

Title	Erratum : Evaluation and correlation of viscosity data : the most probable values of the viscosity of gaseous ethane and ethylene
Author(s)	Makita, T.; Tanaka, Y.; Nagashima, A.
Citation	The Review of Physical Chemistry of Japan (1976), 46(1): 54-55
Issue Date	1976-06-30
URL	<a href="http://hdl.handle.net/2433/47028">http://hdl.handle.net/2433/47028</a>
Right	
Type	Article
Textversion	publisher

**Erratum: EVALUATION AND CORRELATION OF VISCOSITY DATA****The Most Probable Values of the Viscosity of Gaseous  
Ethane and Ethylene**

BY T. MAKITA, Y. TANAKA AND A. NAGASHIMA

*Rev. Phys. Chem. Japan*, 44, 98 (1974)

This Erratum concerns the recommended values of the viscosity of gaseous ethylene in Table 7 and the empirical coefficients of Eq. (4) for ethylene listed in Table 4. Eq. (4) was found to give unexpected points of inflexion at pressures above  $500 \times 10^5$  Pa (=bar). This error could be attributed to the lack of the weighted mean values of the viscosity of ethylene above  $500 \times 10^5$  Pa at 323.15 K (50°C)

Table 4 Coefficients of Equation (4) for ethylene

	Moderate pressure region	High pressure region
B <sub>00</sub>	$1.132723 \times 10^5$	$5.917752 \times 10^5$
B <sub>01</sub>	$-1.480752 \times 10^8$	$-5.703392 \times 10^8$
B <sub>02</sub>	$7.352706 \times 10^{10}$	$1.855210 \times 10^{11}$
B <sub>03</sub>	$-1.623172 \times 10^{13}$	$-2.177056 \times 10^{13}$
B <sub>04</sub>	$1.340907 \times 10^{15}$	$4.512506 \times 10^{14}$
B <sub>10</sub>	$-1.026810 \times 10^4$	$4.385706 \times 10^2$
B <sub>11</sub>	$1.351976 \times 10^7$	$-2.730739 \times 10^6$
B <sub>12</sub>	$-6.637443 \times 10^9$	$2.325611 \times 10^9$
B <sub>13</sub>	$1.439961 \times 10^{12}$	$-6.995046 \times 10^{11}$
B <sub>14</sub>	$-1.164414 \times 10^{14}$	$7.095611 \times 10^{13}$
B <sub>20</sub>	$3.102819 \times 10^2$	5.520574
B <sub>21</sub>	$-3.926019 \times 10^5$	$-4.510650 \times 10^2$
B <sub>22</sub>	$1.840298 \times 10^8$	$-2.793001 \times 10^6$
B <sub>23</sub>	$-3.780408 \times 10^{10}$	$1.181917 \times 10^9$
B <sub>24</sub>	$2.864169 \times 10^{12}$	$-1.362136 \times 10^{11}$
B <sub>30</sub>	$3.978220 \times 10^{-1}$	$-1.171499 \times 10^{-2}$
B <sub>31</sub>	$-1.076534 \times 10^3$	6.319410
B <sub>32</sub>	$8.307573 \times 10^5$	$8.220850 \times 10^2$
B <sub>33</sub>	$-2.533540 \times 10^8$	$-9.045336 \times 10^5$
B <sub>34</sub>	$2.710515 \times 10^{10}$	$1.222175 \times 10^8$
B <sub>40</sub>	$-3.985915 \times 10^{-3}$	$8.567417 \times 10^{-6}$
B <sub>41</sub>	6.905955	$-6.988449 \times 10^{-3}$
B <sub>42</sub>	$-4.236190 \times 10^3$	1.625683
B <sub>43</sub>	$1.106715 \times 10^6$	$-2.973166 \times 10$
B <sub>44</sub>	$-1.047300 \times 10^8$	$-1.836842 \times 10^4$

as shown in Table 3. Therefore, the empirical coefficients of Eq. (4) and the recommended values have been revised with the aid of graphical interpolations of the weighted mean values.

Thus, the following changes should be made:

(A) The fourth and the fifth columns in Table 4 should be replaced by the correct empirical coefficients listed in this erratum.

(B) Table 7 should be replaced by the following recommended value table.

The notation here is the same as in the original paper.

Table 7 Recommended values of the viscosity of gaseous ethylene in  $10^{-7}$  Pa·s ( $10^{-6}$  poise)

Pressure $10^5$ Pa (bar)	Temperature, K							
	300	310	320	330	340	350	360	370
1	103	107	110	114	117	120	123	126
10	106	109	112	115	119	122	125	128
20	108	112	115	118	121	124	127	130
30	112	115	118	121	124	127	129	132
40	120	120	123	126	128	130	132	135
50	137	131	130	132	134	136	137	139
60	166	147	141	140	141	142	142	144
70		172	156	151	150	150	150	150
80		211	179	167	162	160	158	158
90			211	187	177	172	169	167
100				213	195	186	180	177
120	410	355	309	270	239	216	202	197
140	444	390	346	309	278	253	235	226
160	475	422	380	344	313	287	267	254
180	504	452	411	376	345	318	295	280
200	531	479	439	404	374	346	322	304
250	590	538	499	465	434	406	380	359
300	641	587	548	514	484	455	429	407
350	685	630	590	556	525	496	470	449
400	726	670	628	594	563	534	508	487
450	765	707	665	630	598	568	542	522
500	802	744	701	666	632	602	575	554
550	839	781	739	702	668	636	606	584
600	876	819	777	740	704	670	638	613
650	910	856	815	777	740	703	670	641
700	946	891	849	813	775	736	700	670
750	979	923	882	843	805	765	728	697
800	1000	948	905	865	826	787	752	724