


Schedule of Accreditation

issued by

United Kingdom Accreditation Service

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

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|  <p>4589</p> <p>Accredited to ISO Guide 34:2009</p> | Paragon Scientific Ltd | |
| | Issue No: 011 | Issue date: 18 November 2011 |
| | 2 Kelvin Park Dock Road Birkenhead Wirral CH41 1LT | Contact: Mr D Williams Tel: +44 (0)151 649 9955 Fax: +44 (0)151 649 9977 E-Mail: sales@paragon-sci.com Website: www.paragon-sci.com |
| Reference material production at the above address | | |

DETAIL OF ACCREDITATION

| Matrix / Artefact | Property Value(s) / Identity / Characterisation Range | Characterisation Procedure / Technique |
|---|---|---|
| <u>Reference Materials with Viscosity Properties</u> Base, blended oils and hydrocarbons | Kinematic viscosity | Measurement by a single, primary, method at Paragon ASTM D2162 Viscosity values at intermediate temperatures can be determined in accordance with ASTM D341 |
| Base, blended oils and hydrocarbons | Kinematic viscosity | Measurement by a single, primary, method at Paragon ASTM D445 Viscosity values at intermediate temperatures can be determined in accordance with ASTM D341 |
| Base, blended oils and hydrocarbons | Dynamic viscosity | Measurement by a single, primary, method at Paragon ASTM D2162 Viscosity values at intermediate temperatures can be determined in accordance with ASTM D341 |
| Base, blended oils and hydrocarbons | Dynamic viscosity | Measurement by a single, primary, method at Paragon ASTM D445 Viscosity values at intermediate temperatures can be determined in accordance with ASTM D341 |



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| Matrix / Artefact | Property Value(s) / Identity / Characterisation Range | Characterisation Procedure / Technique |
|--|--|---|
| <u>Reference Materials with Density Properties</u> | | |
| Base, blended oils and hydrocarbons | Density | Measurement by a single, primary, method at Paragon ASTM D1480 |
| Blended oils | Density | Measurement by a method specific, interlaboratory study ASTM D4052 IP365 ISO12185 |
| <u>Reference Materials with Refractive Index Properties</u> | | |
| Sucrose solution | Sucrose in water wt/wt 1 % to 60 % (Brix) Corresponding to refractive index values of 1.33442 to 1.49071 | Gravimetric preparation Calculated from International Refractive Index Scale of ICUMSA (1974) |
| <u>Certified Reference Materials with Flash Point Properties</u> | | |
| Blended oils | Flash point, Pensky Marten closed cup | Measurement by a method specific, interlaboratory study ASTM D93 Procedure A IP 34 ISO 2719 EN 3405 |
| Blended oils | Flash point, Cleveland open cup | Measurement by a method specific, interlaboratory study ASTM D92 IP36 ISO 2592 EN 2592 |



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|---|---|--|
| <u>Secondary Working Standard Reference Materials with Flash Point Properties</u> | | |
| Blended oils | Flash point, Pensky Marten closed cup | Measurement by a single, primary, method at Paragon ASTM D93 Procedure A IP 34 ISO 2719 EN 3405 |
| Blended oils | Flash Point, Cleveland open cup | Measurement by a single, primary, method at Paragon ASTM D92 IP36 ISO 2592 EN 2592 |
| <u>Certified Reference Materials with Cloud Point Properties</u> | | |
| Blended oils | Cloud point | Measurement by a method specific, interlaboratory study ASTM D2500 IP 219 ISO 3015 EN 23015 |
| <u>Certified Reference Materials with Cold Filter Plugging Point Properties</u> | | |
| Blended oils | Cold Filter Plugging Point (CFPP) | Measurement by a method specific, interlaboratory study ASTM D6371 IP 309 EN 116 BS 2000: Pt 309 |
| <u>Certified Reference Materials with Distillation Properties</u> | | |
| Blended oils | Distillation Properties | Measurement by a method specific, interlaboratory study ASTM D86 IP 123 ISO 3405 EN ISO 3405 |



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|--|---|---|
| <u>Reference Materials with Colour Properties</u> Blended oils and hydrocarbons Blended oils and hydrocarbons Blended oils and hydrocarbons | ASTM colour Saybolt colour Gardner colour | Measurement by a single, primary, method at a laboratory (spectrophotometry) ASTM D6045 ASTM D1500 Measurement by a single, primary, definitive method at a laboratory (spectrophotometry) ASTM D6045 ASTM D156 Measurement by a single, primary, definitive method at a laboratory (spectrophotometry) ASTM D6166 ASTM D1544 |
| | END | |