Table 2 .... Properties of Liquids

Name or Description	Boiling Point F	Enthalpy of Vaporization Btu/lb	Specific Heat: Btu per (lb) (F deg)	Specific Heat: Temp F	Viscosity: Centipoises	Viscosity: Temp F	Freezing Point F	Enthalpy of Fusion Btu/lb	Specific Gravity or Density (ρ): Temp F	Specific Gravity or Density (ρ): lb/cu ft ρ	Thermal Conductivity[a]: k	Thermal Conductivity[a]: Temp F	Vapor Pressure: mm of Hg	Vapor Pressure: Temp F
Acetaldehyde	69.44	244.8			0.275	32	−190.3				0.099	68	400	42.8
Acetic acid	245.3	173.0	0.522	78.8–203	1.040	86	62.00	77.7			0.102	77–86	200	176
Acetone	132.98	223.0	0.506	32			203	42.1	68	49.4 (ρ)	0.104	77–86	185	68
Allyl alcohol	206.6	293.0	0.665	69.8–204.8	1.168	86	−200.2				0.094	86	100	177.8
Amyl alcohol	280.22	216.0					−109.3	48.0			0.29	5–86		
Ammonia			1.099	32				94.5						
Alcohol-ethyl	172.94	366.9	0.548	0	1.2	68	−174.28	45.6			0.789		44	68
Alcohol-methyl	148.46	473.0	0.601	64	0.596	68	−142.6	39.6			0.796		94	68
Aniline	63.2	198.0	0.514	60	4.467	68	+ 20.77	48.6	32	64.5 (ρ)			10	136.2
Benzol			0.340	50	0.567	86		55.0						
Benzene	176.18	167.0						54.6	32	56.1 (ρ)	0.092	86	75	68
Bromine	137.84	86.4	0.107	13–45	0.911	86		29.15	32					
Butyl-alcohol	243.86	254.0	0.687	20–115			−129.64	54.0			0.097	86		
Butyric acid	326.3	205.0	0.515	20–100	1.304	86	+ 22.01	54.2					50	197.6
Calcium chloride brine			0.764	5					5	1.14				
			0.757	68					68	1.14	30%	0.32 86		
			0.695	+4					+4	1.20	15%	0.34 86		
			0.725	68					68	1.20				
			0.651	−4					−4	1.26				
			0.676	68					68	1.26				
Carbolic acid	359.96		0.561	57.2–78.8				52.2	59	60.2 (ρ)				
Carbon disulfide	115.27	151.3	0.240	68	0.352	86	−169.24		32	80.6 (ρ)	0.093	86	100	+23
Carbon tetrachloride	169.46	83.5	0.201	68	0.848	86	− 9.04	74.8			0.107	32	90	68
Chloroform	142.16	106.0	0.226	59	0.519	86	− 82.3			1.50	0.080	86	160	68
Copper sulfate			0.848	58										
			0.951	57										
			0.975	59										
Diphenylamine	575.6		0.464	125			127.36						10	314.6
Decane	345.2	108.2	0.500	0–50	0.77	72.14	− 22	86.4			0.085	86	10	132.8
Dow Corning 500	211.1													
	305.8													
	377.6													
	446.0													
Ethyl ether	94.08	159.0	0.529	32	0.223	86	−176.8	41.4		0.736	0.08	86	442	68
Ethyl acetate	170.78	153.5 (32 F)	0.475	68			−118.84	51.1			0.101	68	72.8	68
Ethyl alcohol	172.94	367.0	0.548	32				44.8			0.105	68	50	72.86
Ethyl bromide	101.12	108.0	0.215	59–68	0.368	86	−182.2						386	68
Ethyl chloride	53.96	166.8	0.367	32			−217.66						1000	68
Ethyl iodide	161.78	81.3	0.161	68	0.540	86	−163.3				0.064	104	108	68
Ethylene bromide	269.06	83.0	0.173	68	1.475	86	50.108						10	72.86
Ethylene chloride	182.66	139.0	0.299	68	0.736	86	− 31						100	85.46
Ethylene glycol	388.6	344.0									0.153	32	10	192.56
Formic acid	213.44	216.0	0.525	68–212	1.46	86	47.12	104.4					50	84.2
Glycerine	554		0.575	59–120	830.0	68.54	64.58	85.6					335	−184
Glycerol	555.08				207.0	68	64.4	85.5			0.164	68		
Gasoline	158–194		0.5	32–212						0.73				
Heptane	209.12	137.1	0.490	68	0.375	86	−131.08	60.6			0.081	86	50	80.96
Hexane	155.6	142.5	0.600	68	0.296	86	−139	65.0			0.080	86	100	61.16
Hydrochloric acid													100	140.18
Isobutyl alcohol	224.42	248.0												
Kerosine			0.5	32–212						0.78–0.82	0.086	68		
Linseed oil					33.1	86				0.925				
Methyl acetate	134.78	176.5	0.488	59			−144.49						200	74.84
Methyl iodide	108.14	82.6			0.460	86	− 86.98						400	76.64
Naphthalene	424.4	136.0	0.396	185			176.396	64.0					10	176
Nitrobenzole			0.350	58										
Nitric acid	186.8						− 43.6	17.15						
Nitrobenzene	411.62	142.2	0.350	57.2			42.53	40.5			0.095	86	10	185.9
Nonane	302		0.503	32–122	0.62	72.14	− 64.66				0.084	86	100	199.94
Oils														
Castor			0.434		451.0	86			59	60.5 (ρ)	0.104	68		
Citron			0.438	42										
Olive			0.471	44	54.0	86			59	0.906	0.097	68		
Sesame			0.397											
Rapeseed					42.2	100.04			59	57.0 (ρ)				
Soybean					40.6	86			194	0.919				
Sperm					42.0	60.08			77	55.0 (ρ)				
Octane	256.28	127.5	0.587	68–253.4	0.483	86	− 70.42				0.083	86	10	66.2
Petrolaum			0.511	70–135						0.87				
Pentane	96.8				0.220	86	−201.82		32	40.6 (ρ)			400	65.84
Propionic acid	285.98	177.8	0.560	68–278.6	0.960	86	− 5.44						10	104
Propyl alcohol	207.5	295.2	0.57	68	1.779	86	−194.98			2.04			10	57.56
Potassium hydroxide														
+30 parts H_2O			0.876	64										
+100 parts H_2O			0.975	64										
Sea water			0.930							1.004				
			0.938							1.024				
			0.903							1.046				
Sulfuric acid 100%	626	219.6	0.344	68			50.882	43.2		87%—1.80	0.21	86		
Sodium chloride brine														
+10 parts H_2O			0.791	64						25%—0.33		86		
+200 parts H_2O			0.978	64						13%—0.34		86		
Sodium hydroxide			0.942	64										
+100 parts H_2O			0.953	64										
Toluol	231.8	154.8	0.384	50										
			0.534	185										
Toluene	230.54	155.7	0.440	53.6–210.2	0.525	86	−139							
Turpentine	320	123.4	0.411	32	1.372	86					0.074	59	0.4	68
Water	212	969.7	1.000	60.8	0.8007	86	32	143.05	39.2	1.00	0.330	32	10	52.358
									39.2	62.4 (ρ)	0.356	86	100	125.06
Xylene	287.6	149.2	0.411	86			− 16.78				0.090	68		
Zinc sulfate														
+50 parts H_2O			0.842	68–125										
+200 parts H_2O			0.953	125										

[a] Note: k = Btu per (hr) (sq ft) (F deg per ft).

Table 3 .... Properties of Solids

Name or Description	Specific Heat: Btu per (lb) (F deg)	Specific Heat: Temp F	Specific Gravity	Thermal Conductivity[a]: Temp F	Thermal Conductivity[a]: k	Emissivity[b]: Temp F	Emissivity[b]: Ratio
Aluminum	0.226	100	2.55–2.80	32	122.0	73	0.040
Aluminum bronze			7.7				
Alundum	0.186	212					
Asbestos	0.25	0.47–0.58	2.1–2.8	32	0.09	100–700	0.93–0.95
Asphalt	0.3–0.4						
Ashes	0.20		0.64–0.72	32	0.041		
Bakelite	0.3–0.4						
Brickwork	0.2		1.85–2.00	70	0.33–0.92	70	0.93
Brass, red	0.08991	32	8.4–8.7	32	59.5	73	0.043
Brass, yellow	0.08831	32	8.4–8.7	32	49.4		0.043
Bismuth tin	0.040			64	37.6		
Bell metal	0.086	59–208.4					
Bronze	0.104		7.4–8.8				
Cadmium	0.0548		8.65	64	53.7		
Carbon (gas retort)	0.204					68	0.927–0.967
Cardboard					0.1–0.2		
Cellulose	0.32						
Cement, Portland clinker	0.186		1.5–2.4		0.017		
Charcoal (wood)	0.242		0.28–0.57	172	0.051		
Chrome brick	0.17						
Clay	0.224		1.28				
Coal	0.26–0.37		0.65–1.8				
Coal tars	0.35	104					
Coal tar oils	0.34	59–194					
Coke	0.265	69.8–752	1.0–1.4	32	0.106		
Concrete (stone)	0.156	70–213	1.5–2.4		0.5–0.75		
Copper (cast rolled)			8.8–8.9	32	224.0	66	0.030
Cryolite	0.253	60.8–131					
Chalk	0.215		1.8–2.8		0.48	145–380	0.32–0.36
Cork (granulated rolled)	0.485		0.22–0.26	24	0.028		
Cotton (flax, hemp)			1.47–1.50	32	0.033		
Cotton (wool)					0.01		
Diamond	0.147						
Earth (dry and packed)			1.5 (loose)	32	0.035	145	0.39–0.43
				100	0.039		
Felt				86	0.022		
Fireclay brick	0.198	212					
Fluorspar	0.21	86					
Glass (crown)	0.16–0.2		2.4–2.7		0.333–0.5	72	0.937
(flint)	0.117		3.2–4.7			72	0.937
(pyrex)	0.20					72	0.937
(silicate)	0.188–0.2	32–212				72	0.937
(wool)	0.157						
(common)			2.40–2.80			72	0.937
Graphite (powder)	0.165	78.8–168.8		104	0.106		
Graphite	0.20	68–212	2.4–2.7		1.0–2.32	145–380	0.40–0.56
Gypsum	0.259	60.8–114.8	2.3–2.8	68	0.25	70	0.903
German silver	0.0946	32–212	8.58				
Garnet	0.1758	60.8–212					
Gold	0.0308		19.25–19.2	64	169.0		0.05
Ice	0.350	−112	0.88–0.92	32	1.28 (water)	32	0.95
Ice	0.434	− 40		14	1.35		
Ice	0.465	− 4		− 4	1.41		
Ice	0.487	32		−22	1.471		
Ice				−40	1.538		
India rubber (para)	0.481	−148					
Iron (gray cast)	0.101		7.03–7.13	129	27.6		
Iron (cast pig)			7.2				
Iron (wrought)			7.6–7.9	64	34.9	70–680	0.94
Lead	0.030		11.34	64	20.1	75	0.281
Limestone	0.217	59–212	2.1–2.8		0.3–0.75	145–380	0.36–0.90
Litharge	0.055						
Leather			0.86–1.02		0.092		
Linen					0.05		
Marble	0.21	64.4	2.4–2.8		1.2–1.7	72	0.931
Manganese			7.42				
Magnesia	0.234	212			0.04		
Magnesite brick	0.222	212			0.9–2.5		
Monel metal	0.127	68–2372	8.97				
Mica	0.10	68			0.44		
Nickel	0.103		8.9	64	34.4	74	0.045