

Reference Data

Physical & Thermodynamic Properties of Common Liquids

Substance	Density ¹ (Lbs/Ft ³)	Specific Heat (Btu/lb/°F)	Thermal Conductivity (Btu/in/hr/ft ² /°F)	Melting Point (°F)	Latent Heat of Fusion (Btu/lb)	Boiling Point (°F)	Latent Heat of Vaporization (Btu/lb)	Viscosity Centipoise
Acetic Acid	65.5	0.522	1.19	62	84	245	174.2	1.222
Acetone	49.42	0.514	1.22	-140	42.1	133	224	0.31
Allyl Alcohol	53.31	0.665	1.25	-200	—	206	294.1	1.363
Ammonia	43.5	1.099	3.48	107	142.9	-28	583	—
Amyl Alcohol	51.06	0.65	1.13	-110	—	280	216.3	—
Aniline	63.77	0.512	1.2	21	48.8	364	186.6	4.467
Bromine	194.7	0.107	—	19	28.5	138	79.4	1.005
Butyl Alcohol	50.54	0.563	1.07	-130	54	244	254	2.948
Butyric Acid	60.2	0.515	1.13	20	54.1	326	217	1.54
Carbolic Acid (Phenol)	66.7	0.561	—	106	52.3	360	—	12.74
Carbon Disulfide	78.9	0.24	1.12	-169	—	115	148.8	0.376
Carbon Tetrachloride	99.47	0.201	0.744	-9	12.8	170	83.5	0.975
Caustic Soda (50% Solution)	95.4	0.78	—	—	—	—	—	—
Decane	45.6	0.5	1.03	-21	86.9	345	—	0.77
Di-ethyl Ether	44.61	0.541	—	-177	42.4	94	151	0.245
Ether	46	0.503	0.97	—	—	95	160	—
Ethyl Acetate	52.3	0.468	1.21	-116	—	171	183.8	0.45
Ethyl Alcohol	49.27	0.68	1.26	-174	46.4	173	367.5	1.2
Ethyl Bromide	90.5	0.215	—	-182	—	101	107.8	0.402
Ethyl Chloride	56.05	0.368	2.15	-214	—	54	165.9	—
Ethyl Iodide	120.8	0.161	2.57	-163	—	162	82	0.592
Ethylene Glycol	69.2	0.555	1	—	—	388	344	—
Ethylene Bromide	136.5	0.173	—	50	—	269	99.2	1.721
Ethylene Chloride	71.75	0.294	—	-35	—	183	139.2	0.838
Formic Acid	76.13	0.526	1.25	47	118.9	213	216	1.784
Glycerin	78.69	0.576	1.36	68	85.5	554	—	830
Heat Transfer Fluids								
Dowtherm A	66.1	0.377	—	54	42.2	494	127	—
Dowtherm G	65.4	0.377	—	40	42.2	551	123	—
Mobiltherm 603	53.7	0.592	—	—	—	—	—	—
Therminol VP-1	65.9	0.377	—	—	—	495	130.6	—
Heptane	42.68	0.532	0.89	-132	—	210	137.3	0.416
Hexane	41.18	0.6	0.86	-40	—	155	142.5	0.326
Linseed Oil	58.28	0.44	—	-4	—	548	—	33.1
Methyl Acetate	57.84	0.468	1.12	-144	—	134	176.6	0.388
Methyl Alcohol	49.42	0.601	1.49	-144	42.7	148	473	0.596
Methyl Iodide	142.58	—	—	-87	—	108	82.6	0.5
Nitric Acid (100%)	94.41	0.42	1.92	-42	71.5	187	270	—
Nitrobenzene	75.63	0.35	11.52	42	40.5	412	142.4	2.1
Octane	44.12	0.51	1	-70	—	258	131.7	0.542
Olive Oil	57.28	0.471	—	—	—	~ 572	—	84
Pentane	39.37	0.558	0.79	-202	—	97	153.6	0.24
Petroleum Products								
Asphalt	62.3	0.42	5.04	—	—	—	—	—
Benzene (Benzol)	54.85	0.412	1.02	42	54.2	176	169.4	0.654
Kerosene	49.9	0.5	1.03	—	—	—	—	—
Fuel Oil #6	58.5	0.41	0.85	—	—	—	—	—
Gasoline	41.2	0.5	0.936	—	—	128 - 164	—	—
Lube Oils	55.4	0.43	—	—	—	—	—	—
Naphthalene	71.4	0.4	—	176	64	411	136	4
Paraffin (Melted)	44.3	0.71	1.68	—	—	~ 525	—	—
Toluene	54.03	0.404	1.08	-139	—	231	155.7	0.59
Propionic Acid	61.77	0.473	1.2	-5	—	286	177.8	1.102
Propyl Alcohol	50.16	0.57	—	-197	—	208	296	2.256
Soy Bean Oil	57.35	~ 0.28	—	—	—	—	—	40.6
Sulfur (Melted)	14.6	0.234	—	—	—	833	—	—
Sulfuric Acid (100%)	114.25	0.344	—	51	43.3	638	219.7	50
Tallow (Lard)	58.66	0.64	—	50 - 106	—	—	—	17.6
Turpentine	54.48	0.42	0.876	14	—	319	123.5	1.487
Water	62.4	1	4.17	32	143.6	212	972	1.005
Xylene (Ortho)	55	0.411	1.08	-13	—	291	149.2	0.881

1. Where the temperature is not given, room temperature of 68°F (20°C) is understood.

Other Notes —

- A. Dowtherm is a trademark of the Dow Chemical Company.
- B. Mobiltherm is a trademark of the Mobil Oil Corporation.
- C. Therminol is a trademark of the Monsanto Company.