

EXPERIMENTAL VALUES:			Mole fraction of methylamine in liquid, $x_{\text{CH}_3\text{NH}_2}$
T/K	P/mmHg	P/10 ⁵ Pa	
273.15	100	0.133	0.098
	200	0.267	0.197
	300	0.400	0.296
	400	0.533	0.395
	500	0.667	0.494
	600	0.800	0.593
	700	0.933	0.693
278.15	760	1.013	0.752
	100	0.133	0.080
	200	0.267	0.160
	300	0.400	0.240
	400	0.533	0.335
	500	0.667	0.398
	600	0.800	0.478
283.15	700	0.933	0.560
	760	1.013	0.601
	100	0.133	0.065
	200	0.267	0.130
	300	0.400	0.196
	400	0.533	0.262
	500	0.667	0.326

(cont.)

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 asorbed 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:

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

(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:

1. Methanamine (Methylamine); CH_5N ;
[74-89-5]
2. *N,N*-Dimethylformamide;
 $\text{C}_3\text{H}_7\text{NO}$; [68-12-2]

ORIGINAL MEASUREMENTS:

Gerrard, W.
Solubility of Gases and Liquids,
Plenum 1976, Chapter 10.

EXPERIMENTAL VALUES: Continued:

T/K	P/mmHg	P/ 10^5 Pa	Mole fraction of methylamine in liquid, $x_{\text{CH}_3\text{NH}_2}$
283.15	600	0.800	0.394
	700	0.933	0.454
	760	1.013	0.500
293.15	100	0.133	0.040
	200	0.267	0.084
	300	0.400	0.127
	400	0.533	0.172
	500	0.667	0.216
	600	0.800	0.264
	700	0.933	0.311
	760	1.013	0.340

COMPONENTS:		ORIGINAL MEASUREMENTS:			
1. Methanamine, (methylamine); CH ₅ N; 74-89-5 2. N,N-Dimethylmethanamine (trimethylamine); C ₃ H ₉ N; 75-50-3		Wolff, H.; Würtz, R. <i>Z. Phys. Chem. (Frankfurt am Main)</i> <u>1969</u> , 67, 115-121.			
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 ₅ N in the liquid phase, $x_{\text{CH}_5\text{N}}$					
		T/K			
$x_{\text{CH}_5\text{N}}$	223.15	233.15	253.15	273.15	293.15
0	56.4	102.3	288.3	676.9	1387.0
0.0113	58.3	105.3	294.8	688.4	1414.1
0.0287	59.3	106.9	302.0	708.3	1449.9
0.0315	59.8	108.3	303.4	710.2	1458.6
0.0472	60.3	109.7	310.0	725.2	1488.1
0.0496	60.9	110.2	311.1	728.6	1496.0
0.0984	62.8	116.5	329.5	773.9	1585.0
0.1504	66.2	120.8	344.7	812.6	1670.3
0.1983	68.3	125.4	358.2	847.5	1747.9
0.2473	69.3	127.7	368.3	875.8	1812.8
0.2980	70.6	130.6	378.7	905.2	1878.8
0.3693	71.1	132.8	389.3	934.6	1953.2
0.4046	72.5	135.0	394.2	947.3	1982.0
0.4482	73.6	136.2	399.1	963.7	2023.0
0.4995	72.8	136.6	404.0	977.9	2063.3
0.5080	73.6	137.0	404.0	979.7	2067.0
0.5397	72.4	136.7	407.3	990.7	2091.1
0.6000	72.9	137.9	411.2	1002.8	2130.9
Cont.					
AUXILIARY INFORMATION					
METHOD / APPARATUS / PROCEDURE:			SOURCE AND PURITY OF MATERIALS:		
<p>Apparatus described previously was used (1). Liquid mixtures of accurately known composition were introduced into a cell held in a thermostat controlled to $\pm 0.02^\circ\text{C}$. The total vapor pressure was measured by a mercury manometer.</p> <p>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.</p>			<p>1 & 2. Prepared from the corresponding hydrochlorides; purified by repeated fractionation until the first and last fractions had vapor pressures which differed by less than the limits of error of the pressure measurements (1), (4).</p>		
			ESTIMATED ERROR:		
			$\delta T/K = \pm 0.02$ (estimated by authors)		
			REFERENCES:		
			<p>1. Wolff, H.; Höpfner, A. <i>Z. Elektrochem.</i> <u>1962</u>, 66, 149. 2. Barker, J.A. <i>Aust. J. Chem.</i> <u>1953</u>, 6, 207. 3. Redlich, O.; Kister, A.T. <i>Ind. Eng. Chem.</i> <u>1948</u>, 21, 345. 4. Wolff, H.; Würtz, R. <i>Ber. Bunsenges. Phys. Chem.</i> <u>1968</u>, 72, 101.</p>		

COMPONENTS:		ORIGINAL MEASUREMENTS:			
1. Methanamine, (methylamine); CH_5N ; 74-89-5 2. <i>N,N</i> -Dimethylmethanamine (trimethylamine); $\text{C}_3\text{H}_9\text{N}$; 75-50-3		Wolff, H.; Würtz, R. <i>Z. Phys. Chem. (Frankfurt am Main)</i> <u>1969</u> , 67, 115-121.			
VARIABLES:		PREPARED BY:			
Composition, temperature		P. G. T. Fogg			
EXPERIMENTAL VALUES: Cont.					
$x_{\text{CH}_5\text{N}}$	T/K				
	223.15	233.15	253.15	273.15	293.15
0.6196	74.3	138.8	412.3	1010.7	2139.7
0.6444	73.4	137.7	413.3	1015.4	2149.2
0.6980	73.8	138.0	413.8	1018.8	2175.9
0.7492	73.1	138.2	415.3	1023.3	2191.8
0.7979	72.4	136.9	414.0	1025.4	2202.3
0.8487	71.5	135.8	412.4	1026.6	2207.0
0.8961	70.5	133.6	409.1	1018.7	2212.0
0.9491	67.7	129.6	401.7	1011.8	2205.6
1	65.4	126.3	394.2	1001.8	2191.7
760 Torr = 1 atm = 1.013×10^5 Pa					
Constants for calculation of activity coefficients from the Redlich-Kister equations given below					
T/K	A	B	C		
223.15	0.732	-0.010	0.127		
233.15	0.714	-0.025	0.087		
243.15	0.685	0.002	0.034		
253.15	0.656	0.006	0.043		
263.15	0.622	0.016	0.025		
273.15	0.581	0.026	0.008		
283.15	0.547	0.035	0.003		
293.15	0.510	0.037	0.012		
$\ln f_1 = A x_2^2 - B x_2^2(1 - 4 x_1) + C x_2^2(1 - 8 x_1 + 12 x_1^2)$ $\ln f_2 = A x_1^2 + B x_1^2(1 - 4 x_2) + C x_1^2(1 - 8 x_2 + 12 x_2^2)$					
where f_1 = activity coefficient of methylamine f_2 = activity coefficient of trimethylamine x_1 = mole fraction of methylamine in the liquid phase x_2 = mole fraction of trimethylamine in the liquid phase					

EXPERIMENTAL VALUES:			Mole fraction of methylanine in liquid, $x_{\text{CH}_3\text{NH}_2}$
T/K	P/mmHg	P/10 ⁵ Pa	
Pyridine; C ₅ H ₅ N; [110-86-1]			
283.15	500	0.667	0.308
	600	0.800	0.372
	700	0.933	0.444
	760	1.013	0.488
Quinoline; C ₉ H ₇ N; [91-22-5]			
283.15	100	0.133	0.060
	200	0.267	0.120
	300	0.400	0.181
	400	0.533	0.243
	500	0.667	0.302
	600	0.800	0.362
	760	0.933	0.421
		1.013	0.456
AUXILIARY INFORMATION			
METHOD/APPARATUS/PROCEDURE:		SOURCE AND PURITY OF MATERIALS:	
<p>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].</p>		<p>1. British Drug Houses or Cambrian Gases sample.</p> <p>2. Purified and attested by conventional procedures.</p>	
		ESTIMATED ERROR:	
		<p>$\delta T/k = \pm 0.1$; $\delta x/x = \pm 3\%$</p> <p>(estimated by compiler)</p>	
		REFERENCES:	
		<p>1. Gerrard, W. <i>J. Appl. Chem. Biotechnol.</i> <u>1972</u>, 22 623-650.</p> <p>2. Gerrard, W. <i>Solubility of Gases and Liquids.</i> Plenum Press, New York. 1976. Chapter 1.</p>	

COMPONENTS:

1. Methanamine (Methylamine); CH₅N;
[74-89-5]
2. Pyridine; C₅H₅N; [110-86-1]
or
Quinoline; C₉H₇N; [91-22-5]

ORIGINAL MEASUREMENTS:

Gerrard, W.
Solubility of Gases and Liquids,
Plenum 1976, Chapter 10.

VARIABLES:

Pressure

PREPARED BY:

C. L. Young

EXPERIMENTAL VALUES:

Mole fraction of methylanine
in liquid,
 $x_{\text{CH}_3\text{NH}_2}$

T/K

P/mmHg

P/10⁵Pa

283.15

500
600
700
760Pyridine; C₅H₅N; [110-86-1]0.667
0.800
0.933
1.0130.308
0.372
0.444
0.488

283.15

100
200
300
400
500
600
700
760Quinoline; C₉H₇N; [91-22-5]0.133
0.267
0.400
0.533
0.667
0.800
0.933
1.0130.060
0.120
0.181
0.243
0.302
0.362
0.421
0.456

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:

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

(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] 2. Nitrobenzene; $\text{C}_6\text{H}_5\text{NO}_2$; [98-95-3]			Gerrard, W. <i>Solubility of Gases and Liquids</i> , Plenum <u>1976</u> , Chapter 10.
VARIABLES:			PREPARED BY:
Pressure			C. L. Young
EXPERIMENTAL VALUES:			
T/K	P/mmHg	P/ 10^5 Pa	Mole fraction of methylamine in liquid, $x_{\text{CH}_3\text{NH}_2}$
283.15	100	0.133	0.053
	200	0.267	0.105
	300	0.400	0.158
	400	0.533	0.209
	500	0.667	0.264
	600	0.800	0.324
	700	0.933	0.391
	760	1.013	0.436
AUXILIARY INFORMATION			
METHOD/APPARATUS/PROCEDURE:		SOURCE AND PURITY OF MATERIALS:	
<p>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].</p>		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. <i>J. Appl. Chem. Biotechnol.</i> <u>1972</u> , 22 623-650. 2. Gerrard, W. <i>Solubility of Gases and Liquids</i> . Plenum Press, New York. <u>1976</u> . Chapter 1.	

EXPERIMENTAL VALUES:			Mole fraction of methylamine in liquid, $x_{\text{CH}_3\text{NH}_2}$
T/K	P/mmHg	P/10 ⁵ Pa	
283.15	100	0.133	0.153
	200	0.267	0.269
	300	0.400	0.363
	400	0.533	0.436
	500	0.667	0.496
	600	0.800	0.551
	700	0.933	0.604
	760	1.013	0.634

AUXILIARY INFORMATION	
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
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].	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. <i>J. Appl. Chem. Biotechnol.</i> <u>1972</u> , <i>22</i> 623-650. 2. Gerrard, W. <i>Solubility of Gases and Liquids.</i> Plenum Press, New York. <u>1976</u> . Chapter 1.

COMPONENTS:

1. Methanamine (Methylamine); CH_5N ;
[74-89-5]
2. Benzenamine (Aniline); $\text{C}_6\text{H}_7\text{N}$;
[62-53-3]

ORIGINAL MEASUREMENTS:

Gerrard, W.
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, $x_{\text{CH}_3\text{NH}_2}$
283.15	100	0.133	0.075
	200	0.267	0.140
	300	0.400	0.204
	400	0.533	0.273
	500	0.667	0.341
	600	0.800	0.411
	700	0.933	0.497
	760	1.013	0.516
AUXILIARY INFORMATION			
METHOD/APPARATUS/PROCEDURE:		SOURCE AND PURITY OF MATERIALS:	
<p>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].</p>		<p>1. British Drug Houses or Cambrian Gases sample.</p> <p>2. Purified and attested by conventional procedures.</p>	
		ESTIMATED ERROR:	
		<p>$\delta T/K = \pm 0.1$; $\delta x/x = \pm 3\%$ (estimated by compiler)</p>	
REFERENCES:		REFERENCES:	
		<p>1. Gerrard, W. <i>J. Appl. Chem. Biotechnol.</i> <u>1972</u>, 22 623-650.</p> <p>2. Gerrard, W. <i>Solubility of Gases and Liquids</i>. Plenum Press, New York. <u>1976</u>. Chapter 1.</p>	

COMPONENTS:

1. Methanamine (Methylamine); CH_5N ; [74-89-5]

2. Benzonitrile; $\text{C}_7\text{H}_5\text{N}$; [100-47-0]

ORIGINAL MEASUREMENTS:

Gerrard, W.
Solubility of Gases and Liquids, Plenum 1976, Chapter 10.

VARIABLES:

Pressure

PREPARED BY:

C. L. Young

COMPONENTS:			ORIGINAL MEASUREMENTS:
1. Methanamine (Methylamine); CH ₅ N; [74-89-5]			Gerrard, W.
2. 1-Methyl-2-nitrobenzene (σ -nitrotoluene); C ₇ H ₇ NO ₂ ; [88-72-2]			<i>Solubility of Gases and Liquids</i> , Plenum <u>1976</u> , Chapter 10.
VARIABLES:			PREPARED BY:
Pressure			C. L. Young
EXPERIMENTAL VALUES:			
T/K	P/mmHg	P/10 ⁵ Pa	Mole fraction of methylamine in liquid, $x_{\text{CH}_3\text{NH}_2}$
283.15	100	0.133	0.050
	200	0.267	0.105
	300	0.400	0.158
	400	0.533	0.205
	500	0.667	0.257
	600	0.800	0.311
	700	0.933	0.367
	760	1.013	0.408
AUXILIARY INFORMATION			
METHOD/APPARATUS/PROCEDURE:		SOURCE AND PURITY OF MATERIALS:	
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].		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. <i>J. Appl. Chem. Biotechnol.</i> <u>1972</u> , 22 623-650. 2. Gerrard, W. <i>Solubility of Gases and Liquids</i> . Plenum Press, New York. 1976. Chapter 1.	

COMPONENTS:			ORIGINAL MEASUREMENTS:	
1. Methanamine, (methylanine); CH_5N ; [74-89-5] 2. Benzenemethanamine, (Benzylanine) $\text{C}_7\text{H}_9\text{N}$; [100-46-9]			Gerrard, W. <i>Solubility of Gases and Liquids</i> , <i>Plenum, 1976</i> , Chapter 10.	
VARIABLES:			PREPARED BY:	
Pressure			C. L. Young	
EXPERIMENTAL VALUES:				
T/K	P/mmHg	P/10 ⁵ Pa	Mole fraction of methylanine in liquid, $x_{\text{CH}_3\text{NH}_2}$	
283.15	100	0.133	0.084	
	200	0.267	0.156	
	300	0.400	0.224	
	400	0.533	0.289	
	500	0.667	0.355	
	600	0.800	0.419	
	700	0.933	0.482	
	760	1.013	0.520	
AUXILIARY INFORMATION				
METHOD/APPARATUS/PROCEDURE:			SOURCE AND PURITY OF MATERIALS:	
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].			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. <i>J. Appl. Chem. Biotechnol.</i> <u>1972</u> , 22 623-650. 2. Gerrard, W. <i>Solubility of Gases and Liquids</i> . <i>Plenum Press, New York.</i> <u>1976</u> . Chapter 1.	

EXPERIMENTAL VALUES:			Mole fraction of methanamine in liquid, $x_{\text{CH}_3\text{NH}_2}$
T/K	P/mmHg	P/10 ⁵ Pa	
273.15	100	0.133	0.175
	200	0.267	0.309
	300	0.400	0.421
	400	0.533	0.509
	500	0.667	0.588
	600	0.800	0.666
	700	0.933	0.742
	760	1.013	0.788
283.15	100	0.133	0.126
	200	0.267	0.226
	300	0.400	0.312
	400	0.533	0.384
	500	0.667	0.447
	600	0.800	0.507
	700	0.933	0.564
	760	1.013	0.596

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.

COMPONENTS:
1. Methanamine (Methylamine); CH_3N ; [74-89-5]
2. *N*-Methylaniline (*N*-methylbenzenamine); $\text{C}_7\text{H}_9\text{N}$; [100-61-8]

ORIGINAL MEASUREMENTS:
Gerrard, W.
Solubility of Gases and Liquids,
Plenum 1976, Chapter 10.

VARIABLES:

Temperature, pressure

PREPARED BY:

C. L. Young

COMPONENTS:			ORIGINAL MEASUREMENTS:
1. Methanamine (Methylamine); CH_5N ; [74-89-5]			Gerrard, W.
2. <i>N</i> -Ethylaniline (<i>N</i> -ethylbenzenamine); $\text{C}_8\text{H}_{11}\text{N}$; [103-69-5]			<i>Solubility of Gases and Liquids</i> , <i>Plenum 1976</i> , Chapter 10.
VARIABLES:			PREPARED BY:
Temperature, pressure			C. L. Young
EXPERIMENTAL VALUES:			
T/K	P/mmHg	P/ 10^5 Pa	Mole fraction of methylamine in liquid, $x_{\text{CH}_3\text{NH}_2}$
273.15	100	0.133	0.168
	200	0.267	0.300
	300	0.400	0.410
	400	0.533	0.495
	500	0.667	0.572
	600	0.800	0.650
	700	0.933	0.730
	760	1.013	0.780
283.15	100	0.133	0.117
	200	0.267	0.212
	300	0.400	0.300
	400	0.533	0.382
	500	0.667	0.438
	600	0.800	0.500
	700	0.933	0.557
	760	1.013	0.592
AUXILIARY INFORMATION			
METHOD/APPARATUS/PROCEDURE:		SOURCE AND PURITY OF MATERIALS:	
<p>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].</p>		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. <i>J. Appl. Chem. Biotechnol.</i> <u>1972</u> , 22 623-650. 2. Gerrard, W. <i>Solubility of Gases and Liquids</i> . <i>Plenum Press, New York.</i> <u>1976</u> . Chapter 1.	

COMPONENTS: 1. Methanamine (methylamine); CH_5N ; [74-89-5] 2. 1-Octanamine (octylamine); $\text{C}_8\text{H}_{19}\text{N}$; [111-86-4]			ORIGINAL MEASUREMENTS: Gerrard, W. <i>Solubility of Gases and Liquids</i> , Plenum <u>1976</u> , 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, $x_{\text{CH}_3\text{NH}_2}$
283.15	100	0.133	0.066
	200	0.267	0.130
	300	0.400	0.196
	400	0.533	0.259
	500	0.667	0.325
	600	0.800	0.390
	700	0.933	0.455
	760	1.013	0.493
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 controller 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. <i>J. Appl. Chem. Biotechnol.</i> <u>1972</u> , 22 623-650. 2. Gerrard, W. <i>Solubility of Gases and Liquids</i> . Plenum Press, New York. <u>1976</u> . Chapter 1.	

