| COMPONENTS: | ORIGINAL MEASUREMENTS: |
|---|---|
| 1. Methanamine, (methylamine); $CH_5N$; [74-89-5]<br>2. Butane; $C_4H_{10}$; [106-97-8] | Wolff, A.; Höpfner, A.; Höpfner, H.-M.<br>*Ber. Bunsenges. Phys. Chem.*<br>1964, *68*, 410-417. |
| VARIABLES: | PREPARED BY: |
| Composition, temperature | P. G. T. Fogg |

EXPERIMENTAL VALUES:

Variation of the total vapor pressure/Torr with variation of temperature and of mole fraction of $CH_5N$ in the liquid phase, $x_{CH_5N}$

| | T/K | | | | |
|---|---|---|---|---|---|
| $x_{CH_5N}$ | 218.15 | 233.15 | 253.15 | 273.15 | 288.15 |
| 0 | 52.0 | 125.2 | 339.5 | 775.9 | 1319.4 |
| 0.0043 | 55.2 | 131.1 | 349.8 | 793.3 | 1348.6 |
| 0.0086 | 58.5 | 136.8 | 362.3 | 814.7 | 1380.5 |
| 0.0334 | 68.1 | 160.3 | 417.8 | 914.8 | 1523.8 |
| 0.1089 | 82.3 | 196.0 | 513.2 | 1123.1 | 1860.3 |
| 0.134 | 83.7 | 200.5 | 530.3 | 1167.9 | 1934.3 |
| 0.208 | 85.3 | 207.9 | 560.9 | 1257.5 | 2105.1 |
| 0.257 | 86.2 | 211.4 | 575.6 | 1305.5 | 2203.1 |
| 0.314 | 86.6 | 212.0 | 580.7 | 1324.4 | 2225.1 |
| 0.365 | 86.2 | 212.9 | 586.4 | 1342.0 | 2283.9 |
| 0.454 | 86.6 | 213.9 | 590.8 | 1362.4 | 2329.1 |
| 0.517 | 86.8 | 214.1 | 595.7 | 1369.4 | 2349.1 |
| 0.532 | 86.5 | 213.6 | 592.4 | 1369.5 | 2352.9 |
| 0.577 | 86.6 | 214.1 | 592.2 | 1372.1 | 2359.7 |
| 0.602 | 86.3 | 213.4 | 591.0 | 1372.0 | 2362.4 |
| 0.654 | 86.2 | 212.9 | 589.5 | 1370.3 | 2361.2 |
| 0.731 | 85.3 | 211.4 | 585.6 | 1361.7 | 2344.0 |
| 0.738 | 85.4 | 210.3 | 583.6 | 1356.7 | 2343.0 |
| 0.774 | 84.9 | 209.6 | 579.3 | 1347.2 | 2325.6 |

Cont.

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

Apparatus described previously was used (1). Liquid mixtures of accurately known composition were introduced into a cell held in a thermostat controlled to ± 0.02°C. The total vapor pressures were measured by a mercury manometer.

The authors calculated activity coefficients of each component from the vapor pressure data by a method described by Barker (2). Constants for Redlich-Kister equations (3) for activity coefficients were evaluated and reported.

SOURCE AND PURITY OF MATERIALS:

1. From commercial *reinst* methylammonium chloride by reaction with KOH; gas dried with KOH and Li; liquified gas treated with Li and repeatedly fractionated until first and last fractions had vapor pressures between 2191 and 2193 Torr at 20°C.
2. Commercial product; dried with $P_2O_5$ repeatedly fractionated until first and last fractions had the same vapor pressures measured by the manometer as described for Hexane (1).

