Erratum: "Revisiting the ASME Pressure–Viscosity Report Using the Tait-Doolittle Correlations" [ASME J. Tribol., 2021, 143(6), p. 061901; DOI: 10.1115/1.4048605]

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Table 3 should be corrected as shown below to list a reference temperature of 311 K which was used throughout the Zolper et al. [1] manuscript. The fit parameters in the table are unchanged.

The authors originally used Blok's integral to calculate the pressure–viscosity index. On further review, it was found that Bair and Qureshi's [2] equation below gives better results

$$\alpha^{*}=\left[\frac{\eta_0}{\alpha_N \eta_N}+\sum_{i=1}^{N}\frac{\eta_0}{\alpha_i}\frac{\eta_i-\eta_{i-1}}{\eta_i \eta_{i-1}}\right]^{-1}, \quad \alpha_i=\frac{\ln(\eta_i/\eta_{i-1})}{P_i-P_{i-1}} \tag{5}$$

Table 3 Parameters for the Tait-Doolittle equation taken from density and viscosity measurements over a range of pressures and temperatures with the reference temperatures set to T_R = 311 K for all samples

Table 4 has been revised to include the recalculated the pressure–viscosity indices using Bair and Qureshi's [2] equation and the measured pressure–viscosity data.

Table 4 Reciprocal asymptotic pressure–viscosity index α^* at measurement temperatures for individual samples calculated by the method of Bair and Qureshi [2]

Sample	273 K	293 K	298 K	311 K	372 K	478 K	492 K
1-A	17.1		14.2	12.7	9.0		6.7
8-C	27.9	23.8		21.2	14.4	9.2	
9-C	13.9	13.1		9.3	8.7	7.2	
10-C	19.3	17.0		15.1	10.6	6.4	
11-C			31.2	13.8	7.4	4.4	
12-C	26.0	22.2		19.4	13.3	7.9	
13-D			28.5	25.2	41.5		4.9
15-D				23.2	11.4		9.8
17-D	32.7		21.0	17.9	13.0		6.6
18-D	27.1		21.0	18.2	10.9		8.0
19-D	18.3		14.3	12.9	9.2		
21-D	16.9		14.1	12.7	8.5		5.5
23-D	22.6		17.1	15.5	8.9		4.8
24-E	29.3		21.0	19.2	13.1		7.3
25-E	26.6		20.5	30.3	12.3		9.0
26-E	26.6		22.0	19.0	12.4		5.6
27-E	26.3		20.6	19.3	12.1		5.9
28-F			24.4	22.0	15.2		7.6
29-F			31.0	27.7	16.2		10.0
30-F			24.7	21.9	14.6		
31-G	32.1		22.9	21.0	13.3		8.6
32-G	29.7		24.4	22.1	15.5		8.7
33-G	40.1		28.4	26.0	17.5		10.3
34-G	30.4		25.0	22.2	15.2		9.0
35-G	31.4		24.7	21.3	15.3		9.9
36-G	41.7		31.1	27.4	17.0		9.3
37-G			38.1	33.2	19.7		10.4
38-G	65.3		47.2	43.6	23.0		12.7
39-G			39.6	35.5	20.2		10.3
40-G	53.0		38.8	35.4	19.5		10.2
41-G	29.6		24.3	13.6	15.2		9.1
42-G	39.2		29.1	27.0	17.3		8.7
44-G	29.2		24.0	21.3	15.1		9.9
45-G			23.3		14.3		5.9
46-G	46.3		37.6	32.7	19.3		10.6
47-G	50.4		41.6	37.2	22.2		11.7
48-G	52.2		48.3	40.8	24.7		14.3
49-G			22.7	19.3	13.3		9.0
50-G			23.5	20.7	14.1		7.8
51-G	39.3		23.6	20.9	13.6		5.9
52-G	78.1		57.4	50.0	24.5		11.5
53-H	36.8		26.3	21.4	15.8		11.7
54-H							
55-H	17.8		16.3	15.8	14.1		15.3
56-H	24.2		20.6	18.8	11.9		6.5

Table 5 caption and data should be corrected to use the specific volume $v_0(T_R)$ and viscosity $\eta_0(T_R)$ at $T_R = 311$ K.

Table 5 Reference specific volume $v_0(T_R)$ and viscosity $\eta_0(T_R)$ at atmospheric pressure and $T_R = 311$ K and residual ratios for all samples completed

Sample	v_0 (ml/g)	η_0 (mPa · s)
1-A	1.107	11.2
8-C	1.170	29.2
9-C	1.180	37.7
10-C	1.182	13.2
11-C	1.310	2.3
12-C	1.164	39.5
13-D	1.139	315.4
15-D	1.155	92.6
17-D	1.163	9.3
18-D	1.163	8.8
19-D	1.107	11.8
21-D	1.080	8.5
23-D	1.179	4.5
24-E	1.116	168.1
25-E	1.156	7.9
26-E	1.188	29.3
27-E	1.151	28.2
28-F	1.144	82.2
29-F	1.116	89.1
30-F	1.031	101.2
31-G	1.149	45.7
32-G	1.147	145.7
33-G	1.122	506.0
34-G	1.148	156.0
35-G	1.140	136.8
36-G	1.107	50.0
37-G	1.092	133.6
38-G	1.073	446.3
39-G	1.083	136.6
40-G	1.083	133.3
41-G	1.151	135.0
42-G	1.135	64.8
44-G	1.153	134.2
45-G	1.147	1362.0
46-G	1.203	45.7
47-G	1.193	127.8
48-G	1.181	436.2
49-G	1.135	78.1
50-G	1.155	46.2
51-G	1.085	47.8
52-G	1.021	621.0
53-H	0.943	115.5
54-H	0.518	175.3
55-H	1.043	70.6
56-H	1.029	29.2

References

[1] Zolper, T. J., Bair, S., and Horne, K., 2021, "Revisiting the ASME Pressure-Viscosity Report Using the Tait-Doolittle Equation," ASME J. Tribol., **143**(6), p. 061901.

[2] Bair, S., and Qureshi, F., 2002, "Accurate Measurements of Pressure-Viscosity Behavior in Lubricants," Tribol. Trans., **45**(3), pp. 390–396.