



PHYSICAL REFERENCE STANDARDS

Paragon Scientific  Ltd

Industrial
VHG | ARMI | MBH

LGC Quality | ISO 17034 | ISO/IEC 17025 | ISO 9001

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Science for a Safer World

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Introduction

For over 25 years our Paragon Scientific site has specialised in and continues to produce a comprehensive range of certified reference materials (CRMs) and standards. Paragon holds dual UKAS accreditations ISO 17025 & ISO 17034, ensuring the highest level of product quality, metrology and traceability. We offer one of the broadest ranges of viscosity CRMs in the industry, as well as a wide range of other physical property standards. Our customers include some of the largest petrochemical and fuel

testing laboratories in the world, but our products are also used by many food, environmental, cannabis and pharmaceutical testing laboratories.

With nearly 50 years of experience the LGC Industrials portfolio is comprised of industry leading brands including VHG, ARMI, MBH and Paragon Scientific. Building on our collective expertise, Industrial fosters the innovation and the agility necessary to create the measurement tools you rely on when developing, using, and transforming materials to achieve your mission.

LGC Industrial – The Material Difference.

ISO/IEC 17043



Section 1

Viscosity Reference Standards

Viscosity

LGC Industrial's produce dual accredited ISO 17025 / ISO 17034 viscosity standards for the calibration and verification of all types of viscometers, where operating temperature is controlled precisely. All viscosity standards are manufactured from high quality raw materials.

General Purpose Viscosity Reference Standards

General Purpose Viscosity Standards are certified at all temperatures in strict accordance with the primary method for the certification of oil-based viscosity standards ASTM D2162 and ASTM D1480. Data quoted on certificate for Kinematic Viscosity, Dynamic Viscosity and Density at a range of temperatures between 20 and 100 °C

All General Purpose standards are applicable for use with ASTM D445, ASTM D446, IP 71 Section 1, IP 71 Section 2, ISO 3104, ISO 3105, and other internationally equivalent methodology.

Cold Crank Simulator (CCS) Viscosity Reference Standards

Cold Crank Simulator (CCS) Viscosity Standards are for the calibration and verification of analytical equipment used in (CCS) oil testing to ASTM D5293, "SAE Specification J300" and other internationally equivalent methodology. Dynamic viscosity (mPa·s) and kinematic viscosity mm²/s (cSt) data is quoted on the certificate.

Can also be used for other low temperature applications.

Low Temperature Viscosity Reference Standards

Low Temperature Viscosity Standards are widely used for the calibration and verification of viscometers used at sub-zero temperature. Low Temperature Viscosity Standards are applicable for use with ASTM D445, D2983, D3829, D4684, and other internationally equivalent methodology.

High Temperature Viscosity Reference Standards

High Temperature Viscosity Standards offer additional certified data to the General Purpose Viscosity Standards, up to a temperature of 150 °C. All High Temperature Viscosity Standards are applicable for use with ASTM D445, ASTM D446, IP 71 Section 1, IP 71 Section 2, ISO 3104, ISO 3105, and other internationally equivalent methodology.

Small Sample Viscosity Reference Standards

The Small Sample Viscosity Standards offer a cost-effective 60ml volume, reducing potential waste for the low volume viscometer user. Standards are certified for kinematic viscosity mm²/s (cSt) at 40 and 100 °C, in strict accordance with ASTM D2162.

Rotational Viscosity Reference Standards

We offer a wide range of Rotational Viscosity Standards in two matrices; Mineral Oil and Silicon Fluid. These are applicable across a wide range of industries.

Section 1: Viscosity Reference Standards

Silicone Rotational Viscosity Reference Standards

Silicone Rotational Viscosity Standards are specifically formulated for calibration and verification of rotational viscometers. They are certified at 20 and 25 °C, for Kinematic Viscosity mm²/s (cSt), Dynamic Viscosity (mPa·s) and Density (g/mL).

Mineral Oil Rotational Viscosity Reference Standards

Mineral Oil Rotational Viscosity Standards are the first choice option where end users are unable to have silicone in their process. They are certified for dynamic viscosity from 20 °C through to 25 °C at 0.5 °C intervals. The dynamic viscosities at 20 and 25 °C were derived from the kinematic viscosities certified in strict accordance with ASTM D2162 and the densities certified in strict accordance with ASTM D1480. Dynamic viscosities at intermediate temperatures were derived from the kinematic viscosities calculated using ASTM D341 and densities calculated by proportional calculations.

Flow Cup Viscosity Reference Standards

Flow Cup Viscosity Standards are designed for use with most flow cup viscometers. Certified at 20 and 25 °C for Kinematic Viscosity mm²/s (cSt), Dynamic Viscosity (mPa·s) and Density (g/mL), they are also supplied with calculated drain times, for the Ford, ISO, Shell, and Zahn flow cups, derived from the kinematic viscosity and calculations as defined in the methodology. A table of flow cups and calculations is also included on the reverse of the certificate. Applicable methods include, but are not limited to, ASTM D1200, D4212, ISO 2431 and other internationally equivalent methodology.

Cone and Plate Viscosity Reference Standards

Our Cone and Plate Viscosity Standards are specifically formulated for viscometers used in the paints and coatings industry. Certified at 20 and 25 °C, quoting Kinematic Viscosity mm²/s (cSt), Dynamic Viscosity (mPa·s) and Density (g/mL). Where applicable, Krebs Units (KU) will also be quoted.

Water Viscosity Reference Standards

Our Pure Water Viscosity Standard is certified for Kinematic Viscosity mm²/s (cSt), Dynamic Viscosity (mPa·s) and Density (g/mL), at 5, 20, 25 and 37 °C. Certification is carried out in strict accordance with ASTM D445 at 5 °C and ASTM D2162 at 20, 25 & 37 °C. Density determination is carried out at all temperatures, in strict accordance with "ASTM D1480.

Medical Viscosity Reference Standards

We produce medical grade viscosity standards which are water / glycerine based. Certified for Kinematic Viscosity mm²/s (cSt), Dynamic Viscosity (mPa·s) and Density (g/mL), at 25 and 37 °C in strict accordance with ASTM D2162 and ASTM D1480.

Custom Blend Viscosity Reference Standards

If a customer has a requirement for a different temperature or viscosity value other than those quoted, please contact the Paragon technical department for further information. At Paragon Scientific we take pride in making customer needs our priority and we have a long history of supplying custom blends to many satisfied end-users.



Section 1: Viscosity Reference Standards

Paragon Scientific – Viscosity Reference Standards – General Purpose		
Product Number	Product Description	Size (ml)
ALK-D500	Viscosity Reference Standard General Purpose Type D500	500ml
ALK-D5000	Viscosity Reference Standard General Purpose Type D5000	500ml
ALK-D7500	Viscosity Reference Standard General Purpose Type D7500	500ml
ALK-N.4	Viscosity Reference Standard General Purpose Type N.4	500ml
ALK-N.8	Viscosity Reference Standard General Purpose Type N.8	500ml
ALK-N1.0	Viscosity Reference Standard General Purpose Type N1.0	500ml
ALK-N10	Viscosity Reference Standard General Purpose Type N10	500ml
ALK-N100	Viscosity Reference Standard General Purpose Type N100	500ml
ALK-N1000	Viscosity Reference Standard General Purpose Type N1000	500ml
ALK-N10200	Viscosity Reference Standard General Purpose Type N10200	500ml
ALK-N14	Viscosity Reference Standard General Purpose Type N14	500ml
ALK-N140	Viscosity Reference Standard General Purpose Type N140	500ml
ALK-N1400	Viscosity Reference Standard General Purpose Type N1400	500ml
ALK-N15000	Viscosity Reference Standard General Purpose Type N15000	500ml
ALK-N18000	Viscosity Reference Standard General Purpose Type N18000	500ml
ALK-N2	Viscosity Reference Standard General Purpose Type N2	500ml
ALK-N250	Viscosity Reference Standard General Purpose Type N250	500ml
ALK-N2500	Viscosity Reference Standard General Purpose Type N2500	500ml
ALK-N26	Viscosity Reference Standard General Purpose Type N26	500ml
ALK-N35	Viscosity Reference Standard General Purpose Type N35	500ml
ALK-N350	Viscosity Reference Standard General Purpose Type N350	500ml
ALK-N4000	Viscosity Reference Standard General Purpose Type N4000	500ml
ALK-N415	Viscosity Reference Standard General Purpose Type N415	500ml
ALK-N44	Viscosity Reference Standard General Purpose Type N44	500ml
ALK-N5100	Viscosity Reference Standard General Purpose Type N5100	500ml
ALK-N7.5	Viscosity Reference Standard General Purpose Type N7.5	500ml
ALK-N75	Viscosity Reference Standard General Purpose Type N75	500ml
ALK-N750	Viscosity Reference Standard General Purpose Type N750	500ml
ALK-S20	Viscosity Reference Standard General Purpose Type S20	500ml
ALK-S200	Viscosity Reference Standard General Purpose Type S200	500ml

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Section 1: Viscosity Reference Standards

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Paragon Scientific – Viscosity Reference Standards – General Purpose		
Product Number	Product Description	Size (ml)
ALK-S2000	Viscosity Reference Standard General Purpose Type S2000	500ml
ALK-S3	Viscosity Reference Standard General Purpose Type S3	500ml
ALK-S30000	Viscosity Reference Standard General Purpose Type S30000	500ml
ALK-S6	Viscosity Reference Standard General Purpose Type S6	500ml
ALK-S60	Viscosity Reference Standard General Purpose Type S60	500ml
ALK-S600	Viscosity Reference Standard General Purpose Type S600	500ml
ALK-S8000	Viscosity Reference Standard General Purpose Type S8000	500ml

General Purpose Viscosity Reference Standards									
Part No.	Kinematic Viscosity mm ² /s (cSt)								
	20.00 °C	25 °C	37.78 °C	40 °C	50 °C	60 °C	80 °C	98.89 °C	100 °C
	68.00 °F	77.00 °F	100.00 °F	104.00 °F	122.00 °F	140.00 °F	176.00 °F	210.00 °F	212.00 °F
ALK-N.4	0.4691	0.4495	0.4051	0.3981	-	-	-	-	-
ALK-N.8	0.7286	0.6903	0.6080	0.5954	-	-	-	-	-
ALK-N1.0	1.302	1.213	1.025	0.9976	0.8884	-	-	-	-
ALK-N2	2.984	2.687	2.110	2.031	1.726	1.490	-	-	-
ALK-S3	4.601	4.058	3.055	2.920	2.417	2.041	1.522	1.207	1.192
ALK-D5	6.497	5.623	4.060	3.856	3.113	2.573	1.860	1.439	1.420
ALK-S6	10.46	8.8869	6.117	5.772	4.528	3.655	2.540	1.913	1.885
ALK-N7.5	12.34	10.45	7.163	6.748	5.263	4.220	2.902	2.167	2.131
ALK-D10	14.63	12.18	8.075	7.572	5.799	4.583	3.086	2.273	2.236
ALK-N10	20.92	17.05	10.79	10.05	7.479	5.775	3.749	2.693	2.646
ALK-N14	30.54	24.46	14.87	13.76	9.977	7.529	4.713	3.304	3.241
ALK-S20	42.73	33.65	19.68	18.10	12.82	9.476	5.734	3.924	3.845
ALK-N26	61.14	49.10	29.80	27.53	19.81	14.79	9.020	6.160	6.034
ALK-N35	86.53	65.98	35.89	32.62	22.01	15.61	8.824	5.747	5.620
ALK-N44	111.2	86.37	48.42	44.19	30.14	21.47	12.10	7.791	7.610
ALK-S60	155.3	115.2	58.80	52.93	34.24	23.41	12.47	7.773	7.582

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Section 1: Viscosity Reference Standards

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General Purpose Viscosity Reference Standards									
Part No.	Kinematic Viscosity mm ² /s (cSt)								
	20.00 °C	25 °C	37.78 °C	40 °C	50 °C	60 °C	80 °C	98.89 °C	100 °C
	68.00 °F	77.00 °F	100.00 °F	104.00 °F	122.00 °F	140.00 °F	176.00 °F	210.00 °F	212.00 °F
ALK-N75	203.9	155.5	83.66	75.81	50.25	34.86	18.79	11.70	11.41
ALK-N100	329.6	237.2	112.9	100.5	62.05	40.68	20.23	11.99	11.67
ALK-N140	409.6	305.9	156.8	141.1	90.53	60.96	31.22	18.68	18.17
ALK-S200	653.2	459.4	206.4	182.1	108.0	68.32	31.97	18.11	17.58
ALK-N250	779.6	572.7	283.0	252.8	158.2	104.0	51.12	29.56	28.71
ALK-D500	834.5	582.0	256.6	225.7	132.0	82.48	37.77	21.05	20.41
ALK-N350	1240	850.7	361.7	316.1	180.4	110.1	48.51	26.26	25.42
ALK-N415	1340	967.8	459.4	408.2	248.7	159.9	75.39	42.24	40.96
ALK-D1000	1717	1170	487.4	424.5	238.6	143.5	61.57	32.60	31.54
ALK-S600	2161	1460	595.4	516.9	286.2	169.9	71.19	37.05	35.81
ALK-N750	2746	1925	852.4	749.0	435.3	268.3	117.8	62.52	60.45
ALK-N1000	4489	2980	1162	1001	534.9	306.9	120.8	59.67	57.51
ALK-N1400	5608	3822	1586	1378	764.3	451.5	184.4	92.50	89.13
ALK-S2000	8573	5566	2053	1752	899.4	497.2	182.9	85.90	82.53
ALK-D5000	10245	6670	2463	2101	1079	593.8	216.9	100.7	96.74
ALK-N2500	11658	7673	2905	2488	1293	719.0	265.2	123.1	118.2
ALK-D7500	13686	8817	3192	2713	1368	742.7	264.0	119.9	114.9
ALK-N4000	17322	11176	4042	3435	1729	933.3	327.2	146.5	140.4
ALK-N5100	26904	17187	6050	5110	2516	1330	446.9	192.9	184.5
ALKS8000	37745	23822	8136	6853	3311	1724	560.5	235.9	225.3
ALK-N10200	54473	34453	11868	9992	4834	2504	805.9	333.2	318.1
ALK-N15000	74506	46451	15463	12954	6120	3102	962.0	385.9	367.7
ALK-N18000	103824	65017	21802	18279	8654	4391	1352	537.3	511.3
ALK-S30000	138056	85267	27723	23124	10717	5334	1586	612.3	581.5

Section 1: Viscosity Reference Standards

General Purpose Viscosity Reference Standards									
Part No.	Dynamic Viscosity mPa·s (cP)								
	20.00 °C	25 °C	37.78 °C	40 °C	50 °C	60 °C	80 °C	98.89 °C	100 °C
	68.00 °F	77.00 °F	100.00 °F	104.00 °F	122.00 °F	140.00 °F	176.00 °F	210.00 °F	212.00 °F
ALK-N.4	0.3094	0.2944	0.2606	0.2553	-	-	-	-	-
ALK-N.8	0.5188	0.4887	0.4240	0.4142	-	-	-	-	-
ALK-N1.0	1.014	0.9400	0.7843	0.7617	0.6715	-	-	-	-
ALK-N2	2.427	2.176	1.689	1.623	1.367	1.170	-	-	-
ALK-S3	3.780	3.320	2.472	2.358	1.936	1.620	1.187	0.9255	0.9131
ALK-D5	5.446	4.695	3.355	3.180	2.546	2.087	1.483	1.129	1.113
ALK-S6	8.703	7.350	5.018	4.725	3.677	2.943	2.012	1.491	1.467
ALK-N7.5	10.09	8.514	5.776	5.431	4.201	3.341	2.259	1.659	1.63
ALK-D10	12.17	10.09	6.621	6.198	4.709	3.691	2.445	1.772	1.742
ALK-N10	17.66	14.34	8.986	8.355	6.168	4.726	3.019	2.135	2.096
ALK-N14	25.69	20.50	12.34	11.40	8.200	6.140	3.783	2.612	2.56
ALK-S20	36.11	28.33	16.41	15.07	10.59	7.767	4.627	3.120	3.054
ALK-N26	49.98	39.98	24.02	22.16	15.82	11.72	7.031	4.728	4.627
ALK-N35	74.13	56.31	30.34	27.53	18.44	12.98	7.228	4.640	4.534
ALK-N44	92.04	71.23	39.55	36.03	24.39	17.24	9.569	6.071	5.924
ALK-S60	133.7	98.83	49.97	44.92	28.84	19.58	10.27	6.313	6.153
ALK-N75	169.8	129.0	68.76	62.20	40.92	28.17	14.96	9.180	8.944
ALK-N100	285.6	204.8	96.60	85.84	52.62	34.25	16.79	9.813	9.544
ALK-N140	343.2	255.4	129.7	116.5	74.23	49.62	25.04	14.77	14.35
ALK-S200	568.4	398.4	177.4	156.3	92.04	57.82	26.68	14.91	14.46
ALK-N250	657.1	481.0	235.5	210.1	130.5	85.17	41.25	23.53	22.83
ALK-D500	727.1	505.4	220.8	193.9	112.6	69.90	31.56	17.36	16.81
ALK-N350	1083	740.3	312.0	272.3	154.3	93.54	40.65	21.71	21
ALK-N415	1136	817.4	384.5	341.1	206.3	131.7	61.22	33.84	32.78
ALK-D1000	1503	1021	421.6	366.6	204.7	122.3	51.74	27.04	26.14
ALK-S600	1894	1275	515.7	447.1	245.8	144.9	59.91	30.77	29.72

