

<p>COMPONENTS:</p> <p>(1) Benzenesulfonamide, 4-amino-N-(3-4-dimethyl-5-isoxazolyl)- (sulfisoxazole) $C_{11}H_{13}N_3O_3S$; [127-69-5]</p> <p>(2) Water</p> <p>(3) Ethanol</p>	<p>EVALUATOR:</p> <p>Anthony N. Paruta Department of Pharmaceutics University of Rhode Island Kingston, Rhode Island, USA</p> <p>and</p> <p>Ryszard Piekos Faculty of Pharmacy, University of Gdansk Gdansk, Poland 1986</p>
<p>CRITICAL EVALUATION:</p> <p>Aqueous solubilities of the compound at 310K as determined twice, in 1978 and 1980, by the same laboratory (1,2) using virtually identical methods and procedures and are the same. Assuming that the values were independently determined, the recommended value is 1.09×10^{-3} mol dm⁻³ in water at 298K.</p> <p>Ethanolic solubilities were determined at 303K by two independent groups (3,4). The results are only within 10%, and the equilibrium time unclear (4). The tentative average value of sulfisoxazole in ethanol at 303K is given as 81.6×10^{-3} mol dm⁻³. This value is about 75 times higher than that of water.</p> <p>REFERENCES:</p> <p>(1) Kaneniwa, N.; Watari, N. <i>Chem. Pharm. Bull.</i> <u>1978</u>, <i>26(3)</i>, 813-26.</p> <p>(2) Watari, N.; Kaneniwa, N.; Hanano, M. <i>Int. J. Pharm.</i> <u>1980</u>, <i>6(2)</i>, 155-66.</p> <p>(3) Mauge, J.W.; Petersen, H., Jr.; Alexander, K.S.; Paruta, A.N. <i>Drug Dev. Ind. Pharm.</i> <u>1977</u>, <i>3(2)</i>, 163-83.</p> <p>(4) Sekikawa, H.; Nakano, M.; Arita, T. <i>Chem. Pharm. Bull.</i> <u>1978</u>, <i>26(1)</i>, 118-26.</p>	

COMPONENTS: (1) Benzenesulfonamide, 4-amino-N-(3,4-dimethyl-5-isoxazolyl)- (sulfoxazole); $C_{11}H_{13}N_3O_3S$; [127-69-5] (2) Water; H_2O ; [7732-18-5]	ORIGINAL MEASUREMENTS: Yamazaki, M; Aoki, M.; Kamada, A.; Yata, N.; <i>Yakuzaigaku</i> <u>1967</u> , <i>27(1)</i> , 37-40.
VARIABLES: One temperature: 30°C	PREPARED BY: R. Piekos
EXPERIMENTAL VALUES: <p style="text-align: center;">Solubility of sulfoxazole in water at 30°C is 0.83 mmol/L (0.22 g dm⁻³, compiler).</p>	
AUXILIARY INFORMATION	
METHOD/APPARATUS/PROCEDURE: Sulfoxazole (0.5 g) was placed in an L-shaped tube together with 20 ml of water. The mixt was shaken in a thermostat until equilibrium was attained. The sulfoxazole was assayed in the supernatant spectrophotometrically at 545 nm on a Beckman DU spectrophotometer. The results were taken from a calibration graph.	SOURCE AND PURITY OF MATERIALS: Nothing specified ESTIMATED ERROR: Soly: not specified Temp: ±1°C (authors) REFERENCES:

<p>COMPONENTS:</p> <p>(1) Benzenesulfonamide, 4-amino-N-(3,4-dimethyl-5-isoxazolyl)- (sulfisoxazole); C₁₁H₁₃N₃O₃S; [127-69-5]</p> <p>(2) Water; H₂O; [7732-18-5]</p>	<p>ORIGINAL MEASUREMENTS:</p> <p>Kaneniwa, N.; Watari, N. <i>Chem. Pharm. Bull.</i> <u>1978</u>, 26(3), 813-26.</p>
<p>VARIABLES:</p> <p>One temperature: 37°C</p>	<p>PREPARED BY:</p> <p>R. Piekos</p>
<p>EXPERIMENTAL VALUES:</p> <p style="text-align: center;">Solubility of sulfisoxazole in water at 37°C is 0.292 mg/ml solution (1.09×10^{-3} mol dm⁻³, compiler).</p>	
<p>AUXILIARY INFORMATION</p>	
<p>METHOD/Apparatus/Procedure:</p> <p>An excess of sulfisoxazole was placed in a flask contg 25 ml of water. The flask was shaken (2 strokes/s at the amplitude of 3 cm) in a thermostatically controlled water bath at 37°C. One-ml sample was withdrawn every 6 h (total equilibration period was 3-5 days) using a warmed Millipore filter syringe with a filter pore size of 0.45 µ (Millipore HAWP 01300) and the filtrate was dild with water and assayed spectrophotometrically (1).</p>	<p>SOURCE AND PURITY OF MATERIALS:</p> <p>Commercial sulfisoxazole of the Japanese Pharmacopeia grade and distd water were used.</p> <p>ESTIMATED ERROR:</p> <p>Soly: not specified. Temp: ±0.05°C (authors).</p> <p>REFERENCES:</p> <p>1. Kaneniwa, N.; Watari, N. <i>Chem. Pharm. Bull.</i> <u>1974</u>, 22, 1699.</p>

