

COMPONENTS: (1) Acetamide, N-[4-[(5-ethyl-1,3,4-thiadiazol-2-yl)amino]sulfonyl]phenyl]- (acetyl sulfaethylthiadiazole); $C_{12}H_{14}N_4O_3S_2$; [1037-51-0] (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; $NaCl$; [7647-14-5] (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°C	PREPARED BY: R. Piekos																							
EXPERIMENTAL VALUES: <p>Solubility of acetyl sulfaethylthiadiazole 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="221 662 883 1017"> <thead> <tr> <th rowspan="2">Equilibrium pH</th> <th colspan="2">Solubility</th> </tr> <tr> <th>mg/100 ml as sulfaethylthiadiazole</th> <th>10² mol dm³ a</th> </tr> </thead> <tbody> <tr> <td>4.5</td> <td>225</td> <td>0.69</td> </tr> <tr> <td>5.0</td> <td>230</td> <td>0.70</td> </tr> <tr> <td>5.5</td> <td>250</td> <td>0.77</td> </tr> <tr> <td>6.0</td> <td>350</td> <td>1.07</td> </tr> <tr> <td>6.5</td> <td>650</td> <td>1.99</td> </tr> <tr> <td>7.0</td> <td>1140</td> <td>3.49</td> </tr> </tbody> </table> <p>^aCalculated by compiler</p>		Equilibrium pH	Solubility		mg/100 ml as sulfaethylthiadiazole	10 ² mol dm ³ a	4.5	225	0.69	5.0	230	0.70	5.5	250	0.77	6.0	350	1.07	6.5	650	1.99	7.0	1140	3.49
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	mg/100 ml as sulfaethylthiadiazole	10 ² mol dm ³ a																						
4.5	225	0.69																						
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AUXILIARY INFORMATION																								
METHOD/APPARATUS/PROCEDURE: Excess acetyl sulfaethylthiadiazole 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. <i>J. Am. Pharm. Assoc., Sci. Ed.</i> <u>1952</u> , 41, 341.																							

COMPONENTS: (1) Benzenesulfonamide, 4-amino-N-(5-propyl-1,3,4-thiadiazol-2-yl); $C_{11}H_{14}N_4O_2S_2$; [71119-32-9] (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: Alric, R.; Puech, R. <i>J. Pharmacol. (Paris)</i> <u>1971</u> , <i>2(2)</i> , 141-54.
VARIABLES: One temperature: 37°C; one pH: 3.5	PREPARED BY: R. Piekos
EXPERIMENTAL VALUES: <p style="text-align: center;">Intrinsic solubility^a of 4-amino-N-(5-propyl-1,3,4-thiadiazol-2-yl)benzenesulfonamide in a solution 0.025M in Na_2HPO_4 and 0.05M in citric acid, of pH 3.5, at 37°C is $(8.98 \pm 0.23) \times 10^{-4}$ mol liter⁻¹.</p> <p>^aUnder "intrinsic solubility" a minimum on the solubility - pH curve is meant which corresponds to the limiting concentration of the undissociated form of the sulfonamide.</p>	
AUXILIARY INFORMATION	
METHOD/APPARATUS/PROCEDURE: The soln was equilibrated for 48 h in a thermostat under occasional stirring. Samples were withdrawn through a 1- μ membrane filter, dild with 0.155M NaOH soln to ensure total dissocn of the sulfonamide, and its content was detd by UV spectrophotometry.	SOURCE AND PURITY OF MATERIALS: Nothing specified. ESTIMATED ERROR: Soly: std error of 8 measurements was $\pm 0.23 \times 10^{-4}$ mol liter ⁻¹ (authors). pH : accuracy ± 0.5 pH unit (authors). Temp: $\pm 0.1^\circ C$ (authors). REFERENCES: