

COMPONENTS:		ORIGINAL MEASUREMENTS:						
(1) Trisodium phosphate; Na ₃ PO ₄ ; [7601-54-9]		D'Ans, J.; Schreiner, O.						
(2) Phosphoric acid; H ₃ PO ₄ ; [7664-38-2]		Z. Anorg. Chem. <u>1911</u> , 75, 95-102.						
(3) Sodium hydroxide; NaOH; [1310-73-2]								
(4) Water; H ₂ O; [7732-18-5]								
VARIABLES:		PREPARED BY:						
One temperature: 25°C		J. Eysseltová						
Composition								
EXPERIMENTAL VALUES:								
Solubility in the system: Na ₃ PO ₄ -NaOH-H ₃ PO ₄ -H ₂ O at 25°C.								
		Na ₃ PO ₄ ^b		NaOH ^b		H ₃ PO ₄ ^b		
C _{Na⁺} ^a	C _{PO₄³⁻} ^a	mass%	mol/kg	mass%	mol/kg	mass%	mol/kg	solid phase ^c
4.28	0.040	0.66	0.05	17.07	5.18	----	----	A
3.24	0.183	3.00	0.22	12.72	3.77	----	----	"
2.24	0.752	12.26	0.85	----	----	0.05	0.01	"
2.73	1.08	14.94	1.09	----	----	1.67	0.20	" ^d
3.48	1.33	19.04	1.46	----	----	1.67	0.21	A + B
2.62	1.09	14.33	1.04	----	----	2.12	0.26	B
1.56	0.78	8.54	0.58	----	----	2.55	0.29	"
2.38	1.60	13.02	1.00	----	----	7.90	1.02	"
3.18	2.24	17.40	1.49	----	----	11.56	1.66	"
4.65	3.55	25.44	2.82	----	----	19.60	3.64	"
5.63	3.87	30.80	3.77	----	----	19.53	4.01	"
6.31	4.63	34.52	5.16	----	----	24.76	6.20	C ^d
6.76	4.88	36.99	6.04	----	----	25.74	7.05	"
7.31	5.55	40.00	8.25	----	----	30.51	10.56	metastable soln
6.76	4.88	36.99	6.04	----	----	25.74	7.05	C + p ^e
6.19	4.68	33.87	5.09	----	----	25.64	6.46	E ^d
6.01	4.67	32.88	4.88	----	----	26.13	6.51	"
5.12	4.36	28.01	3.70	----	----	26.00	5.77	"
4.81	4.22	26.32	3.33	----	----	25.64	5.45	"
4.36	4.08	23.86	2.88	----	----	25.74	5.21	"
4.06	4.03	22.21	2.62	----	----	26.23	5.19	"
(continued next page)								
AUXILIARY INFORMATION								
METHOD/APPARATUS/PROCEDURE:					SOURCE AND PURITY OF MATERIALS:			
Isothermal method. Analytical methods: H ₃ PO ₄ was precipitated as NH ₄ MgPO ₄ · 6H ₂ O and weighed as Mg ₂ P ₂ O ₇ . Na ⁺ was determined as Na ₂ SO ₄ after removing of H ₃ PO ₄ with the aid of lead method.					Commercial materials, pure, recrystallized before use.			
					ESTIMATED ERROR: Temperature: precision ± 0.05 K Nothing else given.			
					REFERENCES:			

COMPONENTS:

- (1) Trisodium phosphate, Na₃PO₄; [7601-54-9]
 (2) Phosphoric acid; H₃PO₄; [7664-38-2]
 (3) Sodium hydroxide; NaOH; [1310-73-2]
 (4) Water; H₂O, [7732-18-5]

ORIGINAL MEASUREMENTS:

D'Ans, J.; Schreiner, O.
 Z. Anorg. Chem. 1911, 75, 95-102.

EXPERIMENTAL VALUES cont'd:

Solubility in the system: Na₃PO₄-NaOH-H₃PO₄-H₂O at 25°C.

C _{Na⁺} ^a	C _{PO₄³⁻} ^a	Na ₃ PO ₄ ^b		NaOH ^b		H ₃ PO ₄ ^b		solid phase ^c
		mass%	mol/kg	mass%	mol/kg	mass%	mol/kg	
4.19	4.38	22.92	2.91	----	----	29.24	6.24	E
4.32	4.96	23.64	3.43	----	----	34.50	8.41	"
4.65	5.89	25.44	4.83	----	----	42.53	13.55	" ^d
4.88	6.40	26.70	6.12	----	----	46.78	18.00	" ^d

^a These concentrations are expressed as mol/kg of solution.

^b All these values were calculated by the compiler.

^c The solid phases are: A = Na₃PO₄·12H₂O; B = Na₂HPO₄·12H₂O; C = Na₂HPO₄·7H₂O;
 D = Na₂HPO₄·2H₂O; E = NaH₂PO₄·2H₂O.

^d These solid phases were analyzed.

^e The compiler considers this to be an obvious error. It should be C + E.

COMPONENTS:						ORIGINAL MEASUREMENTS:					
(1) Trisodium phosphate; Na ₃ PO ₄ ; [7601-54-9]						Menzel, H.; v. Sahr, E.					
(2) Phosphoric acid; H ₃ PO ₄ ; [7664-38-2]						Z. Elektrochem. <u>1937</u> , 2, 104-19.					
(3) Sodium hydroxide; NaOH; [1310-73-2]											
(4) Water; H ₂ O; [7732-18-5]											
VARIABLES:						PREPARED BY:					
One temperature: 20°C						J. Eysseltová					
Composition											
EXPERIMENTAL VALUES:											
Composition of saturated solutions of the Na ₂ O-P ₂ O ₅ -H ₂ O system at 20°C.											
	Na ₂ O	P ₂ O ₅	Na ₃ PO ₄ ^b	NaOH ^b	H ₃ PO ₄ ^b	solid phase					
N _O ^a	mass%	mass%	N ₁ ^a	mass%	mol/kg	mass%	mol/kg	mass%	mol/kg	Na ₂ O:P ₂ O ₅ :H ₂ O	
2.00	3.06	3.51	2.00	5.41	0.35	----	----	1.62	0.18	2.00	1 25.0
2.12	3.79	3.97	2.19	6.70	0.44	----	----	1.49	0.16	2.00	1 25.09
2.30	6.01	5.51	2.50	10.63	0.74	----	----	1.27	0.15	2.01	1 24.64
2.40	7.24	6.38	2.60	12.80	0.90	----	----	1.18	0.14	2.02	1 25.85
2.50	8.44	7.25	2.67	14.92	1.08	----	----	1.11	0.14	2.12	1 24.48
2.60	8.43	7.25	2.67	14.91	1.08	----	----	1.12	0.14	2.33	1 21.52
2.70	8.45	7.27	2.67	14.94	1.08	----	----	1.13	0.14	3.09	1 23.67
2.80	8.32	7.09	2.69	14.71	1.06	----	----	1.02	0.12	3.11	1 25.27
2.85	7.35	6.06	2.78	13.00	0.92	----	----	0.62	0.07	3.13	1 23.73
2.90	7.45	6.11	2.79	13.17	0.93	----	----	0.58	0.07	3.14	1 25.41
3.00	6.61	5.22	2.90	11.69	0.81	----	----	0.24	0.03	3.18	1 24.82
3.05	6.17	4.79	2.95	10.91	0.74	----	----	0.11	0.01	3.19	1 25.28
3.10	5.34	4.03	3.03	9.33	0.63	0.08	0.02	----	----	3.19	1 24.73
3.20	4.80	3.46	3.18	8.01	0.53	0.34	0.09	----	----	3.21	1 24.32
3.30	4.53	3.11	3.34	7.20	0.48	0.59	0.16	----	----	3.22	1 23.97
3.50	4.26	2.65	3.68	6.14	0.40	1.02	0.27	----	----	3.22	1 23.73
(continued next page)											
AUXILIARY INFORMATION											
METHOD/APPARATUS/PROCEDURE:						SOURCE AND PURITY OF MATERIALS:					
<p>The components were brought into solution at an elevated temperature. After reaching 20°C each system was equilibrated for 2 or 3 days. The liquid phase was then analyzed and reanalyzed after another 2 or 3 days. The solid phase was separated by a Schott filter and then either washed with ice water or filtered under a pressure of CO₂. It was then dried on a porous plate in an empty desiccator. The samples were titrated with 0.5 mol dm⁻³ HCl using dimethyl yellow as indicator. The indicator was then destroyed by boiling with Br₂ water. The samples were then titrated with 0.5 mol dm⁻³ NaOH using thymolphthalein as indicator. Water was determined by difference.</p>						<p>Na₂HPO₄ was from Sorensen-Kahlbaum, Merck. The NaOH was carbonate-free. The water was conductivity water.</p>					
						ESTIMATED ERROR:					
						<p>Temperature was constant to within ± 0.1 K.</p>					
REFERENCES:											

