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Tables of the Dynamic and Kinematic Viscosity of Aqueous KCl Solutions in the Temperature Range 25–150 °C and the Pressure Range 0.1–35 MPa

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Tabulated values of the dynamic and kinematic viscosity of potassium chloride solutions are given. The tables cover the temperature range 25–150 °C, the pressure range 0.1–35 MPa and the concentration range 0–5 molal. It is estimated that the accuracy of the tabulated values is $\pm 1\%$. The correlations from which the tables were generated are also given.

Key words: Aqueous solutions; compilation; potassium chloride; reference data; viscosity.

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Introduction

The viscosity of aqueous KCl solutions in the temperature range 25–150 °C, the pressure range 0.1–30 MPa, and the concentration range 0–4.5 molal was measured by Grimes, Kestin, and Khalifa [1]¹. The experimental results, whose estimated accuracy is $\pm 1\%$, were correlated in terms of pressure, temperature and molality in the same reference. The experimental data were obtained by the oscillating-disk method (Kestin, Khalifa, et al. [4,5]).

The tabulated values of the dynamic viscosity were computed from the correlation of Grimes, Kestin, and Khalifa [1]. The density needed for the calculation of the kinematic viscosity was taken from a correlation prepared by the same authors on the basis of the compilation of Potter and Brown [8]. The correlating equations together with their empirical constants are summarized at the end of this report. The present is a companion to our paper on the viscosity of NaCl solutions (Kestin, Khalifa, and Correia [3]).

List of Symbols

Symbol		Units
m	concentration of KCl in H_2O in molal units	mol/kg
m_s	concentration of KCl in H_2O at salt saturation	mol/kg

Symbol		Units
p	pressure	MPa
t	temperature	°C
α	pressure coefficient for density	(GPa) ⁻¹
β	pressure coefficient for viscosity	(GPa) ⁻¹
β_w	pressure coefficient for the viscosity of water	(GPa) ⁻¹
β^E	excess pressure coefficient $\beta^E = \beta - \beta_w$	(GPa) ⁻¹
β^*	reduced excess pressure coefficient, β^E/β_s^E	
μ	dynamic viscosity	μPa s
μ^0	zero-pressure dynamic viscosity (hypothetical)	μPa s
μ_w	dynamic viscosity of water = $\mu(p,t,m=0)$	μPa s
ν	kinematic viscosity	mm ² /s
ρ	density	kg/m ³
ρ^0	zero-pressure density (hypothetical)	kg/m ³

Correlations

Dynamic Viscosity

$$\mu(p,t,m) = \mu^0(t,m) [1 + \beta(t,m) p]. \quad (1)$$

The hypothetical zero-pressure viscosity μ^0 is given by

$$\mu^0(t,m) = \mu_w^0(t)$$

¹ Figures in brackets indicate literature references.

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$$1 + \sum_{i=0}^2 \sum_{j=0}^2 f_{ij}(m/\text{mol kg}^{-1})^{j+1} (t/\text{°C})^i , \quad (2)$$

in which μ_w^0 is the zero-pressure viscosity of water correlated by Kestin, Sokolov, and Wakeham [6] in the following manner:

$$\begin{aligned} & \log_{10} \mu_w^0(t)/\mu_w^0(20 \text{ °C}) \\ & = (20 - t/\text{°C}) [1.2378 - 1.303 \times 10^{-3} \\ & \quad (20 - t/\text{°C}) + 3.06 \times 10^{-6} (20-t/\text{°C})^2 + \\ & \quad 2.55 \times 10^{-8} (20 - t/\text{°C})^3]/(96 + t/\text{°C}) . \end{aligned} \quad (3)$$

The viscosity of water at 20 °C is that proposed by Swindells et al. [10]; $\mu_w^0 = 1002 \text{ } \mu\text{Pa s}$. The coefficients f_{ij} in eq (2) are given in the next section.

The pressure coefficient $\beta(t,m)$ can be calculated as follows:

$$\beta(t,m) = \beta_s^E \beta^* (m/m_s) + \beta_w(t) . \quad (4)$$

The pressure coefficient for water, β_w , is taken from the correlation of Kestin, Khalifa et al. [4], namely:

$$\beta_w(t)/(\text{GPa})^{-1} = \sum_{i=0}^4 \beta_i \cdot (t/\text{°C})^i , \quad (5)$$

The constants β_i are given below. The excess pressure coefficient at KCl saturation can be computed from

$$\beta_s^E(t)/(\text{GPa})^{-1} = 0.241 + 0.478 \times 10^{-2}(t/\text{°C}) - \beta_w(t) , \quad (6)$$

whereas the molality at salt saturation is given by

$$m_s(t)/(\text{mol kg}^{-1}) = \sum_{i=0}^2 m_i \cdot (t/\text{°C})^i . \quad (7)$$

The numerical values of the constants m_i are listed below. The reduced excess pressure coefficient is expressed as

$$\beta^* (m/m_s) = 3.25 (m/m_s - 3.5 (m/m_s)^2 + 1.25 (m/m_s)^3 . \quad (8)$$

Kinematic Viscosity

To calculate the kinematic viscosity, ν , it is necessary to compute the density of the solutions over the whole range of pressure, temperature and concentration. The correlation provided by Grimes, Kestin, and Khalifa [1] was used for this purpose. This correlation is based on the density data compilation of Potter and Brown [8] and is expressed as a

double polynomial in temperature and concentration augmented by a linear pressure term:

$$\rho(p,t,m) = \rho^0(t,m) [1 + \alpha(t,m) p] . \quad (9)$$

with

$$\rho^0(t,m)/(\text{kg/m}^3) = \sum_{i=0}^2 \sum_{j=0}^2 d_{ij}(m/\text{mol kg}^{-1}) (t/\text{°C})^j . \quad (10)$$

The constants d_{ij} are listed below. The pressure coefficient $\alpha(t,m)$ is correlated by

$$\alpha(t,m)/(\text{GPa})^{-1} = \sum_{i=0}^2 \sum_{j=0}^2 a_{ij}(m/\text{mol kg}^{-1})^i (t/\text{°C})^j . \quad (11)$$

The coefficients a_{ij} are also given below. The density correlation has a quoted uncertainty of $\pm 0.2\%$ (Grimes et al. [1]).

Empirical Constants in the Correlations

Equation (2)		f_{ij}		
i	j	0	1	2
0	0	0.113×10^{-1}	0.537×10^{-3}	0.436×10^{-6}
1	0	-0.235×10^{-1}	0.525×10^{-3}	-0.230×10^{-5}
2	0	0.450×10^{-2}	-0.868×10^{-4}	0.344×10^{-6}

Equation (5)

$$\begin{aligned} \beta_0 &= -1.297 \\ \beta_1 &= 5.74 \times 10^{-2} \\ \beta_2 &= -6.97 \times 10^{-4} \\ \beta_3 &= 4.47 \times 10^{-6} \\ \beta_4 &= -1.05 \times 10^{-8} \end{aligned}$$

Equation (7)

$$\begin{aligned} m_0 &= 3.825 \\ m_1 &= 0.394 \times 10^{-1} \\ m_2 &= -0.197 \times 10^{-4} \end{aligned}$$

Equation (10)		d_{ij}		
i	j	0	1	2
0	0	1.002×10^3	0.472×10^2	-1.73
1	0	-0.168	-0.537×10^{-1}	-0.615×10^{-2}
2	0	-0.248×10^{-2}	0.128×10^{-3}	0.112×10^{-3}

Equation (11)

	<i>i</i>	<i>a_{ij}</i>	
<i>j</i>	0	1	2
0	0.489	-0.744×10^{-1}	0.755×10^{-2}
1	-0.280×10^{-2}	0.132×10^{-2}	-0.176×10^{-3}
2	0.189×10^{-4}	-0.767×10^{-5}	0.104×10^{-5}

Comments on Tables

The pressure range indicated in the tables extends from a value p^* up to 35 MPa. The value p^* is taken as either 0.1 MPa (~ 1 atm) or the vapor pressure of the solution whichever is higher. Owing to the relative insensitivity of the viscosity of liquids to pressure, the viscosity at p^* is negligibly different from the hypothetical zero-pressure value $\mu^0(t, m)$. The pressure range is covered in intervals of 5 MPa. The temperature range which extends from 25–150 °C is covered in intervals of 5 °C. The concentration range extends from 0 to 5 molal in intervals of 0.5 mol/kg. The concentration range extends up to the saturation value near 25 °C.

Other Results

A literature search uncovered even less abundant data on the viscosity of KCl solutions than was the case with the NaCl solutions [3]. A deviation plot of the measurements in [2,7] from the present correlation was given in [1]. The measurements on very dilute solutions were left out of account. The maximum deviation of the data in [7] shown there was one of $\pm 1.8\%$ with a standard deviation of $\pm 1.0\%$. The data of ref. [1] were consistently higher with a maximum absolute deviation of 2.9% and a standard deviation of $\pm 1.1\%$.

Acknowledgments

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TABLE 1
DYNAMIC VISCOSITY OF POTASSIUM CHLORIDE SOLUTIONS
CONCENTRATION = 0.0 MOL/KG

PRESSURE, MPa:	p*	5.0	10.0	15.0	20.0	25.0	30.0	35.0
TEMPERATURE, C		VISCOSITY, MICRO PAs						
25.0	890.1	889.1	888.1	887.0	886.0	885.0	883.9	882.9
30.0	797.2	796.4	796.5	796.1	795.8	795.4	795.1	794.7
35.0	719.2	719.3	719.4	719.5	719.7	719.8	719.9	720.0
40.0	652.9	653.4	653.8	654.3	654.8	655.2	655.7	656.2
45.0	596.2	596.9	597.6	598.3	599.0	599.7	600.4	601.1
50.0	547.1	548.0	548.9	549.8	550.6	551.5	552.4	553.3
55.0	504.4	505.4	506.4	507.4	508.4	509.4	510.4	511.4
60.0	467.0	468.1	469.1	470.2	471.3	472.4	473.5	474.6
65.0	434.0	435.1	436.2	437.4	438.5	439.7	440.8	442.0
70.0	404.7	405.8	407.0	408.2	409.4	410.6	411.8	413.0
75.0	376.5	379.7	380.9	382.2	383.4	384.6	385.8	387.0
80.0	355.1	356.3	357.6	358.8	360.0	361.3	362.5	363.7
85.0	334.1	335.3	336.5	337.8	339.0	340.3	341.5	342.7
90.0	315.1	316.3	317.5	318.8	320.0	321.3	322.5	323.8
95.0	297.8	299.0	300.3	301.6	302.8	304.1	305.3	306.6
100.0	282.1	283.4	284.6	285.9	287.2	288.4	289.7	290.9
105.0	267.9	269.1	270.4	271.6	272.9	274.1	275.4	276.7
110.0	254.8	256.0	257.3	258.6	259.8	261.1	262.4	263.6
115.0	242.8	244.1	245.3	246.6	247.9	249.2	250.4	251.7
120.0	231.8	233.1	234.4	235.6	236.9	238.2	239.5	240.7
125.0	221.7	223.0	224.3	225.5	226.8	228.1	229.4	230.7
130.0	212.4	213.7	215.0	216.2	217.5	218.8	220.1	221.4
135.0	203.8	205.1	206.4	207.7	208.9	210.2	211.5	212.8
140.0	195.9	197.2	198.4	199.7	201.0	202.3	203.6	204.9
145.0	188.6	189.8	191.1	192.4	193.7	194.9	196.2	197.5
150.0	181.8	183.0	184.3	185.6	186.9	188.1	189.4	190.7

p* IS EQUAL TO 0.1 MPa OR THE VAPOR PRESSURE WHICHEVER IS HIGHER.

TABLE 2
DYNAMIC VISCOSITY OF POTASSIUM CHLORIDE SOLUTIONS
CONCENTRATION = 0.5 MOL/KG

PRESSURE, MPa:	p*	5.0	10.0	15.0	20.0	25.0	30.0	35.0
TEMPERATURE, C		VISCOSITY, MICRO PAs						
25.0	898.9	898.7	898.4	898.2	897.9	897.7	897.5	897.2
30.0	806.6	806.7	806.9	807.1	807.3	807.5	807.7	807.9
35.0	728.9	729.4	729.9	730.4	731.0	731.5	732.0	732.5
40.0	663.0	663.7	664.4	665.2	665.9	666.6	667.4	668.1
45.0	606.4	607.3	608.2	609.1	610.0	610.9	611.8	612.7
50.0	557.5	558.5	559.5	560.5	561.6	562.6	563.6	564.6
55.0	514.9	516.0	517.1	518.2	519.3	520.4	521.4	522.5
60.0	477.5	478.6	479.8	480.9	482.1	483.2	484.4	485.5
65.0	444.5	445.7	446.9	448.0	449.2	450.4	451.6	452.8
70.0	415.2	416.4	417.6	418.8	420.0	421.2	422.4	423.7
75.0	389.0	390.2	391.5	392.7	393.9	395.2	396.4	397.6
80.0	365.6	366.8	368.0	369.3	370.5	371.8	373.0	374.2
85.0	344.5	345.7	346.9	348.2	349.4	350.7	351.9	353.2
90.0	325.4	326.6	327.9	329.1	330.4	331.6	332.9	334.1
95.0	308.1	309.3	310.6	311.8	313.1	314.3	315.6	316.8
100.0	292.3	293.6	294.8	296.1	297.3	298.6	299.8	301.1
105.0	278.0	279.2	280.4	281.7	283.0	284.2	285.5	286.7
110.0	264.8	266.0	267.3	268.6	269.8	271.1	272.3	273.6
115.0	252.8	254.0	255.3	256.5	257.8	259.0	260.3	261.6
120.0	241.7	242.9	244.2	245.5	246.7	248.0	249.3	250.5
125.0	231.5	232.7	234.0	235.3	236.5	237.8	239.1	240.4
130.0	222.1	223.3	224.6	225.9	227.2	228.4	229.7	231.0
135.0	213.4	214.7	216.0	217.2	218.5	219.8	221.1	222.3
140.0	205.4	206.7	207.9	209.2	210.5	211.8	213.0	214.3
145.0	198.0	199.3	200.5	201.8	203.1	204.4	205.6	206.9
150.0	191.2	192.4	193.7	195.0	196.2	197.5	198.8	200.0

p* IS EQUAL TO 0.1 MPa OR THE VAPOR PRESSURE WHICHEVER IS HIGHER.

VISCOOSITY OF AQUEOUS POTASSIUM CHLORIDE

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TABLE 3
DYNAMIC VISCOSITY OF POTASSIUM CHLORIDE SOLUTIONS
CONCENTRATION = 1.0 MOL/KG

PRESSURE, MPa:	p*	5.0	10.0	15.0	20.0	25.0	30.0	35.0
TEMPERATURE, C		VISCOSITY, MICRO PA S						
25.0	904.1	904.5	904.9	905.3	905.7	906.1	906.4	906.8
30.0	813.3	813.9	814.6	815.2	815.9	816.5	817.1	817.8
35.0	736.8	737.7	738.5	739.3	740.1	740.9	741.8	742.6
40.0	671.8	672.7	673.7	674.6	675.6	676.6	677.5	678.5
45.0	615.9	616.9	618.0	619.1	620.1	621.2	622.2	623.3
50.0	567.5	568.6	569.7	570.9	572.0	573.1	574.2	575.4
55.0	529.3	526.4	527.6	528.8	529.9	531.1	532.3	533.5
60.0	488.2	489.3	490.5	491.8	493.0	494.2	495.4	496.6
65.0	455.3	456.5	457.8	459.0	460.2	461.4	462.7	463.9
70.0	426.2	427.4	428.6	429.9	431.1	432.3	433.6	434.8
75.0	400.1	401.3	402.5	403.8	405.0	406.3	407.5	408.8
80.0	376.6	377.9	379.1	380.4	381.6	382.9	384.1	385.4
85.0	355.5	356.8	358.0	359.3	360.5	361.8	363.0	364.3
90.0	336.4	337.6	338.9	340.1	341.4	342.6	343.9	345.2
95.0	319.0	320.3	321.5	322.8	324.0	325.3	326.5	327.8
100.0	303.2	304.4	305.7	306.9	308.2	309.4	310.7	312.0
105.0	288.7	290.0	291.2	292.5	293.7	295.0	296.2	297.5
110.0	275.5	276.7	278.0	279.2	280.5	281.7	283.0	284.3
115.0	263.3	264.5	265.8	267.1	268.3	269.6	270.8	272.1
120.0	252.1	253.3	254.6	255.9	257.1	258.4	259.7	260.9
125.0	241.8	243.0	244.3	245.6	246.8	248.1	249.4	250.6
130.0	232.3	233.5	234.8	236.0	237.3	238.6	239.8	241.1
135.0	223.4	224.7	226.0	227.2	228.5	229.8	231.0	232.3
140.0	215.3	216.5	217.8	219.1	220.4	221.6	222.9	224.2
145.0	207.8	209.0	210.3	211.5	212.8	214.1	215.4	216.6
150.0	200.8	202.0	203.3	204.5	205.8	207.1	208.3	209.6

p* IS EQUAL TO 0.1 MPa OR THE VAPOR PRESSURE WHICHEVER IS HIGHER.

TABLE 4
DYNAMIC VISCOSITY OF POTASSIUM CHLORIDE SOLUTIONS
CONCENTRATION - 1.5 MOL/KG

PRESSURE, MPa:	p*	5.0	10.0	15.0	20.0	25.0	30.0	35.0
TEMPERATURE, C		VISCOSITY, MICRO PA S						
25.0	907.5	908.3	909.2	910.1	910.9	911.8	912.6	913.5
30.0	818.8	819.8	820.7	821.7	822.7	823.7	824.7	825.6
35.0	743.9	745.0	746.1	747.1	748.2	749.3	750.3	751.4
40.0	680.1	681.2	682.4	683.5	684.6	685.8	686.9	688.1
45.0	625.2	626.4	627.5	628.7	629.9	631.1	632.3	633.5
50.0	577.5	578.7	579.9	581.2	582.4	583.6	584.8	586.0
55.0	535.8	537.0	538.3	539.5	540.8	542.0	543.3	544.5
60.0	499.1	500.3	501.6	502.9	504.1	505.4	506.6	507.9
65.0	466.6	467.8	469.1	470.3	471.6	472.9	474.1	475.4
70.0	437.6	438.8	440.1	441.4	442.6	443.9	445.2	446.4
75.0	411.6	412.9	414.1	415.4	416.7	417.9	419.2	420.5
80.0	388.2	389.5	390.8	392.0	393.3	394.6	395.8	397.1
85.0	367.1	368.4	369.6	370.9	372.2	373.4	374.7	376.0
90.0	348.0	349.2	350.5	351.7	353.0	354.3	355.5	356.8
95.0	330.5	331.8	333.0	334.3	335.6	336.8	338.1	339.4
100.0	314.6	315.8	317.1	318.4	319.6	320.9	322.2	323.4
105.0	300.0	301.2	302.5	303.8	305.0	306.3	307.6	308.8
110.0	286.6	287.9	289.1	290.4	291.6	292.9	294.2	295.4
115.0	274.3	275.5	276.8	278.1	279.3	280.6	281.9	283.1
120.0	262.9	264.2	265.4	266.7	268.0	269.2	270.5	271.8
125.0	252.4	253.7	254.9	256.2	257.5	258.7	260.0	261.3
130.0	242.7	244.0	245.2	246.5	247.8	249.0	250.3	251.6
135.0	233.7	235.0	236.2	237.5	238.8	240.1	241.3	242.6
140.0	225.4	226.6	227.9	229.2	230.4	231.7	233.0	234.3
145.0	217.6	218.9	220.2	221.4	222.7	224.0	225.2	226.5
150.0	210.5	211.7	213.0	214.2	215.5	216.8	218.1	219.3

p* IS EQUAL TO 0.1 MPa OR THE VAPOR PRESSURE WHICHEVER IS HIGHER.