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Section 1: Viscosity Reference Standards

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General Purpose Viscosity Reference Standards									
Part No.	Dynamic Viscosity mPa·s (cP)								
	20.00 °C	25 °C	37.78 °C	40 °C	50 °C	60 °C	80 °C	98.89 °C	100 °C
	68.00 °F	77.00 °F	100.00 °F	104.00 °F	122.00 °F	140.00 °F	176.00 °F	210.00 °F	212.00 °F
ALK-N750	2352	1643	721.3	632.8	365.2	223.6	96.81	50.70	48.98
ALK-N1000	3951	2615	1011	869.7	461.6	263.1	102.2	49.83	47.99
ALK-N1400	4853	3296	1356	1176	648.1	380.3	153.3	75.89	73.06
ALK-S2000	7571	4899	1792	1527	779.0	427.8	155.3	72.03	69.14
ALK-D5000	9065	5882	2154	1835	936.4	512.0	184.6	84.63	81.24
ALK-N2500	10205	6695	2514	2150	1110	613.2	223.2	102.3	98.19
ALK-D7500	12119	7782	2795	2371	1188	640.9	224.9	100.9	96.6
ALK-N4000	15368	9884	3546	3009	1505	807.2	279.3	123.5	118.3
ALK-N5100	23912	15228	5318	4486	2195	1153	382.5	163.1	155.9
ALKS8000	33604	21142	7164	6026	2893	1497	480.5	199.8	190.7
ALK-N10200	48617	30656	10477	8809	4236	2180	693.1	283.2	270.1
ALK-N15000	66571	41379	13666	11434	5368	2704	828.3	328.4	312.7
ALK-N18000	92933	58021	19306	16164	7607	3836	1167	458.3	435.8
ALK-S30000	123698	76169	24576	20469	9429	4665	1370	522.8	496.1



Section 1: Viscosity Reference Standards

General Purpose Viscosity Reference Standards									
Part No.	Density g/mL								
	20.00 °C	25 °C	37.78 °C	40 °C	50 °C	60 °C	80 °C	98.89 °C	100 °C
	68.00 °F	77.00 °F	100.00 °F	104.00 °F	122.00 °F	140.00 °F	176.00 °F	210.00 °F	212.00 °F
ALK-N.4	0.6595	0.6549	0.6434	0.6413	-	-	-	-	-
ALK-N.8	0.7121	0.7079	0.6974	0.6956	-	-	-	-	-
ALK-N1.0	0.7787	0.7749	0.7652	0.7635	0.7558	-	-	-	-
ALK-N2	0.8132	0.8097	0.8007	0.7991	0.792	0.7849	-	-	-
ALK-S3	0.8216	0.8181	0.8093	0.8077	0.8008	0.7939	0.78	0.7668	0.766
ALK-D5	0.8383	0.8349	0.8263	0.8248	0.818	0.8111	0.7975	0.7846	0.7838
ALK-S6	0.832	0.8287	0.8202	0.8186	0.812	0.8053	0.792	0.7793	0.7785
ALK-N7.5	0.818	0.8147	0.8063	0.8048	0.7982	0.7916	0.7784	0.7658	0.7651
ALK-D10	0.8317	0.8284	0.8199	0.8185	0.812	0.8054	0.7923	0.7797	0.779
ALK-N10	0.8443	0.8411	0.8328	0.8313	0.8247	0.8183	0.8052	0.7929	0.7922
ALK-N14	0.8448	0.8415	0.8332	0.8318	0.8254	0.819	0.8062	0.794	0.7934
ALK-S20	0.8451	0.8419	0.8338	0.8324	0.8261	0.8197	0.807	0.795	0.7942
ALK-N26	0.8174	0.8143	0.8061	0.8048	0.7985	0.7921	0.7795	0.7675	0.7668
ALK-N35	0.8567	0.8535	0.8455	0.8441	0.8379	0.8316	0.8191	0.8074	0.8067
ALK-N44	0.8277	0.8247	0.8168	0.8154	0.8093	0.8031	0.7908	0.7792	0.7785
ALK-S60	0.861	0.8579	0.8499	0.8486	0.8423	0.8362	0.8239	0.8122	0.8115
ALK-N75	0.8327	0.8297	0.8219	0.8205	0.8144	0.8082	0.796	0.7846	0.7839
ALK-N100	0.8664	0.8634	0.8556	0.8541	0.848	0.842	0.8301	0.8184	0.8178
ALK-N140	0.838	0.835	0.8273	0.826	0.8199	0.8139	0.8019	0.7906	0.7899
ALK-S200	0.8702	0.8672	0.8595	0.8582	0.8522	0.8463	0.8344	0.8231	0.8225
ALK-N250	0.8429	0.8399	0.8323	0.8309	0.825	0.8189	0.807	0.7959	0.7952
ALK-D500	0.8713	0.8683	0.8606	0.8593	0.8533	0.8475	0.8356	0.8245	0.8238
ALK-N350	0.8732	0.8702	0.8627	0.8613	0.8554	0.8496	0.8379	0.8268	0.8262
ALK-N415	0.8476	0.8446	0.837	0.8357	0.8297	0.8239	0.8121	0.8011	0.8004
ALK-D1000	0.8755	0.8725	0.865	0.8637	0.8579	0.852	0.8403	0.8294	0.8288
ALK-S600	0.8765	0.8736	0.8661	0.8649	0.859	0.8531	0.8416	0.8306	0.8299
ALK-N750	0.8565	0.8536	0.8462	0.8449	0.839	0.8333	0.8218	0.8109	0.8102
ALK-N1000	0.8802	0.8774	0.87	0.8688	0.863	0.8573	0.8459	0.8351	0.8345

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Section 1: Viscosity Reference Standards

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General Purpose Viscosity Reference Standards									
Part No.	Density g/mL								
	20.00 °C	25 °C	37.78 °C	40 °C	50 °C	60 °C	80 °C	98.89 °C	100 °C
	68.00 °F	77.00 °F	100.00 °F	104.00 °F	122.00 °F	140.00 °F	176.00 °F	210.00 °F	212.00 °F
ALK-N1400	0.8653	0.8624	0.855	0.8537	0.848	0.8424	0.8311	0.8204	0.8197
ALK-S2000	0.8831	0.8802	0.8728	0.8718	0.8661	0.8604	0.8491	0.8385	0.8377
ALK-D5000	0.8848	0.8819	0.8747	0.8734	0.8678	0.8622	0.851	0.8404	0.8398
ALK-N2500	0.8754	0.8726	0.8654	0.8642	0.8586	0.8529	0.8418	0.8313	0.8307
ALK-D7500	0.8855	0.8826	0.8755	0.8741	0.8685	0.8629	0.8518	0.8412	0.8407
ALK-N4000	0.8872	0.8844	0.8772	0.8759	0.8704	0.8649	0.8537	0.8432	0.8427
ALK-N5100	0.8888	0.886	0.879	0.8778	0.8723	0.8667	0.8558	0.8455	0.8448
ALKS8000	0.8903	0.8875	0.8805	0.8793	0.8737	0.8683	0.8573	0.847	0.8464
ALK-N10200	0.8925	0.8898	0.8828	0.8816	0.8762	0.8708	0.86	0.8498	0.8492
ALK-N15000	0.8935	0.8908	0.8838	0.8827	0.8772	0.8718	0.861	0.8509	0.8503
ALK-N18000	0.8951	0.8924	0.8855	0.8843	0.879	0.8736	0.8629	0.8529	0.8523
ALK-S30000	0.896	0.8933	0.8865	0.8852	0.8798	0.8745	0.8639	0.8538	0.8532



Section 1: Viscosity Reference Standards

Paragon Scientific – Viscosity Reference Standards – Cold Crank Simulator		
Product Number	Product Description	Size (ml)
ALK-CL080	Viscosity Reference Standard Cold Crank Simulator Type CL080 (CL08)	500ml
ALK-CL090	Viscosity Reference Standard Cold Crank Simulator Type CL090 (CL09)	500ml
ALK-CL100	Viscosity Reference Standard Cold Crank Simulator Type CL100 (CL10)	500ml
ALK-CL110	Viscosity Reference Standard Cold Crank Simulator Type CL110 (CL11)	500ml
ALK-CL120	Viscosity Reference Standard Cold Crank Simulator Type CL120 (CL12)	500ml
ALK-CL130	Viscosity Reference Standard Cold Crank Simulator Type CL130 (CL13)	500ml
ALK-CL140	Viscosity Reference Standard Cold Crank Simulator Type CL140 (CL14)	500ml
ALK-CL150	Viscosity Reference Standard Cold Crank Simulator Type CL150 (CL15)	500ml
ALK-CL160	Viscosity Reference Standard Cold Crank Simulator Type CL160 (CL16)	500ml
ALK-CL170	Viscosity Reference Standard Cold Crank Simulator Type CL170 (CL17)	500ml
ALK-CL190	Viscosity Reference Standard Cold Crank Simulator Type CL190 (CL19)	500ml
ALK-CL200	Viscosity Reference Standard Cold Crank Simulator Type CL200 (CL20)	500ml
ALK-CL220	Viscosity Reference Standard Cold Crank Simulator Type CL220 (CL22)	500ml
ALK-CL240	Viscosity Reference Standard Cold Crank Simulator Type CL240 (CL24)	500ml
ALK-CL250	Viscosity Reference Standard Cold Crank Simulator Type CL250 (CL25)	500ml
ALK-CL260	Viscosity Reference Standard Cold Crank Simulator Type CL260 (CL26)	500ml
ALK-CL280	Viscosity Reference Standard Cold Crank Simulator Type CL280 (CL28)	500ml
ALK-CL300	Viscosity Reference Standard Cold Crank Simulator Type CL300 (CL30)	500ml
ALK-CL320	Viscosity Reference Standard Cold Crank Simulator Type CL320 (CL32)	500ml
ALK-CL340	Viscosity Reference Standard Cold Crank Simulator Type CL340 (CL34)	500ml

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Section 1: Viscosity Reference Standards

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Paragon Scientific – Viscosity Reference Standards – Cold Crank Simulator		
Product Number	Product Description	Size (ml)
ALK-CL380	Viscosity Reference Standard Cold Crank Simulator Type CL380 (CL38)	500ml
ALK-CL420	Viscosity Reference Standard Cold Crank Simulator Type CL420 (CL42)	500ml
ALK-CL480	Viscosity Reference Standard Cold Crank Simulator Type CL480 (CL48)	500ml
ALK-CL530	Viscosity Reference Standard Cold Crank Simulator Type CL530 (CL53)	500ml
ALK-CL600	Viscosity Reference Standard Cold Crank Simulator Type CL600 (CL60)	500ml
ALK-CL680	Viscosity Reference Standard Cold Crank Simulator Type CL680 (CL68)	500ml
ALK-CL740	Viscosity Reference Standard Cold Crank Simulator Type CL740 (CL74)	500ml
ALK-VIS-CCS-14	Viscosity Set, Cold Crank Simulator Type: CL10, CL12, CL14, CL16, CL19, CL22, CL25 (2) , CL28, CL32, CL38, CL48, CL60, CL68	14x500ml
ALK-VIS-CCS-18	Viscosity Set, Cold Crank Simulator Type: CL08, CL09, CL10, CL11, CL12, CL13, CL14, CL15, CL16, CL19, CL22, CL25(x2), CL28, CL32, CL38, CL48 & CL60	18x500ml
ALK-VIS-CCS-8	Viscosity Set, Cold Crank Simulator: Type CL14, CL19, CL22, CL25, CL28, CL32, CL48, CL68	8x500ml



Section 1: Viscosity Reference Standards

Cold Crank Simulator Viscosity Reference Standards										
Part No.	Dynamic Viscosity mPa·s (cP)									Size
	-5 °C	-10 °C	-15 °C	-18 °C	-20 °C	-25 °C	-30 °C	-35 °C	-40 °C	
CL08 (CL080)	-	-	-		-	-	-	852.9	1404	500 mL
CL09 (CL090)	-	-	-		-	-	-	1140	1909	500 mL
CL10 (CL100)	-	-	-		-	-	883.3	1431	2418	500 mL
CL11 (CL110)	-	-	-		-	-	1035	1694	2905	500 mL
CL12 (CL120)	-	-	-		-	770.4	1221	2016	3481	500 mL
CL13 (CL130)	-	-	-		-	947.5	1518	2534	4434	500 mL
CL14 (CL140)	-	-	-	683.7	808.9	1264	2054	3482	6226	500 mL
CL15 (CL150)	-	-	-		974.1	1535	2520	4323	7837	500 mL
CL16 (CL160)	-	-	-	1014	1212	1939	3232	5657	10459	500 mL
CL17 (CL170)	-	-	871.8		1356	2183	3671	6468	-	500 mL
CL19 (CL190)	-	-	1078	1409	1694	2762	4717	8463	16150	500 mL
CL20 (CL200)	-	862.4	1324		2105	3483	6022	10990	21337	500 mL
CL22 (CL220)	-	1030	1593	2107	2553	4260	7436	13729	-	500 mL
CL24 (CL240)	-	1211	1889		3053	5141	9061	16936	-	500 mL
CL25 (CL250)	-	1375	2156	2873	3503	5934	10550	19870	-	500 mL
CL26 (CL260)	-	1680	2646		4329	7390	13242	-	-	500 mL
CL28 (CL280)	-	2022	3219	4326	5311	9179	16682	-	-	500 mL
CL30 (CL300)	-	2431	3889		6468	11227	20590	-	-	500 mL
CL32 (CL320)	-	3022	4863	6590	8156	14316	-	-	-	500 mL
CL34 (CL340)	-	3431	5567		9395	16648	-	-	-	500 mL
CL38 (CL380)	2670	4199	6868	9400	11722	20950	-	-	-	500 mL
CL42 (CL420)	-	4969	8161		13955	-	-	-	-	500 mL
CL48 (CL480)	3840	6131	10151	14042	17610	-	-	-	-	500 mL
CL53 (CL530)	-	7440	12466		21863	-	-	-	-	500 mL
CL60 (CL600)	5731	9303	15667	21961	-	-	-	-	-	500 mL
CL68 (CL680)	-	11093	18889		-	-	-	-	-	500 mL
CL74 (CL740)	7585	12452	-		-	-	-	-	-	500 mL
VIS-CCS-14	-	-	-		-	-	-	-	-	14 x 500 mL
VIS-CCS-18	-	-	-		-	-	-	-	-	18 x 500 mL
VIS-CCS-8	-	-	-		-	-	-	-	-	8 x 500 mL

Section 1: Viscosity Reference Standards

Paragon Scientific – Viscosity Reference Standards – Cone & Plate		
Product Number	Product Description	Size (ml)
ALK-2162/1	Cone & Plate (50 mPa·s @ 25 °C)	500ml
ALK-2162/2	Cone & Plate (75 mPa·s @ 25 °C)	500ml
ALK-2162/3	Cone & Plate (100 mPa·s @ 25 °C)	500ml
ALK-2162/4	Cone & Plate (150 mPa·s @ 25 °C)	500ml
ALK-2162/5	Cone & Plate (200 mPa·s @ 25 °C)	500ml
ALK-2162/6	Cone & Plate (250 mPa·s @ 25 °C)	500ml
ALK-2162/7	Cone & Plate (300 mPa·s @ 25 °C)	500ml
ALK-2162/8	Cone & Plate (350 mPa·s @ 25 °C)	500ml
ALK-2162/9	Cone & Plate (400 mPa·s @ 25 °C)	500ml
ALK-2162/10	Cone & Plate (500 mPa·s @ 25 °C)	500ml
ALK-2162/11	Cone & Plate (750 mPa·s @ 25 °C)	500ml
ALK-2162/12	Cone & Plate (1000 mPa·s @ 25 °C)	500ml
ALK-2162/13	Cone & Plate (1500 mPa·s @ 25 °C)	500ml
ALK-2162/14	Cone & Plate (2500 mPa·s @ 25 °C)	500ml
ALK-2162/15	Cone & Plate (3900 mPa·s @ 25 °C)	500ml
ALK-2162/16	Cone & Plate (6000 mPa·s @ 25 °C)	500ml
ALK-2162/17	Cone & Plate (7750 mPa·s @ 25 °C)	500ml
ALK-2162/18	Cone & Plate (10000 mPa·s @ 25 °C)	500ml
ALK-2162/19	Cone & Plate (15000 mPa·s @ 25 °C)	500ml
ALK-2162/20	Cone & Plate (20000 mPa·s @ 25 °C)	500ml
ALK-2162/21	Cone & Plate (14 mPa·s @ 25 °C)	500ml
ALK-2162/22	Cone & Plate (28 mPa·s @ 25 °C)	500ml
ALK-2162/24	Cone & Plate (2000 mPa·s @ 25 °C)	500ml

