TABLE 2-32 Densities of Inorganic and Organic Liquids (mol/dm³)

Eqn	Cmpd. no.	Name	Formula	CAS	Mol. wt.	C_1	C_2	C_3	C_4	C_5	C_6	C_7	T_{min}, K	Density at T_{min}	T_{max}, K	Density at T_{max}
105	1	Acetaldehyde	C_2H_4O	75-07-0	44.05256	1.711365	0.26355	466	0.28571				149.78	21.423	466.00	6.4935
105	2	Acetamide	C_2H_5NO	60-35-5	59.0672	1.016	0.21845	761	0.26116				353.33	16.936	761.00	4.6509
105	3	Acetic acid	$C_2H_4O_2$	64-19-7	60.052	1.4486	0.25892	591.95	0.2529				289.81	17.492	591.95	5.5948
105	4	Acetic anhydride	$C_4H_6O_3$	108-24-7	102.08864	0.79388	0.24119	606	0.29817				200.15	11.626	606.00	3.2915
105	5	Acetone	C_3H_6O	67-64-1	58.07914	1.2332	0.25886	508.2	0.2913				178.45	15.683	508.20	4.7640
105	6	Acetonitrile	C_2H_3N	75-05-8	41.0519	1.0693	0.20656	545.5	0.24699				229.32	20.544	545.50	5.1767
105	7	Acetylene	C_2H_2	74-86-2	26.03728	2.4507	0.27448	308.3	0.28752				192.40	23.692	308.30	8.9285
105	8	Acrolein	C_3H_4O	107-02-8	56.06326	1.3261	0.26124	506	0.2489				185.45	16.822	506.00	5.0762
105	9	Acrylic acid	$C_3H_4O_2$	79-10-7	72.06266	1.2414	0.25822	615	0.30701				286.15	14.693	615.00	4.8075
105	10	Acrylonitrile	C_3H_3N	107-13-1	53.0626	1.0379	0.22465	540	0.28921				189.63	17.254	540.00	4.6201
105	11	Air	Mixture	132259-10-0	28.96	2.8963	0.26733	132.45	0.27341				59.15	33.279	132.45	10.8340
105	12	Ammonia	H_3N	7664-41-7	17.03052	3.5383	0.25443	405.65	0.2888				195.41	43.141	405.65	13.9070
105	13	Anisole	C_7H_8O	100-66-3	108.13782	0.77488	0.26114	645.6	0.28234				235.65	9.6675	645.60	2.9673
105	14	Argon	Ar	7440-37-1	39.948	3.8469	0.2881	150.86	0.29783				83.78	35.491	150.86	13.3530
105	15	Benzamide	C_7H_7NO	55-21-0	121.13658	0.7371	0.25487	824	0.28571				403.00	8.9381	824.00	2.8921
105	16	Benzene	C_6H_6	71-43-2	78.11184	1.0259	0.26666	562.05	0.28394				278.68	11.422	562.05	3.8472
105	17	Benzenethiol	C_6H_6S	108-98-5	110.17684	0.83573	0.26326	689	0.30798				258.27	10.074	689.00	3.1745
105	18	Benzoic acid	$C_7H_6O_2$	65-85-0	122.12134	0.71587	0.24812	751	0.2857				395.45	8.8935	751.00	2.8852
105	19	Benzonitrile	C_7H_5N	100-47-0	103.1213	0.72184	0.24606	702.3	0.28789				260.28	10.008	702.30	2.9336
105	20	Benzophenone	$C_{13}H_{10}O$	119-61-9	182.2179	0.43743	0.24833	830	0.27555				321.35	5.9496	830.00	1.7615
105	21	Benzyl alcohol	C_7H_8O	100-51-6	108.13782	0.59867	0.22849	720.15	0.23567				257.85	9.9051	720.15	2.6201
105	22	Benzyl ethyl ether	$C_9H_{12}O$	539-30-0	136.19098	0.60917	0.26925	662	0.2632				275.65	7.0651	662.00	2.2625
105	23	Benzyl mercaptan	C_7H_8S	100-53-8	124.20342	0.70797	0.25982	718	0.32144				243.95	8.8623	718.00	2.7248
105	24	Biphenyl	$C_{12}H_{10}$	92-52-4	154.2078	0.52257	0.25833	773	0.27026				342.20	6.4251	773.00	2.0229
105	25	Bromine	Br_2	7726-95-6	159.808	2.1872	0.29527	584.15	0.3295				265.85	20.109	584.15	7.4075
105	26	Bromobenzene	C_6H_5Br	108-86-1	157.0079	0.8226	0.26632	670.15	0.2821				242.43	9.9087	670.15	3.0888
105	27	Bromoethane	C_2H_5Br	74-96-4	108.965	1.3285	0.2708	503.8	0.3012				154.25	15.809	503.80	4.9058
105	28	Bromomethane	CH_3Br	74-83-9	94.93852	1.796	0.27065	464	0.28947				173.00	20.787	464.00	6.6359
105	29	1,2-Butadiene	C_4H_6	590-19-2	54.09044	1.187	0.26114	452	0.3065				136.95	15.123	452.00	4.5455
105	30	1,3-Butadiene	C_4H_6	106-99-0	54.09044	1.2346	0.27216	425	0.28707				164.25	14.058	425.00	4.5363
105	31	Butane	C_4H_{10}	106-97-8	58.1222	1.0677	0.27188	425.12	0.28688				134.86	12.62	425.12	3.9271
105	32	1,2-Butanediol	$C_4H_{10}O_2$	584-03-2	90.121	0.81696	0.24755	680	0.24535				220.00	11.734	680.00	3.3002
105	33	1,3-Butanediol	$C_4H_{10}O_2$	107-88-0	90.121	0.81856	0.24967	676	0.22023				196.15	11.872	676.00	3.2786
105	34	1-Butanol	$C_4H_{10}O$	71-36-3	74.1216	0.98279	0.2683	563.1	0.25488				183.85	12.035	563.10	3.6630
105	35	2-Butanol	$C_4H_{10}O$	78-92-2	74.1216	0.97552	0.26339	535.9	0.26864				158.45	12.473	535.90	3.7037
105	36	1-Butene	C_4H_8	106-98-9	56.10632	1.0877	0.26454	419.5	0.2843				87.80	14.264	419.50	4.1117
105	37	*cis*-2-Butene	C_4H_8	590-18-1	56.10632	1.1591	0.27085	435.5	0.28116				134.26	13.894	435.50	4.2795
105	38	*trans*-2-Butene	C_4H_8	624-64-6	56.10632	1.1448	0.27154	428.6	0.28419				167.62	13.08	428.60	4.2160
105	39	Butyl acetate	$C_6H_{12}O_2$	123-86-4	116.15828	0.67794	0.2637	575.4	0.29318				199.65	8.3365	575.40	2.5709
105	40	Butylbenzene	$C_{10}H_{14}$	104-51-8	134.21816	0.50812	0.25238	660.5	0.29373				185.30	7.0264	660.50	2.0133
105	41	Butyl mercaptan	$C_4H_{10}S$	109-79-5	90.1872	0.89458	0.27463	570.1	0.28512				157.46	10.585	570.10	3.2574
105	42	sec-Butyl mercaptan	$C_4H_{10}S$	513-53-1	90.1872	0.89137	0.27365	554	0.2953				133.02	10.761	554.00	3.2573
105	43	1-Butyne	C_4H_6	107-00-6	54.09044	1.3409	0.27892	440	0.29661				147.43	14.901	440.00	4.8075
105	44	Butyraldehyde	C_4H_8O	123-72-8	72.10572	1.033873	0.266739	537.2	0.28571				176.80	12.602	537.20	3.8760
105	45	Butyric acid	$C_4H_8O_2$	107-92-6	88.1051	0.88443	0.25828	615.7	0.248				267.95	11.087	615.70	3.4243
105	46	Butyronitrile	C_4H_7N	109-74-0	69.1051	0.79716	0.23168	585.4	0.28071				161.30	13.087	585.40	3.4408
105	47	Carbon dioxide	CO_2	124-38-9	44.0095	2.768	0.26212	304.21	0.2908				216.58	26.828	304.21	10.5600
105	48	Carbon disulfide	CS_2	75-15-0	76.1407	1.7968	0.28749	552	0.3226				161.11	19.064	552.00	6.2500
105	49	Carbon monoxide	CO	630-08-0	28.0101	2.897	0.27532	132.92	0.2813				68.15	30.18	132.92	10.5220
105	50	Carbon tetrachloride	CCl_4	56-23-5	153.8227	0.99835	0.274	556.35	0.287				250.33	10.843	556.35	3.6436
105	51	Carbon tetrafluoride	CF_4	75-73-0	88.0043	1.955	0.27884	227.51	0.28571				89.56	21.211	227.51	7.0112
105	52	Chlorine	Cl_2	7782-50-5	70.906	2.23	0.27645	417.15	0.2926				172.12	24.242	417.15	8.0666

(*Continued*)

TABLE 2-32 Densities of Inorganic and Organic Liquids (mol/dm³) (*Continued*)

Eqn	Cmpd. no.	Name	Formula	CAS	Mol. wt.	C_1	C_2	C_3	C_4	C_5	C_6	C_7	T_{min}, K	Density at T_{min}	T_{max}, K	Density at T_{max}
105	53	Chlorobenzene	C_6H_5Cl	108-90-7	112.5569	0.8711	0.26805	632.35	0.2799				227.95	10.385	632.35	3.2498
105	54	Chloroethane	C_2H_5Cl	75-00-3	64.5141	1.39625	0.26867	460.35	0.28571				136.75	17.055	460.35	5.1969
105	55	Chloroform	$CHCl_3$	67-66-3	119.37764	1.0841	0.2581	536.4	0.2741				209.63	13.702	536.40	4.2003
105	56	Chloromethane	CH_3Cl	74-87-3	50.4875	1.8651	0.2627	416.25	0.28571				175.43	22.272	416.25	7.0997
105	57	1-Chloropropane	C_3H_7Cl	540-54-5	78.54068	1.12465	0.2728	503.15	0.28571				150.35	13.333	503.15	4.1226
105	58	2-Chloropropane	C_3H_7Cl	75-29-6	78.54068	1.1202	0.27669	489	0.27646				155.97	12.855	489.00	4.0486
105	59	*m*-Cresol	C_7H_8O	108-39-4	108.13782	0.9061	0.28268	705.85	0.2707				285.39	9.6115	705.85	3.2054
105	60	*o*-Cresol	C_7H_8O	95-48-7	108.13782	0.95937	0.2882	697.55	0.2857				304.19	9.5725	697.55	3.3288
105	61	*p*-Cresol	C_7H_8O	106-44-5	108.13782	1.1503	0.31861	704.65	0.30104				307.93	9.4494	704.65	3.6104
105	62	Cumene	C_9H_{12}	98-82-8	120.19158	0.58711	0.25583	631	0.28498				177.14	7.9387	631.00	2.2949
105	63	Cyanogen	C_2N_2	460-19-5	52.0348	1.7805	0.26846	400.15	0.26079				245.25	18.517	400.15	6.6323
105	64	Cyclobutane	C_4H_8	287-23-0	56.10632	1.3931	0.29255	459.93	0.24913				182.48	14.074	459.93	4.7619
105	65	Cyclohexane	C_6H_{12}	110-82-7	84.15948	0.88998	0.27376	553.8	0.28571				279.69	9.3804	553.80	3.2509
105	66	Cyclohexanol	$C_6H_{12}O$	108-93-0	100.15888	0.8243	0.26545	650.1	0.28495				296.60	9.4693	650.10	3.1053
105	67	Cyclohexanone	$C_6H_{10}O$	108-94-1	98.143	0.86464	0.26888	653	0.29943				242.00	10.09	653.00	3.2157
105	68	Cyclohexene	C_6H_{10}	110-83-8	82.1436	0.92997	0.27056	560.4	0.28943				169.67	11.16	560.40	3.4372
105	69	Cyclopentane	C_5H_{10}	287-92-3	70.1329	1.0897	0.28356	511.7	0.25142				179.28	11.906	511.70	3.8429
105	70	Cyclopentene	C_5H_8	142-29-0	68.11702	1.1035	0.27035	507	0.28699				138.13	13.47	507.00	4.0817
105	71	Cyclopropane	C_3H_6	75-19-4	42.07974	1.7411	0.28205	398	0.29598				145.59	18.658	398.00	6.1730
105	72	Cyclohexyl mercaptan	$C_6H_{12}S$	1569-69-3	116.22448	0.78578	0.27882	664	0.31067				189.64	8.9048	664.00	2.8182
105	73	Decanal	$C_{10}H_{20}O$	112-31-2	156.2652	0.478542	0.275162	674	0.28571				285.00	5.2396	674.00	1.7391
105	74	Decane	$C_{10}H_{22}$	124-18-5	142.28168	0.41084	0.25175	617.7	0.28571				243.51	5.3927	617.70	1.6319
105	75	Decanoic acid	$C_{10}H_{20}O_2$	334-48-5	172.265	0.39348	0.2492	722.1	0.28571				304.55	5.1809	722.10	1.5790
105	76	1-Decanol	$C_{10}H_{22}O$	112-30-1	158.28108	0.38208	0.24645	688	0.26125				280.05	5.2609	688.00	1.5503
105	77	1-Decene	$C_{10}H_{20}$	872-05-9	140.2658	0.43981	0.25661	616.6	0.29148				206.89	5.7328	616.60	1.7139
105	78	Decyl mercaptan	$C_{10}H_{22}S$	143-10-2	174.34668	0.44289	0.27636	696	0.27668				247.56	5.0048	696.00	1.6026
105	79	1-Decyne	$C_{10}H_{18}$	764-93-2	138.24992	0.46877	0.25875	619.85	0.29479				229.15	5.8954	619.85	1.8117
105	80	Deuterium	D_2	7782-39-0	4.0316	5.2115	0.315	38.35	0.28571				18.73	42.945	38.35	16.5440
105	81	1,1-Dibromoethane	$C_2H_4Br_2$	557-91-5	187.86116	0.95523	0.26364	628	0.29825				210.15	11.799	628.00	3.6232
105	82	1,2-Dibromoethane	$C_2H_4Br_2$	106-93-4	187.86116	1.0132	0.26634	650.15	0.28571				282.85	11.704	650.15	3.8042
105	83	Dibromomethane	CH_2Br_2	74-95-3	173.83458	1.1136	0.24834	611	0.27583				220.60	15.358	611.00	4.4842
105	84	Dibutyl ether	$C_8H_{18}O$	142-96-1	130.22792	0.55941	0.27243	584.1	0.29932				175.30	6.6071	584.10	2.0534
105	85	*m*-Dichlorobenzene	$C_6H_4Cl_2$	541-73-1	147.00196	0.74495	0.26147	683.95	0.31526				248.39	9.1207	683.95	2.8491
105	86	*o*-Dichlorobenzene	$C_6H_4Cl_2$	95-50-1	147.00196	0.74404	0.26112	705	0.30815				256.15	9.1658	705.00	2.8494
105	87	*p*-Dichlorobenzene	$C_6H_4Cl_2$	106-46-7	147.00196	0.74858	0.26276	684.75	0.30788				326.14	8.5175	684.75	2.8489
105	88	1,1-Dichloroethane	$C_2H_4Cl_2$	75-34-3	98.95916	1.1055	0.26533	523	0.287				176.19	13.549	523.00	4.1665
105	89	1,2-Dichloroethane	$C_2H_4Cl_2$	107-06-2	98.95916	1.2591	0.27698	561.6	0.30492				237.49	13.462	561.60	4.5458
105	90	Dichloromethane	CH_2Cl_2	75-09-2	84.93258	1.3897	0.25678	510	0.2902				178.01	17.974	510.00	5.4120
105	91	1,1-Dichloropropane	$C_3H_6Cl_2$	78-99-9	112.98574	0.9551	0.27794	560	0.24132				192.50	10.925	560.00	3.4364
105	92	1,2-Dichloropropane	$C_3H_6Cl_2$	78-87-5	112.98574	0.89833	0.26142	572	0.2868				172.71	11.526	572.00	3.4363
105	93	Diethanol amine	$C_4H_{11}NO_2$	111-42-2	105.13564	0.68184	0.23796	736.6	0.2062				301.15	10.39	736.60	2.8654
105	94	Diethyl amine	$C_4H_{11}N$	109-89-7	73.13684	0.85379	0.25675	496.6	0.27027				223.35	10.575	496.60	3.3254
105	95	Diethyl ether	$C_4H_{10}O$	60-29-7	74.1216	0.9554	0.26847	466.7	0.2814				156.85	11.487	466.70	3.5587
105	96	Diethyl sulfide	$C_4H_{10}S$	352-93-2	90.1872	0.82227	0.26314	557.15	0.27369				169.20	10.47	557.15	3.1248
105	97	1,1-Difluoroethane	$C_2H_4F_2$	75-37-6	66.04997	1.4345	0.25774	386.44	0.28178				154.56	18.006	386.44	5.5657
105	98	1,2-Difluoroethane	$C_2H_4F_2$	624-72-6	66.04997	1.173	0.22856	445	0.28571				179.60	18.336	445.00	5.1321
105	99	Difluoromethane	CH_2F_2	75-10-5	52.02339	1.9973	0.24653	351.26	0.28153				136.95	27.399	351.26	8.1017
105	100	Di–sopropyl amine	$C_6H_{15}N$	108-18-9	101.19	0.6181	0.25786	523.1	0.271				176.85	8.0541	523.10	2.3970
105	101	Di–sopropyl ether	$C_6H_{14}O$	108-20-3	102.17476	0.69213	0.26974	500.05	0.28571				187.65	8.0673	500.05	2.5659
105	102	Di–sopropyl ketone	$C_7H_{14}O$	565-80-0	114.18546	0.64619	0.26881	576	0.28036				204.81	7.6796	576.00	2.4039
105	103	1,1-Dimethoxyethane	$C_4H_{10}O_2$	534-15-6	90.121	0.89368	0.26599	507.8	0.28571				159.95	11.029	507.80	3.3598
105	104	1,2-Dimethoxypropane	$C_5H_{12}O_2$	7778-85-0	104.14758	0.76327	0.26742	543	0.28571				226.10	8.8431	543.00	2.8542