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TABLE 5
DYNAMIC VISCOSITY OF POTASSIUM CHLORIDE SOLUTIONS
CONCENTRATION = 2.0 MOL/KG

PRESSURE, MPa:	p*	5.0	10.0	15.0	20.0	25.0	30.0	35.0
TEMPERATURE, C		VISCOSITY, MICR0 PA S						
25.0	910.7	911.9	913.1	914.3	915.5	916.7	917.9	919.1
30.0	824.3	825.5	826.8	828.0	829.2	830.5	831.7	832.9
35.0	751.2	752.5	753.7	755.0	756.2	757.5	758.8	760.0
40.0	688.8	690.0	691.3	692.6	693.8	695.1	696.4	697.7
45.0	634.9	636.1	637.4	638.7	640.0	641.3	642.6	643.9
50.0	588.0	589.2	590.5	591.8	593.1	594.4	595.7	597.0
55.0	546.8	548.1	549.4	550.7	552.0	553.3	554.6	556.0
60.0	510.6	511.8	513.1	514.4	515.8	517.1	518.4	519.7
65.0	478.3	479.6	480.9	482.2	483.5	484.8	486.1	487.4
70.0	449.5	450.8	452.1	453.4	454.7	456.0	457.3	458.6
75.0	423.7	424.9	426.2	427.5	428.8	430.1	431.4	432.7
80.0	400.3	401.6	402.9	404.2	405.5	406.8	408.1	409.3
85.0	379.2	380.5	381.7	383.0	384.3	385.6	386.9	388.2
90.0	360.0	361.2	362.5	363.8	365.1	366.4	367.6	368.9
95.0	342.4	343.7	345.0	346.2	347.5	348.8	350.1	351.4
100.0	326.4	327.6	328.9	330.2	331.5	332.7	334.0	335.3
105.0	311.6	312.9	314.2	315.4	316.7	318.0	319.3	320.5
110.0	298.1	299.3	300.6	301.9	303.1	304.4	305.7	307.0
115.0	285.6	286.8	288.1	289.3	290.6	291.9	293.2	294.4
120.0	274.0	275.2	276.5	277.8	279.1	280.3	281.6	282.9
125.0	263.3	264.5	265.8	267.1	268.3	269.6	270.9	272.2
130.0	253.3	254.6	255.9	257.1	258.4	259.7	261.0	262.2
135.0	244.1	245.4	246.6	247.9	249.2	250.5	251.8	253.0
140.0	235.6	236.8	238.1	239.4	240.6	241.9	243.2	244.5
145.0	227.6	228.8	230.1	231.4	232.7	233.9	235.2	236.5
150.0	220.2	221.4	222.7	224.0	225.2	226.5	227.8	229.0

p* IS EQUAL TO 0.1 MPa OR THE VAPOR PRESSURE WHICHEVER IS HIGHER.

TABLE 6
DYNAMIC VISCOSITY OF POTASSIUM CHLORIDE SOLUTIONS
CONCENTRATION = 2.5 MOL/KG

PRESSURE, MPa:	p*	5.0	10.0	15.0	20.0	25.0	30.0	35.0
TEMPERATURE, C		VISCOSITY, MICR0 PA S						
25.0	915.4	916.8	918.3	919.7	921.1	922.6	924.0	925.4
30.0	831.2	832.6	834.0	835.4	836.8	838.2	839.6	841.1
35.0	759.7	761.1	762.5	763.9	765.3	766.7	768.1	769.5
40.0	698.5	699.8	701.2	702.6	704.0	705.4	706.8	708.2
45.0	645.5	646.8	648.2	649.6	651.0	652.3	653.7	655.1
50.0	599.3	600.6	602.0	603.3	604.7	606.1	607.4	608.8
55.0	558.6	560.0	561.3	562.7	564.0	565.4	566.8	568.1
60.0	522.7	524.0	525.4	526.7	528.1	529.4	530.8	532.1
65.0	490.7	492.0	493.3	494.7	496.0	497.3	498.7	500.0
70.0	462.0	463.3	464.6	466.0	467.3	468.6	470.0	471.3
75.0	436.2	437.5	438.8	440.1	441.4	442.8	444.1	445.4
80.0	412.8	414.1	415.4	416.8	418.1	419.4	420.7	422.0
85.0	391.6	392.9	394.2	395.5	396.8	398.1	399.5	400.8
90.0	372.3	373.6	374.9	376.2	377.5	378.8	380.1	381.4
95.0	354.6	355.9	357.2	358.5	359.8	361.1	362.4	363.7
100.0	338.4	339.6	340.9	342.2	343.5	344.8	346.1	347.4
105.0	323.4	324.7	326.0	327.3	328.6	329.9	331.2	332.4
110.0	309.7	310.9	312.2	313.5	314.8	316.1	317.4	318.7
115.0	296.9	298.2	299.5	300.8	302.0	303.3	304.6	305.9
120.0	285.1	286.4	287.7	288.9	290.2	291.5	292.8	294.1
125.0	276.2	275.4	276.7	278.0	279.3	280.6	281.8	283.1
130.0	264.0	265.2	266.5	267.8	269.1	270.4	271.7	272.9
135.0	254.5	255.8	257.0	258.3	259.6	260.9	262.2	263.5
140.0	245.7	246.9	248.2	249.5	250.8	252.1	253.3	254.6
145.0	237.4	238.7	240.0	241.3	242.5	243.8	245.1	246.4
150.0	229.7	231.0	232.3	233.6	234.8	236.1	237.4	238.7

p* IS EQUAL TO 0.1 MPa OR THE VAPOR PRESSURE WHICHEVER IS HIGHER.

TABLE 7
DYNAMIC VISCOSITY OF POTASSIUM CHLORIDE SOLUTIONS
CONCENTRATION = 3.0 MOL/KG

PRESSURE, MPa:	p*	5.0	10.0	15.0	20.0	25.0	30.0	35.0
TEMPERATURE, C		VISCOSITY, MICR PA S						
25.0	923.4	925.0	926.6	928.1	929.7	931.3	932.9	934.5
30.0	840.7	842.2	843.8	845.3	846.9	848.4	849.9	851.5
35.0	770.4	771.9	773.4	774.9	776.4	777.9	779.4	780.9
40.0	710.0	711.5	712.9	714.4	715.9	717.4	718.8	720.3
45.0	657.6	659.1	660.5	662.0	663.4	664.9	666.3	667.8
50.0	611.8	613.2	614.7	616.1	617.5	618.9	620.4	621.8
55.0	571.5	572.8	574.3	575.7	577.1	578.5	579.9	581.3
60.0	535.7	537.0	538.4	539.8	541.2	542.6	544.0	545.4
65.0	503.7	505.1	506.4	507.8	509.2	510.6	512.0	513.4
70.0	475.0	476.4	477.7	479.1	480.5	481.8	483.2	484.6
75.0	449.1	450.5	451.8	453.2	454.5	455.9	457.3	458.6
80.0	425.7	427.0	428.3	429.7	431.0	432.4	433.7	435.1
85.0	404.3	405.6	407.0	408.3	409.6	411.0	412.3	413.6
90.0	384.8	386.1	387.4	388.8	390.1	391.4	392.7	394.1
95.0	366.9	368.2	369.5	370.8	372.2	373.5	374.8	376.1
100.0	350.4	351.7	353.0	354.4	355.7	357.0	358.3	359.6
105.0	335.3	336.5	337.9	339.2	340.5	341.8	343.1	344.4
110.0	321.2	322.5	323.8	325.1	326.4	327.7	329.0	330.3
115.0	308.2	309.5	310.8	312.1	313.4	314.7	316.0	317.3
120.0	296.2	297.4	298.7	300.0	301.3	302.6	303.9	305.2
125.0	284.9	286.2	287.5	288.8	290.1	291.4	292.7	294.0
130.0	274.5	275.7	277.0	278.3	279.6	280.9	282.2	283.5
135.0	264.7	266.0	267.3	268.6	269.9	271.2	272.5	273.8
140.0	255.6	256.9	258.2	259.5	260.7	262.0	263.3	264.6
145.0	247.1	248.3	249.6	250.9	252.2	253.5	254.8	256.1
150.0	239.1	240.4	241.7	243.0	244.3	245.5	246.8	248.1

p* IS EQUAL TO 0.1 MPa OR THE VAPOR PRESSURE WHICHEVER IS HIGHER.