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Trisodium phosphate; Na ₃ PO ₄ ; [7601-54-9]	Menzel, H., v. Sahr, E.
(2) Phosphoric acid; H ₃ PO ₄ ; [7664-38-2]	Z. Elektrochem. <u>1937</u> , 2, 104-19.
(3) Sodium hydroxide; NaOH; [1310-73-2]	
(4) Water; H ₂ O; [7732-18-5]	

EXPERIMENTAL VALUES cont'd:

Composition of saturated solutions of the Na₂O-P₂O₅-H₂O system at 20°C.

N _o ^a	Na ₂ O	P ₂ O ₅	N ₁ ^a	Na ₃ PO ₄ ^b		NaOH ^b		H ₃ PO ₄ ^b		solid phase		
	mass%	mass%		mass%	mol/kg	mass%	mol/kg	mass%	mol/kg	Na ₂ O:P ₂ O ₅ :H ₂ O		
3.70	4.13	2.38	3.97	5.51	0.36	1.31	0.35	----	----			
3.75	4.07	1.54	6.05	3.56	0.23	2.65	0.71	----	----	3.22	1	23.88
4.00	4.20	1.24	7.75	2.87	0.19	3.32	0.89	----	----	3.23	1	24.15
4.50	4.47	0.95	10.78	2.20	0.14	4.16	1.11	----	----	3.23	1	24.12
5.00	4.77	0.83	13.2	1.92	0.12	4.75	1.27	----	----	3.23	1	23.98
7.00	8.17	0.35	52.8	0.81	0.06	9.95	2.79	----	----	3.23	1	24.11
9.00	13.18	0.20	144.9	0.46	0.03	16.67	5.03	----	----	3.24	1	24.32
	17.86	0.08		0.18	0.01	22.92	7.45	----	----			
	21.73	0.09		0.21	0.02	27.90	9.70	----	----			
	25.39	0.17		0.39	0.04	32.48	12.10	----	----			
	25.85	0.22		0.51	0.05	32.99	12.40	----	----			
	27.79	0.19		0.44	0.04	35.55	13.88	----	----			
	28.15							----	----			
	28.36	0.21		0.49	0.05	36.25	14.32	----	----			
	30.23	0.21		0.49	0.05	38.66	15.88	----	----			
	31.07	0.21		0.49	0.05	39.75	16.63	----	----			
	31.18	0.20		0.46	0.05	39.91	16.73	----	----			
	31.64							----	----			
	31.97	0.15		0.35	0.04	41.01	17.48	----	----			
	32.58	0.12		0.28	0.03	41.85	18.08	----	----			

^a N_o is the original ratio of Na₂O/P₂O₅; N₁ is ratio of Na₂O/P₂O₅ in saturated solution.

^b All these values were calculated by the compiler.

For the composition of the equilibrium solid phases see the Critical Evaluation.

COMPONENTS: (1) Trisodium phosphate; Na ₃ PO ₄ ; [7601-54-9] (2) Phosphoric acid; H ₃ PO ₄ ; [7664-38-2] (3) Sodium hydroxide; NaOH; [1310-73-2] (4) Water; H ₂ O; [7732-18-5]	ORIGINAL MEASUREMENTS: Kobe, K.A.; Leipper, A. <i>Ind. Eng. Chem.</i> <u>1940</u> , 32, 198-203.																																																																																
VARIABLES: Composition at 25°C.	PREPARED BY: J. Eysseltová																																																																																
EXPERIMENTAL VALUES: <p style="text-align: center;">Composition of saturated solutions of the Na₂O-P₂O₅-H₂O system at 25°C.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">Na₂O</th> <th colspan="2">P₂O₅</th> <th colspan="2">Na₃PO₄^a</th> <th colspan="2">NaOH^a</th> <th colspan="2">H₃PO₄^a</th> </tr> <tr> <th>mass %</th> <th>mol/kg</th> <th>mass %</th> <th>mol/kg</th> <th>mass %</th> <th>mol/kg</th> <th>mass %</th> <th>mol/kg</th> <th>mass %</th> <th>mol/kg</th> </tr> </thead> <tbody> <tr> <td>4.85</td> <td>0.27</td> <td>1.79</td> <td>0.06</td> <td>4.15</td> <td>0.12</td> <td>3.23</td> <td>0.13</td> <td>----</td> <td>----</td> </tr> <tr> <td>4.91</td> <td>0.36</td> <td>2.38</td> <td>0.08</td> <td>5.51</td> <td>0.17</td> <td>2.31</td> <td>0.09</td> <td>----</td> <td>----</td> </tr> <tr> <td>5.06</td> <td>0.20</td> <td>1.29</td> <td>0.04</td> <td>2.99</td> <td>0.12</td> <td>4.35</td> <td>0.17</td> <td>----</td> <td>----</td> </tr> <tr> <td>5.11</td> <td>0.43</td> <td>2.80</td> <td>0.10</td> <td>6.48</td> <td>0.26</td> <td>1.86</td> <td>0.08</td> <td>----</td> <td>----</td> </tr> <tr> <td>7.80</td> <td>0.98</td> <td>6.30</td> <td>0.23</td> <td>13.79</td> <td>0.51</td> <td>----</td> <td>----</td> <td>0.48</td> <td>0.06</td> </tr> <tr> <td>8.56</td> <td>1.10</td> <td>7.12</td> <td>0.27</td> <td>15.14</td> <td>0.59</td> <td>----</td> <td>----</td> <td>0.81</td> <td>0.10</td> </tr> </tbody> </table> <p>^a All these values were calculated by the compiler.</p>		Na ₂ O		P ₂ O ₅		Na ₃ PO ₄ ^a		NaOH ^a		H ₃ PO ₄ ^a		mass %	mol/kg	mass %	mol/kg	mass %	mol/kg	mass %	mol/kg	mass %	mol/kg	4.85	0.27	1.79	0.06	4.15	0.12	3.23	0.13	----	----	4.91	0.36	2.38	0.08	5.51	0.17	2.31	0.09	----	----	5.06	0.20	1.29	0.04	2.99	0.12	4.35	0.17	----	----	5.11	0.43	2.80	0.10	6.48	0.26	1.86	0.08	----	----	7.80	0.98	6.30	0.23	13.79	0.51	----	----	0.48	0.06	8.56	1.10	7.12	0.27	15.14	0.59	----	----	0.81	0.10
Na ₂ O		P ₂ O ₅		Na ₃ PO ₄ ^a		NaOH ^a		H ₃ PO ₄ ^a																																																																									
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AUXILIARY INFORMATION																																																																																	
METHOD/APPARATUS/PROCEDURE: Various saturated solutions of Na ₃ PO ₄ were made up. NaOH was added to some, Na ₂ HPO ₄ to others. The solutions were rotated in a self-constructed apparatus at 25°C. The amount of solid phase was kept to a minimum. The analyses were done acidimetrically (1).	SOURCE AND PURITY OF MATERIALS: Baker's C. P. tertiary sodium phosphate was used. According to analysis its composition was Na ₃ PO ₄ ·1/7NaOH·12H ₂ O. No other details are given.																																																																																
ESTIMATED ERROR: Temperature was constant to within ±0.05 K.																																																																																	
REFERENCES: 1. Smith, J.H., <i>J. Soc. Chem. Ind.</i> <u>1917</u> , 36, 415.																																																																																	

