

Viscosity Standards

General Purpose

The same product reliability and stability that our customers trust in metallo-organic standards are available in General Purpose Viscosity standards. These certified, mineral oil based, viscosity standards were developed for calibration and verification of many types of viscometers, including glass capillary viscometers.

All standards are traceable to National Standards in accordance to ASTM & IP methods.

The determination of kinematic and dynamic viscosity are made in accordance with ASTM D 445/446 and ISO 3104/3105, ISO 17034 and are traceable to the NIST (National Institute of Standards and Technology).

All calibrations are based on a master viscometer procedure located in ASTM D 2162 and the National Institute of Standards and Technology (NIST) value of 1.0016 mPa.s (centipoise) for water at 20 °C (68 °F). Custom standards are available. Please contact us for more information.





Volume					
Viscosity Standards	125 ml	500 ml	1 Litre	4 Litre	20 Litre
S3	150-600-351	150-600-352	150-600-353	150-600-354	150-600-355
S6	150-600-141	150-600-142	150-600-143	150-600-144	150-600-145
N4	150-600-441	150-600-442	150-600-443	150-600-444	150-600-445
N10	150-600-181	150-600-182	150-600-183	150-600-184	150-600-185
N14	150-600-211	150-600-212	150-600-213		
S20	150-600-221	150-600-222	150-600-223	150-600-224	150-600-225
N35	150-600-261	150-600-262	150-600-263	150-600-264	150-600-265
N44	150-600-461	150-600-462	150-600-463	150-600-464	150-600-465
S60	150-600-301	150-600-302	150-600-303	150-600-304	150-600-305
N100	150-600-341	150-600-342	150-600-343	150-600-344	150-600-345
S200	150-600-231	150-600-232	150-600-233	150-600-234	150-600-235
N350	150-600-361	150-600-362	150-600-363	150-600-364	150-600-365
N415	150-600-471	150-600-472	150-600-473	150-600-474	150-600-475
S600	150-600-241	150-600-242	150-600-243	150-600-244	150-600-245
N1000	150-600-371	150-600-372	150-600-373	150-600-374	150-600-375
S2000	150-600-381	150-600-382	150-600-383	150-600-384	150-600-385
N4000	150-600-391	150-600-392	150-600-393	150-600-394	150-600-395
S8000	150-600-401	150-600-402	150-600-403	150-600-404	150-600-405
N15000	150-600-411	150-600-412	150-600-413	150-600-414	150-600-415
S30000	150-600-421	150-600-422	150-600-423	150-600-424	150-600-425



Typical Specifications for Viscosity Standards

Kinematic Viscosity in mm ² /s (Centistokes)										Saybolt Viscosity
	20 °C/ 68 °F	25 °C/ 77 °F	37.78 °C/ 100 °F	40 °C/ 104 °F	50 °C/ 122 °F	60 °C/ 140 °F	80 °C/ 176 °F	98.89 °C/ 210 °F	100 °C/ 212 °F	37 °C/ 100 °F
S3	4.5	4.0	3.0	2.8	2.4	2.0	1.5	1.2	1.2	
S6	10	8.8	6.0	5.7	4.5	3.6	2.5	1.9	1.9	
N4	6.7	5.8	4.2	4.0	3.2	2.6	1.9	1.5	1.4	
N10	21	17	11	10	7.5	5.8	3.7	2.7	2.6	
N14				14	10				3	
S20	46	35	20	18	13	9.0	5.6	3.6	3.5	87
N35	90	67	36	32	21	15	8.4	5.4	5.3	167
N44	110	86	48	44	30	21	12	7.6	7.4	220
S60	160	119	60	54	35	26	12	7.7	7.5	281
N100	318	228	110	97	60	39	20	11	11	509
S200	715	487	206	180	103	64	30	17	16	954
N350	1400	940	370	330	180	110	46	24	23	1730
N415	1900	1200	480	410	220	130	55	29	28	2200
S600	2400	1600	600	520	280	160	66	34	32	
N1000	5100	3300	1200	1000	520	290	110	52	50	
S2000	8200	5200	1900	1600	780	400	150	70	68	
N4000	18000	11000	3900	3300	1600	840	280	123	117	
S8000	37000	23000	7900	6700	3200	1600	520	210	200	
N15000	64000	40000	13000	11000	5300	2700	850	340	320	
S30000		80000	28000	23000	11000	5800	1700	670	640	



Typical Specifications for Viscosity Standards

Dynamic Viscosity in mPa.S (Centipoise)										Saybolt Viscosity
	20 °C/ 68 °F	25 °C/ 77 °F	37.78 °C/ 100 °F	40 °C/ 104 °F	50 °C/ 122 °F	60 °C/ 140 °F	80 °C/ 176 °F	98.89 °C/ 210 °F	100 °C/ 212 °F	37 °C/ 100 °F
S3	3.7	3.3	2.4	2.3	1.9	1.6	1.2	0.9	0.9	
S6	8.7	7.3	5.0	4.7	3.6	2.9	2.0	1.5	1.4	
N4	5.6	4.8	3.4	3.2	2.6	2.1	1.5	1.1	1.1	
N10	18	14	9.0	8.4	6.2	4.7	3.0	2.1	2.1	
N14				12	8.6				2.5	
S20	40	30	17	15	11	7.6	4.7	2.9	2.9	87
N35	78	59	31	28	18	13	7.0	4.4	4.3	167
N44	91	71	39	36	24	17	9.4	6.0	5.8	220
S60	138	102	52	46	30	22	9.9	6.3	6.1	281
N100	276	197	94	83	51	33	16	9.4	9.1	509
S200	613	416	174	152	87	54	24	15	13	954
N350	1200	810	320	280	150	92	38	20	19	1730
N415	1600	1100	410	350	190	110	45	23	23	2200
S600	2100	1400	510	440	240	140	55	28	26	
N1000	4400	2800	1000	940	440	240	92	43	41	
S2000	7200	4500	1600	1400	670	340	130	58	56	
N4000	16000	9700	3400	2900	1400	720	240	100	98	
S8000	33000	20000	6900	5900	2800	1400	440	180	170	
N15000	57000	36000	11000	9700	4700	2400	730	290	270	
S30000		72000	25000	20000	9700	5100	1500	570	550	



Typical Specifications for Viscosity Standards

Density in g/ml in accordance with ASTM D7042									
	20 °C/ 68 °F	25 °C/ 77 °F	37.78 °C/ 100 °F	40 °C/ 104 °F	50 °C/ 122 °F	60 °C/ 140 °F	80 °C/ 176 °F	98.89 °C/ 210 °F	100 °C/ 212 °F
S3	0.833	0.830	0.821	0.820	0.813	0.806	0.792	0.779	0.778
S6	0.831	0.828	0.819	0.818	0.811	0.805	0.791	0.779	0.778
N4	0.834	0.831	0.822	0.820	0.814	0.807	0.793	0.780	0.780
N10	0.842	0.839	0.831	0.829	0.823	0.816	0.804	0.791	0.791
N14				0.853	0.847				0.814
S20	0.871	0.868	0.860	0.859	0.852	0.846	0.833	0.821	0.820
N35	0.872	0.869	0.861	0.860	0.853	0.847	0.834	0.823	0.822
N44	0.828	0.825	0.817	0.816	0.809	0.803	0.791	0.779	0.779
S60	0.863	0.860	0.852	0.851	0.845	0.839	0.826	0.815	0.814
N100	0.867	0.864	0.857	0.855	0.849	0.843	0.831	0.820	0.819
S200	0.858	0.855	0.847	0.846	0.840	0.834	0.822	0.910	0.810
N350	0.863	0.860	0.852	0.851	0.845	0.839	0.827	0.816	0.815
N415	0.865	0.862	0.854	0.853	0.847	0.841	0.830	0.819	0.818
S600	0.866	0.864	0.856	0.855	0.849	0.843	0.832	0.820	0.820
N1000	0.872	0.869	0.862	0.860	0.855	0.849	0.837	0.826	0.826
S2000	0.876	0.873	0.865	0.864	0.858	0.853	0.841	0.831	0.830
N4000	0.882	0.879	0.872	0.871	0.865	0.860	0.849	0.838	0.838
S8000	0.888	0.885	0.878	0.877	0.872	0.866	0.855	0.845	0.845
N15000	0.893	0.891	0.884	0.883	0.877	0.872	0.861	0.851	0.851
S30000		0.896	0.889	0.888	0.883	0.877	0.867	0.857	0.857

TAN & TBN Standards

Suitable for ASTM D664 & ASTM D2896

Conostan total acid number (TAN) and total base number (TBN) standards provide coverage over an extensive range of mg KOH/g concentrations to ensure you always have the right standard available for your application. When compared to alternative available products in the market, the titration curves for the Conostan family of TAN/TBN standards consistently have more dramatic inflection points and wider differences between the starting pH and final pH during the titration making data easier to interpret and improving reproducibility.



- ▶ Prominent, easy to determine titration inflection point, even at low concentrations
- ▶ Quick equilibration of the potential resulting in faster titrations
- ▶ Excellent repeatability and reproducibility for ASTM D664 & ASTM D2896

Total acid number and total base number are important measurements in petroleum products. Achieve the most accurate calibration of your titrator and higher precision when performing test methods with Conostan TAN and TBN standards.

TAN

Concentration	Size	Part Number
0.05 mg KOH/g	75 g	150-800-005
0.1 mg KOH/g	75 g	150-800-011
0.5 mg KOH/g	75 g	150-800-051
1.0 mg KOH/g	75 g	150-800-101
1.5 mg KOH/g	75 g	150-800-151
2.0 mg KOH/g	75 g	150-800-205
2.5 mg KOH/g	75 g	150-800-255
3.0 mg KOH/g	75 g	150-800-305
4.5 mg KOH/g	75 g	150-800-455
6.0 mg KOH/g	75 g	150-800-475
8.0 mg KOH/g	75 g	150-800-485

Available in 200 g size

TBN

Concentration	Size	Part Number
1.0 mg KOH/g	75 g	150-801-011
3.0 mg KOH/g	75 g	150-801-031
6.0 mg KOH/g	75 g	150-801-065
10.0 mg KOH/g	75 g	150-801-105
15.0 mg KOH/g	75 g	150-801-155
30.0 mg KOH/g	75 g	150-801-305
40.0 mg KOH/g	75 g	150-801-405
70.0 mg KOH/g	75 g	150-801-705

Available in 200 g size

Sulfur in Oil Standards

For use with XRF or UVF

Conostan sulfur in oil certified reference materials (CRMs) are ideal for use as calibration standards during the analysis of fuels and other petroleum products for sulfur content.

Sulfur level is regulated in many fuel oils and directly related to fuel quality. ASTM, ISO, EPA, and other industry standards for the determination of sulfur concentration in petroleum fuels require the use of calibration standards to ensure accuracy and reproducibility of results.

The Conostan sulfur in oil product family includes an extensive range of matrices and concentrations to support matrix-matching and compliance with industry methods.

Key Features

- ▶ Ready-to-use concentrations ranging from 0.5 to 60,000 ppm of Sulfur
- ▶ Available matrices include Mineral Oil, Diesel, Residual Oil, Isooctane, Biodiesel, Xylene, Ethanol, Crude Oil and PremiSolv
- ▶ Aligned with requirements of standard methods

Conostan sulfur in oil CRMs provide the accuracy and precision you need when testing according to ASTM D2622, D4294, D5453 or other common methods. Whether you are testing for regulatory reporting or process optimization, rely on our broad range of calibration standards to achieve the highest possible integrity in your sulfur analysis data.





	Sulfur in Mineral Oil, 100 g	Sulfur in Diesel Fuel, 100 g	Sulfur in Crude Oil, 100 mL
Concentration (ppm)	Part Number	Part Number	Part Number
Blank	150-400-025	150-410-012	-
50	150-400-018	150-410-009	-
100	150-400-002	150-410-002	-
250	150-400-010	-	-
500	150-400-019	150-410-010	150-450-100
750	150-400-023	150-410-018	-
1,000	150-400-003	150-410-003	150-450-105
2,500	150-400-011	-	150-450-110
5,000	150-400-020	150-410-011	150-450-115
7,500	150-400-024	150-410-021	-
10,000	150-400-004	150-410-004	150-450-125
15,000	150-400-005	150-410-006	-
20,000	150-400-008	150-410-007	150-450-130
25,000	150-400-012	-	-
30,000	150-400-014	150-410-022	150-450-135
40,000	150-400-016	150-410-023	150-450-140
50,000	150-400-021	150-410-024	150-450-145

Additional concentrations available



	Sulfur in Residual Oil, 50 mL	Sulfur in Residual Oil, 100 mL
Concentration (ppm)	Part Number	Part Number
2,500	150-420-100	150-420-005
5,000	150-420-110	150-420-015
7,500	150-420-120	150-420-020
10,000	150-420-125	150-420-025
15,000	150-420-130	150-420-030
20,000	150-420-135	150-420-035
25,000	150-420-140	150-420-040
30,000	150-420-145	150-420-045
40,000	150-420-155	150-420-055
50,000	150-420-160	150-420-060

Additional concentrations available

	Sulfur in Isooctane, 60 mL
Concentration (ppm)	Part Number
Blank	150-430-101
50	150-430-102
100	150-430-103
250	150-430-104
500	150-430-105
750	150-430-106
1,000	150-430-107

Additional concentrations available





	Sulfur in 80% Isooctane /20% Toluene		Sulfur in 75% Isooctane /25% Toluene		Sulfur in 70% Isooctane /30% Toluene	
Concentration (ppm)	100 mL	400 mL	100 mL	400 mL	100 mL	400 mL
Blank	150-431-010	150-431-036	150-432-001	150-432-019	150-433-001	150-433-019
5	150-431-011	150-431-028	150-432-002	150-432-020	150-433-002	150-433-020
10	150-431-012	150-431-029	150-432-003	150-432-021	150-433-003	150-433-021
15	150-431-013	150-431-030	150-432-004	150-432-022	150-433-004	150-433-022
20	150-431-014	150-431-031	150-432-005	150-432-023	150-433-005	150-433-023
25	150-431-015	150-431-032	150-432-006	150-432-024	150-433-006	150-433-024
50	150-431-016	150-431-033	150-432-007	150-432-025	150-433-007	150-433-025
75	150-431-017	150-431-034	150-432-008	150-432-026	150-433-008	150-433-026
100	150-431-018	150-431-035	150-432-009	150-432-027	150-433-009	150-433-027

Additional concentrations available

Sulfur in Isooctane Calibration Sets

	Sulfur in Isooctane	
Concentration (ppm)	Set	Part Number
Blank, 0.5, 1, 2.5, 5, 7.5, 10	7 X 10 mL	150-430-010
Blank, 5, 10, 25, 50, 100, 250	7 X 10 mL	150-430-020
Blank, 50, 100, 250, 500, 750, 1000	7 X 10 mL	150-430-030
Blank, 50, 100, 250, 500, 750, 1000	7 X 60 mL	150-430-100

Metallo-Organic Standards

Single-element, S-Series and AM Specials

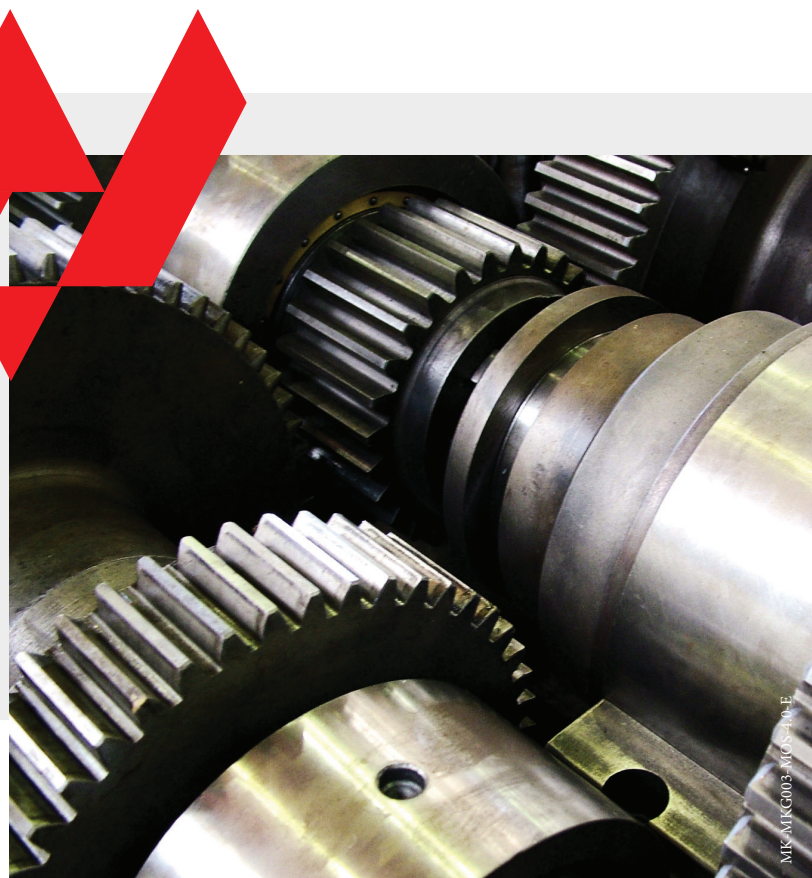
Conostan Metallo-Organic certified reference materials were designed for use with ICP, Rotrode, XRF, and other instruments during the determination of trace metals in organic materials.

Conostan Metallo-Organic standards deliver the consistent composition and performance you need for essential calibration standards, QC checks or internal standards. To simplify sample preparation, single element standards are available light mineral oil (20 cSt), which makes them suitable for direct ICP injection. Multi-element standards are available in heavy mineral oil (75 cSt) for enhanced stability. Providing convenience and ease-of-use, this

product family also includes pre-configured element blends, aligned with industry applications. These multi-element standards are available at a range of concentrations to eliminate the risk of dilution errors.

Key Features

- ▶ 41 elements available as single-element or multi-element blends
- ▶ One year shelf life from the date of shipment
- ▶ Custom products available to meet your unique application requirements



Conostan Metallo-Organics standards are a leading brand of elements in oil matrix CRMs and are trusted by industry leaders and government agencies worldwide. Contact us today to learn more.

Single-element standards

Size: 50g, Blended in 20 cSt blank oil

Element	1000 ppm	5000 ppm
Ag	150-100-475	150-500-475
As	150-100-335	---
Al	150-100-135	150-500-135
B	150-100-055	150-500-055
Ba	150-100-565	150-500-565
Be	150-100-045	150-500-045
Bi	150-100-835	150-500-835
Ca	150-100-205	150-500-205
Cd	150-100-485	150-500-485
Ce	150-100-585	150-500-585
Co	150-100-275	150-500-275
Cr	150-100-245	150-500-245
Cu	150-100-295	150-500-295
Fe	150-100-265	150-500-265
In	150-100-495	150-500-495
K	150-100-195	150-500-195
La	150-100-575	150-500-575

Element	2000 ppm
Sc	150-500-215

Element	1000 ppm	5000 ppm
Li	150-100-035	150-500-035
Mg	150-100-125	150-500-125
Mn	150-100-255	150-500-255
Mo	150-100-425	150-500-425
Na	150-100-115	150-500-115
Ni	150-100-285	150-500-285
P	150-100-155	150-500-155
Pb	150-100-825	150-500-825
Sb	150-100-515	150-500-515
Si	150-100-145	150-500-145
Sn	150-100-505	150-500-505
Sr	150-100-385	150-500-385
Ti	150-100-225	150-500-225
V	150-100-235	150-500-235
W	150-100-745	150-500-745
Y	150-100-395	150-500-395
Zn	150-100-305	150-500-305

Size: 100g, Blended in 75 cSt blank oil

Element	100 ppm
As	150-101-331
Hg	150-101-801
Se	150-101-341

Yttrium blended in 75 cSt blank oil

Size	1000 ppm	5000 ppm
50 g	150-102-395	150-503-395
100 g	150-102-391	150-503-391
200 g	150-102-392	150-503-392
400 g	150-102-393	150-503-393

Multi-element standards

S-Series blended in 75 cSt blank oil

	S-12 Standards Ag, Al, Cr, Cu, Fe, Mg, Na, Ni, Pb, Si, Sn, Ti	S-21 Standards Ag, Al, B, Ba, Ca, Cd, Cr, Cu, Fe, Mg, Mn, Mo, Na, Ni, P, Pb, Si, Sn, Ti, V, Zn		S-26 Standards Ag, Al, B, Ba, Bi, Ca, Cd, Cr, Cu, Fe, In, Li, K, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Si, Sn, Ti, V, Zn		
Nominal ppm	100 g	100 g	200 g	100 g	200 g	400 g
10	150-012-001	150-021-002	150-021-018			
30	150-012-004	150-021-008	150-021-027	150-026-001	150-026-010	150-026-020
50	150-012-006	150-021-010	150-021-030	150-026-002	150-026-011	150-026-021
100	150-012-002	150-021-003	150-021-019	150-026-003	150-026-012	150-026-022
300	150-012-005	150-021-009	150-021-028			
500	150-012-007	150-021-011	150-021-031	150-026-004	150-026-013	150-026-023
900	150-012-008	150-021-015	150-021-035			

Additional sizes and concentrations available.

S-21 blended in 20 cSt blank oil

ppm	100g	200g
5	150-121-001	150-121-020
10	150-121-002	150-121-021
25	150-121-003	150-121-022
3	150-121-004	150-121-023
50	150-121-005	150-121-024

ppm	100g	200g
100	150-121-006	150-121-025
200	150-121-007	150-121-026
300	150-121-008	150-121-027
500	150-121-009	150-121-028
900	150-121-010	150-121-029

AM Special Standards, Ba, Ca, Mg, P, Zn

ppm	100 g	200 g	400 g
900	150-250-014	150-250-027	150-250-004
1000	150-250-006	150-250-016	150-250-001

Additional Multi-element Standards.

Ca, K, Mg, Na, P blended in 75cSt blank oil

ppm	100 g	200g	400g
2.5	150-253-001	150-253-002	150-253-003
5	150-253-011	150-253-012	150-253-013
10	150-253-021	150-253-022	150-253-023
100	150-253-031	150-253-032	150-253-033
200	150-253-041	150-253-042	150-253-043
500	150-253-051	150-253-052	150-253-053
1000	150-253-101	150-253-102	150-253-103
5000	150-253-501	150-253-502	150-253-503



PremiSolv

ICP Solvent

PremiSolv ICP solvent is ideal for diluting oil and organic liquid samples for analysis by ICP-AES, RDE-AES or UVF.

Analyzed by ICP for any trace presence of sulfur and 40 metals, PremiSolv ICP solvent delivers the reliable performance you need. In addition, PremiSolv ICP solvent is extremely low in toxicity and odor compared to alternative industrial solvents such as kerosene, increasing lab safety.

PremiSolv ICP solvent provides unparalleled overall solution stability and convenience as a result of:

- ▶ proven oil-based fluid and hydrocarbon solubility
- ▶ robust micro-filtration of every lot, ensuring cleanliness
- ▶ convenient pack sizes and easy-to-use containers
- ▶ simple shipping due to non-hazardous classification

Whether you are performing standard methods such as ASTM D5185 or D6595, or preparing routine calibration standards, PremiSolv meets your total requirements.



Description	Size	Part number
PremiSolv	5 Gallons (18.9 L)	150-700-002
PremiSolv	1 Gallon (3.78 L)	150-700-003

Additional sizes available