Section 1: Viscosity Reference Standards

Cone and Plate Viscosity Reference Standards						
Part No.	Kinematic Viscosity mm ² /s (cSt)					
	20.00 °C	21.00 °C	22.00 °C	23.00 °C	24.00 °C	25.00 °C
2162/1	86.53	81.83	77.45	73.37	69.55	65.98
2162/2	117.1	110.4	104.2	98.40	93.04	88.05
2162/3	155.3	146.0	137.5	129.5	122.1	115.20
2162/4	241.7	226.4	212.3	199.3	187.2	176.0
2162/5	323.0	301.9	282.4	264.5	247.9	232.5
2162/6	407.4	380.1	355.0	331.9	310.5	290.8
2162/7	491.1	457.6	426.7	398.4	372.4	348.5
2162/8	575.6	535.7	499.0	465.4	434.4	405.9
2162/9	647.1	601.9	560.4	522.3	487.3	455.1
2162/10	817.8	760.2	707.4	658.9	614.3	573.3
2162/11	1240	1147	1063	985.9	915.3	850.7
2162/12	1717	1587	1468	1360	1261	1170
2162/13	2614	2409	2223	2054	1899	1757
2162/14	4489	4127	3799	3501	3228	2980
2162/15	7015	6435	5910	5433	4999	4605
2162/16	10481	9595	8794	8069	7410	6813
2162/17	14010	12812	11731	10752	9868	9066
2162/18	17322	15835	14492	13278	12175	11176
2162/19	26904	24576	22474	20574	18794	17187
2162/20	37745	34358	31311	28567	26072	23822
2162/21	20.92	20.06	19.24	18.47	17.74	17.05
2162/22	42.73	40.67	38.75	36.94	35.24	33.65
2162/24	3399	3129	2884	2661	2457	2271

Section 1: Viscosity Reference Standards

Cone and Plate Viscosity Reference Standards						
Part No.	Dynamic Viscosity mPa·s (cP)					
	20.00 °C	21.00 °C	22.00 °C	23.00 °C	24.00 °C	25.00 °C
2162/1	74.13	70.05	66.25	62.72	59.40	56.31
2162/2	100.5	94.67	89.29	84.25	79.61	75.28
2162/3	133.7	125.60	118.2	111.30	104.8	98.83
2162/4	209.2	195.8	183.5	172.1	161.6	151.8
2162/5	280.1	261.6	244.5	228.8	214.3	200.9
2162/6	354.4	330.5	308.4	288.2	269.4	252.1
2162/7	427.6	398.2	371.1	346.2	323.4	302.4
2162/8	501.7	466.6	434.3	404.8	377.6	352.6
2162/9	562.9	523.2	486.8	453.4	422.7	394.5
2162/10	713.4	662.7	616.2	573.6	534.4	498.4
2162/11	1083	1001	926.9	859.2	797.0	740.3
2162/12	1503	1388	1283	1188	1101	1021
2162/13	2294	2113	1948	1799	1662	1537
2162/14	3951	3630	3340	3076	2834	2615
2162/15	6190	5674	5208	4785	4400	4050
2162/16	9274	8484	7771	7126	6540	6009
2162/17	12417	11348	10384	9511	8724	8010
2162/18	15368	14039	12841	11758	10775	9884
2162/19	23912	21828	19950	18251	16663	15228
2162/20	33604	30568	27842	25385	23155	21142
2162/21	17.66	16.92	16.22	15.56	14.93	14.34
2162/22	36.11	34.35	32.70	31.15	29.69	28.33
2162/24	2989	2749	2532	2335	2155	1990

Section 1: Viscosity Reference Standards

Cone and Plate Viscosity Reference Standards						
Part No.	Krebs (KU)					
	20.00 °C	21.00 °C	22.00 °C	23.00 °C	24.00 °C	25.00 °C
2162/1	44.10	43.70	43.40	43.10	42.80	42.50
2162/2	46.30	45.80	45.40	44.90	44.60	44.20
2162/3	48.90	48.20	47.70	47.10	46.60	46.10
2162/4	54.10	53.20	52.40	51.60	50.90	50.20
2162/5	58.40	57.30	56.30	55.30	54.40	53.40
2162/6	62.40	61.10	60.00	58.80	57.80	56.70
2162/7	65.90	64.60	63.20	62.00	60.80	59.60
2162/8	69.20	67.70	66.20	64.90	63.50	62.30
2162/9	71.70	70.10	68.60	67.10	65.70	64.40
2162/10	77.30	75.50	73.80	72.10	70.60	69.10
2162/11	88.10	86.00	83.90	81.90	80.00	78.20
2162/12	97.50	95.10	92.90	90.70	88.60	86.50
2162/13	110.7	107.8	105.3	102.9	100.5	98.10
2162/14	131.1	127.7	124.5	121.4	118.3	115.3
2162/15	150.0	146.2	142.5	139.0	135.5	132.1
2162/16	168.5	164.3	160.3	156.3	152.5	148.7
2162/17	182.6	178.2	173.9	169.7	165.6	161.7
2162/18	193.3	188.8	184.3	180.0	175.7	171.5
2162/19	216.3	211.5	206.8	202.1	197.5	192.9
2162/20	234.7	229.5	224.5	219.5	214.6	209.8
2162/21	38.80	38.80	38.7	38.60	38.60	38.50
2162/22	40.60	40.50	40.30	40.20	40.00	39.90
2162/24	120.3	117.2	114.2	111.3	108.5	106.0

Section 1: Viscosity Reference Standards

Cone and Plate Viscosity Reference Standards						
Part No.	Density g/mL					
	20.00 °C	21.00 °C	22.00 °C	23.00 °C	24.00 °C	25.00 °C
2162/1	0.8567	0.8561	0.8554	0.8548	0.8541	0.8535
2162/2	0.8581	0.8575	0.8569	0.8562	0.8556	0.8550
2162/3	0.8610	0.8604	0.8598	0.8591	0.8585	0.8579
2162/4	0.8655	0.8649	0.8643	0.8636	0.8630	0.8624
2162/5	0.8671	0.8665	0.8659	0.8652	0.8646	0.8640
2162/6	0.8700	0.8694	0.8688	0.8682	0.8676	0.8670
2162/7	0.8708	0.8702	0.8696	0.8689	0.8683	0.8677
2162/8	0.8716	0.8710	0.8704	0.8698	0.8692	0.8686
2162/9	0.8699	0.8693	0.8687	0.8681	0.8675	0.8669
2162/10	0.8723	0.8717	0.8711	0.8705	0.8699	0.8693
2162/11	0.8732	0.8726	0.8720	0.8715	0.8708	0.8702
2162/12	0.8755	0.8749	0.8743	0.8737	0.8731	0.8725
2162/13	0.8777	0.8771	0.8765	0.8760	0.8754	0.8748
2162/14	0.8802	0.8796	0.8791	0.8785	0.8780	0.8774
2162/15	0.8824	0.8818	0.8812	0.8807	0.8801	0.8795
2162/16	0.8848	0.8842	0.8837	0.8831	0.8826	0.8820
2162/17	0.8863	0.8857	0.8852	0.8846	0.8841	0.8835
2162/18	0.8872	0.8866	0.8861	0.8855	0.8850	0.8844
2162/19	0.8888	0.8882	0.8877	0.8871	0.8866	0.8860
2162/20	0.8903	0.8897	0.8892	0.8886	0.8881	0.8875
2162/21	0.8443	0.8437	0.8430	0.8424	0.8417	0.8411
2162/22	0.8451	0.8445	0.8438	0.8432	0.8425	0.8419
2162/24	0.8793	0.8787	0.8781	0.8775	0.8769	0.8763

Section 1: Viscosity Reference Standards

Paragon Scientific – Viscosity Reference Standards – Flow Cup		
Product Number	Product Description	Size (ml)
ALK-C200	Viscosity Reference Standard Flow Cup Viscosity Standard type C200	500ml
ALK-C35	Viscosity Reference Standard Flow Cup Viscosity Standard type C35	500ml
ALK-C350	Viscosity Reference Standard Flow Cup Viscosity Standard type C350	500ml
ALK-C6	Viscosity Reference Standard Flow Cup Viscosity Standard type C6	500ml
ALK-C60	Viscosity Reference Standard Flow Cup Viscosity Standard type C60	500ml
ALK-C600	Viscosity Reference Standard Flow Cup Viscosity Standard type C600	500ml

Flow Cup Viscosity Reference Standards 20 °C													
Part No.	Kinematic Viscosity mm ² /s (cSt)	Dynamic Viscosity mPa·s (cP)	Density (g/mL)	DIN CUP		FORD CUP		ISO CUP		SHELL CUP		ZAHN CUP	
				Size (mm)	Drain Time(s)	Size (mm)	Drain Time(s)	Size (mm)	Drain Time(s)	Size (mm)	Drain Time(s)	Size (mm)	Drain Time(s)
ALK-C6	10.46	8.703	0.832	-	-	1	56.3	3	36.1	1 2	59.3 23.2	1	38.5
ALK-C10	20.92	17.66	0.8443	-	-	1	77.7	3	55.4	2 2.5	41.3 25.6	1	48
ALK-C20	42.73	36.71	0.8451	-	-	2	47.7	4	35.3	2.5 3	49.2 30.3	1	67.8
ALK-C35	86.53	74.13	0.8567	-	-	2 3	78.1 44.0	4	65.4	3 3.5	59.3 41.4	2	38.7
ALK-C60	155.3	133.7	0.861	4	36.7	3 4	73.8 44.8	5	48.7	3.5 4	73.1 46.0	2 3	58.4 20.8
ALK-C100	329.6	285.6	0.8664	4	73.5	4	90.1	5 6	101.2 49.4	5 6	51.7 20.8	3 4	35.7 27.3
ALK-C200	647.1	562.9 -	0.8699 -	-	-	5	55.5	6	94.7	6	40.4	3 4	62.8 48.7
ALK-C350	1240	1083	0.8732	-	-	-	-	-	-	6	77	5	53.9
ALK-C600	2161	1894	0.8765	-	-	-	-	-	-	-	-	-	-

Section 1: Viscosity Reference Standards

Flow Cup Viscosity Reference Standards 25 °C													
Part No.	Kinematic Viscosity mm ² /s (cSt)	Dynamic Viscosity mPa·s (cP)	Density (g/mL)	DIN CUP		FORD CUP		ISO CUP		SHELL CUP		ZAHN CUP	
				Size (mm)	Drain Time(s)	Size (mm)	Drain Time(s)	Size (mm)	Drain Time(s)	Size (mm)	Drain Time(s)	Size (mm)	Drain Time(s)
ALK-C6	8.869	7.350	0.8287	-	-	-	-	3	33.5	1 2	52.2 20.4	1	37.1
ALK-C10	17.05	14.34	0.8411	-	-	1	69.8	3	47.9	2 2.5	34.6 21.4	1	44.5
ALK-C20	33.65	28.33	0.8419	-	-	2	41.4	3	81.5	2.5 3	39.4 24.3	1 2	59.6 23.6
ALK-C35	65.98	56.31	0.8535	-	-	2 3	63.8 35.1	4	51.0	2.5 3	74.3 45.7	2	32.9
ALK-C60	115.2	98.83	0.8579	4	28.7	2 3	98.0 56.5	4 5	85.8 36.9	3.5 4	54.6 34.4	2	46.9
ALK-C100	237.2	204.8	0.8634	4	53.7	4	66.1	5 6	73.2 36.6	4 5	69.8 37.5	3 4	27.8 21.0
ALK-C200	455.1	394.5	0.8669	4	100.6	5	39.6	6	67.2	5 6	71.0 28.6	3 4	46.5 35.8
ALK-C350	850.7	740.3	0.8702	-	-	5	72.3	-	-	6	53.0	4 5	62.5 37.0
ALK-C600	1460	1275	0.8736	-	-	-	-	-	-	-	-	5	63.5



Section 1: Viscosity Reference Standards

Paragon Scientific – Viscosity Reference Standards – High Temperature		
Product Number	Product Description	Size (ml)
ALK-N600	Viscosity Reference Standard High Temperature Type N600	500ml
ALK-S2000S	Viscosity Reference Standard High Temperature Type S2000S	500ml
ALK-S200HT	Viscosity Reference Standard High Temperature Type S200HT, Temperature Ranges of 100 to 150 °C	500ml
ALK-S200S	Viscosity Reference Standard High Temperature Type S200S	500ml
ALK-S20S	Viscosity Reference Standard High Temperature Type S20S	500ml
ALK-S30000S	Viscosity Reference Standard High Temperature Type N30000S	500ml
ALK-S3S	Viscosity Reference Standard High Temperature Type S3S	500ml
ALK-S600HT	Viscosity Reference Standard High Temperature Type S600HT, Temperature Ranges of 100 to 150 °C	500ml
ALK-S600S	Viscosity Reference Standard High Temperature Type S600S	500ml
ALK-S60S	Viscosity Reference Standard High Temperature Type S60S	500ml
ALK-S6S	Viscosity Reference Standard High Temperature Type S6S	500ml
ALK-S8000S	Viscosity Reference Standard High Temperature Type S8000S	500ml

High Temperature Viscosity Reference Standards												
Part No.	Kinematic Viscosity mm ² /s (cSt)											
	°C	20.00	25.00	37.78	40.00	50.00	60.00	80.00	98.89	100.00	135.00	150.00
	°F	68.00	77.00	100.00	104.00	122.00	140.00	176.00	210.00	212.00	275.00	302.00
ALK-S3S	4.601	4.058	3.055	2.920	2.417	2.041	1.522	1.207	1.192	-	-	0.7373
ALK-S6S	10.46	8.869	6.117	5.772	4.528	3.655	2.540	1.913	1.885	-	-	1.073
ALK-S20S	42.73	33.65	19.68	18.10	12.82	9.476	5.734	3.924	3.845	-	-	1.864
ALK-S60S	155.3	115.2	58.80	52.93	34.24	23.41	12.47	7.773	7.582	-	-	3.155
ALK-N100S	329.6	237.2	112.9	100.5	62.05	40.68	20.23	11.99	11.67	-	-	4.442
ALK-S200S	647.1	455.1	205.1	180.9	107.5	68.05	31.88	18.08	17.54	-	-	6.178
ALK-S600S	2161	1460	595.4	516.9	286.2	169.9	71.19	37.05	35.81	-	-	10.79
ALK-N600	-	1460	-	-	-	169.9	-	-	-	14.59	-	-
ALK-S2000S	8573	5566	2053	1752	899.4	497.2	182.9	85.90	82.53	-	-	20.51
ALK-N2000	-	5566	-	-	-	497.2	-	-	-	29.11	-	-
ALK-S8000S	37745	23822	8136	6853	3311	1724	560.5	235.9	225.3	-	-	44.56
ALK-S30000S	138056	85267	27723	23124	10717	5334	1586	612.3	581.5	-	-	93.53

Section 1: Viscosity Reference Standards

High Temperature Viscosity Reference Standards												
Part No.	Dynamic Viscosity mPa·s (cP)											
	°C	20.00	25.00	37.78	40.00	50.00	60.00	80.00	98.89	100.00	135.00	150.00
	°F	68.00	77.00	100.00	104.00	122.00	140.00	176.00	210.00	212.00	275.00	302.00
ALK-S3S	3.780	3.320	2.472	2.358	1.936	1.620	1.187	0.9255	0.9131	-	0.5385	
ALK-S6S	8.703	7.350	5.017	4.725	3.677	2.943	2.012	1.491	1.467	-	0.7988	
ALK-S20S	36.11	28.33	16.41	15.07	10.59	7.767	4.627	3.120	3.054	-	1.421	
ALK-S60S	133.7	98.83	49.97	44.92	28.84	19.58	10.27	6.313	6.153	-	2.463	
ALK-N100S	285.6	204.8	96.60	85.84	52.62	34.25	16.79	9.813	9.544	-	3.498	
ALK-S200S	562.9	394.5	176.2	155.2	91.59	57.57	26.59	14.88	14.42	-	4.895	
ALK-S600S	1894	1275	515.7	447.1	245.8	144.9	59.91	30.77	29.72	-	8.642	
ALK-N600	-	1275	-	-	-	144.9	-	-	-	11.81	-	
ALK-S2000S	7571	4899	1792	1527	779.0	427.8	155.3	72.03	69.14	-	16.60	
ALK-N2000	-	4899	-	-	-	427.8	-	-	-	23.81	-	
ALK-S8000S	33604	21142	7164	6026	2893	1497	480.5	199.8	190.7	-	36.49	
ALK-S30000S	123698	76169	24576	20469	9429	4665	1370	522.8	496.1	-	77.33	

