

COMPONENTS:		ORIGINAL MEASUREMENTS:		
1. N,N-Dimethylmethanamine, (Trimethylamine); C <sub>3</sub> H <sub>9</sub> N; [75-50-3]  2. Acetonitrile; C <sub>2</sub> H <sub>3</sub> N; [75-05-8]		Halban, H.  Z. Phys. Chem.  <u>1913</u> , 84, 129-159.		
VARIABLES:		PREPARED BY:		
Concentration		P. G. T. Fogg		
EXPERIMENTAL VALUES:				
T/K	Concentration of C <sub>3</sub> H <sub>9</sub> N in solution/ mol dm <sup>-3</sup>	P <sub>C<sub>3</sub>H<sub>9</sub>N</sub> /mmHg	Concentration of C <sub>3</sub> H <sub>9</sub> N in solution/ concentration in gas phase	Mole fraction in solution* x <sub>C<sub>3</sub>H<sub>9</sub>N</sub>
298.2	0.1200	35.3	63.2	0.0063
	0.1260	37.0	63.2	0.0066
	0.1620	46.7	64.3	0.0085
<p>* Calculated by the compiler, using the density of the solvent given in ref. (1), on the assumption that dissolution of gas caused negligible change of volume of the liquid phase.</p>				
AUXILIARY INFORMATION				
METHOD/APPARATUS/PROCEDURE:		SOURCE AND PURITY OF MATERIALS:		
<p>The partial pressures of trimethylamine above solutions of concentrations determined by titration, were measured by a dynamic method (refs. (2) &amp; (3)). Mixtures of hydrogen and oxygen, produced by electrolysis of sodium hydroxide solution, were passed through each solution of trimethylamine. The trimethylamine in the gas stream was absorbed in hydrochloric acid and estimated from changes in electrical conductivity due to partial neutralisation of the acid. The volumes of hydrogen/oxygen gas mixture produced by electrolysis were found from the barometric pressure and changes in a copper voltameter in series with the cell for producing the gas. The partial pressures of trimethylamine were calculated on the assumption that equilibrium was established between trimethylamine in solution and that in the gas phase, during passage of hydrogen/oxygen mixture through the solution.</p>		1. Hydrated chloride from Kahlbaum; reacted with KOH; gas dried with NaOH. 2. Kahlbaum; dried over K <sub>2</sub> SO <sub>4</sub> ; b.p. 81.0-81.2°C.		
		ESTIMATED ERROR:		
		REFERENCES:		
		1. Dreisbach, R.R. <i>Physical Properties of Chemical Compounds</i> , Vol. 3, A.C.S., Washington. 1961. 2. Gaus, Z. Anorg. Chem. 1900, 25, 236. 3. Abegg, R.; Riesenfeld, H. Z. Phys. Chem. 1902, 40, 84.		

COMPONENTS:		ORIGINAL MEASUREMENTS:		
1. N,N-Dimethylmethanamine, (Trimethylamine); C <sub>3</sub> H <sub>9</sub> N; [75-50-3]  2. Nitromethane ; CH <sub>3</sub> NO <sub>2</sub> ; [75-52-5]		Halban, H.  Z. Phys. Chem.  <u>1913</u> , 84, 129-159.		
VARIABLES:		PREPARED BY:		
Concentration		P. G. T. Fogg		
EXPERIMENTAL VALUES:				
T/K	Concentration of C <sub>3</sub> H <sub>9</sub> N in solution/ mol dm <sup>-3</sup>	p <sub>C<sub>3</sub>H<sub>9</sub>N</sub> /mmHg	Concentration of C <sub>3</sub> H <sub>9</sub> N in solution/ concentration in gas phase	Mole fraction in solution* x <sub>C<sub>3</sub>H<sub>9</sub>N</sub>
298.2	0.1070	35.4	56.0	0.0057
	0.1272	42.1	56.0	0.0068
	0.1419	46.8	56.5	0.0076
	0.1741	56.4	57.5	0.0093
<p>* Calculated by the compiler, using the density of the solvent given in ref. (1), on the assumption that dissolution of gas caused negligible change of volume of the liquid phase.</p>				
AUXILIARY INFORMATION				
METHOD/APPARATUS/PROCEDURE:		SOURCE AND PURITY OF MATERIALS:		
<p>The partial pressures of trimethylamine above solutions of concentrations determined by titration, were measured by a dynamic method (refs. (2) &amp; (3)). Mixtures of hydrogen and oxygen, produced by electrolysis of sodium hydroxide solution, were passed through each solution of trimethylamine. The trimethylamine in the gas stream was absorbed in hydrochloric acid and estimated from changes in electrical conductivity due to partial neutralisation of the acid. The volumes of hydrogen/oxygen gas mixture produced by electrolysis were found from the barometric pressure and changes in a copper voltameter in series with the cell for producing the gas. The partial pressures of trimethylamine were calculated on the assumption that equilibrium was established between trimethylamine in solution and that in the gas phase, during passage of hydrogen/oxygen mixture through the solution.</p>		1. Hydrated chloride from Kahlbaum; reacted with KOH; gas dried with NaOH.  2. Prepared according to ref. (4); dried over potassium carbonate; b.p. 100.6°C (751 mmHg).		
		REFERENCES:		
		1. Timmermans, J. <i>Physico-Chemical Constants of Pure Organic Compounds</i> Vol. 2, Elsevier, Amsterdam. 1965 2. Gaus Z. <i>Anorg. Chem.</i> 1900, 25, 236. 3. Abegg, R.; Riesenfeld, H. Z. <i>Phys. Chem.</i> 1902, 40, 84. 4. Steinkopf, W.; Kirchhoff, G. <i>Ber. Dtsch. Chem. Ges.</i> 1909, 42, 3438.		

EXPERIMENTAL VALUES:			Mole fraction of trimethylamine in liquid, $x$ (CH <sub>3</sub> ) <sub>3</sub> N
T/K	P/mmHg	P/10 <sup>5</sup> Pa	
278.15	100	0.133	0.028
	200	0.267	0.072
	300	0.400	0.128
	400	0.533	0.202
	500	0.667	0.305
	600	0.800	0.442
	700	0.933	0.700
	760	1.013	0.880
283.15	100	0.133	0.024
	200	0.267	0.060
	300	0.400	0.098
	400	0.533	0.145
	500	0.667	0.205
	600	0.800	0.288
	700	0.933	0.410
	760	1.013	0.511
298.15	100	0.133	0.017
	200	0.267	0.037
	300	0.400	0.060
	400	0.533	0.084
	500	0.667	0.106
	600	0.800	0.132
	700	0.933	0.165
	760	1.013	0.191

## 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. N,N-Dimethylmethanamine (trimethylamine); C<sub>3</sub>H<sub>9</sub>N; [75-50-3]
2. N,N-Dimethylformamide; C<sub>3</sub>H<sub>7</sub>NO; [68-12-2]

## 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. N,N-Dimethylmethanamine (trimethylamine); C <sub>3</sub> H <sub>9</sub> N; [75-50-3] 2. Pyridine; C <sub>5</sub> H <sub>5</sub> N; [110-86-1] OR Quinoline; C <sub>9</sub> H <sub>7</sub> N; [91-22-5]			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 <sup>5</sup> Pa	Mole fraction of trimethylamine in liquid, x(CH <sub>3</sub> ) <sub>3</sub> N
Pyridine; C <sub>5</sub> H <sub>5</sub> N; [110-86-1]			
283.15	700	0.933	0.65
	760	1.013	0.70
Quinoline; C <sub>9</sub> H <sub>7</sub> N; [91-22-5]			
283.15	100	0.133	0.051
	200	0.267	0.112
	300	0.400	0.179
	400	0.533	0.248
	500	0.667	0.321
	600	0.800	0.413
	700	0.933	0.545
	760	1.013	0.648
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:			ORIGINAL MEASUREMENTS:
1. N,N-Methylmethanamine (trimethylamine); C <sub>3</sub> H <sub>9</sub> N; [75-50-3]			Gerrard, W.  <i>Solubility of Gases and Liquids</i> , <i>Plenum 1976</i> , Chapter 10.
2. Nitrobenzene; C <sub>6</sub> H <sub>5</sub> NO <sub>2</sub> ; [98-95-3]			
VARIABLES:			PREPARED BY:
Temperature, pressure			C. L. Young
EXPERIMENTAL VALUES:			
T/K	P/mmHg	P/10 <sup>5</sup> Pa	Mole fraction of trimethylamine in liquid, $x$ (CH <sub>3</sub> ) <sub>3</sub> N
283.15	100	0.133	0.060
	200	0.267	0.119
	300	0.400	0.184
	400	0.533	0.260
	500	0.667	0.356
	600	0.800	0.464
	700	0.933	0.595
298.15	760	1.013	0.694
	100	0.133	0.032
	200	0.267	0.070
	300	0.400	0.110
	400	0.533	0.151
	500	0.667	0.196
	600	0.800	0.243
	700	0.933	0.293
	760	1.013	0.326
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. <u>1976</u> . Chapter 1.	

