

**OIV-MA-AS312-02 Alcoholic strength by volume**

COMPENDIUM OF INTERNATIONAL ANALYSIS OF METHODS-OIV  
Alcoholic strength by volume

TABLE I International alcoholic strength at 20°C

Table of apparent densities of ethanol-water mixtures in Pyrex pycnometer Densities at  $t^{\circ}\text{C}$ . corrected for air buoyancy

Alcohol % by volume																
$t^{\circ}$	0	1	2	3	4	5	6	7	8	9	10	11				
0°	999.64	1.50998.14	1.44996.70	1.40995.30	1.35993.95	1.30992.65	1.24991.41	1.19	990.22	1.14	989.08	1.10	987.98	1.05986.93	1.00985.93	0.95
	-0.07	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.05	-0.04	-0.03	-0.02	-0.01				
1°	999.71	1.51998.20	1.44996.76	1.40995.36	1.35994.01	1.30992.71	1.24991.47	1.20	990.27	1.15	989.12	1.11	988.01	1.06986.95	1.01985.94	0.97
	-0.05	-0.05	-0.04	-0.04	-0.04	-0.04	-0.03	-0.03	-0.02	-0.02	-0.01	0.00				
2°	999.76	1.51998.25	1.45996.80	1.40995.40	1.35994.05	1.30992.75	1.25991.50	1.20	990.30	1.16	989.14	1.11	988.03	1.07986.96	1.02985.94	0.98
	-0.03	-0.03	4.03	-0.02	-0.02	-0.02	-0.02	-0.01	-0.01	0.00	0.01	0.02				
3°	999.79	1.51998.28	1.45996.83	1.41995.42	1.35994.07	1.30992.77	1.25991.52	1.21	990.31	1.16	989.15	1.12	988.03	1.08986.95	1.03985.92	1.00

# COMPENDIUM OF INTERNATIONAL METHODS OF WINE AND MUST ANALYSIS

## Tables of correction

	-0.02	-0.02	-0.01	-0.02	-0.01	-0.01	0.00	0.00	0.01	0.02	0.03	0.04												
4°	999.81	1.51	998.30	1.46	996.84	1.40	995.44	1.36	994.08	1.30	992.78	1.26	991.52	1.21	990.31	1.17	989.14	1.13	988.01	1.09	986.92	1.04	985.88	1.00
	0.00	0.00	0.00	0.00	0.01	0.02	0.02	0.02	0.02	0.03	0.04	0.05												
5°	999.81	1.51	998.30	1.46	996.84	1.40	995.44	1.37	994.07	1.31	992.76	1.26	991.50	1.21	990.29	1.17	989.12	1.14	987.98	1.10	986.88	1.05	985.83	1.01
	0.01	0.01	0.01	0.02	0.01	0.02	0.03	0.04	0.05	0.05	0.05	0.06												
6°	999.80	1.51	998.29	1.46	996.83	1.41	995.42	1.36	994.06	1.32	992.74	1.27	991.47	1.22	990.25	1.18	989.07	1.14	987.93	1.10	986.83	1.06	985.77	1.03
	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.05	0.06	0.07	0.08	0.09												
7°	999.77	1.51	998.26	1.46	996.80	1.41	995.39	1.37	994.02	1.32	992.70	1.27	991.43	1.23	990.20	1.19	989.01	1.15	987.86	1.11	986.75	1.07	985.68	1.03
	0.05	0.04	0.04	0.05	0.05	0.05	0.05	0.06	0.06	0.07	0.08	0.09												
8°	999.72	1.50	998.22	1.46	996.76	1.42	995.34	1.37	993.97	1.32	992.65	1.27	991.38	1.24	990.14	1.19	988.95	1.16	987.79	1.12	986.67	1.08	985.59	1.05
	0.05	0.06	0.06	0.06	0.06	0.06	0.07	0.07	0.08	0.09	0.10	0.11												
9°	999.67	1.51	998.16	1.46	996.70	1.42	995.28	1.37	993.91	1.32	992.59	1.28	991.31	1.24	990.07	1.20	988.87	1.17	987.70	1.13	986.57	1.09	985.48	1.06
	0.07	0.07	0.07	0.07	0.07	0.08	0.08	0.09	0.09	0.10	0.11	0.12												
10°	999.60	1.51	998.09	1.46	996.63	1.42	995.21	1.37	993.84	1.33	992.51	1.28	991.23	1.25	989.98	1.20	988.78	1.17	987.60	1.14	986.46	1.10	985.36	1.06
	0.09	0.09	0.09	0.08	0.09	0.09	0.10	0.10	0.11	0.11	0.12	0.13												
11°	999.51	1.51	998.00	1.46	996.54	1.41	995.13	1.38	993.75	1.33	992.42	1.29	991.13	1.25	989.88	1.21	988.67	1.18	987.49	1.15	986.34	1.11	985.23	1.07
	0.10	0.09	0.09	0.10	0.10	0.11	0.11	0.11	0.12	0.13	0.13	0.14												
12°	999.41	1.50	997.91	1.46	996.45	1.42	995.03	1.38	993.65	1.34	992.31	1.29	991.02	1.25	989.77	1.22	988.55	1.19	987.36	1.15	986.21	1.12	985.09	1.09
	0.11	0.11	0.11	0.11	0.11	0.11	0.12	0.12	0.13	0.14	0.15	0.16												
13°	999.30	1.50	997.80	1.46	996.34	1.42	994.92	1.38	993.54	1.34	992.20	1.30	990.90	1.25	989.65	1.23	988.42	1.20	987.22	1.16	986.06	1.13	984.93	1.09
	0.12	0.12	0.13	0.13	0.13	0.13	0.14	0.14	0.15	0.16	0.16	0.16												
14°	999.18	1.50	997.68	1.46	996.22	1.43	994.79	1.38	993.41	1.34	992.07	1.30	990.77	1.26	989.51	1.23	988.28	1.21	987.07	1.17	985.90	1.13	984.77	1.11
	0.14	0.14	0.13	0.13	0.14	0.14	0.15	0.16	0.16	0.17	0.18	0.18												
15°	999.05	1.51	997.54	1.46	996.08	1.42	994.66	1.38	993.28	1.35	991.93	1.30	990.63	1.27	989.36	1.24	988.12	1.21	986.91	1.18	985.73	1.14	984.59	1.12
	0.14	0.14	0.15	0.15	0.15	0.16	0.16	0.17	0.17	0.18	0.19	0.19												
16°	998.90	1.50	997.40	1.46	995.94	1.43	994.51	1.38	993.13	1.35	991.78	1.31	990.47	1.27	989.20	1.25	987.95	1.21	986.74	1.19	985.55	1.15	984.40	1.13
	0.16	0.16	0.16	0.16	0.17	0.17	0.18	0.18	0.19	0.19	0.20	0.20												
17°	998.74	1.50	997.24	1.46	995.78	1.43	994.35	1.38	992.97	1.36	991.61	1.31	990.30	1.28	989.02	1.25	987.77	1.22	986.55	1.19	985.36	1.16	984.20	1.14
	0.17	0.17	0.16	0.17	0.17	0.18	0.18	0.19	0.20	0.20	0.21	0.22												
18°	998.57	1.50	997.07	1.46	995.61	1.42	994.19	1.39	992.80	1.36	991.44	1.32	990.12	1.28	988.84	1.26	987.58	1.23	986.35	1.20	985.15	1.17	983.98	1.14
	0.18	0.18	0.19	0.19	0.19	0.19	0.20	0.20	0.20	0.21	0.21	0.22												
19°	998.39	1.50	996.89	1.46	995.43	1.43	994.00	1.39	992.61	1.36	991.25	1.32	989.93	1.29	988.64	1.26	987.38	1.23	986.15	1.21	984.94	1.18	983.76	1.16
	0.19	0.19	0.19	0.19	0.19	0.20	0.20	0.21	0.21	0.22	0.23	0.24												
20°	998.20	1.50	996.70	1.46	995.24	1.43	993.81	1.39	992.42	1.36	991.06	1.33	989.73	1.29	988.44	1.27	987.17	1.24	985.93	1.22	984.71	1.19	983.52	1.16

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TABLE I (continued) International alcoholic strength at 20°C  
**Table of apparent densities of ethanol-water mixtures** □ Pyrex pycnometer Densities  
at  $t^{\circ}\text{C}$ . corrected for air buoyancy

# COMPENDIUM OF INTERNATIONAL METHODS OF WINE AND MUST ANALYSIS

## Tables of correction

COMPENDIUM OF INTERNATIONAL ANALYSIS OF METHODS-OIV  
Alcoholic strength by volume

t°	Alcohol % by volume																							
	0	1	2	3	4	5	6	7	8	9	10	11												
20°	998.20	1.50	996.70	1.46	995.24	1.43	993.81	1.39	992.42	1.36	991.06	1.33	989.73	1.29	988.44	1.27	987.17	1.24	985.93	1.22	984.71	1.19	983.52	1.16
	0.20		0.20		0.20		0.20		0.21		0.21		0.21		0.22		0.22		0.23		0.24		0.24	
21°	998.00	1.50	996.50	1.46	995.04	1.43	993.61	1.40	992.21	1.36	990.85	1.33	989.52	1.30	988.22	1.27	986.95	1.25	985.70	1.23	984.47	1.19	983.28	1.18
	0.21		0.21		0.21		0.21		0.21		0.22		0.22		0.23		0.24		0.24		0.24		0.26	
22°	997.79	1.50	996.29	1.46	994.83	1.43	993.40	1.40	992.00	1.37	990.63	1.33	989.30	1.31	987.99	1.28	986.71	1.25	985.46	1.23	984.23	1.21	983.02	1.18
	0.22		0.22		0.23		0.23		0.23		0.23		0.24		0.24		0.24		0.25		0.26		0.25	
23°	997.57	1.50	996.07	1.47	994.60	1.43	993.17	1.40	991.77	1.37	990.40	1.34	989.06	1.31	987.75	1.28	986.47	1.26	985.21	1.24	983.97	1.20	982.77	1.20
	0.24		0.23		0.23		0.23		0.24		0.24		0.24		0.25		0.26		0.26		0.27		0.29	
24°	997.33	1.49	995.94	1.47	994.37	1.43	992.94	1.41	991.53	1.37	990.16	1.34	988.82	1.32	987.50	1.29	986.21	1.26	984.95	1.25	983.70	1.22	982.48	1.20

# COMPENDIUM OF INTERNATIONAL METHODS OF WINE AND MUST ANALYSIS

## Tables of correction

	0.24	0.25	0.24	0.25	0.24	0.25	0.26	0.26	0.26	0.27	0.28	0.28												
25°	997.09	1.50	995.59	1.46	994.13	1.44	992.69	1.40	991.29	1.38	989.91	1.35	988.56	1.32	987.24	1.29	985.95	1.27	984.68	1.26	983.42	1.22	982.20	1.21
26°	996.84	1.50	995.34	1.47	993.87	1.43	992.44	1.41	991.03	1.38	989.65	1.35	988.30	1.32	986.98	1.31	985.67	1.27	984.40	1.26	983.14	1.24	981.90	1.22
	0.26	0.26	0.26	0.27	0.27	0.27	0.27	0.28	0.28	0.29	0.30	0.30												
27°	996.58	1.50	995.68	1.47	993.61	1.44	992.17	1.41	990.76	1.38	989.38	1.35	988.03	1.33	986.70	1.31	985.39	1.28	984.11	1.27	982.84	1.24	981.60	1.23
	0.27	0.27	0.27	0.27	0.28	0.28	0.28	0.29	0.29	0.29	0.30	0.31	0.31	0.31	0.30	0.31	0.31	0.30	0.31	0.31	0.31	0.31	0.32	0.32
28°	996.31	1.50	994.81	1.47	993.34	1.44	991.90	1.42	990.48	1.38	989.10	1.36	987.74	1.33	986.41	1.31	985.10	1.29	983.81	1.28	982.53	1.25	981.28	1.23
	0.28	0.28	0.28	0.28	0.29	0.28	0.29	0.29	0.29	0.30	0.31	0.31	0.30	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.32	0.32
29°	996.03	1.50	994.53	1.47	993.06	1.45	991.61	1.41	990.20	1.39	988.81	1.36	987.45	1.34	986.11	1.32	984.79	1.29	983.50	1.28	982.22	1.26	980.96	1.24
	0.28	0.29	0.29	0.29	0.30	0.30	0.30	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.32	0.32	0.32	0.32	0.32	0.33	0.33
30°	995.75	1.51	994.24	1.47	992.77	1.45	991.32	1.42	989.90	1.39	988.51	1.37	987.14	1.34	985.80	1.32	984.48	1.30	983.18	1.28	981.90	1.27	980.63	1.25
	0.30	0.30	0.30	0.30	0.31	0.31	0.31	0.31	0.31	0.32	0.33	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34
31°	995.45	1.51	993.94	1.47	992.47	1.45	991.02	1.43	989.59	1.39	988.20	1.37	986.83	1.34	985.49	1.33	984.16	1.31	982.85	1.29	981.56	1.27	980.29	1.26
	0.31	0.31	0.31	0.32	0.31	0.32	0.32	0.32	0.33	0.33	0.34	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.36	0.36	<u>strength by volume</u>
30°	995.14	1.51	993.63	1.47	992.16	1.46	990.70	1.42	989.28	1.40	987.88	1.37	986.51	1.35	985.16	1.33	983.83	1.32	982.51	1.30	981.21	1.28	979.93	1.26
	0.31	0.31	0.32	0.32	0.32	0.33	0.33	0.34	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35
33°	994.93	1.51	993.32	1.48	991.84	1.46	990.38	1.42	988.96	1.41	987.55	1.37	986.18	1.36	984.82	1.34	983.48	1.32	982.16	1.30	980.86	1.28	979.58	1.28
	0.32	0.33	0.33	0.33	0.35	0.34	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.36	0.37	0.37	0.37
34°	994.51	1.52	992.99	1.48	991.51	1.46	990.05	1.44	988.61	1.40	987.21	1.38	985.83	1.36	984.47	1.33	983.14	1.33	981.81	1.31	980.50	1.29	979.21	1.28
	0.33	0.33	0.34	0.35	0.34	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.37	0.37	0.37
35°	994.18	1.52	992.66	1.49	991.17	1.47	989.70	1.43	988.27	1.41	986.86	1.38	985.48	1.36	984.12	1.34	982.78	1.33	981.45	1.31	980.14	1.30	978.84	1.29
	0.34	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.36	0.36	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.38	0.38	0.38
36°	993.84	1.53	992.31	1.49	990.82	1.47	989.35	1.43	987.92	1.41	986.51	1.38	985.13	1.37	983.76	1.34	982.42	1.34	981.08	1.31	979.77	1.31	978.46	1.29
	0.35	0.35	0.36	0.35	0.36	0.36	0.36	0.37	0.37	0.37	0.37	0.38	0.37	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.39	0.39	0.39	0.39
37°	993.49	1.53	991.96	1.50	990.46	1.46	989.00	1.44	987.56	1.41	986.15	1.39	984.76	1.37	983.39	1.35	982.04	1.33	980.71	1.33	979.38	1.31	978.07	1.30
	0.36	0.36	0.36	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.38	0.37	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.39	0.39	0.39
38°	993.13	1.53	991.60	1.50	990.10	1.47	988.63	1.44	987.19	1.41	985.78	1.39	984.39	1.37	983.02	1.36	981.66	1.34	980.32	1.32	979.00	1.32	977.68	1.31
	0.36	0.37	0.37	0.37	0.38	0.38	0.38	0.38	0.38	0.39	0.38	0.39	0.38	0.39	0.38	0.39	0.39	0.39	0.39	0.39	0.40	0.40	0.40	0.40
39°	992.77	1.54	991.23	1.50	989.73	1.47	988.26	1.45	986.81	1.41	985.40	1.39	984.01	1.38	982.63	1.35	981.28	1.35	979.93	1.33	978.60	1.32	977.28	1.32
	0.37	0.37	0.38	0.39	0.38	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.40	0.39	0.39	0.39	0.39	0.40	0.40	0.41	0.41	0.41
40	992.40	1.54	990.86	1.51	989.35	1.48	987.87	1.44	986.43	1.42	985.01	1.39	983.62	1.38	982.24	1.36	980.88	1.34	979.54	1.34	978.20	1.33	976.87	1.32