High Temperature Viscosity Reference Standards						
Part no	Kinematic Viscosity mm ² /s (cSt)					
	100 °C	110 °C	120 °C	130 °C	140 °C	150 °C
	212 °F	230 °F	248 °F	266 °F	284 °F	302 °F
ALKN100HT	11.57	9.174	7.433	6.146	5.161	4.404
ALKS200HT	17.54	13.64	10.87	8.850	7.349	6.178
ALKS600HT	35.81	26.79	20.63	16.27	13.13	10.79

Section 1: Viscosity Reference Standards

High Temperature Viscosity Reference Standards						
Part no	Dynamic Viscosity mPa.Ts (cP)					
	100 °C	110 °C	120 °C	130 °C	140 °C	150 °C
	212 °F	230 °F	248 °F	266 °F	284 °F	302 °F
ALKN100HT	9.461	7.446	5.988	4.914	4.096	3.468
ALKS200HT	14.42	11.13	8.808	7.118	5.867	4.895
ALKS600HT	29.72	22.08	16.88	13.22	10.59	8.642

High Temperature Viscosity Reference Standards						
Part no	Density g/mL					
	100 °C	110 °C	120 °C	130 °C	140 °C	150 °C
	212 °F	230 °F	248 °F	266 °F	284 °F	302 °F
ALKN100HT	0.81774	0.81165	0.80564	0.79956	0.79355	0.78742
ALKS200HT	0.82216	0.81629	0.81027	0.80434	0.79836	0.79232
ALKS600HT	0.82993	0.82422	0.81845	0.81262	0.80672	0.80092

Paragon Scientific – Viscosity Reference Standards – Low Temperature		
Product Number	Product Description	Size (ml)
ALK-N105B	Viscosity Reference Standard Low Temperature Type N105B	500ml
ALK-N115B	Viscosity Reference Standard Low Temperature Type N115B	500ml
ALK-N120B	Viscosity Reference Standard Low Temperature Type N120B	500ml
ALK-N1400B	Viscosity Reference Standard Low Temperature Type N1400B	500ml
ALK-N14B	Viscosity Reference Standard Low Temperature Type N14B	500ml
ALK-N27B	Viscosity Reference Standard Low Temperature Type N27B	500ml
ALK-N2B	Viscosity Reference Standard Low Temperature Type N2B	500ml
ALK-N400B	Viscosity Reference Standard Low Temperature Type N400B	500ml
ALK-N480B	Viscosity Reference Standard Low Temperature Type N480B	500ml

Section 1: Viscosity Reference Standards

Low Temperature Viscosity Reference Standards					
Part No.	Temperature		Kinematic Viscosity	Dynamic Viscosity	Density
	°C	°F	mm ² /s (cSt)	mPa·s (cP)	g/mL
ALK-J10	-40	-40	894.8	757	0.8460
ALK-N2B	0	32	4.692	3.873	0.8254
	-20	-4	9.095	7.635	0.8395
ALK-N14B	-25	-13	3393	2908	0.8570
	-30	-22	5761	4956	0.8602
	-35	-31	10300	8893	0.8634
	-40	-40	19605	16992	0.8667
ALK-N27B	-17.78	0	2017	1722	0.8535
	-23.33	-10	3437	2946	0.8570
	-26.11	-15	4580	3933	0.8588
	-28.89	-20	6189	5326	0.8606
	-34.44	-30	11851	10242	0.8642
	-40	-40	24522	21278	0.8677
ALK-N105B	-19	-2.2	30402	26398	0.8683
	-19.5	-3.1	32301	28057	0.8686
	-20	-4	34202	29718	0.8689
	-20.5	-4.9	36301	31553	0.8692
	-21	-5.8	38551	33520	0.8695
	-25	-13	63815	55647	0.8720
ALK-N115B	-6.67	20	11155	9619	0.8623
	-12.22	10	19690	17044	0.8656
	-17.78	0	36685	31883	0.8691
	-23.33	-10	73165	63844	0.8726
	-26.11	-15	106422	93034	0.8742
	-28.89	-20	158599	138933	0.8760
ALK-N120B	-39	-38.2	146812	128534	0.8755
	-39.5	-39.1	159232	139455	0.8758
	-40	-40	172601	151216	0.8761

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Section 1: Viscosity Reference Standards

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Low Temperature Viscosity Reference Standards					
Part No.	Temperature		Kinematic Viscosity	Dynamic Viscosity	Density
	°C	°F	mm ² /s (cSt)	mPa·s (cP)	g/mL
	-40.5	-40.9	187330	164176	0.8764
	-41	-41.8	203000	177970	0.8767
ALK-N400B	-24	-11.2	59674	51982	0.8711
	-24.5	-12.1	63756	55563	0.8715
	-25	-13	68176	59436	0.8718
	-25.5	-13.9	72906	63581	0.8721
	-26	-14.8	77922	67979	0.8724
ALK-N480B	-25	-13	148029	129511	0.8749
	-25.5	-13.9	158626	138845	0.8753
	-26	-14.8	170115	148936	0.8755
	-26.11	-15	172971	151471	0.8757
	-26.5	-15.7	182964	160240	0.8758
	-27	-16.6	196579	172243	0.8762
ALK-N1400B	-11	12.2		133074	0.8837
	-11.5	11.3	150587	141732	0.8839
	-12	10.4	160349	150732	0.8841
	-12.22	10	170492	155081	0.8842
	-12.5	9.5	175391	160739	0.8843
	-13	8.6	181770	171074	0.8846
			193391		
ALK-JF1-H	-20	-4	7.241	6.171	0.8522
	-40	-40	17.68	15.32	0.8664
ALK-JF1-L	-20	-4	3.455	2.825	0.8178
	-40	-40	6.553	5.452	0.8320
ALK-P6000W-40C	-40	-40	6953	5989	0.8614
ALK-P130W-40C	-20	-4	36.33		
	-40	-40	132.3		

Section 1: Viscosity Reference Standards

Paragon Scientific – Viscosity Reference Standards – Medical Grade		
Product Number	Product Description	Size (ml)
ALK-MGVS12-500	Viscosity Reference Standard Medical grade viscosity standard, 1.2 mPa·s @ 25 °C - contains antibacterial agent	500ml
ALK-MGVS16-100	Viscosity Reference Standard Medical grade viscosity standard, 1.6 mPa·s @ 25 °C - contains antibacterial agent	100ml
ALK-MGVS16-500	Viscosity Reference Standard Medical grade viscosity standard, 1.6 mPa·s @ 25 °C - contains antibacterial agent	500ml
ALK-MGVS20-100	Viscosity Reference Standard Medical grade viscosity standard, 2.0 mPa·s @ 25 °C - contains antibacterial agent	100ml
ALK-MGVS20-500	Viscosity Reference Standard Medical grade viscosity standard, 2.0 mPa·s @ 25 °C - contains antibacterial agent	500ml
ALK-MGVS30-100	Viscosity Reference Standard Medical grade viscosity standard, 3.0 mPa·s @ 25 °C - contains antibacterial agent	100ml
ALK-MGVS30-500	Viscosity Reference Standard Medical grade viscosity standard, 3.0 mPa·s @ 25 °C - contains antibacterial agent	500ml
ALK-MGVS40-100	Viscosity Reference Standard Medical grade viscosity standard, 4.0 mPa·s @ 25 °C - contains antibacterial agent	100ml
ALK-MGVS40-500	Viscosity Reference Standard Medical grade viscosity standard, 4.0 mPa·s @ 25 °C - contains antibacterial agent	500ml
ALK-MGVS60-100	Viscosity Reference Standard Medical grade viscosity standard, 6.0 mPa·s @ 25 °C - contains antibacterial agent	100ml
ALK-MGVS60-500	Viscosity Reference Standard Medical grade viscosity standard, 6.0 mPa·s @ 25 °C - contains antibacterial agent	500ml



Section 1: Viscosity Reference Standards

Medical Grade Viscosity Reference Standards			
Part No.	Dynamic Viscosity (mPa·s) 25.00 °C	Dynamic Viscosity (mPa·s) 37.00 °C	Pack Size
ALK-MGVS12-100	1.201	0.9137	100 mL
ALK-MGVS12-500	1.201	0.9137	500 mL
ALK-MGVS16-100	1.606	1.197	100 mL
ALK-MGVS16-500	1.606	1.197	500 mL
ALK-MGVS20-100	2.002	1.467	100 mL
ALK-MGVS20-500	2.002	1.467	500 mL
ALK-MGVS30-500	3.002	2.131	500 mL
ALK-MGVS30-100	3.002	2.131	100 mL
ALK-MGVS40-500	4.009	2.773	500 mL
ALK-MGVS40-100	4.009	2.773	100 mL
ALK-MGVS60-500	6.027	4.016	500 mL
ALK-MGVS60-100	6.027	4.016	100 mL
ALK-MGVS100-500	9.994	6.335	500 mL
ALK-MGVS100-100	9.994	6.335	100 mL



Section 1: Viscosity Reference Standards

Paragon Scientific – Viscosity Reference Standards – Mineral Oil Rotational		
Product Number	Product Description	Size (ml)
ALK-RTM12	Mineral Oil Rotational Viscosity Standard RTM12	500ml
ALK-RTM13	Mineral Oil Rotational Viscosity Standard RTM13	500ml
ALK-RTM14	Mineral Oil Rotational Viscosity Standard RTM14	500ml
ALK-RTM15	Mineral Oil Rotational Viscosity Standard RTM15	500ml
ALK-RTM16	Mineral Oil Rotational Viscosity Standard RTM16	500ml
ALK-RTM17	Mineral Oil Rotational Viscosity Standard RTM17	500ml
ALK-RTM18	Mineral Oil Rotational Viscosity Standard RTM18	500ml
ALK-RTM19	Mineral Oil Rotational Viscosity Standard RTM19	500ml
ALK-RTM2	Mineral Oil Rotational Viscosity Standard RTM2	500ml
ALK-RTM20	Mineral Oil Rotational Viscosity Standard RTM20	500ml
ALK-RTM21	Mineral Oil Rotational Viscosity Standard RTM21	500ml
ALK-RTM22	Mineral Oil Rotational Viscosity Standard RTM22	500ml
ALK-RTM23	Mineral Oil Rotational Viscosity Standard RTM23	500ml
ALK-RTM24	Mineral Oil Rotational Viscosity Standard RTM24	500ml
ALK-RTM25	Mineral Oil Rotational Viscosity Standard RTM25	500ml
ALK-RTM26	Mineral Oil Rotational Viscosity Standard RTM26	500ml
ALK-RTM27	Mineral Oil Rotational Viscosity Standard RTM27	500ml
ALK-RTM28	Mineral Oil Rotational Viscosity Standard RTM28	500ml
ALK-RTM29	Mineral Oil Rotational Viscosity Standard RTM29	500ml
ALK-RTM3	Mineral Oil Rotational Viscosity Standard RTM3	500ml
ALK-RTM30	Mineral Oil Rotational Viscosity Standard RTM30	500ml
ALK-RTM31	Mineral Oil Rotational Viscosity Standard RTM30	500ml
ALK-RTM32	Mineral Oil Rotational Viscosity Standard RTM32	500ml
ALK-RTM33	Mineral Oil Rotational Viscosity Standard RTM33	500ml
ALK-RTM34	Mineral Oil Rotational Viscosity Standard RTM34	500ml
ALK-RTM35	Mineral Oil Rotational Viscosity Standard RTM35	500ml
ALK-RTM36	Mineral Oil Rotational Viscosity Standard RTM36	500ml

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Section 1: Viscosity Reference Standards

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Paragon Scientific – Viscosity Reference Standards – Mineral Oil Rotational		
Product Number	Product Description	Size (ml)
ALK-RTM37	Mineral Oil Rotational Viscosity Standard RTM37	500ml
ALK-RTM38	Mineral Oil Rotational Viscosity Standard RTM38	500ml
ALK-RTM39	Mineral Oil Rotational Viscosity Standard RTM39	500ml
ALK-RTM4	Mineral Oil Rotational Viscosity Standard RTM4	500ml
ALK-RTM5	Mineral Oil Rotational Viscosity Standard RTM5	500ml
ALK-RTM6	Mineral Oil Rotational Viscosity Standard RTM6	500ml
ALK-RTM7	Mineral Oil Rotational Viscosity Standard RTM7	500ml
ALK-RTM8	Mineral Oil Rotational Viscosity Standard RTM8	500ml
ALK-RTM9	Mineral Oil Rotational Viscosity Standard RTM9	500ml

Mineral Oil Rotational Viscosity Reference Standards												
Part No.	Dynamic Viscosity mPa·s (cP)											
	°C	20.00	20.50	21.00	21.50	22.00	22.50	23.00	23.50	24.00	24.50	25.00
	°F	68.00	68.90	69.80	70.70	71.60	72.50	73.40	74.30	75.20	76.10	77.00
ALK-RTM1	0.3094	0.3078	0.3063	0.3048	0.3033	0.3017	0.3002	0.2988	0.2973	0.2958	0.2944	
ALK-RTM2	0.5188	0.5157	0.5126	0.5095	0.5064	0.5035	0.5004	0.4975	0.4945	0.4916	0.4887	
ALK-RTM3	1.014	1.006	0.998	0.9907	0.9832	0.9757	0.9682	0.9615	0.9541	0.9466	0.9400	
ALK-RTM4	2.427	2.400	2.373	2.347	2.321	2.296	2.271	2.247	2.223	2.199	2.176	
ALK-RTM5	3.780	3.730	3.681	3.633	3.585	3.539	3.494	3.449	3.405	3.362	3.320	
ALK-RTM6	5.446	5.364	5.283	5.204	5.126	5.051	4.976	4.903	4.832	4.762	4.695	
ALK-RTM7	8.703	8.550	8.404	8.262	8.123	7.986	7.853	7.723	7.596	7.471	7.350	
ALK-RTM8	12.17	11.94	11.71	11.49	11.27	11.07	10.86	10.66	10.46	10.28	10.09	
ALK-RTM9	17.66	17.29	16.92	16.56	16.22	15.88	15.56	15.24	14.93	14.63	14.34	
ALK-RTM10	25.69	25.10	24.52	23.96	23.42	22.89	22.39	21.90	21.42	20.95	20.50	
ALK-RTM11	36.11	35.22	34.35	33.51	32.70	31.91	31.15	30.41	29.70	29.01	28.33	
ALK-RTM12	74.13	72.06	70.05	68.11	66.24	64.44	62.71	61.03	59.39	57.83	56.31	
ALK-RTM13	100.5	97.53	94.67	91.98	89.29	86.77	84.28	81.91	79.62	77.41	75.28	

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Section 1: Viscosity Reference Standards

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Mineral Oil Rotational Viscosity Reference Standards												
Part No.	Dynamic Viscosity mPa·s (cP)											
	°C	20.00	20.50	21.00	21.50	22.00	22.50	23.00	23.50	24.00	24.50	25.00
	°F	68.00	68.90	69.80	70.70	71.60	72.50	73.40	74.30	75.20	76.10	77.00
ALK-RTM14	133.7	129.6	125.6	121.8	118.1	114.7	111.3	108	104.8	101.8	98.83	
ALK-RTM15	209.2	202.4	195.8	189.5	183.5	177.6	172	166.7	161.6	156.6	151.8	
ALK-RTM16	281.8	272.4	263.3	254.5	246.2	238.2	230.4	223	215.9	209	202.5	
ALK-RTM17	354.4	342.1	330.5	319.1	308.3	298	288.1	278.5	269.4	260.5	252.1	
ALK-RTM18	427.6	412.6	398.2	384.4	371.1	358.5	346.3	334.7	323.4	312.7	302.4	
ALK-RTM19	501.7	483.7	466.6	450.1	434.3	419.2	404.7	390.8	377.6	364.9	352.6	
ALK-RTM20	562.9	542.6	523.2	504.6	486.8	469.8	453.4	437.7	422.7	408.4	394.5	
ALK-RTM21	727.1	700.3	674.7	650.2	626.6	604.3	582.7	562.1	542.4	523.5	505.4	
ALK-RTM22	1083	1041	1002	963	926.9	892.6	859.1	827.5	797	768	740.3	
ALK-RTM23	1136	1098	1061	1027	993.7	961.2	930.4	900.5	871.4	844	817.4	
ALK-RTM24	1503	1444	1388	1335	1283	1235	1188	1143	1101	1060	1021	
ALK-RTM25	1894	1818	1747	1678	1611	1549	1489	1432	1378	1326	1275	
ALK-RTM26	2294	2201	2113	2029	1948	1872	1798	1729	1662	1598	1537	
ALK-RTM27	2989	2866	2749	2638	2532	2431	2334	2242	2154	2071	1990	
ALK-RTM28	3951	3786	3630	3481	3339	3203	3074	2951	2833	2722	2615	
ALK-RTM29	6190	5925	5674	5434	5206	4990	4783	4587	4399	4220	4050	
ALK-RTM30	7571	7239	6923	6624	6340	6069	5811	5566	5333	5110	4899	
ALK-RTM32	9274	8868	8483	8119	7770	7439	7124	6824	6540	6268	6009	
ALK-RTM33	12119	11578	11066	10579	10116	9677	9260	8862	8484	8124	7782	
ALK-RTM34	12417	11869	11348	10855	10385	9938	9513	9109	8725	8359	8010	
ALK-RTM35	15368	14686	14038	13424	12839	12283	11753	11251	10773	10317	9884	
ALK-RTM36	23912	22828	21799	20824	19897	19016	18179	17384	16630	15912	15228	
ALK-RTM37	33604	32041	30559	29157	27825	26560	25361	24222	23144	22118	21142	
ALK-RTM38	66571	63396	60396	57550	54852	52302	49879	47582	45403	43340	41379	
ALK-RTM39	123698	117689	112016	106635	101543	96731	92163	87835	83735	79856	76169	

