COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Acetamide, N-[4-(aminosulfonyl) phenyl]-; $C_8H_{10}N_2O_3S$; [121-61-9] (2) Water; H_2O [7732-18-5]	Sapozhnikova, N. V.; Postovskii, I. Ya. *Zh. Prikl. Khim.* 1944, *17*, 427-34.
VARIABLES: Temperature	**PREPARED BY:** R. Piekos

EXPERIMENTAL VALUES:

t/°C	Solubility	
	Weight %	10^2 mol kg^{-1} water[a]
20	0.133	0.622
37	0.289	1.35
50	0.529[b]	2.48
75	1.50	7.11
99	3.55	17.2

[a] calculated by compiler.

[b] calculated from the heat of dissolution (9240 cal mol^{-1}).

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

The sulfonamide was dissolved in water to form a satd soln which was occasionally agitated in a glass vessel immersed in a thermostat. The equilibrium was usually attained after 1 h. Five to 100- cm^3 samples of the satd soln were placed in Pt crucibles or dishes and evapd to dryness at temps lower than 110-115°C. The residue was dried to const weights at 105-110°C and weighed.

SOURCE AND PURITY OF MATERIALS:

Pure, recrystd sulfonamide was used. Its mp conformed to that reported in the literature.

Purity of the water was not specified.

ESTIMATED ERROR:

Soly: quite reliable results were obtained over the temp range 20-75°C. At higher temps the accuracy was poor due to evapn of water during sampling (authors).
Temp: ±0.05°C (authors).

REFERENCES:

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Acetamide, N-[4-(aminosulfonyl)-phenyl]- (acetyl sulfanilamide); $C_8H_{10}N_2O_3S$; [121-61-9] (2) Phosphoric acid, monopotassium salt; KH_2PO_4; [7778-77-0] (3) Water; H_2O; [7732-18-5]	Krüger-Thiemer, E. *Arch. Dermatol. Syphilis* 1942, *183*, 90-116.
VARIABLES: One temperature: ca 20°C; one pH: 4.37	**PREPARED BY:** R. Piekos

EXPERIMENTAL VALUES:

Solubility of acetyl sulfanilamide in a 0.735M (10%) KH_2PO_4 solution of pH 4.37 at room temperature (about 20°C) is 0.128 g% (5.97×10^{-3} mol dm^{-3} solution, compiler).

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

Acetyl sulfanilamide (0.5 g) was dissolved in 10 cm^3 of the 0.735M (10%) KH_2PO_4 soln of pH 4.37, shaken for 2 h a room temp (about 20°C), and filtered. The filtrate was treated with equal vol of 2N HCl, and refluxed for 15 min. After proper diln, a 1-cm^3 aliquot was withdrawn, acidified, cooled, and the sulfonamide content was detd colorimetrically (as sulfanilamide) by the Marshall method modified by Kimmig (1) using an Authenreith colorimeter. The pH was detd on an ultraionograph using a glass electrode.

SOURCE AND PURITY OF MATERIALS:

Acetyl sulfanilamide (source not specified) gave no coloration upon diazotization of its satd soln, thus showing absence of sulfanilamide.

The source and purity of the remaining materials was not specified.

ESTIMATED ERROR:

Soly: precision ±5% (author).

Temp: not specified.

pH: ±0.05 pH unit (author).

REFERENCES:

1. Kimmig, J. *Arch. Dermatol.* 1938, *176*, 722; *Erg. Hyg.* 1941, *24*, 398.

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Acetamide, N-[4-(aminosulfonyl)-phenyl]- (acetyl sulfanilamide); $C_8H_{10}N_2O_3S$; [121-61-9] (2) Phosphoric acid, disodium salt; Na_2HPO_4; [7558-94-4] (3) Water; H_2O; [7732-18-5]	Krüger-Thiemer, E. *Arch. Dermatol. Syphilis* 1942, *183*, 90-116.
VARIABLES: One temperature: ca 20°C; one pH: 8.74	**PREPARED BY:** R. Piekos

EXPERIMENTAL VALUES:

Solubility of acetyl sulfanilamide in a 0.705 M (10%) Na_2HPO_4 solution of pH 8.74 at room temperature (about 20°C) is 0.278 g% (1.111×10^{-2} mol dm^{-3} solution, compiler).

