Designation: D2161 – 17

Standard Practice for Conversion of Kinematic Viscosity to Saybolt Universal Viscosity or to Saybolt Furol Viscosity[1]

This standard is issued under the fixed designation D2161; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

This standard has been approved for use by agencies of the U.S. Department of Defense.

1. Scope*

1.1 This practice[2] covers the conversion tables and equations for converting kinematic viscosity in mm^2/s at any temperature to Saybolt Universal viscosity in Saybolt Universal seconds (SUS) at the same temperature and for converting kinematic viscosity in mm^2/s at 122 °F and 210 °F (50 °C and 98.9 °C) to Saybolt Furol viscosity in Saybolt Furol seconds (SFS) at the same temperatures. Kinematic viscosity values are based on water being 1.0034 mm^2/s (cSt) at 68 °F (20 °C).

NOTE 1—A fundamental and preferred method for measuring kinematic viscosity is by use of kinematic viscometers as outlined in Test Method D445. Kinematic viscosity results from Test Method D7042 may be used provided they are bias-corrected by the application of the correction described in Test Method D7042 for the specific sample type. In case of dispute, Test Method D445 shall be the referee method. It is recommended that kinematic viscosity be reported in millimetres squared per second, instead of Saybolt Universal Seconds (SUS) or Saybolt Furol Seconds (SFS). This method is being retained for the purpose of calculation of kinematic viscosities from SUS and SFS data that appear in past literature. One millimetre squared per second (mm^2/s) equals one centistoke (cSt), which is another unit commonly found in older literature.

1.2 The values stated in SI units are to be regarded as the standard. The values given in parentheses are provided for reference information purposes only. The SI unit of kinematic viscosity is mm^2/s.

1.2.1 *Exception*—Fahrenheit temperature units are used in this practice because they are accepted by industry for the type of legacy conversions described in this practice.

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

1.4 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 *ASTM Standards:*[3]

D445 Test Method for Kinematic Viscosity of Transparent and Opaque Liquids (and Calculation of Dynamic Viscosity)

D2270 Practice for Calculating Viscosity Index from Kinematic Viscosity at 40 °C and 100 °C

D7042 Test Method for Dynamic Viscosity and Density of Liquids by Stabinger Viscometer (and the Calculation of Kinematic Viscosity)

2.2 *ASTM Adjunct:*[4]

ADJD2161 Viscosity Extrapolation Tables to Zero Degrees Fahrenheit (SSU)

3. Summary of Practice

3.1 The Saybolt Universal viscosity equivalent to a given kinematic viscosity varies with the temperature at which the determination is made. The basic conversion values are those given in Table 1 for 100 °F. The Saybolt Universal viscosity equivalent to a given kinematic viscosity at any temperature may be calculated as described in 4.3. Equivalent values at 210 °F are given in Table 1 for convenience.

3.2 The Saybolt Furol viscosity equivalents are tabulated in Table 3 for temperatures of 122 °F and 210 °F only.

3.3 Examples for using the tables are given in Appendix X1.

[1] This practice is under the jurisdiction of ASTM Committee D02 on Petroleum Products, Liquid Fuels, and Lubricants and is the direct responsibility of Subcommittee D02.07 on Flow Properties.

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[2] This practice, together with Practice D2270, replaces Compilation of ASTM Viscosity Tables for Kinematic Viscosity Conversions.

[3] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

[4] Available from ASTM International Headquarters. Order Adjunct No. ADJD2161. Original adjunct produced in 1998.

*A Summary of Changes section appears at the end of this standard

4. Significance and Use

4.1 At one time the petroleum industry relied on measuring kinematic viscosity by means of the Saybolt viscometer, and expressing kinematic viscosity in units of Saybolt Universal Seconds (SUS) and Saybolt Furol Seconds (SFS). This practice is now obsolete in the petroleum industry.

4.2 This practice establishes the official equations relating SUS and SFS to the SI kinematic viscosity units, mm^2/s.

4.3 This practice allows for the conversion between SUS and SFS units and SI units of kinematic viscosity.

5. Procedure for Conversion to Saybolt Universal Viscosity

5.1 Convert kinematic viscosities between 1.81 mm^2/s and 500 mm^2/s (cSt) at 100 °F, and between 1.77 mm^2/s and 139.8 mm^2/s (cSt) at 210 °F, to equivalent Saybolt Universal seconds directly from Table 1 (see Appendix X1, Example 1).

NOTE 2—Obtain viscosities not listed, but which are within the range given in Table 1, by linear interpolation (see Appendix X1, Example 2).

5.2 Convert kinematic viscosities greater than the upper limits of Table 1 at temperatures of 100 °F and 210 °F to Saybolt Universal viscosities as follows (see Appendix X1, Example 3):

$$\text{Saybolt Universal seconds} = \text{centistokes} \times B \quad (1)$$

where $B = 4.632$ at 100 °F or 4.664 at 210 °F.

5.3 At temperatures other than 100 °F or 210 °F, convert kinematic viscosities to Saybolt Universal viscosities as follows[4] (see Appendix X1, Example 4):

$$U_t = U_{100°F}(1 + 0.000061(t - 100)) \quad (2)$$

where:

U_t = Saybolt Universal viscosity at t°F, and
$U_{100°F}$ = Saybolt Universal viscosity at 100°F in Saybolt Universal seconds equivalent to kinematic viscosity in centistokes at t°F, from Table 1.

NOTE 3—The multipliers for Saybolt Universal seconds in Eq 2 are given as Factor A in Table 2 for a range of temperatures.

5.4 Since the relationship between Saybolt and kinematic viscosities is linear above 75 mm^2/s (cSt), kinematic viscosities above this limit may be converted to Saybolt Universal viscosities at any temperature between 0 °F and 350 °F by use of Eq 1 (4.2), selecting the proper factor for B from Table 2 (see Appendix X1, Example 5).

6. Procedure for Conversion to Saybolt Furol Viscosity

6.1 Convert kinematic viscosities between 48 mm^2/s to 1300 mm^2/s (cSt) at 122 °F, and between 50 mm^2/s and 1300 mm^2/s (cSt) at 210 °F, to equivalent Saybolt Furol seconds directly from Table 3 (see Appendix X1, Examples 6 and 7).

NOTE 4—Viscosities not listed, but which are within the range given in Table 3, may be obtained by linear interpolation (see Appendix X1, Example 8).

6.2 Convert kinematic viscosities above 1300 cSt to equivalent Saybolt Furol seconds by use of the following equations (see Appendix X1, Example 9):

$$\text{Saybolt Furol seconds at 122°F} = 0.4717 \times \text{mm}^2/\text{s (cSt) at 122°F} \quad (3)$$

$$\text{Saybolt Furol seconds at 210°F} = 0.4792 \times \text{mm}^2/\text{s (cSt) at 210°F} \quad (4)$$

7. Procedure for Computer Calculation

7.1 Table 1 and Table 3 were computed by fitting a smooth curve to the original experimental data points. The derived equations are given as follows for the convenience of those who wish to use a computer for conversion rather than refer to the tables:

$$U_{100°F} = 4.6324\nu + \frac{1.0 + 0.03264\nu}{(3930.2 + 262.7\nu + 23.97\nu^2 + 1.646\nu^3) \times 10^{-5}} \quad (5)$$

$$U_t = [1.0 + 0.000061(t - 100)] \cdot \left[4.6324\nu + \frac{1.0 + 0.03264\nu}{(3930.2 + 262.7\nu + 23.97\nu^2 + 1.646\nu^3) \times 10^{-5}}\right] \quad (6)$$

$$F_{122°F} = 0.4717\nu + \left[\frac{13924}{(\nu^2 - 72.59\nu + 6816)}\right] \quad (7)$$

$$F_{210°F} = 0.4792\nu + \left[\frac{5610}{(\nu^2 + 2130)}\right] \quad (8)$$

where:

ν = kinematic viscosity, mm^2/s (cSt) at t°F,
$F_{122°F}$ = Saybolt Furol viscosity at 122 °F in Saybolt Furol seconds equivalent to kinematic viscosity, mm^2/s (cSt) at 122 °F, and
$F_{210°F}$ = Saybolt Furol viscosity at 210 °F in Saybolt Furol seconds equivalent to kinematic viscosity, mm^2/s (cSt) at 210 °F.

7.2 Eq 5 and Eq 6 and Table 1 are limited to values of Saybolt Universal of 32.0 s and above.

7.3 Eq 7 and Eq 8 and Table 3 are limited to values of Saybolt Furol of 25.1 s and above.

8. Supplementary Conversion Equivalents

8.1 The following units and equivalents are frequently used in connection with viscosity conversions:

poise	=	cgs unit of absolute viscosity.
centipoise	=	0.01 poise.
stokes	=	cgs unit of kinematic viscosity.
centistokes	=	0.01 stokes.
centipoise	=	centistokes × density (at temperature under consideration).

9. Report

9.1 Saybolt Universal and Saybolt Furol viscosities should be reported to the nearest 0.1 s for values below 200 s and to the nearest whole second for values of 200 s and higher.

10. Keywords

10.1 kinematic viscosity; Saybolt furol; Saybolt universal

TABLE 1 Kinematic Viscosity to Saybolt Universal Viscosity 1.77 mm²/s to 500.0 mm²/s (cSt)

Kin Vis, mm²/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS		Kin Vis, mm²/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS		Kin Vis, mm²/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS		Kin Vis, mm²/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS	
	At 100 °F	At 210 °F		At 100 °F	At 210 °F		At 100 °F	At 210 °F		At 100 °F	At 210 °F
			2.25	33.5	33.7	**2.75**	35.1	35.4	**3.25**	36.8	37.0
			2.26	33.5	33.7	**2.76**	35.2	35.4	**3.26**	36.8	37.0
1.77	. .	32.0	**2.27**	33.5	33.7	**2.77**	35.2	35.4	**3.27**	36.8	37.1
1.78	. .	32.1	**2.28**	33.6	33.8	**2.78**	35.2	35.5	**3.28**	36.9	37.1
1.79	. .	32.1	**2.29**	33.6	33.8	**2.79**	35.3	35.5	**3.29**	36.9	37.1
1.80	. .	32.1	**2.30**	33.6	33.8	**2.80**	35.3	35.5	**3.30**	36.9	37.2
1.81	32.0	32.2	**2.31**	33.7	33.9	**2.81**	35.3	35.6	**3.31**	37.0	37.2
1.82	32.0	32.2	**2.32**	33.7	33.9	**2.81**	35.4	35.6	**3.32**	37.0	37.2
1.83	32.0	32.2	**2.33**	33.7	33.9	**2.83**	35.4	35.6	**3.33**	37.0	37.3
1.84	32.1	32.3	**2.34**	33.8	34.0	**2.84**	35.4	35.7	**3.34**	37.1	37.3
1.85	32.1	32.3	**2.35**	33.8	34.0	**2.85**	35.5	35.7	**3.35**	37.1	37.3
1.86	32.1	32.3	**2.36**	33.8	34.0	**2.86**	35.5	35.7	**3.36**	37.1	37.4
1.87	32.2	32.4	**2.37**	33.9	34.1	**2.87**	35.5	35.8	**3.37**	37.2	37.4
1.88	32.2	32.4	**2.38**	33.9	34.1	**2.88**	35.6	35.8	**3.38**	37.2	37.4
1.89	32.2	32.4	**2.39**	33.9	34.2	**2.89**	35.6	35.8	**3.39**	37.2	37.5
1.90	32.3	32.5	**2.40**	34.0	34.2	**2.90**	35.6	35.9	**3.40**	37.3	37.5
1.91	32.3	32.5	**2.41**	34.0	34.2	**2.91**	35.7	35.9	**3.41**	37.3	37.5
1.92	32.3	32.5	**2.42**	34.0	34.3	**2.92**	35.7	35.9	**3.42**	37.3	37.6
1.93	32.4	32.6	**2.43**	34.1	34.3	**2.93**	35.7	36.0	**3.43**	37.4	37.6
1.94	32.4	32.6	**2.44**	34.1	34.3	**2.94**	35.8	36.0	**3.44**	37.4	37.6
1.95	32.4	32.6	**2.45**	34.1	34.4	**2.95**	35.8	36.0	**3.45**	37.4	37.7
1.96	32.5	32.7	**2.46**	34.2	34.4	**2.96**	35.8	36.1	**3.46**	37.5	37.7
1.97	32.5	32.7	**2.47**	34.2	34.4	**2.97**	35.9	36.1	**3.47**	37.5	37.7
1.98	32.5	32.8	**2.48**	34.2	34.5	**2.98**	35.9	36.1	**3.48**	37.5	37.8
1.99	32.6	32.8	**2.49**	34.3	34.5	**2.99**	35.9	36.2	**3.49**	37.6	37.8
2.00	32.6	32.8	**2.50**	34.3	34.5	**3.00**	36.0	36.2	**3.50**	37.6	37.8
2.01	32.6	32.9	**2.51**	34.3	34.6	**3.01**	36.0	36.2	**3.51**	37.6	37.9
2.02	32.7	32.9	**2.52**	34.4	34.6	**3.02**	36.0	36.3	**3.52**	37.6	37.9
2.03	32.7	32.9	**2.53**	34.4	34.6	**3.03**	36.0	36.3	**3.53**	37.7	37.9
2.04	32.7	33.0	**2.54**	34.4	34.7	**3.04**	36.1	36.3	**3.54**	37.7	38.0
2.05	32.8	33.0	**2.55**	34.5	34.7	**3.05**	36.1	36.4	**3.55**	37.7	38.0
2.06	32.8	33.0	**2.56**	34.5	34.7	**3.06**	36.1	36.4	**3.56**	37.8	38.0
2.07	32.8	33.1	**2.57**	34.5	34.8	**3.07**	36.2	36.4	**3.57**	37.8	38.1
2.08	32.9	33.1	**2.58**	34.6	34.8	**3.08**	36.2	36.5	**3.58**	37.8	38.1
2.09	32.9	33.1	**2.59**	34.6	34.8	**3.09**	36.2	36.5	**3.59**	37.9	38.1
2.10	32.9	33.2	**2.60**	34.6	34.9	**3.10**	36.3	36.5	**3.60**	37.9	38.2
2.11	33.0	33.2	**2.61**	34.7	34.9	**3.11**	36.3	36.6	**3.61**	37.9	38.2
2.12	33.0	33.2	**2.62**	34.7	34.9	**3.12**	36.3	36.6	**3.62**	38.0	38.2
2.13	33.0	33.3	**2.63**	34.7	35.0	**3.13**	36.4	36.6	**3.63**	38.0	38.3
2.14	33.1	33.3	**2.64**	34.8	35.0	**3.14**	36.4	36.7	**3.64**	38.0	38.3
2.15	33.1	33.3	**2.65**	34.8	35.0	**3.15**	36.4	36.7	**3.65**	38.1	38.3
2.16	33.1	33.4	**2.66**	34.8	35.1	**3.16**	36.5	36.7	**3.66**	38.1	38.4
2.17	33.2	33.4	**2.67**	34.9	35.1	**3.17**	36.5	36.8	**3.67**	38.1	38.4
2.18	33.2	33.4	**2.68**	34.9	35.1	**3.18**	36.5	36.8	**3.68**	38.2	38.4
2.19	33.2	33.5	**2.69**	34.9	35.2	**3.19**	36.6	36.8	**3.69**	38.2	38.5
2.20	33.3	33.5	**2.70**	35.0	35.2	**3.20**	36.6	36.9	**3.70**	38.2	38.5
2.21	33.3	33.5	**2.71**	35.0	35.2	**3.21**	36.6	36.9	**3.71**	38.3	38.5
2.22	33.3	33.6	**2.72**	35.0	35.3	**3.22**	36.7	36.9	**3.72**	38.3	38.6
2.23	33.4	33.6	**2.73**	35.1	35.3	**3.23**	36.7	37.0	**3.73**	38.3	38.6
2.24	33.4	33.6	**2.74**	35.1	35.3	**3.24**	36.7	37.0	**3.74**	38.4	38.6

TABLE 1 *Continued*

Kin Vis, mm^2/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS		Kin Vis, mm^2/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS		Kin Vis, mm^2/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS		Kin Vis, mm^2/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS	
	At 100 °F	At 210 °F		At 100 °F	At 210 °F		At 100 °F	At 210 °F		At 100 °F	At 210 °F
3.75	38.4	38.7	**4.25**	40.0	40.3	**4.75**	41.6	41.9	**5.25**	43.2	43.5
3.76	38.4	38.7	**4.26**	40.0	40.3	**4.76**	41.6	41.9	**5.26**	43.2	43.5
3.77	38.5	38.7	**4.27**	40.1	40.3	**4.77**	41.7	41.9	**5.27**	43.3	43.5
3.78	38.5	38.7	**4.28**	40.1	40.4	**4.78**	41.7	42.0	**5.28**	43.3	43.6
3.79	38.5	38.8	**4.29**	40.1	40.4	**4.79**	41.7	42.0	**5.29**	43.3	43.6
3.80	38.6	38.8	**4.30**	40.2	40.4	**4.80**	41.8	42.0	**5.30**	43.3	43.6
3.81	38.6	38.8	**4.31**	40.2	40.5	**4.81**	41.8	42.1	**5.31**	43.4	43.7
3.82	38.6	38.9	**4.32**	40.2	40.5	**4.82**	41.8	42.1	**5.32**	43.4	43.7
3.83	38.7	38.9	**4.33**	40.3	40.5	**4.83**	41.9	42.1	**5.33**	43.4	43.7
3.84	38.7	38.9	**4.34**	40.3	40.6	**4.84**	41.9	42.2	**5.34**	43.5	43.8
3.85	38.7	39.0	**4.35**	40.3	40.6	**4.85**	41.9	42.2	**5.35**	43.5	43.8
3.86	38.7	39.0	**4.36**	40.4	40.6	**4.86**	41.9	42.2	**5.36**	43.5	43.8
3.87	38.8	39.0	**4.37**	40.4	40.7	**4.87**	42.0	42.3	**5.37**	43.6	43.9
3.88	38.8	39.1	**4.38**	40.4	40.7	**4.88**	42.0	42.3	**5.38**	43.6	43.9
3.89	38.8	39.1	**4.39**	40.4	40.7	**4.89**	42.0	42.3	**5.39**	43.6	43.9
3.90	38.9	39.1	**4.40**	40.5	40.8	**4.90**	42.1	42.4	**5.40**	43.7	44.0
3.91	38.9	39.2	**4.41**	40.5	40.8	**4.91**	42.1	42.4	**5.41**	43.7	44.0
3.92	38.9	39.2	**4.42**	40.5	40.8	**4.92**	42.1	42.4	**5.42**	43.7	44.0
3.93	39.0	39.2	**4.43**	40.6	40.8	**4.93**	42.2	42.5	**5.43**	43.8	44.1
3.94	39.0	39.3	**4.44**	40.6	40.9	**4.94**	42.2	42.5	**5.44**	43.8	44.1
3.95	39.0	39.3	**4.45**	40.6	40.9	**4.95**	42.2	42.5	**5.45**	43.8	44.1
3.96	39.1	39.3	**4.46**	40.7	40.9	**4.96**	42.3	42.5	**5.46**	43.9	44.2
3.97	39.1	39.4	**4.47**	40.7	41.0	**4.97**	42.3	42.6	**5.47**	43.9	44.2
3.98	39.1	39.4	**4.48**	40.7	41.0	**4.98**	42.3	42.6	**5.48**	43.9	44.2
3.99	39.2	39.4	**4.49**	40.8	41.0	**4.99**	42.4	42.6	**5.49**	44.0	44.2
4.00	39.2	39.5	**4.50**	40.8	41.1	**5.00**	42.4	42.7	**5.50**	44.0	44.3
4.01	39.2	39.5	**4.51**	40.8	41.1	**5.01**	42.4	42.7	**5.51**	44.0	44.3
4.02	39.3	39.5	**4.52**	40.9	41.1	**5.02**	42.5	42.7	**5.52**	44.0	44.3
4.03	39.3	39.6	**4.53**	40.9	41.2	**5.03**	42.5	42.8	**5.53**	44.1	44.4
4.04	39.3	39.6	**4.54**	40.9	41.2	**5.04**	42.5	42.8	**5.54**	44.1	44.4
4.05	39.4	39.6	**4.55**	41.0	41.2	**5.05**	42.6	42.8	**5.55**	44.1	44.4
4.06	39.4	39.7	**4.56**	41.0	41.3	**5.06**	42.6	42.9	**5.56**	44.2	44.5
4.07	39.4	39.7	**4.57**	41.0	41.3	**5.07**	42.6	42.9	**5.57**	44.2	44.5
4.08	39.5	39.7	**4.58**	41.1	41.3	**5.08**	42.6	42.9	**5.58**	44.2	44.5
4.09	39.5	39.8	**4.59**	41.1	41.4	**5.09**	42.7	43.0	**5.59**	44.3	44.6
4.10	39.5	39.8	**4.60**	41.1	41.4	**5.10**	42.7	43.0	**5.60**	44.3	44.6
4.11	39.6	39.8	**4.61**	41.2	41.4	**5.11**	42.7	43.0	**5.61**	44.3	44.6
4.12	39.6	39.8	**4.62**	41.2	41.5	**5.12**	42.8	43.1	**5.62**	44.4	44.7
4.13	39.6	39.9	**4.63**	41.2	41.5	**5.13**	42.8	43.1	**5.63**	44.4	44.7
4.14	39.6	39.9	**4.64**	41.2	41.5	**5.14**	42.8	43.1	**5.64**	44.4	44.7
4.15	39.7	39.9	**4.65**	41.3	41.6	**5.15**	42.9	43.2	**5.65**	44.5	44.8
4.16	39.7	40.0	**4.66**	41.3	41.6	**5.16**	42.9	43.2	**5.66**	44.5	44.8
4.17	39.7	40.0	**4.67**	41.3	41.6	**5.17**	42.9	43.2	**5.67**	44.5	44.8
4.18	39.8	40.0	**4.68**	41.4	41.7	**5.18**	43.0	43.3	**5.68**	44.6	44.9
4.19	39.8	40.1	**4.69**	41.4	41.7	**5.19**	43.0	43.3	**5.69**	44.6	44.9
4.20	39.8	40.1	**4.70**	41.4	41.7	**5.20**	43.0	43.3	**5.70**	44.6	44.9
4.21	39.9	40.1	**4.71**	41.5	41.7	**5.21**	43.1	43.3	**5.71**	44.7	45.0
4.22	39.9	40.2	**4.72**	41.5	41.8	**5.22**	43.1	43.4	**5.72**	44.7	45.0
4.23	39.9	40.2	**4.73**	41.5	41.8	**5.23**	43.1	43.4	**5.73**	44.7	45.0
4.24	40.0	40.2	**4.74**	41.6	41.8	**5.24**	43.2	43.4	**5.74**	44.7	45.0

TABLE 1 *Continued*

Kin Vis, mm^2/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS		Kin Vis, mm^2/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS		Kin Vis, mm^2/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS		Kin Vis, mm^2/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS	
	At 100 °F	At 210 °F		At 100 °F	At 210 °F		At 100 °F	At 210 °F		At 100 °F	At 210 °F
5.75	44.8	45.1	**6.25**	46.4	46.7	**6.75**	48.0	48.3	**7.25**	49.6	49.9
5.76	44.8	45.1	**6.26**	46.4	46.7	**6.76**	48.0	48.3	**7.26**	49.6	50.0
5.77	44.8	45.1	**6.27**	46.4	46.8	**6.77**	48.0	48.4	**7.27**	49.7	50.0
5.78	44.9	45.2	**6.28**	46.5	46.8	**6.78**	48.1	48.4	**7.28**	49.7	50.0
5.79	44.9	45.2	**6.29**	46.5	46.8	**6.79**	48.1	48.4	**7.29**	49.7	50.1
5.80	44.9	45.2	**6.30**	46.5	46.8	**6.80**	48.1	48.5	**7.30**	49.8	50.1
5.81	45.0	45.3	**6.31**	46.6	46.9	**6.81**	48.2	48.5	**7.31**	49.8	50.1
5.82	45.0	45.3	**6.32**	46.6	46.9	**6.82**	48.2	48.5	**7.32**	49.8	50.2
5.83	45.0	45.3	**6.33**	46.6	46.9	**6.83**	48.2	48.6	**7.33**	49.9	50.2
5.84	45.1	45.4	**6.34**	46.7	47.0	**6.84**	48.3	48.6	**7.34**	49.9	50.2
5.85	45.1	45.4	**6.35**	46.7	47.0	**6.85**	48.3	48.6	**7.35**	49.9	50.3
5.86	45.1	45.4	**6.36**	46.7	47.0	**6.86**	48.3	48.7	**7.36**	50.0	50.3
5.87	45.2	45.5	**6.37**	46.8	47.1	**6.87**	48.4	48.7	**7.37**	50.0	50.3
5.88	45.2	45.5	**6.38**	46.8	47.1	**6.88**	48.4	48.7	**7.38**	50.0	50.4
5.89	45.2	45.5	**6.39**	46.8	47.1	**6.89**	48.4	48.8	**7.39**	50.1	50.4
5.90	45.3	45.6	**6.40**	46.9	47.2	**6.90**	48.5	48.8	**7.40**	50.1	50.4
5.91	45.3	45.6	**6.41**	46.9	47.2	**6.91**	48.5	48.8	**7.41**	50.1	50.5
5.92	45.3	45.6	**6.42**	46.9	47.2	**6.92**	48.5	48.9	**7.42**	50.2	50.5
5.93	45.4	45.7	**6.43**	47.0	47.3	**6.93**	48.6	48.9	**7.43**	50.2	50.5
5.94	45.4	45.7	**6.44**	47.0	47.3	**6.94**	48.6	48.9	**7.44**	50.2	50.6
5.95	45.4	45.7	**6.45**	47.0	47.3	**6.95**	48.6	49.0	**7.45**	50.3	50.6
5.96	45.4	45.8	**6.46**	47.0	47.4	**6.96**	48.7	49.0	**7.46**	50.3	50.6
5.97	45.5	45.8	**6.47**	47.1	47.4	**6.97**	48.7	49.0	**7.47**	50.3	50.7
5.98	45.5	45.8	**6.48**	47.1	47.4	**6.98**	48.7	49.1	**7.48**	50.3	50.7
5.99	45.5	45.9	**6.49**	47.1	47.5	**6.99**	48.8	49.1	**7.49**	50.4	50.7
6.00	45.6	45.9	**6.50**	47.2	47.5	**7.00**	48.8	49.1	**7.50**	50.4	50.8
6.01	45.6	45.9	**6.51**	47.2	47.5	**7.01**	48.8	49.1	**7.51**	50.4	50.8
6.02	45.6	45.9	**6.52**	47.2	47.6	**7.02**	48.9	49.2	**7.52**	50.5	50.8
6.03	45.7	46.0	**6.53**	47.3	47.6	**7.03**	48.9	49.2	**7.53**	50.5	50.9
6.04	45.7	46.0	**6.54**	47.3	47.6	**7.04**	48.9	49.2	**7.54**	50.5	50.9
6.05	45.7	46.0	**6.55**	47.3	47.7	**7.05**	49.0	49.3	**7.55**	50.6	50.9
6.06	45.8	46.1	**6.56**	47.4	47.7	**7.06**	49.0	49.3	**7.56**	50.6	51.0
6.07	45.8	46.1	**6.57**	47.4	47.7	**7.07**	49.0	49.3	**7.57**	50.6	51.0
6.08	45.8	46.1	**6.58**	47.4	47.8	**7.08**	49.0	49.4	**7.58**	50.7	51.0
6.09	45.9	46.2	**6.59**	47.5	47.8	**7.09**	49.1	49.4	**7.59**	50.7	51.0
6.10	45.9	46.2	**6.60**	47.5	47.8	**7.10**	49.1	49.4	**7.60**	50.7	51.1
6.11	45.9	46.2	**6.61**	47.5	47.8	**7.11**	49.1	49.5	**7.61**	50.8	51.1
6.12	46.0	46.3	**6.62**	47.6	47.9	**7.12**	49.2	49.5	**7.62**	50.8	51.1
6.13	46.0	46.3	**6.63**	47.6	47.9	**7.13**	49.2	49.5	**7.63**	50.8	51.2
6.14	46.0	46.3	**6.64**	47.6	47.9	**7.14**	49.2	49.6	**7.64**	50.9	51.2
6.15	46.1	46.4	**6.65**	47.7	48.0	**7.15**	49.3	49.6	**7.65**	50.9	51.2
6.16	46.1	46.4	**6.66**	47.7	48.0	**7.16**	49.3	49.6	**7.66**	50.9	51.3
6.17	46.1	46.4	**6.67**	47.7	48.0	**7.17**	49.3	49.7	**7.67**	51.0	51.3
6.18	46.2	46.5	**6.68**	47.8	48.1	**7.18**	49.4	49.7	**7.68**	51.0	51.3
6.19	46.2	46.5	**6.69**	47.8	48.1	**7.19**	49.4	49.7	**7.69**	51.0	51.4
6.20	46.2	46.5	**6.70**	47.8	48.1	**7.20**	49.4	49.8	**7.70**	51.1	51.4
6.21	46.2	46.6	**6.71**	47.9	48.2	**7.21**	49.5	49.8	**7.71**	51.1	51.4
6.22	46.3	46.6	**6.72**	47.9	48.2	**7.22**	49.5	49.8	**7.72**	51.1	51.5
6.23	46.3	46.6	**6.73**	47.9	48.2	**7.23**	49.5	49.9	**7.73**	51.2	51.5
6.24	46.3	46.7	**6.74**	47.9	48.3	**7.24**	49.6	49.9	**7.74**	51.2	51.5
7.75	51.2	51.6	**8.25**	52.9	53.2	**8.75**	54.6	54.9	**9.25**	56.3	56.6
7.76	51.3	51.6	**8.26**	52.9	53.3	**8.76**	54.6	55.0	**9.26**	56.3	56.7
7.77	51.3	51.6	**8.27**	53.0	53.3	**8.77**	54.6	55.0	**9.27**	56.3	56.7
7.78	51.3	51.7	**8.28**	53.0	53.3	**8.78**	54.7	55.0	**9.28**	56.4	56.7
7.79	51.4	51.7	**8.29**	53.0	53.4	**8.79**	54.7	55.1	**9.29**	56.4	56.8
7.80	51.4	51.7	**8.30**	53.1	53.4	**8.80**	54.7	55.1	**9.30**	56.4	56.8
7.81	51.4	51.8	**8.31**	53.1	53.4	**8.81**	54.8	55.1	**9.31**	56.5	56.8
7.82	51.5	51.8	**8.32**	53.1	53.5	**8.82**	54.8	55.2	**9.32**	56.5	56.9
7.83	51.5	51.8	**8.33**	53.2	53.5	**8.83**	54.8	55.2	**9.33**	56.5	56.9
7.84	51.5	51.9	**8.34**	53.2	53.5	**8.84**	54.9	55.2	**9.34**	56.6	56.9

TABLE 1 *Continued*

Kin Vis, mm^2/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS		Kin Vis, mm^2/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS		Kin Vis, mm^2/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS		Kin Vis, mm^2/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS	
	At 100 °F	At 210 °F		At 100 °F	At 210 °F		At 100 °F	At 210 °F		At 100 °F	At 210 °F
7.85	51.6	51.9	**8.35**	53.2	53.6	**8.85**	54.9	55.3	**9.35**	56.6	57.0
7.86	51.6	51.9	**8.36**	53.3	53.6	**8.86**	54.9	55.3	**9.36**	56.6	57.0
7.87	51.6	52.0	**8.37**	53.3	53.6	**8.87**	55.0	55.3	**9.37**	56.7	57.0
7.88	51.7	52.0	**8.38**	53.3	53.7	**8.88**	55.0	55.4	**9.38**	56.7	57.1
7.89	51.7	52.0	**8.39**	53.4	53.7	**8.89**	55.0	55.4	**9.39**	56.7	57.1
7.90	51.7	52.1	**8.40**	53.4	53.7	**8.90**	55.1	55.4	**9.40**	56.8	57.1
7.91	51.8	52.1	**8.41**	53.4	53.8	**8.91**	55.1	55.5	**9.41**	56.8	57.2
7.92	51.8	52.1	**8.42**	53.5	53.8	**8.92**	55.1	55.5	**9.42**	56.8	57.2
7.93	51.8	52.2	**8.43**	53.5	53.8	**8.93**	55.2	55.5	**9.43**	56.9	57.2
7.94	51.9	52.2	**8.44**	53.5	53.9	**8.94**	55.2	55.6	**9.44**	56.9	57.3
7.95	51.9	52.2	**8.45**	53.6	53.9	**8.95**	55.2	55.6	**9.45**	56.9	57.3
7.96	51.9	52.3	**8.46**	53.6	53.9	**8.96**	55.3	55.6	**9.46**	57.0	57.4
7.97	52.0	52.3	**8.47**	53.6	54.0	**8.97**	55.3	55.7	**9.47**	57.0	57.4
7.98	52.0	52.3	**8.48**	53.7	54.0	**8.98**	55.3	55.7	**9.48**	57.0	57.4
7.99	52.0	52.4	**8.49**	53.7	54.0	**8.99**	55.4	55.7	**9.49**	57.1	57.5
8.00	52.1	52.4	**8.50**	53.7	54.1	**9.00**	55.4	55.8	**9.50**	57.1	57.5
8.01	52.1	52.4	**8.51**	53.8	54.1	**9.01**	55.4	55.8	**9.52**	57.2	57.6
8.02	52.1	52.5	**8.52**	53.8	54.1	**9.02**	55.5	55.8	**9.54**	57.2	57.6
8.03	52.2	52.5	**8.53**	53.8	54.2	**9.03**	55.5	55.9	**9.56**	57.3	57.7
8.04	52.2	52.5	**8.54**	53.9	54.2	**9.04**	55.5	55.9	**9.58**	57.4	57.8
8.05	52.2	52.6	**8.55**	53.9	54.2	**9.05**	55.6	55.9	**9.60**	57.5	57.8
8.06	52.3	52.6	**8.56**	53.9	54.3	**9.06**	55.6	56.0	**9.62**	57.5	57.9
8.07	52.3	52.6	**8.57**	54.0	54.3	**9.07**	55.6	56.0	**9.64**	57.6	58.0
8.08	52.3	52.7	**8.58**	54.0	54.3	**9.08**	55.7	56.0	**9.66**	57.7	58.0
8.09	52.4	52.7	**8.59**	54.0	54.4	**9.09**	55.7	56.1	**9.68**	57.7	58.1
8.10	52.4	52.7	**8.60**	54.1	54.4	**9.10**	55.7	56.1	**9.70**	57.8	58.2
8.11	52.4	52.8	**8.61**	54.1	54.5	**9.11**	55.8	56.1	**9.72**	57.9	58.3
8.12	52.5	52.8	**8.62**	54.1	54.5	**9.12**	55.8	56.2	**9.74**	57.9	58.3
8.13	52.5	52.8	**8.63**	54.2	54.5	**9.13**	55.8	56.2	**9.76**	58.0	58.4
8.14	52.5	52.9	**8.64**	54.2	54.6	**9.14**	55.9	56.3	**9.78**	58.1	58.5
8.15	52.6	52.9	**8.65**	54.2	54.6	**9.15**	55.9	56.3	**9.80**	58.1	58.5
8.16	52.6	52.9	**8.66**	54.3	54.6	**9.16**	55.9	56.3	**9.82**	58.2	58.6
8.17	52.6	53.0	**8.67**	54.3	54.7	**9.17**	56.0	56.4	**9.84**	58.3	58.7
8.18	52.7	53.0	**8.68**	54.3	54.7	**9.18**	56.0	56.4	**9.86**	58.4	58.7
8.19	52.7	53.0	**8.69**	54.4	54.7	**9.19**	56.0	56.4	**9.88**	58.4	58.8
8.20	52.7	53.1	**8.70**	54.4	54.8	**9.20**	56.1	56.5	**9.90**	58.5	58.9
8.21	52.8	53.1	**8.71**	54.4	54.8	**9.21**	56.1	56.5	**9.92**	58.6	59.0
8.22	52.8	53.1	**8.72**	54.5	54.8	**9.22**	56.2	56.5	**9.94**	58.6	59.0
8.23	52.8	53.2	**8.73**	54.5	54.9	**9.23**	56.2	56.6	**9.96**	58.7	59.1
8.24	52.9	53.2	**8.74**	54.5	54.9	**9.24**	56.2	56.6	**9.98**	58.8	59.2