Section 1: Viscosity Reference Standards

Paragon Scientific – Viscosity Reference Standards – Rotational Type		
Product Number	Product Description	Size (ml)
ALK-VIS-RT10K-600	Viscosity Reference Standard Rotational Type RT10,000	600ml
ALK-VIS-RT12K-600	Viscosity Reference Standard Rotational Type RT12500	600ml
ALK-VIS-RT1K-600	Viscosity Reference Standard Rotational Type RT1000	600ml
ALK-VIS-RT250-600	Viscosity Reference Standard Rotational Type RT250	600ml
ALK-VIS-RT30K-600	Viscosity Reference Standard Rotational Type RT30000	600ml
ALK-VIS-RT350-600	Viscosity Reference Standard Rotational Type RT350	600ml
ALK-VIS-RT5-600	Viscosity Reference Standard Rotational Type RT5	600ml
ALK-VIS-RT50-600	Viscosity Reference Standard Rotational Type RT50	600ml
ALK-VIS-RT500-600	Viscosity Reference Standard Rotational Type RT500	600ml
ALK-VIS-RT5K-600	Viscosity Reference Standard Rotational Type RT5000	600ml
ALK-VIS-RT60K-600	Viscosity Reference Standard Rotational Type RT60000	600ml
ALK-VIS-RT75-600	Viscosity Reference Standard Rotational Type RT75	600ml



Section 1: Viscosity Reference Standards

Silicon Rotational Viscosity Reference Standards						
Part No.	Kinematic Viscosity mm ² /s (cSt)		Dynamic Viscosity mPa·s (cP)		Density g/mL	
	20.00 °C	25.00 °C	20.00 °C	25.00 °C	20.00 °C	25.00 °C
	68.00 °F	77.00 °F	68.00 °F	77.00 °F	68.00 °F	77.00 °F
ALK-VIS-RT5-600	5.743	5.278	5.278	4.826	0.9190	0.9143
ALK-VIS-RT10-600	11.81	10.79	11.09	10.08	0.9389	0.9343
ALK-VIS-RT50-600	58.53	53.42	55.14	50.08	0.9421	0.9375
ALK-VIS-RT75-600	88.21	80.38	83.45	75.67	0.9460	0.9414
ALK-VIS-RT100-600	115.2	104.3	111.5	100.5	0.9678	0.9633
ALK-VIS-RT250-600	289.8	263.9	275.2	249.4	0.9495	0.9449
ALK-VIS-RT350-600	410.4	373.4	390.1	353.2	0.9505	0.9459
ALK-VIS-RT500-600	579.6	527	552.6	500	0.9534	0.9488
ALK-VIS-RT1K-600	1157	1051	1107	1001	0.9567	0.9521
ALK-VIS-RT5K-600	5840	5296	5651	5101	0.9677	0.9632
ALK-VIS-RT10K-600	11341	10273	11034	9949	0.9729	0.9685
ALK-VIS-RT12K-600	13745	12446	13399	12076	0.9748	0.9703
ALK-VIS-RT30K-600	33389	30244	32541	29343	0.9746	0.9702
ALK-VIS-RT60K-600	64845	58742	63217	57003	0.9749	0.9704
ALK-VIS-RT100K-600	108039	97858	105327	94961	0.9749	0.9704

Section 1: Viscosity Reference Standards

Paragon Scientific – Viscosity Reference Standards – Bath Media		
Product Number	Product Description	Size (l)
ALK-BM2-5L	Viscosity Bath Media, White Oil for use 80°C to 120°C	5l
ALK-BM5-20L	Viscosity Bath Media Silicone Fluid 26 cSt @ 25°C for use 120 to 150°C	20l
ALK-BM5-5L	Viscosity Bath Media Silicone Fluid 26 cSt @ 25°C for use 120 to 150°C	5l
ALK-BM6-20L	Viscosity Bath Media Silicone Fluid 20 cSt @ 25°C for use 90 to 135°C	20l
ALK-BM6-5L	Viscosity Bath Media Silicone Fluid 20 cSt @ 25°C for use 90 to 135°C	5l
ALK-BM7-20L	Viscosity Bath Media Silicone Fluid 10 cSt @ 25°C for use 50 to 100°C	20l
ALK-BM7-5L	Viscosity Bath Media Silicone Fluid 10 cSt @ 25°C for use 50 to 100°C	5l
ALK-BM8-20L	Viscosity Bath Media Silicone Fluid 5 cSt @ 25°C for use 20 to 60°C	20l
ALK-BM8-5L	Viscosity Bath Media Silicone Fluid 5 cSt @ 25°C for use 20 to 60°C	5l

Paragon Scientific – Viscosity Reference Standards – Check Oil		
Product Number	Product Description	Size (ml)
ALK-CVCO15W40-5L	Viscosity Check Oil, 15W40, Kinematic Viscosity, CCS Dynamic Viscosity & Density	5l
ALK-CVCO5W30	Viscosity Check Oil, 5W30, Kinematic Viscosity, CCS Dynamic Viscosity & Density	500ml
ALK-CVCO5W30-5L	Viscosity Check Oil, 5W30, Kinematic Viscosity, CCS Dynamic Viscosity & Density	5l

Section 1: Viscosity Reference Standards

Paragon Scientific – Viscosity Reference Standards – Small Sample		
Product Number	Product Description	Size (ml)
ALK-HVS04	Small Sample Viscosity Reference Standard, (cSt) @ 40 °C & 100 °C (32.42 cSt @ 40 °C)	60ml
ALK-HVS05	Small Sample Viscosity Reference Standard, (cSt) @ 40 °C & 100 °C (54.29 cSt @ 40 °C)	60ml
ALK-HVS06	Small Sample Viscosity Reference Standard, (cSt) @ 40 °C & 100 °C (100.2 cSt @ 40 °C)	60ml
ALK-HVS07	Small Sample Viscosity Reference Standard, (cSt) @ 40 °C & 100 °C (183.0 cSt @ 40 °C)	60ml
ALK-HVS08	Small Sample Viscosity Reference Standard, (cSt) @ 40 °C & 100 °C (306.9 cSt @ 40 °C)	60ml
ALK-HVS09	Small Sample Viscosity Reference Standard, (cSt) @ 40 °C & 100 °C (528.1 cSt @ 40 °C)	60ml
ALK-HVS10	Small Sample Viscosity Reference Standard, (cSt) @ 40 °C & 100 °C (1003 cSt @ 40 °C)	60ml
ALK-HVS11	Small Sample Viscosity Reference Standard, (cSt) @ 40 °C & 100 °C (1706 cSt @ 40 °C)	60ml
ALK-HVS12	Small Sample Viscosity Reference Standard, (cSt) @ 40 °C & 100 °C (2100 cSt @ 40 °C)	60ml
ALK-HVS13	Small Sample Viscosity Reference Standard, (cSt) @ 40 °C & 100 °C (3420 cSt @ 40 °C)	60ml
ALK-HVS14	Small Sample Viscosity Reference Standard, (cSt) @ 40 °C & 100 °C (6846 cSt @ 40 °C)	60ml
ALK-HVS15	Small Sample Viscosity Reference Standard, (cSt) @ 40 °C & 100 °C (13014 cSt @ 40 °C)	60ml
ALK-HVS16	Small Sample Viscosity Reference Standard, (cSt) @ 40 °C & 100 °C (23192 cSt @ 40 °C)	60ml

Section 1: Viscosity Reference Standards

Small Sample Viscosity Reference Standards					
Part No.	Kinematic mm ² /s (cSt) 40°C	Kinematic mm ² /s (cSt) 100°C	Test Method	Accreditation	Pack Size
ALK-HVS01	2.920	1.192	ASTM D2162	ISO 17025 / ISO 17034	60 mL
ALK-HVS02	5.772	1.885	ASTM D2162	ISO 17025 / ISO 17034	60 mL
ALK-HVS03	10.05	2.646	ASTM D2162	ISO 17025 / ISO 17034	60 mL
ALK-HVS04	32.62	5.620	ASTM D2162	ISO 17025 / ISO 17034	60 mL
ALK-HVS05	52.93	7.582	ASTM D2162	ISO 17025 / ISO 17034	60 mL
ALK-HVS06	99.66	11.63	ASTM D2162	ISO 17025 / ISO 17034	60 mL
ALK-HVS07	180.9	17.54	ASTM D2162	ISO 17025 / ISO 17034	60 mL
ALK-HVS08	316.1	25.42	ASTM D2162	ISO 17025 / ISO 17034	60 mL
ALK-HVS09	516.9	35.81	ASTM D2162	ISO 17025 / ISO 17034	60 mL
ALK-HVS10	1001	57.51	ASTM D2162	ISO 17025 / ISO 17034	60 mL
ALK-HVS11	1752	82.53	ASTM D2162	ISO 17025 / ISO 17034	60 mL
ALK-HVS12	2100	95.45	ASTM D2162	ISO 17025 / ISO 17034	60 mL
ALK-HVS13	3435	140.4	ASTM D2162	ISO 17025 / ISO 17034	60 mL
ALK-HVS14	6853	225.3	ASTM D2162	ISO 17025 / ISO 17034	60 mL
ALK-HVS15	12954	367.7	ASTM D2162	ISO 17025 / ISO 17034	60 mL
ALK-HVS16	23124	581.5	ASTM D2162	ISO 17025 / ISO 17034	60 mL



Section 1: Viscosity Reference Standards

VHG – Viscosity Reference Standards		
Product Number	Product Description	Size (ml)
VHG-VISC10-500	Viscosity Reference Standard – 10 cSt at 40 °C, and 2.7 cSt at 100 °C	500ml
VHG-VISC100A-100	Viscosity Reference Standard – approximately 100 cSt at 40 °C and approximately 16.8 cSt at 100 °C.	100ml
VHG-VISC100A-500	Viscosity Reference Standard – 100 cSt at 40 °C, and 16.8 cSt at 100 °C	500ml
VHG-VISC120-500	Viscosity Reference Standard – 120 cSt at 40 °C, and 20 cSt at 100 °C	500ml
VHG-VISC180-500	Viscosity Reference Standard – 180 cSt at 40 °C, and 26 cSt at 100 °C	500ml
VHG-VISC20-500	Viscosity Reference Standard – 19 cSt at 40 °C, and 5 cSt at 100 °C	500ml
VHG-VISC30-500	Viscosity Reference Standard – 30 cSt at 40 °C, and 5.3 cSt at 100 °C	500ml
VHG-VISC360-500	Viscosity Reference Standard – 360 cSt at 40 °C, and 42 cSt at 100 °C	500ml
VHG-VISC50-500	Viscosity Reference Standard – 50 cSt at 40 °C, and 7.3 cSt at 100 °C	500ml
VHG-VISC500-50	Viscosity Reference Standard – approximately 500 cSt at 40 °C and approximately 52 cSt at 100 °C.	50ml
VHG-VISC500-500	Viscosity Reference Standard -500 cSt at 40 °C, and 52 cSt at 100 °C	500ml
VHG-VISC60A-500	Viscosity Reference Standard -60 cSt at 40°C, and 11.4 cSt at 100°C	500ml
VHG-VISC75-500	Viscosity Reference Standard -73 cSt at 40°C, and 9 cSt at 100°C	500ml
VHG-VISC900-500	Viscosity Reference Standard -930 cSt at 40°C, and 82 cSt at 100°C	500ml



Section 1: Viscosity Reference Standards

Pure Water Viscosity Reference Standards				
Part no	Kinematic Viscosity mm ² /s (cSt)			
	5.00 °C	20.00 °C	25.00 °C	37.00 °C
	41.00 °F	68.00 °F	77.00 °F	98.60 °F
ALK-VISC-WAT	1.5265	1.0035	0.8928	0.69599

Pure Water Viscosity Reference Standards				
Part no	Dynamic Viscosity mPa. s (cP)			
	5.00 °C	20.00 °C	25.00 °C	37.00 °C
	41.00 °F	68.00 °F	77.00 °F	98.60 °F
ALK-VISC-WAT	1.5264	1.0017	0.89018	0.69135

Pure Water Viscosity Reference Standards				
Part no	Density g/mL			
	5.00 °C	20.00 °C	25.00 °C	37.00 °C
	41.00 °F	68.00 °F	77.00 °F	98.60 °F
ALK-VISC-WAT	0.99996	0.99822	0.99706	0.99334

Section 2

Base Number Reference Standards

LGC Industrial's ISO 17025 & ISO 17034 total Base Number (TBN) Standards are specifically manufactured for the verification of analytical instruments used to determine base number by potentiometric titration. TBN standards are certified in accordance with ASTM D2896 / IP 276 and are applicable for use with other internationally equivalent methods.

The TBN value is important in the lubricants industry. Like the TAN Value, it is used as a confirmatory in the quality control of new and used lubricants, such as condition monitoring during lubricant use. TBN is derived from additives such as detergents and is an indicator of the lubricants ability to neutralise acids that can be formed during operation.

Paragon Scientific – Base Number Reference Standards – UKAS ISO 17025 / ISO 17034 Certified		
Product Number	Product Description	Size (g)
ALK-TBN1	Base Number Standard Certified Value 1 mg KOH/g	125g
ALK-TBN1/3	Base Number Standard Certified Value 1 mg KOH/g	3x125g
ALK-TBN10	Base Number Standard Certified Value 15 mg KOH/g	50g
ALK-TBN10/3	Base Number Standard Certified Value 15 mg KOH/g,	3x50g
ALK-TBN15	Base Number Standard Certified Value 30 mg KOH/g	50g
ALK-TBN15/3	Base Number Standard Certified Value 30 mg KOH/g	3x50g
ALK-TBN3	Base Number Standard Certified Value 3 mg KOH/g	50g
ALK-TBN3/3	Base Number Standard Certified Value 3mg KOH/g	3x50g
ALK-TBN30	Base Number Standard Certified Value 40 mg KOH/g	50g
ALK-TBN30/3	Base Number Standard Certified Value 40 mg KOH/g	3x50g
ALK-TBN40	Base Number Standard Certified Value 6.0 mg KOH/g	50g
ALK-TBN40/3	Base Number Standard Certified Value 6.0 mg KOH/g	3x50g
ALK-TBN6	Base Number Standard Certified Value 10 mg KOH/g	50g
ALK-TBN6/3	Base Number Standard Certified Value 10 mg KOH/g	3x50g
ALK-TBN70	Base Number Standard Certified Value 70 mg KOH/g	50g
ALK-TBN70/3	Base Number Standard Certified Value 70 mg KOH/g	3x50g

Section 2: Base Number Reference Standards

VHG – Base Number Reference Standards		
Product Number	Product Description	Size (g)
VHG-BN-10-100G	Base Number Standard 10 mgKOH/g	100g
VHG-BN-10-400G	Base Number Standard 10 mgKOH/g	400g
VHG-BN-10-50G	Base Number (BN) Standard: 10 mg KOH/g in Hydrocarbon Oil	50g
VHG-BN-15-50G	Base Number (BN) Standard: 15 mg KOH/g in Hydrocarbon Oil	50g
VHG-BN-30-100G	Base Number Standard 30 mgKOH/g	100g
VHG-BN-30-400G	Base Number Standard 30 mgKOH/g	400g
VHG-BN-30-50G	Base Number (BN) Standard: 30 mg KOH/g in Hydrocarbon Oil	50g
VHG-BN-40-100G	Base Number (BN) Standard: 40 mg KOH/g in Hydrocarbon Oil	100g
VHG-BN-40-50G	Base Number (BN) Standard: 40 mg KOH/g in Hydrocarbon Oil	50g
VHG-BN-6-100G	Base Number Standard 6 mgKOH/g	100g
VHG-BN-6-400G	Base Number Standard 6 mgKOH/g	400g
VHG-BN-6-50G	Base Number (BN) Standard: 6 mg KOH/g in Hydrocarbon Oil	50g
VHG-BN-6-800G	Base Number Standard 6 mgKOH/g	800g
VHG-BN-70-50G	Base Number (BN) Standard: 70 mg KOH/g in Hydrocarbon Oil	50g



Section 3: Acid Number Reference Standards

Section 3

Acid Number Reference Standards

LGC Industrial's ISO 17025 & ISO 17034 Total Acid Number (TAN) Standards manufactured for the verification of analytical instruments used to determine acid number by potentiometric titration. TAN Standards are certified in accordance with ASTM D664 / IP 177 and are applicable for use with internationally equivalent methods.