COMPONENTS:		ORIGINAL MEASUREMENTS:		
1. N,N-Dimethylmethanamine, (Trimethylamine); C <sub>3</sub> H <sub>9</sub> N; [75-50-3]		Halban, H. Z. Phys. Chem. <u>1913</u> , 84, 129-159.		
2. Nitrobenzene ; C <sub>6</sub> H <sub>5</sub> NO <sub>2</sub> ; [98-95-3]				
VARIABLES:		PREPARED BY:		
Concentration		P. G. T. Fogg		
EXPERIMENTAL VALUES:				
T/K	Concentration of C <sub>3</sub> H <sub>9</sub> N in solution/ mol dm	p <sub>C<sub>3</sub>H<sub>9</sub>N</sub> /mmHg	Concentration of C <sub>3</sub> H <sub>9</sub> N in solution/ concentration in gas phase	Mole fraction in solution* x <sub>C<sub>3</sub>H<sub>9</sub>N</sub>
298.2	0.180	63.3	52.8	0.0182
	0.236	81.7	53.7	0.0237
	0.268	94.5	52.7	0.0268
<p>* Calculated by the compiler, using the density of the solvent given in ref. (1), on the assumption that dissolution of gas caused negligible change of volume of the liquid phase.</p>				
AUXILIARY INFORMATION				
METHOD/APPARATUS/PROCEDURE:		SOURCE AND PURITY OF MATERIALS:		
<p>The partial pressures of trimethylamine above solutions of concentrations determined by titration, were measured by a dynamic method (refs. (2) &amp; (3)). Mixtures of hydrogen and oxygen, produced by electrolysis of sodium hydroxide solution, were passed through each solution of trimethylamine. The trimethylamine in the gas stream was absorbed in hydrochloric acid and estimated from changes in electrical conductivity due to partial neutralisation of the acid. The volumes of hydrogen/oxygen gas mixture produced by electrolysis were found from the barometric pressure and changes in a copper voltameter in series with the cell for producing the gas. The partial pressures of trimethylamine were calculated on the assumption that equilibrium was established between trimethylamine in solution and that in the gas phase, during passage of hydrogen/oxygen mixture through the solution.</p>		1. Hydrated chloride from Kahlbaum; reacted with KOH; gas dried with NaOH. 2. Kahlbaum aus krist. Benzol; dried before use.		
		ESTIMATED ERROR:		
		REFERENCES:		
		1. Dreisbach, R.R. <i>Physical Properties of Chemical Compounds</i> , Vol. 1, A.C.S. Washington. <u>1955</u> . 2. Gaus, Z. Anorg. Chem. <u>1900</u> , 25, 236. 3. Abegg, R.; Riesenfeld, H. Z. Phys. Chem. <u>1902</u> , 40, 84.		

COMPONENTS:			ORIGINAL MEASUREMENTS:
1. N,N-Dimethylmethanamine (trimethylamine); C <sub>3</sub> H <sub>9</sub> N; [75-50-3]  2. Benzenamine (Aniline); C <sub>6</sub> H <sub>7</sub> N; [62-53-3]			Gerrard, W.  <i>Solubility of Gases and Liquids</i> , Plenum <u>1976</u> , Chapter 10.
VARIABLES:			PREPARED BY:
Pressure			C. L. Young
EXPERIMENTAL VALUES:			
			Mole fraction of trimethylamine in liquid, x (CH <sub>3</sub> ) <sub>3</sub> N
T/K	P/mmHg	P/10 <sup>5</sup> Pa	
283.15	100	0.133	0.111
	200	0.267	0.217
	300	0.400	0.327
	400	0.533	0.432
	500	0.667	0.531
	600	0.800	0.626
	700	0.933	0.720
	760	1.013	0.775
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> , <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:		ORIGINAL MEASUREMENTS:	
1. N,N-Dimethylmethanamine (trimethylamine); C <sub>3</sub> H <sub>9</sub> N; [75-50-3]  2. N-Methylbenzenamine; C <sub>7</sub> H <sub>9</sub> N; [100-61-8]		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 <sup>5</sup> Pa	Mole fraction of N,N-dimethylmethanamine in liquid, $x_{\text{C}_3\text{H}_9\text{N}}$
283.15	100	0.133	0.060
	200	0.267	0.128
	300	0.400	0.203
	400	0.533	0.284
	500	0.667	0.380
	600	0.800	0.492
	700	0.933	0.640
	760	1.013	0.732
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> 1972, 22, 623-650.	
		2. Gerrard, W. <i>Solubility of Gases and Liquids,</i> <i>Plenum Press, New York. 1976,</i> Chapter 1.	



