

TABLE 2. THERMODYNAMIC PROPERTIES OF MOIST AIR* (STANDARD ATMOSPHERIC PRESSURE, 29.921 IN. HG) (Continued)

FAHR. TEMP. t (°F)	HUMIDITY RATIO W × 10 ³	VOLUME CU FT/LB DRY AIR			ENTHALPY BTU/LB DRY AIR			ENTROPY BTU PER (°F) (LB DRY AIR)			CONDENSED WATER		
		v _g	v _g × 10 ³		h _g	h _g × 10 ³		s _g	s _g × 10 ³		h _f	h _f × 10 ³	
			v _{sa}	v _{sb}		h _{sa}	h _{sb}		s _{sa}	s _{sb}		h _{sf}	s _{sf}
7	1.130	11.755	0.021	11.777	1.681	1.202	2.883	0.00934	0.00971	0.00935	-155.61	-0.3172	5.4022
8	1.189	11.781	0.022	11.803	1.922	1.266	3.188	0.00935	0.00971	0.00935	-154.13	-0.3162	5.6832
9	1.251	11.806	0.024	11.830	2.102	1.332	3.583	0.00936	0.00972	0.00936	-152.65	-0.3152	5.9776
10	1.315	11.831	0.025	11.856	2.402	1.401	3.983	0.00937	0.00973	0.00937	-151.17	-0.3141	6.2858
11	1.383	11.857	0.026	11.883	2.642	1.474	4.383	0.00938	0.00974	0.00938	-149.69	-0.3131	6.6085
12	1.454	11.882	0.028	11.910	2.892	1.550	4.783	0.00939	0.00975	0.00939	-148.21	-0.3121	6.9407
13	1.529	11.907	0.029	11.936	3.132	1.630	5.183	0.00940	0.00976	0.00940	-146.73	-0.3110	7.2827
14	1.606	11.933	0.030	11.963	3.383	1.713	5.583	0.00941	0.00977	0.00941	-145.25	-0.3100	7.6368
15	1.687	11.963	0.032	11.990	3.603	1.800	5.983	0.00942	0.00978	0.00942	-143.77	-0.3089	8.0065
16	1.772	11.993	0.034	12.017	3.843	1.882	6.383	0.00943	0.00979	0.00943	-142.29	-0.3078	8.3865
17	1.861	12.028	0.035	12.044	4.083	1.968	6.783	0.00944	0.00980	0.00944	-140.81	-0.3067	8.7727
18	1.954	12.054	0.036	12.072	4.324	2.058	7.183	0.00945	0.00981	0.00945	-139.33	-0.3056	9.1652
19	2.051	12.089	0.040	12.099	4.564	2.152	7.583	0.00946	0.00982	0.00946	-137.85	-0.3045	9.5638
20	2.152	12.124	0.042	12.126	4.804	2.250	7.983	0.00947	0.00983	0.00947	-136.37	-0.3034	9.9685
21	2.258	12.159	0.044	12.154	5.044	2.352	8.383	0.00948	0.00984	0.00948	-134.89	-0.3023	10.3792
22	2.369	12.193	0.046	12.181	5.284	2.458	8.783	0.00949	0.00985	0.00949	-133.41	-0.3012	10.7960
23	2.485	12.180	0.049	12.209	5.525	2.568	9.183	0.00950	0.00986	0.00950	-131.93	-0.3001	11.2188
24	2.606	12.186	0.051	12.237	5.765	2.682	9.583	0.00951	0.00987	0.00951	-130.45	-0.2990	11.6485
25	2.733	12.211	0.054	12.265	6.005	2.799	9.983	0.00952	0.00988	0.00952	-128.97	-0.2979	12.0842
26	2.865	12.236	0.057	12.293	6.245	2.919	10.383	0.00953	0.00989	0.00953	-127.49	-0.2968	12.5259
27	3.003	12.262	0.060	12.321	6.485	3.041	10.783	0.00954	0.00990	0.00954	-126.01	-0.2957	12.9736
28	3.147	12.287	0.063	12.349	6.725	3.167	11.183	0.00955	0.00991	0.00955	-124.53	-0.2946	13.4273
29	3.297	12.312	0.065	12.377	6.965	3.297	11.583	0.00956	0.00992	0.00956	-123.05	-0.2935	13.8870
30	3.454	12.338	0.068	12.406	7.205	3.430	11.983	0.00957	0.00993	0.00957	-121.57	-0.2924	14.3527
31	3.617	12.363	0.071	12.434	7.445	3.567	12.383	0.00958	0.00994	0.00958	-120.09	-0.2913	14.8244
32	3.788	12.388	0.075	12.463	7.685	3.707	12.783	0.00959	0.00995	0.00959	-118.61	-0.2902	15.2921
33	3.944	12.413	0.079	12.492	7.927	3.850	13.183	0.00960	0.00996	0.00960	-117.13	-0.2891	15.7658
34	4.107	12.438	0.082	12.520	8.167	4.000	13.583	0.00961	0.00997	0.00961	-115.65	-0.2880	16.2455
35	4.275	12.464	0.085	12.548	8.407	4.150	13.983	0.00962	0.00998	0.00962	-114.17	-0.2869	16.7212
36	4.450	12.490	0.088	12.576	8.647	4.300	14.383	0.00963	0.00999	0.00963	-112.69	-0.2858	17.1929
37	4.631	12.515	0.093	12.607	8.887	4.450	14.783	0.00964	0.01000	0.00964	-111.21	-0.2847	17.6606

* Compiled by John A. Goff and S. Gratch.

* Extrapolated to represent metastable equilibrium with undercooled liquid.

TABLE 2. THERMODYNAMIC PROPERTIES OF MOIST AIR* (STANDARD ATMOSPHERIC PRESSURE, 29.921 IN. HG) (Continued)

FAHR. TEMP. t (°F)	HUMIDITY RATIO W × 10 ³	VOLUME CU FT/LB DRY AIR			ENTHALPY BTU/LB DRY AIR			ENTROPY BTU PER (°F) (LB DRY AIR)			CONDENSED WATER		
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			v _{sa}	v _{sb}		h _{sa}	h _{sb}		s _{sa}	s _{sb}		h _{sf}	s _{sf}
38	4.818	12.540	0.097	12.637	9.128	5.101	14.319	0.01009	0.01097	0.03006	6.08	0.0122	0.22604
39	5.012	12.565	0.101	12.665	9.368	5.250	14.719	0.01010	0.01098	0.03006	7.08	0.0122	0.23619
40	5.213	12.590	0.105	12.693	9.608	5.392	15.119	0.01011	0.01099	0.03006	8.08	0.0122	0.24634
41	5.421	12.616	0.109	12.721	9.848	5.534	15.519	0.01012	0.01100	0.03006	9.09	0.0122	0.25649
42	5.638	12.641	0.114	12.750	10.088	5.676	15.919	0.01013	0.01101	0.03006	10.09	0.0122	0.26664
43	5.860	12.666	0.119	12.778	10.328	5.818	16.319	0.01014	0.01102	0.03006	11.09	0.0122	0.27679
44	6.091	12.691	0.124	12.806	10.568	5.960	16.719	0.01015	0.01103	0.03006	12.09	0.0122	0.28694
45	6.331	12.717	0.129	12.834	10.808	6.102	17.119	0.01016	0.01104	0.03006	13.09	0.0122	0.29709
46	6.578	12.742	0.134	12.862	11.048	6.244	17.519	0.01017	0.01105	0.03006	14.09	0.0122	0.30724
47	6.835	12.767	0.140	12.890	11.288	6.386	17.919	0.01018	0.01106	0.03006	15.09	0.0122	0.31739
48	7.100	12.792	0.146	12.918	11.528	6.528	18.319	0.01019	0.01107	0.03006	16.09	0.0122	0.32754
49	7.374	12.818	0.151	12.946	11.768	6.670	18.719	0.01020	0.01108	0.03006	17.09	0.0122	0.33769
50	7.658	12.843	0.158	12.974	12.008	6.812	19.119	0.01021	0.01109	0.03006	18.09	0.0122	0.34784
51	7.952	12.868	0.164	13.002	12.248	6.954	19.519	0.01022	0.01110	0.03006	19.09	0.0122	0.35799
52	8.256	12.893	0.170	13.030	12.488	7.096	19.919	0.01023	0.01111	0.03006	20.09	0.0122	0.36814
53	8.569	12.919	0.178	13.058	12.728	7.238	20.319	0.01024	0.01112	0.03006	21.09	0.0122	0.37829
54	8.894	12.944	0.185	13.086	12.968	7.380	20.719	0.01025	0.01113	0.03006	22.09	0.0122	0.38844
55	9.229	12.970	0.192	13.114	13.208	7.522	21.119	0.01026	0.01114	0.03006	23.09	0.0122	0.39859
56	9.575	13.000	0.200	13.142	13.448	7.664	21.519	0.01027	0.01115	0.03006	24.09	0.0122	0.40874
57	9.934	13.026	0.208	13.170	13.688	7.806	21.919	0.01028	0.01116	0.03006	25.09	0.0122	0.41889
58	10.30	13.045	0.216	13.198	13.928	7.948	22.319	0.01029	0.01117	0.03006	26.09	0.0122	0.42904
59	10.69	13.071	0.224	13.226	14.168	8.090	22.719	0.01030	0.01118	0.03006	27.09	0.0122	0.43919
60	11.08	13.096	0.233	13.254	14.408	8.232	23.119	0.01031	0.01119	0.03006	28.09	0.0122	0.44934
61	11.49	13.121	0.242	13.282	14.648	8.374	23.519	0.01032	0.01120	0.03006	29.09	0.0122	0.45949
62	11.91	13.147	0.251	13.310	14.888	8.516	23.919	0.01033	0.01121	0.03006	30.09	0.0122	0.46964
63	12.35	13.172	0.261	13.338	15.128	8.658	24.319	0.01034	0.01122	0.03006	31.09	0.0122	0.47979
64	12.80	13.197	0.271	13.366	15.368	8.800	24.719	0.01035	0.01123	0.03006	32.09	0.0122	0.48994
65	13.26	13.222	0.282	13.394	15.608	8.942	25.119	0.01036	0.01124	0.03006	33.09	0.0122	0.49999
66	13.74	13.247	0.292	13.422	15.848	9.084	25.519	0.01037	0.01125	0.03006	34.09	0.0122	0.51004
67	14.24	13.273	0.303	13.450	16.088	9.226	25.919	0.01038	0.01126	0.03006	35.09	0.0122	0.52009
68	14.75	13.298	0.315	13.478	16.328	9.368	26.319	0.01039	0.01127	0.03006	36.09	0.0122	0.53014
69	15.28	13.323	0.327	13.506	16.568	9.510	26.719	0.01040	0.01128	0.03006	37.09	0.0122	0.54019

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