COMPONENTS: (1) Trisodium phosphate; Na ₃ PO ₄ ; [7601-54-9] (2) Phosphoric acid; H ₃ PO ₄ ; [7664-38-2] (3) Sodium hydroxide; NaOH; [1310-73-2] (4) Water; H ₂ O; [7732-18-5]						ORIGINAL MEASUREMENTS: Wendrow, B.; Kobe, K.A. <i>Ind. Eng. Chem.</i> <u>1952</u> , 44, 1439-48.				
VARIABLES: Composition and temperature.						PREPARED BY: J. Eysseltová				
EXPERIMENTAL VALUES: Composition of saturated solutions of the Na ₂ O-P ₂ O ₅ -H ₂ O system.										
Na ₂ O		P ₂ O ₅		Na ₃ PO ₄ ^a		NaOH ^a		H ₃ PO ₄ ^a		solid ^b
mass%	mol%	mass%	mol%	mass%	mol/kg	mass%	mol/kg	mass%	mol/kg	phase
temp. = 0°C.										
2.23	0.67	1.75	0.23	3.93	0.25	----	----	0.06	0.00	A
2.10	0.62	0.61	0.08	1.41	0.08	1.67	0.43	----	----	A
3.03	0.92	2.25	0.30	5.20	0.33	0.10	0.02	----	----	A
0.754	0.22	0.855	0.11	1.33	0.08	----	----	0.38	0.04	B12
0.746	0.22	0.840	0.11	1.31	0.08	----	----	0.37	0.03	B12
9.28	3.58	21.26	3.58	16.39	1.55	----	----	19.58	3.12	C2
9.36	3.66	21.43	3.66	16.53	1.58	----	----	19.73	3.15	C2
temp. = 25°C.										
30.35	11.23	0.16	0.025	0.37	0.03	38.90	16.01	----	----	DO.5
28.61	10.44	0.28	0.045	0.64	0.06	36.45	14.48	----	----	DO.5
28.30	10.21	0.31	0.050	0.71	0.06	36.00	14.22	----	----	DO.5 + D6
26.48	9.49	0.28	0.042	0.64	0.06	33.70	12.83	----	----	D6
24.77	8.75	0.30	0.046	0.69	0.06	31.46	11.59	----	----	D6
23.73	8.32	0.29	0.043	0.67	0.05	30.13	10.88	----	----	D6 + A
20.82	7.10	0.22	0.033	0.50	0.04	26.50	9.07	----	----	A
12.31	3.86	0.31	0.043	0.71	0.05	15.13	4.49	----	----	A
5.75	1.75	0.75	0.099	1.73	0.11	6.15	1.67	----	----	A
4.65	1.41	1.40	0.186	3.23	0.21	3.63	0.97	----	----	A
4.61	1.41	2.50	0.335	5.78	0.38	1.72	0.46	----	----	A
4.79	1.48	2.70	0.363	6.24	0.41	1.61	0.43	----	----	A
(continued next page)										
AUXILIARY INFORMATION										
METHOD/APPARATUS/PROCEDURE: A standard-type constant temperature bath fitted with automatic controls. Water with ethylene glycol at 0°C, water at 25-60°C and white mineral oil at 80 and 100°C were used as the bath. Self-constructed apparatus for agitation. Analyses: phosphorus was determined according to (1) except for highly alkaline solutions in which the content of P ₂ O ₅ was 0.8% or less where gravimetric method using magnesium ammonium phosphate was used. Sodium: nothing given, the compiler supposes Smith's method (2) was used. Schreinemakers' method of wet residue was combined with microscopic examination of solid phases.						SOURCE AND PURITY OF MATERIALS: All chemicals used were C. P. reagent grade. H ₃ PO ₄ , disodium phosphate and monosodium phosphate from J. T. Baker and Co. and disodium phosphate and hemisodium phosphate from Monsanto were used. Merck's sodium hydroxide pellets were used in the preparation of both the samples and the standard NaOH solution.				
						ESTIMATED ERROR: Nothing given; the compiler assumes the reproducibility of the analysis to be better than 1%.				
						REFERENCES: 1. Gerber, A.B.; Miles, P.T. <i>Ind. Eng. Chem., Anal. Ed.</i> <u>1941</u> , 13, 406. 2. Smith, J.H. <i>J. Soc. Chem. Ind. London</i> <u>1917</u> , 36, 420.				