COMPONENTS:			ORIGINAL MEASUREMENTS:
1. N,N-Dimethylmethanamine, (trimethylamine); C <sub>3</sub> H <sub>9</sub> N; [75-50-3] 2. Benzonitrile; C <sub>7</sub> H <sub>5</sub> N; [100-47-0]			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 <sup>5</sup> Pa	Mole fraction of trimethylamine in liquid, x(CH <sub>3</sub> ) <sub>3</sub> N
283.15	100	0.133	0.067
	200	0.267	0.140
	300	0.400	0.217
	400	0.533	0.302
	500	0.667	0.400
	600	0.800	0.507
	700	0.933	0.640
	760	1.013	0.720
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.	

COMPONENTS:		ORIGINAL MEASUREMENTS:		
1. N,N-Dimethylmethanamine, (Trimethylamine); C <sub>3</sub> H <sub>9</sub> N; [75-50-3]  2. 1-Methyl-2-nitrobenzene; C <sub>7</sub> H <sub>7</sub> NO <sub>2</sub> ; [88-72-2]		Halban, H. Z. Phys. Chem. <u>1913</u> , 84, 129-159.		
VARIABLES:		PREPARED BY:		
Concentration		P. G. T. Fogg		
EXPERIMENTAL VALUES:				
T/K	Concentration of C <sub>3</sub> H <sub>9</sub> N in solution/ mol dm <sup>3</sup>	p <sub>C<sub>3</sub>H<sub>9</sub>N</sub> /mmHg	Concentration of C <sub>3</sub> H <sub>9</sub> N in solution/ concentration in gas phase	Mole fraction in solution* x <sub>C<sub>3</sub>H<sub>9</sub>N</sub>
298.2	0.250	86.6	53.7	0.0286
	0.256	85.2	55.8	0.0293
<p>* Calculated by the compiler, using the density of the solvent given in ref. (1), on the assumption that dissolution of gas caused negligible change of volume of the liquid phase.</p>				
AUXILIARY INFORMATION				
METHOD/APPARATUS/PROCEDURE:		SOURCE AND PURITY OF MATERIALS:		
<p>The partial pressures of trimethylamine above solutions of concentrations determined by titration, were measured by a dynamic method (refs. (2) &amp; (3)). Mixtures of hydrogen and oxygen, produced by electrolysis of sodium hydroxide solution, were passed through each solution of trimethylamine. The trimethylamine in the gas stream was absorbed in hydrochloric acid and estimated from changes in electrical conductivity due to partial neutralisation of the acid. The volumes of hydrogen/oxygen gas mixture produced by electrolysis were found from the barometric pressure and changes in a copper voltameter in series with the cell for producing the gas. The partial pressures of trimethylamine were calculated on the assumption that equilibrium was established between trimethylamine in solution and that in the gas phase, during passage of hydrogen/oxygen mixture through the solution.</p>		1. Hydrated chloride from Kahlbaum; reacted with KOH; gas dried with NaOH.  2. Supplied by Kahlbaum; purified by method given in ref. (4); dried over calcium chloride.		
		ESTIMATED ERROR:		
		REFERENCES:		
		1. Lange's Handbook of Chem. (12th ed) McGraw-Hill, New York, 1979. 2. Gaus, Z. Anorg. Chem. 1900 25, 236. 3. Abegg, R.; Riesenfeld, H. Z. Phys. Chem. 1902, 40, 84. 4. Lössner, H. J. Prakt. Chem. 1895, 50, 563.		

EXPERIMENTAL VALUES:			Mole fraction of trimethylamine in liquid, $x(\text{CH}_3)_3\text{N}$	
T/K	P/mmHg	P/10 <sup>5</sup> Pa		
278.15	100	0.133	0.071	
	200	0.267	0.146	
	300	0.400	0.238	
	400	0.533	0.351	
	500	0.667	0.482	
	600	0.800	0.647	
	700	0.933	0.828	
	760	1.013	0.920	
	283.15	100	0.133	0.064
		200	0.267	0.132
300		0.400	0.202	
400		0.533	0.284	
500		0.667	0.380	
600		0.800	0.486	
700		0.933	0.605	
293.15	760	1.013	0.676	
	760	1.013	0.406	
298.15	100	0.133	0.040	
	200	0.267	0.080	
	300	0.400	0.118	
	400	0.533	0.160	
	500	0.667	0.204	
	600	0.800	0.250	
	700	0.933	0.301	
760	1.013	0.331		