ESTIMATED ERROR:

$\delta T/K = \pm 0.02$ (estimated by authors)

REFERENCES:

1. Wolff, H.; Höpfner, A. *Z. Elektrochem.* 1962, *66*, 149.
2. Barker, J.A. *Aust. J. Chem.* 1953, *6*, 207.
3. Redlich, O.; Kister, A.T. *Ind. Eng. Chem.* 1948, *21*, 345.

| COMPONENTS: | ORIGINAL MEASUREMENTS: |
|---|---|
| 1. Methanamine, (methylamine); $CH_5N$; [74-89-5]<br>2. Butane; $C_4H_{10}$; [106-97-8] | Wolff, A.; Höpfner, A.; Höpfner, H.-M.<br>*Ber. Bunsenges. Phys. Chem.*<br>1964, *68*, 410-417. |
| VARIABLES:<br>Composition, temperature | PREPARED BY:<br>P. G. T. Fogg |

EXPERIMENTAL VALUES: Cont.

| | T/K | | | | |
|---|---|---|---|---|---|
| $x_{CH_5N}$ | 218.15 | 233.15 | 253.15 | 273.15 | 288.15 |
| 0.847 | 82.5 | 202.4 | 561.2 | 1308.6 | 2269.0 |
| 0.938 | 70.6 | 177.4 | 500.8 | 1198.0 | 2102.3 |
| 0.957 | 67.1 | 169.3 | 482.2 | 1158.3 | 2042.7 |
| 1 | 45.8 | 126.3 | 394.2 | 1001.8 | 1826.3 |

760 Torr = 1 atm = $1.013 \times 10^5$ Pa

Constants for calculation of activity coefficients from the Redlich-Kister equations given below

| T/K | A | B | C |
|---|---|---|---|
| 218.15 | 2.261 | -0.054 | 0.412 |
| 223.15 | 2.213 | -0.030 | 0.381 |
| 228.15 | 2.143 | -0.017 | 0.371 |
| 233.15 | 2.095 | -0.008 | 0.353 |
| 243.15 | 1.976 | +0.008 | 0.313 |
| 253.15 | 1.857 | +0.032 | 0.259 |
| 263.15 | 1.741 | +0.066 | 0.214 |
| 273.15 | 1.623 | +0.079 | 0.189 |
| 283.15 | 1.517 | +0.087 | 0.157 |
| 288.15 | 1.461 | +0.095 | 0.150 |

$$\ln f_1 = A x_2^2 - B x_2^2(1 - 4 x_1) + C x_2^2(1 - 8 x_1 + 12 x_1^2)$$

$$\ln f_2 = A x_1^2 + B x_1^2(1 - 4 x_2) + C x_1^2(1 - 8 x_2 + 12 x_2^2)$$

where $f_1$ = activity coefficient of methylamine
$f_2$ = activity coefficient of butane
$x_1$ = mole fraction of methylamine in the liquid phase
$x_2$ = mole fraction of butane in the liquid phase

| COMPONENTS: | ORIGINAL MEASUREMENTS: |
|---|---|
| 1. Methanamine, (methylamine); $CH_5N$; [74-89-5]<br>2. Hexane, $C_6H_{14}$; [110-54-3] | Wolff, H.; Höpfner, A.<br>*Z. Elektrochem.*<br>1962, *66*, 149-159. |
| VARIABLES: | PREPARED BY: |
| Composition, temperature | P. G. T. Fogg |

EXPERIMENTAL VALUES:

Variation of the total vapor pressure/Torr with variation of temperature and of mole fraction of $CH_5N$ in the liquid phase, $x_{CH_5N}$

| | T/K | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| $x_{CH_5N}$ | 218.15 | 223.15 | 228.15 | 233.15 | 243.15 | 253.15 | 263.15 | 273.15 | 283.15 | 293.15 |
| 0 | 0.97* | 1.52* | 2.33* | 3.48* | 7.34* | 14.4 | 26.5 | 46.0 | 76.1 | 121.7 |
| 0.0068 | 5.9 | 7.8 | 10.1 | 12.6 | 20.8 | 32.9 | 51.4 | 78.7 | 118.5 | 174.9 |
| 0.0154 | 11.4 | 14.3 | 18.3 | 23.2 | 36.0 | 54.7 | 80.9 | 118.4 | 169.6 | 239.5 |
| 0.0274 | 17.3 | 22.6 | 28.6 | 36.1 | 55.9 | 83.1 | 120.3 | 171.2 | 238.5 | 327.6 |
| 0.0415 | 22.7 | 30.2 | 38.4 | 48.7 | 75.4 | 112.8 | 162.4 | 228.5 | 314.3 | 424.8 |
| 0.0626 | 29.0 | 38.5 | 49.8 | 63.7 | 100.1 | 150.7 | 217.3 | 305.9 | 417.7 | 560.3 |
| 0.086 | 32.9 | 44.0 | 58.0 | 74.8 | 119.9 | 181.4 | 264.3 | 371.0 | 506.2 | 672.6 |
| 0.129 | 37.7 | 51.1 | 68.1 | 89.5 | 147.5 | 228.7 | 338.1 | 482.3 | 663.5 | 887.5 |
| 0.175 | 39.8 | 55.1 | 74.5 | 99.2 | 166.2 | 263.1 | 395.1 | 569.5 | 794.8 | 1074.1 |
| 0.215 | 41.1 | 57.7 | 77.9 | 103.9 | 177.4 | 284.1 | 432.8 | 631.4 | 887.7 | 1208.6 |
| 0.282 | 42.4 | 59.2 | 81.1 | 109.1 | 189.8 | 308.3 | 476.2 | 706.4 | 1006.9 | 1389.4 |
| 0.360 | 43.6 | 61.2 | 83.9 | 113.6 | 199.0 | 327.0 | 510.9 | 767.8 | 1107.1 | 1545.1 |
| 0.449 | 43.4 | 61.5 | 84.7 | 115.2 | 204.0 | 339.3 | 536.0 | 814.4 | 1188.5 | 1678.0 |
| 0.543 | 43.5 | 61.2 | 85.4 | 116.7 | 207.4 | 348.6 | 554.7 | 849.9 | 1250.9 | 1781.9 |
| 0.629 | 43.7 | 62.1 | 86.1 | 117.9 | 210.2 | 355.8 | 569.7 | 878.1 | 1300.4 | 1863.2 |
| 0.662 | 43.7 | 62.0 | 86.3 | 117.7 | 210.6 | 356.4 | 574.8 | 885.3 | 1314.8 | 1887.6 |
| 0.735 | 44.0 | 62.4 | 86.7 | 118.9 | 214.0 | 362.3 | 583.0 | 905.0 | 1348.1 | 1943.3 |
| 0.783 | 43.8 | 62.1 | 86.8 | 119.2 | 215.0 | 365.6 | 590.1 | 917.2 | 1370.0 | 1982.5 |

Cont.

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

Liquid mixtures of accurately known composition were introduced into a cell held in a thermostat controlled to ± 0.02°C. The total vapor pressures were measured by a mercury manometer.

The authors calculated activity coefficients of each component from the vapor pressure data by a method described by Barker (2). Constants for Redlich-Kister equations (3) for activity coefficients were evaluated and reported. The compositions of the vapor phase were also calculated by the authors.

SOURCE AND PURITY OF MATERIALS:

1. From commercial *reinst* methylammonium chloride by reaction with KOH; gas dried with KOH and Na; liquified gas treated with Li and repeatedly fractionated until first and last fractions had vapor pressures between 2191 and 2193 Torr at 20°C.
2. Commercial product; dried over $P_2O_5$ distilled and repeatedly fractionated until first and last fractions had the same vapor pressures as measured by the manometer.

ESTIMATED ERROR:

$\delta T/K = \pm 0.02$ (estimated by authors)

REFERENCES:

1. Wolff, A.; Höpfner, A.; Höpfner, H.-M. *Ber. Bunsenges. Phys. Chem.* 1964, *68*, 410.
2. Barker, J.A. *Aust. J. Chem.* 1953, *6*, 207.
3. Redlich, O.; Kister, A.T. *Ind. Eng. Chem.* 1948, *21*, 345.

| COMPONENTS: | ORIGINAL MEASUREMENTS: |
|---|---|
| 1. Methanamine, (methylamine); $CH_5N$; [74-89-5]<br>2. Hexane, $C_6H_{14}$; [110-54-3] | Wolff, H; Höpfner, A.<br>*Z. Elektrochem.*<br>1962, *66*, 149-159. |
| VARIABLES:<br>Composition, temperature | PREPARED BY:<br>P. G. T. Fogg |

EXPERIMENTAL VALUES: Cont.

| | T/K | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| $x_{CH_5N}$ | 218.15 | 223.15 | 228.15 | 233.15 | 243.15 | 253.15 | 263.15 | 273.15 | 283.15 | 293.15 |
| 0.827 | 44.0 | 62.6 | 87.4 | 120.1 | 216.1 | 369.1 | 597.0 | 929.0 | 1392.6 | 2017.1 |
| 0.877 | 44.3 | 63.2 | 88.7 | 121.6 | 219.9 | 375.3 | 607.6 | 948.8 | 1422.4 | 2062.9 |
| 0.925 | 44.6 | 63.6 | 89.1 | 122.6 | 222.1 | 380.1 | 617.5 | 964.4 | 1448.3 | 2104.5 |
| 0.969 | 44.9‡ | 64.9 | 90.8 | 125.3 | 227.4 | 389.0 | 631.5 | 985.9 | 1483.7 | 2152.8 |
| 1 | 44.9* | 65.4 | 91.9 | 126.3 | 229.8 | 394.2 | 640.5 | 1001.8 | 1506.6 | 2191.7 |

760 Torr = 1 atm = $1.013 \times 10^5$ Pa

*by extrapolation

‡corrected value of 45.8 given in later ref. (1)

Constants* for calculation of activity coefficients from the Redlich-Kister equations given below

| T/K | A | B | C |
|---|---|---|---|
| 218.15 | 2.392 | 0.122 | 0.527 |
| 223.15 | 2.338 | 0.130 | 0.472 |
| 228.15 | 2.266 | 0.138 | 0.395 |
| 233.15 | 2.213 | 0.150 | 0.384 |
| 243.15 | 2.087 | 0.163 | 0.300 |
| 253.15 | 1.956 | 0.180 | 0.250 |
| 263.15 | 1.833 | 0.198 | 0.212 |
| 273.15 | 1.709 | 0.214 | 0.185 |
| 283.15 | 1.588 | 0.224 | 0.164 |
| 293.15 | 1.470 | 0.231 | 0.148 |

$$\ln f_1 = A x_2^2 - B x_2^2(1 - 4 x_1) + C x_2^2(1 - 8 x_1 + 12 x_1^2)$$

$$\ln f_2 = A x_1^2 + B x_1^2(1 - 4 x_2) + C x_1^2(1 - 8 x_2 + 12 x_2^2)$$

where $f_1$ = activity coefficient of methylamine
$f_2$ = activity coefficient of hexane
$x_1$ = mole fraction of methylamine in the liquid phase
$x_2$ = mole fraction of hexane in the liquid phase.

* revised values given by the authors in a later paper (1).

| COMPONENTS: | ORIGINAL MEASUREMENTS: |
|---|---|
| 1. Methanamine, (methylamine); $CH_5N$; [74-89-5]<br>2. Nonane; $C_9H_{20}$; [111-84-2] | Wolff, H.; Höpfner, A.; Höpfner,H.-M<br>*Ber. Bunsenges. Phys. Chem.*<br>1964, *68*, 410-417. |
| VARIABLES: | PREPARED BY: |
| Composition, temperature | P. G. T. Fogg |

EXPERIMENTAL VALUES:

Variation of the total vapor pressure/Torr with variation of temperature and of mole fraction of $CH_5N$ in the liquid phase, $x_{CH_5N}$

| $x_{CH_5N}$ | T/K 233.15 | 253.15 | 273.15 | 293.15 |
|---|---|---|---|---|
| 0 | 0.0 | 0.2 | 0.9 | 3.4 |
| 0.0083 | 10.2 | 20.6 | 37.0 | 61.5 |
| 0.0165 | 19.3 | 39.5 | 71.3 | 116.7 |
| 0.0245 | 27.6 | 56.8 | 103.4 | 169.8 |
| 0.0324 | 35.1 | 73.7 | 134.0 | 221.2 |
| 0.0403 | 41.9 | 89.1 | 163.3 | 270.8 |
| 0.0452 | 45.7 | 97.0 | 176.0 | 286.3 |
| 0.0862 | 72.2 | 162.2 | 308.0 | 515.1 |
| 0.1278 | 88.6 | 212.5 | 420.0 | 725.1 |
| 0.188 | 103.1 | 263.2 | 546.9 | 977.5 |
| 0.251 | 111.3 | 297.9 | 644.4 | 1193.2 |
| 0.311 | 115.9 | 319.7 | 714.2 | 1359.2 |
| 0.381 | 118.9 | 337.1 | 774.3 | 1518.4 |
| 0.440 | 120.2 | 347.0 | 809.9 | 1613.1 |
| 0.533 | 121.2 | 357.1 | 853.4 | 1745.7 |
| 0.588 | 121.4 | 361.5 | 872.4 | 1807.1 |
| 0.692 | 121.6 | 366.3 | 899.5 | 1898.2 |

Cont.

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

Apparatus described previously was used (1). Liquid mixtures of accurately known composition were introduced into a cell held in a thermostat controlled to ± 0.02°C. The total vapor pressures were measured by a mercury manometer.

The authors calculated activity coefficients of each component from the vapor pressure data by a method described by Barker (2). Constants for Redlich-Kister equations (3) for activity coefficients were evaluated and reported.

SOURCE AND PURITY OF MATERIALS:

1. From commercial *reinst* methylammonium chloride by reaction with KOH; gas dried with KOH and Na; liquified gas treated with Li and repeatedly fractionated until first and last fractions had vapor pressures between 2191 and 2193 Torr at 20°C (1).
2. Commercial product; dried over $P_2O_5$; distilled and repeatedly fractionated until first and last fractions had the same vapor pressures as measured by the manometer (1).

ESTIMATED ERROR:

δT/K = ± 0.02 (estimated by authors)

REFERENCES:

1. Wolff, H.; Höpfner, A. *Z. Elektrochem.* 1962, *66*, 149.
2. Barker, J.A. *Aust. J. Chem.* 1953, *6*, 207.
3. Redlich, O.; Kister, A.T. *Ind. Eng. Chem.* 1948, *21*, 345.

| COMPONENTS: | ORIGINAL MEASUREMENTS: |
|---|---|
| 1. Methanamine, (methylamine); $CH_5N$; [74-89-5]<br>2. Nonane; $C_9H_{20}$; [111-84-2] | Wolff, H.; Höpfner, A.; Höpfner, H.-M<br>*Ber. Bunsenges. Phys. Chem.*<br>1964, *68*, 410-417. |
| VARIABLES: | PREPARED BY: |
| Composition, temperature | P. G. T. Fogg |

EXPERIMENTAL VALUES: Cont.

| | T/K | | | |
|---|---|---|---|---|
| $x_{CH_5N}$ | 233.15 | 253.15 | 273.15 | 293.15 |
| 0.735 | 122.4 | 368.9 | 909.1 | 1932.4 |
| 0.767 | 122.2 | 369.3 | 915.7 | 1954.2 |
| 0.938 | 122.3 | 379.2 | 958.7 | 2100.7 |
| 0.968 | 123.4 | 383.6 | 974.4 | 2129.8 |
| 1 | 126.3 | 394.2 | 1001.8 | 2191.7 |

760 Torr = 1 atm = $1.013 \times 10^5$ Pa

Constants for calculation of activity coefficients from the Redlich-Kister equations given below

| T/K | A | B | C |
|---|---|---|---|
| 233.15 | 2.323 | 0.338 | 0.393 |
| 243.15 | 2.174 | 0.362 | 0.336 |
| 253.15 | 2.024 | 0.379 | 0.286 |
| 263.15 | 1.881 | 0.392 | 0.255 |
| 273.15 | 1.738 | 0.399 | 0.229 |
| 283.15 | 1.597 | 0.401 | 0.214 |
| 293.15 | 1.463 | 0.400 | 0.204 |

$$\ln f_1 = A x_2^2 - B x_2^2(1 - 4 x_1) + C x_2^2(1 - 8 x_1 + 12 x_1^2)$$

$$\ln f_2 = A x_1^2 + B x_1^2(1 - 4 x_2) + C x_1^2(1 - 8 x_2 + 12 x_2^2)$$

where $f_1$ = activity coefficient of methylamine
$f_2$ = activity coefficient of nonane
$x_1$ = mole fraction of methylamine in the liquid phase
$x_2$ = mole fraction of nonane in the liquid phase.

| COMPONENTS: | ORIGINAL MEASUREMENTS: |
|---|---|
| 1. Methanamine, (methylamine); $CH_5N$; [74-89-5]<br>2. Decane; $C_{10}H_{22}$; [124-18-5] | Gerrard, W.<br>*Solubility of Gases and Liquids*, *Plenum*, 1976, Chapter 10. |
| VARIABLES:<br>Temperature, pressure | PREPARED BY:<br>C. L. Young |

EXPERIMENTAL VALUES:

| T/K | P/mmHg | $P/10^5$Pa | Mole fraction of methylamine in liquid, $x_{CH_3NH_2}$ |
|---|---|---|---|
| 273.15 | 100 | 0.133 | 0.028 |
| | 200 | 0.267 | 0.061 |
| | 300 | 0.400 | 0.097 |
| | 400 | 0.533 | 0.141 |
| | 500 | 0.667 | 0.193 |
| | 600 | 0.800 | 0.262 |
| | 700 | 0.933 | 0.350 |
| | 760 | 1.013 | 0.413 |
| 278.15 | 100 | 0.133 | 0.022 |
| | 200 | 0.267 | 0.047 |
| | 300 | 0.400 | 0.075 |
| | 400 | 0.533 | 0.109 |
| | 500 | 0.667 | 0.144 |
| | 600 | 0.800 | 0.190 |
| | 700 | 0.933 | 0.256 |
| | 760 | 1.013 | 0.318 |
| 283.15 | 100 | 0.133 | 0.020 |
| | 200 | 0.267 | 0.044 |
| | 300 | 0.400 | 0.070 |
| | 400 | 0.533 | 0.100 |
| | 500 | 0.667 | 0.132 |
| | 600 | 0.800 | 0.168 |
| | 700 | 0.933 | 0.206 |
| | 760 | 1.013 | 0.253 |

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

Amine was passed into a known weight pf pure liquid in a bubbler tube at a total pressure measured by a manometer assembly. The amount of absorbed gas was estimated by weighing. The temperature was manually controlled to within 0.2K.
The apparatus and procedure are described by Gerrard [1,2].

SOURCE AND PURITY OF MATERIALS:

1. British Drug Houses or Cambrian Gases sample.

2. Purified and attested by conventional procedures.

ESTIMATED ERROR:

$\delta T/K = \pm 0.1$; $\delta x/x = \pm 3\%$

(estimated by compiler)

REFERENCES:

1. Gerrard, W.
*J. Appl. Chem. Biotechnol.* 1972, *22* 623-650.
2. Gerrard, W.
*Solubility of Gases and Liquids. Plenum Press, New York.* 1976.
Chapter 1.

| COMPONENTS: | ORIGINAL MEASUREMENTS: |
|---|---|
| 1. Methanamine (methylamine); $CH_5N$; [74-89-5]<br>2. Decane; $C_{10}H_{22}$; [124-18-5] | Gerrard, W.<br>*Solubility of Gases and Liquids*<br>Plenum, 1976, Chapter 10. |

EXPERIMENTAL VALUES:

| T/K | P/mmHg | $P/10^5$ Pa | Mole fraction of methylamine in liquid, $CH_3NH_2$ |
|---|---|---|---|
| 293.15 | 100 | 0.133 | 0.011 |
| | 200 | 0.267 | 0.023 |
| | 300 | 0.400 | 0.037 |
| | 400 | 0.533 | 0.055 |
| | 500 | 0.667 | 0.078 |
| | 600 | 0.800 | 0.103 |
| | 700 | 0.933 | 0.134 |
| | 760 | 1.013 | 0.156 |

| COMPONENTS: | ORIGINAL MEASUREMENTS: |
|---|---|
| 1. Methanamine; (methylamine); $CH_5N$; [74-89-5]<br>2. Aromatic hydrocarbons | Gerrard, W.<br>*Solubility of Gases and Liquids*, *Plenum*, 1976, Chapter 10. |
| VARIABLES: Pressure | PREPARED BY: C. L. Young |

EXPERIMENTAL VALUES:

| T/K | P/mmHg | $P/10^5$Pa | Mole fraction of methylamine in liquid, $x_{CH_3NH_2}$ |
|---|---|---|---|
| | | Benzene; $C_6H_6$; [71-43-2] | |
| 283.15 | 760 | 1.013 | 0.408 |
| | | Methylbenzene (toluene); $C_7H_8$; [108-88-3] | |
| 283.15 | 760 | 1.013 | 0.393 |
| | | 1,3-Dimethylbenzene (*m*-xylene); $C_8H_{10}$; [108-38-3] | |
| 283.15 | 100 | 0.133 | 0.027 |
| | 200 | 0.267 | 0.064 |
| | 300 | 0.400 | 0.100 |
| | 400 | 0.533 | 0.145 |
| | 500 | 0.667 | 0.196 |
| | 600 | 0.800 | 0.275 |
| | 700 | 0.933 | 0.320 |
| | 760 | 1.013 | 0.358 |
| | | 1,3,5-Trimethylbenzene (mesitylene); $C_9H_{12}$; [108-67-8] | |
| 283.15 | 100 | 0.133 | 0.032 |
| | 200 | 0.267 | 0.068 |
| | 300 | 0.400 | 0.109 |
| | 400 | 0.533 | 0.155 |
| | 500 | 0.667 | 0.200 |
| | 600 | 0.800 | 0.253 |
| | 700 | 0.933 | 0.310 |
| | 760 | 1.013 | 0.326 |

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

Amine was passed into a known weight of pure liquid in a bubbler tube at a total pressure measured by a manometer assembly. The amount of absorbed gas was estimated by weighing. The temperature was manually controlled to within 0.2K.
The apparatus and procedure are described by Gerrard [1,2].

SOURCE AND PURITY OF MATERIALS:

1. British Drug Houses or Cambrian Gases sample.

2. Purified and attested by conventional procedures.

ESTIMATED ERROR:

$\delta T/K = \pm 0.1$; $\delta x/x = \pm 3\%$
(estimated by compiler)

REFERENCES:

1. Gerrard, W.
*J. Appl. Chem. Biotechnol.* 1972, *22* 623-650.
2. Gerrard, W.
*Solubility of Gases and Liquids.*
*Plenum Press, New York.* 1976.
Chapter 1.