# COMPENDIUM OF INTERNATIONAL METHODS OF WINE AND MUST ANALYSIS

## Tables of correction

TABLE I (continued) International alcoholic strength at 20°C

COMPENDIUM OF INTERNATIONAL ANALYSIS OF METHODS-OIV  
Alcoholic strength by volume

Table of apparent densities of ethanol/water mixtures in Pyrex pycnometer

Densities at t°C. corrected for air buoyancy

t°	Alcohol % by volume																							
	10		11		12		13		14		15		16		17		18		19		20		21	
0	986.93	1.00	985.93	0.95	984.98	0.92	984.06	0.88	983.18	0.84	982.34	0.80	981.54	0.78	980.76	0.75	980.01	0.73	979.28	0.72	978.56	0.70	977.86	0.70
1	-0.02		-0.01		0.01		0.01		0.03		0.04		0.07		0.08		0.10		0.12		0.14		0.17	
1	986.95	1.01	995.94	0.97	984.97	0.92	984.05	0.90	983.15	0.85	982.30	0.83	981.47	0.79	980.68	0.77	979.91	0.75	979.16	0.74	978.42	0.73	977.69	0.72
2	-0.01		0.00		0.01		0.03		0.04		0.07		0.08		0.10		0.12		0.14		0.16		0.18	
2	986.96	1.02	985.94	0.98	984.96	0.94	984.02	0.91	983.11	0.98	982.23	0.84	981.39	0.81	980.58	0.79	979.79	0.77	979.02	0.76	978.26	0.75	977.51	0.74
3	0.01		0.02		0.04		0.05		0.06		0.07		0.09		0.11		0.13		0.15		0.17		0.19	
3	986.95	1.03	985.92	1.00	984.92	0.95	983.97	0.92	983.05	0.89	982.16	0.86	981.30	0.83	980.47	0.81	979.66	0.79	978.87	0.78	978.09	0.77	977.32	0.77
4	0.03		0.04		0.04		0.06		0.07		0.09		0.10		0.12		0.14		0.16		0.18		0.20	
4	986.92	1.04	985.88	1.00	984.88	0.97	983.91	0.93	982.98	0.91	982.07	0.87	981.20	0.85	980.35	0.83	979.52	0.81	978.71	0.80	977.91	0.79	977.12	0.79
5	0.04		0.05		0.06		0.07		0.09		0.10		0.12		0.14		0.15		0.17		0.19		0.22	

# COMPENDIUM OF INTERNATIONAL METHODS OF WINE AND MUST ANALYSIS

## Tables of correction

5	986.88	1.05	985.83	1.01	984.82	0.98	983.84	0.95	982.89	0.92	981.97	0.89	981.08	0.87	980.21	0.84	979.37	0.83	978.54	0.82	977.72	0.82	976.90	0.80
	0.05		0.06		0.08		0.09		0.10		0.12		0.13		0.14		0.17		0.19		0.21		0.22	
6	986.93	1.06	985.77	1.03	984.74	0.99	983.75	0.96	982.79	0.94	981.85	0.90	980.95	0.88	980.07	0.87	979.20	0.85	978.35	0.84	977.51	0.83	976.68	0.83
	0.08		0.09		0.09		0.10		0.12		0.13		0.15		0.16		0.18		0.19		0.21		0.23	
7	986.75	1.07	985.68	1.03	984.65	1.00	983.65	0.98	982.67	0.95	981.72	0.92	980.80	0.89	979.91	0.89	979.02	0.86	978.16	0.86	977.30	0.85	976.45	0.85
	0.08		0.09		0.11		0.13		0.13		0.14		0.15		0.18		0.19		0.21		0.23		0.25	
8	986.67	1.08	985.59	1.05	984.54	1.02	983.52	0.98	982.54	0.96	981.58	0.93	980.65	0.92	979.73	0.90	978.83	0.88	977.95	0.88	977.07	0.87	976.20	0.87
	0.10		0.11		0.12		0.12		0.14		0.16		0.18		0.19		0.21		0.22		0.24		0.26	
9	986.57	1.09	985.48	1.06	984.42	1.02	983.40	1.00	982.40	0.98	981.42	0.95	980.47	0.93	979.54	0.92	978.62	0.89	977.73	0.90	976.83	0.89	975.94	0.89
	0.11		0.12		0.12		0.14		0.16		0.17		0.18		0.20		0.20		0.23		0.24		0.26	
10	986.46	1.10	985.36	1.06	984.30	1.04	983.26	1.02	982.24	0.99	981.25	0.96	980.29	0.95	979.34	0.92	978.42	0.92	977.50	0.91	976.59	0.91	975.68	0.91
	0.12		0.13		0.14		0.16		0.16		0.17		0.19		0.20		0.23		0.25		0.27		0.29	
11	986.34	1.11	985.23	1.07	984.16	1.06	983.10	1.02	982.08	1.00	981.08	0.98	980.10	0.96	979.14	0.95	978.19	0.94	977.25	0.93	976.32	0.93	975.39	0.92
	0.13		0.14		0.16		0.16		0.18		0.19		0.21		0.22		0.24		0.25		0.27		0.28	
12	986.21	1.12	985.09	1.09	984.00	1.06	982.94	1.04	981.90	1.01	980.89	1.00	979.89	0.97	978.92	0.97	977.95	0.95	977.00	0.95	976.05	0.94	975.11	0.95
	0.15		0.16		0.16		0.18		0.19		0.20		0.21		0.23		0.24		0.26		0.28		0.30	
13	986.06	1.13	984.93	1.09	983.84	1.08	982.76	1.05	981.71	1.02	980.69	1.01	979.68	0.99	978.69	0.98	977.71	0.97	976.74	0.97	975.77	0.96	974.81	0.96
	0.16		0.16		0.18		0.18		0.20		0.22		0.23		0.24		0.26		0.27		0.28		0.30	
14	985.90	1.13	994.77	1.11	983.66	1.08	982.58	1.07	981.51	1.04	980.47	1.02	979.45	1.00	978.45	1.00	977.45	0.98	976.47	0.98	975.49	0.98	975.51	0.98
	0.17		0.18		0.19		0.20		0.21		0.22		0.24		0.25		0.26		0.28		0.30		0.32	
15	985.73	1.14	994.59	1.12	983.47	1.09	982.38	1.08	981.30	1.05	960.25	1.04	979.21	1.01	978.20	1.01	977.19	1.00	976.19	1.00	975.19	1.00	974.19	1.00
	0.18		0.19		0.20		0.22		0.22		0.24		0.24		0.27		0.28		0.30		0.31		0.32	
16	985.55	1.15	984.40	1.13	983.27	1.11	982.16	1.08	981.08	1.07	980.01	1.04	978.97	1.04	977.93	1.02	976.91	1.02	975.89	1.01	974.88	1.01	973.87	1.02
	0.19		0.20		0.21		0.22		0.23		0.24		0.26		0.27		0.29		0.30		0.32		0.33	
17	985.136	1.16	984.20	1.14	983.06	1.12	981.94	1.09	980.85	1.08	979.77	1.06	978.71	1.05	977.66	1.04	976.62	1.03	975.59	1.03	974.56	1.02	973.54	1.04
	0.21		0.22		0.22		0.23		0.25		0.26		0.27		0.28		0.29		0.31		0.32		0.35	
18	985.15	1.17	983.76	1.14	982.84	1.13	981.71	1.11	980.60	1.09	979.51	1.07	978.44	1.06	977.38	1.05	976.33	1.05	975.28	1.04	974.24	1.05	973.19	1.05
	0.21		0.22		0.24		0.24		0.25		0.26		0.28		0.29		0.31		0.32		0.34		0.35	
19	984.94	1.18	983.76	1.16	982.60	1.13	981.47	1.12	980.35	1.10	979.25	1.09	978.16	1.07	977.09	1.07	976.02	1.06	974.96	1.06	973.90	1.06	972.84	1.06
	0.23		0.24		0.24		0.26		0.27		0.28		0.29		0.30		0.31		0.33		0.34		0.36	
20	984.71	1.19	983.52	1.16	982.36	1.15	981.21	1.13	980.08	1.11	978.97	1.10	977.87	1.08	976.79	1.08	975.71	1.08	974.63	1.07	973.56	1.08	972.48	1.08

TABLE I (continued) International alcoholic strength at 20°C

Table of apparent densities of ethanol/water mixtures in Pyrex pycnometer. Densities at t°C. corrected for air buoyancy

Alcohol % by volume
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# COMPENDIUM OF INTERNATIONAL METHODS OF WINE AND MUST ANALYSIS

## Tables of correction

ℓ°	10	11	12	13	14	15	16	17	18	19	20	21												
20°	984.71	1.19	983.52	1.16	982.36	1.15	981.21	1.13	980.08	1.11	978.97	1.10	977.87	1.08	976.79	1.08	975.71	1.08	974.63	1.07	973.56	1.08	972.48	1.08
	0.24	0.24	0.26	0.26	0.27	0.28	0.29	0.31	0.33	0.34	0.36	0.37												
21°	994.47	1.19	983.28	1.18	982.10	1.15	980.95	1.14	978.81	1.12	978.69	1.11	977.58	1.10	976.48	1.10	975.38	1.09	974.29	1.09	973.20	1.09	972.11	1.09
	0.24	0.26	0.28	0.29	0.30	0.31	0.33	0.33	0.35	0.35	0.36	0.37												
22°	984.23	1.21	983.02	1.18	981.84	1.17	980.67	1.15	979.52	1.13	978.39	1.12	977.27	1.12	976.15	1.10	975.05	1.11	973.94	1.10	972.84	1.10	971.74	1.12
	0.26	0.26	0.27	0.28	0.29	0.31	0.32	0.33	0.35	0.35	0.37	0.39												
23°	983.97	1.20	982.77	1.20	981.57	1.18	980.39	1.16	979.23	1.15	978.08	1.13	976.95	1.13	975.82	1.12	974.70	1.11	973.59	1.12	972.47	1.12	971.47	1.12
	0.27	0.29	0.29	0.29	0.30	0.31	0.33	0.33	0.35	0.37	0.38	0.40												
24°	983.70	1.22	982.48	1.20	981.28	1.18	980.10	1.17	978.93	1.16	977.77	1.15	976.62	1.13	975.49	1.14	974.35	1.13	973.22	1.13	972.09	1.14	970.95	1.14
	0.28	0.28	0.29	0.31	0.32	0.33	0.33	0.33	0.35	0.36	0.37	0.39	0.40											
25°	983.42	1.22	982.20	1.21	980.99	1.20	979.79	1.18	978.61	1.17	977.44	1.15	976.29	1.15	975.14	1.15	973.99	1.14	972.85	1.15	971.70	1.15	970.55	1.16
	0.28	0.30	0.31	0.31	0.32	0.33	0.35	0.36	0.37	0.39	0.40	0.41												
26°	983.14	1.24	981.90	1.22	980.68	1.20	979.48	1.19	978.29	1.18	977.11	1.17	975.94	1.16	974.78	1.16	973.62	1.16	972.46	1.16	971.30	1.16	970.14	1.17
	0.30	0.30	0.31	0.32	0.33	0.34	0.35	0.36	0.38	0.39	0.40	0.42												
27°	982.84	1.24	981.60	1.23	980.37	1.21	979.16	1.20	977.96	1.19	976.77	1.18	975.59	1.17	974.42	1.18	973.24	1.17	972.07	1.17	970.90	1.18	969.72	1.18
	0.31	0.32	0.32	0.33	0.34	0.35	0.36	0.38	0.38	0.40	0.41	0.43												
28°	982.53	1.25	981.28	1.23	980.05	1.22	978.83	1.21	977.62	1.20	976.42	1.19	975.23	1.19	974.04	1.18	972.86	1.19	971.67	1.18	970.49	1.20	969.29	1.20
	0.31	0.32	0.33	0.34	0.35	0.36	0.37	0.38	0.40	0.40	0.42	0.43												
29°	982.22	1.26	980.96	1.24	979.72	1.23	978.49	1.22	977.27	1.21	976.06	1.20	974.86	1.20	973.66	1.20	972.46	1.19	971.27	1.20	970.07	1.21	968.86	1.22
	0.32	0.33	0.34	0.35	0.36	0.37	0.38	0.40	0.41	0.43	0.44	0.45												
30°	981.90	1.27	980.63	1.25	979.38	1.24	978.14	1.23	976.91	1.22	975.69	1.21	974.48	1.22	973.26	1.21	972.05	1.21	970.84	1.21	969.63	1.22	968.41	1.23
	0.34	0.34	0.35	0.36	0.37	0.38	0.40	0.40	0.41	0.42	0.44	0.45												
31°	981.56	1.27	980.29	1.26	979.03	1.25	977.78	1.24	976.54	1.23	975.31	1.23	974.08	1.22	972.86	1.22	971.64	1.22	970.42	1.23	969.19	1.23	967.96	1.24
	0.35	0.36	0.36	0.37	0.38	0.39	0.39	0.40	0.42	0.43	0.44	0.46												
32°	981.21	1.28	979.93	1.26	978.67	1.26	977.41	1.25	976.16	1.24	974.92	1.23	973.69	1.23	972.46	1.24	971.22	1.23	969.99	1.24	968.75	1.25	967.50	1.25
	0.35	0.35	0.37	0.37	0.38	0.39	0.40	0.42	0.42	0.44	0.45	0.46												
33°	980.86	1.28	979.58	1.28	978.30	1.26	977.04	1.26	975.78	1.25	974.53	1.24	973.29	1.25	972.04	1.24	970.80	1.25	969.55	1.25	968.30	1.26	967.04	1.27
	0.36	0.37	0.37	0.38	0.39	0.40	0.41	0.42	0.43	0.44	0.46	0.47												
34°	980.50	1.29	979.21	1.28	977.93	1.27	976.66	1.27	975.39	1.26	974.13	1.25	972.88	1.26	971.62	1.25	970.37	1.26	969.11	1.27	967.84	1.27	966.57	1.29
	0.36	0.37	0.38	0.39	0.39	0.40	0.42	-	0.42	0.44	0.46	0.48												
35°	980.14	1.30	978.94	1.29	977.55	1.28	976.27	1.27	975.00	1.27	973.73	1.27	972.46	1.26	971.20	1.27	969.93	1.28	968.65	1.27	967.38	1.29	966.09	1.30
	0.37	0.38	0.38	0.39	0.40	0.41	0.42		0.44	0.45	0.45	0.47	0.48											



# COMPENDIUM OF INTERNATIONAL METHODS OF WINE AND MUST ANALYSIS

## Tables of correction

36°	979.77	1.31	978.46	1.29	977.17	1.29	975.88	1.28	974.60	1.28	973.32	1.28	972.04	1.28	970.76	1.28	969.48	1.28	968.20	1.29	966.91	1.30	965.61	1.32
	0.39		0.39		0.40		0.40		0.41		0.42		0.43		0.44		0.45		0.47		0.48		0.49	
37°	978.38	1.31	978.07	1.30	976.77	1.29	975.48	1.29	974.19	1.29	972.90	1.29	971.61	1.29	970.32	1.29	969.03	1.30	967.73	1.30	966.43	1.31	965.12	1.33
	0.38		0.39		0.40		0.41		0.42		0.43		0.44		0.45		0.46		0.47		0.49		0.50	
38°	979.00	1.32	977.68	1.31	976.37	1.30	975.07	1.30	973.77	1.30	972.47	1.30	971.17	1.30	969.87	1.30	968.57	1.31	967.26	1.32	965.94	1.32	964.62	1.34
	0.40		0.40		0.41		0.42		0.42		0.43		0.44		0.45		0.47		0.48		0.49		0.50	
39°	978.60	1.32	977.28	1.32	975.96	1.31	974.65	1.30	973.35	1.31	972.04	1.31	970.73	1.31	969.42	1.32	968.10	1.32	966.78	1.33	965.45	1.33	964.12	1.36
	0.40		0.41		0.41		0.42		0.43		0.44		0.45		0.46		0.47		0.48		0.49		0.51	
40°	978.20	1.33	976.87	1.32	975.55	1.32	974.23	1.31	972.92	1.32	971.60	1.52	970.28	1.32	968.96	1.33	967.63	1.33	966.30	1.34	964.96	1.35	963.61	1.37

TABLE I (continued) International alcoholic strength at 20°C

**Table of apparent densities of ethanol/water mixtures in Pyrex pycnometer** Densities at  $t^{\circ}\text{C}$ . corrected for air buoyancy

# COMPENDIUM OF INTERNATIONAL METHODS OF WINE AND MUST ANALYSIS

## Tables of correction

COMPENDIUM OF INTERNATIONAL ANALYSIS OF METHODS-OIV  
Alcoholic strength by volume

Alcohol % by volume																								
t°	20		21		22		23		24		25		26		27		28		29		30		31	
0	978.56	0.70	977.86	0.70	977.16	0.69	976.47	0.71	975.76	0.71	975.05	0.72	974.33	0.75	973.58	0.77	972.81	0.80	972.01	0.83	971.18	0.87	970.31	0.90
	0.14		0.17		0.19		0.22		0.24		0.26		0.29		0.31		0.34		0.36		0.39		0.41	
1	978.42	0.73	977.69	0.72	976.97	0.72	976.25	0.73	975.52	0.73	974.79	0.75	974.04	0.77	973.27	0.80	972.47	0.82	971.65	0.86	970.79	0.89	969.90	0.92
	0.16		0.18		0.20		0.23		0.25		0.28		0.30		0.32		0.34		0.37		0.39		0.41	
2	978.26	0.75	977.51	0.74	976.77	0.75	976.02	0.75	975.27	0.76	974.51	0.77	973.74	0.79	972.95	0.82	972.13	0.85	971.28	0.88	970.40	0.91	969.49	0.95
	0.17		0.19		0.22		0.23		0.26		0.28		0.31		0.33		0.36		0.38		0.40		0.42	
3	978.09	0.77	977.32	0.77	976.55	0.76	975.79	0.78	975.01	0.78	974.23	0.80	973.43	0.81	972.62	0.85	971.77	0.87	970.90	0.90	970.00	0.93	969.07	0.98
	0.18		0.20		0.22		0.25		0.27		0.29		0.31		0.34		0.36		0.38		0.40		0.43	
4	977.91	0.79	977.12	0.79	976.33	0.79	975.54	0.80	974.94	0.80	973.94	0.82	973.12	0.84	972.28	0.87	971.41	0.89	970.52	0.92	969.60	0.96	968.64	1.00
	0.19		0.22		0.23		0.26		0.27		0.30		0.33		0.35		0.37		0.39		0.42		0.44	
5	977.72	0.82	976.90	0.80	976.10	0.82	975.28	0.81	974.47	0.83	973.64	0.85	972.79	0.86	971.93	0.89	971.04	0.91	970.13	0.95	969.18	0.98	968.20	1.01
	0.21		0.22		0.25		0.26		0.29		0.31		0.33		0.35		0.37		0.40		0.42		0.44	

# COMPENDIUM OF INTERNATIONAL METHODS OF WINE AND MUST ANALYSIS

## Tables of correction

6	977.51	0.83	976.68	0.83	975.85	0.83	975.02	0.84	974.18	0.85	973.33	0.87	972.46	0.86	971.58	0.91	970.67	0.94	969.73	0.97	968.76	1.00	967.76	1.03
	0.21		0.23		0.25		0.28		0.30		0.32		0.34		0.36		0.36		0.40		0.42		0.44	
7	977.30	0.85	976.45	0.85	975.60	0.86	974.74	0.86	973.88	0.87	973.01	0.89	972.12	0.90	971.22	0.93	970.20	0.96	969.33	0.99	968.34	1.02	967.32	1.06
	0.23		0.25		0.27		0.28		0.31		0.33		0.35		0.37		0.40		0.42		0.43		0.46	
8	977.07	0.87	976.20	0.87	975.33	0.87	974.46	0.89	973.57	0.89	972.68	0.91	971.77	0.92	970.85	0.96	969.89	0.98	968.91	1.00	967.91	1.05	966.86	1.07
	0.24		0.26		0.28		0.30		0.31		0.34		0.35		0.38		0.39		0.41		0.44		0.46	
9	976.83	0.89	975.94	0.89	975.05	0.89	974.16	0.90	973.26	0.92	972.34	0.92	971.42	0.95	970.47	0.97	969.50	1.00	968.50	1.03	967.47	1.07	966.40	1.09
	0.24		0.26		0.28		0.30		0.33		0.34		0.37		0.39		0.41		0.43		0.45		0.46	
10	976.59	0.91	975.68	0.91	974.77	0.91	973.86	0.93	972.93	0.93	972.00	0.95	971.05	0.97	970.08	0.99	969.09	1.02	968.07	1.05	967.02	1.08	965.94	1.12
	0.27		0.29		0.30		0.33		0.34		0.36		0.38		0.40		0.42		0.44		0.46		0.47	
11	976.32	0.93	975.39	0.92	974.47	0.94	973.53	0.94	972.59	0.95	971.64	0.97	970.67	0.99	969.68	1.01	968.67	1.04	967.63	1.07	966.56	1.09	965.47	1.13
	0.27		0.28		0.31		0.32		0.34		0.36		0.38		0.40		0.42		0.44		0.45		0.48	
12	976.05	0.94	975.11	0.95	974.16	0.95	973.21	0.96	972.25	0.97	971.28	0.99	970.29	1.01	969.28	1.03	968.25	1.06	967.19	1.08	966.11	1.12	964.99	1.15
	0.28		0.30		0.31		0.33		0.35		0.37		0.39		0.41		0.43		0.45		0.47		0.49	
13	975.77	0.96	974.81	0.96	973.85	0.97	972.88	0.98	971.90	0.99	970.91	1.01	969.90	1.03	968.87	1.05	967.82	1.08	966.74	1.10	965.64	1.14	964.50	1.17
	0.28		0.30		0.32		0.34		0.36		0.38		0.40		0.41		0.43		0.45		0.47		0.49	
14	975.49	0.98	974.51	0.98	973.53	0.99	972.54	1.00	971.54	1.01	970.53	1.03	969.50	1.04	968.46	1.07	967.39	1.10	966.29	1.12	965.17	1.16	964.01	1.19
	0.30		0.32		0.34		0.35		0.37		0.39		0.40		0.42		0.44		0.46		0.48		0.49	
15	975.19	1.00	974.19	1.00	973.19	1.00	972.19	1.02	971.17	1.03	970.14	1.04	969.10	1.06	968.04	1.09	966.95	1.12	965.83	1.14	964.69	1.17	963.52	1.21
	0.31		0.32		0.34		0.36		0.37		0.39		0.41		0.43		0.45		0.46		0.48		0.51	
16	974.88	1.01	973.87	1.02	972.85	1.02	971.83	1.03	970.80	1.05	969.75	1.06	968.69	1.08	967.61	1.11	966.50	1.13	965.37	1.16	964.21	1.20	963.01	1.22
	0.32		0.33		0.35		0.37		0.39		0.40		0.42		0.44		0.45		0.48		0.50		0.50	
17	974.56	1.02	973.54	1.04	972.50	1.04	971.46	1.05	970.41	1.06	969.35	1.08	968.27	1.10	967.17	1.12	966.05	1.16	964.89	1.18	963.71	1.20	962.51	1.24
	0.32		0.35		0.36		0.37		0.39		0.41		0.43		0.45		0.47		0.48		0.49		0.52	
18	974.24	1.05	973.19	1.05	972.14	1.05	971.09	1.07	970.02	1.08	968.94	1.10	967.84	1.12	966.72	1.14	965.58	1.17	964.41	1.19	963.22	1.23	961.99	1.25
	0.34		0.35		0.36		0.39		0.40		0.42		0.43		0.45		0.47		0.48		0.50		0.52	
19	973.90	1.06	972.84	1.06	971.78	1.08	970.70	1.08	969.62	1.10	968.52	1.11	967.41	1.14	966.27	1.16	965.11	1.18	963.93	1.21	962.72	1.25	961.47	1.27
	0.34		0.36		0.38		0.39		0.41		0.42		0.45		0.46		0.47		0.49		0.51		0.52	
20	973.56	1.08	972.48	1.08	971.40	1.09	970.31	1.10	969.21	1.11	968.10	1.14	966.96	1.15	965.81	1.17	964.64	1.20	963.44	1.23	962.21	1.26	960.95	1.29

TABLE I (continued) International alcoholic strength at 20°C

# COMPENDIUM OF INTERNATIONAL METHODS OF WINE AND MUST ANALYSIS

## Tables of correction

COMPENDIUM OF INTERNATIONAL ANALYSIS OF METHODS-OIV  
Alcoholic strength by volume

**Table of apparent densities of ethanol-water mixtures in Pyrex pycnometer**  
Densities at  $t^{\circ}\text{C}$ . corrected for air buoyancy

$t^{\circ}$		Alcohol % by volume																						
		20	21	22	23	24	25	26	27	28	29	30	31											
20	973.56	1.08	972.48	1.08	971.40	1.09	970.31	1.10	969.21	1.11	968.10	1.14	966.96	1.15	965.81	1.17	964.64	1.20	963.44	1.23	962.21	1.26	960.95	1.29
	0.36		0.37		0.38		0.40		0.42		0.44		0.45		0.46		0.49		0.50		0.52		0.53	
21	973.20	1.09	972.11	1.09	971.02	1.11	969.91	1.12	968.79	1.13	967.66	1.15	966.51	1.16	965.35	1.20	964.15	1.21	962.94	1.25	961.69	1.27	960.42	1.31
	0.36		0.37		0.40		0.41		0.42		0.44		0.45		0.48		0.49		0.51		0.52		0.54	
22	972.84	1.10	971.74	1.12	970.62	1.12	969.50	1.13	968.37	1.15	967.22	1.16	966.06	1.19	964.87	1.21	963.66	1.23	962.43	1.26	961.17	1.29	959.88	1.32
	0.37		0.39		0.40		0.42		0.43		0.45		0.47		0.48		0.49		0.51		0.53		0.55	
23	972.47	1.12	971.35	1.13	970.22	1.14	969.08	1.14	967.94	1.17	966.77	1.18	965.59	1.20	964.39	1.22	963.17	1.25	961.92	1.28	960.64	1.31	959.33	1.33
	0.38		0.40		0.41		0.42		0.44		0.45		0.47		0.49		0.51		0.52		0.54		0.55	
24	972.09	1.14	970.95	1.14	969.81	1.15	968.66	1.16	967.50	1.18	966.32	1.20	965.12	1.22	963.90	1.24	962.66	1.26	961.40	1.30	960.10	1.32	958.78	1.35
	0.39		0.40		0.42		0.43		0.45		0.47		0.48		0.49		0.51		0.53		0.54		0.55	
25	971.70	1.15	970.55	1.16	969.39	1.16	968.23	1.18	967.05	1.20	965.85	1.21	964.64	1.23	963.41	1.26	962.15	1.28	960.87	1.31	959.56	1.33	958.23	1.37
	0.40		0.41		0.42		0.44		0.46		0.47		0.49		0.50		0.51		0.53		0.54		0.57	

# COMPENDIUM OF INTERNATIONAL METHODS OF WINE AND MUST ANALYSIS

## Tables of correction

26	971.30	1.16	970.14	1.17	968.97	1.18	967.79	1.20	966.59	1.21	965.38	1.23	964.15	1.24	962.91	1.27	961.64	1.30	960.34	1.32	959.02	1.36	957.66	1.38
	0.40		0.42		0.43		0.45		0.46		0.48		0.49		0.51		0.53		0.54		0.56		0.56	
27	970.90	1.18	969.72	1.18	968.54	1.20	967.34	1.21	966.13	1.23	964.90	1.24	963.66	1.26	962.40	1.29	961.11	1.31	959.80	1.34	958.46	1.36	957.10	1.40
	0.41		0.43		0.45		0.46		0.47		0.48		0.50		0.52		0.54		0.56		0.57		0.59	
28	970.49	1.20	969.29	1.20	968.09	1.21	966.88	1.22	965.66	1.24	964.42	1.26	963.16	1.28	961.88	1.31	960.57	1.33	959.24	1.35	957.89	1.38	956.51	1.41
	0.42		0.43		0.45		0.47		0.49		0.50		0.52		0.53		0.53		0.55		0.56		0.58	
29	970.07	1.21	968.86	1.22	967.64	1.23	966.41	1.24	965.17	1.25	963.92	1.28	962.64	1.29	961.35	1.31	960.04	1.35	958.69	1.36	957.33	1.40	955.93	1.42
	0.44		0.45		0.46		0.47		0.49		0.50		0.51		0.53		0.55		0.55		0.58		0.58	
30	969.63	1.22	968.41	1.23	967.18	1.24	965.94	1.26	964.68	1.26	963.42	1.29	962.13	1.31	960.82	1.33	959.49	1.35	958.14	1.39	956.75	1.40	955.35	1.44
	0.44		0.45		0.46		0.48		0.49		0.51		0.52		0.53		0.55		0.57		0.58		0.60	
31	969.19	1.23	967.96	1.24	966.72	1.26	965.46	1.27	964.19	1.28	962.91	1.30	961.61	1.32	960.29	1.35	958.94	1.37	957.57	1.40	956.17	1.42	954.75	1.44
	0.44		0.46		0.47		0.48		0.50		0.51		0.53		0.54		0.55		0.57		0.58		0.59	
32	968.75	1.25	967.50	1.25	966.25	1.27	964.98	1.29	963.69	1.29	962.40	1.32	961.08	1.33	959.75	1.36	958.39	1.39	957.00	1.41	955.59	1.43	954.16	1.46
	0.45		0.46		0.48		0.49		0.50		0.52		0.53		0.55		0.57		0.57		0.59		0.61	
33	968.30	1.26	967.04	1.27	965.77	1.28	964.49	1.30	963.19	1.31	961.88	1.33	960.55	1.35	959.20	1.38	957.82	1.39	956.43	1.43	955.00	1.45	953.55	1.47
	0.46		0.47		0.49		0.50		0.51		0.53		0.54		0.56		0.56		0.59		0.59		0.60	
34	967.84	1.27	966.57	1.29	965.28	1.29	963.99	1.31	962.68	1.33	961.35	1.34	960.01	1.37	958.64	1.38	957.26	1.42	955.84	1.43	954.41	1.46	952.95	1.49
	0.46		0.48		0.49		0.51		0.52		0.53		0.55		0.56		0.58		0.58		0.60		0.62	
35	967.38	1.29	966.09	1.30	964.79	1.31	963.48	1.32	962.16	1.34	960.82	1.36	959.46	1.38	958.08	1.40	956.68	1.42	955.26	1.45	953.81	1.48	952.33	1.50
	0.47		0.48		0.50		0.51		0.53		0.54		0.55		0.57		0.58		0.60		0.61		0.62	
36	966.91	1.30	965.61	1.32	964.29	1.32	962.97	1.34	961.63	1.35	960.28	1.37	958.91	1.40	957.51	1.41	956.10	1.44	954.66	1.46	953.20	1.49	951.71	1.51
	0.48		0.49		0.50		0.52		0.53		0.55		0.56		0.57		0.59		0.60		0.61		0.62	
37	966.43	1.31	965.12	1.33	963.79	1.34	962.45	1.35	961.10	1.37	959.73	1.38	958.35	1.41	956.94	1.43	955.51	1.45	954.06	1.47	952.59	1.50	951.09	1.53
	0.49		0.50		0.51		0.52		0.54		0.55		0.57		0.58		0.59		0.60		0.62		0.63	
38	965.94	1.32	964.62	1.34	963.28	1.35	961.93	1.37	960.56	1.38	959.18	1.40	957.78	1.42	956.36	1.44	954.92	1.46	953.46	1.49	951.97	1.51	950.4	1.54
	0.49		0.50		0.52		0.53		0.54		0.56		0.57		0.58		0.60		0.61		0.62		0.64	
39	965.45	1.33	964.12	1.36	962.76	1.36	961.40	1.38	960.02	1.40	958.62	1.41	957.21	1.43	955.78	1.46	954.32	1.47	952.85	1.50	951.35	1.53	949.82	1.55
	0.49		0.51		0.52		0.54		0.55		0.56		0.58		0.59		0.60		0.62		0.63		0.64	
40	964.96	1.35	963.61	1.37	962.24	1.38	960.86	1.39	959.47	1.41	958.06	1.43	956.63	1.44	955.19	1.47	953.72	1.49	952.23	1.51	950.72	1.54	949.18	1.57

TABLE II International alcoholic strength at 20°C

Table of Corrections to be applied to the apparent alcoholic strength to correct for the effect of temperature

Add or subtract from the apparent alcoholic strength at  $t^{\circ}\text{C}$  (ordinary glass alcohol meter) the correction indicated below

	Apparent alcoholic strength at $t^{\circ}\text{C}$																							
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16							

# COMPENDIUM OF INTERNATIONAL METHODS OF WINE AND MUST ANALYSIS

## Tables of correction

Temperatures	0	0.76	0.77	0.82	0.87	0.95	1.04	1.16	1.31	1.49	1.70	1.95	2.26	2.62	3.03	3.49	4.02	4.56	
	1°	0.81	0.83	0.87	0.92	1.00	1.09	1.20	1.35	1.52	1.73	1.97	2.26	2.59	2.97	3.40	3.87	4.36	
	2°	0.85	0.87	0.92	0.97	1.04	1.13	1.24	1.38	1.54	1.74	1.97	2.24	2.54	2.89	3.29	3.72	4.17	
	3°	0.88	0.91	0.95	1.00	1.07	1.15	1.26	1.39	1.55	1.73	1.95	2.20	2.48	2.80	3.16	3.55	3.95	
	4°	0.90	0.92	0.97	1.02	1.09	1.17	1.27	1.40	1.55	1.72	1.92	2.15	2.41	2.71	3.03	3.38	3.75	
	5°	0.91	0.93	0.98	1.03	1.10	1.17	1.27	1.39	1.53	1.69	1.87	2.08	2.33	2.60	2.89	3.21	3.54	
	6°	0.92	0.94	0.98	1.02	1.09	1.16	1.25	1.37	1.50	1.65	1.82	2.01	2.23	2.47	2.74	3.02	3.32	
	7°	0.91	0.93	0.97	1.01	1.07	1.14	1.23	1.33	1.45	1.59	1.75	1.92	2.12	2.34	2.58	2.83	3.10	
	8°	0.89	0.91	0.94	0.98	1.04	1.11	1.19	1.28	1.39	1.52	1.66	1.82	2.00	2.20	2.42	2.65	2.88	
	9°	0.86	0.88	0.91	0.95	1.01	1.07	1.14	1.23	1.33	1.44	1.57	1.71	1.97	2.05	2.24	2.44	2.65	
	10°	To add	0.82	0.84	0.87	0.91	0.96	1.01	1.08	1.16	1.25	1.35	1.47	1.60	1.74	1.89	2.06	2.24	2.43
	11°		0.78	0.79	0.82	0.86	0.90	0.95	1.01	1.08	1.16	1.25	1.36	1.47	1.60	1.73	1.88	2.03	2.20
	12°		0.72	0.74	0.76	0.79	0.83	0.88	0.93	0.99	1.07	1.15	1.24	1.34	1.44	1.56	1.69	1.82	1.96
	13°		0.66	0.67	0.69	0.72	0.76	0.80	0.84	0.90	0.96	1.03	1.11	1.19	1.28	1.38	1.49	1.61	1.73
	14°		0.59	0.60	0.62	0.64	0.67	0.71	0.74	0.79	0.85	0.91	0.97	1.04	1.12	1.20	1.29	1.39	1.49
	15°		0.51	0.52	0.53	0.55	0.58	0.61	0.64	0.68	0.73	0.77	0.83	0.89	0.95	1.02	1.09	1.16	1.24
	16°		0.42	0.43	0.44	0.46	0.48	0.50	0.53	0.56	0.60	0.63	0.67	0.72	0.77	0.82	0.88	0.94	1.00
	17°		0.33	0.33	0.34	0.35	0.37	0.39	0.41	0.43	0.46	0.48	0.51	0.55	0.59	0.62	0.67	0.71	0.75
	18°		0.23	0.23	0.23	0.24	0.25	0.26	0.27	0.29	0.31	0.33	0.35	0.37	0.40	0.42	0.45	0.48	0.51
	19°		0.12	0.12	0.12	0.12	0.13	0.13	0.14	0.15	0.16	0.17	0.18	0.19	0.20	0.21	0.23	0.24	0.25

TABLE II (continued)

Tables of correction

COMPENDIUM OF INTERNATIONAL ANALYSIS OF METHODS-OIV  
 Alcoholic strength by volume

International alcoholic strength at 20°C

Table of Corrections to be applied to the apparent alcoholic strength to correct for the effect of temperature

Add or subtract from the apparent alcoholic strength at  $t^{\circ}\text{C}$  (ordinary glass alcohol meter) the correction indicated below

		Apparent alcoholic strength at $t^{\circ}\text{C}$																
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

# COMPENDIUM OF INTERNATIONAL METHODS OF WINE AND MUST ANALYSIS

## Tables of correction

Temperatures	21°	To subtract		0.13	0.13	0.13	0.14	0.14	0.15	0.16	0.17	0.18	0.19	0.19	0.20	0.22	0.23	0.25	0.26
	22°			0.26	0.27	0.28	0.29	0.30	0.31	0.32	0.34	0.36	0.37	0.39	0.41	0.44	0.47	0.49	0.52
	23°			0.40	0.41	0.42	0.44	0.45	0.47	0.49	0.51	0.54	0.57	0.60	0.63	0.66	0.70	0.74	0.78
	24°			0.55	0.56	0.58	0.60	0.62	0.64	0.67	0.70	0.73	0.77	0.81	0.85	0.89	0.94	0.99	1.04
	25°			0.69	0.71	0.73	0.76	0.79	0.82	0.85	0.89	0.93	0.97	1.02	1.07	1.13	1.19	1.25	1.31
	26°			0.85	0.87	0.90	0.93	0.96	1.00	1.04	1.08	1.13	1.18	1.24	1.30	1.36	1.43	1.50	1.57
	27°				1.03	1.07	1.11	1.15	1.19	1.23	1.28	1.34	1.40	1.46	1.53	1.60	1.68	1.76	1.84
	28°				1.21	1.25	1.29	1.33	1.38	1.43	1.49	1.55	1.62	1.69	1.77	1.85	1.93	2.02	2.11
	29°				1.39	1.43	1.47	1.52	1.58	1.63	1.70	1.76	1.84	1.92	2.01	2.10	2.19	2.29	2.39
	30°				1.57	1.61	1.66	1.72	1.78	1.84	1.91	1.98	2.07	2.15	2.25	2.35	2.45	2.56	2.67
	31°				1.75	1.80	1.86	1.92	1.98	2.05	2.13	2.21	2.30	2.39	2.49	2.60	2.71	2.83	2.94
	32°				1.94	2.00	2.06	2.13	2.20	2.27	2.35	2.44	2.53	2.63	2.74	2.86	2.97	3.09	3.22
	33°					2.20	2.27	2.34	2.42	2.50	2.58	2.67	2.77	2.88	2.99	3.12	3.24	3.37	3.51
	34°					2.41	2.48	2.56	2.64	2.72	2.81	2.91	3.02	3.13	3.25	3.38	3.51	3.65	3.79
	35°					2.62	2.70	2.78	2.86	2.95	3.05	3.16	3.27	3.39	3.51	3.64	3.78	3.93	4.08
	36°					2.83	2.91	3.00	3.09	3.19	3.29	3.41	3.53	3.65	3.78	3.91	4.05	4.21	4.37
	37°						3.13	3.23	3.33	3.43	3.54	3.65	3.78	3.91	4.04	4.18	4.33	4.49	4.65
	38°						3.36	3.47	3.57	3.68	3.79	3.91	4.03	4.17	4.31	4.46	4.61	4.77	4.94
	39°						3.59	3.70	3.81	3.93	4.05	4.17	4.44	4.58	4.74	4.90	5.06	5.06	5.23
	40°						3.82	3.94	4.06	4.18	4.31	4.44	4.57	4.71	4.86	5.02	5.19	5.36	5.53

TABLE II (continued)



Tables of correction

COMPENDIUM OF INTERNATIONAL ANALYSIS OF METHODS-OIV  
 Alcoholic strength by volume

International alcoholic strength at 20°C

Table of Corrections to be applied to the apparent alcoholic strength to correct for the effect of temperature

Add or subtract from the apparent alcoholic strength at  $t^{\circ}\text{C}$  (ordinary glass alcohol meter) the correction indicated below

	Apparent alcoholic strength at $t^{\circ}\text{C}$																	
	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	

# COMPENDIUM OF INTERNATIONAL METHODS OF WINE AND MUST ANALYSIS

## Tables of correction

Temperatures	To add	0°	3.49	4.02	4.56	5.11	5.65	6.16	6.63	7.05	7.39	7.67	7.91	8.07	8.20	8.30	8.36	8.39	8.40	
		1°	3.40	3.87	4.36	4.86	5.35	5.82	6.26	6.64	6.96	7.23	7.45	7.62	7.75	7.85	7.91	7.95	7.96	7.96
		2°	3.29	3.72	4.17	4.61	5.05	5.49	5.89	6.25	6.55	6.81	7.02	7.18	7.31	7.40	7.47	7.51	7.53	7.53
		3°	3.16	3.55	3.95	4.36	4.77	5.17	5.53	5.85	6.14	6.39	6.59	6.74	6.86	6.97	7.03	7.07	7.09	7.09
		4°	3.03	3.38	3.75	4.11	4.48	4.84	5.17	5.48	5.74	5.97	6.16	6.31	6.43	6.53	6.59	6.63	6.66	6.66
		5°	2.89	3.21	3.54	3.86	4.20	4.52	4.83	5.11	5.35	5.56	5.74	5.89	6.00	6.10	6.16	6.20	6.23	6.23
		6°	2.74	3.02	3.32	3.61	3.91	4.21	4.49	4.74	4.96	5.16	5.33	5.47	5.58	5.67	5.73	5.77	5.80	5.80
		7°	2.58	2.83	3.10	3.36	3.63	3.90	4.15	4.38	4.58	4.77	4.92	5.05	5.15	5.24	5.30	5.34	5.37	5.37
		8°	2.42	2.65	2.88	3.11	3.35	3.59	3.81	4.02	4.21	4.38	4.52	4.64	4.74	4.81	4.87	4.92	4.95	4.95
		9°	2.24	2.44	2.65	2.86	3.07	3.28	3.48	3.67	3.84	3.99	4.12	4.23	4.32	4.39	4.45	4.50	4.53	4.53
		10°	2.06	2.24	2.43	2.61	2.80	2.98	3.16	3.33	3.48	3.61	3.73	3.83	3.91	3.98	4.03	4.08	4.11	4.11
		11°	1.88	2.03	2.20	2.36	2.52	2.68	2.83	2.98	3.12	3.24	3.34	3.43	3.50	3.57	3.62	3.66	3.69	3.69
		12°	1.69	1.82	1.96	2.10	2.24	2.38	2.51	2.64	2.76	2.87	2.96	3.04	3.10	3.16	3.21	3.25	3.27	3.27
		13°	1.49	1.61	1.73	1.84	1.96	2.08	2.20	2.31	2.41	2.50	2.58	2.65	2.71	2.76	2.80	2.83	2.85	2.85
		14°	1.29	1.39	1.49	1.58	1.68	1.78	1.88	1.97	2.06	2.13	2.20	2.26	2.31	2.36	2.39	2.42	2.44	2.44
		15°	1.09	1.16	1.24	1.32	1.40	1.48	1.56	1.64	1.71	1.77	1.83	1.88	1.92	1.96	1.98	2.01	2.03	2.03
		16°	0.88	0.94	1.00	1.06	1.12	1.19	1.25	1.31	1.36	1.41	1.46	1.50	1.53	1.56	1.58	1.60	1.62	1.62
		17°	0.67	0.71	0.75	0.80	0.84	0.89	0.94	0.98	1.02	1.05	1.09	1.12	1.14	1.17	1.18	1.20	1.21	1.21
		18°	0.45	0.48	0.51	0.53	0.56	0.59	0.62	0.65	0.68	0.70	0.72	0.74	0.76	0.78	0.79	0.80	0.81	0.81
19°	0.23	0.24	0.25	0.27	0.28	0.30	0.31	0.33	0.34	0.35	0.36	0.37	0.38	0.39	0.40	0.41	0.41	0.41		

TABLE II (continued)

Tables of correction

COMPENDIUM OF INTERNATIONAL ANALYSIS OF METHODS-OIV  
 Alcoholic strength by volume

International alcoholic strength at 20°C

Table of Corrections to be applied to the apparent alcoholic strength to correct for the effect of temperature

Add or subtract from the apparent alcoholic strength at  $t^{\circ}\text{C}$  (ordinary glass alcohol meter) the correction indicated below

	Apparent alcoholic strength at $t^{\circ}\text{C}$																
	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

# COMPENDIUM OF INTERNATIONAL METHODS OF WINE AND MUST ANALYSIS

## Tables of correction

Temperatures	21°		0.23	0.25	0.26	0.28	0.29	0.30	0.31	0.33	0.34	0.35	0.35	0.37	0.38	0.38	0.39	0.39	0.40
	22°		0.47	0.49	0.52	0.55	0.57	0.60	0.62	0.65	0.67	0.70	0.72	0.74	0.75	0.76	0.78	0.79	0.80
	23°		0.70	0.74	0.78	0.82	0.86	0.90	0.93	0.97	1.01	1.04	1.07	1.10	1.12	1.15	1.17	1.18	1.19
	24°		0.94	0.99	1.04	1.10	1.15	1.20	1.25	1.29	1.34	1.39	1.43	1.46	1.50	1.53	1.55	1.57	1.59
	25°		1.19	1.25	1.31	1.37	1.43	1.49	1.56	1.62	1.68	1.73	1.78	1.83	1.87	1.90	1.94	1.97	1.99
	26°		1.43	1.50	1.57	1.65	1.73	1.80	1.87	1.94	2.01	2.07	2.13	2.19	2.24	2.28	2.32	2.35	2.38
	27°		1.68	1.76	1.84	1.93	2.01	2.10	2.18	2.26	2.34	2.41	2.48	2.55	2.61	2.66	2.70	2.74	2.77
	28°		1.93	2.02	2.11	2.21	2.31	2.40	2.49	2.58	2.67	2.76	2.83	2.90	2.98	3.03	3.08	3.13	3.17
	29°		2.19	2.29	2.39	2.50	2.60	2.70	2.81	2.91	3.00	3.09	3.18	3.26	3.34	3.40	3.46	3.51	3.55
	30°		2.45	2.56	2.67	2.78	2.90	3.01	3.12	3.23	3.34	3.44	3.53	3.62	3.70	3.77	3.84	3.90	3.95
	31°	To subtract	2.71	2.83	2.94	3.07	3.19	3.31	3.43	3.55	3.67	3.78	3.88	3.98	4.07	4.15	4.22	4.28	4.33
	32°		2.97	3.09	3.22	3.36	3.49	3.62	3.74	3.87	4.00	4.11	4.22	4.33	4.43	4.51	4.59	4.66	4.72
	33°		3.24	3.37	3.51	3.65	3.79	3.92	4.06	4.20	4.33	4.45	4.57	4.68	4.79	4.88	4.97	5.04	5.10
	34°		3.51	3.65	3.79	3.94	4.09	4.23	4.37	4.52	4.66	4.79	4.91	5.03	5.15	5.25	5.34	5.42	5.49
	35°		3.78	3.93	4.08	4.23	4.38	4.53	4.69	4.84	4.98	5.12	5.26	5.38	5.50	5.61	5.71	5.80	5.87
	36°		4.05	4.21	4.37	4.52	4.68	4.84	5.00	5.16	5.31	5.46	5.60	5.73	5.86	5.97	6.08	6.17	6.25
	37°		4.33	4.49	4.65	4.82	4.98	5.15	5.31	5.48	5.64	5.80	5.95	6.09	6.22	6.33	6.44	6.54	6.63
38°		4.61	4.77	4.94	5.12	5.29	5.46	5.63	5.80	5.97	6.13	6.29	6.43	6.57	6.69	6.81	6.92	7.01	
39°		4.90	5.06	5.23	5.41	5.59	5.77	5.94	6.12	6.30	6.47	6.63	6.78	6.93	7.06	7.18	7.29	7.39	
40°		5.19	5.36	5.53	5.71	5.90	6.08	6.26	6.44	6.62	6.80	6.97	7.13	7.28	7.41	7.54	7.66	7.76	

TABLE III International alcoholic strength at 20°C

# COMPENDIUM OF INTERNATIONAL METHODS OF WINE AND MUST ANALYSIS

## Tables of correction

COMPENDIUM OF INTERNATIONAL ANALYSIS OF METHODS-OIV  
Alcoholic strength by volume

Table of apparent densities of ethanol-water mixtures - Ordinary glass

apparatus Densities at  $t^{\circ}\text{C}$  corrected for air buoyancy

$t^{\circ}$	Alcoholic strength in %																							
	0	1	2	3	4	5	6	7	8	9	10	11	0	1	2	3	4	5	6	7	8	9	10	11
0	999.34	1.52	997.82	1.45	996.37	1.39	994.98	1.35	993.63	1.29	992.34	1.24	991.10	1.18	989.92	1.15	988.77	1.09	987.68	1.05	986.63	1.00	985.63	0.96
1	-0.09		-0.09		-0.09		-0.08		-0.08		-0.08		-0.07		-0.05		-0.05		-0.04		-0.03		-0.02	
1	999.43	1.52	997.91	1.45	996.46	1.40	995.06	1.35	993.71	1.29	992.42	1.25	991.17	1.20	989.97	1.15	988.82	1.10	987.72	1.06	986.66	1.01	985.65	0.97
2	-0.06		-0.06		-0.06		-0.06		-0.06		-0.05		-0.05		-0.04		-0.03		-0.02		0.02		-0.01	
2	999.49	1.52	997.97	1.40	996.52	1.40	995.12	1.35	993.77	1.30	992.47	1.25	991.22	1.21	990.01	1.16	988.85	1.11	987.74	1.06	986.68	1.02	985.66	0.98
3	-0.05		-0.05		-0.04		-0.04		-0.04		-0.04		-0.03		-0.03		-0.03		-0.02		0.00		0.01	
3	999.54	1.52	998.02	1.46	996.56	1.40	995.16	1.35	993.81	1.30	992.51	1.26	991.25	1.21	990.04	1.16	988.88	1.12	987.76	1.08	986.68	1.03	985.65	0.99
4	-0.03		-0.03		-0.03		-0.03		-0.02		-0.02		-0.02		-0.01		0.00		0.01		0.01		0.02	
4	999.57	1.52	998.05	1.46	996.59	1.40	995.19	1.36	993.83	1.30	992.53	1.26	991.27	1.22	990.05	1.17	988.88	1.13	987.75	1.08	986.67	1.04	985.63	1.00
5	-0.02		-0.02		-0.02		-0.02		-0.02		-0.01		0.00		0.00		0.00		0.01		0.02		0.03	

# COMPENDIUM OF INTERNATIONAL METHODS OF WINE AND MUST ANALYSIS

## Tables of correction

5	999.59	1.52	998.07	1.46	996.61	1.40	995.21	1.36	993.85	1.31	992.54	1.27	991.27	1.22	990.05	1.17	988.88	1.14	987.74	1.09	986.65	1.05	985.60	1.02
	0.00		0.00		0.00		0.01		0.01		0.01		0.01		0.02		0.03		0.03		0.04		0.06	
6	999.59	1.52	998.07	1.46	996.61	1.41	995.20	1.36	993.84	1.31	992.53	1.27	991.26	1.23	990.03	1.18	988.85	1.14	987.71	1.10	986.61	1.07	985.54	1.02
	0.01		0.01		0.01		0.01		0.01		0.02		0.02		0.02		0.03		0.04		0.05		0.06	
7	999.58	1.52	998.06	1.46	996.60	1.41	995.19	1.36	993.83	1.32	992.51	1.27	991.24	1.23	990.01	1.19	988.82	1.15	987.67	1.11	986.56	1.08	985.48	1.04
	0.03		0.03		0.03		0.03		0.04		0.04		0.05		0.05		0.06		0.07		0.07		0.08	
8	999.55	1.52	998.03	1.46	996.57	1.41	995.16	1.37	993.79	1.32	992.47	1.28	991.19	1.23	989.96	1.20	988.76	1.16	987.60	1.11	986.49	1.09	985.40	1.05
	0.04		0.04		0.04		0.04		0.04		0.04		0.05		0.06		0.06		0.06		0.08		0.08	
9	999.51	1.52	997.99	1.46	996.53	1.41	995.12	1.37	993.75	1.32	992.43	1.29	991.14	1.24	989.90	1.20	988.70	1.16	987.54	1.13	986.41	1.09	985.32	1.06
	0.06		0.06		0.06		0.06		0.06		0.07		0.07		0.07		0.08		0.09		0.10		0.11	
10	999.45	1.52	997.93	1.46	996.47	1.41	995.06	1.37	993.69	1.33	992.36	1.29	991.07	1.24	989.83	1.21	988.62	1.17	987.45	1.14	986.31	1.10	985.21	1.07
	0.07		0.06		0.06		0.07		0.07		0.07		0.07		0.08		0.09		0.10		0.10		0.11	
11	999.38	1.51	997.87	1.46	996.41	1.42	994.99	1.37	993.62	1.33	992.29	1.29	991.00	1.25	989.75	1.22	988.53	1.18	987.35	1.14	986.21	1.11	985.10	1.08
	0.09		0.09		0.09		0.09		0.09		0.09		0.10		0.11		0.11		0.11		0.12		0.13	
12	999.29	1.51	997.78	1.46	996.32	1.42	994.90	1.37	993.53	1.33	992.20	1.30	990.90	1.26	989.64	1.22	988.42	1.18	987.24	1.15	986.10	1.12	984.97	1.09
	0.09		0.09		0.09		0.09		0.10		0.10		0.10		0.10		0.11		0.12		0.13		0.14	
13	999.20	1.51	997.69	1.46	996.23	1.42	994.81	1.38	993.43	1.33	992.10	1.30	990.80	1.26	989.54	1.23	988.31	1.19	987.12	1.16	985.96	1.13	984.83	1.10
	0.11		0.11		0.11		0.11		0.11		0.12		0.12		0.13		0.13		0.14		0.15		0.16	
14	999.09	1.51	997.58	1.46	996.12	1.42	994.70	1.38	993.32	1.34	991.98	1.30	990.68	1.27	989.41	1.23	988.18	1.20	986.98	1.17	985.81	1.14	984.67	1.11
	0.12		0.12		0.12		0.12		0.12		0.12		0.13		0.13		0.14		0.14		0.15		0.16	
15	998.97	1.51	997.46	1.46	996.00	1.42	994.58	1.38	993.20	1.34	991.86	1.31	990.55	1.27	989.28	1.24	988.04	1.20	986.94	1.18	985.66	1.15	984.51	1.12
	0.13		0.13		0.13		0.13		0.14		0.14		0.14		0.15		0.15		0.17		0.17		0.18	
16	998.84	1.51	997.33	1.46	995.87	1.42	994.45	1.39	993.06	1.34	991.72	1.31	990.41	1.28	989.13	1.24	987.89	1.22	986.67	1.18	985.49	1.16	984.33	1.13
	0.14		0.14		0.14		0.14		0.14		0.15		0.15		0.15		0.16		0.17		0.17		0.18	
17	998.70	1.51	997.19	1.46	995.73	1.42	994.31	1.39	992.92	1.35	991.57	1.31	990.26	1.28	988.98	1.25	987.73	1.22	986.50	1.18	985.32	1.17	984.15	1.14
	0.15		0.15		0.16		0.16		0.16		0.16		0.17		0.17		0.18		0.18		0.19		0.19	
18	998.55	1.51	997.04	1.47	995.57	1.42	994.15	1.39	992.76	1.35	991.41	1.32	990.09	1.28	988.81	1.26	987.55	1.23	986.32	1.19	985.13	1.17	983.96	1.15
	0.17		0.16		0.16		0.16		0.16		0.16		0.17		0.18		0.18		0.19		0.20		0.21	
19	998.38	1.50	996.88	1.47	995.41	1.42	993.99	1.39	992.60	1.35	991.25	1.33	989.92	1.29	988.63	1.26	987.37	1.24	986.13	1.20	984.93	1.18	983.75	1.16
	0.18		0.18		0.18		0.18		0.19		0.19		0.19		0.20		0.21		0.22		0.22		0.23	
20	998.20	1.50	996.70	1.47	995.23	1.42	993.81	1.40	992.41	1.35	991.06	1.33	989.73	1.30	988.43	1.27	987.16	1.24	985.92	1.21	984.71	1.19	983.52	1.17

TABLE III (continued) International alcoholic strength at 20°C

# COMPENDIUM OF INTERNATIONAL METHODS OF WINE AND MUST ANALYSIS

## Tables of correction

COMPENDIUM OF INTERNATIONAL ANALYSIS OF METHODS-OIV  
Alcoholic strength by volume

Table of apparent densities of ethanol-water mixtures – Ordinary glass apparatus Densities at  $t^{\circ}\text{C}$  corrected for air buoyancy

Alcoholic strength in %															
$t^{\circ}$	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
20	998.20	1.50996.70	1.47995.23	1.42993.81	1.40992.41	1.35991.06	1.33989.73	1.30988.43	1.27987.16	1.24985.92	1.21984.71	1.19983.52	1.17		
	0.19	0.19	0.19	0.19	0.19	0.20	0.20	0.21	0.21	0.22	0.23	0.23			
21	998.01	1.50996.51	1.47995.04	1.42993.62	1.40992.22	1.36990.86	1.33989.53	1.31988.22	1.27986.95	1.25985.70	1.22984.48	1.19983.29	1.17		
	0.20	0.20	0.19	0.20	0.20	0.20	0.21	0.21	0.22	0.22	0.23	0.24			
22	987.81	1.50996.31	1.46994.85	1.43993.42	1.40992.02	1.36990.66	1.34989.32	1.31988.01	1.28986.73	1.25985.48	1.23984.25	1.20983.05	1.18		
	0.21	0.21	0.21	0.21	0.21	0.22	0.22	0.22	0.23	0.24	0.24	0.25			
23	997.60	1.50996.10	1.46994.64	1.43993.21	1.40991.81	1.37990.44	1.34989.10	1.31987.79	1.29986.50	1.26985.24	1.23984.01	1.21982.80	1.19		
	0.21	0.21	0.22	0.22	0.22	0.22	0.23	0.23	0.23	0.24	0.25	0.26			
24	997.39	1.50995.89	1.47994.42	1.43992.99	1.40991.59	1.37990.22	1.35988.87	1.31987.56	1.29986.27	1.27985.00	1.24983.76	1.22982.54	1.20		

# COMPENDIUM OF INTERNATIONAL METHODS OF WINE AND MUST ANALYSIS

## Tables of correction

	0.23	0.23	0.23	0.23	0.24	0.24	0.24	0.25	0.25	0.25	0.26	0.27												
25	997.16	1.50	995.66	1.47	994.19	1.43	992.76	1.41	991.35	1.37	989.98	1.35	988.63	1.32	987.31	1.29	986.02	1.27	984.75	1.25	983.50	1.23	982.27	1.21
	0.23	0.23	0.23	0.24	0.24	0.24	0.24	0.25	0.26	0.27	0.27	0.28												
26	996.93	1.50	995.43	1.47	993.96	1.44	992.52	1.41	991.11	1.37	989.74	1.35	988.39	1.33	987.06	1.30	985.76	1.28	984.48	1.25	983.23	1.24	981.99	1.22
	0.25	0.25	0.25	0.25	0.25	0.26	0.26	0.26	0.27	0.28	0.29	0.29												
27	996.68	1.50	995.18	1.47	993.71	1.44	992.27	1.41	990.86	1.38	989.48	1.35	988.13	1.33	986.80	1.31	985.49	1.29	994.20	1.26	982.94	1.24	981.70	1.23
	0.25	0.25	0.26	0.26	0.26	0.26	0.27	0.28	0.28	0.28	0.29	0.30												
28	996.43	1.50	994.93	1.48	993.45	1.44	992.01	1.41	990.60	1.38	989.22	1.36	987.86	1.34	986.52	1.31	985.21	1.29	983.92	1.27	982.65	1.25	981.40	1.23
	0.26	0.27	0.27	0.27	0.27	0.28	0.28	0.28	0.28	0.29	0.29	0.30	0.31											
29	996.17	1.51	994.66	1.48	993.18	1.44	991.74	1.41	990.33	1.39	988.94	1.36	987.58	1.34	986.24	1.32	984.92	1.29	983.63	1.28	982.35	1.26	981.09	1.24
	0.27	0.27	0.27	0.28	0.28	0.28	0.28	0.29	0.29	0.30	0.31	0.32												
30	995.90	1.51	994.39	1.48	992.91	1.45	991.46	1.41	990.05	1.39	988.66	1.37	987.29	1.34	985.95	1.32	984.63	1.30	983.33	1.29	982.04	1.27	980.77	1.25
	0.29	0.29	0.29	0.29	0.30	0.30	0.30	0.31	0.31	0.31	0.32	0.32	0.32											
31	995.61	1.51	994.10	1.48	992.62	1.45	991.17	1.42	989.75	1.39	988.36	1.37	986.99	1.35	985.64	1.33	984.31	1.30	983.01	1.29	981.72	1.27	980.45	1.26
	0.29	0.29	0.29	0.29	0.30	0.31	0.31	0.31	0.31	0.31	0.32	0.33	0.34											
32	995.32	1.51	993.81	1.48	992.33	1.45	990.88	1.42	989.45	1.40	988.05	1.37	986.68	1.35	985.33	1.33	984.00	1.31	982.69	1.30	981.39	1.28	980.11	1.26
	0.30	0.31	0.31	0.31	0.31	0.31	0.31	0.32	0.33	0.33	0.33	0.34	0.34											
33	995.02	1.52	993.50	1.48	992.02	1.45	990.57	1.43	989.14	1.40	987.74	1.37	986.37	1.36	985.01	1.34	983.67	1.31	982.36	1.31	981.05	1.28	979.77	1.27
	0.30	0.31	0.31	0.31	0.31	0.32	0.33	0.33	0.33	0.33	0.34	0.34	0.35											
34	994.72	1.53	993.19	1.48	991.71	1.45	990.26	1.43	988.83	1.41	987.42	1.38	986.04	1.36	984.68	1.34	983.34	1.32	982.02	1.31	980.71	1.29	979.42	1.28
	0.32	0.32	0.32	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.34	0.34	0.35											
35	994.40	1.53	992.87	1.48	991.39	1.46	989.93	1.43	988.50	1.41	987.09	1.38	985.71	1.36	984.35	1.34	983.01	1.33	981.68	1.31	980.37	1.30	979.07	1.29
	0.32	0.32	0.33	0.33	0.33	0.33	0.34	0.34	0.35	0.35	0.35	0.36	0.37											
36	994.08	1.53	992.55	1.49	991.06	1.46	989.60	1.43	988.17	1.41	986.76	1.39	985.37	1.36	984.01	1.35	982.66	1.33	981.33	1.32	980.01	1.31	978.70	1.29
	0.33	0.34	0.34	0.34	0.35	0.35	0.35	0.35	0.36	0.36	0.36	0.37	0.37											
37	993.75	1.54	992.21	1.49	990.72	1.46	989.26	1.44	987.82	1.41	986.41	1.39	985.02	1.37	983.65	1.35	982.30	1.33	980.97	1.32	979.65	1.32	978.33	1.30
	0.34	0.34	0.35	0.36	0.36	0.36	0.36	0.36	0.37	0.38	0.38	0.38	0.38											
38	993.41	1.54	991.87	1.50	990.37	1.47	988.90	1.44	987.46	1.41	986.05	1.39	984.66	1.37	983.29	1.36	981.93	1.34	980.59	1.32	979.27	1.32	977.95	1.31
	0.35	0.35	0.36	0.36	0.36	0.37	0.37	0.37	0.37	0.38	0.38	0.39	0.39											
39	993.06	1.54	991.52	1.51	990.01	1.47	988.54	1.44	987.10	1.41	985.68	1.39	984.29	1.37	982.92	1.36	981.56	1.34	980.22	1.33	978.89	1.33	977.56	1.31
	0.35	0.36	0.36	0.37	0.38	0.38	0.38	0.38	0.38	0.38	0.39	0.39	0.39											
40	992.71	1.55	991.16	1.51	989.65	1.48	988.17	1.45	986.72	1.42	985.30	1.39	983.91	1.37	982.54	1.36	981.18	1.35	979.83	1.33	978.50	1.33	977.17	1.32

TABLE III (continued) International alcoholic strength in 20°C



# COMPENDIUM OF INTERNATIONAL METHODS OF WINE AND MUST ANALYSIS

## Tables of correction

COMPENDIUM OF INTERNATIONAL ANALYSIS OF METHODS-OIV  
Alcoholic strength by volume

Table of apparent densities of ethanol-water mixtures – Ordinary glass apparatus Densities at  $t^{\circ}\text{C}$  corrected for air buoyancy

$t^{\circ}$	Alcoholic strength in %																																			
	10	11	12	13	14	15	16	17	18	19	20	21	10	11	12	13	14	15	16	17	18	19	20	21												
0	986.63	1.00	985.63	0.96	984.67	0.92	983.75	0.87	982.88	0.84	982.04	0.81	981.23	0.77	980.46	0.75	979.71	0.73	978.98	0.72	978.26	0.70	977.56	0.70												
1	-0.03	-0.02	-0.01	0.00	0.02	0.04	0.05	0.07	0.09	0.11	0.13	0.15	986.66	1.01	985.65	0.97	984.68	0.93	983.75	0.89	982.86	0.86	982.00	0.82	981.18	0.79	980.39	0.77	979.62	0.75	978.87	0.74	978.13	0.72	977.41	0.72
2	-0.02	-0.01	0.00	0.01	0.03	0.04	0.06	0.08	0.10	0.12	0.14	0.17	986.68	1.02	985.66	0.98	984.68	0.94	983.74	0.91	982.83	0.87	981.96	0.84	981.12	0.81	980.31	0.79	979.52	0.77	978.75	0.76	977.99	0.75	977.24	0.74
3	0.00	0.01	0.02	0.04	0.05	0.06	0.08	0.10	0.12	0.14	0.16	0.18	986.68	1.03	985.65	0.99	984.66	0.96	983.70	0.92	982.78	0.88	981.90	0.86	981.04	0.83	980.21	0.81	979.40	0.79	978.61	0.78	977.83	0.77	977.06	0.76
4	0.01	0.02	0.03	0.04	0.05	0.07	0.08	0.10	0.12	0.14	0.16	0.18	986.67	1.04	985.63	1.00	984.63	0.97	983.66	0.93	982.73	0.90	981.83	0.87	980.96	0.85	980.11	0.83	979.28	0.81	978.47	0.80	977.67	0.79	976.88	0.79

# COMPENDIUM OF INTERNATIONAL METHODS OF WINE AND MUST ANALYSIS

## Tables of correction

	0.02	0.03	0.05	0.06	0.08	0.09	0.11	0.13	0.14	0.16	0.18	0.20												
5	986.65	1.05	985.60	1.02	984.58	0.98	983.60	0.95	982.65	0.91	981.74	0.89	980.85	0.87	979.98	0.84	979.11	0.83	978.31	0.82	977.49	0.81	976.68	0.81
	0.04	0.06	0.06	0.07	0.08	0.10	0.11	0.13	0.15	0.17	0.19	0.21												
6	986.61	1.07	985.54	1.02	984.52	0.99	983.53	0.96	982.57	0.93	981.64	0.90	980.74	0.89	979.85	0.86	978.99	0.85	978.14	0.84	977.30	0.83	976.47	0.83
	0.05	0.06	0.08	0.09	0.10	0.12	0.14	0.15	0.17	0.19	0.20	0.22												
7	986.56	1.08	985.48	1.04	994.44	1.00	983.44	0.97	982.47	0.95	981.52	0.92	980.60	0.90	979.70	0.88	978.82	0.87	977.95	0.85	977.10	0.85	976.25	0.85
	0.07	0.08	0.09	0.10	0.11	0.12	0.14	0.16	0.18	0.19	0.21	0.23												
8	986.49	1.09	985.40	1.05	984.35	1.01	983.34	0.98	982.36	0.96	981.40	0.94	980.46	0.92	979.54	0.90	978.64	0.88	977.76	0.87	976.89	0.87	976.02	0.97
	0.08	0.08	0.09	0.11	0.13	0.14	0.15	0.16	0.18	0.20	0.22	0.24												
9	986.41	1.09	985.32	1.06	984.26	1.03	983.23	1.00	982.23	0.97	981.26	0.95	980.31	0.93	979.38	0.92	978.48	0.90	977.56	0.89	976.67	0.89	975.78	0.89
	0.10	0.11	0.12	0.13	0.14	0.16	0.17	0.18	0.19	0.21	0.23	0.25												
10	986.31	1.10	985.21	1.07	984.14	1.04	983.10	1.01	982.09	0.99	981.10	0.96	980.14	0.94	979.20	0.93	918.27	0.92	977.35	0.91	976.44	0.91	975.53	0.91
	0.10	0.11	0.12	0.13	0.15	0.16	0.17	0.19	0.21	0.23	0.25	0.27												
11	986.21	1.11	985.10	1.08	984.02	1.05	982.97	1.03	981.94	1.00	980.94	0.97	979.97	0.96	979.01	0.95	978.06	0.94	977.12	0.93	976.19	0.93	975.26	0.92
	0.12	0.13	0.14	0.15	0.16	0.17	0.19	0.21	0.22	0.24	0.26	0.27												
12	986.09	1.12	984.97	1.09	983.88	1.06	982.82	1.04	981.78	1.01	980.77	0.99	979.78	0.98	978.80	0.96	977.84	0.96	976.88	0.95	975.93	0.94	974.99	0.94
	0.13	0.14	0.15	0.16	0.17	0.19	0.20	0.21	0.23	0.24	0.26	0.28												
13	985.96	1.13	984.83	1.10	983.73	1.07	982.66	1.05	981.61	1.03	980.58	1.00	979.58	0.99	978.59	0.98	977.61	0.97	976.64	0.97	975.67	0.96	974.71	0.96
	0.15	0.16	0.17	0.18	0.19	0.20	0.22	0.23	0.24	0.26	0.27	0.29												
14	985.81	1.14	984.67	1.11	983.56	1.08	982.48	1.06	981.42	1.04	980.38	1.02	979.36	1.00	978.36	0.99	977.37	0.99	976.38	0.98	975.40	0.98	974.42	0.98
	0.15	0.16	0.17	0.18	0.19	0.20	0.22	0.24	0.26	0.27	0.28	0.30												
15	985.66	1.15	984.51	1.12	983.39	1.09	982.30	1.07	981.23	1.05	980.18	1.04	979.14	1.02	978.12	1.01	977.11	1.00	976.11	0.99	975.12	1.00	974.12	1.00
	0.17	0.18	0.19	0.20	0.21	0.22	0.23	0.25	0.26	0.28	0.30	0.31												
16	985.49	1.16	984.33	1.13	983.20	1.10	982.10	1.08	981.02	1.06	979.96	1.05	978.91	1.04	977.87	1.02	976.85	1.02	975.83	1.01	974.82	1.01	973.81	1.02
	0.17	0.18	0.19	0.20	0.21	0.23	0.24	0.25	0.27	0.29	0.30	0.31												
17	985.32	1.17	984.15	1.14	983.01	1.11	981.90	1.09	980.81	1.08	979.73	1.06	978.67	1.05	977.62	1.04	976.58	1.04	975.54	1.02	974.52	1.02	973.95	1.04
	0.19	0.19	0.20	0.22	0.24	0.25	0.26	0.27	0.28	0.29	0.31	0.33												
18	985.13	1.17	983.96	1.15	982.81	1.13	981.68	1.11	980.57	1.09	979.48	1.07	978.41	1.06	977.35	1.05	976.30	1.05	975.25	1.04	974.21	1.04	973.17	1.05
	0.20	0.21	0.22	0.23	0.24	0.25	0.26	0.27	0.29	0.30	0.32	0.34												
19	984.93	1.18	983.75	1.16	982.59	1.14	981.45	1.12	980.33	1.10	979.23	1.08	978.15	1.07	977.08	1.07	976.01	1.06	974.94	1.05	973.89	1.06	972.83	1.06
	0.22	0.23	0.24	0.24	0.25	0.26	0.28	0.29	0.30	0.31	0.33	0.35												
20	984.71	1.19	983.52	1.17	982.35	1.14	981.21	1.13	980.08	1.11	978.97	1.10	977.87	1.08	976.79	1.08	975.71	1.08	974.63	1.07	973.56	1.08	972.48	1.08

TABLE III (continued) International alcoholic strength in 20°C

# COMPENDIUM OF INTERNATIONAL METHODS OF WINE AND MUST ANALYSIS

## Tables of correction

COMPENDIUM OF INTERNATIONAL ANALYSIS OF METHODS-OIV  
Alcoholic strength by volume

Table of apparent densities of ethanol-water mixtures – Ordinary glass apparatus Densities at  $t^{\circ}\text{C}$  corrected for air buoyancy

Alcoholic strength in %																								
$t^{\circ}\text{C}$	10		11		12		13		14		15		16		17		18		19		20		21	
20	984.71	1.19	983.52	1.17	982.35	1.14	981.21	1.13	980.08	1.11	978.97	1.10	977.87	1.08	976.79	1.08	975.71	1.08	974.63	1.07	973.56	1.08	972.48	1.08
	0.23		0.23		0.23		0.25		0.26		0.28		0.29		0.31		0.32		0.33		0.35		0.36	
21	984.48	1.19	983.29	1.17	982.12	1.16	980.96	1.14	979.82	1.13	978.69	1.11	977.58	1.10	976.48	1.09	975.39	1.09	974.30	1.09	973.21	1.09	972.12	1.09
	0.23		0.24		0.25		0.26		0.27		0.28		0.29		0.31		0.32		0.33		0.35		0.36	
22	984.25	1.20	983.05	1.18	981.97	1.17	980.70	1.15	979.55	1.14	978.41	1.12	977.29	1.12	976.17	1.10	975.07	1.10	973.97	1.10	972.86	1.10	971.76	1.11
	0.24		0.25		0.26		0.27		0.28		0.29		0.30		0.31		0.33		0.34		0.35		0.37	
23	984.01	1.21	982.80	1.19	981.61	1.18	980.43	1.16	979.27	1.15	978.12	1.13	976.99	1.13	975.86	1.12	974.74	1.11	973.63	1.12	972.51	1.12	971.39	1.13
	0.25		0.26		0.27		0.28		0.29		0.30		0.31		0.32		0.33		0.35		0.36		0.38	
24	983.76	1.22	982.54	1.20	981.34	1.19	980.15	1.17	978.98	1.16	977.82	1.14	976.68	1.14	975.54	1.13	974.41	1.13	973.28	1.13	972.15	1.14	971.01	1.14

# COMPENDIUM OF INTERNATIONAL METHODS OF WINE AND MUST ANALYSIS

## Tables of correction

	0.26	0.27	0.28	0.29	0.30	0.31	0.32	0.33	0.35	0.36	0.38	0.39	
25	983.50	1.23 982.27	1.21 981.06	1.20 979.86	1.18 978.68	1.17 977.51	1.16 976.36	1.15 975.21	1.15 974.06	1.14 972.92	1.15 971.77	1.15 970.62	1.15
	0.27	0.28	0.29	0.29	0.30	0.31	0.33	0.34	0.35	0.37	0.38	0.39	
26	983.23	1.24 981.99	1.22 980.77	1.20 979.57	1.19 978.38	1.18 977.20	1.17 976.03	1.16 974.87	1.16 973.71	1.16 972.55	1.16 971.39	1.16 970.23	1.17
	0.29	0.29	0.30	0.31	0.32	0.33	0.34	0.36	0.37	0.38	0.39	0.41	
27	982.94	1.24 981.70	1.23 980.47	1.21 979.26	1.20 978.06	1.19 976.87	1.18 975.69	1.18 974.51	1.17 973.34	1.17 972.17	1.17 971.00	1.18 969.82	1.18
	0.29	0.30	0.30	0.31	0.32	0.33	0.35	0.36	0.38	0.39	0.40	0.41	
28	982.65	1.25 981.40	1.23 980.17	1.22 978.95	1.21 977.74	1.20 976.54	1.20 975.34	1.19 974.15	1.19 972.96	1.18 971.78	1.18 970.60	1.19 969.41	1.20
	0.30	0.31	0.32	0.33	0.34	0.35	0.36	0.37	0.38	0.39	0.40	0.42	
29	982.35	1.26 981.09	1.24 979.85	1.23 978.62	1.22 977.40	1.21 976.19	1.21 974.98	1.20 973.78	1.20 972.58	1.19 971.39	1.19 970.20	1.21 968.99	1.21
	0.31	0.32	0.33	0.34	0.35	0.36	0.37	0.38	0.38	0.40	0.42	0.43	
30	982.04	1.27 980.77	1.25 979.52	1.24 978.28	1.23 977.05	1.22 975.83	1.21 974.62	1.21 973.41	1.21 972.20	1.21 970.99	1.21 969.78	1.22 968.56	1.23
	0.32	0.32	0.33	0.34	0.35	0.36	0.37	0.38	0.39	0.40	0.42	0.43	
31	981.72	1.27 980.45	1.26 979.19	1.25 977.94	1.24 976.70	1.23 975.47	1.22 974.25	1.22 973.03	1.22 971.81	1.22 970.59	1.23 969.36	1.23 968.13	1.24
	0.33	0.34	0.34	0.35	0.36	0.37	0.38	0.39	0.40	0.42	0.43	0.45	
32	981.39	1.28 980.11	1.26 978.95	1.26 977.59	1.25 976.34	1.24 975.10	1.23 973.87	1.23 972.64	1.23 971.41	1.24 970.17	1.24 968.93	1.25 967.68	1.26
	0.34	0.34	0.35	0.35	0.36	0.37	0.39	0.40	0.41	0.42	0.43	0.45	
33	981.05	1.28 979.77	1.27 978.50	1.26 977.24	1.26 975.78	1.25 974.73	1.25 973.48	1.24 972.24	1.24 971.00	1.25 969.75	1.25 968.50	1.27 967.23	1.27
	0.34	0.35	0.36	0.37	0.38	0.39	0.40	0.41	0.42	0.43	0.45	0.45	
34	980.71	1.29 979.42	1.28 978.14	1.27 976.97	1.27 975.60	1.26 974.34	1.26 973.08	1.25 971.83	1.25 970.58	1.26 969.32	1.27 968.05	1.27 966.78	1.29
	0.34	0.35	0.36	0.37	0.38	0.39	0.40	0.41	0.43	0.44	0.45	0.47	
35	980.37	1.30 979.07	1.29 977.78	1.28 976.50	1.28 975.22	1.27 973.95	1.27 972.68	1.26 971.42	1.27 970.15	1.27 968.88	1.28 967.60	1.29 966.31	1.30
	0.36	0.37	0.37	0.38	0.38	0.39	0.40	0.42	0.43	0.44	0.45	0.47	
36	980.01	1.31 978.70	1.29 977.41	1.29 976.12	1.28 974.84	1.28 973.56	1.28 972.28	1.28 971.00	1.28 969.72	1.28 968.44	1.29 967.15	1.31 965.84	1.31
	0.36	0.37	0.38	0.39	0.40	0.41	0.42	0.43	0.44	0.45	0.46	0.47	
37	979.65	1.32 978.33	1.30 977.03	1.30 975.73	1.29 974.44	1.29 973.15	1.29 971.86	1.29 970.57	1.29 969.28	1.29 967.99	1.30 966.69	1.32 965.37	1.32
	0.38	0.38	0.39	0.39	0.40	0.41	0.42	0.43	0.44	0.46	0.47	0.48	
38	979.27	1.32 977.95	1.31 976.64	1.30 975.34	1.30 974.04	1.30 972.74	1.30 971.44	1.30 970.14	1.30 968.84	1.31 967.53	1.31 966.22	1.33 964.89	1.34
	0.38	0.39	0.39	0.40	0.41	0.42	0.43	0.44	0.45	0.46	0.48	0.49	
39	978.89	1.33 977.56	1.31 976.25	1.31 974.94	1.31 973.63	1.31 972.32	1.31 971.01	1.31 969.70	1.31 968.39	1.32 967.07	1.33 965.74	1.34 964.40	1.36
	0.39	0.39	0.40	0.41	0.42	0.42	0.43	0.45	0.47	0.48	0.49	0.50	
40	978.50	1.33 977.17	1.32 975.85	1.32 974.53	1.32 973.21	1.31 971.90	1.32 970.58	1.33 969.25	1.33 967.92	1.33 966.59	1.34 965.25	1.35 963.90	1.37

# COMPENDIUM OF INTERNATIONAL METHODS OF WINE AND MUST ANALYSIS

## Tables of correction

TABLE III (continued) International alcoholic strength in 20°C

COMPENDIUM OF INTERNATIONAL ANALYSIS OF METHODS-OIV  
Alcoholic strength by volume

Table of apparent densities of ethanol-water mixtures – Ordinary glass apparatus Densities at  $t^{\circ}\text{C}$  corrected for air buoyancy

		Alcoholic strength in %																																		
$t^{\circ}$	20	21	22	23	24	25	26	27	28	29	30	31																								
0	978.26	0.70	977.56	0.70	976.86	0.69	976.17	0.70	975.47	0.72	974.75	0.72	974.03	0.74	973.29	0.77	972.52	0.80	971.72	0.83	970.89	0.87	970.02	0.90												
1	0.13	0.15	0.17	0.20	0.22	0.24	0.27	0.30	0.32	0.35	0.37	0.39	978.13	0.72	977.41	0.72	976.69	0.72	975.97	0.72	975.25	0.74	974.51	0.75	973.76	0.77	972.99	0.79	972.20	0.83	971.37	0.85	970.52	0.89	969.63	0.93
2	0.14	0.17	0.19	0.21	0.24	0.26	0.29	0.31	0.34	0.36	0.38	0.41	977.99	0.75	977.24	0.74	976.50	0.74	975.76	0.75	975.01	0.76	974.25	0.78	973.47	0.79	972.68	0.82	971.86	0.85	971.01	0.87	970.14	0.92	969.22	0.96
3	0.16	0.18	0.20	0.23	0.25	0.27	0.29	0.32	0.34	0.36	0.38	0.40	977.83	0.77	977.06	0.76	976.30	0.77	975.53	0.77	974.76	0.78	973.98	0.80	973.18	0.82	972.36	0.84	971.52	0.87	970.65	0.89	969.76	0.94	968.82	0.98
	0.16	0.18	0.21	0.23	0.25	0.28	0.30	0.32	0.34	0.36	0.39	0.42																								

# COMPENDIUM OF INTERNATIONAL METHODS OF WINE AND MUST ANALYSIS

## Tables of correction

4	977.67	0.79	976.98	0.79	976.09	0.79	975.30	0.79	974.51	0.81	973.70	0.82	972.88	0.84	972.04	0.86	971.18	0.89	970.29	0.92	969.37	0.96	968.40	1.00
	0.18		0.20		0.22		0.24		0.26		0.28		0.30		0.33		0.35		0.38		0.40		0.41	
5	977.49	0.81	976.68	0.81	975.87	0.81	975.06	0.81	974.25	0.83	973.42	0.84	972.58	0.86	971.71	0.88	970.83	0.92	969.91	0.94	968.97	0.98	967.99	1.02
	0.19		0.21		0.23		0.25		0.27		0.30		0.33		0.34		0.37		0.39		0.41		0.43	
6	977.30	0.83	976.47	0.83	975.64	0.83	974.81	0.84	973.97	0.85	973.12	0.87	972.25	0.88	971.37	0.91	970.46	0.94	969.52	0.96	968.56	1.00	967.56	1.04
	0.20		0.22		0.24		0.26		0.28		0.30		0.32		0.35		0.37		0.39		0.41		0.43	
7	976.10	0.85	976.25	0.85	975.40	0.85	974.55	0.96	973.69	0.87	972.82	0.89	971.93	0.91	971.02	0.93	970.09	0.96	969.13	0.98	968.15	1.02	967.13	1.06
	0.21		0.23		0.25		0.27		0.29		0.31		0.33		0.35		0.37		0.39		0.42		0.44	
8	976.89	0.87	976.02	0.87	975.15	0.87	974.28	0.88	973.40	0.89	972.51	0.91	971.60	0.93	970.67	0.95	969.72	0.98	968.74	1.01	967.73	1.04	966.69	1.08
	0.22		0.24		0.26		0.28		0.30		0.32		0.34		0.36		0.39		0.41		0.43		0.45	
9	976.67	0.89	975.78	0.89	974.89	0.89	974.00	0.90	973.10	0.91	972.19	0.93	971.26	0.95	970.31	0.98	969.33	1.00	968.33	1.03	967.30	1.06	966.24	1.09
	0.23		0.25		0.27		0.29		0.31		0.33		0.35		0.37		0.39		0.41		0.43		0.45	
10	976.44	0.91	975.53	0.91	974.62	0.91	973.71	0.92	972.79	0.93	971.86	0.95	970.91	0.97	969.94	1.00	968.94	1.02	967.92	1.05	966.87	1.08	965.79	1.11
	0.25		0.27		0.28		0.30		0.32		0.34		0.36		0.38		0.40		0.42		0.44		0.45	
11	976.11	0.93	975.26	0.92	974.34	0.93	973.41	0.94	972.47	0.95	971.52	0.97	970.55	0.99	969.56	1.02	968.54	1.04	967.50	1.07	966.43	1.09	965.34	1.13
	0.26		0.27		0.29		0.31		0.33		0.35		0.37		0.39		0.40		0.42		0.44		0.46	
12	975.93	0.94	974.99	0.94	974.05	0.95	973.10	0.96	972.14	0.97	971.17	0.99	970.18	1.01	969.17	1.03	968.14	1.06	967.08	1.09	965.99	1.11	964.88	1.15
	0.26		0.28		0.30		0.32		0.34		0.36		0.38		0.39		0.41		0.43		0.45		0.47	
13	975.67	0.96	974.71	0.96	973.75	0.97	972.78	0.98	971.80	0.99	970.81	1.01	969.80	1.02	968.78	1.05	967.73	1.08	966.65	1.11	965.54	1.13	964.41	1.17
	0.27		0.29		0.31		0.33		0.35		0.37		0.38		0.40		0.42		0.44		0.45		0.47	
14	975.40	0.98	974.42	0.98	973.44	0.99	972.45	1.00	971.45	1.01	970.44	1.02	969.42	1.04	968.38	1.07	967.31	1.10	966.21	1.12	965.09	1.15	963.94	1.19
	0.28		0.30		0.32		0.33		0.35		0.37		0.39		0.41		0.43		0.45		0.47		0.49	
15	975.12	1.00	974.12	1.00	973.12	1.00	972.12	1.02	971.10	1.03	970.07	1.04	969.03	1.06	967.97	1.09	966.88	1.12	965.76	1.14	964.62	1.17	963.45	1.20
	0.30		0.31		0.33		0.35		0.36		0.38		0.40		0.42		0.44		0.45		0.47		0.49	
16	974.82	1.01	973.81	1.02	972.79	1.02	971.77	1.03	970.74	1.05	969.69	1.06	968.63	1.08	967.55	1.11	966.44	1.13	965.31	1.16	964.15	1.19	962.96	1.22
	0.30		0.31		0.33		0.35		0.37		0.38		0.40		0.42		0.43		0.45		0.47		0.49	
17	974.52	1.02	973.50	1.04	972.46	1.04	971.42	1.05	970.37	1.06	969.31	1.08	968.23	1.10	967.13	1.12	966.01	1.15	964.86	1.18	963.68	1.21	962.47	1.24
	0.31		0.33		0.34		0.36		0.38		0.40		0.42		0.43		0.45		0.47		0.48		0.50	
18	974.21	1.04	973.17	1.05	972.12	1.06	971.06	1.07	969.99	1.08	968.91	1.10	967.81	1.11	966.70	1.14	965.56	1.17	964.39	1.19	963.20	1.23	961.97	1.26
	0.32		0.34		0.35		0.36		0.38		0.40		0.42		0.44		0.46		0.47		0.49		0.50	
19	973.89	1.06	972.83	1.06	971.77	1.07	970.70	1.09	969.61	1.10	968.51	1.11	967.39	1.13	966.26	1.16	965.10	1.18	963.92	1.21	962.71	1.24	961.47	1.28
	0.33		0.35		0.37		0.39		0.40		0.41		0.42		0.45		0.46		0.48		0.51		0.52	
20	973.56	1.08	972.48	1.08	971.40	1.09	970.31	1.10	969.21	1.11	968.10	1.13	966.97	1.14	965.81	1.17	964.64	1.20	963.44	1.23	962.21	1.26	960.95	1.29

TABLE III (continued) International alcoholic strength in 20°C

# COMPENDIUM OF INTERNATIONAL METHODS OF WINE AND MUST ANALYSIS

## Tables of correction

COMPENDIUM OF INTERNATIONAL ANALYSIS OF METHODS-OIV  
Alcoholic strength by volume

Table of apparent densities of ethanol-water mixtures – Ordinary glass apparatus Densities at  $t^{\circ}\text{C}$  corrected for air buoyancy

$t^{\circ}$	Alcoholic strength at %																							
	20		21		22		23		24		25		26		27		28		29		30		31	
20	973.56	1.08	972.48	1.08	971.40	1.09	970.31	1.10	969.21	1.11	968.10	1.13	966.97	1.16	965.81	1.17	964.64	1.20	963.44	1.23	962.21	1.26	960.95	1.29
	0.35		0.36		0.37		0.39		0.40		0.42		0.44		0.45		0.47		0.49		0.50		0.52	
21	973.21	1.09	972.12	1.09	971.03	1.11	969.92	1.11	968.81	1.13	967.68	1.15	966.53	1.17	965.36	1.19	964.17	1.22	962.95	1.24	961.71	1.28	960.43	1.31
	0.35		0.36		0.38		0.39		0.41		0.43		0.44		0.46		0.48		0.49		0.51		0.52	
22	972.86	1.10	971.76	1.11	970.65	1.12	969.53	1.13	968.40	1.15	967.25	1.16	966.09	1.19	964.90	1.21	963.69	1.23	962.46	1.26	961.20	1.29	959.91	1.32
	0.35		0.37		0.39		0.40		0.42		0.43		0.45		0.46		0.48		0.50		0.52		0.53	
23	972.51	1.12	971.39	1.13	970.26	1.13	969.13	1.15	967.98	1.16	966.82	1.18	965.64	1.20	964.44	1.23	963.21	1.25	961.96	1.28	960.68	1.30	959.38	1.33
	0.36		0.38		0.39		0.41		0.42		0.44		0.46		0.48		0.49		0.51		0.53		0.54	
24	972.15	1.14	971.01	1.14	969.87	1.15	968.72	1.16	967.56	1.18	966.38	1.20	965.18	1.22	963.96	1.24	962.72	1.27	961.45	1.29	960.16	1.32	958.84	1.34

# COMPENDIUM OF INTERNATIONAL METHODS OF WINE AND MUST ANALYSIS

## Tables of correction

	0.38	0.39	0.40	0.42	0.44	0.45	0.46	0.48	0.50	0.51	0.53	0.54	
25	971.77	1.15 970.62	1.15 969.47	1.17 968.30	1.18 967.12	1.19 965.93	1.21 964.72	1.24 963.48	1.26 962.22	1.28 960.94	1.31 959.63	1.33 958.30	1.36
	0.38	0.39	0.41	0.42	0.44	0.46	0.48	0.49	0.50	0.52	0.53	0.55	
26	971.39	1.16 970.23	1.17 969.06	1.18 967.88	1.20 966.68	1.21 965.47	1.23 964.24	1.25 962.99	1.27 961.72	1.30 960.42	1.32 959.10	1.35 957.75	1.38
	0.39	0.41	0.42	0.44	0.45	0.46	0.48	0.50	0.51	0.52	0.53	0.55	
27	971.00	1.18 969.82	1.18 968.64	1.20 967.44	1.21 966.23	1.22 965.01	1.25 963.76	1.27 962.49	1.28 961.21	1.31 959.90	1.33 958.57	1.37 957.20	1.40
	0.40	0.41	0.43	0.44	0.46	0.48	0.49	0.50	0.52	0.53	0.55	0.56	
28	970.60	1.19 969.41	1.20 968.21	1.21 967.00	1.23 965.77	1.24 964.53	1.26 963.27	1.28 961.99	1.30 960.69	1.32 959.37	1.35 958.02	1.38 956.64	1.41
	0.40	0.42	0.43	0.45	0.46	0.48	0.49	0.50	0.52	0.54	0.55	0.56	
29	970.20	1.21 968.99	1.21 967.78	1.23 966.55	1.24 965.31	1.26 964.05	1.27 962.78	1.29 961.49	1.32 960.17	1.34 958.83	1.36 957.47	1.39 956.08	1.43
	0.42	0.43	0.45	0.46	0.47	0.48	0.50	0.52	0.53	0.54	0.56	0.58	
30	969.78	1.22 968.56	1.23 967.33	1.24 966.09	1.25 964.84	1.27 963.57	1.29 962.28	1.31 960.97	1.33 959.64	1.35 958.29	1.38 956.91	1.41 955.50	1.44
	0.42	0.43	0.44	0.45	0.47	0.49	0.51	0.52	0.53	0.55	0.56	0.58	
31	969.36	1.23 968.13	1.24 966.89	1.25 965.64	1.27 964.37	1.29 963.08	1.31 961.77	1.32 960.45	1.34 959.11	1.37 957.74	1.39 956.35	1.43 954.92	1.45
	0.43	0.45	0.46	0.48	0.49	0.50	0.51	0.52	0.54	0.56	0.57	0.58	
32	968.93	1.25 967.68	1.25 966.43	1.27 965.16	1.28 963.88	1.30 962.58	1.32 961.26	1.33 959.93	1.36 958.57	1.39 957.18	1.40 955.78	1.44 954.34	1.47
	0.43	0.45	0.47	0.48	0.50	0.51	0.52	0.54	0.55	0.56	0.58	0.59	
33	968.50	1.27 967.23	1.27 965.96	1.28 964.68	1.30 963.38	1.31 962.07	1.33 960.74	1.35 959.39	1.37 958.02	1.40 956.62	1.42 955.20	1.45 953.75	1.48
	0.45	0.45	0.47	0.49	0.50	0.51	0.52	0.54	0.55	0.56	0.58	0.60	
34	968.05	1.27 966.78	1.29 965.49	1.30 964.19	1.31 962.88	1.32 961.56	1.34 960.22	1.37 958.85	1.38 957.47	1.41 956.06	1.44 954.62	1.47 953.15	1.49
	0.45	0.47	0.48	0.49	0.50	0.52	0.54	0.55	0.57	0.58	0.59	0.60	
35	967.60	1.29 996.31	1.30 965.01	1.31 963.70	1.32 962.38	1.34 961.04	1.36 959.68	1.38 958.0	1.40 956.90	1.42 955.48	1.45 954.03	1.48 952.55	1.50
	0.45	0.47	0.48	0.49	0.51	0.53	0.54		0.57	0.59	0.60	0.61	
36	967.15	1.31 965.84	1.31 964.53	1.32 963.21	1.34 961.87	1.36 960.51	1.37 959.14	1.39 957.75	1.42 956.33	1.44 954.89	1.46 953.43	1.49 951.94	1.51
	0.46	0.47	0.48	0.50	0.52	0.53	0.55	0.56	0.57	0.58	0.60	0.61	
37	966.69	1.32 965.37	1.32 964.05	1.34 962.71	1.36 961.35	1.37 959.98	1.39 958.59	1.40 957.19	1.43 955.76	1.45 954.31	1.48 952.83	1.50 951.33	1.52
	0.47	0.48	0.50	0.51	0.52	0.54	0.55	0.57	0.58	0.59	0.60	0.61	
38	966.22	1.33 964.89	1.34 963.55	1.35 962.20	1.37 960.83	1.39 959.44	1.40 958.04	1.42 956.62	1.44 955.18	1.46 953.72	1.49 952.23	1.51 950.72	1.54
	0.48	0.49	0.51	0.52	0.53	0.54	0.56	0.57	0.58	0.60	0.61	0.62	
39	965.74	1.34 964.40	1.36 963.04	1.36 961.68	1.38 960.30	1.40 958.90	1.42 957.48	1.43 956.05	1.45 954.60	1.48 953.12	1.50 951.62	1.52 950.10	1.55
	0.49	0.50	0.51	0.53	0.54	0.55	0.56	0.58	0.60	0.61	0.62	0.64	
40	965.25	1.35 963.90	1.37 962.53	1.38 961.15	1.39 959.76	1.41 958.35	1.43 956.92	1.45 955.47	1.47 954.00	1.49 952.51	1.51 951.00	1.54 949.49	1.56

TABLE IV

Table giving the refractive indices of pure ethanol-water mixtures



# COMPENDIUM OF INTERNATIONAL METHODS OF WINE AND MUST ANALYSIS

## Tables of correction

and distillates at 20°C

and the corresponding alcoholic strengths at 20°C

Refractive index at 20°C	Alcoholic strength at 20°C				Refractive index at 20°C	Alcoholic strength at 20°C			
	Water-ethanol mixtures		Distillates			Water-ethanol mixtures		Distillates	
1.33628	6.54	0.25	6.48	0.26	1.34222	16.76	0.23	16.65	0.23
1.33642	6.79	0.26	6.74	0.26	1.34236	16.99	0.23	16.88	0.24
1.33656	7.05	0.25	7.00	0.27	1.34250	17.22	0.22	17.12	0.22
1.33670	7.30	0.28	7.27	0.27	1.34264	17.44	0.24	17.34	0.22
1.33685	7.58	0.25	7.54	0.25	1.34278	17.68	0.21	17.56	0.22
1.33699	7.83	0.26	7.79	0.26	1.34291	17.89	0.23	17.78	0.23
1.33713	8.09	0.25	8.05	0.25	1.34305	18.12	0.24	18.01	0.22
1.33727	8.34	0.28	8.30	0.26	1.34319	18.36	0.23	18.23	0.23
1.33742	8.62	0.25	8.56	0.25	1.34333	18.59	0.23	18.46	0.24
1.33756	8.87	0.25	8.81	0.25	1.34347	18.82	0.23	18.70	0.22
1.33770	9.12	0.24	9.06	0.24	1.34361	19.05	0.23	18.92	0.25
1.33784	9.36	0.27	9.30	0.25	1.34375	19.28	0.23	19.17	0.23
1.33799	9.63	0.24	9.55	0.26	1.34389	19.51	0.24	19.40	0.22
1.33813	9.87	0.25	9.81	0.24	1.34403	19.75	0.23	19.62	0.24
1.33827	10.12	0.23	10.05	0.24	1.34417	19.98	0.24	19.86	0.23
1.33841	10.35	0.26	10.29	0.25	1.34431	20.22	0.22	20.09	0.24

# COMPENDIUM OF INTERNATIONAL METHODS OF WINE AND MUST ANALYSIS

## Tables of correction

1.33856	10.61	0.25	10.54	0.24	1.34445	20.44	0.21	20.33	0.21
1.33870	10.86	0.24	10.78	0.24	1.34458	20.65	0.24	20.54	0.22
1.33884	11.10	0.23	11.02	0.24	1.34472	20.89	0.22	20.76	0.23
1.33898	11.33	0.24	11.26	0.24	1.34486	21.11	0.23	20.99	0.22
1.33912	11.47	0.24	11.50	0.24	1.34500	21.34	0.21	21.21	0.23
1.33926	11.81	0.24	11.74	0.24	1.34513	21.55	0.23	21.44	0.21
1.33940	12.05	0.25	11.98	0.24	1.34527	21.78	0.22	21.65	0.22
1.33955	12.30	0.23	12.22	0.24	1.34541	22.00	0.23	21.87	0.23
1.33969	12.53	0.23	12.46	0.23	1.34555	22.23	0.21	22.10	0.21
1.33983	12.76	0.24	12.69	0.23	1.34568	22.44	0.23	22.31	0.23
1.33997	13.00	0.23	12.92	0.23	1.34582	22.67	0.23	22.54	0.21
1.34011	13.23	0.24	13.15	0.25	1.34596	22.90	0.23	22.75	0.21
1.34025	13.47	0.23	13.40	0.22	1.34610	23.13	0.20	22.96	0.21
1.34039	13.70	0.23	13.62	0.24	1.34623	23.33	0.24	23.17	0.23
1.34053	13.93	0.23	13.86	0.23	1.34637	23.57	0.24	23.40	0.21
1.34067	14.16	0.25	14.09	0.23	1.34651	23.81	0.23	23.61	0.24
1.34081	14.41	0.25	14.32	0.25	1.34665	24.04	0.22	23.85	0.24
1.34096	14.66	0.23	14.57	0.24	1.34678	24.26	0.22	24.09	0.22
1.34110	14.89	0.24	14.81	0.25	1.34692	24.48	0.24	24.31	0.25
1.34124	15.13	0.23	15.06	0.22	1.34706	24.72	0.23	24.56	0.22
1.34138	15.36	0.23	15.28	0.22	1.34720	24.95	0.21	24.78	0.22

# COMPENDIUM OF INTERNATIONAL METHODS OF WINE AND MUST ANALYSIS

## Tables of correction

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1.34152	15.59	0.24	15.50	0.24	1.34733	25.16	0.24	25.00	0.23
1.34166	15.83	0.23	15.74	0.22	1.34747	25.40	0.22	25.23	0.22
1.34180	16.06	0.23	15.96	0.23	1.34760	25.62	0.24	25.45	0.25
1.34194	16.29	0.23	16.19	0.22	1.34774	25.86	0.24	25.70	0.23
1.34208	16.52	0.24	16.41	0.24	1.34788	26.10	0.22	25.93	0.22