COMPONENTS:			ORIGINAL MEASUREMENTS:	
1. Methanamine (Methylamine); CH_5N ; [74-89-5] 2. <i>N,N</i> -Dimethylaniline (<i>N,N</i> -dimethylbenzenamine); $\text{C}_8\text{H}_{11}\text{N}$; [121-69-7]			Gerrard, W. <i>Solubility of Gases and Liquids</i> , <i>Plenum 1976</i> , Chapter 10.	
VARIABLES:			PREPARED BY:	
Temperature, pressure			C. L. Young	
EXPERIMENTAL VALUES:				
T/K	P/mmHg	P/ 10^5 Pa	Mole fraction of methylamine in liquid, $x_{\text{CH}_3\text{NH}_2}$	
273.15	100	0.133	0.076	
	200	0.267	0.149	
	300	0.400	0.223	
	400	0.533	0.302	
	500	0.667	0.389	
	600	0.800	0.488	
	700	0.933	0.600	
	760	1.013	0.672	
	283.15	100	0.133	0.050
		200	0.267	0.102
300		0.400	0.153	
400		0.533	0.205	
500		0.667	0.256	
600		0.800	0.309	
700		0.933	0.366	
760		1.013	0.404	
AUXILIARY INFORMATION				
METHOD/APPARATUS/PROCEDURE:		SOURCE AND PURITY OF MATERIALS:		
<p>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].</p>		<p>1. British Drug Houses or Cambrian Gases sample. 2. Purified and attested by conventional procedures.</p>		
		ESTIMATED ERROR:		
		$\delta T/K = \pm 0.1$; $\delta x/x = \pm 3\%$ (estimated by compiler)		
		REFERENCES:		
		<p>1. Gerrard, W. <i>J. Appl. Chem. Biotechnol.</i> <u>1972</u>, 22 623-650. 2. Gerrard, W. <i>Solubility of Gases and Liquids</i>. Plenum Press, New York. <u>1976</u>. Chapter 1.</p>		

COMPONENTS:			ORIGINAL MEASUREMENTS:
1. Methanamine (Methylamine); CH_5N ; [74-89-5]			Gerrard, W.
2. <i>N,N</i> -Diethylaniline (<i>N,N</i> -diethylbenzenamine); $\text{C}_{10}\text{H}_{15}\text{N}$; [91-66-7]			<i>Solubility of Gases and Liquids</i> , <i>Plenum 1976</i> , Chapter 10.
VARIABLES:			PREPARED BY:
Temperature, pressure			C. L. Young
EXPERIMENTAL VALUES:			
			Mole fraction of methylamine in liquid, $x_{\text{CH}_3\text{NH}_2}$
T/K	P/mmHg	P/ 10^5 Pa	
273.15	100	0.133	0.073
	200	0.267	0.144
	300	0.400	0.215
	400	0.533	0.290
	500	0.667	0.376
	600	0.800	0.476
	700	0.933	0.584
	760	1.013	0.655
283.15	100	0.133	0.044
	200	0.267	0.088
	300	0.400	0.130
	400	0.533	0.174
	500	0.667	0.217
	600	0.800	0.263
	700	0.933	0.316
	760	1.013	0.360
AUXILIARY INFORMATION			
METHOD/APPARATUS/PROCEDURE:		SOURCE AND PURITY OF MATERIALS:	
Amine was passed into a known weight or 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].		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. <i>J. Appl. Chem. Biotechnol.</i> <u>1972</u> , 22 623-650. 2. Gerrard, W. <i>Solubility of Gases and Liquids</i> . <i>Plenum Press, New York. 1976</i> . Chapter 1.	