.01 to 99.9	Propene	0.01 to 20.0	n-Butane	0.01 to 23.4	iso-Butane	0.01 to 10.2	trans-2-Butene	0.01 to 4.0	iso-Butene	0.01 to 2.0	1-Butene	0.01 to 4.1	cis-2-Butene	0.01 to 2.0	1,3 Butadiene	0.01 to 5.8	n-Pentane	0.01 to 3.1	iso-Pentane	0.01 to 4.2	Cyclopropane	0.01 to 0.09	Propadiene	0.01 to 1.9	Acetylene	0.01 to 2.0	>n-Pentane	0.01 to 4.0	Hydrogen	0.1 to 2.0	Sulphide		Hydrogen	0.01 to 99.9	Helium	0.01 to 99.9	Carbon Dioxide	0.02 to 10.0	Carbon Monoxide	0.02 to 6.2	Nitrogen	0.02 to 75	Oxygen	0.02 to 20.0	<p>Documented in-house method LM-GC-11 using gas chromatography</p>
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