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

Acetyl sulfanilamide (0.5 g) was dissolved in 10 cm^3 of the 0.705 M (10%) Na_2HPO_4 soln, shaken for 2 h at room temp (about 20°C), and filtered. The filtrate was treated with equal vol of 2 N HCl, and refluxed for 15 min. After proper diln, a 1-cm^3 aliquot was withdrawn, acidified, cooled, and the sulfonamide content was detd colorimetrically (as sulfanilamide) by the Marshall method modified by Kimmig (1) using an Autenrieth colorimeter. The pH was detd on an ultraionograph using a glass electrode.

SOURCE AND PURITY OF MATERIALS:

Acetyl sulfanilamide (source not specified) gave no coloration upon diazotization of its satd soln, thus showing absence of sulfanilamide.

The source and purity of the remaining materials was not specified.

ESTIMATED ERROR:

Soly: precision ±5% (author).

Temp: not specified.

pH: ±0.05 pH unit (author).

REFERENCES:

1. Kimmig, J. *Arch. Dermatol.* 1938, *176*, 722; *Erg. Hyg.* 1941, *24*, 398.

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Acetamide, N-[4-(aminosulfonyl)phenyl]-(acetyl sulfanilamide); $C_8H_{10}N_2O_3S$; [121-61-9] (2) Phosphoric acid, disodium salt; Na_2HPO_4; [7558-94-4] (3) Phosphoric acid, monopotassium salt; KH_2PO_4; [7778-77-0] (4) Water; H_2O; [7732-18-5]	Krüger-Thiemer, E. *Arch. Dermatol. Syphilis* 1942, *183*, 90-116.
VARIABLES: Temperature, pH	**PREPARED BY:** R. Piekos

EXPERIMENTAL VALUES:

Composition of 1/15M phosphate buffer solutions			pH	Solubility			
				Room temp (ca 20°C)		37°C	
Na_2HPO_4	KH_2PO_4	% Content		g%	10^3 mol dm^{-3} solution[a]	g%	10^2 mol dm^{-3} solution
1.0	99.0	0.91	4.944	0.144	6.72	-	-
10.0	90.0	0.91	5.906	0.144	6.72	0.287	1.34
61.1	38.9	0.93	7.005	0.144	6.72	0.292	1.36
9.5	0.5	0.733[b]	7.51	0.127	5.93	-	-
94.7	5.3	0.95	8.018	0.143	6.11	-	-

[a] Calculated by compiler.

[b] Molar content; 10% buffer solution.

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

Acetyl sulfanilamide (0.5 g) was dissolved in 10 cm^3 of a buffer soln, shaken for 2 h at 20°C (or left for 48 h at 37°C), and filtered at respective temp. The filtrate was treated with equal vol of 2N HCl and refluxed for 15 min. After proper diln, a 1-cm^3 aliquot was withdrawn, acidified, cooled, and the sulfonamide content was detd colorimetrically (as sulfanilamide) by the Marshall method modified by Kimmig (1) using an Authenreith colorimeter. The pH was detd on an ultraionograph using a glass electrode.

SOURCE AND PURITY OF MATERIALS:

Acetyl sulfanilamide (source not specified) gave no coloration upon diazotization of its satd soln, thus showing absence of sulfanilamide. The source and purity of the remaining materials was not specified.

ESTIMATED ERROR:

Soly: precision ±5% (author).

Temp: not specified.

pH: ±0.05 pH unit (author).

REFERENCES:

1. Kimmig, J. *Arch. Dermatol.* 1938, *176*, 722; *Erg. Hyg.* 1941, *24*, 398.

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Acetamide, N- (4-aminosulfonyl)-phenyl - (N^4-acetylsulfanilamide); $C_8H_{10}N_2O_3S$; [121-61-9] (2) Urea; CH_4N_2O; [57-13-6] (3) Water; H_2O; [7732-18-5]	Rohdewald, P. *Pharmazie* 1975, *30(7)*, 460-3.
VARIABLES: Concentration of urea.	**PREPARED BY:** R. Piekos

EXPERIMENTAL VALUES:

Concentration of urea mol/l[a]	Solubility at 20°C	
	g/100 ml	10^2 mol dm^{-3}[b]
0.300	0.600	2.80
0.600	0.678	3.16
0.900	0.692	3.23

[a] Numerical values given by the author in personal communication.

[b] Calculated by compiler.

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

The previously employed method (1) was used whereby the solns (50 cm^3) were placed in 100-cm^3 flasks with glass stoppers and rotated in a thermostated bath for 2 h. They were then filtered through a G3 glass filter and the undissolved N^4-acetylsulfanilamide was dried at 90°C to const wt and weighed.

SOURCE AND PURITY OF MATERIALS:

The source and purity of N^4-acetylsulfanilamide was not specified.
Urea (Schuchardt) was recrystd from aq MeOH. Purity of the water was not specified.

ESTIMATED ERROR:

Soly: not specified.
Temp: ±0.05°C (author).

REFERENCES:

1. Schulte, K. E.; Rohdewald, P.; Weinhold, P. *Pharmazie* 1968, *23(5)*, 252.

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Acetamide, N-[(4-aminosulfonyl)-phenyl]- (N^4-acetylsulfanilamide); $C_8H_{10}N_2O_3S$; [121-61-9] (2) Urea, methyl-; $C_2H_6N_2O$; [598-50-5] (3) Water; H_2O; [7732-18-5]	Rohdewald, P. *Pharmazie* 1975, *30(7)*, 460-3.
VARIABLES: Concentration of methylurea	**PREPARED BY:** R. Piekos

EXPERIMENTAL VALUES:

Concentration of methylurea mol/l[a]	Solubility at 20°C	
	g/100 ml	10^2 mol dm^{-3}[b]
0.300	0.676	3.15
0.600	0.780	3.64
0.900	0.838	3.91

[a] Numerical values given by the author in personal communication.

[b] Calculated by compiler.

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

The previously employed method (1) was used whereby the solns (50 cm^3) were placed in 100-cm^3 flasks with glass stoppers and rotated in a thermostated bath for 2 h. They were then filtered through a G3 glass filter and the undissolved N^4-acetylsulfanilamide was dried at 90°C to const wt and weighed.

SOURCE AND PURITY OF MATERIALS:

The source and purity of N^4-acetylsulfanilamide was not specified.

Methylurea(Schuchardt) was recrystd from aq MeOH.

Purity of the water was not specified.

ESTIMATED ERROR:

Soly: not specified.

Temp: ±0.05°C (author).

REFERENCES:

1. Schulte, K. E.; Rohdewald, P.; Weinhold, P. *Pharmazie* 1968, *23(5)*, 252.

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Acetamide, N-[(4-aminosulfonyl)-phenyl]- (N^4-acetylsulfanilamide); $C_8H_{10}N_2O_3S$; [121-61-9] (2) Urea, N,N'-dimethyl-; $C_3H_8N_2O$; [96-31-1] (3) Water; H_2O; [7732-18-5]	Rohdewald, P. *Pharmazie* 1975, *30(7)*, 460-3.
VARIABLES: Concentration of N,N'-dimethylurea	**PREPARED BY:** R. Piekos

EXPERIMENTAL VALUES:

Concentration of N,N'-dimethylurea mol/l[a]	Solubility at 20°C	
	g/100 ml	10^2 mol dm^{-3}[b]
0.250	0.702	3.28
0.500	0.844	3.94

[a] Numerical values given by the author in personal conversation.

[b] Calculated by compiler.

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

The previously employed method (1) was used whereby the solns (50 cm^3) were placed in 100-cm^3 flasks with glass stoppers and rotated in a thermostated bath for 2 h. They were then filtered through a G3 glass filter and the undissolved N^4-acetylsulfanilamide was dried at 90°C to const wt and weighed.

SOURCE AND PURITY OF MATERIALS:

The source and purity of N^4-acetylsulfanilamide was not specified.

N,N'-dimethylurea (Schuchardt) was recrystd from aq MeOH. Purity of the water was not specified.

ESTIMATED ERROR:

Soly: not specified.

Temp: ±0.05°C (author).

REFERENCES:

1. Schulte, K. E.; Rohdewald, P.; Weinhold, P. *Pharmazie* 1968, *23(5)*, 252.

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Acetamide, N-[(4-aminosulfonyl)-phenyl]- (N^4-acetylsulfanilamide); $C_8H_{10}N_2O_3S$; [121-61-9] (2) Urea, N,N-dimethyl-; $C_3H_8N_2O$; [598-94-7] (3) Water; H_2O; [7732-18-5]	Rohdewald, P. *Pharmazie* 1975, *30(7)*, 460-3.
VARIABLES: Concentration of N,N-dimethylurea	**PREPARED BY:** R. Piekos

EXPERIMENTAL VALUES:

Concentration of N,N-dimethylurea	Solubility at 20°C	
mol/l[a]	g/100 ml	10^2 mol dm^{-3}[b]
0.197	0.748	3.49
0.388	0.862	4.02
0.573	0.992	4.63
0.753	1.100	5.13
0.927	1.234	5.76

[a] Numerical values given by the author in personal communication.

[b] Calculated by compiler.

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

The previously employed method (1) was used whereby the solns (50 cm^3) were placed in 100-cm^3 flasks with glass stoppers and rotated in a thermostated bath for 2 h. They were then filtered through a G3 glass filter and the undissolved N^4-acetylsulfanilamide was dried at 90°C to const wt and weighed.

SOURCE AND PURITY OF MATERIALS:

The source and purity of N^4-acetylsulfanilamide was not specified.

N,N-dimethylurea (Schuchardt) was recrystd from aq MeOH.

Purity of the water was not specified.

ESTIMATED ERROR:

Soly: not specified.

Temp: ±0.05°C (author).

REFERENCES:

1. Schulte, K. E.; Rohdewald, P.; Weinhold, P. *Pharmazie* 1968, *23(5)* 252.

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Acetamide, N-[(4-aminosulfonyl)-phenyl]- (N^4-acetylsulfanilamide); $C_8H_{10}N_2O_3S$; [121-61-9] (2) Urea, tetramethyl-; $C_5H_{12}N_2O$; [632-22-4] (4) Water; H_2O; [7732-18-5]	Rohdewald, P. *Pharmazie* 1974, *30(7)*, 460-3.
VARIABLES: Concentration of tetramethylurea	**PREPARED BY:** R. Piekos

EXPERIMENTAL VALUES:

Concentration of tetramethylurea	Solubility at 20°C	
mol/l[a]	g/100 ml	10^2 mol dm^{-3}[b]
0.300	0.912	4.26
0.600	1.338	6.25
0.900	1.896	8.85

[a] Numerical values given by the author in personal communication.

[b] Calculated by compiler.

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

The previously employed method (1) was used whereby the solns (50 cm^3) were placed in 100-cm^3 flasks with glass stoppers and rotated in a thermostated bath for 2 h. They were then filtered through a G3 glass filter and the undissolved N^4-acetylsulfanilamide was dried at 90°C to const wt and weighed.

SOURCE AND PURITY OF MATERIALS:

The source and purity of N^4-acetylsulfanilamide was not specified.

Tetramethylurea (Schuchardt) was recrystd from aq MeOH.

Purity of the water was not specified.

ESTIMATED ERROR:

Soly: not specified.

Temp: ±0.05°C (author).

REFERENCES:

1. Schulte, K. E.; Rohdewald, P.; Weinhold, P. *Pharmazie* 1968, *23(5)*, 252.

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Acetamide, N-[(4-aminosulfonyl)-phenyl]- (N^4-acetylsulfanilamide); $C_8H_{10}N_2O_3S$; [121-61-9] (2) Thiourea; CH_4N_2S; [62-56-6] (3) Water; H_2O; [7732-18-5]	Rohdewald, P. *Pharmazie* 1975, *30(7)*, 460-3.
VARIABLES: Concentration of thiourea	**PREPARED BY:** R. Piekos

EXPERIMENTAL VALUES:

Concentration of thiourea	Solubility at 20°C	
mol/l[a]	g/100 ml	10^2 mol dm^{-3}[b]
0.300	0.720	3.36
0.600	0.854	3.99
0.900	0.972	4.54

[a] Numerical values given by the author in personal communication.

