COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Acetamide, N-[4-[[(3,4-dimethyl-5-isoxazolyl)amino]sulfonyl]phenyl]-(acetyl sulfisoxazole); $C_{13}H_{15}N_3O_4S$; [4206-74-0] (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]	Bandelin, F. J. ; Malesh, W. *J. Am. Pharm. Assoc. Sci. Ed.* 1959, *48*, 177-81.
VARIABLES: pH	PREPARED BY: R. Piekos

EXPERIMENTAL VALUES:

Solubility of acetyl sulfisoxazole in buffers of varying mixtures of $Na_2HPO_4 \cdot 7H_2O$ (71.6 g/l distilled water; 0.27 mol dm^{-3}, compiler) and KH_2PO_4 (36.3 g/l distilled water; 0.27 mol dm^{-3}, compiler) at 37°C

	Solubility (based on sulfisoxazole)	
Equilibrium pH	mg/100 ml	10^2 mol dm^{-3} [a]
4.5	8	0.030
5.0	12	0.045
5.5	38	0.140
6.0	105	0.393
6.4	190	0.711
6.8	375	1.400
7.2	1040	3.891

[a] calculated by compiler

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

Solns were prepd by adding an excess of acetyl sulfisoxazole to a 10 ml of buffer soln at each pH level in 18 x 150-mm test tubes, stoppering the tubes, and placing them in water bath at 37°C with gentle agitation for 24 h. The solute was then hydrolyzed with 5% H_2SO_4 for 1 h to liberate the free sulfonamide. One-ml aliquot of the hydrolyzate was accurately pipetted into a volumetric flask for diln and analysis. The sulfonamide was assayed colorimetrically by the method of Bratton and Marshall as described in detail by Biamonte and Schneller (1). A standard curve was prepd using accurately prepd standard solutions.

SOURCE AND PURITY OF MATERIALS:

Neither source nor purity of the reagents were specified. Distilled water was used.

ESTIMATED ERROR:

Soly: av values of duplicate runs are reported (authors).
Temp and pH: not specified

REFERENCES:

1. Biamonte, A. R.; Schneller, G. E. *J. Am. Pharm. Assoc., Sci. Ed.* 1952, *41*, 341.

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Acetamide, N-[4-[[(3,4-dimethyl-5-isoxazolyl)amino]sulfonyl]phenyl]-(N^4-acetylsulfafurazole)* $C_{13}H_{15}N_3O_4S$; [4206-74-0]	Hekster, Ch. A.; Vree, T. B. *Antibiotics Chemother.* 1982, *31*, 22-118.
(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]	PREPARED BY: R. Piekos
VARIABLES: pH	

EXPERIMENTAL VALUES:

pH	Solubility at 25°C	
	mg/l	mol dm^{-3} [a]
5.5	250	8.08×10^{-4}
7.5[b]	6,893	2.228×10^{-2}

[a] Calculated by compiler

[b] Erroneous pH value of 7.0 is given in the article

*Another common trivial name is acetyl sulfisoxazole.

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

The earlier developed method (1) was used (personal communication). Satd solns of N^4-acetylsulfafurazole* were prepd in phosphate buffers of pH 5.5 and 7.5 at 25°C. The concn of the solute was measured by means of a Spectra Physics 3500B high-performance liquid chromatograph equipped with a Model 748 column oven and a Pye-Unicam LC-UV spectrophotometric detector.

SOURCE AND PURITY OF MATERIALS:

Neither source nor the purity of the materials was specified.

ESTIMATED ERROR:

Soly: the detection limit of the solute by HPLC was 0.5 mg/l (authors). The errors in temp and pH were not specified.

REFERENCES:

1. Hekster, Y.A. Vree, T. B.; Damsma, J. E.; Friesen, W. T. *J. Antimicrob. Chemother.* 1981, *8*, 133.

COMPONENTS:

(1) Acetamide, N-[4-[[(3,4-dimethyl-5-isoxazolyl)amino]sulfonyl]phenyl]-(acetyl sulfafurazole)*; $C_{13}H_{15}N_3O_4S$; [4206-74-0]

(2) Phosphoric acid, disodium salt; Na_2HPO_4; [7558-94-4]

(3) 1,2,3-Propanetricarboxylic acid, 2-hydroxy- (citric acid); $C_6H_8O_7$; [77-92-9]

(4) Water; H_2O;]7732-18-5]

VARIABLES: pH

ORIGINAL MEASUREMENTS:

Biamonte, A. R.; Schneller, G. H.

J. Am. Pharm. Assoc. Sci. Ed. 1952, *41*, 341-5.

PREPARED BY:

R. Piekos

EXPERIMENTAL VALUES:

Solubility of acetyl sulfafurazole* in McIlvaine's disodium phosphate-citric acid buffer solution at 37°C

Initial pH of buffer	Solubility		Final pH
	mg/100 ml solution	10^3 mol dm^{-3} [a]	
4.5	6.0	0.19	4.5
5.0	17.3	0.56	5.0
6.0	126.1	4.08	6.0
7.0	757.9	24.50	6.7

[a] Calculated by compiler

*Another common trivial name is acetyl sulfisoxazole.

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

Acetyl sulfafurazole* was equilibrated with 50 ml of the buffer soln for 18 h at 37° C with agitation. The suspension was immediately filtered through a Whatman No. 1 paper. The compd was assayed in the filtrate after boiling for 15-20 min with 30% NaOH soln as sulfafurazole* by the method of Bratton and Marshall (1) using a Beckman DU spectrophotometer, at 545 nm.

SOURCE AND PURITY OF MATERIALS:

Acetyl sulfafurazole*, mp 214.8-15.9°C, was supplied by the American Cyanamid Co, Calco Chem Div, Bound Brook, N.J. The source and purity of the remaining materials was not specified.

ESTIMATED ERROR: pH and temp: not specified. Accuracy of the anal method was illustrated by the following values: expected 2.003, 3.004, 4.006, 5.007 mg/100 ml; found 2.08; 3.06, 4.12, 5.10 resp.

REFERENCES:

1. Bratton, A. C.; Marshall, E. K. Jr. *J. Biol. Chem.* 1939, *128*, 537.

COMPONENTS:

(1) Acetamide, N-[4-[[(3,4-dimethyl-5-isoxazolyl)amino]sulfonyl]phenyl]-(acetyl sulfisoxazole); $C_{13}H_{15}N_3O_4S$; [4206-74-0]
(2) Calcium chloride; $CaCl_2$; [10043-52-4]
(3) Magnesium chloride; $MgCl_2$; [7786-30-3]
(4) Phosphoric acid, monoammonium salt; $NH_4H_2PO_4$; [7722-76-1]
(5) Potassium chloride; KCl; [7447-40-7]
(6) Sodium chloride; NaCl; [7647-15-5]
(7) Urea; CH_4N_2O; [57-13-6]
(8) Water; H_2O; [7732-18-5]

VARIABLES: pH at 37° C

ORIGINAL MEASUREMENTS:

Bandelin, F. J.; Malesh, W.

J. Am. Pharm. Assoc., Sci. Ed. 1959, *48*, 177-81.

PREPARED BY:

R. Piekos

EXPERIMENTAL VALUES:

Solubility of acetyl sulfisoxazole in a solution containing $CaCl_2$ 0.143, $MgCl_2$ 0.121, $NH_4H_2PO_4$ 0.300, KCl 1.660, NaCl 2.950 and urea 20 g/dm^3 (synthetic urine, Mosher Vehicle) at 37°C

Equilibrium pH	Solubility: mg/100 ml as sulfisoxazole	Solubility: 10^2 mol dm^{-3} [a]
4.5	30	0.097
5.0	44	0.140
5.5	70	0.230
6.0	160	0.520
6.5	560	1.810
7.0	1230	3.980

[a] calculated by compiler

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

Excess acetyl sulfisoxazole was added to aliquots of synthetic urine solns and 1% H_3PO_4 or 1% NaOH solns were used to adjust the pH to the required value. The solns were agitated for 24 h with addn of acid or base to keep them at the desired pH level until equilibrium was attained. Then the solns were filtered and in aliquots the acetyl sulfonamide was assayed spectrophotometrically by the method described by Biamonte and Schneller (1). Before detn the soln was refluxed with 5% H_2SO_4 for 1 h to liberate the free amino compound.

SOURCE AND PURITY OF MATERIALS:

Nothing specified

ESTIMATED ERROR:

Soly: average values of 2 detns were given.
Temp: not specified.
pH : not specified.

REFERENCES:

1. Biamonte, A. R.; Schneller, G. E., *J. Am. Pharm. Assoc., Sci. Ed.* 1952, *41*, 341.

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Acetamide, N -[4-[[(3,4-dimethyl-5-isoxazolyl)amino[sulfonyl]phenyl]-(acetyl sulfisoxazole); $C_{13}H_{15}N_3O_4S$; [4206-74-0] (2) Methane, trichloro- (chloroform); $CHCl_3$; [67-66-3]	Grady, L.T.; Hays, S.E.; King,R.H.; Klein, H. R.; Mader, W. J.; Wyatt, D. K. ; Zimmerer, R. O., Jr. *J. Pharm. Sci.* 1973, *62(3)*, 456-64.
VARIABLES: One temperature: 25°C	PREPARED BY: R. Piekos

EXPERIMENTAL VALUES:

Solubility of acetyl sulfisoxazole in chloroform at 25°C is 15.5 mg/g (5.01×10^{-2} mol kg^{-1}, compiler).

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
The phase solubility method was employed (1).	Acetyl sulfisoxazole contained 0.02% impurities and produced one spot in a thin-layer chromatogram. Source and purity of the chloroform was not specified.
	ESTIMATED ERROR: Soly: ±0.3 mg/g (authors) Temp: not specified.
	REFERENCES: 1. *The National Formulary, 13th Ed., Mack Publishing Co., Easton, Pa.,* 1970, *pp.* 789 *and* 839.