COMPONENTS: (1) Benzenesulfonamide, 4-amino-N-(3,4-dimethyl-5-isoxazolyl)- (sulfisoxazole); $C_{11}H_{13}N_3O_3S$; [127-69-5] (2) Water; H_2O ; [7732-18-5]	ORIGINAL MEASUREMENTS: Watari, N; Kaneniwa, N.; Hanano, M. <i>Int. J. Pharm.</i> <u>1980</u> , <i>6(2)</i> , 155-66.
VARIABLES: One temperature: 37°C	PREPARED BY: R. Piekos
EXPERIMENTAL VALUES: <p style="text-align: center;">Solubility of sulfisoxazole in water at 37°C is 29.2 mg/100 ml (1.09×10^{-3} mol dm⁻³, compiler).</p>	
AUXILIARY INFORMATION	
METHOD/APPARATUS/PROCEDURE: The earlier developed method was employed (1), whereby an excess of sulfisoxazole, required to saturate medium, was placed in a flask contg 25 ml of water. The flask was shaken (2 strokes/s) at an amplitude of 3 cm, in a thermostatically controlled bath. One-ml sample was removed every 6 h (total equilibration time was 3-5 days) using a warmed Millipore filter syringe with a filter pore size of 0.45 μ (Millipore HAWP 01300) and the filtrate was dild with water and assayed spectrophotometrically.	SOURCE AND PURITY OF MATERIALS: Sulfisoxazole was of the Japanese Pharmacopeia grade. Distilled water was used.
ESTIMATED ERROR: Soly: not specified Temp: $\pm 0.05^\circ C$ (authors)	
REFERENCES: 1. Kaneniwa, N.; Watari, N. <i>Chem. Pharm. Bull.</i> <u>1974</u> , <i>22</i> , 1699.	

COMPONENTS: (1) Benzenesulfonamide, 4-amino-N-(3,4-dimethyl-5-isoxazolyl)- (sulfisoxazole); $C_{11}H_{13}N_3O_3S$; [127-69-5] (2) Hydrochloric acid; HCl; [7647-01-0] (3) Water; H_2O ; [7732-18-5]	ORIGINAL MEASUREMENTS: Ogata, H.; Shibasaki, T.; Inoue, T.; Ejima, A. <i>Chem. Pharm. Bull.</i> <u>1979</u> , 27(6), 1281-6.
VARIABLES: One temperature: 37°C	PREPARED BY: R. Piekos
EXPERIMENTAL VALUES: <p style="text-align: center;">Solubility of sulfisoxazole in 0.1N HCl at 37°C is 1.440 mg/ml (5.387×10^{-3} mol dm⁻³, compiler).</p>	
AUXILIARY INFORMATION	
METHOD/APPARATUS/PROCEDURE: A centrifuge tube contg 30 ml of 0.1N HCl and 0.5-3.0 g of the sulfisoxazole powder was tightly sealed and shaken at 37°C. The concn of the dissolved drug was detd spectrophotometrically following filtration through a Millipore filter (type EH, pore size 0.5 μ m), and the procedure was repeated every 24 h until a const concn was obtained.	SOURCE AND PURITY OF MATERIALS: Comm available 500-mg uncoated tablets of sulfisoxazole were used. Hydrochloric acid was of reagent grade. ESTIMATED ERROR: Nothing specified REFERENCES:

COMPONENTS: (1) Benzenesulfonamide, 4-amino-N-(3,4-dimethyl-5-isoxazolyl)-(sulfisoxazole); $C_{11}H_{13}N_3O_3S$; [127-69-5] (2) Carbonic acid, monosodium salt; $NaHCO_3$; [144-55-8] (3) Water; H_2O ; [7732-18-5]	ORIGINAL MEASUREMENTS: Takubo, T.; Matsumaru, H.; Tsuchiya, S.; Hiura, M. <i>Chem. Pharm. Bull.</i> <u>1973</u> , <i>21(7)</i> , 1440-5.
VARIABLES: One temperature: 37°C; one pH: 8.4	PREPARED BY: R. Piekos
EXPERIMENTAL VALUES: <p>Solubility of sulfisoxazole in a $NaHCO_3$ solution (1.680 g $NaHCO_3$/100 ml water) of pH 8.4 at 37°C is 31.25 mg/ml solution^a (1.169×10^{-1} mol dm^{-3} solution, compiler).</p> <p>^aNumerical value to the graphical data was given by one of the authors (S. T.) in personal communication.</p>	
AUXILIARY INFORMATION	
METHOD/APPARATUS/PROCEDURE: Aliquots of the $NaHCO_3$ soln were placed in glass-stoppered flasks with excess of sulfisoxazole. The flasks were allowed to stand at $37 \pm 1^\circ C$ and shaken vigorously for 4 h until equilibrium was attained. One ml of the supernatant was removed by means of a filter pipet and sulfisoxazole was assayed by the previously reported method (1).	SOURCE AND PURITY OF MATERIALS: The sulfisoxazole was of the pharmaceutical grade. The source and purity of $NaHCO_3$ was not specified. Distd was used. ESTIMATED ERROR: Soly and pH: not specified. Temp: $\pm 1^\circ C$ (authors). REFERENCES: 1. Takubo, T.; Tsuchiya, S.; Hiura, M. <i>Yakuzaiigaku</i> <u>1971</u> , <i>31</i> , 298.

COMPONENTS: (1) Benzenesulfonamide, 4-amino-N-(3,4-dimethyl-5-isoxazolyl)-(sulfisoxazole); $C_{11}H_{13}N_3O_3S$; [127-69-5] (2) Carbonic acid; disodium salt; Na_2CO_3 ; [497-19-8] (3) Water; H_2O ; [7732-18-5]	ORIGINAL MEASUREMENTS: Takubo, T. ; Matsumaru, H.; Tsuchiya, S.; Hiura, M. <i>Chem. Pharm. Bull.</i> <u>1973</u> , 21(7), 1440-5.
VARIABLES: One temperature: 37°C; one pH: 11.3	PREPARED BY: R. Piekos
EXPERIMENTAL VALUES: <p>Solubility of sulfisoxazole in a Na_2CO_3 solution (2.120 g Na_2CO_3/100 ml water) of pH 11.3 at 37°C is 54.12 mg/ml solution^a (2.025×10^{-1} mol dm^{-3} solution, compiler).</p> <p>^aNumerical value for the graphical data was given by one of the authors (S. T.) in personal communication.</p>	
AUXILIARY INFORMATION	
METHOD/APPARATUS/PROCEDURE: Aliquots of the Na_2CO_3 solution were placed in glass-stoppered flasks with excess of sulfisoxazole. The flasks were allowed to stand at $37 \pm 1^\circ C$ and shaken vigorously for 4 h until equilibrium was established. One ml of the supernatant was removed by means of a filter pipet and sulfisoxazole was assayed by the previously reported method (1).	SOURCE AND PURITY OF MATERIALS: The sulfisoxazole was of pharmaceutical grade. The source and purity of Na_2CO_3 was not specified. Distd water was used.
ESTIMATED ERROR: Soly and pH: not specified. Temp: $\pm 1^\circ C$.	
REFERENCES: 1. Takubo, T.; Tsuchiya, S.; Hiura, M. <i>Yakuzaiigaku</i> <u>1971</u> , 31, 298.	