[b] Calculated by compiler.

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

The previously employed method (1) was used whereby the solns (50 cm^3) were placed in 100-cm^3 flasks with glass stoppers and rotated in a thermostated bath for 2 h. They were then filtered through a G3 glass filter and the undissolved N^4-acetylsulfanilamide was dried at 90°C to const wt and weighed.

SOURCE AND PURITY OF MATERIALS:

The source and purity of N^4-acetylsulfanilamide was not specified.

Thiourea (Schuchardt) was recrystd from aq MeOH.

Purity of the water was not specified.

ESTIMATED ERROR:

Soly: not specified.

Temp: ±0.05°C (author).

REFERENCES:

1. Schulte, K. E.; Rohdewald, P.; Weinhold, P. *Pharmazie* 1968, *23(5)*, 252.

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Acetamide, N-[(4-(aminosulfonyl)-phenyl]- (acetyl sulfanilamide); $C_8H_{10}N_2O_3S$; [121-61-9]	Gutierrez, F. H. *Anales fis. quim. (Madrid)* 1945, *41*, 537-60.
(2) 2-Propanone (acetone); C_3H_6O; [67-64-1]	
VARIABLES: Temperature	**PREPARED BY:** R. Piekos

EXPERIMENTAL VALUES:

t/°C	G[a]	E[b]	X_g/l[c]	mol/l[d] acetone	mmol/mol acetone	1:X_g[e]	1 + X_{cc}[f]
0	2.106	2.063	17.155	8.0	5.7	47.48	58.29
5	2.230	2.181	18.036	8.4	6.0	44.84	55.44
10	2.344	2.290	18.822	8.8	6.3	42.66	53.13
15	2.516	2.454	20.055	9.4	6.8	39.75	49.86
20	2.652	2.584	20.983	9.8	7.2	37.71	47.66
25	2.779	2.704	21.821	10.1	7.5	35.98	45.83
30	3.006	2.918	23.426	10.9	8.1	33.27	42.69
35	3.335	3.228	25.789	12.0	9.0	29.99	38.78
40	3.502	3.383	26.874	12.6	9.2	28.56	37.21
45	3.748	3.613	28.537	13.3	10.1	26.68	35.04
50	3.871	3.728	29.245	13.7	10.5	25.83	34.19

[a] $G = \frac{p\ 100}{P - p}$, where p and P are the weights of solute and solution, resp.

[b] $E = \frac{G\ 100}{G + 100}$; [c] g/l acetone; [d] should be mmol/l (compiler);

[e] g of acetone required to dissolve 1 g of solute; [f] volume (cm^3) of acetone required to dissolve 1 g of solute.

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

A special all-glass app was constructed enabling the prepn of satd solns, agitation by bubbling a stream of acetone-satd N, filtration, and distn off the solvent without the contact with air. Two exchangeable dissoln vessels of 15 and 8 cm^3 working capacity were used depending on the soly of solute. The app was immersed in a thermostat. The vols of acetone used were 15 or 5 cm^3, and the equilibration time was 2-2.5 h. The satd solns were filtered, weighed, the solvent was dist off, the residues were dried at 105°C, weighed, and examd for the presence of solvated acetone.

SOURCE AND PURITY OF MATERIALS:

The source of the materials was not specified. Pure, anhyd acetone was used. The absence of impurities and water was confirmed by procedures of the German Pharmacopeia VI and Spanish Pharmacopeia VIII. The purity of acetyl sulfacetamide was not specified.

ESTIMATED ERROR:

Soly: measurements were repeated until 2 values not differing in the second decimal were obtained.
Temp: ±0.1°C (author).

REFERENCES: