

Densities and Kinematic Viscosities of Ten Binary 1-Alkanol Liquid Systems at Temperatures of (293.15 and 298.15) K.

Nidal M. Hussein and Abdul-Fattah A. Asfour,* – *J. Chem. Eng. Data* 2009, 54, 2948–2952.

Page 2950. Due to a production error, there is a mismatch of mixture names and reported data in Table 2. The correct version of Table 2 with the correct system names is presented below.

Table 2. Density ρ , Kinematic Viscosity ν , and Calculated Absolute Viscosity μ as a Function of Composition x at Temperatures of (293.15 and 298.15) K for Binary Mixtures

x_1	ρ	$10^6 \nu$	μ	ρ	$10^6 \nu$	μ
	kg·L ⁻¹	m ² ·s ⁻¹	mPa·s	kg·L ⁻¹	m ² ·s ⁻¹	mPa·s
293.15 K						
1-Propanol (1) + 1-Pentanol (2)						
0.0000	0.8146	4.946	4.029	0.8110	4.308	3.494
0.0959	0.8137	4.701	3.825	0.8101	4.105	3.325
0.2143	0.8128	4.410	3.584	0.8091	3.864	3.126
0.2969	0.8120	4.243	3.446	0.8084	3.721	3.008
0.4097	0.8109	3.963	3.214	0.8072	3.503	2.828
0.5053	0.8099	3.793	3.072	0.8062	3.343	2.695
0.5963	0.8090	3.595	2.908	0.8052	3.151	2.537
0.6924	0.8078	3.414	2.758	0.8040	2.988	2.402
0.7892	0.8066	3.201	2.582	0.8028	2.844	2.283
0.8797	0.8054	3.032	2.442	0.8015	2.640	2.126
1.0000	0.8035	2.828	2.272	0.7996	2.459	1.966
1-Propanol (1) + 1-Heptanol (2)						
0.0000	0.8222	8.640	7.104	0.8187	7.320	5.993
0.0900	0.8212	8.035	6.596	0.8177	6.866	5.614
0.1795	0.8202	7.413	6.080	0.8167	6.316	5.158
0.3279	0.8182	6.463	5.288	0.8146	5.547	4.519
0.4103	0.8169	5.952	4.862	0.8133	5.131	4.174
0.5058	0.8153	5.252	4.282	0.8117	4.576	3.714
0.6106	0.8135	4.703	3.825	0.8098	4.127	3.342
0.6991	0.8116	4.243	3.443	0.8079	3.724	3.009
0.7989	0.8093	3.720	3.011	0.8056	3.270	2.634
0.8882	0.8070	3.275	2.643	0.8032	2.914	2.340
1.0000	0.8035	2.828	2.272	0.7996	2.459	1.966
1-Propanol (1) + 1-Nonanol (2)						
0.0000	0.8279	14.113	11.683	0.8244	11.731	9.671
0.0808	0.8265	13.141	10.861	0.8231	10.942	9.007
0.2286	0.8246	10.958	9.037	0.8212	9.193	7.550
0.3296	0.8231	9.623	7.921	0.8196	8.175	6.701
0.4104	0.8217	8.638	7.097	0.8182	7.335	6.002
0.5176	0.8195	7.384	6.051	0.8160	6.308	5.147
0.6051	0.8176	6.444	5.268	0.8140	5.544	4.513
0.6801	0.8155	5.519	4.501	0.8119	4.809	3.904
0.7961	0.8119	4.413	3.583	0.8083	3.871	3.129
0.8945	0.8083	3.588	2.900	0.8045	3.175	2.554
1.0000	0.8035	2.828	2.272	0.7996	2.459	1.966
1-Propanol (1) + 1-Undecanol (2)						
0.0000	0.8325	20.64	17.182	0.8290	16.917	14.025
0.1283	0.8307	18.148	15.076	0.8273	14.952	12.37
0.2079	0.8296	16.201	13.44	0.8262	13.45	11.112
0.3145	0.8279	13.964	11.56	0.8244	11.593	9.558
0.4057	0.8261	12.175	10.057	0.8226	10.204	8.394
0.5075	0.8240	10.099	8.321	0.8205	8.529	6.998
0.6096	0.8213	8.297	6.814	0.8177	7.098	5.804
0.6937	0.8187	6.881	5.634	0.8151	5.917	4.823
0.7922	0.8150	5.398	4.399	0.8114	4.694	3.808
0.8907	0.8103	4.040	3.274	0.8065	3.542	2.857
1.0000	0.8035	2.828	2.272	0.7996	2.459	1.966
1-Pentanol (1) + 1-Heptanol (2)						
0.0000	0.8222	8.640	7.104	0.8187	7.32	5.993
0.123	0.8214	8.151	6.696	0.8180	6.959	5.692
0.2117	0.8208	7.766	6.374	0.8174	6.617	5.408
0.3131	0.8202	7.412	6.079	0.8167	6.315	5.158
0.4177	0.8194	7.027	5.758	0.8159	6.004	4.899

Table 2. Continued

x_1	ρ	$10^6 \nu$	μ	ρ	$10^6 \nu$	μ
	$\text{kg}\cdot\text{L}^{-1}$	$\text{m}^2\cdot\text{s}^{-1}$	$\text{mPa}\cdot\text{s}$	$\text{kg}\cdot\text{L}^{-1}$	$\text{m}^2\cdot\text{s}^{-1}$	$\text{mPa}\cdot\text{s}$
0.5088	0.8188	6.621	5.421	0.8153	5.706	4.652
0.5897	0.8182	6.327	5.177	0.8147	5.438	4.431
0.6996	0.8173	5.979	4.887	0.8138	5.148	4.189
0.7885	0.8165	5.697	4.651	0.8129	4.919	3.997
0.8909	0.8156	5.256	4.287	0.8120	4.577	3.717
1.0000	0.8146	4.946	4.029	0.8110	4.308	3.494
1-Pentanol (1) + 1-Nonanol (2)						
0.0000	0.8279	14.113	11.683	0.8244	11.731	9.671
0.1155	0.8266	12.976	10.725	0.8231	10.802	8.891
0.2155	0.8256	11.761	9.710	0.8222	9.831	8.083
0.3161	0.8245	10.593	8.734	0.8211	8.906	7.313
0.4052	0.8236	9.800	8.071	0.8201	8.310	6.815
0.5066	0.8224	8.841	7.270	0.8189	7.483	6.128
0.6079	0.8210	8.016	6.582	0.8175	6.789	5.550
0.7036	0.8196	7.196	5.898	0.8161	6.148	5.017
0.7935	0.8182	6.346	5.192	0.8147	5.490	4.473
0.8913	0.8166	5.670	4.631	0.8130	4.891	3.976
1.0000	0.8146	4.946	4.029	0.8110	4.308	3.494
1-Pentanol (1) + 1-Undecanol (2)						
0.0000	0.8325	20.64	17.182	0.8290	16.917	14.025
0.1218	0.8303	19.175	15.921	0.8269	15.764	13.036
0.2312	0.8291	16.700	13.844	0.8257	13.811	11.404
0.3167	0.8280	14.832	12.281	0.8246	12.296	10.139
0.4002	0.8269	13.513	11.174	0.8235	11.265	9.277
0.5076	0.8252	11.531	9.516	0.8218	9.681	7.956
0.6003	0.8237	9.960	8.205	0.8203	8.415	6.902
0.6977	0.8220	8.447	6.943	0.8185	7.142	5.846
0.7982	0.8198	7.080	5.804	0.8163	6.013	4.908
0.8954	0.8175	5.957	4.870	0.8139	5.111	4.160
1.0000	0.8146	4.946	4.029	0.8110	4.308	3.494
1-Heptanol (1) + 1-Nonanol (2)						
0.0000	0.8279	14.113	11.683	0.8244	11.731	9.671
0.1181	0.8270	13.491	11.157	0.8236	11.230	9.249
0.2245	0.8266	12.776	10.561	0.8232	10.662	8.777
0.307	0.8262	12.132	10.023	0.8228	10.122	8.328
0.4093	0.8257	11.567	9.551	0.8223	9.670	7.951
0.5045	0.8251	11.084	9.146	0.8217	9.284	7.628
0.5969	0.8247	10.440	8.610	0.8212	8.781	7.211
0.6924	0.8242	10.128	8.347	0.8207	8.500	6.976
0.7866	0.8236	9.675	7.968	0.8202	8.123	6.662
0.8883	0.8230	9.040	7.439	0.8195	7.646	6.266
1.0000	0.8222	8.640	7.104	0.8187	7.320	5.993
1-Heptanol (1) + 1-Undecanol (2)						
0.0000	0.8325	20.64	17.182	0.8290	16.917	14.025
0.1245	0.8307	19.706	16.370	0.8273	16.146	13.357
0.2254	0.8300	18.019	14.955	0.8266	14.829	12.258
0.2988	0.8294	16.627	13.790	0.8260	13.677	11.297
0.4142	0.8284	15.601	12.925	0.8250	12.918	10.658
0.5086	0.8276	14.292	11.827	0.8242	11.878	9.790
0.5895	0.8268	13.092	10.825	0.8234	10.895	8.971
0.6993	0.8257	12.018	9.924	0.8223	10.036	8.253
0.7866	0.8248	10.908	8.997	0.8213	9.145	7.511
0.8888	0.8236	9.719	8.005	0.8202	8.183	6.711
1.0000	0.8222	8.640	7.104	0.8187	7.320	5.993
1-Nonanol (1) + 1-Undecanol (2)						
0.0000	0.8325	20.64	17.182	0.8290	16.917	14.025
0.1177	0.8314	20.282	16.862	0.8279	16.722	13.844
0.248	0.8308	19.584	16.214	0.8274	16.078	13.303
0.3116	0.8305	18.741	15.565	0.8271	15.379	12.720
0.4007	0.8302	18.664	15.495	0.8268	15.335	12.679
0.5017	0.8298	17.671	14.663	0.8264	14.558	12.031
0.6004	0.8294	16.673	13.829	0.8260	13.713	11.327
0.6921	0.8290	16.285	13.500	0.8256	13.465	11.116
0.7943	0.8286	15.435	12.789	0.8252	12.788	10.552
0.8915	0.8281	14.562	12.060	0.8247	12.104	9.982
1.0000	0.8279	14.113	11.683	0.8244	11.731	9.671

JE900885U

10.1021/je900885u

Published on Web 11/20/2009