## 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. N,N-Dimethylmethanamine, (trimethylamine); C <sub>3</sub> H <sub>9</sub> N; [75-50-3]			Gerrard, W.
2. Benzenemethanamine, (Benzylamine); C <sub>7</sub> H <sub>9</sub> N; [100-46-9]			<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 <sup>5</sup> Pa	Mole fraction of trimethylamine in liquid, x (CH <sub>3</sub> ) <sub>3</sub> N
283.15	100	0.133	0.060
	200	0.267	0.128
	300	0.400	0.203
	400	0.533	0.284
	500	0.667	0.380
	600	0.800	0.492
	700	0.933	0.640
	760	1.013	0.732
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. <u>1976</u> . Chapter 1.	

COMPONENTS:			ORIGINAL MEASUREMENTS:
1. <i>N,N</i> -Dimethylmethanamine (trimethylamine); $C_3H_9N$ ; [75-50-3] 2. <i>N</i> -Ethylbenzenamine ( <i>N</i> -ethyl-aniline); $C_9H_{11}N$ ; [103-69-5]			Gerrard, W. <i>Solubility of Gases and Liquids, Plenum 1976, Chapter 10.</i>
VARIABLES:			PREPARED BY:
Pressure			C. L. Young
EXPERIMENTAL VALUES:			
T/K	P/mmHg	P/10 <sup>5</sup> Pa	Mole fraction of trimethylamine in liquid, $x(CH_3)_3N$
283.15	100	0.133	0.124
	200	0.267	0.233
	300	0.400	0.335
	400	0.533	0.432
	500	0.667	0.526
	600	0.800	0.612
	700	0.933	0.712
	760	1.013	0.771
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. 1972, 22</i> 623-650. 2. Gerrard, W. <i>Solubility of Gases and Liquids. Plenum Press, New York. 1976. Chapter 1.</i>	

EXPERIMENTAL VALUES:			Mole fraction of trimethylamine in liquid, $x(\text{CH}_3)_3\text{N}$
T/K	P/mmHg	P/ $10^5$ Pa	
278.15	100	0.133	0.141
	200	0.267	0.265
	300	0.400	0.387
	400	0.533	0.507
	500	0.667	0.628
	600	0.800	0.750
	700	0.933	0.866
	760	1.013	0.930
283.15	100	0.133	0.106
	200	0.267	0.213
	300	0.400	0.317
	400	0.533	0.418
	500	0.667	0.516
	600	0.800	0.617
	700	0.933	0.717
	760	1.013	0.776
293.15	760	1.013	0.585
298.15	100	0.133	0.075
	200	0.267	0.141
	300	0.400	0.210
	400	0.533	0.277
	500	0.667	0.340
	600	0.800	0.400
	700	0.933	0.463
	760	1.013	0.500

## 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. N,N-Dimethylmethanamine,  
(trimethylamine);  $\text{C}_3\text{H}_9\text{N}$ ;  
[75-50-3]
2. 1-Octanamine (octylamine);  
 $\text{C}_8\text{H}_{17}\text{N}$ ; [111-86-4]

## 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. <i>N,N</i> -Dimethylmethanamine (trimethylamine); C <sub>3</sub> H <sub>9</sub> N; [75-50-3]			Gerrard, W.
2. <i>N,N</i> -Dimethylbenzenamine ( <i>N,N</i> -dimethylaniline); C <sub>8</sub> H <sub>11</sub> N; [121-69-7]			<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 <sup>5</sup> Pa	Mole fraction of trimethylamine in liquid, x(CH <sub>3</sub> ) <sub>3</sub> N
283.15	100	0.133	0.071
	200	0.267	0.149
	300	0.400	0.235
	400	0.533	0.328
	500	0.667	0.422
	600	0.800	0.535
	700	0.933	0.660
	760	1.013	0.744
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:			ORIGINAL MEASUREMENTS:
1. N,N-Methylmethanamine (trimethylamine); C <sub>3</sub> H <sub>9</sub> N; [75-50-3]			Gerrard, W.
2. N,N-Diethylbenzenamine (N,N-diethylaniline); C <sub>10</sub> H <sub>15</sub> N; [91-66-7]			<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 <sup>5</sup> Pa	Mole fraction of trimethylamine in liquid, x(CH <sub>3</sub> ) <sub>3</sub> N
283.15	100	0.133	0.083
	200	0.267	0.165
	300	0.400	0.255
	400	0.533	0.352
	500	0.667	0.454
	600	0.800	0.560
	700	0.933	0.673
	760	1.013	0.750
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.	