

COMPONENTS: (1) Disodium hydrogenphosphate; Na_2HPO_4 ; [7558-79-4] (2) Hydrogen peroxide; H_2O_2 ; [7722-84-1] (3) Water; H_2O ; [7732-18-5]	ORIGINAL MEASUREMENTS: Menzel, H.; Gabler, C. <i>Z. Anorg. Chem.</i> <u>1929</u> , <i>177</i> , 187-214.																																							
VARIABLES: Composition at 0°C.	PREPARED BY: J. Eysseltová																																							
EXPERIMENTAL VALUES: Composition of saturated solutions of Na_2HPO_4 in aqueous H_2O_2 at 0°C. <table border="1" data-bbox="178 551 1138 797"> <thead> <tr> <th rowspan="2">mol P:mol O_2^{2-}</th> <th colspan="2">H_2O_2</th> <th colspan="2">Na_2HPO_4</th> </tr> <tr> <th>g/1000 g soln</th> <th>mol/1000 g H_2O</th> <th>g/1000 g soln</th> <th>mol/1000 g H_2O</th> </tr> </thead> <tbody> <tr> <td>1:0</td> <td>-----</td> <td>-----</td> <td>16.05</td> <td>0.1148</td> </tr> <tr> <td>1:0.63</td> <td>2.501</td> <td>0.0750</td> <td>16.52</td> <td>0.1186</td> </tr> <tr> <td>1:1.71</td> <td>7.132</td> <td>0.2149</td> <td>17.42</td> <td>0.1258</td> </tr> <tr> <td>1:2.18</td> <td>9.349</td> <td>0.2825</td> <td>17.89</td> <td>0.1294</td> </tr> <tr> <td>1:2.98</td> <td>12.88</td> <td>0.3910</td> <td>18.60</td> <td>0.1353</td> </tr> <tr> <td>1:3.54</td> <td>16.33</td> <td>0.4977</td> <td>19.23</td> <td>0.1405</td> </tr> </tbody> </table> <p>The equilibrium solid phase was identified as $\text{Na}_2\text{HPO}_4 \cdot 12\text{H}_2\text{O}$ [10039-32-4].</p>		mol P:mol O_2^{2-}	H_2O_2		Na_2HPO_4		g/1000 g soln	mol/1000 g H_2O	g/1000 g soln	mol/1000 g H_2O	1:0	-----	-----	16.05	0.1148	1:0.63	2.501	0.0750	16.52	0.1186	1:1.71	7.132	0.2149	17.42	0.1258	1:2.18	9.349	0.2825	17.89	0.1294	1:2.98	12.88	0.3910	18.60	0.1353	1:3.54	16.33	0.4977	19.23	0.1405
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METHOD/APPARATUS/PROCEDURE: The method used was described earlier (1). The equilibrium vessel and the sampling pipet were thermostated in an ice-water mixture. The equilibrium was checked by repeated analysis. The Na_2HPO_4 content was determined by titration with 0.1 N HCl using methylorange as indicator (2). The H_2O_2 content was determined by titration with 0.1 N KMnO_4 .	SOURCE AND PURITY OF MATERIALS: The $\text{Na}_2\text{HPO}_4 \cdot 12\text{H}_2\text{O}$ was the purest Kahlbaum grade. The H_2O_2 was the purest Merck reagent grade. ESTIMATED ERROR: The temperature was controlled to within ± 0.1 K. No additional information is given. REFERENCES: 1. Menzel, H. <i>Z. Anorg. Allg. Chem.</i> <u>1927</u> , <i>164</i> , 6. 2. Kolthoff, I. <i>Massanalyse</i> , II, p. 139, Berlin, <u>1928</u> .																																							