DENSITY OF SOLVENTS AS A FUNCTION OF TEMPERATURE

The table below lists the density of several common solvents in the temperature range from 0°C to 100°C. The values have been calculated from the Rackett Equation using parameters in the reference. Density values refer to the liquid at its saturation vapor pressure; thus entries for temperatures above the normal boiling point are for pressures greater than atmospheric.

Reference

Lide, D. R., and Kehiaian, H. V., *Handbook of Thermophysical and Thermochemical Data*, CRC Press, Boca Raton, FL, 1994.

	Density in g/mL										
Solvent	**0°C**	**10°C**	**20°C**	**30°C**	**40°C**	**50°C**	**60°C**	**70°C**	**80°C**	**90°C**	**100°C**
Acetic acid			1.051	1.038	1.025	1.012	0.9993	0.9861	0.9728	0.9592	0.9454
Acetone	0.8129	0.8016	0.7902	0.7785	0.7666	0.7545	0.7421	0.7293	0.7163	0.7029	0.6890
Acetonitrile			0.7825	0.7707	0.7591	0.7473	0.7353	0.7231	0.7106	0.6980	0.6851
Aniline	1.041	1.033	1.025	1.016	1.008	1.000	0.9909	0.9823	0.9735	0.9646	0.9557
Benzene		0.8884	0.8786	0.8686	0.8584	0.8481	0.8376	0.8269	0.8160	0.8049	0.7935
1-Butanol	0.8293	0.8200	0.8105	0.8009	0.7912	0.7812	0.7712	0.7609	0.7504	0.7398	0.7289
Butylamine	0.7606	0.7512	0.7417	0.7320	0.7221	0.7120	0.7017	0.6911	0.6803	0.6693	0.6579
Carbon disulfide	1.290	1.277	1.263	1.248	1.234						
Chlorobenzene	1.127	1.116	1.106	1.096	1.085	1.074	1.064	1.053	1.042	1.030	1.019
Cyclohexane		0.7872	0.7784	0.7694	0.7602	0.7509	0.7414	0.7317	0.7218	0.7117	0.7013
Decane	0.7447	0.7374	0.7301	0.7226	0.7151	0.7074	0.6997	0.6919	0.6839	0.6758	0.6676
1-Decanol			0.8294	0.8229	0.8162	0.8093	0.8024	0.7955	0.7884	0.7813	0.7740
Dichloromethane	1.362	1.344	1.326	1.307	1.289	1.269	1.250	1.229	1.208	1.187	1.165
Diethyl ether	0.7368	0.7254	0.7137	0.7018	0.6896	0.6770	0.6639	0.6505	0.6366	0.6220	0.6068
N,*N*-Dimethylaniline		0.9638	0.9562	0.9483	0.9401	0.9318	0.9234	0.9150	0.9064	0.8978	0.8890
Ethanol	0.8121	0.8014	0.7905	0.7793	0.7680	0.7564	0.7446	0.7324	0.7200	0.7073	0.6942
Ethyl acetate	0.9245	0.9126	0.9006	0.8884	0.8759	0.8632	0.8503	0.8370	0.8234	0.8095	0.7952
Ethylbenzene	0.8836	0.8753	0.8668	0.8582	0.8495	0.8407	0.8318	0.8228	0.8136	0.8043	0.7948
Ethyl formate	0.9472	0.9346	0.9218	0.9087	0.8954	0.8818	0.8678	0.8535	0.8389	0.8238	0.8082
Ethyl propanoate	0.9113	0.9005	0.8895	0.8784	0.8671	0.8556	0.8439	0.8319	0.8197	0.8072	0.7944
Heptane	0.7004	0.6921	0.6837	0.6751	0.6664	0.6575	0.6485	0.6393	0.6298	0.6202	0.6102
Hexane	0.6774	0.6685	0.6594	0.6502	0.6407	0.6311	0.6212	0.6111	0.6006	0.5899	0.5789
1-Hexanol	0.8359	0.8278	0.8195	0.8111	0.8027	0.7941	0.7854	0.7766	0.7676	0.7585	0.7492
Isopropylbenzene	0.8769	0.8696	0.8615	0.8533	0.8450	0.8366	0.8280	0.8194	0.8106	0.8017	0.7927
Methanol	0.8157	0.8042	0.7925	0.7807	0.7685	0.7562	0.7435	0.7306	0.7174	0.7038	0.6898
Methyl acetate	0.9606	0.9478	0.9346	0.9211	0.9074	0.8933	0.8790	0.8643	0.8491	0.8336	0.8176
N-Methylaniline	1.0010	0.9933	0.9859	0.9785	0.9709	0.9633	0.9556	0.9478	0.9399	0.9319	0.9239
Methylcyclohexane	0.7858	0.7776	0.7693	0.7608	0.7522	0.7435	0.7346	0.7255	0.7163	0.7069	0.6973
Methyl formate	1.003	0.9887	0.9739	0.9588	0.9433	0.9275	0.9112	0.8945	0.8772	0.8594	0.8409
Methyl propanoate	0.9383	0.9268	0.9150	0.9030	0.8907	0.8783	0.8656	0.8526	0.8393	0.8257	0.8117
Nitromethane			1.139	1.125	1.111	1.097	1.083	1.069	1.055	1.040	1.026
Nonane	0.7327	0.7252	0.7176	0.7099	0.7021	0.6941	0.6861	0.6779	0.6696	0.6611	0.6525
Octane	0.7185	0.7106	0.7027	0.6945	0.6863	0.6779	0.6694	0.6608	0.6520	0.6430	0.6338
Pentanoic acid	0.9563	0.9476	0.9389	0.9301	0.9211	0.9121	0.9029	0.8937	0.8843	0.8748	0.8652
1-Propanol	0.8252	0.8151	0.8048	0.7943	0.7837	0.7729	0.7619	0.7506	0.7391	0.7273	0.7152
2-Propanol	0.8092	0.7982	0.7869	0.7755	0.7638	0.7519	0.7397	0.7272	0.7143	0.7011	0.6876
Propyl acetate	0.9101	0.8994	0.8885	0.8775	0.8662	0.8548	0.8432	0.8313	0.8192	0.8069	0.7942
Propylbenzene	0.8779	0.8700	0.8619	0.8538	0.8456	0.8373	0.8289	0.8204	0.8117	0.8030	0.7943
Propyl formate	0.9275	0.9166	0.9053	0.8938	0.8821	0.8702	0.8581	0.8457	0.8330	0.8201	0.8068
Tetrachloromethane	1.629	1.611	1.593	1.575	1.557	1.538	1.518	1.499	1.479	1.458	1.437
Toluene	0.8846	0.8757	0.8667	0.8576	0.8483	0.8389	0.8294	0.8197	0.8098	0.7998	0.7896
Trichloromethane	1.524	1.507	1.489	1.471	1.452	1.433	1.414	1.394			
2,2,4-Trimethylpentane			0.6921	0.6836	0.6750	0.6663	0.6574	0.6484	0.6391	0.6296	0.6199
o-Xylene			0.8801	0.8717	0.8633	0.8547	0.8460	0.8372	0.8282	0.8191	0.8099
m-Xylene	0.8813	0.8729	0.8644	0.8558	0.8470	0.8382	0.8292	0.8201	0.8109	0.8015	0.7920
p-Xylene			0.8609	0.8523	0.8436	0.8347	0.8258	0.8167	0.8075	0.7981	0.7886