The TAN value is important in the lubricants industry as a confirmatory test in the quality control testing of new lubricants and is also used for condition monitoring of in use / used lubricants. The total acid number will be an indicator for the age of a lubricant and assist on the timing of oil changes.

Paragon Scientific – Acid Number Reference Standards – UKAS ISO 17025 / ISO 17034 Certified		
Product Number	Product Description	Size (g)
ALK-TAN001	Acid Number Standard Certified Value 0.1 mg KOH/g	125g
ALK-TAN001/3	Acid Number Standard Certified Value 0.1 mg KOH/g	3x125g
ALK-TAN005	Acid Number Standard Certified Value 0.5 mg KOH/g	125g
ALK-TAN005/3	Acid Number Standard Certified Value 0.5 mg KOH/g	3x125g
ALK-TAN010	Acid Number Standard Certified Value 1.0 mg KOH/g	125g
ALK-TAN010/3	Acid Number Standard Certified Value 1.0 mg KOH/g	3x125g
ALK-TAN015	Acid Number Standard Certified Value 1.5 mg KOH/g	125g
ALK-TAN015/3	Acid Number Standard Certified Value 1.5 mg KOH/g	3x125g
ALK-TAN020	Acid Number Standard Certified Value 2.0 mg KOH/g	50g
ALK-TAN020/3	Acid Number Standard Certified Value 2.0 mg KOH/g	3x50g
ALK-TAN025	Acid Number Standard Certified Value 2.5 mg KOH/g	50g
ALK-TAN025/3	Acid Number Standard Certified Value 2.5 mg KOH/g	3x50g
ALK-TAN030	Acid Number Standard Certified Value 3.0 mg KOH/g	50g
ALK-TAN030/3	Acid Number Standard Certified Value 3.0 mg KOH/g	3x50g
ALK-TAN050	Acid Number Standard Certified Value 4.57 mg KOH/g	50g
ALK-TAN050/3	Acid Number Standard Certified Value 4.57 mg KOH/g	3x50g
ALK-TANI00	Acid Number Standard Certified Value 10.14 mg KOH/g	50g
ALK-TANI00/3	Acid Number Standard Certified Value 10.14 mg KOH/g	3x50g

Section 3: Acid Number Reference Standards

VHG – Acid Number Reference Standards		
Product Number	Product Description	Size (g)
VHG-AN-0.1-100G	Acid Number (AN) Standard: 0.1 mg KOH/g in Hydrocarbon Oil	100g
VHG-AN-0.1-400G	Acid Number Standard 0.1 mgKOH/g	400g
VHG-AN-0.1-800G	Acid Number Standard 0.1 mgKOH/g	800g
VHG-AN-0.5-100G	Acid Number (AN) Standard: 0.5 mg KOH/g in Hydrocarbon Oil	100g
VHG-AN-0.5-400G	Acid Number Standard 0.5 mgKOH/g	400g
VHG-AN-0.5-800G	Acid Number Standard 0.5 mgKOH/g	800g
VHG-AN-1.5-100G	Acid Number (AN) Standard: 1.5 mg KOH/g in Hydrocarbon Oil	100g
VHG-AN-1.5-400G	Acid Number Standard 1.5 mgKOH/g	400g
VHG-AN-1-100G	Acid Number (AN) Standard: 1.0 mg KOH/g in Hydrocarbon Oil	100g
VHG-AN-1-400G	Acid Number Standard 1 mgKOH/g	400g
VHG-AN-1-800G	Acid Number Standard 1 mgKOH/g	800g
VHG-AN-2-100G	Acid Number Standard 2 mgKOH/g	100g
VHG-AN-2-50G	Acid Number (AN) Standard: 2.0 mg KOH/g in Hydrocarbon Oil	50g
VHG-AN-3-400G	Acid Number Standard 3 mgKOH/g	400g
VHG-AN-3-50G	Acid Number (AN) Standard: 3.0 mg KOH/g in Hydrocarbon Oil	50g
VHG-AN-3-800G	Acid Number Standard 3 mgKOH/g	800g

Section 4: Sucrose Brix Reference Standards

Section 4

Sucrose Brix Reference Standards

Paragon's dual accredited ISO 17025 / ISO 17034 Sucrose Standards are for use in the calibration and verification of all types of refractometers e.g. handheld, Abbe and high accuracy digital instruments. Sucrose Brix Standards do not contain stabilisers and are manufactured from high purity materials in accordance with International Commission for Uniform Methods of Sugar Analysis (ICUMSA) methodology.

Paragon Scientific – Sucrose Brix/RI Reference Standards		
Product Number	Product Description	Size (ml)
ALK-SS00	Pure Water (0.00 Brix / 1.33299 RI)	15ml
ALK-SS02	Sucrose (2.00 °Brix / 1.33586 RI)	15ml
ALK-SS05	Sucrose (5.00 °Brix / 1.34026 RI)	15ml
ALK-SS075	Sucrose (7.50 °Brix / 1.34401 RI)	15ml
ALK-SS10	Sucrose (10.00 °Brix / 1.34782 RI)	15ml
ALK-SS112	Sucrose (11.20 °Brix / 1.34968 RI)	15ml
ALK-SS115	Sucrose (11.50 °Brix / 1.35015 RI)	15ml
ALK-SS12	Sucrose (12.00 °Brix / 1.35093 RI)	15ml
ALK-SS125	Sucrose (12.50 °Brix / 1.35171 RI)	15ml
ALK-SS15	Sucrose (15.00 °Brix / 1.35568 RI)	15ml
ALK-SS16	Sucrose (16.00 °Brix / 1.35729 RI)	15ml
ALK-SS20	Sucrose (20.00 °Brix / 1.36384 RI)	15ml
ALK-SS25	Sucrose (25.00 °Brix / 1.37233 RI)	15ml
ALK-SS30	Sucrose (30.00 °Brix / 1.38115 RI)	15ml
ALK-SS32	Sucrose (32.00 °Brix / 1.38478 RI)	15ml
ALK-SS35	Sucrose (35.00 °Brix / 1.39032 RI)	15ml
ALK-SS40	Sucrose (40.00 °Brix / 1.39986 RI)	15ml
ALK-SS45	Sucrose (45.00 °Brix / 1.40978 RI)	15ml
ALK-SS50	Sucrose (50.00 °Brix / 1.42009 RI)	15ml
ALK-SS55	Sucrose (55.00 °Brix / 1.43080 RI)	15ml
ALK-SS60	Sucrose (60.00 °Brix / 1.44193 RI)	15ml

Section 5

Smoke Point Reference Standards

Paragon's dual accredited ISO 17025 & 17034 Smoke Point Reference Fuel Blends are ideal for the calibration and/ or verification of analytical instrumentation for automatic or manual measurement of smoke point using ASTM D1322 and IP 598. The range of Smoke Point Reference Fuel Blends corresponds to listed composition values as per Table 1 in ASTM D1322 and IP 598. We also offer a set kit for use with automatic apparatus, which includes x1 of each reference blend. Applications – Kerosene and aviation turbine fuel.

Paragon Scientific – Smoke Point Reference Standards		
Product Number	Product Description	Size (ml)
ALK-SPRF-1	Smoke Point Reference Fuel Blend 1 for 14.7 mm (40/60 %v/v)	100ml
ALK-SPRF-2	Smoke Point Reference Fuel Blend 2 for 20.2 mm (25/75 %v/v)	100ml
ALK-SPRF-3	Smoke Point Reference Fuel Blend 3 for 22.7 mm (20/80 %v/v)	100ml
ALK-SPRF-4	Smoke Point Reference Fuel Blend 4 for 25.8 mm (15/85 %v/v)	100ml
ALK-SPRF-5	Smoke Point Reference Fuel Blend 5 for 30.2 mm (10/90 %v/v)	100ml
ALK-SPRF-6	Smoke Point Reference Fuel Blend 6 for 35.4 mm (5/95 %v/v)	100ml
ALK-SPRF-7	Smoke Point Reference Fuel Blend 7 for 42.8 mm (0/100 %v/v)	100ml
ALK-SPRF-KIT-7	Smoke Point Fuel Blend Kit, (Blends 1 – 7: 14.7 mm, 20.2 mm, 22.7 mm, 25.8 mm, 30.2 mm, 35.4 mm and 42.8 mm)	7x100ml



Section 6

Relative Density Reference Standards

Paragon's dual accredited ISO 17025 / ISO 17034 Relative Density (Specific Gravity) standards are designed for the calibration or verification of instruments, used to measure density and relative density of materials at the desired test temperature within the range of 15 °C to 25 °C. These include, but are not limited to, automatic instruments and hydrometers. All density measurements are made in accordance with ASTM D1480, for density and relative density (specific gravity) of viscous materials by Bingham Pycnometer. The Relative density was calculated by dividing the density, as obtained from ASTM D1480, by the density of water at the reference temperature.

Paragon Scientific – Relative Density Reference Standards		
Product Number	Product Description	Size (ml)
ALK-RDEN15-01	Relative Density Standard 15 °C, (Nominal value 0.6654 at 15 °C)	500ml
ALK-RDEN15-02	Relative Density Standard 15 °C, (Nominal value 0.7183 at 15 °C)	500ml
ALK-RDEN15-03	Relative Density Standard 15 °C, (Nominal value 0.7807 at 15 °C)	500ml
ALK-RDEN15-04	Relative Density Standard 15 °C, (Nominal value 0.8111 at 15 °C)	500ml
ALK-RDEN15-05	Relative Density Standard 15 °C, (Nominal value 0.8494 at 15 °C)	500ml
ALK-RDEN15-06	Relative Density Standard 15 °C, (Nominal value 0.8682 at 15 °C)	500ml
ALK-RDEN15-07	Relative Density Standard 15 °C, (Nominal value 0.8811 at 15 °C)	500ml
ALK-RDEN20-01	Relative Density Standard 20 °C, (Nominal value 0.6609 at 20 °C)	500ml
ALK-RDEN20-02	Relative Density Standard 20 °C, (Nominal value 0.7142 at 20 °C)	500ml
ALK-RDEN20-03	Relative Density Standard 20 °C, (Nominal value 0.7769 at 20 °C)	500ml
ALK-RDEN20-04	Relative Density Standard 20 °C, (Nominal value 0.8386 at 20 °C)	500ml
ALK-RDEN20-05	Relative Density Standard 20 °C, (Nominal value 0.8452 at 20 °C)	500ml
ALK-RDEN20-06	Relative Density Standard 20 °C, (Nominal value 0.8723 at 20 °C)	500ml
ALK-RDEN25-01	Relative Density Standard 25 °C, (Nominal value 0.6564 at 25 °C)	500ml
ALK-RDEN25-02	Relative Density Standard 25 °C, (Nominal value 0.7101 at 25 °C)	500ml
ALK-RDEN25-03	Relative Density Standard 25 °C, (Nominal value 0.7730 at 25 °C)	500ml
ALK-RDEN25-04	Relative Density Standard 25 °C, (Nominal value 0.8352 at 25 °C)	500ml
ALK-RDEN25-05	Relative Density Standard 25 °C, (Nominal value 0.8693 at 25 °C)	500ml



Section 7

Multi-Parameter Reference Standards

Paragon's range of Multi-Parameter Certified Reference Materials certified to Refractive Index and Density, in accordance with our ISO 17025 and iso 17034 accreditations. These are available in four different matrices, Pure Water, Dodecane, Dichlorotoluene, and Bromonaphthalene. Each material is certified for Refractive Index and density at 15, 20 & 25 °C.

Paragon Scientific – Multi-Parameter Refractive Index & Density Certified Reference Standards, at 15°C, 20°C and 25°C

Product Number	Product Description	Size (ml)
ALK-PS-RVD-01	Multi-Parameter Refractive Index & Density Certified Reference Material (Nominal RI: 1.3330 @ 20 °C)	30ml
ALK-PS-RVD-02	Multi-Parameter Refractive Index & Density Certified Reference Material (Nominal RI: 1.4217 @ 20 °C)	30ml
ALK-PS-RVD-03	Multi-Parameter Refractive Index & Density Certified Reference Material (Nominal RI: 1.5463 @ 20 °C)	30ml
ALK-PS-RVD-04	Multi-Parameter Refractive Index & Density Certified Reference Material Nominal RI: 1.6579 @ 20 °C)	30ml

Section 8

Refractive Index Reference Standards

Paragon's dual accredited ISO 17025 / ISO 17034 Refractive Index Certified Reference Materials (CRMs) for the calibration and verification of temperature-controlled refractometers, with each CRM providing certified values for refractive index measurements at 20 °C, 25 °C and 30 °C.

Paragon Scientific – Refractive Index Certified Reference Standards at 20°C, 25°C and 30°C		
Product Number	Product Description	Size (ml)
ALK-PS-RI-01	Refractive Index Certified Reference Material (Nominal RI Value 1.3325 at 25 °C)	10ml
ALK-PS-RI-01K	Refractive Index Certified Reference Material (Nominal RI Value 1.3325 at 25 °C)	5x10ml
ALK-PS-RI-02	Refractive Index Certified Reference Material (Nominal RI Value 1.3891 at 25 °C)	10ml
ALK-PS-RI-02K	Refractive Index Certified Reference Material (Nominal RI Value 1.3891 at 25 °C)	5x10ml
ALK-PS-RI-03	Refractive Index Certified Reference Material (Nominal RI Value 1.4023 at 25 °C)	10ml
ALK-PS-RI-03K	Refractive Index Certified Reference Material (Nominal RI Value 1.4023 at 25 °C)	5x10ml
ALK-PS-RI-04	Refractive Index Certified Reference Material (Nominal RI Value 1.4196 at 25 °C)	10ml
ALK-PS-RI-04K	Refractive Index Certified Reference Material (Nominal RI Value 1.4196 at 25 °C)	5x10ml
ALK-PS-RI-05	Refractive Index Certified Reference Material (Nominal RI Value 1.4206 at 25 °C)	10ml
ALK-PS-RI-05K	Refractive Index Certified Reference Material (Nominal RI Value 1.4206 at 25 °C)	5x10ml
ALK-PS-RI-06	Refractive Index Certified Reference Material (Nominal RI Value 1.4573 at 25 °C)	10ml
ALK-PS-RI-06K	Refractive Index Certified Reference Material (Nominal RI Value 1.4573 at 25 °C)	5x10ml
ALK-PS-RI-07	Refractive Index Certified Reference Material (Nominal RI Value 1.4941 at 25 °C)	10ml
ALK-PS-RI-07K	Refractive Index Certified Reference Material (Nominal RI Value 1.4941 at 25 °C)	5x10ml
ALK-PS-RI-08	Refractive Index Certified Reference Material (Nominal RI Value 1.5349 at 25 °C)	10ml

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Section 8: Refractive Index Reference Standards

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Paragon Scientific – Refractive Index Certified Reference Standards at 20°C, 25°C and 30°C		
Product Number	Product Description	Size (ml)
ALK-PS-RI-08K	Refractive Index Certified Reference Material (Nominal RI Value 1.5349 at 25 °C)	5x10ml
ALK-PS-RI-09	Refractive Index Certified Reference Material (Nominal RI Value 1.5440 at 25 °C)	10ml
ALK-PS-RI-09K	Refractive Index Certified Reference Material (Nominal RI Value 1.5440 at 25 °C)	5x10ml
ALK-PS-RI-10	Refractive Index Certified Reference Material (Nominal RI Value 1.6556 at 25 °C)	10ml
ALK-PS-RI-10K	Refractive Index Certified Reference Material (Nominal RI Value 1.6556 at 25 °C)	5x10ml

Section 9

Flash Point Reference Standards

Flash Point Primary Certified Reference Materials

Manufactured and certified by a method specific inter-laboratory study in strict accordance with ISO 17034, using only those laboratories accredited to ISO 17025 for the test. Intended for use in the verification of flash point apparatus on at least an annual basis, as required by flash point methodology. Please see Section 12 Single Parameter Certified Reference Materials (CRMs and CRMUs) for these certified reference materials.

Secondary Working Flash Point Reference Standards

Manufactured and certified in strict accordance with our ISO 17025 and ISO 17034 accreditations to ASTM D92 and ASTM D93, Procedure A. Intended for the regular verification of flash point apparatus.