COMPONENTS:		ORIGINAL MEASUREMENTS:		
(1) Benzenesulfonamide, 4-amino-N-(3,4-dimethyl-5-isoxazolyl)-(sulfisoxazole); $C_{11}H_{13}N_3O_3S$; [127-69-5]		Takubo, T.; Matsumaru, H. ; Tsuchiya, S.; Hiura, M. <i>Chem. Pharm. Bull.</i> <u>1973</u> , 21(7), 1440-5.		
(2) Carbonic acid; disodium salt; Na_2CO_3 ; [497-19-8]				
(3) Carbonic acid; monosodium salt; $NaHCO_3$; [144-55-8]				
(4) Water; H_2O ; [7732-18-5]				
VARIABLES: pH		PREPARED BY: R. Piekos		
EXPERIMENTAL VALUES:				
Na_2CO_3	$NaHCO_3$	pH	Solubility at 37°C	
g/100 ml water	g/100 ml water		mg/ml soln ^a	10 mol dm ⁻³ soln ^b
0.212	1.512	9.1	35.84	1.341
0.848	1.008	9.8	48.97	1.832
1.908	0.168	10.7	54.12	2.025
<p>^aNumerical values to the graphical data were given by one of the authors (S.T.) in personal communication.</p> <p>^bCalculated by compiler.</p>				
AUXILIARY INFORMATION				
METHOD/APPARATUS/PROCEDURE:		SOURCE AND PURITY OF MATERIALS:		
Aliquots of carbonate buffer solns were placed in glass-stoppered flasks with excess of sulfisoxazole. The flasks were allowed to stand at 37±1°C and shaken vigorously for 4 h until equilibrium was established. One ml of the supernatant was removed by means of a filter pipet and sulfisoxazole was assayed by the previously reported method (1).		The sulfisoxazole was of pharmaceutical grade. The source and purity of Na_2CO_3 and $NaHCO_3$ were not specified. Distd water was used.		
		ESTIMATED ERROR:		
		Soly and pH: not specified. Temp: ±1°C (authors).		
		REFERENCES:		
		1. Takubo, T.; Tsuchiya, S.; Hiura, M. <i>Yakuzaiigaku</i> , <u>1971</u> , 31, 298.		

COMPONENTS: (1) Benzenesulfonamide, 4-amino-N-(3,4-dimethyl-5-isoxazolyl)- (sulfisoxazole); $C_{11}H_{13}N_3O_3S$; [127-69-5] (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]	ORIGINAL MEASUREMENTS: Bandelin, F.J.; Malesh, W. <i>J. Am. Pharm. Assoc., Sci. Ed.</i> <u>1959</u> , 48, 177-81.																										
VARIABLE: <p style="text-align: center;">pH</p>	PREPARED BY: <p style="text-align: center;">R. Piekos</p>																										
EXPERIMENTAL VALUES: <p style="text-align: center;">Solubility of 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 $37^\circ C$</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th rowspan="2">Initial pH</th> <th colspan="2">Solubility</th> </tr> <tr> <th>mg/100 ml</th> <th>$10^2 \text{ mol dm}^{-3} \text{ a}$</th> </tr> </thead> <tbody> <tr><td>4.5</td><td>33</td><td>0.12</td></tr> <tr><td>5.0</td><td>45</td><td>0.16</td></tr> <tr><td>5.5</td><td>70</td><td>0.26</td></tr> <tr><td>6.0</td><td>175</td><td>0.65</td></tr> <tr><td>6.5</td><td>405</td><td>1.51</td></tr> <tr><td>7.0</td><td>1360</td><td>5.08</td></tr> <tr><td>7.5</td><td>2870</td><td>10.73</td></tr> </tbody> </table> <p>^acalculated by compiler</p>		Initial pH	Solubility		mg/100 ml	$10^2 \text{ mol dm}^{-3} \text{ a}$	4.5	33	0.12	5.0	45	0.16	5.5	70	0.26	6.0	175	0.65	6.5	405	1.51	7.0	1360	5.08	7.5	2870	10.73
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AUXILIARY INFORMATION																											
METHOD/APPARATUS/PROCEDURE: <p>Solns were prepd by adding an excess of sulfisoxazole to 10 ml of buffer soln at each pH level in 18 x 150-mm test tubes, stoppering the tubes and placing them in a water bath at $37^\circ C$ with gentle agitation for 24 h. The mixt was then filtered and a 1-ml aliquot was accurately pipetted into a volumetric flask for diln and analysis. The balance was retained for pH detn to ascertain any change in pH value. 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.</p>	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. <i>J. Am. Pharm. Assoc., Sci. Ed.</i> , <u>1952</u> , 41, 341.																										

COMPONENTS: (1) Benzenesulfonamide, 4-amino-N-(3,4-dimethyl-5-isoxazolyl)- (sulfisoxazole); $C_{11}H_{13}N_3O_3S$; [127-69-5] (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]	ORIGINAL MEASUREMENTS: Yamazaki, M.; Aoki, M.; Kamada, A.; Yata, N. <i>Yakuzaigaku</i> , <u>1967</u> , <i>27(1)</i> , 37-40.
VARIABLES: One temperature: 30°C; one pH: 7.4	PREPARED BY: R. Piekos
EXPERIMENTAL VALUES: <p style="text-align: center;">Solubility of sulfisoxazole in a phosphate buffer solution of pH 7.4^a ($\mu = 0.17$) at 30°C is 32.1 mmol/L (8.580 g dm⁻³, compiler).</p> <p style="text-align: center;">^aAt the end of experiment the pH was 6.5</p>	
AUXILIARY INFORMATION	
METHOD/APPARATUS/PROCEDURE: Sulfisoxazole (0.5 g) was placed in an L-shaped tube together with 20 ml of the buffer soln. The mixt was shaken in a thermostat until equilibrium was attained. The sulfisoxazole was assayed in the supernatant spectrophotometrically at 545 nm on a Beckmann DU spectrophotometer. The results were taken from a calibration graph.	SOURCE AND PURITY OF MATERIALS: Nothing specified
	ESTIMATED ERROR: Soly and pH: not specified Temp: $\pm 1^\circ C$ (authors)
	REFERENCES:

COMPONENTS: (1) Benzenesulfonamide, 4-amino-N-(3,4-dimethyl-5-isoxazolyl)- (sulfafurazole)*; $C_{11}H_{13}N_3O_3S$; [127-69-5] (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]	ORIGINAL MEASUREMENTS: Hekster, Ch. A.; Vree, T.B. <i>Antibiotics Chemother.</i> <u>1982</u> , <i>31</i> , 22-118.											
VARIABLES: pH	PREPARED BY: R. Piekos											
EXPERIMENTAL VALUES: <div style="text-align: center;">Solubility at 25°C</div> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th rowspan="2">pH</th> <th colspan="2">Solubility at 25°C</th> </tr> <tr> <th>mg/l</th> <th>10^3 mol dm^{-3}</th> </tr> </thead> <tbody> <tr> <td>5.5</td> <td>1,533</td> <td>5.735</td> </tr> <tr> <td>7.5^b</td> <td>4,724</td> <td>17.670</td> </tr> </tbody> </table> <p>^aCalculated by compiler</p> <p>^bErroneous pH value of 7.0 is given in the article</p> <p>*Another common trivial name is sulfisoxazole.</p>		pH	Solubility at 25°C		mg/l	10^3 mol dm^{-3}	5.5	1,533	5.735	7.5 ^b	4,724	17.670
pH	Solubility at 25°C											
	mg/l	10^3 mol dm^{-3}										
5.5	1,533	5.735										
7.5 ^b	4,724	17.670										
AUXILIARY INFORMATION												
METHOD/APPARATUS/PROCEDURE: The earlier developed method (1) was used (personal communication). Satd solns of sulfafurazole* 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. <i>J. Antimicrob. Chemother.</i> <u>1981</u> , <i>8</i> , 133.												

COMPONENTS: (1) Benzenesulfonamide, 4-amino-N-(3,4-dimethyl-5-isoxazolyl)- (sulfisoxazole); $C_{11}H_{13}N_3O_3S$; [127-69-5] (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; $NaCl$; [7647-14-5] (7) Urea; CH_4N_2O ; [57-13-6] (8) Water; H_2O ; [7732-18-5]	ORIGINAL MEASUREMENTS: Bandelin, F. J.; Malesh, W. <i>J. Am. Pharm. Assoc., Sci. Ed.</i> <u>1959</u> , 48, 177-81.																							
VARIABLES: pH at 37°	PREPARED BY: R. Piekos																							
EXPERIMENTAL VALUES: <p>Solubility of 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/dm³ (synthetic urine, Mosher Vehicle) at 37°C.</p> <table border="1" data-bbox="360 766 1005 1124"> <thead> <tr> <th rowspan="2">Equilibrium pH</th> <th colspan="2">Solubility</th> </tr> <tr> <th>mg/100 ml</th> <th>10² mol/dm³ a</th> </tr> </thead> <tbody> <tr> <td>4.5</td> <td>36</td> <td>0.13</td> </tr> <tr> <td>5.0</td> <td>51</td> <td>0.19</td> </tr> <tr> <td>5.5</td> <td>80</td> <td>0.29</td> </tr> <tr> <td>6.0</td> <td>220</td> <td>0.82</td> </tr> <tr> <td>6.4</td> <td>710</td> <td>2.66</td> </tr> <tr> <td>6.7</td> <td>2600</td> <td>9.73</td> </tr> </tbody> </table> <p>^acalculated by compiler</p>		Equilibrium pH	Solubility		mg/100 ml	10 ² mol/dm ³ a	4.5	36	0.13	5.0	51	0.19	5.5	80	0.29	6.0	220	0.82	6.4	710	2.66	6.7	2600	9.73
Equilibrium pH	Solubility																							
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6.7	2600	9.73																						
AUXILIARY INFORMATION																								
METHOD/APPARATUS/PROCEDURE: Excess 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 sulfonamide was assayed spectrophotometrically by the method described by Biamonte and Schneller (1).	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. <i>J. Am. Pharm. Assoc., Sci. Ed.</i> <u>1952</u> , 41, 341.																							

COMPONENTS: (1) Benzenesulfonamide, 4-amino-N-(3,4-dimethyl-5-isoxazolyl)- (sulfisoxazole); $C_{11}H_{13}N_3O_3S$; [127-69-5] (2) 1,2,3-Propanetricarboxylic acid, 2-hydroxy- (citric acid); $C_6H_8O_7$; [77-92-9] (3) Water; H_2O ; [7732-18-5]	ORIGINAL MEASUREMENTS: Takubo, T.; Matsumaru, H.; Tsuchiya, S.; Hiura, M. <i>Chem. Pharm. Bull.</i> <u>1973</u> , 21(7), 1440-5.
VARIABLES: One temperature: 37°C; one pH: 2.1	PREPARED BY: R. Piekos
EXPERIMENTAL VALUES: Solubility of sulfisoxazole in a citric acid solution (2.100 g citric acid per 100 ml water) of pH 2.1 at 37°C is 0.31 mg/ml solution ^a (1.16×10^{-3} mol dm ⁻³ solution, compiler). ^a Numerical value to the graphical one was given by one of the authors (S.T) in personal communication.	
AUXILIARY INFORMATION	
METHOD/APPARATUS/PROCEDURE: Aliquots of the citric acid soln were placed in glass-stoppered flasks with excess of sulfisoxazole. The flasks were allowed to stand at 37±1°C and shaken vigorously for 4 h until equilibrium was established. One ml of the supernatant was removed by means of a filter and the sulfanilamide was assayed by the previously reported method (1).	SOURCE AND PURITY OF MATERIALS: The sulfanilamide was of pharmaceutical grade. Source and purity of the citric acid was not specified. Distd water was used.
	ESTIMATED ERROR: Soly and pH: not specified Temp: ±1°C (authors)
	REFERENCES: 1. Takubo, T.; Tsuchiya, S.; Hiura, M. <i>Yakusaigaku</i> <u>1971</u> , 31, 298.

COMPONENTS: (1) Benzenesulfonamide, 4-amino-N-(3,4-dimethyl-5-isoxazolyl)- (sulfisoxazole); $C_{11}H_{13}N_3O_3S$; [127-69-5] (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]	ORIGINAL MEASUREMENTS: Takubo, T.; Matsumaru, H.; Tsuchiya, S.; Hiura, M. <i>Chem. Pharm. Bull.</i> <u>1973</u> , <i>21</i> (7), 1440-5.																											
VARIABLES: pH	PREPARED BY: R. Piekos																											
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VARIABLES: pH	PREPARED BY: R. Piekos																														
EXPERIMENTAL VALUES: Solubility of sulfafurazole* in McIlvalne's disodium phosphate - citric acid buffer solution at 37°. <table border="1" data-bbox="399 643 1043 991" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th rowspan="2">Initial pH of buffer</th> <th colspan="2">Solubility</th> <th rowspan="2">Final pH</th> </tr> <tr> <th>mg/100 ml</th> <th>$10^2 \text{ mol dm}^{-3} \text{ }^a$</th> </tr> </thead> <tbody> <tr> <td>4.5</td> <td>32.3</td> <td>0.121</td> <td>4.5</td> </tr> <tr> <td>5.0</td> <td>51.6</td> <td>0.193</td> <td>5.0</td> </tr> <tr> <td>5.5</td> <td>108.7</td> <td>0.407</td> <td>5.5</td> </tr> <tr> <td>6.0</td> <td>262.0</td> <td>0.980</td> <td>5.9</td> </tr> <tr> <td>6.5</td> <td>616.0</td> <td>2.304</td> <td>6.3</td> </tr> <tr> <td>7.0</td> <td>2,135.0</td> <td>7.987</td> <td>6.8</td> </tr> </tbody> </table> <p data-bbox="427 1022 707 1052">^aCalculated by compiler</p> <p data-bbox="427 1062 986 1093">*Another common trivial name is sulfisoxazole.</p>		Initial pH of buffer	Solubility		Final pH	mg/100 ml	$10^2 \text{ mol dm}^{-3} \text{ }^a$	4.5	32.3	0.121	4.5	5.0	51.6	0.193	5.0	5.5	108.7	0.407	5.5	6.0	262.0	0.980	5.9	6.5	616.0	2.304	6.3	7.0	2,135.0	7.987	6.8
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METHOD/APPARATUS/PROCEDURE: Sulfafurazole* (500 mg) was equilibrated in a water bath with 50 ml of the buffer soln for 18 h at 37°C with agitation. The suspension was then immediately filtered through a Whatman No. 1 paper. The filtration time was approx 2 min. Sulfafurazole* in the filtrate was assayed spectrophotometrically by the Bratton and Marshall method (1) using a Beckman DU spectrophotometer, at 545 nm.	SOURCE AND PURITY OF MATERIALS: The source of sulfafurazole* (mp 193.4 - 193.9°C) was not specified. The source and purity of the remaining materials were not specified. <p data-bbox="714 1584 1253 1706">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.</p> REFERENCES: 1. Bratton, A.C.; Marshall, E.K., Jr. <i>J. Biol. Chem.</i> 1939, 128, 537.																														

COMPONENTS: (1) Benzenesulfonamide, 4-amino-N-(3,4-dimethyl-5-isoxazolyl)- (sulfisoxazole); $C_{11}H_{13}N_3O_3S$; [127-69-5] (2) Sorbitan monolaurate, polyoxyethylene derivatives (Tween 20); [9005-64-5] (3) Water; H_2O ; [7732-18-5]	ORIGINAL MEASUREMENTS: Khawam, M.N.; Yousef, R.T.; Czetsch-Lindenwald, H. <i>Sci. Pharm.</i> <u>1966</u> , <i>34</i> , 209-13.										
VARIABLES: Concentration of Tween 20	PREPARED BY: R. Piekos										
EXPERIMENTAL VALUES: <table border="1"> <caption>Data points from the experimental values graph</caption> <thead> <tr> <th>Concentration of Tween 20, $10^2(g/l)$</th> <th>Solubility at 35°C, $10^2(g/l)$</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>1.2</td> </tr> <tr> <td>0.5</td> <td>1.55</td> </tr> <tr> <td>2</td> <td>1.7</td> </tr> <tr> <td>10</td> <td>2.0</td> </tr> </tbody> </table>		Concentration of Tween 20, $10^2(g/l)$	Solubility at 35°C, $10^2(g/l)$	0	1.2	0.5	1.55	2	1.7	10	2.0
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METHOD/APPARATUS/PROCEDURE: An earlier described method was employed (1) whereby a 100-ml conical flask contg a Tween 20 soln was placed in a drying cabinet at 35°C and an excess of sulfisoxazole was added under stirring for 1 h. After 12 h the soln was filtered or decanted and the solute was assayed in the filtrate spectrophotometrically using a Unicam SP 500 spectrophotometer and 1-ml quartz cuvetts. Results were taken from a calibration graph.	SOURCE AND PURITY OF MATERIALS: Neither source nor purity of sulfisoxazole and water were specified. Tween 20 was supplied by Atlas-Goldschmidt A.G., Essen (purity not specified).										
	ESTIMATED ERROR: Nothing specified										
	REFERENCES: 1. Khawam, M.N.; Tawashi, R.; Czetsch-Lindenwald, H. v. <i>Sci. Pharm.</i> <u>1965</u> , <i>33</i> , 90.										

COMPONENTS: (1) Benzenesulfonamide, 4-amino-N-(3,4-dimethyl-5-isoxazolyl)- (sulfisoxazole); $C_{11}H_{13}N_3O_3S$; [127-69-5] (2) Methanol; CH_4O ; [67-56-1]	ORIGINAL MEASUREMENTS: Mauger, J.W. ; Petersen, H. Jr.; Alexander, K. S.; Paruta, A. N. <i>Drug Dev. Ind. Pharm.</i> 1977, 3(2), 163-83.																			
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COMPONENTS: (1) Benzenesulfonamide, 4-amino-N-(3,4-dimethyl-5-isoxazolyl)- (sulfisoxazole); $C_{11}H_{13}N_3O_3S$; [127-69-5] (2) Ethanol; C_2H_6O ; [64-17-5]	ORIGINAL MEASUREMENTS: Sekikawa, H.; Nakano, M.; Arita, T. <i>Chem. Pharm. Bull.</i> <u>1978</u> , <i>26(1)</i> , 118-26.												
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$t/^\circ C$	Solubility ^a $10^2 \text{ mol dm}^{-3} \text{ solution}$												
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METHOD/APPARATUS/PROCEDURE: After attaining equilibrium, sample solns were removed by a syringe and filtered quickly through a membrane filter (pore size 0.2μ) and sulfisoxazole was assayed spectrophotometrically at 269 nm using a Hitachi Type 200-20 spectrophotometer.	SOURCE AND PURITY OF MATERIALS: Sulfisoxazole (Yamanouchi Pharmaceutical Co.) was of the Japanese Pharmacopoeia IX grade. Abs EtOH was obtained by drying and distn of EtOH following the conventional procedures. ESTIMATED ERROR: Nothing specified REFERENCES:												

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METHOD/APPARATUS/PROCEDURE: Screw-capped bottles with sulfisoxazole and BuOH were rotated in a const temp bath for 24 h. Samples were withdrawn through a pledget of glass wool into a pipet, which was wiped clean and allowed to drain into a volumetric flask. Soly was detd from absorbance and previously ascertained Beer's law plots detd on a Cary Model 16 spectrophotometer (1).	SOURCE AND PURITY OF MATERIALS: Sulfisoxazole: lot 378067, Hoffman-LaRoche, Inc. M.p. agreed with literature values. 1-Butanol was purchased from Mallinckrodt Chem Works. Refractive index value and density agreed with literature values. ESTIMATED ERROR: Temp: $\pm 0.1^\circ C$ (authors). Soly: an average of at least 3 detns is reported (authors). REFERENCES: 1. Paruta, A. N.; Mauger, J. W.; Gerraughty, R. J., <i>J. Pharm. Sci.</i> <u>1972</u> , 61, 94.																

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VARIABLES: One temperature	PREPARED BY: R. Piekos
EXPERIMENTAL VALUES: <p>The mole fraction solubility of sulfisoxazole in 2-ethoxyethanol at 25°C is 0.0495 (13.4 g/100 g solution, compiler).</p>	
AUXILIARY INFORMATION	
METHOD/APPARATUS/PROCEDURE: Soly was detd by the method reported by Restaino and Martin. Sulfisoxazole was assayed on a Coleman-Hitachi 124 double-beam spectrophotometer at 270 nm after diln of a sample with 95% alcohol or water.	SOURCE AND PURITY OF MATERIALS: Sulfisoxazole (Hoffman-LaRoche Inc., Nutley, N.J.) was recrystd from warm alcohol. 2-Ethoxyethanol (Cellosolve solvent, Union Carbide, New York, N.Y.) was of industrial grade. ESTIMATED ERROR: Temp: $\pm 1.0^\circ C$ (authors). Soly: the mean of 3 runs was given (authors). REFERENCES: 1. Restaino, F. A.; Martin, A. N. <i>J. Pharm. Sci.</i> <u>1964</u> , <i>53</i> , 636.

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METHOD/APPARATUS/PROCEDURE: After attaining equilibrium, sample solns were removed by a syringe and filtered quickly through a membrane filter (pore size 0.2 μ) and sulfisoxazole was assayed spectrophotometrically at 269 nm using a Hitachi Type 200-20 spectrophotometer. No significant absorbance was found for poly(vinyl pyrrolidone).	SOURCE AND PURITY OF MATERIALS: Sulfisoxazole (Yamanouchi Pharmaceutical Co.) was of the Japanese Pharmacopeia IX grade. Poly(vinyl pyrrolidone) K-15 was from Daichi Pure Chemicals Co., Tokyo. Abs EtOH was obtained by drying and distn of EtOH following the conventional procedures. ESTIMATED ERROR: Nothing specified REFERENCES:												

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VARIABLES: One temperature: 20°C	PREPARED BY: R. Piekos
EXPERIMENTAL VALUES: <p style="text-align: center;">Solubility of sulfisoxazole in chloroform at 20°C is 80 mg% (3.0×10^{-3} mol dm⁻³ solution, compiler).</p>	
AUXILIARY INFORMATION	
METHOD/APPARATUS/PROCEDURE: Nothing specified	SOURCE AND PURITY OF MATERIALS: Nothing specified ESTIMATED ERROR: Nothing specified REFERENCES: