

COMPONENTS:		ORIGINAL MEASUREMENTS:	
(1) Ammonia; NH <sub>3</sub> ; [7664-41-7] (2) 2-Propanone (acetone); C <sub>3</sub> H <sub>6</sub> O; [67-64-1]		Short, I.; Sahgal, A.; Hayduk, W. <i>J. Chem. Eng. Data</i> <u>1983</u> ,	
VARIABLES:		PREPARED BY:	
T/K: 263.15, 298.15 P/kPa: 101.325		W. Hayduk	
EXPERIMENTAL VALUES:			
T/K	Ostwald Coefficient <sup>1</sup> L/cm <sup>3</sup> cm <sup>-3</sup>	Bunsen Coefficient <sup>2</sup> α/cm <sup>3</sup> (STP) cm <sup>-3</sup> atm <sup>-1</sup>	Mole Fraction <sup>1</sup> x <sub>1</sub>
263.15	70.9	73.6	0.1906
298.15	30.1	27.6	0.0842
<sup>1</sup> Original data <sup>2</sup> Calculated by compiler The mole fraction solubility of the original data was used to determine the following equations for ΔG° and ln x <sub>1</sub> and table of smoothed values: $\Delta G^\circ/\text{J mol}^{-1} = -RT \ln x_1 = 707.08 T - 150277$ $\ln x_1 = 1831.40/T - 8.61710$			
T/K	10 <sup>-4</sup> ΔG°/J mol <sup>-1</sup>	x <sub>1</sub>	
263.15	3.579	0.1906	
273.15	4.286	0.1477	
283.15	4.993	0.1166	
293.15	5.701	0.0935	
298.15	6.054	0.0842	
AUXILIARY INFORMATION			
METHOD/APPARATUS/PROCEDURE:		SOURCE AND PURITY OF MATERIALS:	
<p>A volumetric method using a glass apparatus was employed. Degassed solvent contacted the gas while flowing as a thin film, at a constant rate, through an absorption spiral into a solution buret. A constant solvent flow was obtained by means of a calibrated syringe pump. The solution at the end of the spiral was considered saturated. Dry gas was maintained at atmospheric pressure in a gas buret by mechanically raising the mercury level in the buret at an adjustable rate. The solubility was calculated from the constant slope of volume of gas dissolved and volume of solvent injected.</p> <p>Degassing was accomplished using a two stage vacuum process described by Clever et al. (1).</p>		<ol style="list-style-type: none"> <li>Liquid Carbonic. Specified minimum purity 99.99 per cent.</li> <li>Canlab. Specified minimum purity 99.5 per cent.</li> </ol>	
		ESTIMATED ERROR:	
		$\delta T/K = 0.1$ $\delta x_1/x_1 = 0.01$	
		REFERENCES:	
		<ol style="list-style-type: none"> <li>Clever, H.L.; Battino, R.; Saylor, J.H.; Gross, P.M. <i>J. Phys. Chem.</i> <u>1957</u>, <i>61</i>, 1078.</li> </ol>	

COMPONENTS:		ORIGINAL MEASUREMENTS:	
1. Ammonia; $\text{NH}_3$ ; [7664-41-7] 2. 1-Methyl-2-pyrrolidinone; $\text{C}_5\text{H}_9\text{NO}$ ; [872-50-4]		Freidson, G. S.; Furmer, I. E.; Amelin, A. G. <u>1974</u> , VINITI deposited document 1697-74.	
VARIABLES:		PREPARED BY:	
Temperature, pressure		P. G. T. Fogg	
EXPERIMENTAL VALUES:			
$T/\text{K}$	$P_{\text{NH}_3} / \text{mmHg}^*$	Volume of gas, corrected to 273.2 K and 760 mmHg, dissolved by one volume of solvent.*	Mole fraction <sup>#</sup> $x_{\text{NH}_3}$
263.2	77	8.2	0.033
	163	15.7	0.061
	270	27.8	0.103
	280	29.0	0.107
	392	41.5	0.146
	482	54.0	0.182
	597	69.6	0.223
273.2	681	82.0	0.253
	734	94.0	0.280
	110	7.3	0.030
	182	11.9	0.047
	298	21.2	0.081
	321	22.9	0.087
	408	30.5	0.113
	419	31.2	0.115
	505	38.4	0.138
	* Values taken, by the compiler, from a graph showing experimental points which was given by the authors.		
# Calculated by the compiler using densities of solvent at 20 °C and 25 °C given in refs. 1 and 2.			
(cont.)			
AUXILIARY INFORMATION			
METHOD/APPARATUS/PROCEDURE:		SOURCE AND PURITY OF MATERIALS:	
<p>Apparatus described previously was used (refs. 3, 4 and 5). A quantity of gas, measured by changes in pressure of a known volume, was allowed into contact with solvent in a thermostatted absorption vessel. The liquid was magnetically stirred and the final pressure of gas in contact with solvent was measured. The authors gave the results in graphical form with volume of gas (corrected to 273.2 K and 1 atm) absorbed by one volume of solvent plotted as a function of gas pressure. One graph corresponded to pressures below 1 atm and a second graph to higher pressures.</p>		<ol style="list-style-type: none"> <li>1. Dried and purified by potassium hydroxide.</li> <li>2. Distilled under vacuum; chromatographic analysis indicated it to be 99.8% pure.</li> </ol>	
		REFERENCES:	
		<ol style="list-style-type: none"> <li>1. <i>Dictionary of Organic Compounds</i>, Chapman and Hall, New York, 1982.</li> <li>2. <i>Handbook of Chemistry and Physics</i> (63rd edition), C.R.C. Press, Cleveland, Ohio, 1982.</li> <li>3. Braude, G. E.; Leites, I. L.; Dedova, I. V. <i>Khim. Prom.</i> 1961, 232.</li> <li>4. Braude, G. E.; Shakhova, S. F. <i>Khim. Prom.</i> 1961, 177.</li> <li>5. Shenderei, E. R.; Zel'venskii, Ya. D.; Ivanovskii, F. P. <i>Khim. Prom.</i> 1960, 370.</li> </ol>	

COMPONENTS:		ORIGINAL MEASUREMENTS:	
1. Ammonia; NH <sub>3</sub> ; [7664-41-7]		Freidson, G. S.; Furmer, I. E.;	
2. 1-Methyl-2-pyrrolidinone;		Amelin, A. G.	
C <sub>5</sub> H <sub>9</sub> NO; [872-50-4]		1974, VINITI deposited document 1697-74.	
EXPERIMENTAL VALUES:			
T/K	p <sub>NH<sub>3</sub></sub> / mmHg*	Volume of gas, corrected to 273.2 K and 760 mmHg, dissolved by one volume of solvent.*	Mole fraction <sup>#</sup> x <sub>NH<sub>3</sub></sub>
273.2	527	40.5	0.145
	590	45.7	0.160
	708	57.1	0.193
283.2	77	3.8	0.016
	108	5.8	0.024
	170	8.3	0.034
	243	11.6	0.047
	342	17.0	0.067
	364	18.1	0.071
	429	22.2	0.086
	475	24.4	0.094
	567	30.2	0.113
	631	33.9	0.126
	655	35.8	0.132
298.2	713	39.3	0.143
	89	3.3	0.014
	198	6.4	0.027
	220	6.8	0.029
	301	9.0	0.037
	350	10.7	0.044
	508	15.7	0.064
	576	18.3	0.073
	603	18.7	0.075
	697	21.6	0.085
	736	23.7	0.093
313.2	113	2.6	0.011
	183	3.8	0.017
	278	5.9	0.025
	294	5.9	0.025
	385	7.8	0.033
	416	8.2	0.035
	512	10.4	0.044
	586	11.9	0.050
	685	13.8	0.057
	701	14.2	0.059
	758	15.9	0.066
328.2	175	2.6	0.012
	285	4.3	0.019
	331	4.6	0.020
	399	5.7	0.025
	479	6.7	0.029
	570	8.0	0.035
	671	9.2	0.040
	740	10.2	0.044
348.2	167	1.2	0.006
	273	2.2	0.010
	324	2.7	0.012
	388	3.3	0.015
	410	3.7	0.017
	504	4.5	0.020
	586	5.3	0.024
	595	5.3	0.024
	666	5.9	0.027
	681	6.2	0.028
	748	6.1	0.028

\* Values taken, by the compiler, from a graph showing experimental points which was given by the authors.