Cleveland Open Cup Method Reference Standards		
Product Number	Product Description	Size (ml)
ALK-FP-COC-1	Flash Point Reference Standard (Nominal value: 84 °C)	3x80ml
ALK-FP-COC-3	Flash Point Reference Standard (Nominal value: 164 °C)	3x80ml
ALK-FP-COC-4	Flash Point Reference Standard (Nominal value: 205 °C)	3x80ml
ALK-FP-COC-5	Flash Point Reference Standard (Nominal value: 259 °C)	3x80ml
ALK-FP-COC-6	Flash Point Reference Standard (Nominal value: 118 °C)	3x80ml

Section 9: Flash Point Reference Standards

Pensky Martens Method Reference Standards		
Product Number	Product Description	Size (ml)
ALK-FP-PMCC-1	Flash Point Reference Standard (Nominal value: 55.0 °C)	3x80ml
ALK-FP-PMCC-2	Flash Point Reference Standard (Nominal value: 75.5 °C)	3x80ml
ALK-FP-PMCC-3	Flash Point Reference Standard (Nominal value: 109.0 °C)	3x80ml
ALK-FP-PMCC-4	Flash Point Reference Standard (Nominal value: 137.5 °C)	3x80ml
ALK-FP-PMCC-5	Flash Point Reference Standard (Nominal value: 175.0 °C)	3x80ml
ALK-FP-PMCC-6	Flash Point Reference Standard (Nominal value: 219.5 °C)	3x80ml

Section 10

Certified Ethanol Reference Standards

Dual accredited ISO 17025 & 17034 Certified Ethanol Standards are certified for % ABV (Alcohol by Volume) and are designed to be used for the calibration and/ or verification of alcoholmeters or densitometers used to determine alcohol content. The alcohol content is certified in accordance with the UK Revenue & Customs Laboratory Alcohol Table.

Applications – Food, Beverage and alcohol.

Paragon Scientific – Certified Ethanol Reference Standards		
Product Number	Product Description	Size (ml)
ALK-ETWA05	Certified Ethanol Standard – 5 % ABV (Alcohol by Volume)	25ml
ALK-ETWA15	Certified Ethanol Standard – 15 % ABV (Alcohol by Volume)	25ml
ALK-ETWA40	Certified Ethanol Standard – 40 % ABV (Alcohol by Volume)	25ml
ALK-ETWA70	Certified Ethanol Standard – 70 % ABV (Alcohol by Volume)	25ml

Section 11: Density Reference Standards

Section 11

Density Reference Standards

Our dual accredited ISO 17025 & 17034 Density standards are available in temperature ranges between 15 – 150 °C, where the material is fluid at the desired test temperature, certified by ASTM D1480. Typically used in, but not limited to, density measuring equipment e.g., the oscillating u-tube method, such as ASTM D4052 / IP 365 and other internationally equivalent methodology.

Included in the density offering is a pure water density standard. Certified by ASTM D1480 at the temperatures of 15, 20 & 25 °C.

Paragon Scientific – Pure Water Density Reference Standards, Density Values at 15, 20 & 25 °C

Product Number	Product Description	Size (ml)
ALK-DEN-WAT	Pure Water Density Standard (Nominal: 0.99909 g/mL @ 15 °C)	60ml
ALK-DEN-WAT3	Pure Water Density Standard (Nominal: 0.99909 g/mL @ 15 °C)	3x60ml

Paragon Scientific – Density Reference Standards

Product Number	Product Description	Size (ml)
ALK-DEN100-01	Density Standard 100 °C, (Nominal density value 0.7645 at 100 °C)	60ml
ALK-DEN100-02	Density Standard 100 °C, (Nominal density value 0.8124 at 100 °C)	60ml
ALK-DEN100-03	Density Standard 100 °C, (Nominal density value 0.8550 at 100 °C)	60ml
ALK-DEN15-01	Density Standard 15 °C, (Nominal density value 0.6654 at 15 °C)	60ml
ALK-DEN15-02	Density Standard 15 °C, (Nominal density value 0.7183 at 15 °C)	60ml
ALK-DEN15-03	Density Standard 15 °C, (Nominal density value 0.7807 at 15 °C)	60ml
ALK-DEN15-04	Density Standard 15 °C, (Nominal density value 0.8111 at 15 °C)	60ml
ALK-DEN15-05	Density Standard 15 °C, (Nominal density value 0.8494 at 15 °C)	60ml
ALK-DEN15-06	Density Standard 15 °C, (Nominal density value 0.8648 at 15 °C)	60ml
ALK-DEN15-07	Density Standard 15 °C, (Nominal density value 0.8811 at 15 °C)	60ml
ALK-DEN15-08	Density Standard 15 °C, (Nominal density value 0.9413 at 15 °C)	60ml
ALK-DEN15-09	Density Standard 15 °C, (Nominal density value 0.9823 at 15 °C)	60ml
ALK-DEN15-10	Density Standard 15 °C, (Nominal density value 1.0248 at 15 °C)	60ml
ALK-DEN15-11	Density Standard 15 °C, (Nominal density value 1.0687 at 15 °C)	60ml

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Section 11: Density Reference Standards

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Paragon Scientific – Density Reference Standards		
Product Number	Product Description	Size (ml)
ALK-DEN15-12	Density Standard 15 °C, (Nominal density value 1.1280 at 15 °C)	60ml
ALK-DEN15-13	Density Standard 15 °C, (Nominal density value 1.1962 at 15 °C)	60ml
ALK-DEN15-14	Density Standard 15 °C, (Nominal density value 1.2829 at 15 °C)	60ml
ALK-DEN15-15	Density Standard 15 °C, (Nominal density value 1.6300 at 15 °C)	60ml
ALK-DEN150-01	Density Standard 150 °C, (Nominal density value 0.7288 at 150 °C)	60ml
ALK-DEN150-02	Density Standard 150 °C, (Nominal density value 0.7816 at 150 °C)	60ml
ALK-DEN150-03	Density Standard 150 °C, (Nominal density value 0.8287 at 150 °C)	60ml
ALK-DEN20-01	Density Standard 20 °C, (Nominal density value 0.6609 at 20 °C)	60ml
ALK-DEN20-02	Density Standard 20 °C, (Nominal density value 0.7142 at 20 °C)	60ml
ALK-DEN20-03	Density Standard 20 °C, (Nominal density value 0.7769 at 20 °C)	60ml
ALK-DEN20-04	Density Standard 20 °C, (Nominal density value 0.8386 at 20 °C)	60ml
ALK-DEN20-05	Density Standard 20 °C, (Nominal density value 0.8452 at 20 °C)	60ml
ALK-DEN20-06	Density Standard 20 °C, (Nominal density value 0.8723 at 20 °C)	60ml
ALK-DEN20-07	Density Standard 20 °C, (Nominal density value 0.9378 at 20 °C)	60ml
ALK-DEN20-08	Density Standard 20 °C, (Nominal density value 0.9811 at 20 °C)	60ml
ALK-DEN20-09	Density Standard 20 °C, (Nominal density value 1.0236 at 20 °C)	60ml
ALK-DEN20-10	Density Standard 20 °C, (Nominal density value 1.0669 at 20 °C)	60ml
ALK-DEN20-11	Density Standard 20 °C, (Nominal density value 1.1256 at 20 °C)	60ml
ALK-DEN20-12	Density Standard 20 °C, (Nominal density value 1.1915 at 20 °C)	60ml
ALK-DEN20-13	Density Standard 20 °C, (Nominal density value 1.2800 at 20 °C)	60ml
ALK-DEN20-14	Density Standard 20 °C, (Nominal density value 1.6218 at 20 °C)	60ml
ALK-DEN25-01	Density Standard 25 °C, (Nominal density value 0.6564 at 25 °C)	60ml
ALK-DEN25-02	Density Standard 25 °C, (Nominal density value 0.7101 at 25 °C)	60ml
ALK-DEN25-03	Density Standard 25 °C, (Nominal density value 0.7730 at 25 °C)	60ml
ALK-DEN25-04	Density Standard 25 °C, (Nominal density value 0.8352 at 25 °C)	60ml
ALK-DEN25-05	Density Standard 25 °C, (Nominal density value 0.8693 at 25 °C)	60ml
ALK-DEN25-06	Density Standard 25 °C, (Nominal density value 0.9342 at 25 °C)	60ml
ALK-DEN25-07	Density Standard 25 °C, (Nominal density value 0.9797 at 25 °C)	60ml
ALK-DEN25-08	Density Standard 25 °C, (Nominal density value 1.0222 at 25 °C)	60ml

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Section 11: Density Reference Standards

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Paragon Scientific – Density Reference Standards		
Product Number	Product Description	Size (ml)
ALK-DEN25-09	Density Standard 25 °C, (Nominal density value 1.0650 at 25 °C)	60ml
ALK-DEN25-10	Density Standard 25 °C, (Nominal density value 1.1231 at 25 °C)	60ml
ALK-DEN25-11	Density Standard 25 °C, (Nominal density value 1.1868 at 25 °C)	60ml
ALK-DEN25-12	Density Standard 25 °C, (Nominal density value 1.2771 at 25 °C)	60ml
ALK-DEN25-13	Density Standard 25 °C, (Nominal density value 1.6136 at 25 °C)	60ml
ALK-DEN40-01	Density Standard 40 °C, (Nominal density value 0.6426 at 40 °C)	60ml
ALK-DEN40-02	Density Standard 40 °C, (Nominal density value 0.6977 at 40 °C)	60ml
ALK-DEN40-03	Density Standard 40 °C, (Nominal density value 0.7934 at 40 °C)	60ml
ALK-DEN40-04	Density Standard 40 °C, (Nominal density value 0.8250 at 40 °C)	60ml
ALK-DEN40-05	Density Standard 40 °C, (Nominal density value 0.8716 at 40 °C)	60ml
ALK-DEN50-01	Density Standard 50 °C, (Nominal density value 0.7864 at 50 °C)	60ml
ALK-DEN50-02	Density Standard 50 °C, (Nominal density value 0.8102 at 50 °C)	60ml
ALK-DEN50-03	Density Standard 50 °C, (Nominal density value 0.8659 at 50 °C)	60ml
ALK-DEN60-01	Density Standard 60 °C, (Nominal density value 0.7924 at 60 °C)	60ml
ALK-DEN60-02	Density Standard 60 °C, (Nominal density value 0.8201 at 60 °C)	60ml
ALK-DEN60-03	Density Standard 60 °C, (Nominal density value 0.8688 at 60 °C)	60ml
ALK-DEN80-01	Density Standard 80 °C, (Nominal density value 0.7785 at 80 °C)	60ml
ALK-DEN80-02	Density Standard 80 °C, (Nominal density value 0.8246 at 80 °C)	60ml
ALK-DEN80-03	Density Standard 80 °C, (Nominal density value 0.8578 at 80 °C)	60ml

Section 12: Single Parameter Certified Reference Materials (CRMs and CRMUs)

Section 12

Single Parameter Certified Reference Materials (CRMs and CRMUs)

We produce a variety of Single Parameter Certified Reference Materials, particularly aimed at the petroleum industry. Those materials produced under our ISO 17034 accreditation (denoted CRMU) are certified by a method specific inter-laboratory study using those laboratories that are accredited to ISO 17025 for the test. The materials certified outside our accreditation (denoted CRM) are certified by inter-laboratory study.

Primary Certified Flash Point standards

Certified by a method specific inter-laboratory study using test laboratories that are accredited to ISO 17025. Certified in strict accordance with our ISO 17025 and ISO 17034 accreditations to ASTM D92 and ASTM D93, Procedure A.

Paragon Scientific – Certified Reference Material under UKAS accreditation standards		
Product Number	Product Description	Size (ml)
ALK-CRMU-ABKR	Certified Reference Material Abel Flash point, Jet Aviation Fuel (Nominal value: 40.3 °C)	250ml
ALK-CRMU-ADKR	Certified Reference Material Acidity (Jet), Jet Aviation Fuel (Nominal value: 0.0067 mg KOH/g)	250ml
ALK-CRMU-CFGO	Certified Reference Material Cold Filter Plugging Point, Diesel (Nominal value: -21.7 °C)	250ml
ALK-CRMU-COC-HIGH	Certified Reference Material, Cleveland Open Cup Flash Point (Nominal value: 262.0 °C)	3x80ml
ALK-CRMU-COC-LOW	Certified Reference Material, Cleveland Open Cup Flash Point (Nominal value: 111.0 °C)	3x80ml
ALK-CRMU-COC-MID	Certified Reference Material, Cleveland Open Cup Flash Point (Nominal value: 161.4 °C)	3x80ml
ALK-CRMU-CPGO	Certified Reference Material Cloud Point Standard, Diesel (Nominal value: -7.7 °C)	250ml
ALK-CRMU-DEGA	Certified Reference Material Density Standard, Gasoline (Nominal value 0.72587 g/mL @ 15 °C)	250ml
ALK-CRMU-DEGO	Certified Reference Material Density Standard, Diesel (Nominal value 0.83418 g/mL @ 15 °C)	250ml
ALK-CRMU-DEKR	Certified Reference Material Density Standard, Jet Aviation Fuel (Nominal value 0.79684 g/mL @ 15 °C)	250ml
ALK-CRMU-DELU	Certified Reference Material Density Standard, Lubricant, (Nominal value 0.86709 g/mL @ 15 °C)	250ml
ALK-CRMU-DIGA	Certified Reference Material Distillation Standard, Gasoline (Nominal values from 32.8 to 173.3 °C)	250ml

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Section 12: Single Parameter Certified Reference Materials (CRMs and CRMUs)

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Paragon Scientific – Certified Reference Material under UKAS accreditation standards		
Product Number	Product Description	Size (ml)
ALK-CRMU-DIGO	Certified Reference Material Distillation Standard, Diesel (Nominal values from 160.8 to 355 °C)	250ml
ALK-CRMU-DIKR	Certified Reference Material Distillation Standard, Jet Aviation Fuel (Nominal value: 158.7 to 268.2 °C)	250ml
ALK-CRMU-FCLU	Certified Reference Flash Point Standard – Cleveland, Lubricant (Nominal value: 257.5 °C)	250ml
ALK-CRMU-FIKR	Certified Reference Material FIA Aromatics, Jet Aviation Fuel (Nominal value: 17.17%)	250ml
ALK-CRMU-FRKR	Certified Reference Material Freezing Point, Jet Aviation Fuel (Nominal value: -53.7 °C)	250ml
ALK-CRMU-MPGO	Multi-Parameter Certified Reference Material, Diesel	500ml
ALK-CRMU-MPLU	Multi-Parameter Certified Reference Material, Lubricant	500ml
ALK-CRMU-PMCC-HIGH	Certified Reference Material, Pensky Martens Flash Point (Nominal value: 210.5 °C)	3x80ml
ALK-CRMU-PMCC-LOW	Certified Reference Material, Pensky Martens Flash Point (Nominal value: 76.5 °C)	3x80ml
ALK-CRMU-PMCC-MID	Certified Reference Material, Pensky Martens Flash Point (Nominal value: 135.4 °C)	3x80ml
ALK-CRMU-PMGO	Certified Reference Flash Point Standard Pensky Martens, Diesel (Nominal value: 66.1 °C)	250ml
ALK-CRMU-PMLU	Certified Reference Flash Point Standard - PMCC Procedure B, Lubricant (Nominal value: 190.5 °C)	250ml
ALK-CRMU-PMLUB	Certified Reference Flash Point Standard - PMCC Procedure B, Lubricant (Nominal value: 100.7 °C)	250ml
ALK-CRMU-PPGO	Certified Reference Pour Point Standard, Diesel (Nominal value: -34.0 °C)	250ml
ALK-CRMU-PPLU	Certified Reference Pour Point Standard, Lubricant (Nominal value: -11.2 °C)	250ml
ALK-CRMU-PPLU1	Certified Reference Pour Point Standard, Lubricant (Nominal value: -26.1 °C)	250ml
ALK-CRMU-PPLU2	Certified Reference Pour Point Standard, Lubricant (Nominal value: -38.4 °C)	250ml
ALK-CRMU-SPKR	Certified Reference Smoke Point - Automatic Certified Reference Material, Jet Aviation Fuel (Nominal: 23.76 mm)	250ml
ALK-CRMU-SUKR	Certified Reference Mercaptan Sulphur Standard in Jet Aviation Fuel (approx 7.3 mg/kg)	250ml
ALK-CRMU-TAKR	Certified Reference Material TAG Flash Point, Jet Aviation Fuel (Nominal value: 40.4° C)	250ml

Section 12: Single Parameter Certified Reference Materials (CRMs and CRMUs)

