

<p>COMPONENTS:</p> <p>1. Ammonium trihydrogen diselenite;  <math>\text{NH}_4\text{H}_3(\text{SeO}_3)_2</math>; [25425-97-2]</p> <p>2. Water; <math>\text{H}_2\text{O}</math>; [7732-18-5]</p>	<p>ORIGINAL MEASUREMENTS:</p> <p>Janickis, J.  <i>Z. Anorg. Allgem. Chem.</i> <u>1934</u>, 218, 89-103.</p>																								
<p>VARIABLES:</p> <p>Temperature: 258 - 303 K</p>	<p>PREPARED BY:</p> <p>Mary R. Masson</p>																								
<p>EXPERIMENTAL VALUES:</p> <table border="1" data-bbox="392 520 967 766"> <thead> <tr> <th><math>t/^\circ\text{C}</math></th> <th><math>\text{NH}_4\text{H}_3(\text{SeO}_3)_2</math> mass %</th> <th><math>\text{NH}_4\text{H}_3(\text{SeO}_3)_2^a</math> mol/kg</th> </tr> </thead> <tbody> <tr><td>-14.8</td><td>60.08</td><td>5.473</td></tr> <tr><td>-10.3</td><td>64.58</td><td>6.631</td></tr> <tr><td>- 5.8</td><td>68.70</td><td>7.982</td></tr> <tr><td>+ 0.1</td><td>73.61</td><td>10.144</td></tr> <tr><td> 8.8</td><td>79.30</td><td>13.932</td></tr> <tr><td>18.0</td><td>85.11</td><td>20.787</td></tr> <tr><td>30.0</td><td>91.62</td><td>39.760</td></tr> </tbody> </table> <p><sup>a</sup> Molalities calculated by the compiler.</p>		$t/^\circ\text{C}$	$\text{NH}_4\text{H}_3(\text{SeO}_3)_2$ mass %	$\text{NH}_4\text{H}_3(\text{SeO}_3)_2^a$ mol/kg	-14.8	60.08	5.473	-10.3	64.58	6.631	- 5.8	68.70	7.982	+ 0.1	73.61	10.144	8.8	79.30	13.932	18.0	85.11	20.787	30.0	91.62	39.760
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<p>METHOD APPARATUS/PROCEDURE:</p> <p>For each temperature, a saturated solution was prepared by stirring the salt in water inside a stoppered 4-cm diameter test-tube. Small samples of solution were removed at intervals for analysis, in order to test for attainment of equilibrium. The time required varied between 2 and 14 hr. The solutions were analysed for <math>\text{SeO}_2</math> by the method of Norris and Fay (1).</p>	<p>SOURCE AND PURITY OF MATERIALS:</p> <p>ESTIMATED ERROR:  Temperature: <math>-20 - 0^\circ\text{C} \pm 0.2^\circ\text{C}</math>, <math>0 - 60^\circ\text{C} \pm 0.1^\circ\text{C}</math>.</p> <p>REFERENCES:  1. Norris, J.F.; Fay, H. <i>Amer. Chem. J.</i> <u>1896</u>, 18, 703; <u>1900</u>, 23, 119.</p>																								

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<b>METHOD APPARATUS/PROCEDURE:</b>  Freezing points of prepared solutions were measured by use of a Beckman-type apparatus (1). Determinations were repeated until the desired reproducibility was attained. Each reported value is the mean of at least three determinations.	<b>SOURCE AND PURITY OF MATERIALS:</b>  Ammonium trihydrogen diselenite was prepared from selenious acid and ammonia solution.  <b>ESTIMATED ERROR:</b>  Temperature reproducibility 0.5%  <b>REFERENCES:</b>  1. Ostwald, W.; Luther, R. <i>Hand- und Hilfsbuch zur Ausführung physikochemischer Messungen</i> , 5th Ed., Akademische Verlag., Leipzig, <u>1931</u> .																																																		