# Calculated by the compiler.

(cont.)

COMPONENTS:		ORIGINAL MEASUREMENTS:	
1. Ammonia; NH <sub>3</sub> ; [7664-41-7]		Freidson, G. S.; Furmer, I. E.;	
2. 1-Methyl-2-pyrrolidinone; C <sub>5</sub> H <sub>9</sub> NO; [872-50-4]		Amelin, A. G. 1974, VINITI deposited document 1697-74.	
EXPERIMENTAL VALUES:			
T/K	p <sub>NH<sub>3</sub></sub> / atm *	Volume of gas, corrected to 273.2 K and 760 mmHg, dissolved by one volume of solvent.*	Mole fraction # x <sub>NH<sub>3</sub></sub>
283.2	1.10	53	0.18
	1.92	93	0.28
	2.96	150	0.39
	3.85	280	0.54
	4.23	295	0.56
	4.29	319	0.57
	4.62	532	0.69
	4.88	572	0.71
	5.31	806	0.77
	5.87	1173	0.83
298.2	1.08	29	0.11
	2.29	58	0.20
	3.27	104	0.31
	5.08	198	0.46
	6.33	305	0.57
	6.73	378	0.62
	7.60	497	0.68
	8.08	636	0.73
	9.37	1277	0.85
	313.2	3.17	61
5.19		116	0.34
6.88		176	0.44
7.77		228	0.50
9.50		340	0.60
10.27		439	0.66
10.50		467	0.67
11.58		621	0.73
12.60		827	0.79
13.75		1350	0.86
328.2	3.75	39	0.15
	5.29	68	0.23
	6.25	98	0.31
	7.31	113	0.34
	8.46	145	0.40
	8.77	150	0.40
	9.52	190	0.46
	10.58	208	0.48
	11.62	266	0.55
	14.69	476	0.68
	16.15	699	0.76
	17.56	849	0.79
	19.13	1388	0.86
* Values taken, by the compiler, from a graph showing experimental points which was given by the authors.			
# Calculated by the compiler.			
760 mmHg = 1 atm = 1.013 × 10 <sup>5</sup> Pa.			

<b>COMPONENTS:</b> 1. Ammonia; NH <sub>3</sub> ; [7664-41-7] 2. 1,1'-Oxybisoctane; C <sub>16</sub> H <sub>34</sub> O; [629-82-3]	<b>ORIGINAL MEASUREMENTS:</b> Gerrard, W.; Maladkar, V.K. <i>Chem. Ind.</i> <u>1970</u> , 925-926.  Maladkar, V.K. Thesis, Univ. of London, <u>1970</u>						
<b>VARIABLES:</b>	<b>PREPARED BY:</b> P.G.T. Fogg						
<b>EXPERIMENTAL VALUES:</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">T/K</th> <th style="text-align: center;">Moles<sub>NH<sub>3</sub></sub>/moles C<sub>16</sub>H<sub>34</sub>O (1 atm)</th> <th style="text-align: center;">Mole fraction* x<sub>NH<sub>3</sub></sub> (1 atm)</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">273.2</td> <td style="text-align: center;">0.10</td> <td style="text-align: center;">0.09</td> </tr> </tbody> </table> <p>* Calculated by compiler          1 atm = 1.013 x 10<sup>5</sup> Pascal</p>		T/K	Moles <sub>NH<sub>3</sub></sub> /moles C <sub>16</sub> H <sub>34</sub> O (1 atm)	Mole fraction* x <sub>NH<sub>3</sub></sub> (1 atm)	273.2	0.10	0.09
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273.2	0.10	0.09					
<b>AUXILIARY INFORMATION</b>							
<b>METHOD/APPARATUS/PROCEDURE:</b>  Ammonia at barometric pressure was bubbled through a weighed quantity (about 2 g) of solvent in a glass vessel held in a thermostat until saturation was achieved. The concentration of ammonia was calculated from the increase in weight of the vessel after an allowance had been made for the weight of ammonia in the gas phase above the saturated solution. Details of the apparatus are given in ref. (1).	<b>SOURCE AND PURITY OF MATERIALS:</b> 1. Obtained from a cylinder; dried by KOH pellets and a cold trap. 2. Dried over CaCl <sub>2</sub> ; distilled under reduced pressure.  <b>ESTIMATED ERROR:</b>  <b>REFERENCES:</b> 1. Gerrard, W. "Solubility of Gases and Liquids", Plenum Press, New York, <u>1976</u> , p.3.						

<b>COMPONENTS:</b> 1. Ammonia; NH <sub>3</sub> ; [7664-41-7] 2. Acetic acid, octyl ester; C <sub>10</sub> H <sub>20</sub> O <sub>2</sub> ; [112-14-1]	<b>ORIGINAL MEASUREMENTS:</b> Gerrard, W.; Maladkar, V.K. <i>Chem. Ind.</i> <u>1970</u> , 925-926.  Maladkar V.K. Thesis, Univ. of London, <u>1970</u> .						
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<b>METHOD/APPARATUS/PROCEDURE:</b> Ammonia at barometric pressure was bubbled through a weighed quantity (about 2 g) of solvent in a glass vessel held in a thermostat until saturation was achieved. The concentration of ammonia was calculated from the increase in weight of the vessel after an allowance had been made for the weight of ammonia in the gas phase above the saturated solution. Details of the apparatus are given in ref. (1).	<b>SOURCE AND PURITY OF MATERIALS:</b> 1. Obtained from a cylinder; dried by KOH pellets and a cold trap. 2. Dried over CaCl <sub>2</sub> ; distilled under reduced pressure.  <b>ESTIMATED ERROR:</b>  <b>REFERENCES:</b> 1. Gerrard, W. " <i>Solubility of Gases and Liquids</i> ", Plenum Press, New York, <u>1976</u> , p.3.						

<b>COMPONENTS:</b> 1. Ammonia; $\text{NH}_3$ ; [7664-41-7] 2. Phosphorous acid, triethyl ester; $\text{C}_6\text{H}_{15}\text{O}_3\text{P}$ ; [122-52-1]	<b>ORIGINAL MEASUREMENTS:</b> Maladkar, V.K. Thesis, Univ. of London, 1970. (See also Gerrard, W.; Maladkar, V. K. <i>Chem.Ind.</i> 1970, 925-926).																								
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<p>COMPONENTS:</p> <ol style="list-style-type: none"> <li>Ammonia; NH<sub>3</sub>; [7664-41-7]</li> <li>Phosphorous acid, triphenyl ester, C<sub>18</sub>H<sub>15</sub>O<sub>3</sub>P; [101-02-0]</li> </ol>	<p>ORIGINAL MEASUREMENTS:</p> <p>Maladkar, V.K. Thesis, Univ. of London, <u>1970</u></p> <p>(See also Gerrard, W.; Maladkar, V.K. <i>Chem. Ind.</i> <u>1970</u>, 925-926).</p>																												
<p>VARIABLES:</p> <p style="text-align: center;">Pressure</p>	<p>PREPARED BY:</p> <p style="text-align: center;">P.G.T. Fogg.</p>																												
<p>EXPERIMENTAL VALUES:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">T/K</th> <th style="text-align: center;"><math>P_{\text{NH}_3}</math>/mmHg</th> <th style="text-align: center;">Moles<sub>NH<sub>3</sub></sub>/moles C<sub>18</sub>H<sub>15</sub>O<sub>3</sub>P</th> <th style="text-align: center;">Mole fraction * <math>x_{\text{NH}_3}</math></th> </tr> </thead> <tbody> <tr><td style="text-align: center;">293.2</td><td style="text-align: center;">60</td><td style="text-align: center;">0.0275</td><td style="text-align: center;">0.0268</td></tr> <tr><td style="text-align: center;">293.2</td><td style="text-align: center;">125</td><td style="text-align: center;">0.0875</td><td style="text-align: center;">0.0805</td></tr> <tr><td style="text-align: center;">293.2</td><td style="text-align: center;">295</td><td style="text-align: center;">0.1625</td><td style="text-align: center;">0.1398</td></tr> <tr><td style="text-align: center;">293.2</td><td style="text-align: center;">425</td><td style="text-align: center;">0.2300</td><td style="text-align: center;">0.1870</td></tr> <tr><td style="text-align: center;">293.2</td><td style="text-align: center;">485</td><td style="text-align: center;">0.2700</td><td style="text-align: center;">0.2126</td></tr> <tr><td style="text-align: center;">293.2</td><td style="text-align: center;">750</td><td style="text-align: center;">0.3250</td><td style="text-align: center;">0.2453</td></tr> </tbody> </table> <p>Experimental values were given as points on a large scale graph.</p> <p>* Calculated by compiler.</p> <p style="text-align: center;">760 mmHg = 1 atm = 1.013 x 10<sup>5</sup> Pa</p>		T/K	$P_{\text{NH}_3}$ /mmHg	Moles <sub>NH<sub>3</sub></sub> /moles C <sub>18</sub> H <sub>15</sub> O <sub>3</sub> P	Mole fraction * $x_{\text{NH}_3}$	293.2	60	0.0275	0.0268	293.2	125	0.0875	0.0805	293.2	295	0.1625	0.1398	293.2	425	0.2300	0.1870	293.2	485	0.2700	0.2126	293.2	750	0.3250	0.2453
T/K	$P_{\text{NH}_3}$ /mmHg	Moles <sub>NH<sub>3</sub></sub> /moles C <sub>18</sub> H <sub>15</sub> O <sub>3</sub> P	Mole fraction * $x_{\text{NH}_3}$																										
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<p>AUXILIARY INFORMATION</p>																													
<p>METHOD APPARATUS/PROCEDURE:</p> <p>Ammonia at barometric pressure was bubbled through a weighed quantity of solvent (about 2 g) in a glass vessel at a few degrees below 293.2K. and the new pressure of ammonia measured. The concentration of ammonia was calculated from the increase in weight of the vessel after an allowance had been made for displacement of air by ammonia in the gas phase above the saturated solution. Solubilities at lower pressures were calculated from weight changes when solutions which had been previously saturated at higher pressures were allowed to come to equilibrium under a lower pressure of ammonia.</p> <p>Details of the apparatus are given in ref. (1).</p>	<p>SOURCE AND PURITY OF MATERIALS:</p> <ol style="list-style-type: none"> <li>Obtained from a cylinder; dried by KOH pellets and a cold trap.</li> <li>Distilled under reduced pressure.</li> </ol> <p>ESTIMATED ERROR:</p> <p>REFERENCES:</p> <ol style="list-style-type: none"> <li>Gerrard, W. "<i>Solubility of Gases and Liquids</i>," Plenum Press, New York, <u>1976</u>, p.3.</li> </ol>																												

COMPONENTS:			ORIGINAL MEASUREMENTS:	
1. Ammonia; NH <sub>3</sub> ; [7664-41-7]			Hála, J.; Tuck, D. G.	
2. Phosphoric acid, tributyl ester (tributyl phosphate); C <sub>12</sub> H <sub>27</sub> O <sub>4</sub> P; [126-73-8]			J. Chem. Soc. (A) 1970, 3242-3246.	
VARIABLES:			PREPARED BY:	
Temperature			P. G. T. Fogg	
EXPERIMENTAL VALUES:				
T/K	mol <sub>NH<sub>3</sub></sub> /mol <sub>Bu<sub>3</sub>PO<sub>4</sub></sub> (1 atm)		Mole fraction* x <sub>NH<sub>3</sub></sub> (1 atm)	
	Expt. values	Mean		
243.2	1.26	1.19	1.22	0.55
253.2	0.62	0.60	0.61	0.38
263.2	0.34	0.35	0.35	0.26
273.2	0.21	0.20	0.20	0.17
283.2	0.16	0.15	0.15	0.13
293.2	0.11	0.10	0.10	0.09
1 atm = 1.013 × 10 <sup>5</sup> Pa.				
* Calculated by compiler.				
AUXILIARY INFORMATION				
METHOD/APPARATUS/PROCEDURE:			SOURCE AND PURITY OF MATERIALS:	
Ammonia at a pressure of 1 atm was passed <i>via</i> a sinter disc inlet through the solvent in a thermostatted bubbling apparatus attached <i>via</i> taps to an evacuated sample collector. Equilibrium saturation was reached in about 1 hour but a period of 8 hours was normally allowed. Taps were then opened to let some of the saturated solution run into the sample collector which was then detached and weighed to give the weight of the sample. Contents were then distilled into standard aqueous hydrochloric acid which was subsequently back-titrated against alkali to give the weight of ammonia present.			1. Obtained from Matheson Co., Ontario; dried by passing through CaO and then KOH.	
			2. Obtained from Fisher Scientific Co.; refluxed with aqueous NaOH, treated with anhydrous MgSO <sub>4</sub> , dried at 50 °C <i>in vacuo</i> in a stream of dry N <sub>2</sub> .	
			ESTIMATED ERROR:	
			REFERENCES:	

<b>COMPONENTS:</b> 1. Ammonia; $\text{NH}_3$ ; [7664-41-7] 2. 1,2,3-Propanetriol triacetate (glyceryl triacetate, triacetin); $\text{C}_9\text{H}_{14}\text{O}_6$ ; [102-76-1]	<b>ORIGINAL MEASUREMENTS:</b> Furmer, I. E.; Amelin, A. G.; Freidson, G. S. <i>Tr. Mosk. Khim. Teknol. Inst.</i> <u>1974</u> , 79, 96-98.												
<b>VARIABLES:</b> Temperature, pressure	<b>PREPARED BY:</b> P. G. T. Fogg												
<b>EXPERIMENTAL VALUES:</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">T/K</th> <th style="text-align: center;">Henry's Constant* /mmHg</th> <th style="text-align: center;">Mole fraction (1 atm)# <math>x_{\text{C}_9\text{H}_{14}\text{O}_6}</math></th> </tr> </thead> <tbody> <tr> <td>298.2</td> <td style="text-align: center;">4600</td> <td style="text-align: center;">0.165</td> </tr> <tr> <td>313.2</td> <td style="text-align: center;">6760</td> <td style="text-align: center;">0.112</td> </tr> <tr> <td>328.2</td> <td style="text-align: center;">9700</td> <td style="text-align: center;">0.078</td> </tr> </tbody> </table>		T/K	Henry's Constant* /mmHg	Mole fraction (1 atm)# $x_{\text{C}_9\text{H}_{14}\text{O}_6}$	298.2	4600	0.165	313.2	6760	0.112	328.2	9700	0.078
T/K	Henry's Constant* /mmHg	Mole fraction (1 atm)# $x_{\text{C}_9\text{H}_{14}\text{O}_6}$											
298.2	4600	0.165											
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328.2	9700	0.078											
<p>* Henry's constant = <math>p_{\text{NH}_3}/x_{\text{NH}_3}</math> where <math>x_{\text{NH}_3}</math> is the mole fraction of <math>\text{NH}_3</math> in the liquid phase.</p> <p># Calculated by the compiler on the assumption that the Henry's law constant is valid for 1 atm.</p> <p>The absorption of ammonia was measured at pressures to 1 atm at temperatures from 10 °C to 75 °C and to 20 atm at temperatures from 25 °C to 55 °C. Results were given in the form of small scale graphs and in the form of Henry's constants. One graph shows that, at each temperature, the volume of gas (corrected to 1 atm and 273.2 K) absorbed by one volume of liquid varied linearly with pressure for pressures to about 1 atm. A second graph shows that the variation was non-linear at higher pressures. Henry's law constants, <math>H</math>, based upon measurements at or below 1 atm, were given for three temperatures. Values were said to fit the equation:</p> $H/\text{mmHg} = 7.03 - (1000/T).$ <p>The compiler considers that this is erroneous and that authors intended to write</p> $\log_{10} (H/\text{mmHg}) = 7.03 - (1000/T).$													
<b>AUXILIARY INFORMATION</b>													
<b>METHOD / APPARATUS / PROCEDURE:</b> Apparatus described previously was used (refs. 1, 2 and 3). A quantity of gas, measured by changes in pressure of a known volume, was allowed into contact with solvent in a thermostatted absorption vessel. The liquid was magnetically stirred and the final pressure of gas in contact with solvent was measured.	<b>SOURCE AND PURITY OF MATERIALS:</b> No information given.												
<b>ESTIMATED ERROR:</b>													
<b>REFERENCES:</b> 1. Braude, G.E.; Leites, I.L.; Dedova, I.V. <i>Khim. Prom.</i> <u>1961</u> , 232. 2. Braude, G.E.; Shakhova, S.F. <i>Khim. Prom.</i> <u>1961</u> , 177. 3. Shenderei, E.R.; Zel'venskii, Ya.D.; Ivanovskii, F.P. <i>Khim. Prom.</i> <u>1960</u> , 370.													

COMPONENTS:			ORIGINAL MEASUREMENTS:		
1. Ammonia; NH <sub>3</sub> ; [7664-41-7]			Ditsent, V.E.; Zolotareva, M.N. <i>Zh. Fiz. Khim.</i> 1973, 47, 1045; <i>Russ. J. Phys. Chem.</i> 1973, 47, 595.		
2. Triethoxysilane; C <sub>6</sub> H <sub>16</sub> O <sub>3</sub> Si; [998-30-1]			(Brief details given in the above paper. Complete article deposited at VINITI. No. 5307-73, dep. from 3 Jan. 1973.)		
VARIABLES:			PREPARED BY:		
Pressure, temperature			P. G. T. Fogg		
EXPERIMENTAL VALUES:					
T/K	p <sub>NH<sub>3</sub></sub> /mmHg	Mole fraction x <sub>NH<sub>3</sub></sub>	T/K	p <sub>NH<sub>3</sub></sub> /mmHg	Mole fraction x <sub>NH<sub>3</sub></sub>
273.2	100	0.0149	303.2	100	0.0073
	200	0.0295		200	0.0143
	300	0.0445		300	0.0213
	400	0.0595		400	0.0285
	500	0.0742		500	0.0356
	600	0.0890		600	0.0426
	700	0.1065		700	0.0499
283.2	100	0.0113	313.2	100	0.0058
	200	0.0223		200	0.0115
	300	0.0335		300	0.0173
	400	0.0445		400	0.0227
	500	0.0555		500	0.0283
	600	0.0665		600	0.0338
	700	0.0778		700	0.0394
293.2	100	0.0087	323.2	100	0.0051
	200	0.0179		200	0.0101
	300	0.0268		300	0.0155
	400	0.0360		400	0.0206
	500	0.0449		500	0.0258
	600	0.0535		600	0.0310
	700	0.0627		700	0.0362
760 mmHg = 1 atm = 1.013 × 10 <sup>5</sup> Pa.					
AUXILIARY INFORMATION					
METHOD 'APPARATUS/PROCEDURE:			SOURCE AND PURITY OF MATERIALS:		
The method and apparatus are de- scribed in refs. (1) and (2).			1. To specification GOST 6221-70; dried over solid KOH; purified by vacuum distillation.		
A known weight of ammonia was dis- solved in a known weight of solvent and the resulting total pressure was measured by a manometer. Temperatures were controlled to ±0.1 °C.			2. Prepared from SiHCl <sub>3</sub> and C <sub>2</sub> H <sub>5</sub> OH; chromatography indicated a purity of 99.8%.		
			ESTIMATED ERROR:		
			δT/K = ±0.1 (estimated by the authors)		
			REFERENCES:		
			1. Tsiklis, D. S.; Svetlova, G. M. <i>Zh. Fiz. Khim.</i> 1958, 32, 1476.		
			2. Tsiklis, D. S.; Kofman, A. N.; Shenderei, L. I. <i>Zh. Fiz. Khim.</i> 1959, 33, 2012.		