105	105	Dimethyl acetylene	C_4H_6	503-17-3	54.09044	1.1717	0.25895	473.2	0.27289				240.91	13.767	473.20	4.5248
105	106	Dimethyl amine	C_2H_7N	124-40-3	45.08368	1.5436	0.27784	437.2	0.2572				180.96	16.964	437.20	5.5557
105	107	2,3-Dimethylbutane	C_6H_{14}	79-29-8	86.17536	0.7565	0.27305	500	0.27408				145.19	9.031	500.00	2.7706
105	108	1,1-Dimethylcyclohexane	C_8H_{16}	590-66-9	112.21264	0.55873	0.25143	591.15	0.27758				239.66	7.3417	591.15	2.2222
105	109	*cis*-1,2-Dimethylcyclohexane	C_8H_{16}	2207-01-4	112.21264	0.52953	0.24358	606.15	0.26809				223.16	7.5783	606.15	2.1739
105	110	*trans*-1,2-Dimethylcyclohexane	C_8H_{16}	6876-23-9	112.21264	0.54405	0.25026	596.15	0.2658				184.99	7.6258	596.15	2.1739
105	111	Dimethyl disulfide	$C_2H_6S_2$	624-92-0	94.19904	1.1058	0.27866	615	0.31082				188.44	12.413	615.00	3.9683
105	112	Dimethyl ether	C_2H_6O	115-10-6	46.06844	1.5693	0.2679	400.1	0.2882				131.65	18.95	400.10	5.8578
105	113	*N,N*-Dimethyl formamide	C_3H_7NO	68-12-2	73.09378	0.89615	0.23478	649.6	0.28091				212.72	13.954	649.60	3.8170
105	114	2,3-Dimethylpentane	C_7H_{16}	565-59-3	100.20194	0.72352	0.28629	537.3	0.27121				141.23	7.9932	537.30	2.5272
105	115	Dimethyl phthalate	$C_{10}H_{10}O_4$	131-11-3	194.184	0.47977	0.25428	766	0.30722				274.18	6.2334	766.00	1.8868
105	116	Dimethylsilane	C_2H_8Si	1111-74-6	60.17042	1.0214	0.26351	402	0.28421				122.93	12.898	402.00	3.8761
105	117	Dimethyl sulfide	C_2H_6S	75-18-3	62.134	1.4029	0.27991	503.04	0.2741				174.88	15.556	503.04	5.0120
105	118	Dimethyl sulfoxide	C_2H_6OS	67-68-5	78.13344	1.1096	0.25189	729	0.3311				291.67	14.111	729.00	4.4051
105	119	Dimethyl terephthalate	$C_{10}H_{10}O_4$	120-61-6	194.184	0.48611	0.25715	777.4	0.28571				413.79	5.6397	777.40	1.8904
105	120	1,4-Dioxane	$C_4H_8O_2$	123-91-1	88.10512	1.1819	0.2813	587	0.3047				284.95	11.838	587.00	4.2016
105	121	Diphenyl ether	$C_{12}H_{10}O$	101-84-8	170.2072	0.52133	0.26218	766.8	0.31033				300.03	6.2648	766.80	1.9884
105	122	Dipropyl amine	$C_6H_{15}N$	142-84-7	101.19	0.659	0.26428	550	0.2766				210.15	7.9929	550.00	2.4936
105	123	Dodecane	$C_{12}H_{26}$	112-40-3	170.33484	0.33267	0.24664	658	0.28571				263.57	4.5205	658.00	1.3488
105	124	Eicosane	$C_{20}H_{42}$	112-95-8	282.54748	0.18166	0.23351	768	0.28571				309.58	2.7293	768.00	0.7780
105	125	Ethane	C_2H_6	74-84-0	30.069	1.9122	0.27937	305.32	0.29187				90.35	21.64	305.32	6.8447
105	126	Ethanol	C_2H_6O	64-17-5	46.06844	1.6288	0.27469	514	0.23178				159.05	19.41	514.00	5.9296
105	127	Ethyl acetate	$C_4H_8O_2$	141-78-6	88.10512	0.8996	0.25856	523.3	0.278				189.60	11.478	523.30	3.4793
105	128	Ethyl amine	C_2H_7N	75-04-7	45.08368	1.0936	0.22636	456.15	0.25522				192.15	17.588	456.15	4.8312
105	129	Ethylbenzene	C_8H_{10}	100-41-4	106.165	0.70041	0.26162	617.15	0.28454				178.20	9.0407	617.15	2.6772
105	130	Ethyl benzoate	$C_9H_{10}O_2$	93-89-0	150.1745	0.48864	0.23894	698	0.28421				238.45	7.2908	698.00	2.0450
105	131	2-Ethyl butanoic acid	$C_6H_{12}O_2$	88-09-5	116.15828	0.66085	0.25707	655	0.31103				258.15	8.2198	655.00	2.5707