TABLE 8
DYNAMIC VISCOSITY OF POTASSIUM CHLORIDE SOLUTIONS
CONCENTRATION = 3.5 MOL/KG

PRESSURE, MPa:	p*	5.0	10.0	15.0	20.0	25.0	30.0	35.0
TEMPERATURE, C		VISCOSITY, MICR PA S						
25.0	936.3	938.0	939.6	941.3	943.0	944.7	946.3	948.0
30.0	854.3	855.9	857.5	859.1	860.7	862.4	864.0	865.6
35.0	784.4	785.9	787.5	789.1	790.7	792.2	793.8	795.4
40.0	724.2	725.7	727.2	728.8	730.3	731.9	733.4	735.0
45.0	671.9	673.4	674.9	676.4	677.9	679.4	680.9	682.4
50.0	626.1	627.5	629.0	630.5	632.0	633.5	635.0	636.4
55.0	585.6	587.1	588.5	590.0	591.5	592.9	594.4	595.8
60.0	549.7	551.1	552.6	554.0	555.4	556.9	558.3	559.8
65.0	517.6	518.9	520.4	521.8	523.2	524.6	526.1	527.5
70.0	488.6	490.0	491.4	492.8	494.2	495.7	497.1	498.5
75.0	462.5	463.9	465.3	466.7	468.1	469.5	470.9	472.2
80.0	438.8	440.1	441.5	442.9	444.3	445.7	447.0	448.4
85.0	417.2	418.5	419.9	421.2	422.6	424.0	425.3	426.7
90.0	397.4	398.7	400.0	401.4	402.8	404.1	405.5	406.8
95.0	379.2	380.5	381.8	383.2	384.5	385.9	387.2	388.6
100.0	362.4	363.7	365.1	366.4	367.8	369.1	370.4	371.8
105.0	346.9	348.2	349.6	350.9	352.2	353.6	354.9	356.2
110.0	332.6	333.9	335.2	336.6	337.9	339.2	340.5	341.9
115.0	319.3	320.6	321.9	323.2	324.6	325.9	327.2	328.5
120.0	306.9	308.2	309.5	310.9	312.2	313.5	314.8	316.1
125.0	295.4	296.7	298.0	299.3	300.6	302.0	303.3	304.6
130.0	284.6	285.9	287.2	288.6	289.9	291.2	292.5	293.8
135.0	274.6	275.9	277.2	278.5	279.8	281.1	282.4	283.7
140.0	265.2	266.5	267.8	269.1	270.4	271.7	273.0	274.3
145.0	256.4	257.7	259.0	260.3	261.6	262.9	264.2	265.5
150.0	248.2	249.5	250.8	252.1	253.4	254.7	256.0	257.3

p* IS EQUAL TO 0.1 MPa OR THE VAPOR PRESSURE WHICHEVER IS HIGHER.

TABLE 9
DYNAMIC VISCOSITY OF POTASSIUM CHLORIDE SOLUTIONS
CONCENTRATION = 4.0 MOL/KG

PRESSURE, MPa:	p*	5.0	10.0	15.0	20.0	25.0	30.0	35.0
TEMPERATURE, C		VISCOSITY, MICRO PA S						
25.0	955.9	957.6	959.3	961.0	962.8	964.5	966.2	967.9
30.0	873.2	874.8	876.5	878.2	879.8	881.5	883.2	884.9
35.0	802.6	804.2	805.8	807.5	809.1	810.7	812.4	814.0
40.0	741.8	743.3	744.9	746.5	748.1	749.7	751.3	752.9
45.0	688.9	690.4	692.0	693.5	695.1	696.7	698.2	699.8
50.0	642.5	644.0	645.5	647.0	648.6	650.1	651.6	653.2
55.0	601.4	602.9	604.4	605.9	607.5	609.0	610.5	612.0
60.0	565.0	566.4	567.9	569.4	570.9	572.4	573.9	575.3
65.0	532.3	533.7	535.2	536.7	538.1	539.6	541.1	542.5
70.0	502.9	504.3	505.8	507.2	508.7	510.1	511.6	513.0
75.0	476.3	477.7	479.1	480.6	482.0	483.4	484.9	486.3
80.0	452.1	453.5	454.9	456.4	457.8	459.2	460.6	462.0
85.0	430.1	431.4	432.8	434.3	435.7	437.1	438.5	439.9
90.0	409.9	411.2	412.6	414.0	415.4	416.8	418.2	419.6
95.0	391.3	392.6	394.0	395.4	396.8	398.1	399.5	400.9
100.0	374.1	375.5	376.8	378.2	379.6	381.0	382.3	383.7
105.0	358.3	359.6	361.0	362.3	363.7	365.1	366.4	367.8
110.0	343.6	344.9	346.3	347.6	349.0	350.3	351.7	353.0
115.0	330.0	331.3	332.6	334.0	335.3	336.7	338.0	339.4
120.0	317.3	318.6	319.9	321.3	322.6	323.9	325.3	326.6
125.0	305.4	306.7	308.1	309.4	310.7	312.1	313.4	314.7
130.0	294.4	295.7	297.0	298.3	299.7	301.0	302.3	303.7
135.0	284.0	285.3	286.7	288.0	289.3	290.6	292.0	293.3
140.0	274.4	275.7	277.0	278.3	279.6	280.9	282.3	283.6
145.0	265.3	266.6	267.9	269.2	270.6	271.9	273.2	274.5
150.0	256.8	258.1	259.4	260.7	262.0	263.4	264.7	266.0

p* IS EQUAL TO 0.1 MPa OR THE VAPOUR PRESSURE WHICHEVER IS HIGHER.

TABLE 10
DYNAMIC VISCOSITY OF POTASSIUM CHLORIDE SOLUTIONS
CONCENTRATION = 4.5 MOL/KG

PRESSURE, MPa:	p*	5.0	10.0	15.0	20.0	25.0	30.0	35.0
TEMPERATURE, C		VISCOSITY, MICRC PA S						
25.0	983.8	985.5	987.3	989.1	990.8	992.6	994.4	996.2
30.0	898.7	900.4	902.1	903.8	905.6	907.3	909.0	910.7
35.0	826.1	827.7	829.4	831.1	832.8	834.5	836.2	837.9
40.0	763.5	765.1	766.8	768.4	770.1	771.7	773.4	775.0
45.0	709.1	710.7	712.3	713.9	715.5	717.1	718.7	720.4
50.0	661.3	662.9	664.5	666.1	667.7	669.2	670.8	672.4
55.0	619.2	620.7	622.3	623.8	625.4	626.9	628.5	630.1
60.0	581.7	583.2	584.7	586.2	587.8	589.3	590.8	592.4
65.0	548.1	549.6	551.1	552.6	554.1	555.6	557.1	558.6
70.0	517.8	519.3	520.8	522.3	523.8	525.3	526.8	528.2
75.0	490.5	491.9	493.4	494.9	496.3	497.8	499.3	500.8
80.0	465.6	467.1	468.5	470.0	471.4	472.9	474.3	475.8
85.0	443.0	444.4	445.8	447.2	448.7	450.1	451.6	453.0
90.0	422.2	423.6	425.0	426.4	427.8	429.3	430.7	432.1
95.0	403.1	404.4	405.9	407.3	408.7	410.1	411.5	412.9
100.0	385.4	386.8	388.2	389.6	391.0	392.4	393.8	395.2
105.0	369.2	370.5	371.9	373.3	374.7	376.1	377.5	378.9
110.0	354.1	355.4	356.8	358.2	359.6	360.9	362.3	363.7
115.0	340.1	341.4	342.8	344.1	345.5	346.9	348.3	349.6
120.0	327.0	328.3	329.7	331.1	332.4	333.8	335.2	336.5
125.0	314.8	316.2	317.5	318.9	320.2	321.6	323.0	324.3
130.0	303.5	304.8	306.2	307.5	308.9	310.2	311.6	312.9
135.0	292.9	294.2	295.5	296.9	298.2	299.6	300.9	302.3
140.0	282.9	284.2	285.6	286.9	288.3	289.6	290.9	292.3
145.0	273.6	274.9	276.3	277.6	278.9	280.3	281.6	282.9
150.0	264.9	266.2	267.5	268.9	270.2	271.5	272.9	274.2

p* IS EQUAL TO 0.1 MPa OR THE VAPOUR PRESSURE WHICHEVER IS HIGHER.

VISCOSITY OF AQUEOUS POTASSIUM CHLORIDE

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TABLE 11
DYNAMIC VISCOSITY OF POTASSIUM CHLORIDE SOLUTIONS
CONCENTRATION = 5.0 MOL/KG

PRESSURE, MPa:	p*	5.0	10.0	15.0	20.0	25.0	30.0	35.0
TEMPERATURE, C		VISCOSITY, MICRO PA S						
25.0	1021.7	1023.5	1025.3	1027.2	1029.0	1030.9	1032.7	1034.6
30.0	932.7	933.9	935.1	937.5	939.3	941.0	942.8	944.6
35.0	855.8	857.5	859.3	861.0	862.8	864.5	866.3	868.0
40.0	790.2	791.8	793.6	795.3	797.0	798.7	800.4	802.1
45.0	733.1	734.8	736.4	738.1	739.8	741.5	743.1	744.8
50.0	683.2	684.8	686.4	688.1	689.7	691.4	693.0	694.6
55.0	633.1	640.7	642.3	643.9	645.5	647.1	648.7	650.4
60.0	600.0	601.5	603.1	604.7	606.3	607.8	609.4	611.0
65.0	564.9	566.5	568.0	569.6	571.1	572.7	574.3	575.8
70.0	533.5	535.0	536.5	538.0	539.6	541.1	542.7	544.2
75.0	505.0	506.5	508.0	509.5	511.1	512.6	514.1	515.6
80.0	479.2	480.7	482.2	483.7	485.2	486.7	488.2	489.7
85.0	455.7	457.1	458.6	460.1	461.6	463.1	464.5	466.0
90.0	434.2	435.6	437.1	438.5	440.0	441.4	442.9	444.4
95.0	414.4	415.8	417.3	418.7	420.2	421.6	423.0	424.5
100.0	396.2	397.6	399.0	400.5	401.9	403.3	404.8	406.2
105.0	379.4	380.8	382.2	383.6	385.0	386.5	387.9	389.3
110.0	363.8	365.2	366.6	368.0	369.4	370.8	372.2	373.7
115.0	349.4	350.8	352.2	353.6	355.0	356.4	357.7	359.1
120.0	336.0	337.3	338.7	340.1	341.5	342.9	344.3	345.7
125.0	323.5	324.8	326.2	327.6	329.0	330.3	331.7	333.1
130.0	311.8	313.2	314.5	315.9	317.3	318.7	320.0	321.4
135.0	301.0	302.3	303.7	305.0	306.4	307.7	309.1	310.5
140.0	290.8	292.1	293.5	294.8	296.2	297.5	298.9	300.3
145.0	281.3	282.6	283.9	285.3	286.6	288.0	289.4	290.7
150.0	272.4	273.7	275.0	276.4	277.7	279.1	280.4	281.8

p* IS EQUAL TO 0.1 MPa OR THE VAPOR PRESSURE WHICHEVER IS HIGHER.

Table 12
KINEMATIC VISCOSITY OF POTASSIUM CHLORIDE SOLUTIONS
CONCENTRATION = 0.0 MOL/KG

PRESSURE, MPa:	p*	5.0	10.0	15.0	20.0	25.0	30.0	35.0
TEMPERATURE, C		KINEMATIC VISCOSITY, mm ² /s						
25.0	0.8934	0.8905	0.8876	0.8846	0.8817	0.8788	0.8759	0.8731
30.0	0.8014	0.7994	0.7973	0.7953	0.7933	0.7913	0.7893	0.7873
35.0	0.7241	0.7228	0.7214	0.7201	0.7187	0.7174	0.7160	0.7147
40.0	0.6586	0.6578	0.6559	0.6560	0.6552	0.6543	0.6535	0.6526
45.0	0.6025	0.6020	0.6016	0.6011	0.6006	0.6001	0.5996	0.5991
50.0	0.5541	0.5539	0.5537	0.5535	0.5533	0.5531	0.5529	0.5527
55.0	0.5119	0.5120	0.5120	0.5120	0.5120	0.5120	0.5121	0.5121
60.0	0.4750	0.4752	0.4754	0.4756	0.4758	0.4760	0.4761	0.4763
65.0	0.4425	0.4428	0.4432	0.4435	0.4438	0.4441	0.4444	0.4447
70.0	0.4137	0.4141	0.4145	0.4149	0.4154	0.4158	0.4162	0.4166
75.0	0.3881	0.3885	0.3890	0.3895	0.3900	0.3905	0.3910	0.3915
80.0	0.3651	0.3656	0.3662	0.3668	0.3673	0.3679	0.3684	0.3689
85.0	0.3445	0.3451	0.3457	0.3463	0.3469	0.3475	0.3481	0.3487
90.0	0.3259	0.3265	0.3272	0.3278	0.3285	0.3291	0.3297	0.3304
95.0	0.3090	0.3097	0.3104	0.3111	0.3118	0.3125	0.3131	0.3138
100.0	0.2938	0.2945	0.2952	0.2959	0.2966	0.2974	0.2981	0.2988
105.0	0.2799	0.2806	0.2814	0.2821	0.2829	0.2836	0.2843	0.2851
110.0	0.2672	0.2680	0.2687	0.2695	0.2703	0.2711	0.2718	0.2726
115.0	0.2556	0.2564	0.2572	0.2580	0.2588	0.2596	0.2604	0.2612
120.0	0.2450	0.2458	0.2467	0.2475	0.2483	0.2491	0.2499	0.2507
125.0	0.2353	0.2361	0.2370	0.2378	0.2386	0.2395	0.2403	0.2411
130.0	0.2264	0.2272	0.2281	0.2289	0.2298	0.2306	0.2315	0.2323
135.0	0.2182	0.2191	0.2199	0.2208	0.2217	0.2225	0.2234	0.2242
140.0	0.2107	0.2115	0.2124	0.2133	0.2142	0.2150	0.2159	0.2168
145.0	0.2037	0.2046	0.2055	0.2064	0.2073	0.2081	0.2090	0.2099
150.0	0.1974	0.1982	0.1991	0.2000	0.2009	0.2018	0.2026	0.2035

p* IS EQUAL TO 0.1 MPa OR THE VAPOR PRESSURE WHICHEVER IS HIGHER.

KESTIN, KHALIFA, AND CORREIA

TABLE 13

KINEMATIC VISCOSITY OF POTASSIUM CHLORIDE SOLUTIONS

CONCENTRATION = 0.5 MOL/KG

PRESSURE, MPa:	p*	5.0	10.0	15.0	20.0	25.0	30.0	35.0
TEMPERATURE, C		KINEMATIC VISCOSITY, mm ² /s						
25.0	0.8823	0.8803	0.8783	0.8763	0.8743	0.8723	0.8703	0.8683
30.0	0.7929	0.7916	0.7902	0.7888	0.7874	0.7860	0.7847	0.7833
35.0	0.7179	0.7170	0.7161	0.7151	0.7142	0.7133	0.7124	0.7115
40.0	0.6541	0.6536	0.6530	0.6525	0.6519	0.6514	0.6509	0.6503
45.0	0.5995	0.5992	0.5990	0.5987	0.5984	0.5982	0.5979	0.5976
50.0	0.5523	0.5523	0.5522	0.5522	0.5521	0.5521	0.5520	0.5520
55.0	0.5112	0.5113	0.5115	0.5116	0.5117	0.5118	0.5119	0.5120
60.0	0.4752	0.4755	0.4757	0.4760	0.4762	0.4764	0.4767	0.4769
65.0	0.4435	0.4438	0.4442	0.4445	0.4448	0.4452	0.4455	0.4459
70.0	0.4153	0.4157	0.4161	0.4166	0.4170	0.4174	0.4179	0.4183
75.0	0.3902	0.3907	0.3912	0.3917	0.3922	0.3927	0.3931	0.3936
80.0	0.3677	0.3683	0.3688	0.3694	0.3699	0.3704	0.3710	0.3715
85.0	0.3475	0.3481	0.3487	0.3493	0.3499	0.3505	0.3510	0.3516
90.0	0.3293	0.3299	0.3305	0.3312	0.3318	0.3324	0.3330	0.3337
95.0	0.3128	0.3134	0.3141	0.3148	0.3154	0.3161	0.3167	0.3174
100.0	0.2978	0.2985	0.2992	0.2998	0.3005	0.3012	0.3019	0.3026
105.0	0.2841	0.2848	0.2856	0.2863	0.2870	0.2877	0.2884	0.2891
110.0	0.2717	0.2724	0.2732	0.2739	0.2746	0.2754	0.2761	0.2768
115.0	0.2603	0.2610	0.2618	0.2626	0.2633	0.2641	0.2649	0.2656
120.0	0.2499	0.2506	0.2514	0.2522	0.2530	0.2538	0.2546	0.2553
125.0	0.2403	0.2411	0.2419	0.2427	0.2435	0.2443	0.2451	0.2459
130.0	0.2315	0.2323	0.2332	0.2340	0.2348	0.2356	0.2364	0.2372
135.0	0.2234	0.2243	0.2251	0.2259	0.2268	0.2276	0.2284	0.2293
140.0	0.2160	0.2169	0.2177	0.2186	0.2194	0.2202	0.2211	0.2219
145.0	0.2092	0.2101	0.2109	0.2118	0.2126	0.2135	0.2143	0.2151
150.0	0.2029	0.2038	0.2046	0.2055	0.2064	0.2072	0.2081	0.2089

p* IS EQUAL TO 0.1 MPa OR THE VAPOR PRESSURE WHICHEVER IS HIGHER.

TABLE 14

KINEMATIC VISCOSITY OF POTASSIUM CHLORIDE SOLUTIONS

CONCENTRATION = 1.0 MOL/KG

PRESSURE, MPa:	p*	5.0	10.0	15.0	20.0	25.0	30.0	35.0
TEMPERATURE, C		KINEMATIC VISCOSITY, mm ² /s						
25.0	0.8690	0.8677	0.8664	0.8651	0.8638	0.8625	0.8612	0.8600
30.0	0.7830	0.7822	0.7813	0.7804	0.7795	0.7787	0.7778	0.7769
35.0	0.7107	0.7102	0.7096	0.7091	0.7085	0.7080	0.7074	0.7069
40.0	0.6492	0.6489	0.6486	0.6483	0.6480	0.6477	0.6475	0.6472
45.0	0.5964	0.5963	0.5962	0.5961	0.5960	0.5960	0.5959	0.5958
50.0	0.5507	0.5508	0.5508	0.5509	0.5510	0.5511	0.5511	0.5512
55.0	0.5109	0.5111	0.5113	0.5115	0.5117	0.5119	0.5121	0.5122
60.0	0.4759	0.4762	0.4765	0.4768	0.4771	0.4774	0.4777	0.4780
65.0	0.4450	0.4454	0.4458	0.4461	0.4465	0.4469	0.4473	0.4476
70.0	0.4176	0.4180	0.4185	0.4189	0.4193	0.4198	0.4202	0.4207
75.0	0.3931	0.3936	0.3941	0.3946	0.3951	0.3956	0.3961	0.3965
80.0	0.3711	0.3716	0.3722	0.3727	0.3733	0.3738	0.3744	0.3749
85.0	0.3513	0.3519	0.3525	0.3531	0.3536	0.3542	0.3548	0.3554
90.0	0.3334	0.3341	0.3347	0.3353	0.3359	0.3365	0.3371	0.3377
95.0	0.3172	0.3179	0.3185	0.3192	0.3198	0.3205	0.3211	0.3217
100.0	0.3025	0.3032	0.3038	0.3045	0.3052	0.3058	0.3065	0.3072
105.0	0.2890	0.2897	0.2904	0.2911	0.2918	0.2925	0.2932	0.2939
110.0	0.2768	0.2775	0.2782	0.2789	0.2796	0.2803	0.2811	0.2818
115.0	0.2655	0.2662	0.2670	0.2677	0.2685	0.2692	0.2699	0.2707
120.0	0.2552	0.2559	0.2567	0.2575	0.2582	0.2590	0.2597	0.2605
125.0	0.2457	0.2465	0.2473	0.2480	0.2488	0.2496	0.2504	0.2511
130.0	0.2370	0.2378	0.2386	0.2394	0.2402	0.2409	0.2417	0.2425
135.0	0.2290	0.2298	0.2306	0.2314	0.2322	0.2330	0.2338	0.2346
140.0	0.2216	0.2224	0.2232	0.2240	0.2248	0.2257	0.2265	0.2273
145.0	0.2148	0.2156	0.2164	0.2172	0.2181	0.2189	0.2197	0.2205
150.0	0.2085	0.2093	0.2102	0.2110	0.2118	0.2127	0.2135	0.2143

p* IS EQUAL TO 0.1 MPa OR THE VAPOR PRESSURE WHICHEVER IS HIGHER.

VISCOSITY OF AQUEOUS POTASSIUM CHLORIDE

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TABLE 15
KINEMATIC VISCOSITY OF POTASSIUM CHLORIDE SOLUTIONS
CONCENTRATION - 1.5 MOL/KG

PRESSURE, MPa:	P*	5.0	10.0	15.0	20.0	25.0	30.0	35.0
TEMPERATURE, C		KINEMATIC VISCOSITY, mm ² /s						
25.0	0.8552	0.8545	0.8537	0.8529	0.8522	0.8514	0.8507	0.8499
30.0	0.7730	0.7725	0.7720	0.7715	0.7711	0.7706	0.7701	0.7696
35.0	0.7036	0.7034	0.7031	0.7029	0.7026	0.7023	0.7021	0.7018
40.0	0.6445	0.6445	0.6444	0.6443	0.6442	0.6441	0.6440	0.6439
45.0	0.5937	0.5938	0.5938	0.5939	0.5939	0.5940	0.5941	0.5941
50.0	0.5496	0.5498	0.5500	0.5502	0.5503	0.5505	0.5507	0.5509
55.0	0.5111	0.5114	0.5116	0.5119	0.5122	0.5125	0.5127	0.5130
60.0	0.4772	0.4776	0.4779	0.4783	0.4786	0.4790	0.4793	0.4796
65.0	0.4472	0.4476	0.4480	0.4485	0.4489	0.4493	0.4497	0.4501
70.0	0.4205	0.4210	0.4214	0.4219	0.4224	0.4228	0.4233	0.4237
75.0	0.3966	0.3971	0.3976	0.3981	0.3987	0.3992	0.3997	0.4002
80.0	0.3751	0.3757	0.3762	0.3768	0.3773	0.3779	0.3784	0.3790
85.0	0.3553	0.3563	0.3569	0.3575	0.3581	0.3587	0.3592	0.3598
90.0	0.3382	0.3388	0.3394	0.3400	0.3406	0.3413	0.3419	0.3425
95.0	0.3223	0.3229	0.3235	0.3242	0.3248	0.3254	0.3261	0.3267
100.0	0.3077	0.3084	0.3090	0.3097	0.3104	0.3110	0.3117	0.3123
105.0	0.2944	0.2951	0.2958	0.2965	0.2972	0.2978	0.2985	0.2992
110.0	0.2823	0.2829	0.2837	0.2844	0.2851	0.2858	0.2865	0.2871
115.0	0.2711	0.2718	0.2725	0.2732	0.2740	0.2747	0.2754	0.2761
120.0	0.2608	0.2615	0.2623	0.2630	0.2638	0.2645	0.2652	0.2660
125.0	0.2513	0.2521	0.2529	0.2536	0.2544	0.2551	0.2559	0.2566
130.0	0.2426	0.2434	0.2442	0.2449	0.2457	0.2465	0.2472	0.2480
135.0	0.2346	0.2353	0.2361	0.2369	0.2377	0.2385	0.2393	0.2401
140.0	0.2271	0.2279	0.2287	0.2295	0.2303	0.2311	0.2319	0.2327
145.0	0.2203	0.2211	0.2219	0.2227	0.2235	0.2243	0.2251	0.2259
150.0	0.2139	0.2147	0.2156	0.2164	0.2172	0.2180	0.2188	0.2196

p* IS EQUAL TO 0.1 MPa OR THE VAPOR PRESSURE WHICHEVER IS HIGHER.

TABLE 16
KINEMATIC VISCOSITY OF POTASSIUM CHLORIDE SOLUTIONS
CONCENTRATION = 2.0 MOL/KG

PRESSURE, MPa:	P*	5.0	10.0	15.0	20.0	25.0	30.0	35.0
TEMPERATURE, C		KINEMATIC VISCOSITY, mm ² /s						
25.0	0.8425	0.8422	0.8418	0.8414	0.8410	0.8407	0.8403	0.8399
30.0	0.7640	0.7638	0.7636	0.7634	0.7632	0.7630	0.7628	0.7626
35.0	0.6976	0.6976	0.6975	0.6975	0.6974	0.6974	0.6973	0.6973
40.0	0.6409	0.6410	0.6410	0.6411	0.6412	0.6413	0.6413	0.6414
45.0	0.5920	0.5922	0.5923	0.5925	0.5927	0.5929	0.5930	0.5932
50.0	0.5495	0.5497	0.5500	0.5502	0.5505	0.5508	0.5510	0.5513
55.0	0.5122	0.5125	0.5129	0.5132	0.5135	0.5139	0.5142	0.5145
60.0	0.4793	0.4797	0.4801	0.4805	0.4809	0.4813	0.4817	0.4821
65.0	0.4502	0.4506	0.4511	0.4515	0.4519	0.4524	0.4528	0.4533
70.0	0.4241	0.4246	0.4251	0.4256	0.4261	0.4266	0.4270	0.4275
75.0	0.4008	0.4013	0.4018	0.4024	0.4029	0.4034	0.4039	0.4044
80.0	0.3798	0.3803	0.3809	0.3814	0.3820	0.3825	0.3831	0.3836
85.0	0.3607	0.3613	0.3619	0.3625	0.3631	0.3636	0.3642	0.3648
90.0	0.3434	0.3440	0.3447	0.3453	0.3459	0.3465	0.3471	0.3477
95.0	0.3277	0.3283	0.3290	0.3296	0.3302	0.3308	0.3315	0.3321
100.0	0.3133	0.3139	0.3146	0.3152	0.3159	0.3165	0.3172	0.3178
105.0	0.3001	0.3008	0.3014	0.3021	0.3028	0.3035	0.3041	0.3048
110.0	0.2880	0.2887	0.2894	0.2901	0.2907	0.2914	0.2921	0.2928
115.0	0.2768	0.2775	0.2782	0.2790	0.2797	0.2804	0.2811	0.2818
120.0	0.2665	0.2673	0.2680	0.2687	0.2694	0.2702	0.2709	0.2716
125.0	0.2570	0.2578	0.2585	0.2593	0.2600	0.2607	0.2615	0.2622
130.0	0.2483	0.2490	0.2498	0.2505	0.2513	0.2520	0.2528	0.2535
135.0	0.2401	0.2409	0.2417	0.2424	0.2432	0.2440	0.2447	0.2455
140.0	0.2326	0.2334	0.2342	0.2349	0.2357	0.2365	0.2373	0.2381
145.0	0.2256	0.2264	0.2272	0.2280	0.2288	0.2296	0.2304	0.2312
150.0	0.2192	0.2200	0.2208	0.2216	0.2224	0.2232	0.2240	0.2248

p* IS EQUAL TO 0.1 MPa OR THE VAPOR PRESSURE WHICHEVER IS HIGHER.

KESTIN, KHALIFA, AND CORREIA

TABLE 17

KINEMATIC VISCOSITY OF POTASSIUM CHLORIDE SOLUTIONS
CONCENTRATION = 2.5 MOL/KG

PRESSURE, MPa:	5.0	10.0	15.0	20.0	25.0	30.0	35.0
TEMPERATURE, °C	KINEMATIC VISCOSITY, mm ² /s						
25.0	0.8324	0.8323	0.8322	0.8321	0.8320	0.8318	0.8317
30.0	0.7572	0.7572	0.7572	0.7572	0.7573	0.7573	0.7573
35.0	0.6935	0.6936	0.6937	0.6938	0.6939	0.6940	0.6941
40.0	0.6389	0.6391	0.6393	0.6395	0.6397	0.6399	0.6400
45.0	0.5917	0.5919	0.5922	0.5925	0.5927	0.5930	0.5933
50.0	0.5505	0.5508	0.5512	0.5515	0.5518	0.5522	0.5525
55.0	0.5144	0.5147	0.5151	0.5155	0.5159	0.5163	0.5167
60.0	0.4824	0.4828	0.4832	0.4837	0.4841	0.4845	0.4850
65.0	0.4539	0.4544	0.4549	0.4553	0.4558	0.4563	0.4568
70.0	0.4285	0.4290	0.4295	0.4300	0.4305	0.4310	0.4315
75.0	0.4056	0.4061	0.4066	0.4072	0.4077	0.4082	0.4093
80.0	0.3849	0.3854	0.3860	0.3866	0.3871	0.3877	0.3882
85.0	0.3661	0.3667	0.3673	0.3679	0.3685	0.3690	0.3696
90.0	0.3490	0.3496	0.3502	0.3508	0.3514	0.3521	0.3527
95.0	0.3334	0.3340	0.3346	0.3353	0.3359	0.3365	0.3372
100.0	0.3191	0.3197	0.3204	0.3210	0.3217	0.3223	0.3236
105.0	0.3059	0.3066	0.3072	0.3079	0.3086	0.3092	0.3099
110.0	0.2938	0.2945	0.2951	0.2958	0.2965	0.2972	0.2979
115.0	0.2826	0.2833	0.2840	0.2847	0.2854	0.2861	0.2868
120.0	0.2722	0.2729	0.2737	0.2744	0.2751	0.2758	0.2765
125.0	0.2627	0.2634	0.2641	0.2648	0.2656	0.2663	0.2670
130.0	0.2538	0.2545	0.2553	0.2560	0.2567	0.2575	0.2582
135.0	0.2455	0.2463	0.2470	0.2478	0.2485	0.2493	0.2501
140.0	0.2376	0.2386	0.2394	0.2402	0.2409	0.2417	0.2425
145.0	0.2307	0.2315	0.2323	0.2331	0.2338	0.2346	0.2354
150.0	0.2241	0.2249	0.2257	0.2265	0.2272	0.2280	0.2288

p* IS EQUAL TO 0.1 MPa OR THE VAPOF PRESSURE WHICHEVER IS HIGHER.

TABLE 18

KINEMATIC VISCOSITY OF POTASSIUM CHLORIDE SOLUTIONS
CONCENTRATION = 3.0 MOL/KG

PRESSURE, MPa:	p*	5.0	10.0	15.0	20.0	25.0	30.0	35.0
TEMPERATURE, °C		KINEMATIC VISCOSITY, mm ² /s						
25.0	0.8261	0.8262	0.8263	0.8263	0.8264	0.8265	0.8265	0.8266
30.0	0.7537	0.7538	0.7540	0.7541	0.7542	0.7544	0.7545	0.7547
35.0	0.6920	0.6923	0.6925	0.6927	0.6929	0.6931	0.6934	0.6936
40.0	0.6391	0.6394	0.6397	0.6400	0.6403	0.6405	0.6408	0.6411
45.0	0.5932	0.5936	0.5939	0.5942	0.5946	0.5949	0.5953	0.5956
50.0	0.5531	0.5535	0.5539	0.5543	0.5547	0.5551	0.5554	0.5558
55.0	0.5178	0.5182	0.5187	0.5191	0.5195	0.5200	0.5204	0.5208
60.0	0.4865	0.4870	0.4874	0.4879	0.4884	0.4888	0.4893	0.4898
65.0	0.4585	0.4590	0.4595	0.4600	0.4605	0.4610	0.4615	0.4620
70.0	0.4335	0.4340	0.4345	0.4351	0.4356	0.4361	0.4366	0.4372
75.0	0.4109	0.4114	0.4120	0.4125	0.4131	0.4136	0.4142	0.4147
80.0	0.3904	0.3910	0.3915	0.3921	0.3927	0.3933	0.3939	0.3944
85.0	0.3718	0.3724	0.3730	0.3736	0.3742	0.3748	0.3754	0.3760
90.0	0.3548	0.3554	0.3560	0.3566	0.3572	0.3579	0.3585	0.3591
95.0	0.3392	0.3398	0.3405	0.3411	0.3417	0.3424	0.3430	0.3436
100.0	0.3249	0.3255	0.3262	0.3268	0.3275	0.3281	0.3288	0.3294
105.0	0.3117	0.3123	0.3130	0.3137	0.3143	0.3150	0.3157	0.3163
110.0	0.2995	0.3002	0.3009	0.3015	0.3022	0.3029	0.3036	0.3043
115.0	0.2882	0.2889	0.2896	0.2903	0.2910	0.2917	0.2924	0.2931
120.0	0.2778	0.2785	0.2792	0.2799	0.2806	0.2813	0.2820	0.2827
125.0	0.2680	0.2688	0.2695	0.2702	0.2709	0.2717	0.2724	0.2731
130.0	0.2590	0.2597	0.2605	0.2612	0.2620	0.2627	0.2634	0.2642
135.0	0.2506	0.2513	0.2521	0.2528	0.2536	0.2543	0.2551	0.2558
140.0	0.2428	0.2435	0.2443	0.2450	0.2458	0.2466	0.2473	0.2481
145.0	0.2354	0.2362	0.2370	0.2378	0.2385	0.2393	0.2401	0.2408
150.0	0.2286	0.2294	0.2302	0.2310	0.2317	0.2325	0.2333	0.2341

p* IS EQUAL TO 0.1 MPa OR THE VAPOF PRESSURE WHICHEVER IS HIGHER.

VISCOOSITY OF AQUEOUS POTASSIUM CHLORIDE

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TABLE 19

KINEMATIC VISCOSITY OF POTASSIUM CHLORIDE SOLUTIONS

CONCENTRATION = 3.5 MOL/KG

PRESSURE, MPa:	p*	5.0	10.0	15.0	20.0	25.0	30.0	35.0
TEMPERATURE, C		KINEMATIC VISCOSITY, mm ² /s						
25.0	0.8251	0.8252	0.8254	0.8256	0.8257	0.8259	0.8261	0.8262
30.0	0.7543	0.7546	0.7548	0.7551	0.7553	0.7555	0.7558	0.7560
35.0	0.6941	0.6944	0.6947	0.6950	0.6953	0.6955	0.6958	0.6961
40.0	0.6422	0.6425	0.6429	0.6432	0.6436	0.6439	0.6443	0.6446
45.0	0.5971	0.5975	0.5979	0.5983	0.5987	0.5991	0.5995	0.5998
50.0	0.5576	0.5580	0.5585	0.5589	0.5593	0.5598	0.5602	0.5606
55.0	0.5227	0.5232	0.5237	0.5242	0.5246	0.5251	0.5256	0.5260
60.0	0.4918	0.4923	0.4928	0.4933	0.4938	0.4943	0.4948	0.4953
65.0	0.4641	0.4646	0.4651	0.4657	0.4662	0.4667	0.4673	0.4678
70.0	0.4392	0.4397	0.4403	0.4408	0.4414	0.4420	0.4425	0.4431
75.0	0.4167	0.4173	0.4178	0.4184	0.4190	0.4196	0.4201	0.4207
80.0	0.3593	0.3569	0.3575	0.3581	0.3586	0.3592	0.3598	0.4004
85.0	0.3776	0.3783	0.3789	0.3795	0.3801	0.3807	0.3813	0.3819
90.0	0.3606	0.3612	0.3619	0.3625	0.3631	0.3638	0.3644	0.3650
95.0	0.3450	0.3456	0.3463	0.3469	0.3476	0.3482	0.3489	0.3495
100.0	0.3306	0.3312	0.3319	0.3326	0.3332	0.3339	0.3345	0.3352
105.0	0.3173	0.3179	0.3186	0.3193	0.3200	0.3206	0.3213	0.3220
110.0	0.3050	0.3056	0.3063	0.3070	0.3077	0.3084	0.3091	0.3098
115.0	0.2935	0.2942	0.2949	0.2957	0.2964	0.2970	0.2977	0.2984
120.0	0.2929	0.2936	0.2844	0.2851	0.2858	0.2865	0.2872	0.2879
125.0	0.2731	0.2738	0.2745	0.2752	0.2760	0.2767	0.2774	0.2781
130.0	0.2638	0.2646	0.2653	0.2661	0.2668	0.2675	0.2683	0.2690
135.0	0.2553	0.2560	0.2567	0.2575	0.2582	0.2590	0.2597	0.2605
140.0	0.2472	0.2480	0.2487	0.2495	0.2502	0.2510	0.2517	0.2525
145.0	0.2397	0.2405	0.2412	0.2420	0.2428	0.2435	0.2443	0.2450
150.0	0.2327	0.2335	0.2342	0.2350	0.2358	0.2365	0.2373	0.2381

p* IS EQUAL TO 0.1 MPa OR THE VAPOR PRESSURE WHICHEVER IS HIGHER.

TABLE 20

KINEMATIC VISCOSITY OF POTASSIUM CHLORIDE SOLUTIONS

CONCENTRATION = 4.0 MOL/KG

PRESSURE, MPa:	p*	5.0	10.0	15.0	20.0	25.0	30.0	35.0
TEMPERATURE, C		KINEMATIC VISCOSITY, mm ² /s						
25.0	0.8305	0.8307	0.8309	0.8311	0.8314	0.8316	0.8318	0.8320
30.0	0.7602	0.7605	0.7608	0.7611	0.7614	0.7617	0.7620	0.7623
35.0	0.7003	0.7006	0.7010	0.7013	0.7017	0.7020	0.7024	0.7027
40.0	0.6486	0.6490	0.6494	0.6498	0.6502	0.6506	0.6510	0.6514
45.0	0.6037	0.6041	0.6045	0.6050	0.6054	0.6059	0.6063	0.6067
50.0	0.5642	0.5647	0.5652	0.5656	0.5661	0.5666	0.5671	0.5675
55.0	0.5294	0.5299	0.5304	0.5309	0.5314	0.5319	0.5324	0.5329
60.0	0.4984	0.4989	0.4994	0.5000	0.5005	0.5010	0.5016	0.5021
65.0	0.4706	0.4712	0.4717	0.4723	0.4728	0.4734	0.4739	0.4745
70.0	0.4456	0.4462	0.4468	0.4473	0.4479	0.4485	0.4491	0.4497
75.0	0.4230	0.4236	0.4242	0.4248	0.4254	0.4260	0.4266	0.4272
80.0	0.4024	0.4030	0.4037	0.4043	0.4049	0.4055	0.4061	0.4067
85.0	0.3837	0.3843	0.3849	0.3856	0.3862	0.3868	0.3874	0.3881
90.0	0.3665	0.3671	0.3678	0.3684	0.3690	0.3697	0.3703	0.3710
95.0	0.3506	0.3513	0.3520	0.3526	0.3533	0.3539	0.3546	0.3553
100.0	0.3361	0.3367	0.3374	0.3381	0.3388	0.3394	0.3401	0.3408
105.0	0.3226	0.3233	0.3240	0.3246	0.3253	0.3260	0.3267	0.3274
110.0	0.3101	0.3108	0.3115	0.3122	0.3129	0.3136	0.3142	0.3149
115.0	0.2985	0.2992	0.2999	0.3006	0.3013	0.3020	0.3027	0.3034
120.0	0.2877	0.2884	0.2891	0.2898	0.2905	0.2912	0.2920	0.2927
125.0	0.2776	0.2783	0.2790	0.2798	0.2805	0.2812	0.2819	0.2826
130.0	0.2682	0.2689	0.2697	0.2704	0.2711	0.2719	0.2726	0.2733
135.0	0.2594	0.2601	0.2609	0.2616	0.2624	0.2631	0.2638	0.2646
140.0	0.2512	0.2519	0.2527	0.2534	0.2542	0.2549	0.2557	0.2564
145.0	0.2435	0.2442	0.2450	0.2457	0.2465	0.2472	0.2480	0.2487
150.0	0.2362	0.2370	0.2378	0.2385	0.2393	0.2401	0.2408	0.2416

p* IS EQUAL TO 0.1 MPa OR THE VAPOR PRESSURE WHICHEVER IS HIGHER.

TABLE 21

KINEMATIC VISCOSITY OF POTASSIUM CHLORIDE SOLUTIONS
CONCENTRATION = 4.5 MOL/KG

PRESSURE, MPa:	p*	5.0	10.0	15.0	20.0	25.0	30.0	35.0
TEMPERATURE, C:		KINEMATIC VISCOSITY, mm ² /s						
25.0	0.8435	0.8438	0.8440	0.8443	0.8445	0.8448	0.8451	0.8453
30.0	0.7722	0.7726	0.7729	0.7732	0.7736	0.7739	0.7742	0.7745
35.0	0.7114	0.7118	0.7122	0.7126	0.7130	0.7134	0.7137	0.7141
40.0	0.6590	0.6594	0.6598	0.6603	0.6607	0.6612	0.6616	0.6620
45.0	0.6133	0.6138	0.6143	0.6148	0.6152	0.6157	0.6162	0.6167
50.0	0.5733	0.5738	0.5743	0.5748	0.5753	0.5758	0.5764	0.5769
55.0	0.5379	0.5384	0.5390	0.5395	0.5400	0.5406	0.5411	0.5417
60.0	0.5064	0.5069	0.5075	0.5081	0.5086	0.5092	0.5098	0.5103
65.0	0.4782	0.4787	0.4793	0.4799	0.4805	0.4811	0.4817	0.4823
70.0	0.4527	0.4533	0.4540	0.4546	0.4552	0.4558	0.4564	0.4570
75.0	0.4297	0.4304	0.4310	0.4316	0.4322	0.4329	0.4335	0.4341
80.0	0.4088	0.4094	0.4101	0.4107	0.4114	0.4120	0.4126	0.4133
85.0	0.3897	0.3904	0.3910	0.3917	0.3923	0.3930	0.3936	0.3943
90.0	0.3722	0.3729	0.3735	0.3742	0.3749	0.3755	0.3762	0.3768
95.0	0.3561	0.3568	0.3574	0.3581	0.3588	0.3595	0.3601	0.3608
100.0	0.3412	0.3419	0.3426	0.3433	0.3440	0.3447	0.3453	0.3460
105.0	0.3275	0.3282	0.3289	0.3296	0.3303	0.3309	0.3316	0.3323
110.0	0.3147	0.3154	0.3161	0.3168	0.3175	0.3182	0.3189	0.3196
115.0	0.3029	0.3036	0.3043	0.3050	0.3057	0.3064	0.3071	0.3078
120.0	0.2918	0.2925	0.2933	0.2940	0.2947	0.2954	0.2961	0.2969
125.0	0.2815	0.2823	0.2830	0.2837	0.2844	0.2852	0.2859	0.2866
130.0	0.2719	0.2726	0.2734	0.2741	0.2748	0.2756	0.2763	0.2770
135.0	0.2629	0.2636	0.2644	0.2651	0.2659	0.2666	0.2673	0.2681
140.0	0.2545	0.2552	0.2560	0.2567	0.2575	0.2582	0.2590	0.2597
145.0	0.2466	0.2473	0.2481	0.2488	0.2496	0.2503	0.2511	0.2510
150.0	0.2392	0.2399	0.2407	0.2415	0.2422	0.2430	0.2437	0.2445

p* IS EQUAL TO 0.1 MPa OR THE VAPOR PRESSURE WHICHEVER IS HIGHER.

TABLE 22

KINEMATIC VISCOSITY OF POTASSIUM CHLORIDE SOLUTIONS
CONCENTRATION = 5.0 MOL/KG

PRESSURE, MPa:	p*	5.0	10.0	15.0	20.0	25.0	30.0	35.0
TEMPERATURE, C		KINEMATIC VISCOSITY, mm ² /s						
25.0	0.8654	0.8657	0.8660	0.8662	0.8665	0.8668	0.8671	0.8674
30.0	0.7913	0.7917	0.7920	0.7924	0.7927	0.7931	0.7934	0.7938
35.0	0.7282	0.7286	0.7290	0.7294	0.7298	0.7303	0.7307	0.7311
40.0	0.6738	0.6743	0.6747	0.6752	0.6757	0.6761	0.6766	0.6771
45.0	0.6265	0.6270	0.6275	0.6280	0.6286	0.6291	0.6296	0.6301
50.0	0.5851	0.5856	0.5862	0.5867	0.5873	0.5878	0.5883	0.5889
55.0	0.5485	0.5491	0.5496	0.5502	0.5508	0.5514	0.5519	0.5525
60.0	0.5159	0.5165	0.5171	0.5177	0.5183	0.5189	0.5195	0.5201
65.0	0.4868	0.4874	0.4881	0.4887	0.4893	0.4899	0.4905	0.4911
70.0	0.4606	0.4612	0.4619	0.4625	0.4632	0.4638	0.4644	0.4651
75.0	0.4369	0.4376	0.4382	0.4389	0.4395	0.4402	0.4408	0.4415
80.0	0.4154	0.4160	0.4167	0.4174	0.4180	0.4187	0.4194	0.4200
85.0	0.3957	0.3964	0.3971	0.3978	0.3984	0.3991	0.3998	0.4005
90.0	0.3777	0.3784	0.3791	0.3798	0.3805	0.3812	0.3818	0.3825
95.0	0.3612	0.3619	0.3626	0.3633	0.3640	0.3647	0.3653	0.3660
100.0	0.3459	0.3466	0.3473	0.3480	0.3487	0.3494	0.3501	0.3508
105.0	0.3318	0.3325	0.3332	0.3339	0.3347	0.3354	0.3361	0.3368
110.0	0.3187	0.3194	0.3202	0.3209	0.3216	0.3223	0.3230	0.3237
115.0	0.3066	0.3073	0.3080	0.3088	0.3095	0.3102	0.3109	0.3116
120.0	0.2953	0.2960	0.2967	0.2975	0.2982	0.2989	0.2996	0.3004
125.0	0.2848	0.2855	0.2862	0.2869	0.2877	0.2884	0.2891	0.2899
130.0	0.2749	0.2756	0.2764	0.2771	0.2779	0.2786	0.2793	0.2800
135.0	0.2657	0.2664	0.2672	0.2679	0.2687	0.2694	0.2701	0.2709
140.0	0.2571	0.2578	0.2586	0.2593	0.2601	0.2608	0.2615	0.2623
145.0	0.2490	0.2498	0.2505	0.2513	0.2520	0.2528	0.2535	0.2542
150.0	0.2415	0.2422	0.2430	0.2437	0.2445	0.2452	0.2460	0.2467

p* IS EQUAL TO 0.1 MPa OR THE VAPOR PRESSURE WHICHEVER IS HIGHER.