TABLE 1 *Continued*

Kin Vis, mm^2/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS		Kin Vis, mm^2/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS		Kin Vis, mm^2/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS		Kin Vis, mm^2/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS	
	At 100 °F	At 210 °F		At 100 °F	At 210 °F		At 100 °F	At 210 °F		At 100 °F	At 210 °F
10.00	58.8	59.2	**11.00**	62.4	62.8	**12.00**	66.0	66.4	**13.00**	69.7	70.2
10.02	58.9	59.3	**11.02**	62.4	62.9	**12.02**	66.1	66.5	**13.02**	69.8	70.3
10.04	59.0	59.4	**11.04**	62.5	62.9	**12.04**	66.1	66.6	**13.04**	69.9	70.3
10.06	59.0	59.4	**11.06**	62.6	63.0	**12.06**	66.2	66.7	**13.06**	69.9	70.4
10.08	59.1	59.5	**11.08**	62.7	63.1	**12.08**	66.3	66.7	**13.08**	70.0	70.5
10.10	59.2	59.6	**11.10**	62.7	63.1	**12.10**	66.4	66.8	**13.10**	70.1	70.6
10.12	59.3	59.7	**11.12**	62.8	63.2	**12.12**	66.4	66.9	**13.12**	70.2	70.6
10.14	59.3	59.7	**11.14**	62.9	63.3	**12.14**	66.5	67.0	**13.14**	70.2	70.7
10.16	59.4	59.8	**11.16**	62.9	63.4	**12.16**	66.6	67.0	**13.16**	70.3	70.8
10.18	59.5	59.9	**11.18**	63.0	63.4	**12.18**	66.7	67.1	**13.18**	70.4	70.9
10.20	59.5	59.9	**11.20**	63.1	63.5	**12.20**	66.7	67.2	**13.20**	70.5	70.9
10.22	59.6	60.0	**11.22**	63.2	63.6	**12.22**	66.8	67.2	**13.22**	70.5	71.0
10.24	59.7	60.1	**11.24**	63.2	63.7	**12.24**	66.9	67.3	**13.24**	70.6	71.1
10.26	59.7	60.1	**11.26**	63.3	63.7	**12.26**	66.9	67.4	**13.26**	70.7	71.2
10.28	59.8	60.2	**11.28**	63.4	63.8	**12.28**	67.0	67.5	**13.28**	70.8	71.2
10.30	59.9	60.3	**11.30**	63.4	63.9	**12.30**	67.1	67.5	**13.30**	70.8	71.3
10.32	60.0	60.4	**11.32**	63.5	63.9	**12.32**	67.2	67.6	**13.32**	70.9	71.4
10.34	60.0	60.4	**11.34**	63.6	64.0	**12.34**	67.2	67.7	**13.34**	71.0	71.5
10.36	60.1	60.5	**11.36**	63.7	64.1	**12.36**	67.3	67.8	**13.36**	71.1	71.5
10.38	60.2	60.6	**11.38**	63.7	64.2	**12.38**	67.4	67.8	**13.38**	71.1	71.6
10.40	60.2	60.6	**11.40**	63.8	64.2	**12.40**	67.5	67.9	**13.40**	71.2	71.7
10.42	60.3	60.7	**11.42**	63.9	64.3	**12.42**	67.5	68.0	**13.42**	71.3	71.8
10.44	60.4	60.8	**11.44**	63.9	64.4	**12.44**	67.6	68.1	**13.44**	71.4	71.9
10.46	60.4	60.9	**11.46**	64.0	64.5	**12.46**	67.7	68.1	**13.46**	71.4	71.9
10.48	60.5	60.9	**11.48**	64.1	64.5	**12.48**	67.8	68.2	**13.48**	71.5	72.0
10.50	60.6	61.0	**11.50**	64.2	64.6	**12.50**	67.8	68.3	**13.50**	71.6	72.1
10.52	60.7	61.1	**11.52**	64.2	64.7	**12.52**	67.9	68.4	**13.52**	71.7	72.2
10.54	60.7	61.1	**11.54**	64.3	64.7	**12.54**	68.0	68.4	**13.54**	71.8	72.2
10.56	60.8	61.2	**11.56**	64.4	64.8	**12.56**	68.1	68.5	**13.56**	71.8	72.3
10.58	60.9	61.3	**11.58**	64.5	64.9	**12.58**	68.1	68.6	**13.58**	71.9	72.4
10.60	60.9	61.4	**11.60**	64.5	65.0	**12.60**	68.2	68.7	**13.60**	72.0	72.5
10.62	61.0	61.4	**11.62**	64.6	65.0	**12.62**	68.3	68.7	**13.62**	72.1	72.5
10.64	61.1	61.5	**11.64**	64.7	65.1	**12.64**	68.4	68.8	**13.64**	72.1	72.6
10.66	61.2	61.6	**11.66**	64.7	65.2	**12.66**	68.4	68.9	**13.66**	72.2	72.7
10.68	61.2	61.6	**11.68**	64.8	65.3	**12.68**	68.5	69.0	**13.68**	72.3	72.8
10.70	61.3	61.7	**11.70**	64.9	65.3	**12.70**	68.6	69.0	**13.70**	72.4	72.8
10.72	61.4	61.8	**11.72**	65.0	65.4	**12.72**	68.7	69.1	**13.72**	72.4	72.9
10.74	61.4	61.9	**11.74**	65.0	65.5	**12.74**	68.7	69.2	**13.74**	72.5	73.0
10.76	61.5	61.9	**11.76**	65.1	65.5	**12.76**	68.8	69.3	**13.76**	72.6	73.1
10.78	61.6	62.0	**11.78**	65.2	65.6	**12.78**	68.9	69.3	**13.78**	72.7	73.2
10.80	61.7	62.1	**11.80**	65.3	65.7	**12.80**	69.0	69.4	**13.80**	72.7	73.2
10.82	61.7	62.1	**11.82**	65.3	65.8	**12.82**	69.0	69.5	**13.82**	72.8	73.3
10.84	61.8	62.2	**11.84**	65.4	65.8	**12.84**	69.1	69.6	**13.84**	72.9	73.4
10.86	61.9	62.3	**11.86**	65.5	65.9	**12.86**	69.2	69.6	**13.86**	73.0	73.5
10.88	61.9	62.4	**11.88**	65.6	66.0	**12.88**	69.3	69.7	**13.88**	73.1	73.5
10.90	62.0	62.4	**11.90**	65.6	66.1	**12.90**	69.3	69.8	**13.90**	73.1	73.6
10.92	62.1	62.5	**11.92**	65.7	66.1	**12.92**	69.4	69.9	**13.92**	73.2	73.7
10.94	62.2	62.6	**11.94**	65.8	66.2	**12.94**	69.5	69.9	**13.94**	73.3	73.8
10.96	62.2	62.6	**11.96**	65.8	66.3	**12.96**	69.6	70.0	**13.96**	73.4	73.9
10.98	62.3	62.7	**11.98**	65.9	66.4	**12.98**	69.6	70.1	**13.98**	73.4	73.9
14.00	73.5	74.0	**15.00**	77.4	77.9	**16.00**	81.4	81.9	**17.00**	85.4	86.0
14.02	73.6	74.1	**15.02**	77.5	78.0	**16.02**	81.4	82.0	**17.02**	85.5	86.0
14.04	73.7	74.2	**15.04**	77.6	78.1	**16.04**	81.5	82.1	**17.04**	85.6	86.1
14.06	73.7	74.2	**15.06**	77.6	78.2	**16.06**	81.6	82.2	**17.06**	85.6	86.2
14.08	73.8	74.3	**15.08**	77.7	78.2	**16.08**	81.7	82.2	**17.08**	85.7	86.3
14.10	73.9	74.4	**15.10**	77.8	78.3	**16.10**	81.8	82.3	**17.10**	85.8	86.4
14.12	74.0	74.5	**15.12**	77.9	78.4	**16.12**	81.8	82.4	**17.12**	85.9	86.5
14.14	74.1	74.6	**15.14**	78.0	78.5	**16.14**	81.9	82.5	**17.14**	86.0	86.5
14.16	74.1	74.6	**15.16**	78.0	78.6	**16.16**	82.0	82.6	**17.16**	86.0	86.6
14.18	74.2	74.7	**15.18**	78.1	78.6	**16.18**	82.1	82.6	**17.18**	86.1	86.7

TABLE 1 *Continued*

Kin Vis, mm^2/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS		Kin Vis, mm^2/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS		Kin Vis, mm^2/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS		Kin Vis, mm^2/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS	
	At 100 °F	At 210 °F		At 100 °F	At 210 °F		At 100 °F	At 210 °F		At 100 °F	At 210 °F
14.20	74.3	74.8	**15.20**	78.2	78.7	**16.20**	82.2	82.7	**17.20**	86.2	86.8
14.22	74.4	74.9	**15.22**	78.3	78.8	**16.22**	82.2	82.8	**17.22**	86.3	86.9
14.24	74.4	74.9	**15.24**	78.3	78.9	**16.24**	82.3	82.9	**17.24**	86.4	86.9
14.26	74.5	75.0	**15.26**	78.4	79.0	**16.26**	82.4	83.0	**17.26**	86.5	87.0
14.28	74.6	75.1	**15.28**	78.5	79.0	**16.28**	82.5	83.0	**17.28**	86.5	87.1
14.30	74.7	75.2	**15.30**	78.6	79.1	**16.30**	82.6	83.1	**17.30**	86.6	87.2
14.32	74.7	75.3	**15.32**	78.7	79.2	**16.32**	82.6	83.2	**17.32**	86.7	87.3
14.34	74.8	75.3	**15.34**	78.7	79.3	**16.34**	82.7	83.3	**17.34**	86.8	87.4
14.36	74.9	75.4	**15.36**	78.8	79.3	**16.36**	82.8	83.4	**17.36**	86.9	87.4
14.38	75.0	75.5	**15.38**	78.9	79.4	**16.38**	82.9	83.4	**17.38**	86.9	87.5
14.40	75.1	75.6	**15.40**	79.0	79.5	**16.40**	83.0	83.5	**17.40**	87.0	87.6
14.42	75.1	75.6	**15.42**	79.1	79.6	**16.42**	83.0	83.6	**17.42**	87.1	87.7
14.44	75.2	75.7	**15.44**	79.1	79.7	**16.44**	83.1	83.7	**17.44**	87.2	87.8
14.46	75.3	75.8	**15.46**	79.2	79.7	**16.46**	83.2	83.8	**17.46**	87.3	87.9
14.48	75.4	75.9	**15.48**	79.3	79.8	**16.48**	83.3	83.8	**17.48**	87.3	87.9
14.50	75.4	76.0	**15.50**	79.4	79.9	**16.50**	83.4	83.9	**17.50**	87.4	88.0
14.52	75.5	76.0	**15.52**	79.5	80.0	**16.52**	83.5	84.0	**17.52**	87.5	88.1
14.54	75.6	76.1	**15.54**	79.5	80.1	**16.54**	83.5	84.1	**17.54**	87.6	88.2
14.56	75.7	76.2	**15.56**	79.6	80.1	**16.56**	83.6	84.2	**17.56**	87.7	88.3
14.58	75.8	76.3	**15.58**	79.7	80.2	**16.58**	83.7	84.3	**17.58**	87.8	88.3
14.60	75.8	76.3	**15.60**	79.8	80.3	**16.60**	83.8	84.3	**17.60**	87.8	88.4
14.62	75.9	76.4	**15.62**	79.8	80.4	**16.62**	83.9	84.4	**17.62**	87.9	88.5
14.64	76.0	76.5	**15.64**	79.9	80.5	**16.64**	83.9	84.5	**17.64**	88.0	88.6
14.66	76.1	76.6	**15.66**	80.0	80.5	**16.66**	84.0	84.6	**17.66**	88.1	88.7
14.68	76.1	76.7	**15.68**	80.1	80.6	**16.68**	84.1	84.7	**17.68**	88.2	88.8
14.70	76.2	76.7	**15.70**	80.2	80.7	**16.70**	84.2	84.7	**17.70**	88.3	88.8
14.72	76.3	76.8	**15.72**	80.2	80.8	**16.72**	84.3	84.8	**17.72**	88.3	88.9
14.74	76.4	76.9	**15.74**	80.3	80.9	**16.74**	84.3	84.9	**17.74**	88.4	89.0
14.76	76.5	77.0	**15.76**	80.4	80.9	**16.76**	84.4	85.0	**17.76**	88.5	89.1
14.78	76.5	77.1	**15.78**	80.5	81.0	**16.78**	84.5	85.1	**17.78**	88.6	89.2
14.80	76.6	77.1	**15.80**	80.6	81.1	**16.80**	84.6	85.1	**17.80**	88.7	89.3
14.82	76.7	77.2	**15.82**	80.6	81.2	**16.82**	84.7	85.2	**17.82**	88.7	89.3
14.84	76.8	77.3	**15.84**	80.7	81.3	**16.84**	84.7	85.3	**17.84**	88.8	89.4
14.86	76.9	77.4	**15.86**	80.8	81.3	**16.86**	84.8	85.4	**17.86**	88.9	89.5
14.88	76.9	77.4	**15.88**	80.9	81.4	**16.88**	84.9	85.5	**17.88**	89.0	89.6
14.90	77.0	77.5	**15.90**	81.0	81.5	**16.90**	85.0	85.6	**17.90**	89.1	89.7
14.92	77.1	77.6	**15.92**	81.0	81.6	**16.92**	85.1	85.6	**17.92**	89.2	89.8
14.94	77.2	77.7	**15.94**	81.1	81.7	**16.94**	85.1	85.7	**17.94**	89.2	89.8
14.96	77.2	77.8	**15.96**	81.2	81.7	**16.96**	85.2	85.8	**17.96**	89.3	89.9
14.98	77.3	77.8	**15.98**	81.3	81.8	**16.98**	85.3	85.9	**17.98**	89.4	90.0
18.00	89.5	90.1	**19.00**	93.6	94.3	**20.00**	97.8	98.5	**22.50**	108.5	109.2
18.02	89.6	90.2	**19.02**	93.7	94.3	**20.05**	98.0	98.7	**22.55**	108.7	109.4
18.04	89.6	90.2	**19.04**	93.8	94.4	**20.10**	98.2	98.9	**22.60**	108.9	109.6
18.06	89.7	90.3	**19.06**	93.9	94.5	**20.15**	98.5	99.1	**22.65**	109.1	109.9
18.08	89.8	90.4	**19.08**	94.0	94.6	**20.20**	98.7	99.3	**22.70**	109.4	110.1
18.10	89.9	90.5	**19.10**	94.0	94.7	**20.25**	98.9	99.5	**22.75**	109.6	110.3
18.12	90.0	90.6	**19.12**	94.1	94.8	**20.30**	99.1	99.8	**22.80**	109.8	110.5
18.14	90.1	90.7	**19.14**	94.2	94.8	**20.35**	99.3	100.0	**22.85**	110.0	110.7
18.16	90.1	90.7	**19.16**	94.3	94.9	**20.40**	99.5	100.2	**22.90**	110.2	111.0
18.18	90.2	90.8	**19.18**	94.4	95.0	**20.45**	99.7	100.4	**22.95**	110.4	111.2
18.20	90.3	90.9	**19.20**	94.5	95.1	**20.50**	99.9	100.6	**23.00**	110.6	111.4
18.22	90.4	91.0	**19.22**	94.5	95.2	**20.55**	100.1	100.8	**23.05**	110.9	111.6
18.24	90.5	91.1	**19.24**	94.6	95.3	**20.60**	100.4	101.0	**23.10**	111.1	111.8
18.26	90.6	91.2	**19.26**	94.7	95.4	**20.65**	100.6	101.2	**23.15**	111.3	112.0
18.28	90.6	91.2	**19.28**	94.8	95.4	**20.70**	100.8	101.5	**23.20**	111.5	112.3
18.30	90.7	91.3	**19.30**	94.9	95.5	**20.75**	101.0	101.7	**23.25**	111.7	112.5
18.32	90.8	91.4	**19.32**	95.0	95.6	**20.80**	101.2	101.9	**23.30**	111.9	112.7
18.34	90.9	91.5	**19.34**	95.0	95.7	**20.85**	101.4	102.1	**23.35**	112.2	112.9
18.36	91.0	91.6	**19.36**	95.1	95.8	**20.90**	101.6	102.3	**23.40**	112.4	113.1
18.38	91.1	91.7	**19.38**	95.2	95.9	**20.95**	101.8	102.5	**23.45**	112.6	113.4

TABLE 1 *Continued*

Kin Vis, mm^2/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS		Kin Vis, mm^2/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS		Kin Vis, mm^2/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS		Kin Vis, mm^2/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS	
	At 100 °F	At 210 °F		At 100 °F	At 210 °F		At 100 °F	At 210 °F		At 100 °F	At 210 °F
18.40	91.1	91.7	**19.40**	95.3	95.9	**21.00**	102.1	102.7	**23.50**	112.8	113.6
18.42	91.2	91.8	**19.42**	95.4	96.0	**21.05**	102.3	103.0	**23.55**	113.0	113.8
18.44	91.3	91.9	**19.44**	95.5	96.1	**21.10**	102.5	103.2	**23.60**	113.2	114.0
18.46	91.4	92.0	**19.46**	95.6	96.2	**21.15**	102.7	103.4	**23.65**	113.5	114.2
18.48	91.5	92.1	**19.48**	95.6	96.3	**21.20**	102.9	103.6	**23.70**	113.7	114.4
18.50	91.5	92.2	**19.50**	95.7	96.4	**21.25**	103.1	103.8	**23.75**	113.9	114.7
18.52	91.6	92.2	**19.52**	95.8	96.4	**21.30**	103.3	104.0	**23.80**	114.1	114.9
18.54	91.7	92.3	**19.54**	95.9	96.5	**21.35**	103.6	104.2	**23.85**	114.3	115.1
18.56	91.8	92.4	**19.56**	96.0	96.6	**21.40**	103.8	104.5	**23.90**	114.6	115.3
18.58	91.9	92.5	**19.58**	96.1	96.7	**21.45**	104.0	104.7	**23.95**	114.8	115.5
18.60	92.0	92.6	**19.60**	96.1	96.8	**21.50**	104.2	104.9	**24.00**	115.0	115.8
18.62	92.0	92.7	**19.62**	96.2	96.9	**21.55**	104.4	105.1	**24.05**	115.2	116.0
18.64	92.1	92.7	**19.64**	96.3	97.0	**21.60**	104.6	105.3	**24.10**	115.4	116.2
18.66	92.2	92.8	**19.66**	96.4	97.0	**21.65**	104.8	105.5	**24.15**	115.6	116.4
18.68	92.3	92.9	**19.68**	96.5	97.1	**21.70**	105.0	105.8	**24.20**	115.9	116.6
18.70	92.4	93.0	**19.70**	96.6	97.2	**21.75**	105.3	106.0	**24.25**	116.1	116.9
18.72	92.5	93.1	**19.72**	96.6	97.3	**21.80**	105.5	106.2	**24.30**	116.3	117.1
18.74	92.5	93.2	**19.74**	96.7	97.4	**21.85**	105.7	106.4	**24.35**	116.4	117.3
18.76	92.6	93.3	**19.76**	96.8	97.5	**21.90**	105.9	106.6	**24.40**	116.7	117.5
18.78	92.7	93.3	**19.78**	96.9	97.5	**21.95**	106.1	106.8	**24.45**	117.0	117.7
18.80	92.8	93.4	**19.80**	97.0	97.6	**22.00**	106.3	107.0	**24.50**	117.2	118.0
18.82	92.9	93.5	**19.82**	97.1	97.7	**22.05**	106.6	107.3	**24.55**	117.4	118.2
18.84	93.0	93.6	**19.84**	97.1	97.8	**22.10**	106.8	107.5	**24.60**	117.6	118.4
18.86	93.0	93.7	**19.86**	97.2	97.9	**22.15**	107.0	107.7	**24.65**	117.8	118.6
18.88	93.1	93.8	**19.88**	97.3	98.0	**22.20**	107.2	107.9	**24.70**	118.0	118.8
18.90	93.2	93.8	**19.90**	97.4	98.1	**22.25**	107.4	108.1	**24.75**	118.3	119.1
18.92	93.3	93.9	**19.92**	97.5	98.1	**22.30**	107.6	108.3	**24.80**	118.5	119.3
18.94	93.4	94.0	**19.94**	97.6	98.2	**22.35**	107.8	108.6	**24.85**	118.7	119.5
18.96	93.5	94.1	**19.96**	97.7	98.3	**22.40**	108.1	108.8	**24.90**	118.9	119.7
18.98	93.5	94.2	**19.98**	97.7	98.4	**22.45**	108.3	109.0	**24.95**	119.1	119.9

TABLE 1 *Continued*

Kin Vis, mm^2/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS		Kin Vis, mm^2/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS		Kin Vis, mm^2/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS		Kin Vis, mm^2/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS	
	At 100 °F	At 210 °F		At 100 °F	At 210 °F		At 100 °F	At 210 °F		At 100 °F	At 210 °F
25.00	119.4	120.2	**27.50**	130.4	131.3	**30.00**	141.5	142.5	**32.50**	152.7	153.8
25.05	119.6	120.4	**27.55**	130.6	131.5	**30.05**	141.7	142.7	**32.55**	153.0	154.0
25.10	119.8	120.6	**27.60**	130.8	131.7	**30.10**	142.0	142.9	**32.60**	153.2	154.2
25.15	120.0	120.8	**27.65**	131.0	131.9	**30.15**	142.2	143.1	**32.65**	153.4	154.4
25.20	120.2	121.0	**27.70**	131.3	132.1	**30.20**	142.4	143.4	**32.70**	153.6	154.7
25.25	120.5	121.3	**27.75**	131.5	132.4	**30.25**	142.6	143.6	**32.75**	153.9	154.9
25.30	120.7	121.5	**27.80**	131.7	132.6	**30.30**	142.9	143.8	**32.80**	154.1	155.1
25.35	120.9	121.7	**27.85**	131.9	132.8	**30.35**	143.1	144.0	**32.85**	154.3	155.4
25.40	121.1	121.9	**27.90**	132.2	133.0	**30.40**	143.3	144.3	**32.90**	154.5	155.6
25.45	121.3	122.1	**27.95**	132.4	133.3	**30.45**	143.5	144.5	**32.95**	154.8	155.8
25.50	121.6	122.4	**28.00**	132.6	133.5	**30.50**	143.8	144.7	**33.00**	155.0	156.0
25.55	121.8	122.6	**28.05**	132.8	133.7	**30.55**	144.0	144.9	**33.05**	155.2	156.3
25.60	122.0	122.8	**28.10**	133.0	133.9	**30.60**	144.2	145.2	**33.10**	155.4	156.5
25.65	122.2	123.0	**28.15**	133.3	134.2	**30.65**	144.4	145.4	**33.15**	155.7	156.7
25.70	122.4	123.3	**28.20**	133.5	134.4	**30.70**	144.6	145.6	**33.20**	155.9	156.9
25.75	122.6	123.5	**28.25**	133.7	134.6	**30.75**	144.9	145.8	**33.25**	156.1	157.2
25.80	122.9	123.7	**28.30**	133.9	134.8	**30.80**	145.1	146.1	**33.30**	156.3	157.4
25.85	123.1	123.9	**28.35**	134.2	135.1	**30.85**	145.3	146.3	**33.35**	156.6	157.6
25.90	123.3	124.1	**28.40**	134.4	135.3	**30.90**	145.5	146.5	**33.40**	156.8	157.8
25.95	123.5	124.4	**28.45**	134.6	135.5	**30.95**	145.8	146.7	**33.45**	157.0	158.1
26.00	123.7	124.6	**28.50**	134.8	135.7	**31.00**	146.0	147.0	**33.50**	157.2	158.3
26.05	124.0	124.8	**28.55**	135.0	135.9	**31.05**	146.2	147.2	**33.55**	157.5	158.5
26.10	124.2	125.0	**28.60**	135.3	136.2	**31.10**	146.4	147.4	**33.60**	157.7	158.8
26.15	124.4	125.2	**28.65**	135.5	136.4	**31.15**	146.7	147.7	**33.65**	157.9	159.0
26.20	124.6	125.5	**28.70**	135.7	136.6	**31.20**	146.9	147.9	**33.70**	158.2	159.2
26.25	124.9	125.7	**28.75**	135.9	136.8	**31.25**	147.1	148.1	**33.75**	158.4	159.4
26.30	125.1	125.9	**28.80**	136.2	137.1	**31.30**	147.3	148.3	**33.80**	158.6	159.7
26.35	125.3	126.1	**28.85**	136.4	137.3	**31.35**	147.6	148.6	**33.85**	158.8	159.9
26.40	125.5	126.4	**28.90**	136.6	137.5	**31.40**	147.8	148.8	**33.90**	159.1	160.1
26.45	125.7	126.6	**28.95**	136.8	137.7	**31.45**	148.0	149.0	**33.95**	159.3	160.3
26.50	126.0	126.8	**29.00**	137.0	138.0	**31.50**	148.2	149.2	**34.00**	159.5	160.6
26.55	126.2	127.0	**29.05**	137.3	138.2	**31.55**	148.5	149.5	**34.05**	159.7	160.8
26.60	126.4	127.2	**29.10**	137.5	138.4	**31.60**	148.7	149.7	**34.10**	160.0	161.0
26.65	126.6	127.5	**29.15**	137.7	138.6	**31.65**	148.9	149.9	**34.15**	160.2	161.3
26.70	126.8	127.7	**29.20**	137.9	138.9	**31.70**	149.1	150.1	**34.20**	160.4	161.5
26.75	127.1	127.9	**29.25**	138.2	139.1	**31.75**	149.4	150.4	**34.25**	160.6	161.7
26.80	127.3	128.1	**29.30**	138.4	139.3	**31.80**	149.6	150.6	**34.30**	160.9	161.9
26.85	127.5	128.4	**29.35**	138.6	139.5	**31.85**	149.8	150.8	**34.35**	161.1	162.2
26.90	127.7	128.6	**29.40**	138.8	139.8	**31.90**	150.0	151.0	**34.40**	161.3	162.4
26.95	127.9	128.8	**29.45**	139.1	140.0	**31.95**	150.3	151.3	**34.45**	161.5	162.6
27.00	128.2	129.0	**29.50**	139.3	140.2	**32.00**	150.5	151.5	**34.50**	161.8	162.9
27.05	128.4	129.2	**29.55**	139.5	140.4	**32.05**	150.7	151.7	**34.55**	162.0	163.1
27.10	128.6	129.5	**29.60**	139.7	140.7	**32.10**	150.9	152.0	**34.60**	162.2	163.3
27.15	128.8	129.7	**29.65**	140.0	140.9	**32.15**	151.2	152.2	**34.65**	162.4	163.5
27.20	129.0	129.9	**29.70**	140.2	141.1	**32.20**	151.4	152.4	**34.70**	162.7	163.8
27.25	129.3	130.1	**29.75**	140.4	141.3	**32.25**	151.6	152.6	**34.75**	162.9	164.0
27.30	129.5	130.4	**29.80**	140.6	141.6	**32.30**	151.8	152.9	**34.80**	163.1	164.2
27.35	129.7	130.6	**29.85**	140.8	141.8	**32.35**	152.1	153.1	**34.85**	163.3	164.4
27.40	129.9	130.8	**29.90**	141.1	142.0	**32.40**	152.3	153.3	**34.90**	163.6	164.7
27.45	130.2	131.0	**29.95**	141.3	142.2	**32.45**	152.5	153.5	**34.95**	163.8	164.9
35.00	164.0	165.1	**37.50**	175.4	176.5	**40.00**	186.8	188.0	**42.50**	198.2	199.5
35.05	164.3	165.4	**37.55**	175.6	176.8	**40.05**	187.0	188.2	**42.55**	198.4	199.7
35.10	164.5	165.6	**37.60**	175.8	177.0	**40.10**	187.2	188.5	**42.60**	198.6	200
35.15	164.7	165.8	**37.65**	176.1	177.2	**40.15**	187.4	188.7	**42.65**	198.9	200
35.20	164.9	166.0	**37.70**	176.3	177.5	**40.20**	187.7	188.9	**42.70**	199.1	200
35.25	165.2	166.3	**37.75**	176.5	177.7	**40.25**	187.9	189.2	**42.75**	199.3	201
35.30	165.4	166.5	**37.80**	176.7	177.9	**40.30**	188.1	189.4	**42.80**	199.5	201
35.35	165.6	166.7	**37.85**	177.0	178.1	**40.35**	188.4	189.6	**42.85**	199.8	201
35.40	165.8	167.0	**37.90**	177.2	178.4	**40.40**	188.6	189.8	**42.90**	200	201
35.45	166.1	167.2	**37.95**	177.4	178.6	**40.45**	188.8	190.1	**42.95**	200	202

TABLE 1 *Continued*

Kin Vis, mm^2/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS		Kin Vis, mm^2/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS		Kin Vis, mm^2/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS		Kin Vis, mm^2/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS	
	At 100 °F	At 210 °F		At 100 °F	At 210 °F		At 100 °F	At 210 °F		At 100 °F	At 210 °F
35.50	166.3	167.4	**38.00**	177.6	178.8	**40.50**	189.0	190.3	**43.00**	200	202
35.55	166.5	167.6	**38.05**	177.9	179.1	**40.55**	189.3	190.5	**43.05**	201	202
35.60	166.7	167.9	**38.10**	178.1	179.3	**40.60**	189.5	190.8	**43.10**	201	202
35.65	167.0	168.1	**38.15**	178.3	179.5	**40.65**	189.7	191.0	**43.15**	201	202
35.70	167.2	168.3	**38.20**	178.6	179.8	**40.70**	189.9	191.2	**43.20**	201	203
35.75	167.4	168.6	**38.25**	178.8	180.0	**40.75**	190.2	191.5	**43.25**	202	203
35.80	167.7	168.8	**38.30**	179.0	180.2	**40.80**	190.4	191.7	**43.30**	202	203
35.85	167.9	169.0	**38.35**	179.2	180.4	**40.85**	190.6	191.9	**43.35**	202	203
35.90	168.1	169.2	**38.40**	179.5	180.7	**40.90**	190.9	192.1	**43.40**	202	203
35.95	168.3	169.5	**38.45**	179.7	180.9	**40.95**	191.1	192.4	**43.45**	203	204
36.00	168.6	169.7	**38.50**	179.9	181.1	**41.00**	191.3	192.6	**43.50**	203	204
36.05	168.8	169.9	**38.55**	180.1	181.4	**41.05**	191.5	192.8	**43.55**	203	204
36.10	169.0	170.1	**38.60**	180.4	181.6	**41.10**	191.8	193.1	**43.60**	203	204
36.15	169.2	170.4	**38.65**	180.6	181.8	**41.15**	192.0	193.3	**43.65**	203	205
36.20	169.5	170.6	**38.70**	180.8	182.0	**41.20**	192.2	193.5	**43.70**	204	205
36.25	169.7	170.8	**38.75**	181.1	182.3	**41.25**	192.5	193.7	**43.75**	204	205
36.30	169.9	171.1	**38.80**	181.3	182.5	**41.30**	192.7	194.0	**43.80**	204	205
36.35	170.1	171.3	**38.85**	181.5	182.7	**41.35**	192.9	194.2	**43.85**	204	206
36.40	170.4	171.5	**38.90**	181.7	183.0	**41.40**	193.1	194.4	**43.90**	205	206
36.45	170.6	171.7	**38.95**	182.0	183.2	**41.45**	193.4	194.7	**43.95**	205	206
36.50	170.8	172.0	**39.00**	182.2	183.4	**41.50**	193.6	194.9	**44.00**	205	206
36.55	171.1	172.2	**39.05**	182.4	183.6	**41.55**	193.8	195.1	**44.05**	205	207
36.60	171.3	172.4	**39.10**	182.7	183.9	**41.60**	194.1	195.4	**44.10**	205	207
36.65	171.5	172.7	**39.15**	182.9	184.1	**41.65**	194.3	195.6	**44.15**	206	207
36.70	171.7	172.9	**39.20**	183.1	184.3	**41.70**	194.5	195.8	**44.20**	206	207
36.75	172.0	173.1	**39.25**	183.3	184.6	**41.75**	194.7	196.0	**44.25**	206	208
36.80	172.2	173.3	**39.30**	183.6	184.8	**41.80**	195.0	196.3	**44.30**	206	208
36.85	172.4	173.6	**39.35**	183.8	185.0	**41.85**	195.2	196.5	**44.35**	207	208
36.90	172.6	173.8	**39.40**	184.0	185.3	**41.90**	195.4	196.7	**44.40**	207	208
36.95	172.9	174.0	**39.45**	184.2	185.5	**41.95**	195.7	197.0	**44.45**	207	208
37.00	173.1	174.3	**39.50**	184.5	185.7	**42.00**	195.9	197.2	**44.50**	207	209
37.05	173.3	174.5	**39.55**	184.7	185.9	**42.05**	196.1	197.4	**44.55**	208	209
37.10	173.6	174.7	**39.60**	184.9	186.2	**42.10**	196.3	197.7	**44.60**	208	209
37.15	173.8	174.9	**39.65**	185.2	186.4	**42.15**	196.6	197.9	**44.65**	208	209
37.20	174.0	175.2	**39.70**	185.4	186.6	**42.20**	196.8	198.1	**44.70**	208	210
37.25	174.2	175.4	**39.75**	185.6	186.9	**42.25**	197.0	198.3	**44.75**	208	210
37.30	174.5	175.6	**39.80**	185.8	187.1	**42.30**	197.3	198.6	**44.80**	209	210
37.35	174.7	175.9	**39.85**	186.1	187.3	**42.35**	197.5	198.8	**44.85**	209	210
37.40	174.9	176.1	**39.90**	186.3	187.5	**42.40**	197.7	199.0	**44.90**	209	211
37.45	175.1	176.3	**39.95**	186.5	187.8	**42.45**	197.9	199.3	**44.95**	209	211
45.00	210	211	**47.50**	221	223	**50.0**	233	234	**55.0**	256	257
45.05	210	211	**47.55**	221	223	**50.1**	233	235	**55.1**	256	258
45.10	210	211	**47.60**	222	223	**50.2**	233	235	**55.2**	256	258
45.15	210	212	**47.65**	222	223	**50.3**	234	235	**55.3**	257	259
45.20	211	212	**47.70**	222	223	**50.4**	234	236	**55.4**	257	259
45.25	211	212	**47.75**	222	224	**50.5**	235	236	**55.5**	258	260
45.30	211	212	**47.80**	222	224	**50.6**	235	237	**55.6**	258	260
45.35	211	213	**47.85**	223	224	**50.7**	236	237	**55.7**	259	261
45.40	211	213	**47.90**	223	224	**50.8**	236	238	**55.8**	259	261
45.45	212	213	**47.95**	223	225	**50.9**	237	238	**55.9**	260	261
45.50	212	213	**48.00**	223	225	**51.0**	237	239	**56.0**	260	262
45.55	212	214	**48.05**	224	225	**51.1**	238	239	**56.1**	261	262
45.60	212	214	**48.10**	224	225	**51.2**	238	240	**56.2**	261	263
45.65	213	214	**48.15**	224	226	**51.3**	239	240	**56.3**	262	263
45.70	213	214	**48.20**	224	226	**51.4**	239	241	**56.4**	262	264
45.75	213	214	**48.25**	225	226	**51.5**	239	241	**56.5**	262	264
45.80	213	215	**48.30**	225	226	**51.6**	240	242	**56.6**	263	265
45.85	214	215	**48.35**	225	226	**51.7**	240	242	**56.7**	263	265
45.90	214	215	**48.40**	225	227	**51.8**	241	242	**56.8**	264	266
45.95	214	215	**48.45**	225	227	**51.9**	241	243	**56.9**	264	266

TABLE 1 *Continued*

Kin Vis, mm^2/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS		Kin Vis, mm^2/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS		Kin Vis, mm^2/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS		Kin Vis, mm^2/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS	
	At 100 °F	At 210 °F		At 100 °F	At 210 °F		At 100 °F	At 210 °F		At 100 °F	At 210 °F
46.00	214	216	**48.50**	226	227	**52.0**	242	243	**57.0**	265	267
46.05	214	216	**48.55**	226	227	**52.1**	242	244	**57.1**	265	267
46.10	215	216	**48.60**	226	228	**52.2**	243	244	**57.2**	266	267
46.15	215	216	**48.65**	226	228	**52.3**	243	245	**57.3**	266	268
46.20	215	217	**48.70**	227	228	**52.4**	244	245	**57.4**	267	268
46.25	215	217	**48.75**	227	228	**52.5**	244	246	**57.5**	267	269
46.30	216	217	**48.80**	227	229	**52.6**	245	246	**57.6**	268	269
46.35	216	217	**48.85**	227	229	**52.7**	245	247	**57.7**	268	270
46.40	216	217	**48.90**	227	229	**52.8**	245	247	**57.8**	268	270
46.45	216	218	**48.95**	228	229	**52.9**	246	248	**57.9**	269	271
46.50	216	218	**49.00**	228	229	**53.0**	246	248	**58.0**	269	271
46.55	217	218	**49.05**	228	230	**53.1**	247	248	**58.1**	270	272
46.60	217	218	**49.10**	228	230	**53.2**	247	249	**58.2**	270	272
46.65	217	219	**49.15**	229	230	**53.3**	248	249	**58.3**	271	273
46.70	217	219	**49.20**	229	230	**53.4**	248	250	**58.4**	271	273
46.75	218	219	**49.25**	229	231	**53.5**	249	250	**58.5**	272	273
46.80	218	219	**49.30**	229	231	**53.6**	249	251	**58.6**	272	274
46.85	218	220	**49.35**	230	231	**53.7**	250	251	**58.7**	273	274
46.90	218	220	**49.40**	230	231	**53.8**	250	252	**58.8**	273	275
46.95	219	220	**49.45**	230	232	**53.9**	250	252	**58.9**	274	275
47.00	219	220	**49.50**	230	232	**54.0**	251	253	**59.0**	274	276
47.05	219	220	**49.55**	230	232	**54.1**	251	253	**59.1**	274	276
47.10	219	221	**49.60**	231	232	**54.2**	252	254	**59.2**	275	277
47.15	219	221	**49.65**	231	232	**54.3**	252	254	**59.3**	275	277
47.20	220	221	**49.70**	231	233	**54.4**	253	254	**59.4**	276	278
47.25	220	221	**49.75**	231	233	**54.5**	253	255	**59.5**	276	278
47.30	220	222	**49.80**	232	233	**54.6**	254	255	**59.6**	277	279
47.35	220	222	**49.85**	232	233	**54.7**	254	256	**59.7**	277	279
47.40	221	222	**49.90**	232	234	**54.8**	255	256	**59.8**	278	280
47.45	221	222	**49.95**	232	234	**54.9**	255	257	**59.9**	278	280
60.0	279	280	**65.0**	302	304	**70.0**	325	327	**75.0**	348	350
60.1	279	281	**65.1**	302	304	**70.1**	325	327	**75.1**	348	351
60.2	280	281	**65.2**	303	305	**70.2**	326	328	**75.2**	349	351
60.3	280	282	**65.3**	303	305	**70.3**	326	328	**75.3**	349	352
60.4	280	282	**65.4**	303	306	**70.4**	327	329	**75.4**	350	352
60.5	281	283	**65.5**	304	306	**70.5**	327	329	**75.5**	350	352
60.6	281	283	**65.6**	304	306	**70.6**	328	330	**75.6**	351	353
60.7	282	284	**65.7**	305	307	**70.7**	328	330	**75.7**	351	353
60.8	282	284	**65.8**	305	307	**70.8**	328	331	**75.8**	352	354
60.9	283	285	**65.9**	306	308	**70.9**	329	331	**75.9**	352	354
61.0	283	285	**66.0**	306	308	**71.0**	329	332	**76.0**	352	355
61.1	284	286	**66.1**	307	309	**71.1**	330	332	**76.1**	353	355
61.2	284	286	**66.2**	307	309	**71.2**	330	332	**76.2**	353	356
61.3	285	286	**66.3**	308	310	**71.3**	331	333	**76.3**	354	356
61.4	285	287	**66.4**	308	310	**71.4**	331	333	**76.4**	354	357
61.5	286	287	**66.5**	309	311	**71.5**	332	334	**76.5**	355	357
61.6	286	288	**66.6**	309	311	**71.6**	332	334	**76.6**	355	358
61.7	286	288	**66.7**	309	312	**71.7**	333	335	**76.7**	356	358
61.8	287	289	**66.8**	310	312	**71.8**	333	335	**76.8**	356	359
61.9	287	289	**66.9**	310	313	**71.9**	334	336	**76.9**	357	359
62.0	288	290	**67.0**	311	313	**72.0**	334	336	**77.0**	357	359
62.1	288	290	**67.1**	311	313	**72.1**	334	337	**77.1**	358	360
62.2	289	291	**67.2**	312	314	**72.2**	335	337	**77.2**	358	360
62.3	289	291	**67.3**	312	314	**72.3**	335	338	**77.3**	358	361
62.4	290	292	**67.4**	313	315	**72.4**	336	338	**77.4**	359	361
62.5	290	292	**67.5**	313	315	**72.5**	336	339	**77.5**	359	362
62.6	291	293	**67.6**	314	316	**72.6**	337	339	**77.6**	360	362
62.7	291	293	**67.7**	314	316	**72.7**	337	339	**77.7**	360	363
62.8	291	293	**67.8**	315	317	**72.8**	338	340	**77.8**	361	363
62.9	292	294	**67.9**	315	317	**72.9**	338	340	**77.9**	361	364

TABLE 1 *Continued*

Kin Vis, mm^2/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS		Kin Vis, mm^2/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS		Kin Vis, mm^2/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS		Kin Vis, mm^2/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS	
	At 100 °F	At 210 °F		At 100 °F	At 210 °F		At 100 °F	At 210 °F		At 100 °F	At 210 °F
63.0	292	294	**68.0**	315	318	**73.0**	339	341	**78.0**	362	364
63.1	293	295	**68.1**	316	318	**73.1**	339	341	**78.1**	362	365
63.2	293	295	**68.2**	316	319	**73.2**	340	342	**78.2**	363	365
63.3	294	296	**68.3**	317	319	**73.3**	340	342	**78.3**	363	366
63.4	294	296	**68.4**	317	319	**73.4**	340	343	**78.4**	364	366
63.5	295	297	**68.5**	318	320	**73.5**	341	343	**78.5**	364	366
63.6	295	297	**68.6**	318	320	**73.6**	341	344	**78.6**	364	367
63.7	296	298	**68.7**	319	321	**73.7**	342	344	**78.7**	365	367
63.8	296	298	**68.8**	319	321	**73.8**	342	345	**78.8**	365	368
63.9	297	299	**68.9**	320	322	**73.9**	343	345	**78.9**	366	368
64.0	297	299	**69.0**	320	322	**74.0**	343	346	**79.0**	366	369
64.1	297	299	**69.1**	321	323	**74.1**	344	346	**79.1**	367	369
64.2	298	300	**69.2**	321	323	**74.2**	344	346	**79.2**	367	370
64.3	298	300	**69.3**	322	324	**74.3**	345	347	**79.3**	368	370
64.4	299	301	**69.4**	322	324	**74.4**	345	347	**79.4**	368	371
64.5	299	301	**69.5**	322	325	**74.5**	346	348	**79.5**	369	371
64.6	300	302	**69.6**	323	325	**74.6**	346	348	**79.6**	369	372
64.7	300	302	**69.7**	323	326	**74.7**	346	349	**79.7**	370	372
64.8	301	303	**69.8**	324	326	**74.8**	347	349	**79.8**	370	373
64.9	301	303	**69.9**	324	326	**74.9**	347	350	**79.9**	370	373
80.0	371	373	**85.0**	394	397	**90.0**	417	420	**95.0**	440	443
80.1	371	374	**85.1**	395	397	**90.1**	418	420	**95.1**	441	444
80.2	372	374	**85.2**	395	398	**90.2**	418	421	**95.2**	441	444
80.3	372	375	**85.3**	395	398	**90.3**	419	421	**95.3**	442	445
80.4	373	375	**85.4**	396	399	**90.4**	419	422	**95.4**	442	445
80.5	373	376	**85.5**	396	399	**90.5**	420	422	**95.5**	443	446
80.6	374	376	**85.6**	397	400	**90.6**	420	423	**95.6**	443	446
80.7	374	377	**85.7**	397	400	**90.7**	420	423	**95.7**	444	447
80.8	375	377	**85.8**	398	400	**90.8**	421	424	**95.8**	444	447
80.9	375	378	**85.9**	398	401	**90.9**	421	424	**95.9**	444	447
81.0	376	378	**86.0**	399	401	**91.0**	422	425	**96.0**	445	448
81.1	376	379	**86.1**	399	402	**91.1**	422	425	**96.1**	445	448
81.2	376	379	**86.2**	400	402	**91.2**	423	426	**96.2**	446	449
81.3	377	379	**86.3**	400	403	**91.3**	423	426	**96.3**	446	449
81.4	377	380	**86.4**	401	403	**91.4**	424	427	**96.4**	447	450
81.5	378	380	**86.5**	401	404	**91.5**	424	427	**96.5**	447	450
81.6	378	381	**86.6**	401	404	**91.6**	425	427	**96.6**	448	451
81.7	379	381	**86.7**	402	405	**91.7**	425	428	**96.7**	448	451
81.8	379	382	**86.8**	402	405	**91.8**	426	428	**96.8**	449	452
81.9	380	382	**86.9**	403	406	**91.9**	426	429	**96.9**	449	452
82.0	380	383	**87.0**	403	406	**92.0**	426	429	**97.0**	450	453
82.1	381	383	**87.1**	404	406	**92.1**	427	430	**97.1**	450	453
82.2	381	383	**87.2**	404	407	**92.2**	427	430	**97.2**	451	454
82.3	382	384	**87.3**	405	407	**92.3**	428	431	**97.3**	451	454
82.4	382	385	**87.4**	405	408	**92.4**	428	431	**97.4**	451	454
82.5	383	385	**87.5**	406	408	**92.5**	429	432	**97.5**	452	455
82.6	383	386	**87.6**	406	409	**92.6**	429	432	**97.6**	452	455
82.7	383	386	**87.7**	407	409	**92.7**	430	433	**97.7**	453	456
82.8	384	386	**87.8**	407	410	**92.8**	430	433	**97.8**	453	456
82.9	384	387	**87.9**	407	410	**92.9**	431	433	**97.9**	454	457
83.0	385	387	**88.0**	408	411	**93.0**	431	434	**98.0**	454	457
83.1	385	388	**88.1**	408	411	**93.1**	432	434	**98.1**	455	458
83.2	386	388	**88.2**	409	412	**93.2**	432	435	**98.2**	455	458
83.3	386	389	**88.3**	409	412	**93.3**	432	435	**98.3**	456	459
83.4	387	389	**88.4**	410	413	**93.4**	433	436	**98.4**	456	459
83.5	387	390	**88.5**	410	413	**93.5**	433	436	**98.5**	457	460
83.6	388	390	**88.6**	411	413	**93.6**	434	437	**98.6**	457	460
83.7	388	391	**88.7**	411	414	**93.7**	434	437	**98.7**	457	461
83.8	389	391	**88.8**	412	414	**93.8**	435	438	**98.8**	458	461
83.9	389	392	**88.9**	412	415	**93.9**	435	438	**98.9**	458	461

TABLE 1 *Continued*

Kin Vis, mm^2/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS		Kin Vis, mm^2/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS		Kin Vis, mm^2/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS		Kin Vis, mm^2/s (cSt)	Equivalent Saybolt Universal Viscosity, SUS	
	At 100 °F	At 210 °F		At 100 °F	At 210 °F		At 100 °F	At 210 °F		At 100 °F	At 210 °F
84.0	389	392	**89.0**	413	415	**94.0**	436	439	**99.0**	459	462
84.1	390	393	**89.1**	413	416	**94.1**	436	439	**99.1**	459	462
84.2	390	392	**89.2**	413	416	**94.2**	437	440	**99.2**	460	463
84.3	391	393	**89.3**	414	417	**94.3**	437	440	**99.3**	460	463
84.4	391	394	**89.4**	414	417	**94.4**	438	440	**99.4**	461	464
84.5	392	394	**89.5**	415	418	**94.5**	438	441	**99.5**	461	464
84.6	392	395	**89.6**	415	418	**94.6**	438	441	**99.6**	462	465
84.7	393	395	**89.7**	416	419	**94.7**	439	442	**99.7**	462	465
84.8	393	396	**89.8**	416	419	**94.8**	439	442	**99.8**	463	466
84.9	394	396	**89.9**	417	420	**94.9**	440	443	**99.9**	463	466
100.0	463	467	**110.0**	510	513	**120.0**	556	560	**130.0**	602	606
100.2	464	468	**110.2**	511	514	**120.2**	557	561	**130.2**	603	607
100.4	465	468	**110.4**	512	515	**120.4**	558	562	**130.4**	604	608
100.6	466	469	**110.6**	513	516	**120.6**	559	563	**130.6**	605	609
100.8	467	470	**110.8**	513	517	**120.8**	560	564	**130.8**	606	610
101.0	468	471	**111.0**	514	518	**121.0**	561	564	**131.0**	607	611
101.2	469	472	**111.2**	515	519	**121.2**	562	565	**131.2**	608	612
101.4	470	473	**111.4**	516	520	**121.4**	563	566	**131.4**	609	613
101.6	471	474	**111.6**	517	521	**121.6**	563	567	**131.6**	610	614
101.8	472	475	**111.8**	518	522	**121.8**	564	568	**131.8**	611	615
102.0	473	476	**112.0**	519	522	**122.0**	565	569	**132.0**	612	616
102.2	474	477	**112.2**	520	523	**122.2**	566	570	**132.2**	613	617
102.4	475	478	**112.4**	521	524	**122.4**	567	571	**132.4**	613	618
102.6	475	479	**112.6**	522	525	**122.6**	568	572	**132.6**	614	619
102.8	476	480	**112.8**	523	526	**122.8**	569	573	**132.8**	615	619
103.0	477	481	**113.0**	524	527	**123.0**	570	574	**133.0**	616	620
103.2	478	481	**113.2**	525	528	**123.2**	571	575	**133.2**	617	621
103.4	479	482	**113.4**	525	529	**123.4**	572	576	**133.4**	618	622
103.6	480	483	**113.6**	526	530	**123.6**	573	577	**133.6**	619	623
103.8	481	484	**113.8**	527	531	**123.8**	574	577	**133.8**	620	624
104.0	482	485	**114.0**	528	532	**124.0**	575	578	**134.0**	621	625
104.2	483	486	**114.2**	529	533	**124.2**	575	579	**134.2**	622	626
104.4	484	487	**114.4**	530	534	**124.4**	576	580	**134.4**	623	627
104.6	485	488	**114.6**	531	535	**124.6**	577	581	**134.6**	624	628
104.8	486	489	**114.8**	532	536	**124.8**	578	582	**134.8**	625	629
105.0	487	490	**115.0**	533	536	**125.0**	579	583	**135.0**	625	630
105.2	488	491	**115.2**	534	537	**125.2**	580	584	**135.2**	626	631
105.4	488	492	**115.4**	535	538	**125.4**	581	585	**135.4**	627	632
105.6	489	493	**115.6**	536	539	**125.6**	582	586	**135.6**	628	632
105.8	490	494	**115.8**	537	540	**125.8**	583	587	**135.8**	629	633
106.0	491	495	**116.0**	538	541	**126.0**	584	588	**136.0**	630	634
106.2	492	495	**116.2**	538	542	**126.2**	585	589	**136.2**	631	635
106.4	493	496	**116.4**	539	543	**126.4**	586	590	**136.4**	632	636
106.6	494	497	**116.6**	540	544	**126.6**	587	591	**136.6**	633	637
106.8	495	498	**116.8**	541	545	**126.8**	588	591	**136.8**	634	638
107.0	496	499	**117.0**	542	546	**127.0**	588	592	**137.0**	635	639
107.2	497	500	**117.2**	543	547	**127.2**	589	593	**137.2**	636	640
107.4	498	501	**117.4**	544	548	**127.4**	590	594	**137.4**	637	641
107.6	499	502	**117.6**	545	549	**127.6**	591	595	**137.6**	638	642
107.8	500	503	**117.8**	546	550	**127.8**	592	596	**137.8**	638	643
108.0	500	504	**118.0**	547	550	**128.0**	593	597	**138.0**	639	644
108.2	501	505	**118.2**	548	551	**128.2**	594	598	**138.2**	640	645
108.4	502	506	**118.4**	549	552	**128.4**	595	599	**138.4**	641	646
108.6	503	507	**118.6**	550	553	**128.6**	596	600	**138.6**	642	646
108.8	504	508	**118.8**	550	554	**128.8**	597	601	**138.8**	643	647
109.0	505	509	**119.0**	551	555	**129.0**	598	602	**139.0**	644	648
109.2	506	509	**119.2**	552	556	**129.2**	599	603	**139.2**	645	649
109.4	507	510	**119.4**	553	557	**129.4**	600	604	**139.4**	646	650
109.6	508	511	**119.6**	554	558	**129.6**	600	605	**139.6**	647	651
109.8	509	512	**119.8**	555	559	**129.8**	601	605	**139.8**	648	652

TABLE 1 *Continued*

Kin Vis, mm^2/s (cSt)	Equiv Say Univ Vis, SUS At 100 °F	Kin Vis, mm^2/s (cSt)	Equiv Say Univ Vis, SUS At 100°F	Kin Vis, mm^2/s (cSt)	Equiv Say Univ Vis, SUS At 100 °F	Kin Vis, mm^2/s (cSt)	Equiv Say Univ Vis, SUS At 100 °F	Kin Vis, mm^2/s (cSt)	Equiv Say Univ Vis, SUS At 100 °F	Kin Vis, mm^2/s (cSt)	Equiv Say Univ Vis, SUS At 100 °F
140.0	649	**150.0**	695	**160.0**	741	**170.0**	788	**180.0**	834	**190.0**	880
140.2	650	**150.2**	696	**160.2**	742	**170.2**	789	**180.2**	835	**190.2**	881
140.4	650	**150.4**	697	**160.4**	743	**170.4**	789	**180.4**	836	**190.4**	882
140.6	651	**150.6**	698	**160.6**	744	**170.6**	790	**180.6**	837	**190.6**	883
140.8	652	**150.8**	699	**160.8**	745	**170.8**	791	**180.8**	838	**190.8**	884
141.0	653	**151.0**	700	**161.0**	746	**171.0**	792	**181.0**	839	**191.0**	885
141.2	654	**151.2**	701	**161.2**	747	**171.2**	793	**181.2**	839	**191.2**	886
141.4	655	**151.4**	701	**161.4**	748	**171.4**	794	**181.4**	840	**191.4**	887
141.6	656	**151.6**	702	**161.6**	749	**171.6**	795	**181.6**	841	**191.6**	888
141.8	657	**151.8**	703	**161.8**	750	**171.8**	796	**181.8**	842	**191.8**	889
142.0	658	**152.0**	704	**162.0**	751	**172.0**	797	**182.0**	843	**192.0**	889
142.2	659	**152.2**	705	**162.2**	751	**172.2**	798	**182.2**	844	**192.2**	890
142.4	660	**152.4**	706	**162.4**	752	**172.4**	799	**182.4**	845	**192.4**	891
142.6	661	**152.6**	707	**162.6**	753	**172.6**	800	**182.6**	846	**192.6**	892
142.8	662	**152.8**	708	**162.8**	754	**172.8**	801	**182.8**	847	**192.8**	893
143.0	663	**153.0**	709	**163.0**	755	**173.0**	801	**183.0**	848	**193.0**	894
143.2	663	**153.2**	710	**163.2**	756	**173.2**	802	**183.2**	849	**193.2**	895
143.4	664	**153.4**	711	**163.4**	757	**173.4**	803	**183.4**	850	**193.4**	896
143.6	665	**153.6**	712	**163.6**	758	**173.6**	804	**183.6**	851	**193.6**	897
143.8	666	**153.8**	713	**163.8**	759	**173.8**	805	**183.8**	851	**193.8**	898
144.0	667	**154.0**	713	**164.0**	760	**174.0**	806	**184.0**	852	**194.0**	899
144.2	668	**154.2**	714	**164.2**	761	**174.2**	807	**184.2**	853	**194.2**	900
144.4	669	**154.4**	715	**164.4**	762	**174.4**	808	**184.4**	854	**194.4**	901
144.6	670	**154.6**	716	**164.6**	763	**174.6**	809	**184.6**	855	**194.6**	902
144.8	671	**154.8**	717	**164.8**	763	**174.8**	810	**184.8**	856	**194.8**	902
145.0	672	**155.0**	718	**165.0**	764	**175.0**	811	**185.0**	857	**195.0**	903
145.2	673	**155.2**	719	**165.2**	765	**175.2**	812	**185.2**	858	**195.2**	904
145.4	674	**155.4**	720	**165.4**	766	**175.4**	813	**185.4**	859	**195.4**	905
145.6	675	**155.6**	721	**165.6**	767	**175.6**	814	**185.6**	860	**195.6**	906
145.8	676	**155.8**	722	**165.8**	768	**175.8**	814	**185.8**	861	**195.8**	907
146.0	676	**156.0**	723	**166.0**	769	**176.0**	815	**186.0**	862	**196.0**	908
146.2	677	**156.2**	724	**166.2**	770	**176.2**	816	**186.2**	863	**196.2**	909
146.4	678	**156.4**	725	**166.4**	771	**176.4**	817	**186.4**	864	**196.4**	910
146.6	679	**156.6**	726	**166.6**	772	**176.6**	818	**186.6**	864	**196.6**	911
146.8	680	**156.8**	726	**166.8**	773	**176.8**	819	**186.8**	865	**196.8**	912
147.0	681	**157.0**	727	**167.0**	774	**177.0**	820	**187.0**	866	**197.0**	913
147.2	682	**157.2**	728	**167.2**	775	**177.2**	821	**187.2**	867	**197.2**	914
147.4	683	**157.4**	729	**167.4**	776	**177.4**	822	**187.4**	868	**197.4**	914
147.6	684	**157.6**	730	**167.6**	776	**177.6**	823	**187.6**	869	**197.6**	915
147.8	685	**157.8**	731	**167.8**	777	**177.8**	824	**187.8**	870	**197.8**	916
148.0	686	**158.0**	732	**168.0**	778	**178.0**	825	**188.0**	871	**198.0**	917
148.2	687	**158.2**	733	**168.2**	779	**178.2**	826	**188.2**	872	**198.2**	918
148.4	688	**158.4**	734	**168.4**	780	**178.4**	826	**188.4**	873	**198.4**	919
148.6	688	**158.6**	735	**168.6**	781	**178.6**	827	**188.6**	874	**198.6**	920
148.8	689	**158.8**	736	**168.8**	782	**178.8**	828	**188.8**	875	**198.8**	921
149.0	690	**159.0**	737	**169.0**	783	**179.0**	829	**189.0**	876	**199.0**	922
149.2	691	**159.2**	738	**169.2**	784	**179.2**	830	**189.2**	877	**199.2**	923
149.4	692	**159.4**	738	**169.4**	785	**179.4**	831	**189.4**	877	**199.4**	924
149.6	693	**159.6**	739	**169.6**	786	**179.6**	832	**189.6**	878	**199.6**	925
149.8	694	**159.8**	740	**169.8**	787	**179.8**	833	**189.8**	879	**199.8**	926

TABLE 1 *Continued*

Kin Vis, mm^2/s (cSt)	Equiv Say Univ Vis, SUS At 100 °F	Kin Vis, mm^2/s (cSt)	Equiv Say Univ Vis, SUS At 100°F	Kin Vis, mm^2/s (cSt)	Equiv Say Univ Vis, SUS At 100 °F	Kin Vis, mm^2/s (cSt)	Equiv Say Univ Vis, SUS At 100 °F	Kin Vis, mm^2/s (cSt)	Equiv Say Univ Vis, SUS At 100 °F	Kin Vis, mm^2/s (cSt)	Equiv Say Univ Vis, SUS At 100 °F
200.0	927	**225.0**	1042	**250.0**	1158	**275.0**	1274	**300.0**	1390	**325.0**	1506
200.5	929	**225.5**	1045	**250.5**	1160	**275.5**	1276	**300.5**	1392	**325.5**	1508
201.0	931	**226.0**	1047	**251.0**	1163	**276.0**	1279	**301.0**	1394	**326.0**	1510
201.5	933	**226.5**	1049	**251.5**	1165	**276.5**	1281	**301.5**	1397	**326.5**	1512
202.0	936	**227.0**	1052	**252.0**	1167	**277.0**	1283	**302.0**	1399	**327.0**	1515
202.5	938	**227.5**	1054	**252.5**	1170	**277.5**	1286	**302.5**	1401	**327.5**	1517
203.0	940	**228.0**	1056	**253.0**	1172	**278.0**	1288	**303.0**	1404	**328.0**	1519
203.5	943	**228.5**	1059	**253.5**	1174	**278.5**	1290	**303.5**	1406	**328.5**	1522
204.0	945	**229.0**	1061	**254.0**	1177	**279.0**	1292	**304.0**	1408	**329.0**	1524
204.5	947	**229.5**	1063	**254.5**	1179	**279.5**	1295	**304.5**	1411	**329.5**	1526
205.0	950	**230.0**	1065	**255.0**	1181	**280.0**	1297	**305.0**	1413	**330.0**	1529
205.5	952	**230.5**	1068	**255.5**	1184	**280.5**	1299	**305.5**	1415	**330.5**	1531
206.0	954	**231.0**	1070	**256.0**	1186	**281.0**	1302	**306.0**	1418	**331.0**	1533
206.5	957	**231.5**	1072	**256.5**	1188	**281.5**	1304	**306.5**	1420	**331.5**	1536
207.0	959	**232.0**	1075	**257.0**	1191	**282.0**	1306	**307.0**	1422	**332.0**	1538
207.5	961	**232.5**	1077	**257.5**	1193	**282.5**	1309	**307.5**	1424	**332.5**	1540
208.0	964	**233.0**	1079	**258.0**	1195	**283.0**	1311	**308.0**	1427	**333.0**	1543
208.5	966	**233.5**	1082	**258.5**	1198	**283.5**	1313	**308.5**	1429	**333.5**	1545
209.0	968	**234.0**	1084	**259.0**	1200	**284.0**	1316	**309.0**	1431	**334.0**	1547
209.5	971	**234.5**	1086	**259.5**	1202	**284.5**	1318	**309.5**	1434	**334.5**	1550
210.0	973	**235.0**	1089	**260.0**	1204	**285.0**	1320	**310.0**	1436	**335.0**	1552
210.5	975	**235.5**	1091	**260.5**	1207	**285.5**	1323	**310.5**	1438	**335.5**	1554
211.0	977	**236.0**	1093	**261.0**	1209	**286.0**	1325	**311.0**	1441	**336.0**	1557
211.5	980	**236.5**	1096	**261.5**	1211	**286.5**	1327	**311.5**	1443	**336.5**	1559
212.0	982	**237.0**	1098	**262.0**	1214	**287.0**	1330	**312.0**	1445	**337.0**	1561
212.5	984	**237.5**	1100	**262.5**	1216	**287.5**	1332	**312.5**	1448	**337.5**	1563
213.0	987	**238.0**	1103	**263.0**	1218	**288.0**	1334	**313.0**	1450	**338.0**	1566
213.5	989	**238.5**	1105	**263.5**	1221	**288.5**	1336	**313.5**	1452	**338.5**	1568
214.0	991	**239.0**	1107	**264.0**	1223	**289.0**	1339	**314.0**	1455	**339.0**	1570
214.5	994	**239.5**	1109	**264.5**	1225	**289.5**	1341	**314.5**	1457	**339.5**	1573
215.0	996	**240.0**	1112	**265.0**	1228	**290.0**	1343	**315.0**	1459	**340.0**	1575
215.5	998	**240.5**	1114	**265.5**	1230	**290.5**	1346	**315.5**	1462	**340.5**	1577
216.0	1001	**241.0**	1116	**266.0**	1232	**291.0**	1348	**316.0**	1464	**341.0**	1580
216.5	1003	**241.5**	1119	**266.5**	1235	**291.5**	1350	**316.5**	1466	**341.5**	1582
217.0	1005	**242.0**	1121	**267.0**	1237	**292.0**	1353	**317.0**	1468	**342.0**	1584
217.5	1008	**242.5**	1123	**267.5**	1239	**292.5**	1355	**317.5**	1471	**342.5**	1587
218.0	1010	**243.0**	1126	**268.0**	1242	**293.0**	1357	**318.0**	1473	**343.0**	1589
218.5	1012	**243.5**	1128	**268.5**	1244	**293.5**	1360	**318.5**	1475	**343.5**	1591
219.0	1015	**244.0**	1130	**269.0**	1246	**294.0**	1362	**319.0**	1478	**344.0**	1594
219.5	1017	**244.5**	1133	**269.5**	1248	**294.5**	1364	**319.5**	1480	**344.5**	1596
220.0	1019	**245.0**	1135	**270.0**	1251	**295.0**	1367	**320.0**	1482	**345.0**	1598
220.5	1021	**245.5**	1137	**270.5**	1253	**295.5**	1369	**320.5**	1485	**345.5**	1601
221.0	1024	**246.0**	1140	**271.0**	1255	**296.0**	1371	**321.0**	1487	**346.0**	1603
221.5	1026	**246.5**	1142	**271.5**	1258	**296.5**	1374	**321.5**	1489	**346.5**	1605
222.0	1028	**247.0**	1144	**272.0**	1260	**297.0**	1376	**322.0**	1492	**347.0**	1607
222.5	1031	**247.5**	1147	**272.5**	1262	**297.5**	1378	**322.5**	1494	**347.5**	1610
223.0	1033	**248.0**	1149	**273.0**	1265	**298.0**	1380	**323.0**	1496	**348.0**	1612
223.5	1035	**248.5**	1151	**273.5**	1267	**298.5**	1383	**323.5**	1499	**348.5**	1614
224.0	1038	**249.0**	1154	**274.0**	1269	**299.0**	1385	**324.0**	1501	**349.0**	1617
224.5	1040	**249.5**	1156	**274.5**	1272	**299.5**	1387	**324.5**	1503	**349.5**	1619
350.0	1621	**375.0**	1737	**400.0**	1853	**425.0**	1969	**450.0**	2085	**475.0**	2200
350.5	1624	**375.5**	1739	**400.5**	1855	**425.5**	1971	**450.5**	2087	**475.5**	2203
351.0	1626	**376.0**	1742	**401.0**	1858	**426.0**	1973	**451.0**	2089	**476.0**	2205
351.5	1628	**376.5**	1744	**401.5**	1860	**426.5**	1976	**451.5**	2092	**476.5**	2207
352.0	1631	**377.0**	1746	**402.0**	1862	**427.0**	1978	**452.0**	2094	**477.0**	2210
352.5	1633	**377.5**	1749	**402.5**	1865	**427.5**	1980	**452.5**	2096	**477.5**	2212
353.0	1635	**378.0**	1751	**403.0**	1867	**428.0**	1983	**453.0**	2098	**478.0**	2214
353.5	1638	**378.5**	1753	**403.5**	1869	**428.5**	1985	**453.5**	2101	**478.5**	2217
354.0	1640	**379.0**	1756	**404.0**	1872	**429.0**	1987	**454.0**	2103	**479.0**	2219
354.5	1642	**379.5**	1758	**404.5**	1874	**429.5**	1990	**454.5**	2105	**479.5**	2221

TABLE 1 *Continued*

Kin Vis, mm^2/s (cSt)	Equiv Say Univ Vis, SUS At 100 °F	Kin Vis, mm^2/s (cSt)	Equiv Say Univ Vis, SUS At 100°F	Kin Vis, mm^2/s (cSt)	Equiv Say Univ Vis, SUS At 100 °F	Kin Vis, mm^2/s (cSt)	Equiv Say Univ Vis, SUS At 100 °F	Kin Vis, mm^2/s (cSt)	Equiv Say Univ Vis, SUS At 100 °F	Kin Vis, mm^2/s (cSt)	Equiv Say Univ Vis, SUS At 100 °F
355.0	1645	**380.0**	1760	**405.0**	1876	**430.0**	1992	**455.0**	2108	**480.0**	2224
355.5	1647	**380.5**	1763	**405.5**	1878	**430.5**	1994	**455.5**	2110	**480.5**	2226
356.0	1649	**381.0**	1765	**406.0**	1881	**431.0**	1997	**456.0**	2112	**481.0**	2228
356.5	1651	**381.5**	1767	**406.5**	1883	**431.5**	1999	**456.5**	2115	**481.5**	2231
357.0	1654	**382.0**	1770	**407.0**	1885	**432.0**	2001	**457.0**	2117	**482.0**	2233
357.5	1656	**382.5**	1772	**407.5**	1888	**432.5**	2004	**457.5**	2119	**482.5**	2235
358.0	1658	**383.0**	1774	**408.0**	1890	**433.0**	2006	**458.0**	2122	**483.0**	2237
358.5	1661	**383.5**	1777	**408.5**	1892	**433.5**	2008	**458.5**	2124	**483.5**	2240
359.0	1663	**384.0**	1779	**409.0**	1895	**434.0**	2010	**459.0**	2126	**484.0**	2242
359.5	1665	**384.5**	1781	**409.5**	1897	**434.5**	2013	**459.5**	2129	**484.5**	2244
360.0	1668	**385.0**	1783	**410.0**	1899	**435.0**	2015	**460.0**	2131	**485.0**	2247
360.5	1670	**385.5**	1786	**410.5**	1902	**435.5**	2017	**460.5**	2133	**485.5**	2249
361.0	1672	**386.0**	1788	**411.0**	1904	**436.0**	2020	**461.0**	2136	**486.0**	2251
361.5	1675	**386.5**	1790	**411.5**	1906	**436.5**	2022	**461.5**	2138	**486.5**	2254
362.0	1677	**387.0**	1793	**412.0**	1909	**437.0**	2024	**462.0**	2140	**487.0**	2256
362.5	1679	**387.5**	1795	**412.5**	1911	**437.5**	2027	**462.5**	2142	**487.5**	2258
363.0	1682	**388.0**	1797	**413.0**	1913	**438.0**	2029	**463.0**	2145	**488.0**	2261
363.5	1684	**388.5**	1800	**413.5**	1916	**438.5**	2031	**463.5**	2147	**488.5**	2263
364.0	1686	**389.0**	1802	**414.0**	1918	**439.0**	2034	**464.0**	2149	**489.0**	2265
364.5	1689	**389.5**	1804	**414.5**	1920	**439.5**	2036	**464.5**	2152	**489.5**	2268
365.0	1691	**390.0**	1807	**415.0**	1922	**440.0**	2038	**465.0**	2154	**490.0**	2270
365.5	1693	**390.5**	1809	**415.5**	1925	**440.5**	2041	**465.5**	2156	**490.5**	2272
366.0	1695	**391.0**	1811	**416.0**	1927	**441.0**	2043	**466.0**	2159	**491.0**	2275
366.5	1698	**391.5**	1814	**416.5**	1929	**441.5**	2045	**466.5**	2161	**491.5**	2277
367.0	1700	**392.0**	1816	**417.0**	1932	**442.0**	2048	**467.0**	2163	**492.0**	2279
367.5	1702	**392.5**	1818	**417.5**	1934	**442.5**	2050	**467.5**	2166	**492.5**	2281
368.0	1705	**393.0**	1821	**418.0**	1936	**443.0**	2052	**468.0**	2168	**493.0**	2284
368.5	1707	**393.5**	1823	**418.5**	1939	**443.5**	2054	**468.5**	2170	**493.5**	2286
369.0	1709	**394.0**	1825	**419.0**	1941	**444.0**	2057	**469.0**	2173	**494.0**	2288
369.5	1712	**394.5**	1827	**419.5**	1943	**444.5**	2059	**469.5**	2175	**494.5**	2291
370.0	1714	**395.0**	1830	**420.0**	1946	**445.0**	2061	**470.0**	2177	**495.0**	2293
370.5	1716	**395.5**	1832	**420.5**	1948	**445.5**	2064	**470.5**	2180	**495.5**	2295
371.0	1719	**396.0**	1834	**421.0**	1950	**446.0**	2066	**471.0**	2182	**496.0**	2298
371.5	1721	**396.5**	1837	**421.5**	1953	**446.5**	2068	**471.5**	2184	**496.5**	2300
372.0	1723	**397.0**	1839	**422.0**	1955	**447.0**	2071	**472.0**	2187	**497.0**	2302
372.5	1726	**397.5**	1841	**422.5**	1957	**447.5**	2073	**472.5**	2189	**497.5**	2305
373.0	1728	**398.0**	1844	**423.0**	1960	**448.0**	2075	**473.0**	2191	**498.0**	2307
373.5	1730	**398.5**	1846	**423.5**	1962	**448.5**	2078	**473.5**	2193	**498.5**	2309
374.0	1733	**399.0**	1848	**424.0**	1964	**449.0**	2080	**474.0**	2196	**499.0**	2312
374.5	1735	**399.5**	1851	**424.5**	1966	**449.5**	2082	**474.5**	2198	**499.5**	2314
										500.0	2316

TABLE 2 Conversion Factors, Kinematic Viscosity to Saybolt Universal Viscosity

Temperature,° F	Conversion Factors	
	Factor *A*, 75 mm^2/s (cSt) and Under	Factor *B*, Over 75 mm^2/s (cSt)
0	0.994	4.604
10	0.995	4.607
20	0.995	4.610
30	0.996	4.613
40	0.996	4.615
50	0.997	4.618
60	0.998	4.621
70	0.998	4.624
80	0.999	4.627
90	0.999	4.630
100	1.000	4.632
110	1.001	4.635
120	1.001	4.638
130	1.002	4.641
140	1.002	4.644
150	1.003	4.647
160	1.004	4.649
170	1.004	4.652
180	1.005	4.655
190	1.005	4.658
200	1.006	4.661
210	1.007	4.664
220	1.007	4.666
230	1.008	4.669
240	1.009	4.672
250	1.009	4.675
260	1.010	4.678
270	1.010	4.680
280	1.011	4.683
290	1.012	4.686
300	1.012	4.689
310	1.013	4.692
320	1.013	4.695
330	1.014	4.697
340	1.015	4.700
350	1.015	4.703

TABLE 3 Kinematic Viscosity to Saybolt Furol Viscosity
48 mm²/s to 1300 mm²/s (cSt)

Kin Vis, mm²/s (cSt)	Equiv Say Furol Vis, SFS		Kin Vis, mm²/s (cSt)	Equiv Say Furol Vis, SFS		Kin Vis, mm²/s (cSt)	Equiv Say Furol Vis, SFS		Kin Vis, mm²/s (cSt)	Equiv Say Furol Vis, SFS	
	At 122 °F	At 210 °F		At 122 °F	At 210 °F		At 122 °F	At 210 °F		At 122 °F	At 210 °F
48	25.1	...	...								
49	25.6	...	...								
50	26.0	25.2	**100**	48.6	48.4	**150**	71.5	72.1	**200**	94.8	96.0
51	26.5	25.6	**101**	49.1	48.9	**151**	72.0	72.6	**201**	95.2	96.5
52	27.0	26.1	**102**	49.5	49.3	**152**	72.4	73.1	**202**	95.7	96.9
53	27.4	26.5	**103**	50.0	49.8	**153**	72.9	73.5	**203**	96.2	97.4
54	27.9	27.0	**104**	50.4	50.3	**154**	73.4	74.0	**204**	96.6	97.9
55	28.3	27.4	**105**	50.9	50.7	**155**	73.8	74.5	**205**	97.1	98.4
56	28.8	27.9	**106**	51.3	51.2	**156**	74.3	75.0	**206**	97.6	98.8
57	29.2	28.4	**107**	51.8	51.7	**157**	74.8	75.4	**207**	98.0	99.8
58	29.7	28.8	**108**	52.3	52.2	**158**	75.2	75.9	**208**	98.5	99.8
59	30.1	29.3	**109**	52.7	52.6	**159**	75.7	76.4	**209**	99.0	100.3
60	30.6	29.7	**110**	53.2	53.1	**160**	76.1	76.9	**210**	99.4	100.8
61	31.1	30.2	**111**	53.6	53.6	**161**	76.6	77.4	**211**	99.9	101.2
62	31.5	30.6	**112**	54.1	54.1	**162**	77.1	77.8	**212**	100.4	101.7
63	32.0	31.1	**113**	54.5	54.5	**163**	77.5	78.3	**213**	100.9	102.2
64	32.4	31.6	**114**	55.0	55.0	**164**	78.0	78.8	**214**	101.3	102.7
65	32.9	32.0	**115**	55.4	55.5	**165**	78.5	79.3	**215**	101.8	103.1
66	33.3	32.5	**116**	55.9	55.9	**166**	78.9	79.7	**216**	102.3	103.6
67	33.8	33.0	**117**	56.3	56.4	**167**	79.4	80.2	**217**	102.7	104.1
68	34.2	33.4	**118**	56.8	56.9	**168**	79.9	80.7	**218**	103.2	104.6
69	34.7	33.9	**119**	57.3	57.4	**169**	80.3	81.2	**219**	103.7	105.1
70	35.1	34.3	**120**	57.7	57.8	**170**	80.8	81.6	**220**	104.1	105.5
71	35.6	34.8	**121**	58.2	58.3	**171**	81.2	82.1	**221**	104.6	106.0
72	36.0	35.3	**122**	58.6	58.8	**172**	81.7	82.6	**222**	105.1	106.5
73	36.5	35.7	**123**	59.1	59.3	**173**	82.2	83.1	**223**	105.6	107.0
74	36.9	36.2	**124**	59.5	59.7	**174**	82.6	83.6	**224**	106.0	107.4
75	37.4	36.7	**125**	60.0	60.2	**175**	83.1	84.0	**225**	106.5	107.9
76	37.8	37.1	**126**	60.5	60.7	**176**	83.6	84.5	**226**	106.9	108.4
77	38.3	37.6	**127**	60.9	61.2	**177**	84.0	85.0	**227**	107.4	108.9
78	38.7	38.1	**128**	61.4	61.6	**178**	84.5	85.5	**228**	107.9	109.4
79	39.2	38.5	**129**	61.8	62.1	**179**	85.0	85.9	**229**	108.3	109.8
80	39.6	39.0	**130**	62.3	62.6	**180**	85.4	86.4	**230**	108.8	110.3
81	40.1	39.5	**131**	62.8	63.1	**181**	85.9	86.9	**231**	109.3	110.8
82	40.5	39.9	**132**	63.2	63.5	**182**	86.4	87.4	**232**	109.8	111.3
83	41.0	40.4	**133**	63.7	64.0	**183**	86.8	87.9	**233**	110.2	111.8
84	41.4	40.9	**134**	64.1	64.5	**184**	87.3	88.3	**234**	110.7	112.2
85	41.9	41.3	**135**	64.6	65.0	**185**	87.8	88.8	**235**	111.2	112.7
86	42.3	41.8	**136**	65.1	65.4	**186**	88.2	89.3	**236**	111.6	113.2
87	42.8	42.3	**137**	65.5	65.9	**187**	88.7	89.8	**237**	112.1	113.7
88	43.2	42.7	**138**	66.0	66.4	**188**	89.2	90.2	**238**	112.6	114.1
89	43.7	43.2	**139**	66.4	66.9	**189**	89.6	90.7	**239**	113.0	114.6
90	44.1	43.7	**140**	66.9	67.3	**190**	90.1	91.2	**240**	113.5	115.1
91	44.6	44.1	**141**	67.4	67.8	**191**	90.6	91.7	**241**	114.0	115.6
92	45.0	44.6	**142**	67.8	68.3	**192**	91.0	92.2	**242**	114.4	116.1
93	45.5	45.1	**143**	68.3	68.8	**193**	91.5	92.6	**243**	114.9	116.5
94	45.9	45.6	**144**	68.7	69.3	**194**	92.0	93.1	**244**	115.4	117.0
95	46.4	46.0	**145**	69.2	69.7	**195**	92.4	93.6	**245**	115.9	117.5
96	46.8	46.5	**146**	69.7	70.2	**196**	92.9	94.1	**246**	116.3	118.0
97	47.3	47.0	**147**	70.1	70.7	**197**	93.4	94.5	**247**	116.8	118.5
98	47.7	47.4	**148**	70.6	71.2	**198**	93.8	95.0	**248**	117.3	118.9
99	48.2	47.9	**149**	71.0	71.6	**199**	94.3	95.5	**249**	117.7	119.4
250	118.2	119.9	**300**	141.7	143.8	**350**	165.2	167.8	**400**	188.8	191.7
251	118.7	120.4	**301**	142.2	144.3	**351**	165.7	168.2	**401**	189.3	192.2
252	119.1	120.8	**302**	142.6	144.8	**352**	166.2	168.7	**402**	189.7	192.7
253	119.6	121.3	**303**	143.1	145.3	**353**	166.6	169.2	**403**	190.2	193.2
254	120.1	121.8	**304**	143.6	145.7	**354**	167.1	169.7	**404**	190.7	193.6
255	120.5	122.3	**305**	144.0	146.2	**355**	167.6	170.2	**405**	191.1	194.1
256	121.0	122.8	**306**	144.5	146.7	**356**	168.1	170.6	**406**	191.6	194.6

TABLE 3 *Continued*

Kin Vis, mm^2/s (cSt)	Equiv Say Furol Vis, SFS		Kin Vis, mm^2/s (cSt)	Equiv Say Furol Vis, SFS		Kin Vis, mm^2/s (cSt)	Equiv Say Furol Vis, SFS		Kin Vis, mm^2/s (cSt)	Equiv Say Furol Vis, SFS	
	At 122 °F	At 210 °F		At 122 °F	At 210 °F		At 122 °F	At 210 °F		At 122 °F	At 210 °F
257	121.5	123.2	**307**	145.0	147.2	**357**	168.5	171.1	**407**	192.1	195.1
258	122.0	123.7	**308**	145.5	147.7	**358**	169.0	171.6	**408**	192.6	195.5
259	122.4	124.2	**309**	145.9	148.1	**359**	169.5	172.1	**409**	193.0	196.0
260	122.9	124.7	**310**	146.4	148.6	**360**	169.9	172.6	**410**	193.5	196.5
261	123.4	125.2	**311**	146.9	149.1	**361**	170.4	173.0	**411**	194.0	197.0
262	123.8	125.6	**312**	147.3	149.6	**362**	170.9	173.5	**412**	194.4	197.5
263	124.3	126.1	**313**	147.8	150.0	**363**	171.4	174.0	**413**	194.9	197.9
264	124.8	126.6	**314**	148.3	150.5	**364**	171.8	174.5	**414**	195.4	198.4
265	125.2	127.1	**315**	148.8	151.0	**365**	172.3	174.9	**415**	195.8	198.9
266	125.7	127.5	**316**	149.2	151.5	**366**	172.8	175.4	**416**	196.3	199.4
267	126.2	128.0	**317**	149.7	152.0	**367**	173.2	175.9	**417**	196.8	199.9
268	126.7	128.5	**318**	150.2	152.4	**368**	173.7	176.4	**418**	197.3	200
269	127.1	129.0	**319**	150.6	152.9	**369**	174.2	176.9	**419**	197.7	201
270	127.6	129.5	**320**	151.1	153.4	**370**	174.6	177.3	**420**	198.2	201
271	128.1	129.9	**321**	151.6	153.9	**371**	175.1	177.8	**421**	198.7	202
272	128.5	130.4	**322**	152.0	154.4	**372**	175.6	178.3	**422**	199.1	202
273	129.0	130.9	**323**	152.5	154.8	**373**	176.1	178.8	**423**	199.6	203
274	129.5	131.4	**324**	153.0	155.3	**374**	176.5	179.3	**424**	200	203
275	129.9	131.9	**325**	153.5	155.8	**375**	177.0	179.7	**425**	201	204
276	130.4	132.3	**326**	153.9	156.3	**376**	177.5	180.2	**426**	201	204
277	130.9	132.8	**327**	154.4	156.7	**377**	177.9	180.7	**427**	202	205
278	131.4	133.3	**328**	154.9	157.2	**378**	178.4	181.2	**428**	202	205
279	131.8	133.8	**329**	155.3	157.7	**379**	178.9	181.7	**429**	202	206
280	132.3	134.2	**330**	155.8	158.2	**380**	179.4	182.1	**430**	203	206
281	132.8	134.7	**331**	156.3	158.7	**381**	179.8	182.6	**431**	203	207
282	133.2	135.2	**332**	156.8	159.1	**382**	180.3	183.1	**432**	204	207
283	133.7	135.7	**333**	157.2	159.6	**383**	180.8	183.6	**433**	204	208
284	134.2	136.2	**334**	157.7	160.1	**384**	181.2	184.1	**434**	205	208
285	134.6	136.6	**335**	158.2	160.6	**385**	181.7	184.5	**435**	205	208
286	135.1	137.1	**336**	158.6	161.1	**386**	182.2	185.0	**436**	206	209
287	135.6	137.6	**337**	159.1	161.5	**387**	182.7	185.5	**437**	206	209
288	136.1	138.1	**338**	159.6	162.0	**388**	183.1	186.0	**438**	207	210
289	136.5	138.6	**339**	160.0	162.5	**389**	183.6	186.4	**439**	207	210
290	137.0	139.0	**340**	160.5	163.0	**390**	184.1	186.9	**440**	208	211
291	137.5	139.5	**341**	161.0	163.5	**391**	184.5	187.4	**441**	208	211
292	137.9	140.0	**342**	161.5	163.9	**392**	185.0	187.9	**442**	209	212
293	138.4	140.5	**343**	161.9	164.4	**393**	185.5	188.4	**443**	209	212
294	138.9	140.9	**344**	162.4	164.9	**394**	186.0	188.8	**444**	210	213
295	139.3	141.4	**345**	162.9	165.4	**395**	186.4	189.3	**445**	210	213
296	139.8	141.9	**346**	163.3	165.8	**396**	186.9	189.8	**446**	210	214
297	140.3	142.4	**347**	163.8	166.3	**397**	187.4	190.3	**447**	211	214
298	140.8	142.9	**348**	164.3	166.8	**398**	187.8	190.8	**448**	211	215
299	141.2	143.3	**349**	164.8	167.3	**399**	188.3	191.2	**449**	212	215
450	212	216	**500**	236	240	**550**	259	264	**600**	283	288
451	213	216	**501**	236	240	**551**	260	264	**601**	284	288
452	213	217	**502**	237	241	**552**	260	265	**602**	284	288
453	214	217	**503**	237	241	**553**	261	265	**603**	284	289
454	214	218	**504**	238	242	**554**	261	265	**604**	285	289
455	215	218	**505**	238	242	**555**	262	266	**605**	285	290
456	215	219	**506**	239	242	**556**	262	266	**606**	286	290
457	216	219	**507**	239	243	**557**	263	267	**607**	286	291
458	216	220	**508**	240	243	**558**	263	267	**608**	287	291
459	217	220	**509**	240	244	**559**	264	268	**609**	287	292
460	217	220	**510**	241	244	**560**	264	268	**610**	288	292
461	218	221	**511**	241	245	**561**	265	269	**611**	288	293
462	218	221	**512**	242	245	**562**	265	269	**612**	289	293
463	218	222	**513**	242	246	**563**	266	270	**613**	289	294
464	219	222	**514**	243	246	**564**	266	270	**614**	290	294
465	219	223	**515**	243	247	**565**	267	271	**615**	290	295
466	220	223	**516**	243	247	**566**	267	271	**616**	291	295
467	220	224	**517**	244	248	**567**	268	272	**617**	291	296

TABLE 3 *Continued*

Kin Vis, mm^2/s (cSt)	Equiv Say Furol Vis, SFS		Kin Vis, mm^2/s (cSt)	Equiv Say Furol Vis, SFS		Kin Vis, mm^2/s (cSt)	Equiv Say Furol Vis, SFS		Kin Vis, mm^2/s (cSt)	Equiv Say Furol Vis, SFS	
	At 122 °F	At 210 °F		At 122 °F	At 210 °F		At 122 °F	At 210 °F		At 122 °F	At 210 °F
468	221	224	**518**	244	248	**568**	268	272	**618**	292	296
469	221	225	**519**	245	249	**569**	268	273	**619**	292	297
470	222	225	**520**	245	249	**570**	269	273	**620**	292	297
471	222	226	**521**	246	250	**571**	269	274	**621**	293	298
472	223	226	**522**	246	250	**572**	270	274	**622**	293	298
473	223	227	**523**	247	251	**573**	270	275	**623**	294	299
474	224	227	**524**	247	251	**574**	271	275	**624**	294	299
475	224	228	**525**	248	252	**575**	271	276	**625**	295	300
476	225	228	**526**	248	252	**576**	272	276	**626**	295	300
477	225	229	**527**	249	253	**577**	272	277	**627**	296	300
478	226	229	**258**	249	253	**578**	273	277	**628**	296	301
479	226	230	**529**	250	254	**579**	273	277	**629**	297	301
480	226	230	**530**	250	254	**580**	274	278	**630**	297	302
481	227	231	**531**	251	254	**581**	274	278	**631**	298	302
482	227	231	**532**	251	255	**582**	275	279	**632**	298	303
483	228	231	**533**	251	255	**583**	275	279	**633**	299	303
484	228	232	**534**	252	256	**584**	276	280	**634**	299	304
485	229	232	**535**	252	256	**585**	276	280	**635**	300	304
586	229	233	**536**	253	257	**586**	276	281	**636**	300	305
487	230	233	**537**	253	257	**587**	277	281	**637**	301	305
488	230	234	**538**	254	258	**588**	277	282	**638**	301	306
489	231	234	**539**	254	258	**589**	278	282	**639**	301	306
490	231	235	**540**	255	259	**590**	278	283	**640**	302	307
491	232[†]	235	**541**	255	259	**591**	279	283	**641**	302	307
492	232	236	**542**	256	260	**592**	279	284	**642**	303	308
493	233	236	**543**	256	260	**593**	280	284	**643**	303	308
494	233	237	**544**	257	261	**594**	280	285	**644**	304	309
495	234	237	**545**	257	261	**595**	281	285	**645**	304	309
496	234	238	**546**	258	262	**596**	281	286	**646**	305	310
497	234	238	**547**	258	262	**597**	282	286	**647**	305	310
498	235	239	**548**	259	263	**598**	282	287	**648**	306	311
499	235	239	**549**	259	263	**599**	283	287	**649**	306	311
650	307	311	**700**	330	335	**750**	354	359	**800**	377	383
651	307	312	**701**	331	336	**751**	354	360	**802**	378	384
652	308	312	**702**	331	336	**752**	355	360	**804**	379	385
653	308	313	**703**	332	337	**753**	355	361	**806**	380	386
654	309	313	**704**	332	337	**754**	356	361	**808**	381	387
655	309	314	**705**	333	338	**755**	356	362	**810**	382	388
656	309	314	**706**	333	338	**756**	357	362	**812**	383	389
657	310	315	**707**	334	339	**757**	357	363	**814**	384	390
658	310	315	**708**	334	339	**758**	358	363	**816**	385	391
659	311	316	**709**	334	340	**759**	358	364	**818**	386	392
660	311	316	**710**	335	340	**760**	359	364	**820**	387	393
661	312	317	**711**	335	341	**761**	359	365	**822**	388	394
662	312	317	**712**	336	341	**762**	359	365	**824**	389	395
663	313	318	**713**	336	342	**763**	360	366	**826**	390	396
664	313	318	**714**	337	342	**764**	360	366	**828**	391	397
665	314	319	**715**	337	343	**765**	361	367	**830**	392	398
666	314	319	**716**	338	343	**766**	361	367	**832**	392	399
667	315	320	**717**	338	344	**767**	362	368	**834**	393	400
668	315	320	**718**	339	344	**768**	362	368	**836**	394	401
669	316	321	**719**	339	345	**769**	363	369	**838**	395	402
670	316	321	**720**	340	345	**770**	363	369	**840**	396	403
671	317	322	**721**	340	346	**771**	364	369	**842**	397	403
672	317	322	**722**	341	346	**772**	364	370	**844**	398	404
673	317	323	**723**	341	346	**773**	365	370	**846**	399	405
674	318	323	**724**	342	347	**774**	365	371	**848**	400	406
675	318	323	**725**	342	347	**775**	366	371	**850**	401	407
676	319	324	**726**	342	348	**776**	366	372	**852**	402	408
677	319	324	**727**	343	348	**777**	367	372	**854**	403	409
678	320	325	**728**	343	349	**778**	367	373	**856**	404	410

TABLE 3 *Continued*

Kin Vis, mm^2/s (cSt)	Equiv Say Furol Vis, SFS		Kin Vis, mm^2/s (cSt)	Equiv Say Furol Vis, SFS		Kin Vis, mm^2/s (cSt)	Equiv Say Furol Vis, SFS		Kin Vis, mm^2/s (cSt)	Equiv Say Furol Vis, SFS	
	At 122 °F	At 210 °F		At 122 °F	At 210 °F		At 122 °F	At 210 °F		At 122 °F	At 210 °F
679	320	325	**729**	344	349	**779**	367	373	**858**	405	411
680	321	326	**730**	344	350	**780**	368	374	**860**	406	412
681	321	326	**731**	345	350	**781**	368	374	**862**	407	413
682	322	327	**732**	345	351	**782**	369	375	**864**	408	414
683	322	327	**733**	346	351	**783**	369	375	**866**	409	415
684	323	328	**734**	346	352	**784**	370	376	**868**	409	416
685	323	328	**735**	347	352	**785**	370	376	**870**	410	417
686	324	329	**736**	347	353	**786**	371	377	**872**	411	418
687	324	329	**737**	348	353	**787**	371	377	**874**	412	419
688	325	330	**738**	348	354	**788**	372	378	**876**	413	420
689	325	330	**739**	349	354	**789**	372	378	**878**	414	421
690	326	331	**740**	349	355	**790**	373	379	**880**	415	422
691	326	331	**741**	350	355	**791**	373	379	**882**	416	423
692	326	332	**742**	350	356	**792**	374	380	**884**	417	424
693	327	332	**743**	351	356	**793**	374	380	**886**	418	425
694	327	333	**744**	351	357	**794**	375	380	**888**	419	426
695	328	333	**745**	351	357	**795**	375	381	**890**	420	426
696	328	334	**746**	352	357	**796**	375	381	**892**	421	427
697	329	334	**747**	352	358	**797**	376	382	**894**	422	428
698	329	334	**748**	353	358	**798**	376	382	**896**	423	429
699	330	335	**749**	353	359	**799**	377	383	**898**	424	430
900	425	431	**1000**	472	479	**1100**	519	527	**1200**	566	575
902	425	432	**1002**	473	480	**1102**	520	528	**1202**	567	576
904	426	433	**1004**	474	481	**1104**	521	529	**1204**	568	577
906	427	434	**1006**	475	482	**1106**	522	530	**1206**	569	578
908	428	435	**1008**	475	483	**1108**	523	531	**1208**	570	579
910	429	436	**1010**	476	484	**1110**	524	532	**1210**	571	580
912	430	437	**1012**	477	485	**1112**	525	533	**1212**	572	581
914	431	438	**1014**	478	486	**1114**	525	534	**1214**	573	582
916	432	439	**1016**	479	487	**1116**	526	535	**1216**	574	583
918	433	440	**1018**	480	488	**1118**	527	536	**1218**	575	584
920	434	441	**1020**	481	489	**1120**	528	537	**1220**	575	585
922	435	442	**1022**	482	490	**1122**	529	538	**1222**	576	586
924	436	443	**1024**	483	491	**1124**	530	539	**1224**	577	587
926	437	444	**1026**	484	492	**1126**	531	540	**1226**	578	588
928	438	445	**1028**	485	493	**1128**	532	541	**1228**	579	588
930	439	446	**1030**	486	494	**1130**	533	542	**1230**	580	589
932	440	447	**1032**	487	495	**1132**	534	542	**1232**	581	590
934	441	448	**1034**	488	495	**1134**	535	543	**1234**	582	591
936	442	449	**1036**	489	496	**1136**	536	544	**1236**	583	592
938	442	449	**1038**	490	497	**1138**	537	545	**1238**	584	593
940	443	450	**1040**	491	498	**1140**	538	546	**1240**	585	594
942	444	451	**1042**	492	499	**1142**	539	547	**1242**	586	595
944	445	452	**1044**	492	500	**1144**	540	548	**1244**	587	596
946	446	453	**1046**	493	501	**1146**	541	549	**1246**	588	597
948	447	454	**1048**	494	502	**1148**	542	550	**1248**	589	598
950	448	455	**1050**	495	503	**1150**	542	551	**1250**	590	599
952	449	456	**1052**	496	504	**1152**	543	552	**1252**	591	600
954	450	457	**1054**	497	505	**1154**	544	553	**1254**	592	601
956	451	458	**1056**	498	506	**1156**	545	554	**1256**	592	602
958	452	459	**1058**	499	507	**1158**	546	555	**1258**	593	603
960	453	460	**1060**	500	508	**1160**	547	556	**1260**	594	604
962	454	461	**1062**	501	509	**1162**	548	557	**1262**	595	605
964	455	462	**1064**	502	510	**1164**	549	558	**1264**	596	606
966	456	463	**1066**	503	511	**1166**	550	559	**1266**	597	607
968	457	464	**1068**	504	512	**1168**	551	560	**1268**	598	608
970	458	465	**1070**	505	513	**1170**	552	561	**1270**	599	609
972	459	466	**1072**	506	514	**1172**	553	562	**1272**	600	610
974	459	467	**1074**	507	515	**1174**	554	563	**1274**	601	611
976	460	468	**1076**	508	516	**1176**	555	564	**1276**	602	611
978	461	469	**1078**	509	517	**1178**	556	565	**1278**	603	612

TABLE 3 *Continued*

Kin Vis, mm^2/s (cSt)	Equiv Say Furol Vis, SFS		Kin Vis, mm^2/s (cSt)	Equiv Say Furol Vis, SFS		Kin Vis, mm^2/s (cSt)	Equiv Say Furol Vis, SFS		Kin Vis, mm^2/s (cSt)	Equiv Say Furol Vis, SFS	
	At 122 °F	At 210 °F		At 122 °F	At 210 °F		At 122 °F	At 210 °F		At 122 °F	At 210 °F
980	462	470	**1080**	509	518	**1180**	557	565	**1280**	604	613
982	463	471	**1082**	510	518	**1182**	558	566	**1282**	605	614
984	464	472	**1084**	511	519	**1184**	559	567	**1284**	606	615
986	465	472	**1086**	512	520	**1186**	559	568	**1286**	607	616
988	466	473	**1088**	513	521	**1188**	560	569	**1288**	608	617
990	467	474	**1090**	514	522	**1190**	561	570	**1290**	609	618
992	468	475	**1092**	515	523	**1192**	562	571	**1292**	609	619
994	469	476	**1094**	516	524	**1194**	563	572	**1294**	610	620
996	470	477	**1096**	517	525	**1196**	564	573	**1296**	611	621
998	471	478	**1098**	518	526	**1198**	565	574	**1298**	612	622
									1300	613	623

APPENDIX

(Nonmandatory Information)

X1. EXAMPLES ILLUSTRATING VISCOSITY CONVERSIONS

X1.1 Example 1

X1.1.1 What is the Saybolt Universal viscosity equivalent to a kinematic viscosity of 74.5 mm^2/s (cSt) at 100 °F?

X1.1.2 Enter Table 1 with the kinematic viscosity of 74.5 mm^2/s (cSt) and note that at a temperature of 100 °F the equivalent Saybolt Universal viscosity is 346 SUS.

X1.2 Example 2

X1.2.1 What is the Saybolt Universal viscosity equivalent to a kinematic viscosity of 24.87 mm^2/s (cSt) at 100 °F?

X1.2.2 Enter Table 1 with 24.85 mm^2/s (cSt) and note that the equivalent Saybolt Universal viscosity at 100 °F is 118.7 SUS. Likewise, enter the table with 24.90 mm^2/s (cSt) and find that the equivalent Saybolt Universal viscosity at 100 °F is 118.9 SUS. An increase of 0.05 mm^2/s (cSt) is equal to a corresponding increase of 0.2 SUS. Therefore, by simple proportion, an increase of 0.02 mm^2/s (cSt) kinematic viscosity increases the equivalent Saybolt Universal viscosity by $0.02 \div 0.05 \times 0.2 = 0.08$ SUS. Hence, the Saybolt Universal viscosity at 100 °F equivalent to 24.87 mm^2/s (cSt) at 100 °F is $118.7 + 0.08 = 118.78$ and round off to 118.8 SUS.

X1.3 Example 3

X1.3.1 What is the Saybolt Universal viscosity equivalent to a kinematic viscosity of 745 mm^2/s (cSt) at 100 °F?

X1.3.2 Multiply 745 by 4.632, the *B* factor at 100, to obtain 3451 SUS.

X1.4 Example 4

X1.4.1 What is the Saybolt Universal viscosity equivalent to a kinematic viscosity of 54.4 mm^2/s (cSt) at 180 °F?

X1.4.2 From Table 1 convert the kinematic viscosity at 180 °F of 54.4 to the equivalent Saybolt Universal viscosity at 100 °F, namely 253 SUS. From Table 2 obtain Factor *A* for conversion at a temperature 180 °F 1.005. Multiply 253 SUS by 1.005 to obtain 254 SUS.

X1.5 Example 5

X1.5.1 What is the Saybolt Universal viscosity equivalent to a kinematic viscosity of 89.95 mm^2/s (cSt) at 40 °F?

X1.5.2 From Table 2 obtain Factor *B* for a temperature of 40 °F = 4.615. Multiply 89.95 by 4.615 to obtain 415 SUS.

X1.6 Example 6

X1.6.1 What is the Saybolt Furol viscosity equivalent to a kinematic viscosity of 231 mm^2/s (cSt) at 122 °F?

X1.6.2 Enter Table 3 with 231 mm^2/s (cSt) and note that the equivalent Saybolt Furol viscosity at 122 °F is 109.3 SFS.

X1.7 Example 7

X1.7.1 What is the Saybolt Furol viscosity at 210 °F equivalent to a kinematic viscosity of 287 mm^2/s (cSt) at 210 °F?

X1.7.2 Enter Table 3 with 287 mm^2/s (cSt) and note that the equivalent Saybolt Furol viscosity at 210 °F is 137.6 SFS.

X1.8 Example 8

X1.8.1 What is the Saybolt Furol viscosity equivalent to a kinematic viscosity of 276.2 mm^2/s (cSt) at 122 °F?

X1.8.2 Enter Table 3 with 276 mm^2/s (cSt) and note that the equivalent Saybolt Furol viscosity at 122 °F is 130.4 SFS. Likewise, enter the table with 277 mm^2/s (cSt) and note that the equivalent Saybolt Furol viscosity is 130.9 SFS. An increase of 1.0 mm^2/s (cSt) is equal to a corresponding increase of 0.5 SFS. Therefore, by simple proportion, an increase of 0.2 mm^2/s (cSt) increased the Saybolt Furol viscosity equivalent of 276 mm^2/s (cSt) by $0.2/0.1 \times 0.5 = 0.1$ SFS. Hence, the Saybolt Furol viscosity at 122 °F equivalent to 276.2 mm^2/s (cSt) kinematic viscosity at 122 °F is $130.4 + 0.1 = 130.5$ SFS.

X1.9 Example 9

X1.9.1 What is the Saybolt Furol viscosity equivalent to 1500 mm^2/s (cSt) at 122 °F?

X1.9.2 Applying Eq 3: $1500 \times 0.4717 = 707.55$ and rounds off to 708 SFS.

SUMMARY OF CHANGES

Subcommittee D02.07 has identified the location of selected changes to this standard since the last issue (D2161 – 10 (2016)) that may impact the use of this standard. (Approved July 1, 2017.)

(1) Revised Note 1; added Test Method D7042 to Referenced Documents.