Paragon Scientific – Certified Reference Materials		
Product Number	Product Description	Size (ml)
ALK-CRM-ABKR	Certified Reference Material Abel Flash point, Jet Aviation Fuel (Nominal value: 40.3 °C)	250ml
ALK-CRM-ACGA	Certified Reference Material Aromatics Content, Gasoline (Nominal value: 27.1%)	250ml
ALK-CRM-ADKR	Certified Reference Material Acidity (Jet), Jet Aviation Fuel (Nominal value: 0.0085 mg KOH/g)	250ml
ALK-CRM-APKR	Certified Reference Material Aniline Point, Jet Aviation Fuel (Nominal value: 56.60 °C)	250ml
ALK-CRM-BEGA	Certified Reference Material Benzene Content (Nominal value 0.62% Volume)	250ml
ALK-CRM-CFGO	Certified Reference Material Cold Filter Plugging Point, Diesel (Nominal value: -16.3 °C)	250ml
ALK-CRM-CNGO	Certified Reference Material Cetane Number, Diesel (Nominal value: 52.6)	1l
ALK-CRM-DEGA	Certified Reference Material Density Standard, Gasoline (Nominal value: 0.7429 g/mL @ 15 °C)	250ml
ALK-CRM-DEGO	Certified Reference Material Density Standard, Diesel (Nominal value 0.8375 g/mL @ 15 °C)	250ml
ALK-CRM-DEKR	Certified Reference Material Density Standard, Jet Aviation Fuel (Nominal value 0.8025 g/mL @ 15 °C)	250ml
ALK-CRM-DIGA	Certified Reference Material Distillation Standard, Unleaded Gasoline (Nominal value: 37.4 to 181.3 °C)	250ml
ALK-CRM-DIGO	Certified Reference Material Distillation Standard, Diesel (Nominal values from 172.8 to 364.5 °C)	250ml
ALK-CRM-FAGO	Certified Reference Material Fatty Acid Methyl Ester (FAME) Standard, Diesel (Nominal value 6.5%)	250ml
ALK-CRM-FIKR	Certified Reference Material FIA Aromatics, Jet Aviation Fuel (Nominal value: 20.1% Volume)	250ml
ALK-CRM-OMGA	Certified Reference Material Motor Octane Number, Gasoline (Nominal value: 85.9)	1l
ALK-CRM-ORGA	Certified Reference Material Research Octane Number, Gasoline (Nominal value: 97.2)	1l
ALK-CRM-SUKR	Certified Reference Material Mercaptan Sulphur in Hydrocarbons, Jet Aviation Fuel (Nominal value: 15.2 mg/kg)	250ml
ALK-CRM-TAKR	Certified Reference Flash Point Standard, TAG, Jet Aviation Fuel (Nominal value: 41.4 °C)	250ml
ALK-CRM-VPGA	Certified Reference Material Reid Vapour Pressure Standard, Gasoline (Nominal value: 58.9 kPa)	250ml

Section 12: Single Parameter Certified Reference Materials (CRMs and CRMUs)



Section 13

Conductivity Reference Standards

Here's our range of ISO 17025 & ISO 17034 accredited Conductivity Standards for calibration and verification of various conductivity meters. Conductivity is a physical analysis measuring the capability of a liquid to pass current ($\mu\text{S}/\text{cm}$). Our conductivity standards range from 2 to 500,000 $\mu\text{S}/\text{cm}$. Measurement is done by an in-house method based on ASTM D1125, Standard Test Methods for Electrical Conductivity and Resistivity of Water, however usage is applicable to most conductivity applications.

Conductivity Reference Standards		
Product Number	Product Description	Size (ml)
ALK-COND0002-25-125ML	Conductivity standard, 2 microSiemens/cm at 25 °C, NIST Traceable, ACS	125ml
ALK-COND0005-25-125ML	Conductivity standard, 5 microSiemens/cm at 25 °C, NIST Traceable, ACS	125ml
ALK-COND0010-25-125ML	Conductivity standard, 10 microSiemens/cm at 25 °C, NIST Traceable, ACS	125ml
ALK-COND0100-25-500ML	Conductivity standard, 100 microSiemens/cm at 25 °C, NIST Traceable, ACS	500ml
ALK-COND010K-25-500ML	Conductivity standard, 10,000 microSiemens/cm at 25 °C, NIST Traceable, ACS	500ml
ALK-COND012K-25-500ML	Conductivity standard, 12,880 microSiemens/cm at 25 °C, NIST Traceable, ACS	500ml
ALK-COND0147-25-500ML	Conductivity standard, 147 microSiemens/cm at 25 °C, NIST Traceable, ACS	500ml
ALK-COND0500-25-500ML	Conductivity standard, 500 microSiemens/cm at 25 °C, NIST Traceable, ACS	500ml
ALK-COND1000-25-500ML	Conductivity standard, 1000 microSiemens/cm at 25 °C, NIST Traceable, ACS	500ml
ALK-COND100K-25-500ML	Conductivity standard, 100,000 microSiemens/cm at 25 °C, NIST Traceable, ACS	500ml
ALK-COND1413-25-500ML	Conductivity standard, 1413 microSiemens/cm at 25 °C, NIST Traceable, ACS	500ml
ALK-COND500K-25-500ML	Conductivity standard, 500,000 microSiemens/cm at 25 °C, NIST Traceable, ACS	500ml
VHG-CONDNA100-1L	Conductivity @ 100 $\mu\text{mho}/\text{cm}$ in H ₂ O	1l
VHG-CONDNA1K-1L	Conductivity @ 1000 $\mu\text{mho}/\text{cm}$ in H ₂ O	1l

Section 14

Colour Reference Standards

A wide range of colour standards for the calibration and verification of colour measuring instruments. The current range includes materials accredited under ISO 17025 / ISO 17034, as well as materials certified under the ISO 9001 quality system.

Those supplied under ISO 17025 / ISO 17034 include ASTM Colour Standards (ASTM D1500, ASTM D6045), Gardner Colour Standards (ASTM D1544, ASTM D166) and Saybolt Colour Standards (ASTM D156, ASTM D6045).

Paragon Scientific – Colour Reference Standards – ASTM Method		
Product Number	Product Description	Size (ml)
ALK-ASTM10	ASTM 1, Colour	500ml
ALK-ASTM30	ASTM 3, Colour	500ml
ALK-ASTM50	ASTM 5, Colour	500ml
ALK-ASTM70	ASTM 7, Colour	500ml
ALK-ASTM05	ASTM <0.5, Colour	500ml

Paragon Scientific – Colour Reference Standards – Saybolt Method		
Product Number	Product Description	Size (ml)
ALK-SAYB08	Saybolt +25, Colour	500ml
ALK-SAYB07	Saybolt +12, Colour	500ml
ALK-SAYB06	Saybolt 0, Colour	500ml
ALK-SAYB02	Saybolt -10, Colour	500ml

Section 14: Colour Reference Standards

Paragon Scientific – Colour Reference Standards – Lovibond RYBN Method		
Product Number	Product Description	Size (ml)
ALK-134080.00	Colour Reference Standard Lovibond RYBN Colour 0.8R 2.0Y 0.1N (5¼")	500ml
ALK-134090	Colour Reference Standard Lovibond RYBN Colour 1.4R 4.0Y 0.5N (5¼")	500ml
ALK-134100	Colour Reference Standard Lovibond RYBN Colour 2.0R 7.0Y 0.5N (5¼")	500ml
ALK-134110	Colour Reference Standard Lovibond RYBN Colour 2.1R 11.0Y 0.5N (5¼")	500ml
ALK-134120	Colour Reference Standard Lovibond RYBN Colour 2.5R 14.0Y 0.7N (5¼")	500ml
ALK-134130.00	Colour Reference Standard Lovibond RYBN Colour 3.1R 22.0Y 0.85N (5¼")	500ml
ALK-134230	Colour Reference Standard Lovibond RYBN Colour 3.4R 30.0Y 0.9N (5¼")	500ml

Paragon Scientific – Colour Reference Standards – Pt-Co/Hazen/APHA		
Product Number	Product Description	Size (ml)
ALK-133991	Colour Reference Standard Pt-Co/Hazen/APHA Colour, Nominal Certified Value 0	500ml
ALK-134140	Colour Reference Standard Pt-Co/Hazen/APHA Colour, Nominal Certified Value 5	500ml
ALK-134150	Colour Reference Standard Pt-Co/Hazen/APHA Colour, Nominal Certified Value 10	500ml
ALK-134160	Colour Reference Standard Pt-Co/Hazen/APHA Colour, Nominal Certified Value 15	500ml
ALK-134170	Colour Reference Standard Pt-Co/Hazen/APHA Colour, Nominal Certified Value 30	500ml
ALK-134180	Colour Reference Standard Pt-Co/Hazen/APHA Colour, Nominal Certified Value 50	500ml
ALK-134190	Colour Reference Standard Pt-Co/Hazen/APHA Colour, Nominal Certified Value 100	500ml
ALK-462803	Colour Reference Standard Pt-Co/Hazen/APHA Colour, Nominal Certified Value 500	500ml

Section 14: Colour Reference Standards

Paragon Scientific – Colour Reference Standards – Gardner Method

Product Number	Product Description	Size (ml)
ALK-GARD02	Gardner Value 2, Colour	500ml
ALK-GARD05	Gardner Value 5, Colour	500ml
ALK-GARD08	Gardner Value 8, Colour	500ml

Paragon Scientific – Colour Reference Standards – AOCS-Tintometer Method

Product Number	Product Description	Size (ml)
ALK-134240	Colour Reference Standard AOCS-Tintometer Colour 0.4R 2.0Y (5¼")	500ml
ALK-134250	Colour Reference Standard AOCS-Tintometer Colour 1.6R 9.0Y (5¼")	500ml
ALK-134260	Colour Reference Standard AOCS-Tintometer Colour 1.9R 12Y (5¼")	500ml
ALK-134270	Colour Reference Standard AOCS-Tintometer Colour 2.5R 20Y (5¼")	500ml
ALK-134280.00	Colour Reference Standard AOCS-Tintometer Colour 3.0R 28Y (5¼")	500ml



Section 15

Simulated Distillation Reference Standards

Our Simulated Distillation standards for use with ASTM D3552 and D7169.

These are standard test methods for boiling point distribution of petroleum samples by gas chromatography. Our Simulated distillation standards must pass rigorous quality control in our ISO/IEC 17025-certified laboratory.

VHG – Simulated Distillation Reference Standards

Product Number	Product Description	Size (ml)
VHG-POLYW-1000-1ML	Simulated Distillation Reference Material for C5-C120, 1mL	1ml

Section 16

Red Eye in Diesel Reference Standards

ASTM D6258 Red Dye #26 Standards for determination of Solvent Red 164 Dye Concentration in Diesel Fuels to ensure your diesel fuel dye testing accuracy. Many commercially available reagents specified in ASTM D6258 have a significant problem with impurities. This can cause testing labs and final data end users unintended issues, up to and including serious penalties if their diesel fuel is found out of compliance. Our VHG is proud to solve these challenges with our accurate and thoroughly characterized dye testing standard for use with ASTM D6258. The calibration and control standards are produced from a highly characterized, certified dye, delivering consistent lot-to-lot performance for each calibration standard with excellent correlation statistics. The product is created using our stringent manufacturing processes, which are accredited to ISO 17034 and certified to ISO 9001 and was prepared to the certified concentrations shown on the reverse side by gravimetric methods in accordance to ASTM D6258. Each lot of the product passes rigorous Quality Control by UV-VIS in our laboratory accredited to ISO/IEC 17025.

VHG – Red Dye in Diesel Reference Standards

Product Number	Product Description	Size (ml)
VHG-DSLRED26-QC-100	Red Dye #26 QC Check 10 mg/L	100ml
VHG-DSLREDDYE-KIT-6X100	Red Dye #26 Calibration Kit: 0, 3, 6, 9, 12, 15 mg/L 6x100 mL	6x100ml

Section 17

Soot in Diesel Reference Standards

Performing regular diesel soot check scan help you save time and money by limiting waste from unnecessary oil changes, while protecting and extending the life of your diesel engines. LGC Industrial provides standards you can rely on for use in accordance with ASTM Methods D5967, D7686, and D7844. Our Soot Content Standards help streamline your lab operations by eliminating in-house soot standard preparation while strengthening the integrity of your testing results. We prepare these standards to the certified concentrations shown by Thermal Gravimetric Analysis (TGA) according to ASTM D5967, Appendix A4. Each lot of the product passes rigorous Quality Control by TGA. Each product is shipped with a comprehensive Certificate of Analysis (CoA). We ensures the accuracy of this standard for 24 months from the certification date.

VHG – Soot in Diesel Reference Standards		
Product Number	Product Description	Size (ml)
VHG-SOOT-A-50	0.5-2 wt% Soot in Diesel Engine Oil	50mL
VHG-SOOT-B-50	2-4 wt% Soot in Diesel Engine Oil	50mL
VHG-SOOT-BLK-50	0 wt% Soot in Diesel Engine Oil	50mL
VHG-SOOT-C-50	4-6 wt% Soot in Diesel Engine Oil	50mL
VHG-SOOT-D-50	6-9 wt% Soot in Diesel Engine Oil	50mL
VHG-SOOT-E-50	9-12 wt% Soot in Diesel Engine Oil	50mL
VHG-SOOT-SET	Soot Content Standard Set (contains one of each of the following: SOOT-BLK, SOOT-A, SOOT-B, SOOT-C, SOOT-D, SOOT-E)	6x50mL



Section 18: Moisture Content Reference Standards

Section 18

Moisture Content Reference Standards

Our Moisture Content Standards are intended for use as a certified reference material in the determination of water in motor oil by Karl Fischer Crackle Test or Karl Fischer Titration.

Crackle Test Reference Standards

These standards are intended for use in the detection of water in motor oil by crackle test. It must be well shaken prior to use. This standard is NOT intended for use with Karl Fischer titration methods. Our standards are manufactured and certified under a quality control system that is accredited to both ISO 9001 and ISO/IEC 17025. This standard was prepared to the nominal concentration using gravimetric methods. Tools: The balances used in the preparation of VHG standards are calibrated regularly with traceability to NIST.

Titration Reference Standards

Our Karl Fischer titration standards are intended for use in accordance with ASTM Method D6304. These CRMs were manufactured and certified under a quality management system that is accredited to ISO 9001, ISO 17034 and ISO/IEC 17025. This CRM was prepared to the nominal water concentration of 0.5% (w/w) using gravimetric methods. The balances used in the preparation of our CRMs are calibrated regularly with traceability to NIST. The certified concentration was determined by using coulometric Karl Fischer titration, in accordance with ASTM D6304 Procedure C, and employing a water evaporator accessory.

VHG – Crackle Test Reference Standards

Product Number	Product Description	Size (ml)
VHG-CTR-0.1P-100	Crackle Test Reference Standard: 0.1 wt% H ₂ O in 10W30 Motor Oil	100ml
VHG-CTR-0.5P-100	Crackle Test Reference Standard: 0.5 wt% H ₂ O in 10W30 Motor Oil	100ml
VHG-CTR-1.0P-100	Crackle Test Reference Standard: 1.0 wt% H ₂ O in 10W30 Motor Oil	100ml
VHG-CTR-BLK-100	Crackle Test Reference Standard: 0 wt% H ₂ O in 10W30 Motor Oil	100ml

VHG – Titration Reference Standards

Product Number	Product Description	Size (ml)
VHG-KF-0.05P-100	Karl Fischer Standard: 0.05 wt% H ₂ O in 10W30 Motor Oil	100ml
VHG-KF-0.1P-100	Karl Fischer Standard: 0.1 wt% H ₂ O in 10W30 Motor Oil	100ml
VHG-KF-0.5P-100	Karl Fischer Standard: 0.5 wt% H ₂ O in 10W30 Motor Oil	100ml
VHG-KF-1.0P-100	Karl Fischer Standard: 1.0 wt% H ₂ O in 10W30 Motor Oil	100ml

Section 19

Particle Count Reference Standards

Parti-Count Particle Count Standards for predictive engine failure analysis. Analysis of particles in fluids may be the most important way to monitor the condition of your engines. Once wear begins, the rate of wear usually increases rapidly, and studying trends in your particle count data can yield surprising dividends. VHG Parti-Count Particle Count Standards, compliant with ISO 11171 and traceable to NIST SRM 2806b, are cost-effective calibration standards for the verification of automatic particle counters. Parti-Count is created using our stringent manufacturing processes, which are accredited to ISO 17034 and certified to ISO 9001. This solution contains ISO Medium Test Dust (MTD) sourced directly from NIST RM 8631a for use with Automatic Particle Counters (APC) calibrated to ISO 11171. Each lot of Parti-Count passes rigorous Quality Control by Automatic Particle Counter (APC) in our laboratory accredited to ISO/IEC 17025.

VHG – Particle Count Reference Standards – Parti-Count™ Particle Count Verification Fluid		
Product Number	Product Description	Size (ml)
VHG-PCMTD-5-125	Parti-Count™ Particle Count Verification Fluid: 5 mg/L ISO MTD. 4, 6, 10, 14, 18, 21, 38, 50, and 70µm channels reported	125ml
VHG-PCMTD-5-500	Parti-Count™ Particle Count Verification Fluid: 5 mg/L ISO MTD. 4, 6, 10, 14, 18, 21, 38, 50, and 70µm channels reported	500ml



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