COMPONENTS:						ORIGINAL MEASUREMENTS:				
(1) Trisodium phosphate; Na ₃ PO ₄ , [7601-54-9]						Wendrow, B.; Kobe, K.A.				
(2) Phosphoric acid; H ₃ PO ₄ ; [7664-38-2]						Ind. Eng. Chem. 1952, 44, 1439-48.				
(3) Sodium hydroxide, NaOH, [1310-73-2]										
(4) Water, H ₂ O, [7732-18-5]										
EXPERIMENTAL VALUES cont'd:										
Composition of saturated solutions of the Na ₂ O-P ₂ O ₅ -H ₂ O system.										
Na ₂ O		P ₂ O ₅		Na ₃ PO ₄ ^a		NaOH ^a		H ₃ PO ₄ ^a		Solid ^b phase
mass%	mol%	mass%	mol%	mass%	mol/kg	mass%	mol/kg	mass%	mol/kg	
7.76	2.53	6.12	0.87	13.70	0.97	----	----	0.27	0.03	A
8.99	3.00	7.50	1.09	15.87	1.16	----	----	0.88	0.10	A
9.91	3.36	8.53	1.26	17.50	1.31	----	----	1.34	0.16	A
10.66	3.67	9.39	1.41	18.82	1.44	----	----	1.73	0.22	A + B12
9.04	3.03	8.20	1.20	15.96	1.18	----	----	1.80	0.22	B12
8.93	2.99	8.01	1.17	15.77	1.16	----	----	1.65	0.20	B12
4.52	1.42	5.23	0.72	7.98	0.54	----	----	2.46	0.28	B12
8.61	3.02	12.95	1.95	15.20	1.21	----	----	8.81	1.18	B12
11.02	4.17	17.59	2.90	19.46	1.74	----	----	12.68	1.90	B12
15.30	6.56	24.58	4.60	27.02	2.98	----	----	17.82	3.29	B12
15.82	6.88	25.05	4.75	27.94	3.14	----	----	17.92	3.38	B12
16.07	7.02	25.32	4.83	28.38	3.22	----	----	18.03	3.43	B12
16.24	7.12	25.37	4.85	28.68	3.27	----	----	17.92	3.42	B12
16.71	7.38	25.69	4.95	29.51	3.41	----	----	17.87	3.46	B12 + B8
16.71	7.45	26.33	5.12	29.51	3.47	----	----	18.75	3.70	B8
16.76	7.54	26.91	5.27	29.60	3.54	----	----	19.50	3.91	B8
17.58	8.12	28.26	5.70	31.05	3.90	----	----	20.50	4.32	B8
17.87	8.31	28.48	5.79	31.56	4.01	----	----	20.50	4.36	B8
19.48	9.61	31.39	6.75	34.40	4.90	----	----	22.82	5.44	B8
20.44	10.40	32.62	7.24	36.10	5.44	----	----	23.51	5.94	B8 + E
19.88	10.04	32.60	7.20	35.11	5.24	----	----	24.07	6.02	E
19.48	9.85	32.93	7.26	34.40	5.15	----	----	24.95	6.26	E
19.08	9.70	33.49	7.44	33.70	5.11	----	----	26.14	6.64	E
18.93	9.60	33.53	7.43	33.43	5.06	----	----	26.36	6.69	E + C2
17.28	8.30	31.20	6.54	30.52	4.17	----	----	24.88	5.69	C2
13.24	5.82	28.06	5.38	23.38	2.75	----	----	24.80	4.88	C2
13.22	5.79	27.84	5.33	23.35	2.72	----	----	24.51	4.79	C2
12.01	5.16	27.50	5.16	21.21	2.41	----	----	25.32	4.83	C2
11.15	4.88	29.50	5.63	19.69	2.33	----	----	28.99	5.76	C2
10.83	4.87	31.65	6.21	19.13	2.39	----	----	32.29	6.78	C2
10.71	4.82	33.94	6.66	18.91	2.53	----	----	35.58	7.98	C2
10.82	5.17	36.23	7.57	19.11	2.75	----	----	38.63	9.32	C2
10.98	5.45	38.60	8.37	19.39	3.03	----	----	41.73	10.95	C2
11.41	5.87	40.51	9.08	20.15	3.41	----	----	43.91	12.47	C2
11.33	5.85	40.95	9.26	20.01	3.44	----	----	44.61	12.86	C1
10.93	5.77	42.70	9.89	19.30	3.53	----	----	47.44	14.56	C1
10.88	5.80	43.37	10.13	19.21	3.61	----	----	48.42	15.27	C1
11.31	6.21	44.85	10.74	19.97	4.05	----	----	50.01	17.01	C1 + C
11.16	6.18	45.39	11.00	19.71	4.08	----	----	50.92	17.69	C
11.08	6.23	45.65	11.18	19.57	4.10	----	----	51.36	18.03	C
10.30	5.92	48.26	12.10	18.19	4.26	----	----	55.78	21.88	C + F
7.25	4.20	51.33	12.99	12.80	3.25	----	----	63.24	26.94	F
2.88	1.73	56.77	14.88	5.08	1.58	----	----	75.35	39.31	F
temp. = 40°C.										
34.71	13.38	0.12	0.02	0.27	0.03	44.59	20.22	----	----	
29.19	10.75	0.31	0.052	0.71	0.07	37.15	14.94	----	----	DO.5
28.79	10.52	0.38	0.061	0.87	0.08	36.51	14.58	----	----	DO.5
28.37	10.36	0.42	0.067	0.97	0.09	35.90	14.22	----	----	DO.5
27.78	10.11	0.48	0.076	1.11	0.10	35.04	13.72	----	----	D6
27.54	10.00	0.47	0.074	1.08	0.10	34.02	13.11	----	----	D6
26.98	9.73	0.47	0.074	1.08	0.10	34.02	13.11	----	----	D6
25.43	9.06	0.53	0.082	1.22	0.11	31.92	11.94	----	----	D6
24.42	8.61	0.56	0.086	1.29	0.11	30.57	11.51	----	----	D6
23.80	8.36	0.61	0.093	1.41	0.12	29.68	10.77	----	----	D6
23.36	8.20	0.66	0.101	1.52	0.13	29.03	10.45	----	----	D6 + A
19.85	6.75	0.55	0.082	1.27	0.10	24.69	8.33	----	----	A

(continued next page)

COMPONENTS:						ORIGINAL MEASUREMENTS:				
(1) Trisodium phosphate; Na ₃ PO ₄ ; [7601-54-9]						Wendrow, B; Kobe, K.A.				
(2) Phosphoric acid; H ₃ PO ₄ ; [7664-38-2]						Ind. Eng. Chem. 1952, 44, 1439-48.				
(3) Sodium hydroxide; NaOH; [1310-73-2]										
(4) Water; H ₂ O; [7732-18-5]										
EXPERIMENTAL VALUES cont'd:										
Composition of saturated solutions of the Na ₂ O-P ₂ O ₅ -H ₂ O system.										
Na ₂ O		P ₂ O ₅		Na ₃ PO ₄ ^a		NaOH ^a		H ₃ PO ₄ ^a		Solid ^b phase
mass%	mol%	mass%	mol%	mass%	mol/kg	mass%	mol/kg	mass%	mol/kg	
15.64	5.13	0.55	0.079	1.27	0.09	19.25	6.05	----	----	A
15.32	5.02	0.59	0.084	1.36	0.10	18.77	5.87	----	----	A
9.30	2.93	1.17	0.16	2.70	0.18	10.02	2.87	----	----	A
8.59	2.70	1.54	0.21	3.56	0.24	8.48	2.41	----	----	A
7.63	2.41	3.18	0.44	7.35	0.50	4.47	1.26	----	----	A
7.54	2.40	3.73	0.52	8.62	0.59	3.42	0.97	----	----	A
8.97	2.96	6.30	0.91	14.56	1.05	0.92	0.27	----	----	A
12.21	4.28	9.60	1.47	21.56	1.68	----	----	0.39	0.05	A
12.38	4.26	9.81	1.48	21.86	1.71	----	----	0.50	0.06	A
13.88	5.02	11.31	1.79	24.51	2.00	----	----	1.00	0.13	A + D8
14.16	5.16	11.76	1.87	25.01	2.06	----	----	1.32	0.18	D8
14.33	5.26	12.13	1.94	25.31	2.11	----	----	1.65	0.23	D8
15.00	5.57	12.73	2.06	26.49	2.25	----	----	1.78	0.25	D8
15.59	5.90	13.94	2.30	27.53	2.40	----	----	2.83	0.41	D8
17.15	6.78	16.52	2.84	30.29	2.84	----	----	4.75	0.74	D8
17.72	7.10	17.31	3.03	31.30	3.00	----	----	5.24	0.84	D8
19.27	8.05	19.18	3.50	34.03	3.46	----	----	6.19	1.05	D8 + B7
18.78	7.78	18.93	3.42	33.17	3.34	----	----	6.34	1.07	B7
16.05	6.36	17.52	3.03	28.35	2.68	----	----	7.28	1.15	B7
15.10	5.92	17.33	2.96	26.67	2.48	----	----	8.02	1.25	B7
14.71	5.73	17.09	2.91	25.98	2.40	----	----	8.10	1.25	B7
15.34	6.10	18.32	3.18	27.09	2.58	----	----	9.14	1.46	B7
16.14	6.63	20.24	3.65	28.50	2.86	----	----	10.95	1.84	B7
17.87	7.83	24.05	4.60	31.56	3.55	----	----	14.38	2.71	B7
18.36	8.25	25.58	5.02	32.41	3.82	----	----	15.99	3.16	B7
19.18	8.80	26.43	5.30	33.87	4.14	----	----	16.29	3.33	B7 + C2
19.39	8.96	26.72	5.39	34.25	4.23	----	----	16.47	3.41	C2
19.33	8.96	26.99	5.46	34.14	4.25	----	----	16.91	3.52	C2
19.54	9.13	27.41	5.59	34.51	4.36	----	----	17.27	3.65	C2
19.55	9.19	27.82	5.71	34.53	4.41	----	----	17.82	3.81	C2
19.90	9.68	29.94	6.36	35.15	4.81	----	----	20.38	4.67	C2
20.44	10.20	31.23	6.80	36.10	5.20	----	----	21.59	5.21	C2
20.63	10.44	32.00	7.07	36.44	5.40	----	----	22.46	5.57	C2
20.74	10.56	32.34	7.19	36.63	5.50	----	----	22.81	5.74	C2
20.82	10.65	32.53	7.27	36.77	5.56	----	----	22.99	5.83	C2
21.34	11.20	33.79	7.75	37.69	6.02	----	----	24.18	6.47	C2
21.12	11.22	34.73	8.06	37.30	6.14	----	----	25.71	7.09	E
20.68	11.12	35.79	8.40	36.52	6.21	----	----	27.64	7.87	E
20.32	10.98	36.26	8.53	35.89	6.17	----	----	28.66	8.25	E
20.44	11.16	37.01	8.83	36.10	6.40	----	----	29.57	8.79	E + C1
19.46	10.31	35.90	8.31	34.37	5.72	----	----	29.07	8.11	C1
18.95	9.94	35.71	8.18	33.47	5.48	----	----	29.35	8.05	C1
18.76	9.79	35.52	8.10	33.13	5.37	----	----	29.28	7.96	C1
17.56	8.90	34.60	7.66	31.01	4.76	----	----	29.28	7.52	C1
17.09	8.60	34.50	7.58	30.18	4.57	----	----	29.63	7.52	C1
16.92	8.48	34.39	7.53	29.88	4.50	----	----	29.66	7.48	C1
15.77	7.73	33.78	7.23	27.85	4.03	----	----	30.03	7.27	C1
14.66	7.07	33.62	7.08	25.89	3.65	----	----	30.98	7.33	C1
13.96	6.84	35.31	7.56	24.65	3.63	----	----	34.05	8.41	C1
13.61	6.78	36.71	7.99	24.04	3.69	----	----	36.35	9.36	C1
13.07	6.61	38.05	8.40	23.08	3.68	----	----	38.77	10.37	C1
12.37	6.56	41.70	9.66	21.85	3.96	----	----	44.55	13.53	C1
12.53	6.72	42.27	9.90	22.13	4.12	----	----	45.17	14.09	C1
12.25	6.59	42.73	10.04	21.63	4.08	----	----	46.10	14.58	C
11.77	6.54	45.10	10.95	20.79	4.31	----	----	49.87	17.35	C
11.44	6.60	46.38	11.68	20.20	4.42	----	----	51.99	19.08	C
10.92	6.38	48.72	12.44	19.28	4.71	----	----	55.77	22.81	C
10.66	6.51	51.35	13.69	18.82	5.33	----	----	59.67	28.33	C

(continued next page)

COMPONENTS:						ORIGINAL MEASUREMENTS:				
(1) Trisodium phosphate; Na ₃ PO ₄ ; [7601-54-9]						Wendrow, B., Kobe, K.A.				
(2) Phosphoric acid; H ₃ PO ₄ ; [7664-38-2]						Ind. Eng. Chem. <u>1952</u> , 44, 1439-48.				
(3) Sodium hydroxide; NaOH; [1310-73-2]										
(4) Water; H ₂ O; [7732-18-5]										
EXPERIMENTAL VALUES cont'd:										
Composition of saturated solutions of the Na ₂ O-P ₂ O ₅ -H ₂ O system.										
Na ₂ O		P ₂ O ₅		Na ₃ PO ₄ ^a		NaOH ^a		H ₃ PO ₄ ^a		Solid ^b phase
mass%	mol%	mass%	mol%	mass%	mol/kg	mass%	mol/kg	mass%	mol/kg	
10.33	6.36	52.07	14.00	18.24	5.36	----	----	61.01	30.02	F
7.39	4.48	53.66	14.22	13.05	3.85	----	----	66.30	32.78	F
5.10	3.09	55.39	14.64	9.00	2.76	----	----	71.11	36.49	F
2.68	1.71	60.24	16.80	4.73	1.93	----	----	80.35	54.00	F
temp. = 60°C.										
34.39	13.22	0.094	0.016	0.21	0.02	44.22	19.90	----	----	D
30.14	11.16	0.136	0.022	0.31	0.03	38.67	15.84	----	----	D
28.72	10.52	0.31	0.050	0.71	0.06	36.54	14.56	----	----	D
28.29	10.34	0.52	0.082	1.20	0.11	35.63	14.10	----	----	D + DO.5
26.25	9.46	0.90	0.14	2.08	0.19	32.36	12.34	----	----	DO.5
25.68	9.24	1.19	0.19	2.75	0.25	31.13	11.77	----	----	DO.5
25.01	8.97	1.37	0.21	3.16	0.28	29.96	11.20	----	----	DO.5
23.76	8.44	1.54	0.24	3.56	0.31	28.06	10.26	----	----	DO.5
20.60	7.17	2.16	0.33	4.99	0.42	22.93	7.95	----	----	DO.5
19.72	6.84	2.47	0.37	5.71	0.47	21.27	7.28	----	----	A
18.71	6.43	2.55	0.38	5.89	0.48	19.83	6.67	----	----	A
15.79	5.30	2.59	0.38	5.98	0.46	16.00	5.12	----	----	A
14.71	4.02	3.05	0.45	7.05	0.54	13.83	4.37	----	----	A
13.71	4.62	4.18	0.61	9.66	0.73	10.62	3.33	----	----	A
13.28	4.58	7.41	1.11	17.13	1.33	4.61	1.47	----	----	A
15.91	5.84	11.02	1.76	25.48	2.13	1.90	0.65	----	----	A
17.15	6.46	12.24	2.01	28.30	2.45	1.44	0.51	----	----	A + D8
17.29	6.65	12.71	2.13	29.39	2.56	0.82	0.29	----	----	D8
17.79	6.80	13.01	2.17	30.08	2.65	0.96	0.35	----	----	D8
19.20	7.70	15.94	2.79	33.91	3.21	----	----	1.79	0.28	D8
21.73	9.10	20.63	3.95	38.38	4.17	----	----	5.60	1.02	D8
22.13	9.75	21.04	4.05	39.09	4.31	----	----	5.74	1.06	D8
22.48	10.05	21.65	4.21	39.70	4.47	----	----	6.22	1.17	D8
22.62	10.18	22.06	4.33	39.95	4.55	----	----	6.63	1.26	D8 + B2
22.12	9.90	21.85	4.25	39.07	4.40	----	----	6.87	1.29	B2
20.86	9.56	21.82	4.16	36.84	4.08	----	----	8.16	1.51	B2
20.68	9.48	21.99	4.19	36.52	4.05	----	----	8.58	1.59	B2
19.26	8.34	22.11	4.17	34.02	3.71	----	----	10.24	1.87	B2
19.69	8.93	25.13	4.97	34.78	4.13	----	----	13.96	2.78	B2
19.95	9.31	27.09	5.52	35.23	4.43	----	----	16.39	3.45	B2
20.58	10.14	30.32	6.52	36.35	5.09	----	----	20.19	4.74	B2
21.38	10.96	32.29	7.23	37.76	5.72	----	----	22.07	5.60	B2
21.55	11.18	32.90	7.45	38.06	5.91	----	----	22.73	5.91	B2
21.81	11.44	33.43	7.66	38.52	6.13	----	----	23.19	6.18	B2 + G
21.79	11.45	33.53	7.70	38.48	6.14	----	----	23.35	6.24	
21.79	11.45	33.60	7.71	38.48	6.16	----	----	23.44	6.28	G
21.66	11.39	33.69	7.74	38.26	6.12	----	----	23.70	6.36	G
21.37	11.35	34.52	8.01	37.74	6.20	----	----	25.16	6.92	G
21.30	11.31	34.67	8.05	37.62	6.20	----	----	25.44	7.02	G
20.93	11.33	36.17	8.55	36.97	6.41	----	----	27.90	8.10	G
21.02	11.53	36.78	8.81	37.12	6.61	----	----	28.64	8.54	G
20.79	11.49	37.52	9.06	36.72	6.70	----	----	29.91	9.14	G
20.74	11.61	38.20	9.32	36.63	6.87	----	----	30.90	9.71	G + C
18.92	10.07	36.76	8.55	33.42	5.69	----	----	30.83	8.80	C
17.50	9.09	36.21	8.20	30.91	5.01	----	----	31.56	8.58	C
17.16	8.86	36.16	8.15	30.31	4.88	----	----	31.85	8.59	C
16.83	8.65	36.13	8.09	29.72	4.75	----	----	32.16	8.61	C
16.11	8.04	36.89	8.04	28.45	4.61	----	----	33.97	9.22	C
15.08	7.77	37.72	8.49	26.63	4.36	----	----	36.20	9.94	C
13.54	7.12	40.29	9.27	23.91	4.19	----	----	41.37	12.16	C
12.41	6.72	43.02	10.18	21.92	4.20	----	----	46.33	14.89	C

(continued next page)

COMPONENTS:						ORIGINAL MEASUREMENTS:				
(1) Trisodium phosphate, Na ₃ PO ₄ ; [7601-54-9]						Wendrow, B.; Kobe, K.A.				
(2) Phosphoric acid; H ₃ PO ₄ ; [7664-38-2]						Ind. Eng. Chem. 1952, 44, 1439-48.				
(3) Sodium hydroxide; NaOH; [1310-73-2]										
(4) Water; H ₂ O; [7732-18-5]										
EXPERIMENTAL VALUES cont'd:										
Composition of saturated solutions of the Na ₂ O-P ₂ O ₅ -H ₂ O system.										
Na ₂ O		P ₂ O ₅		Na ₃ PO ₄ ^a		NaOH ^a		H ₃ PO ₄ ^a		Solid _b phase
mass%	mol%	mass%	mol%	mass%	mol/kg	mass%	mol/kg	mass%	mol/kg	
11.43	6.82	49.48	12.90	20.18	5.22	----	----	56.28	24.41	C
11.39	6.89	50.32	13.29	20.11	5.47	----	----	57.48	26.19	C
11.19	6.90	51.52	13.87	19.76	5.76	----	----	59.35	29.00	C
10.89	7.02	54.09	15.23	19.23	6.67	----	----	63.21	36.76	C
8.91	5.62	54.53	15.02	15.73	5.22	----	----	65.91	36.65	F
7.59	4.77	55.46	15.23	13.40	4.53	----	----	68.58	38.86	F
6.01	3.73	56.11	15.22	10.61	3.54	----	----	71.14	39.80	F
3.63	2.83	59.01	16.30	6.41	2.45	----	----	77.65	49.73	F
temp. = 80°C.										
36.39	14.30	0.140	0.024	0.32	0.03	46.73	22.06	----	----	D
32.11	12.10	0.210	0.034	0.48	0.05	41.09	17.58	----	----	D
30.64	11.42	0.314	0.051	0.72	0.07	39.01	16.18	----	----	D
30.28	11.26	0.373	0.061	0.86	0.08	38.45	15.84	----	----	D
29.85	11.06	0.514	0.083	1.18	0.11	37.65	15.39	----	----	DO.5
28.03	10.24	0.605	0.096	1.39	0.13	35.15	13.85	----	----	DO.5
27.72	10.07	0.617	0.098	1.42	0.13	34.73	13.60	----	----	DO.5
25.60	9.25	1.65	0.26	3.81	0.35	30.25	11.47	----	----	DO.5
25.24	9.12	1.79	0.28	4.13	0.38	29.55	11.14	----	----	DO.5
24.83	9.11	2.60	0.41	6.01	0.55	27.65	10.42	----	----	DO.5
23.87	8.75	4.29	0.69	9.92	0.90	23.55	8.85	----	----	DO.5 + D6
21.61	8.11	8.35	1.37	19.31	1.75	13.77	5.14	----	----	D6
21.35	8.35	12.15	2.08	28.09	2.63	7.01	2.70	----	----	D6
23.20	9.98	18.20	3.41	40.98	4.28	----	----	0.69	0.12	D6
24.51	11.07	20.96	4.13	43.29	4.92	----	----	3.13	0.59	D6
22.94	10.50	23.29	4.66	40.52	4.79	----	----	8.00	1.58	B2
20.59	9.25	23.56	4.61	36.37	4.19	----	----	10.84	2.09	B2
temp. = 100°C.										
38.36	15.36	0.41	0.072	0.94	0.11	48.81	24.29	----	----	D
30.05	11.17	0.80	0.13	1.85	0.18	37.43	15.41	----	----	D
26.19	9.48	1.32	0.21	3.07	0.28	31.55	12.06	----	----	D
23.79	8.70	4.17	0.67	9.64	0.88	23.65	8.86	----	----	D
24.37	9.46	9.26	1.57	21.41	2.07	15.79	6.29	----	----	D
24.26	9.45	9.53	1.62	22.03	2.13	15.20	6.05	----	----	D
25.98	10.76	13.18	2.38	30.48	3.18	11.24	4.82	----	----	D
25.43	10.50	13.41	2.42	31.01	3.21	10.15	4.31	----	----	DO.5
24.97	10.42	14.00	2.66	33.76	3.50	7.54	3.21	----	----	DO.5
25.18	10.66	15.62	2.89	36.12	3.80	6.09	2.63	----	----	DO.5
25.76	11.18	16.93	3.20	39.15	4.24	4.62	2.05	----	----	DO.5
26.51	11.74	17.79	3.43	41.14	4.58	4.13	1.89	----	----	DO.5
26.75	12.03	18.87	3.70	43.63	4.94	2.62	1.22	----	----	D6
26.90	11.86	19.29	3.71	44.61	5.10	2.10	0.98	----	----	D6
27.89	13.22	21.77	4.51	49.26	5.99	----	----	0.68	0.14	D6
28.31	13.69	23.01	4.86	50.00	6.34	----	----	1.95	0.41	D6
27.48	13.30	23.46	4.95	48.54	6.16	----	----	3.45	0.73	B
25.73	12.35	24.29	5.08	45.44	5.75	----	----	6.44	1.36	B
24.69	11.73	24.59	5.10	43.61	5.48	----	----	7.95	1.67	B
23.53	11.08	24.84	5.12	41.56	5.17	----	----	9.52	1.98	B
22.13	10.35	25.56	5.22	39.09	4.86	----	----	11.98	2.50	B
23.39	12.56	33.64	7.90	41.31	6.82	----	----	21.81	6.03	B
24.34	13.93	36.61	9.15	42.99	8.16	----	----	24.91	7.92	B + E
23.07	13.31	38.09	9.57	40.75	8.02	----	----	28.29	9.33	E
22.54	13.14	39.21	10.00	39.81	8.14	----	----	30.40	10.41	E
22.33	13.18	40.00	10.32	39.44	8.33	----	----	31.71	11.22	E
22.40	13.31	42.73	11.64	39.56	9.63	----	----	35.41	14.44	E + C

(continued next page)

COMPONENTS:

- (1) Trisodium phosphate; Na₃PO₄; [7601-54-9]
 (2) Phosphoric acid; H₃PO₄; [7664-38-2]
 (3) Sodium hydroxide; NaOH; [1310-73-2]
 (4) Water; H₂O; [7732-18-5]

ORIGINAL MEASUREMENTS:

Wendrow, B., Kobe, K.A.
Ind. Eng. Chem. 1952, 44, 1439-48.

EXPERIMENTAL VALUES cont'd:

Composition of saturated solutions of the Na₂O-P₂O₅-H₂O system.

Na ₂ O		P ₂ O ₅		Na ₃ PO ₄ ^a		NaOH ^a		H ₃ PO ₄ ^a		solid _b phase
mass%	mol%	mass%	mol%	mass%	mol/kg	mass%	mol/kg	mass%	mol/kg	
21.48	13.00	41.91	11.04	37.94	8.62	----	----	35.24	13.41	C
19.87	11.55	41.25	10.50	35.09	7.40	----	----	36.03	12.73	C
19.16	11.07	41.40	10.46	33.84	7.06	----	----	36.98	12.93	C
18.36	10.51	41.72	10.46	32.43	6.74	----	----	38.27	13.32	C
18.31	10.53	41.92	10.53	32.34	6.78	----	----	38.60	13.55	C
16.71	9.57	42.90	10.74	29.51	6.23	----	----	41.63	14.72	C
14.63	8.93	48.22	12.88	25.84	6.85	----	----	51.17	22.72	C
13.14	9.95	58.04	18.33	23.21	13.48	----	----	66.30	64.51	C
12.32	8.80	57.95	18.05	21.76	11.84	----	----	67.04	61.10	F
10.70	7.55	58.68	18.03	18.90	10.15	----	----	69.75	62.74	F
9.86	7.06	60.08	18.74	17.41	10.60	----	----	72.57	73.98	F
9.37	6.86	61.42	19.63	16.55	11.85	----	----	74.93	89.86	F

^a All these values were calculated by the compiler.

^b The solid phases are: A = 4(Na₃PO₄·12H₂O)·NaOH;

B = Na₂HPO₄; B2 = Na₂HPO₄·2H₂O; B7 = Na₂HPO₄·7H₂O; B8 = Na₂HPO₄·8H₂O;
 B12 = Na₂HPO₄·12H₂O;

C = NaH₂PO₄; C1 = NaH₂PO₄·H₂O; C2 = NaH₂PO₄·2H₂O;

D = Na₃PO₄; D0.5 = Na₃PO₄·0.5H₂O; D6 = Na₃PO₄·6H₂O; D8 = Na₃PO₄·8H₂O;

E = Na₂HPO₄·2NaH₂PO₄·2H₂O;

F = NaH₂PO₄·H₃PO₄;

G = Na₂HPO₄·NaH₂PO₄.

COMPONENTS: (1) Disodium hydrogenphosphate; Na ₂ HPO ₄ ; [7558-79-4] (2) Phosphoric acid; H ₃ PO ₄ ; [7664-38-2] (3) Sodium hydroxide; NaOH; [1310-73-2] (4) Water; H ₂ O; [7732-18-5]	ORIGINAL MEASUREMENTS: Panson, A.J.; Economy, G.; Liu, Chia-sun; Bulischeck, T.S.; Lindsay Jr., W.T. <i>J. Electrochem. Soc.</i> <u>1975</u> , <i>122</i> , 915-8.																																																																																																																																																												
VARIABLES: Composition at 548, 573 and 597 K.	PREPARED BY: J. Eysseltová																																																																																																																																																												
EXPERIMENTAL VALUES: Solubility in the Na ₂ HPO ₄ -H ₃ PO ₄ -NaOH-H ₂ O system. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">Na/PO₄ ratio</th> <th>PO₄</th> <th>Na₂HPO₄^a</th> <th>H₃PO₄^a</th> <th>NaOH^a</th> </tr> <tr> <th>solution</th> <th>solid phase</th> <th>mol/kg</th> <th>mass%</th> <th>mass%</th> <th>mass%</th> </tr> </thead> <tbody> <tr> <td colspan="6" style="text-align: center;">temp = 548 K</td> </tr> <tr> <td>2.0</td> <td>---</td> <td>>8.0</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2.10</td> <td>---</td> <td>>2.5</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2.15</td> <td>2.13</td> <td>3.79</td> <td>34.88</td> <td>---</td> <td>0.39</td> </tr> <tr> <td>2.15</td> <td>2.23</td> <td>3.26</td> <td>31.54</td> <td>---</td> <td>0.41</td> </tr> <tr> <td>2.24</td> <td>2.87</td> <td>1.29</td> <td>15.37</td> <td>---</td> <td>0.80</td> </tr> <tr> <td>2.25</td> <td>2.86</td> <td>0.64</td> <td>8.26</td> <td>---</td> <td>0.91</td> </tr> <tr> <td>2.32</td> <td>2.73</td> <td>0.74</td> <td>9.41</td> <td>---</td> <td>1.14</td> </tr> <tr> <td>2.57</td> <td>2.84</td> <td>0.42</td> <td>5.52</td> <td>---</td> <td>2.11</td> </tr> <tr> <td>2.69</td> <td>2.76</td> <td>0.41</td> <td>5.37</td> <td>---</td> <td>2.54</td> </tr> <tr> <td>3.24</td> <td>2.83</td> <td>0.26</td> <td>3.40</td> <td>---</td> <td>4.56</td> </tr> <tr> <td colspan="6" style="text-align: center;">temp = 573 K</td> </tr> <tr> <td>1.58</td> <td>1.62</td> <td>5.73</td> <td>27.66</td> <td>13.80</td> <td>---</td> </tr> <tr> <td>1.60</td> <td>1.60</td> <td>5.68</td> <td>28.38</td> <td>13.04</td> <td>---</td> </tr> <tr> <td>1.65</td> <td>1.65</td> <td>6.95</td> <td>34.25</td> <td>12.67</td> <td>---</td> </tr> <tr> <td>1.75</td> <td>1.84</td> <td>2.94</td> <td>22.62</td> <td>5.20</td> <td>---</td> </tr> <tr> <td>1.81</td> <td>1.91</td> <td>0.94</td> <td>9.62</td> <td>1.55</td> <td>---</td> </tr> <tr> <td>1.92</td> <td>1.99</td> <td>1.06</td> <td>12.09</td> <td>0.72</td> <td>---</td> </tr> <tr> <td>1.97</td> <td>2.04</td> <td>0.85</td> <td>10.47</td> <td>0.22</td> <td>---</td> </tr> <tr> <td>2.00</td> <td>2.22</td> <td>0.51</td> <td>6.76</td> <td>0.00</td> <td>0.00</td> </tr> <tr> <td>2.10</td> <td>2.37</td> <td>0.64</td> <td>8.31</td> <td>----</td> <td>0.36</td> </tr> <tr> <td>2.11</td> <td>2.23</td> <td>0.68</td> <td>8.78</td> <td>----</td> <td>0.40</td> </tr> <tr> <td>2.13</td> <td>2.56</td> <td>0.33</td> <td>4.46</td> <td>----</td> <td>0.49</td> </tr> <tr> <td>2.13</td> <td>2.63</td> <td>0.44</td> <td>5.86</td> <td>----</td> <td>0.49</td> </tr> </tbody> </table> <p style="text-align: right;">(continued next page)</p>		Na/PO ₄ ratio		PO ₄	Na ₂ HPO ₄ ^a	H ₃ PO ₄ ^a	NaOH ^a	solution	solid phase	mol/kg	mass%	mass%	mass%	temp = 548 K						2.0	---	>8.0				2.10	---	>2.5				2.15	2.13	3.79	34.88	---	0.39	2.15	2.23	3.26	31.54	---	0.41	2.24	2.87	1.29	15.37	---	0.80	2.25	2.86	0.64	8.26	---	0.91	2.32	2.73	0.74	9.41	---	1.14	2.57	2.84	0.42	5.52	---	2.11	2.69	2.76	0.41	5.37	---	2.54	3.24	2.83	0.26	3.40	---	4.56	temp = 573 K						1.58	1.62	5.73	27.66	13.80	---	1.60	1.60	5.68	28.38	13.04	---	1.65	1.65	6.95	34.25	12.67	---	1.75	1.84	2.94	22.62	5.20	---	1.81	1.91	0.94	9.62	1.55	---	1.92	1.99	1.06	12.09	0.72	---	1.97	2.04	0.85	10.47	0.22	---	2.00	2.22	0.51	6.76	0.00	0.00	2.10	2.37	0.64	8.31	----	0.36	2.11	2.23	0.68	8.78	----	0.40	2.13	2.56	0.33	4.46	----	0.49	2.13	2.63	0.44	5.86	----	0.49
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METHOD/APPARATUS/PROCEDURE: The experiments were carried out in two-liter autoclaves of stainless steel (A.I.S.I. Type 316) and Inconel Alloy 600 fitted with internal sampling tubes and filters. Three different experimental procedures were used: nonisothermal procedures, isothermal procedures with saturation approached from below, and experiments in which saturation was approached by evaporation at approximately isothermal conditions. Samples of solution were removed periodically from the autoclave and analyzed by a potentiometric acid-base titration.	SOURCE AND PURITY OF MATERIALS: No information is given. ESTIMATED ERROR: No information is given. REFERENCES:																																																																																																																																																												

COMPONENTS:		ORIGINAL MEASUREMENTS:			
(1) Disodium hydrogenphosphate; Na ₂ HPO ₄ ; [7558-79-4]		Panson, A.J.; Economy, G.; Liu, Chia-sun; Bulischek, T.S.; Lindsay Jrs., W.T.			
(2) Phosphoric acid; H ₃ PO ₄ ; [7664-38-2]		J. Electrochem. Soc. <u>1975</u> , 122, 915-8.			
(3) Sodium hydroxide; NaOH; [1310-73-2]					
(4) Water; H ₂ O; [7732-18-5]					
EXPERIMENTAL VALUES cont'd:					
Solubility in the Na ₂ HPO ₄ -H ₃ PO ₄ -NaOH-H ₂ O system.					
Na/PO ₄ ratio		PO ₄	Na ₂ HPO ₄ ^a	H ₃ PO ₄ ^a	NaOH ^a
solution	solid phase	mol/kg	mass%	mass%	mass%
temp = 573 K cont'd.					
2.14	2.28	0.47	6.23	---	0.52
2.14	2.44	0.55	7.21	---	0.52
2.14	2.35	0.66	8.53	---	0.51
2.16	2.33	0.67	8.64	---	0.58
2.18	2.55	0.38	5.09	---	0.68
2.19	2.58	0.43	5.72	---	0.71
2.46	2.82	0.25	3.37	---	1.74
2.89	2.75	0.14	1.89	---	3.37
temp = 597 K					
1.48	1.71	2.08	11.37	8.49	---
1.55	1.79	0.70	5.04	2.84	---
1.56	1.66	3.63	19.99	10.83	---
1.63	1.70	3.86	23.27	9.42	---
1.71	1.90	0.38	3.66	1.03	---
1.89	2.03	0.28	3.41	0.29	---
1.93	2.16	0.33	4.17	0.22	---
1.97	2.01	0.34	4.47	0.10	---
1.97	2.14	0.19	2.55	0.05	---
1.98	2.27	0.26	3.49	0.05	---
2.08	2.29	0.24	3.29	----	0.31
2.13	2.37	0.26	3.55	----	0.50
2.14	2.54	0.17	2.35	----	0.54
2.15	2.44	0.20	2.75	----	0.58
2.17	2.48	0.19	2.61	----	0.66
2.32	2.42	0.07	0.97	----	1.25
2.54	2.76	0.11	1.51	----	2.08
3.04	2.74	0.08	1.08	----	3.95
3.28	2.72	0.06	0.80	----	4.83

^aThese values were calculated by the compiler.