105	132	Ethyl butyrate	$C_6H_{12}O_2$	105-54-4	116.15828	0.63566	0.25613	571	0.27829				175.15	8.4912	571.00	2.4818
105	133	Ethylcyclohexane	C_8H_{16}	1678-91-7	112.21264	0.61587	0.26477	609.15	0.28054				161.84	7.8679	609.15	2.3261
105	134	Ethylcyclopentane	C_7H_{14}	1640-89-7	98.18606	0.71751	0.26903	569.5	0.27733				134.71	9.0179	569.50	2.6670
105	135	Ethylene	C_2H_4	74-85-1	28.05316	2.0961	0.27657	282.34	0.29147				104.00	23.326	282.34	7.5789
105	136	Ethylenediamine	$C_2H_8N_2$	107-15-3	60.09832	0.7842	0.20702	593	0.20254				284.29	15.055	593.00	3.7880
105	137	Ethylene glycol	$C_2H_6O_2$	107-21-1	62.06784	1.315	0.25125	720	0.21868				260.15	18.31	720.00	5.2338
105	138	Ethyleneimine	C_2H_5N	151-56-4	43.0678	1.3462	0.23289	537	0.23357				195.20	21.45	537.00	5.7804
105	139	Ethylene oxide	C_2H_4O	75-21-8	44.05256	1.836	0.26024	469.15	0.2696				160.65	23.477	469.15	7.0550
105	140	Ethyl formate	$C_3H_6O_2$	109-94-4	74.07854	1.1343	0.26168	508.4	0.2791				193.55	14.006	508.40	4.3347
105	141	2-Ethyl hexanoic acid	$C_8H_{16}O_2$	149-57-5	144.211	0.47428	0.25028	674.6	0.25442				155.15	6.926	674.60	1.8950
105	142	Ethylhexyl ether	$C_8H_{18}O$	5756-43-4	130.22792	0.55729	0.2714	583	0.29538				180.00	6.612	583.00	2.0534
105	143	Ethylisopropyl ether	$C_5H_{12}O$	625-54-7	88.14818	0.8185	0.26929	489	0.30621				140.00	9.9236	489.00	3.0395
105	144	Ethylisopropyl ketone	$C_6H_{12}O$	565-69-5	100.15888	0.68162	0.25152	567	0.3182				204.15	8.9749	567.00	2.7100
105	145	Ethyl mercaptan	C_2H_6S	75-08-1	62.13404	1.3047	0.2694	499.15	0.27866				125.26	16.242	499.15	4.8430
105	146	Ethyl propionate	$C_5H_{10}O_2$	105-37-3	102.1317	0.7405	0.25563	546	0.2795				199.25	9.6317	546.00	2.8968
105	147	Ethylpropyl ether	$C_5H_{12}O$	628-32-0	88.14818	0.7908	0.266	500.23	0.292				145.65	9.8474	500.23	2.9729
105	148	Ethyltrichlorosilane	$C_2H_5Cl_3Si$	115-21-9	163.506	0.61243	0.24681	559.95	0.30858				167.55	8.6934	559.95	2.4814
105	149	Fluorine	F_2	7782-41-4	37.9968064	4.2895	0.28587	144.12	0.28776				53.48	44.888	144.12	15.0050
105	150	Fluorobenzene	C_6H_5F	462-06-6	96.1023032	1.0146	0.27277	560.09	0.28291				230.94	11.374	560.09	3.7196
105	151	Fluoroethane	C_2H_5F	353-36-6	48.0595	1.693858	0.269323	375.31	0.28571				129.95	20.099	375.31	6.2893
105	152	Fluoromethane	CH_3F	593-53-3	34.03292	2.2261	0.25072	317.42	0.27343				131.35	29.345	317.42	8.8788
105	153	Formaldehyde	CH_2O	50-00-0	30.02598	3.897011	0.331636	420	0.28571				155.15	30.92	420.00	11.7510
105	154	Formamide	CH_3NO	75-12-7	45.04062	1.2486	0.20352	771	0.25178				275.60	25.488	771.00	6.1350
105	155	Formic acid	CH_2O_2	64-18-6	46.0257	1.938	0.24225	588	0.24435				281.45	26.806	588.00	8.0000
105	156	Furan	C_4H_4O	110-00-9	68.07396	1.1339	0.24741	490.15	0.2612				187.55	15.702	490.15	4.5831
105	157	Helium-4	He	7440-59-7	4.0026	7.2475	0.41865	5.2	0.24096				2.20	37.115	5.20	17.3120
105	158	Heptadecane	$C_{17}H_{36}$	629-78-7	240.46774	0.21897	0.23642	736	0.28571				295.13	3.2189	736.00	0.9262
105	159	Heptanal	$C_7H_{14}O$	111-71-7	114.18546	0.577362	0.250575	620	0.28571				229.80	7.7462	620.00	2.3041

(*Continued*)

TABLE 2-32 Densities of Inorganic and Organic Liquids (mol/dm³) (*Continued*)

Eqn	Cmpd. no.	Name	Formula	CAS	Mol. wt.	C_1	C_2	C_3	C_4	C_5	C_6	C_7	T_{min}, K	Density at T_{min}	T_{max}, K	Density at T_{max}
105	160	Heptane	C_7H_{16}	142-82-5	100.20194	0.61259	0.26211	540.2	0.28141				182.57	7.6998	540.20	2.3371
105	161	Heptanoic acid	$C_7H_{14}O_2$	111-14-8	130.185	0.53066	0.24729	677.3	0.28289				265.83	7.2212	677.30	2.1459
105	162	1-Heptanol	$C_7H_{16}O$	111-70-6	116.20134	0.55687	0.24725	632.3	0.31471				239.15	7.5022	632.30	2.2523
105	163	2-Heptanol	$C_7H_{16}O$	543-49-7	116.20134	0.59339	0.2602	608.3	0.26968				220.00	7.5173	608.30	2.2805
105	164	3-Heptanone	$C_7H_{14}O$	106-35-4	114.18546	0.59268	0.25663	606.6	0.27766				234.15	7.5751	606.60	2.3095
105	165	2-Heptanone	$C_7H_{14}O$	110-43-0	114.18546	0.58247	0.25279	611.4	0.29818				238.15	7.5514	611.40	2.3042
105	166	1-Heptene	C_7H_{14}	592-76-7	98.18606	0.66016	0.26657	537.4	0.28571				154.12	8.2257	537.40	2.4765
105	167	Heptyl mercaptan	$C_7H_{16}S$	1639-09-4	132.26694	0.58622	0.2726	645	0.29644				229.92	6.7277	645.00	2.1505
105	168	1-Heptyne	C_7H_{12}	628-71-7	96.17018	0.67304	0.26045	547	0.28388				192.22	8.4922	547.00	2.5841
105	169	Hexadecane	$C_{16}H_{34}$	544-76-3	226.44116	0.23289	0.23659	723	0.28571				291.31	3.415	723.00	0.9844
105	170	Hexanal	$C_6H_{12}O$	66-25-1	100.15888	0.668504	0.252695	594	0.28571				214.93	8.8708	594.00	2.6455
105	171	Hexane	C_6H_{14}	110-54-3	86.17536	0.70824	0.26411	507.6	0.27537				177.83	8.747	507.60	2.6816
105	172	Hexanoic acid	$C_6H_{12}O_2$	142-62-1	116.158	0.62833	0.25598	660.2	0.25304				269.25	8.0964	660.20	2.4546
105	173	1-Hexanol	$C_6H_{14}O$	111-27-3	102.17476	0.70093	0.26776	611.3	0.24919				228.55	8.456	611.30	2.6178
105	174	2-Hexanol	$C_6H_{14}O$	626-93-7	102.175	0.67393	0.25948	585.3	0.26552				223.00	8.5181	585.30	2.5972
105	175	2-Hexanone	$C_6H_{12}O$	591-78-6	100.15888	0.67816	0.25634	587.61	0.28365				217.35	8.7319	587.61	2.6455
105	176	3-Hexanone	$C_6H_{12}O$	589-38-8	100.15888	0.67666	0.25578	582.82	0.27746				217.50	8.7631	582.82	2.6455
105	177	1-Hexene	C_6H_{12}	592-41-6	84.15948	0.76925	0.26809	504	0.28571				133.39	9.5815	504.00	2.8694
105	178	3-Hexyne	C_6H_{10}	928-49-4	82.1436	0.78045	0.26065	544	0.28571				170.05	10.021	544.00	2.9942
105	179	Hexyl mercaptan	$C_6H_{14}S$	111-31-9	118.24036	0.66372	0.27345	623	0.29185				192.62	7.7733	623.00	2.4272
105	180	1-Hexyne	C_6H_{10}	693-02-7	82.1436	0.84427	0.27185	516.2	0.2771				141.25	10.23	516.20	3.1056
105	181	2-Hexyne	C_6H_{10}	764-35-2	82.1436	0.76277	0.25248	549	0.31611				183.65	10.133	549.00	3.0211
105	182	Hydrazine	H_4N_2	302-01-2	32.04516	1.0516	0.16613	653.15	0.1898				274.69	31.934	653.15	6.3300
105	183	Hydrogen	H_2	1333-74-0	2.01588	5.414	0.34893	33.19	0.2706				13.95	38.487	33.19	15.5160
105	184	Hydrogen bromide	BrH	10035-10-6	80.91194	2.832	0.2832	363.15	0.28571				185.15	27.985	363.15	10.0000
105	185	Hydrogen chloride	ClH	7647-01-0	36.46094	3.342	0.2729	324.65	0.3217				158.97	34.854	324.65	12.2460
105	186	Hydrogen cyanide	CHN	74-90-8	27.02534	1.3413	0.18589	456.65	0.28206				259.83	27.202	456.65	7.2156
105	187	Hydrogen fluoride	FH	7664-39-3	20.0063432	2.8061	0.19362	461.15	0.29847				189.79	58.861	461.15	14.4930
105	188	Hydrogen sulfide	H_2S	7783-06-4	34.08088	2.7672	0.27369	373.53	0.29015				187.68	29.13	373.53	10.1110
105	189	Isobutyric acid	$C_4H_8O_2$	79-31-2	88.10512	0.88575	0.25736	605	0.26265				227.15	11.42	605.00	3.4417
105	190	Isopropyl amine	C_3H_9N	75-31-0	59.11026	1.2801	0.2828	471.85	0.2972				177.95	13.561	471.85	4.5265
105	191	Malonic acid	$C_3H_4O_4$	141-82-2	104.06146	0.87969	0.24543	834	0.28571				409.15	11.417	834.00	3.5843
105	192	Methacrylic acid	$C_4H_6O_2$	79-41-4	86.08924	0.87025	0.24383	662	0.28571				288.15	11.834	662.00	3.5691
105	193	Methane	CH_4	74-82-8	16.0425	2.9214	0.28976	190.56	0.28881				90.69	28.18	190.56	10.0820
105	194	Methanol	CH_4O	67-56-1	32.04186	2.3267	0.27073	512.5	0.24713				175.47	27.915	512.50	8.5942
105	195	*N*-Methyl acetamide	C_3H_7NO	79-16-3	73.09378	0.88268	0.23568	718	0.27379				301.15	13.012	718.00	3.7452
105	196	Methyl acetate	$C_3H_6O_2$	79-20-9	74.07854	1.13	0.2593	506.55	0.2764				175.15	14.475	506.55	4.3579
105	197	Methyl acetylene	C_3H_4	74-99-7	40.06386	1.6085	0.26436	402.4	0.27987				170.45	19.031	402.40	6.0845
105	198	Methyl acrylate	$C_4H_6O_2$	96-33-3	86.08924	0.97286	0.26267	536	0.2508				196.32	12.203	536.00	3.7037
105	199	Methyl amine	CH_5N	74-89-5	31.0571	1.39	0.21405	430.05	0.2275				179.69	25.378	430.05	6.4938
105	200	Methyl benzoate	$C_8H_8O_2$	93-58-3	136.14792	0.53382	0.23274	693	0.28147				260.75	8.2202	693.00	2.2936
105	201	3-Methyl-1,2-butadiene	C_5H_8	598-25-4	68.11702	0.84623	0.24625	490	0.29041				159.53	11.994	490.00	3.4365
105	202	2-Methylbutane	C_5H_{12}	78-78-4	72.14878	0.91991	0.27815	460.4	0.28667				113.25	10.764	460.40	3.3072
105	203	2-Methylbutanoic acid	$C_5H_{10}O_2$	116-53-0	102.1317	0.72762	0.25244	643	0.28571				193.00	9.9915	643.00	2.8823
105	204	3-Methyl-1-butanol	$C_5H_{12}O$	123-51-3	88.1482	0.8189	0.26974	577.2	0.23573				155.95	10.248	577.20	3.0359
105	205	2-Methyl-1-butene	C_5H_{10}	563-46-2	70.1329	0.91619	0.26752	465	0.28164				135.58	11.332	465.00	3.4248
105	206	2-Methyl-2-butene	C_5H_{10}	513-35-9	70.1329	0.93391	0.27275	470	0.2578				139.39	11.216	470.00	3.4241
105	207	2-Methyl -1-butene-3-yne	C_5H_6	78-80-8	66.10114	1.1157	0.27671	492	0.30821				160.15	12.581	492.00	4.0320
105	208	Methylbutyl ether	$C_5H_{12}O$	628-28-4	88.14818	0.8363	0.27514	512.74	0.27553				157.48	9.7581	512.74	3.0395
105	209	Methylbutyl sulfide	$C_5H_{12}S$	628-29-5	104.214	0.75509	0.27183	593	0.29127				175.30	9.0056	593.00	2.7778
105	210	3-Methyl-1-butyne	C_5H_8	598-23-2	68.11702	0.94575	0.26008	463.2	0.30807				183.45	11.519	463.20	3.6364
105	211	Methyl butyrate	$C_5H_{10}O_2$	623-42-7	102.1317	0.76983	0.26173	554.5	0.26879				187.35	9.7638	554.50	2.9413

105	212	Methylchlorosilane	CH_5ClSi	993-00-0	80.5889	1.0674	0.26257	442	0.26569				139.05	13.626	442.00	4.0652
105	213	Methylcyclohexane	C_7H_{14}	108-87-2	98.18606	0.73109	0.26971	572.1	0.29185				146.58	9.0173	572.10	2.7107
105	214	1-Methylcyclohexanol	$C_7H_{14}O$	590-67-0	114.18546	0.7013	0.266	686	0.28571				285.15	8.2091	686.00	2.6365
105	215	*cis*-2-Methylcyclohexanol	$C_7H_{14}O$	7443-70-1	114.18546	0.70973	0.26544	614	0.26016				280.15	8.2931	614.00	2.6738
105	216	*trans*-2-Methylcyclohexanol	$C_7H_{14}O$	7443-52-9	114.18546	0.72836	0.27241	617	0.2478				269.15	8.2628	617.00	2.6738
105	217	Methylcyclopentane	C_6H_{12}	96-37-7	84.15948	0.84758	0.27037	532.7	0.28258				130.73	10.491	532.70	3.1349
105	218	1-Methylcyclopentene	C_6H_{10}	693-89-0	82.1436	0.88824	0.26914	542	0.27874				146.62	10.98	542.00	3.3003
105	219	3-Methylcyclopentene	C_6H_{10}	1120-62-3	82.1436	0.9109	0.276	526	0.26756				168.54	10.538	526.00	3.3004
105	220	Methyldichlorosilane	CH_4Cl_2Si	75-54-7	115.03396	0.97608	0.28209	483	0.22529				182.55	10.789	483.00	3.4602
105	221	Methylethyl ether	C_3H_8O	540-67-0	60.09502	1.2635	0.27878	437.8	0.2744				160.00	13.995	437.80	4.5322
105	222	Methylethyl ketone	C_4H_8O	78-93-3	72.10572	0.93767	0.25035	535.5	0.29964				186.48	12.663	535.50	3.7454
105	223	Methylethyl sulfide	C_3H_8S	624-89-5	76.1606	1.067	0.27102	533	0.29364				167.23	12.671	533.00	3.9370
105	224	Methyl formate	$C_2H_4O_2$	107-31-3	60.05196	1.525	0.2634	487.2	0.2806				174.15	18.811	487.20	5.7897
105	225	Methylisobutyl ether	$C_5H_{12}O$	625-44-5	88.14818	0.84005	0.27638	497	0.27645				188.00	9.3871	497.00	3.0395
105	226	Methylisobutyl ketone	$C_6H_{12}O$	108-10-1	100.15888	0.71687	0.26453	574.6	0.28918				189.15	8.8617	574.60	2.7100
105	227	Methyl Isocyanate	C_2H_3NO	624-83-9	57.05132	1.0228	0.20692	488	0.28571				256.15	17.666	488.00	4.9430
105	228	Methylisopropyl ether	$C_4H_{10}O$	598-53-8	74.1216	0.97887	0.27017	464.48	0.28998				127.93	11.933	464.48	3.6232
105	229	Methylisopropyl ketone	$C_5H_{10}O$	563-80-4	86.1323	0.86567	0.26836	553.4	0.28364				180.15	10.46	553.40	3.2258
105	230	Methylisopropyl sulfide	$C_4H_{10}S$	1551-21-9	90.1872	0.78912	0.25915	553.1	0.26512				171.64	10.352	553.10	3.0450
105	231	Methyl mercaptan	CH_4S	74-93-1	48.10746	1.9323	0.28018	469.95	0.28523				150.18	21.564	469.95	6.8966
105	232	Methyl methacrylate	$C_5H_8O_2$	80-62-6	100.11582	0.7761	0.25068	566	0.29773				224.95	10.176	566.00	3.0960
105	233	2-Methyloctanoic acid	$C_9H_{18}O_2$	3004-93-1	158.23802	0.4416	0.2521	694	0.28532				240.00	5.938	694.00	1.7517
105	234	2-Methylpentane	C_6H_{14}	107-83-5	86.17536	0.72701	0.26754	497.7	0.28268				119.55	9.2041	497.70	2.7174
105	235	Methyl pentyl ether	$C_6H_{14}O$	628-80-8	102.17476	0.71004	0.26981	546.49	0.29974				176.00	8.445	546.49	2.6316
105	236	2-Methylpropane	C_4H_{10}	75-28-5	58.1222	1.0631	0.27506	407.8	0.2758				113.54	12.574	407.80	3.8650
105	237	2-Methyl-2-propanol	$C_4H_{10}O$	75-65-0	74.1216	0.92128	0.25442	506.2	0.27586				298.97	10.556	506.20	3.6211
105	238	2-Methyl propene	C_4H_8	115-11-7	56.10632	1.1446	0.2724	417.9	0.28172				132.81	13.507	417.90	4.2019
105	239	Methyl propionate	$C_4H_8O_2$	554-12-1	88.10512	0.9147	0.2594	530.6	0.2774				185.65	11.678	530.60	3.5262
105	240	Methylpropyl ether	$C_4H_{10}O$	557-17-5	74.1216	0.96145	0.26536	476.25	0.30088				133.97	12.043	476.25	3.6232
105	241	Methylpropyl sulfide	$C_4H_{10}S$	3877-15-4	90.1872	0.87496	0.26862	565	0.30259				160.17	10.689	565.00	3.2572
105	242	Methylsilane	CH_6Si	992-94-9	46.14384	1.3052	0.26757	352.5	0.28799				116.34	15.791	352.50	4.8780
105	243	alpha-Methyl styrene	C_9H_{10}	98-83-9	118.1757	0.64856	0.25877	654	0.31444				249.95	8.0099	654.00	2.5063
105	244	Methyl tert-butyl ether	$C_5H_{12}O$	1634-04-4	88.1482	0.817948	0.269105	497.1	0.28571				164.55	9.7955	497.10	3.0395
105	245	Methyl vinyl ether	C_3H_6O	107-25-5	58.07914	1.2587	0.26433	437	0.25819				151.15	15.691	437.00	4.7619
105	246	Naphthalene	$C_{10}H_8$	91-20-3	128.17052	0.6348	0.25838	748.4	0.27727				333.15	7.7545	748.40	2.4568
105	247	Neon	Ne	7440-01-9	20.1797	7.3718	0.3067	44.4	0.2786				24.56	61.796	44.40	24.0360
105	248	Nitroethane	$C_2H_5NO_2$	79-24-3	75.0666	1.0024	0.23655	593	0.278				183.63	15.556	593.00	4.2376
105	249	Nitrogen	N_2	7727-37-9	28.0134	3.2091	0.2861	126.2	0.2966				63.15	31.063	126.20	11.2170
105	250	Nitrogen trifluoride	F_3N	7783-54-2	71.00191	2.3736	0.2817	234	0.29529				66.46	26.555	234.00	8.4260
105	251	Nitromethane	CH_3NO_2	75-52-5	61.04002	1.3728	0.23793	588.15	0.29601				244.60	19.632	588.15	5.7698
105	252	Nitrous oxide	N_2O	10024-97-2	44.0128	2.781	0.27244	309.57	0.2882				182.30	27.928	309.57	10.2080
105	253	Nitric oxide	NO	10102-43-9	30.0061	5.246	0.3044	180.15	0.242				109.50	44.487	180.15	17.2340
105	254	Nonadecane	$C_{19}H_{40}$	629-92-5	268.5209	0.19199	0.23337	758	0.28571				305.04	2.8889	758.00	0.8227
105	255	Nonanal	$C_9H_{18}O$	124-19-6	142.23862	0.473233	0.256918	658.5	0.28571				267.30	5.9415	658.50	1.8420
105	256	Nonane	C_9H_{20}	111-84-2	128.2551	0.46321	0.25444	594.6	0.28571				219.66	6.0427	594.60	1.8205
105	257	Nonanoic acid	$C_9H_{18}O_2$	112-05-0	158.238	0.41582	0.24284	710.7	0.30036				285.55	5.7592	710.70	1.7123
105	258	1-Nonanol	$C_9H_{20}O$	143-08-8	144.2545	0.43682	0.25161	670.9	0.2498				268.15	5.8496	670.90	1.7361
105	259	2-Nonanol	$C_9H_{20}O$	628-99-9	144.255	0.419258	0.241912	649.5	0.28571				238.15	6.0223	649.50	1.7331
105	260	1-Nonene	C_9H_{18}	124-11-8	126.23922	0.48661	0.25722	593.1	0.28571				191.91	6.3717	593.10	1.8918
105	261	Nonyl mercaptan	$C_9H_{20}S$	1455-21-6	160.3201	0.47377	0.27052	681	0.30284				253.05	5.4532	681.00	1.7513
105	262	1-Nonyne	C_9H_{16}	3452-09-3	124.22334	0.52152	0.25918	598.05	0.29177				223.15	6.5369	598.05	2.0122
105	263	Octadecane	$C_{18}H_{38}$	593-45-3	254.49432	0.20448	0.23474	747	0.28571				301.31	3.0418	747.00	0.8711
105	264	Octanal	$C_8H_{16}O$	124-13-0	128.212	0.525901	0.25664	638.9	0.28571				251.65	6.6608	638.90	2.0492
105	265	Octane	C_8H_{18}	111-65-9	114.22852	0.5266	0.25693	568.7	0.28571				216.38	6.7049	568.70	2.0496
105	266	Octanoic acid	$C_8H_{16}O_2$	124-07-2	144.211	0.48251	0.25196	694.26	0.26842				289.65	6.3107	694.26	1.9150

(*Continued*)

TABLE 2-32 Densities of Inorganic and Organic Liquids (mol/dm³) (*Continued*)

Eqn	Cmpd. no.	Name	Formula	CAS	Mol. wt.	C_1	C_2	C_3	C_4	C_5	C_6	C_7	T_{min}, K	Density at T_{min}	T_{max}, K	Density at T_{max}
105	267	1-Octanol	$C_8H_{18}O$	111-87-5	130.22792	0.48979	0.24931	652.3	0.27824				257.65	6.5738	652.30	1.9646
105	268	2-Octanol	$C_8H_{18}O$	123-96-6	130.228	0.52497	0.26186	629.8	0.25257				241.55	6.5625	629.80	2.0048
105	269	2-Octanone	$C_8H_{16}O$	111-13-7	128.21204	0.50006	0.24851	632.7	0.29942				252.85	6.6477	632.70	2.0122
105	270	3-Octanone	$C_8H_{16}O$	106-68-3	128.21204	0.5108	0.25386	627.7	0.26735				255.55	6.6283	627.70	2.0121
105	271	1-Octene	C_8H_{16}	111-66-0	112.21264	0.55449	0.25952	566.9	0.28571				171.45	7.2155	566.90	2.1366
105	272	Octyl mercaptan	$C_8H_{18}S$	111-88-6	146.29352	0.52577	0.27234	667.3	0.30063				223.95	6.0987	667.30	1.9306
105	273	1-Octyne	C_8H_{14}	629-05-0	110.19676	0.58945	0.26052	574	0.28532				193.55	7.4832	574.00	2.2626
105	274	Oxalic acid	$C_2H_2O_4$	144-62-7	90.03488	1.1911	0.27038	828	0.28571				462.65	12.405	828.00	4.4053
105	275	Oxygen	O_2	7782-44-7	31.9988	3.9143	0.28772	154.58	0.2924				54.35	40.77	154.58	13.6050
105	276	Ozone	O_3	10028-15-6	47.9982	3.3592	0.29884	261	0.28523				80.15	33.361	261.00	11.2410
105	277	Pentadecane	$C_{15}H_{32}$	629-62-9	212.41458	0.25142	0.23837	708	0.28571				283.07	3.6423	708.00	1.0547
105	278	Pentanal	$C_5H_{10}O$	110-62-3	86.1323	0.85658	0.26811	566.1	0.27354				191.59	10.353	566.10	3.1949
105	279	Pentane	C_5H_{12}	109-66-0	72.14878	0.84947	0.26726	469.7	0.27789				143.42	10.474	469.70	3.1784
105	280	Pentanoic acid	$C_5H_{10}O_2$	109-52-4	102.132	0.73455	0.25636	639.16	0.25522				239.15	9.5869	639.16	2.8653
105	281	1-Pentanol	$C_5H_{12}O$	71-41-0	88.1482	0.81754	0.26732	588.1	0.25348				195.56	10.061	588.10	3.0583
105	282	2-Pentanol	$C_5H_{12}O$	6032-29-7	88.1482	0.81577	0.26594	561	0.25551				200.00	10.017	561.00	3.0675
105	283	2-Pentanone	$C_5H_{10}O$	107-87-9	86.1323	0.90411	0.27207	561.08	0.30669				196.29	10.398	561.08	3.3231
105	284	3-Pentanone	$C_5H_{10}O$	96-22-0	86.1323	0.71811	0.24129	560.95	0.27996				234.18	10.102	560.95	2.9761
105	285	1-Pentene	C_5H_{10}	109-67-1	70.1329	0.89816	0.26608	464.8	0.28571				108.02	11.521	464.80	3.3755
105	286	2-Pentyl mercaptan	$C_5H_{12}S$	2084-19-7	104.21378	0.65858	0.25367	584.3	0.28571				160.75	9.073	584.30	2.5962
105	287	Pentyl mercaptan	$C_5H_{12}S$	110-66-7	104.21378	0.75345	0.27047	598	0.30583				197.45	8.8575	598.00	2.7857
105	288	1-Pentyne	C_5H_8	627-19-0	68.11702	0.8491	0.2352	481.2	0.353				167.45	12.532	481.20	3.6101
105	289	2-Pentyne	C_5H_8	627-21-4	68.11702	0.92099	0.25419	519	0.31077				163.83	12.24	519.00	3.6232
105	290	Phenanthrene	$C_{14}H_{10}$	85-01-8	178.2292	0.45554	0.2523	869	0.24841				372.38	5.9853	869.00	1.8055
105	291	Phenol	C_6H_6O	108-95-2	94.11124	1.3798	0.31598	694.25	0.32768				314.06	11.244	694.25	4.3667
105	292	Phenyl isocyanate	C_7H_5NO	103-71-9	119.1207	0.63163	0.23373	653	0.28571				243.15	9.6466	653.00	2.7024
105	293	Phthalic anhydride	$C_8H_4O_3$	85-44-9	148.11556	0.5393	0.22704	791	0.248				404.15	8.2218	791.00	2.3754
105	294	Propadiene	C_3H_4	463-49-0	40.06386	1.6087	0.26543	394	0.29895				136.87	19.479	394.00	6.0607
105	295	Propane	C_3H_8	74-98-6	44.09562	1.3757	0.27453	369.83	0.29359				85.47	16.583	369.83	5.0111
105	296	1-Propanol	C_3H_8O	71-23-8	60.09502	1.2457	0.27281	536.8	0.23994				146.95	15.206	536.80	4.5662
105	297	2-Propanol	C_3H_8O	67-63-0	60.095	1.1799	0.2644	508.3	0.24653				185.26	14.663	508.30	4.4626
105	298	Propenylcyclohexene	C_9H_{14}	13511-13-2	122.20746	0.61255	0.26769	636	0.28571				199.00	7.4763	636.00	2.2883
105	299	Propionaldehyde	C_3H_6O	123-38-6	58.07914	1.2861	0.26236	503.6	0.3004				165.00	16.075	503.60	4.9020
105	300	Propionic acid	$C_3H_6O_2$	79-09-4	74.0785	1.0969	0.25568	600.81	0.26857				252.45	13.935	600.81	4.2901
105	301	Propionitrile	C_3H_5N	107-12-0	55.0785	0.91281	0.22125	561.3	0.26811				180.37	16.067	561.30	4.1257
105	302	Propyl acetate	$C_5H_{10}O_2$	109-60-4	102.1317	0.73041	0.25456	549.73	0.27666				178.15	9.7941	549.73	2.8693
105	303	Propyl amine	C_3H_9N	107-10-8	59.11026	0.9195	0.23878	496.95	0.2461				188.36	13.764	496.95	3.8508
105	304	Propylbenzene	C_9H_{12}	103-65-1	120.19158	0.57233	0.25171	638.35	0.29616				173.55	7.9821	638.35	2.2738
105	305	Propylene	C_3H_6	115-07-1	42.07974	1.4403	0.26852	364.85	0.28775				87.89	18.07	364.85	5.3638
105	306	Propyl formate	$C_4H_8O_2$	110-74-7	88.10512	0.915	0.26134	538	0.28				180.25	11.59	538.00	3.5012
105	307	2-Propyl mercaptan	C_3H_8S	75-33-2	76.16062	1.093	0.27762	517	0.29781				142.61	12.61	517.00	3.9370
105	308	Propyl mercaptan	C_3H_8S	107-03-9	76.16062	1.0714	0.27214	536.6	0.29481				159.95	12.716	536.60	3.9369
105	309	1,2-Propylene glycol	$C_3H_8O_2$	57-55-6	76.09442	1.0923	0.26106	626	0.20459				213.15	14.363	626.00	4.1841
105	310	Quinone	$C_6H_4O_2$	106-51-4	108.09476	0.83228	0.25385	683	0.23658				388.85	10.082	683.00	3.2786
105	311	Silicon tetrafluoride	F_4Si	7783-61-1	104.07911	1.1945	0.24128	259	0.16693				186.35	15.635	259.00	4.9507
105	312	Styrene	C_8H_8	100-42-5	104.14912	0.7397	0.2603	636	0.3009				242.54	9.1088	636.00	2.8417

105	313	Succinic acid	$C_4H_6O_4$	110-15-6	118.08804	0.65882	0.21741	838	0.28571				460.85	10.21	838.00	3.0303
105	314	Sulfur dioxide	O_2S	7446-09-5	64.0638	2.106	0.25842	430.75	0.2895				197.67	25.298	430.75	8.1495
105	315	Sulfur hexafluoride	F_6S	2551-62-4	146.0554192	1.3587	0.2701	318.69	0.2921				223.15	12.631	318.69	5.0304
105	316	Sulfur trioxide	O_3S	7446-11-9	80.0632	1.4969	0.19013	490.85	0.4359				289.95	24.241	490.85	7.8730
105	317	Terephthalic acid	$C_8H_6O_4$	100-21-0	166.13084	0.41922	0.17775	883.6	0.28571				700.15	7.102	883.60	2.3585
105	318	*o*-Terphenyl	$C_{18}H_{14}$	84-15-1	230.30376	0.3448	0.25116	857	0.29268				329.35	4.5526	857.00	1.3728
100	318	*o*-Terphenyl	$C_{18}H_{14}$	84-15-1	230.30376	5.7136	−0.003474						288.15	4.7126	313.19	4.6256
105	319	Tetradecane	$C_{14}H_{30}$	629-59-4	198.388	0.27248	0.24007	693	0.28571				279.01	3.889	693.00	1.1350
105	320	Tetrahydrofuran	C_4H_8O	109-99-9	72.10572	1.2543	0.28084	540.15	0.2912				164.65	13.998	540.15	4.4662
105	321	1,2,3,4-Tetrahydronaphthalene	$C_{10}H_{12}$	119-64-2	132.20228	0.67717	0.27772	720	0.2878				237.38	7.638	720.00	2.4383
105	322	Tetrahydrothiophene	C_4H_8S	110-01-0	88.17132	1.1628	0.28954	631.95	0.28674				176.99	12.408	631.95	4.0160
105	323	2,2,3,3-Tetramethylbutane	C_8H_{18}	594-82-1	114.22852	0.58988	0.27201	568	0.27341				373.96	5.7242	568.00	2.1686
105	324	Thiophene	C_4H_4S	110-02-1	84.13956	1.2874	0.28194	579.35	0.30781				234.94	13.43	579.35	4.5662
105	325	Toluene	C_7H_8	108-88-3	92.13842	0.8792	0.27136	591.75	0.29241				178.18	10.487	591.75	3.2400
105	326	1,1,2-Trichloroethane	$C_2H_3Cl_3$	79-00-5	133.40422	0.9062	0.25475	602	0.31				236.50	11.478	602.00	3.5572
105	327	Tridecane	$C_{13}H_{28}$	629-50-5	184.36142	0.29934	0.2433	675	0.28571				267.76	4.1817	675.00	1.2303
105	328	Triethyl amine	$C_6H_{15}N$	121-44-8	101.19	0.7035	0.27386	535.15	0.2872				158.45	8.2843	535.15	2.5688
105	329	Trimethyl amine	C_3H_9N	75-50-3	59.11026	1.0116	0.25683	433.25	0.2696				156.08	13.144	433.25	3.9388
105	330	1,2,3-Trimethylbenzene	C_9H_{12}	526-73-8	120.19158	0.6531	0.27002	664.5	0.26268				243.15	7.7278	664.50	2.4187
105	331	1,2,4-Trimethylbenzene	C_9H_{12}	95-63-6	120.19158	0.60394	0.25956	649.1	0.27713				229.33	7.689	649.10	2.3268
105	332	2,2,4-Trimethylpentane	C_8H_{18}	540-84-1	114.22852	0.59059	0.27424	543.8	0.2847				165.78	6.9146	543.80	2.1536
105	333	2,3,3-Trimethylpentane	C_8H_{18}	560-21-4	114.22852	0.6028	0.27446	573.5	0.2741				172.22	7.0934	573.50	2.1963
105	334	1,3,5-Trinitrobenzene	$C_6H_3N_3O_6$	99-35-4	213.10452	0.48195	0.23093	846	0.28571				398.40	7.0825	846.00	2.0870
105	335	2,4,6-Trinitrotoluene	$C_7H_5N_3O_6$	118-96-7	227.1311	0.37378	0.21379	828	0.29905				354.00	6.4521	828.00	1.7484
105	336	Undecane	$C_{11}H_{24}$	1120-21-4	156.30826	0.36703	0.24876	639	0.28571				247.57	4.9453	639.00	1.4754
105	337	1-Undecanol	$C_{11}H_{24}O$	112-42-5	172.30766	0.33113	0.23676	703.9	0.2762				288.45	4.8594	703.90	1.3986
105	338	Vinyl acetate	$C_4H_6O_2$	108-05-4	86.08924	0.9591	0.2593	519.13	0.27448				180.35	12.287	519.13	3.6988
105	339	Vinyl acetylene	C_4H_4	689-97-4	52.07456	1.2703	0.26041	454	0.297				173.15	15.664	454.00	4.8781
105	340	Vinyl chloride	C_2H_3Cl	75-01-4	62.49822	1.5115	0.2707	432	0.2716				119.36	18.481	432.00	5.5837
105	341	Vinyl trichlorosilane	$C_2H_3Cl_3Si$	75-94-5	161.48972	0.59595	0.24314	543.15	0.24856				178.35	8.8236	543.15	2.4511
100	342	Water	H_2O	7732-18-5	18.01528	−13.851	0.64038	−0.0019124	1.8211E-06				273.16	55.497	353.15	54.0010
119	342	Water	H_2O	7732-18-5	18.01528	17.874	35.618	19.655	−9.1306	−31.367	−813.56	− 17421000	273.16	55.487	647.096	17.8740
105	343	*m*-Xylene	C_8H_{10}	108-38-3	106.165	0.68902	0.26086	617	0.27479				225.30	8.648	617.00	2.6413
105	344	*o*-Xylene	C_8H_{10}	95-47-6	106.165	0.69962	0.26143	630.3	0.27365				247.98	8.6229	630.30	2.6761
105	345	*p*-Xylene	C_8H_{10}	106-42-3	106.165	0.67752	0.25887	616.2	0.27596				286.41	8.1614	616.20	2.6172

Except for *o*-terphenyl and water, liquid density ρ is calculated by Eqn 105: $\rho = C_1/(C_2^{[1+(1-T/C_3)^{\wedge}C_4]})$ where ρ is in mol/dm^3 and T is in K. The pressure is equal to the vapor pressure for pressures greater than 1 atm and equal to 1 atm when the vapor pressure is less than 1 atm.

Equation (2-100), used for the limited temperature ranges as noted for *o*-terphenyl and water, is $\rho = C_1 + C_2T + C_3T^2 + C_4T^3$.

Equation (2-119), used for water, is $\rho = C_1 + C_2\tau^{1/3} + C_3\tau^{2/3} + C_4\tau^{5/3} + C_5\tau^{16/3} + C_6\tau^{43/3} + C_7\tau^{110/3}$ where $\tau = 1 - T/TC$, and TC = critical temperature (647.096 K).

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