

<b>COMPONENTS:</b> (1) Acetamide, N-[4-[[[(5-methyl-1,3,4-thiadiazol-2-yl)amino]sulfonyl]phenyl]-acetyl sulfamethylthiadiazole]; $C_{11}H_{12}N_4O_3S_2$ ; [39719-87-4] (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]	<b>ORIGINAL MEASUREMENTS:</b> Bandelin, F. J.; Malesh, W. <i>J. Am. Pharm. Assoc., Sci. Ed.</i> <u>1959</u> , 48, 177-81.																							
<b>VARIABLES:</b> pH at 37°C	<b>PREPARED BY:</b> R. Piekos																							
<b>EXPERIMENTAL VALUES:</b> <p>Solubility of acetyl sulfamethylthiadiazole in a solution containing <math>CaCl_2</math> 0.143, <math>MgCl_2</math> 0.121, <math>NH_4H_2PO_4</math> 0.300, <math>KCl</math> 1.660, <math>NaCl</math> 2.950 and urea 20 g/dm<sup>3</sup> (synthetic urine, Mosher Vehicle) at 37°C.</p> <table border="1" data-bbox="340 744 1016 1152"> <thead> <tr> <th rowspan="2">Equilibrium pH</th> <th colspan="2">Solubility</th> </tr> <tr> <th>mg/100 ml</th> <th>mol/dm<sup>3</sup> a</th> </tr> </thead> <tbody> <tr> <td>4.5</td> <td>10</td> <td><math>3.7 \times 10^{-4}</math></td> </tr> <tr> <td>5.0</td> <td>21</td> <td><math>7.8 \times 10^{-4}</math></td> </tr> <tr> <td>5.5</td> <td>45</td> <td><math>1.7 \times 10^{-3}</math></td> </tr> <tr> <td>6.0</td> <td>145</td> <td><math>5.4 \times 10^{-3}</math></td> </tr> <tr> <td>6.5</td> <td>380</td> <td><math>1.4 \times 10^{-2}</math></td> </tr> <tr> <td>7.0</td> <td>995</td> <td><math>3.7 \times 10^{-2}</math></td> </tr> </tbody> </table> <p style="text-align: center;"><sup>a</sup>Calculated by compiler</p>		Equilibrium pH	Solubility		mg/100 ml	mol/dm <sup>3</sup> a	4.5	10	$3.7 \times 10^{-4}$	5.0	21	$7.8 \times 10^{-4}$	5.5	45	$1.7 \times 10^{-3}$	6.0	145	$5.4 \times 10^{-3}$	6.5	380	$1.4 \times 10^{-2}$	7.0	995	$3.7 \times 10^{-2}$
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<b>METHOD/APPARATUS/PROCEDURE:</b> Excess acetyl sulfamethylthiadiazole 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). Before detn the soln was refluxed with 5% $H_2SO_4$ for 1 h to liberate the free amino compd.	<b>SOURCE AND PURITY OF MATERIALS:</b> Nothing specified. <b>ESTIMATED ERROR:</b> Soly: average values of 2 detns were given. Temp: not specified. pH : not specified. <b>REFERENCES:</b> 1. Biamonte, A. R.; Schneller, G. E., <i>J. Am. Pharm. Assoc., Sci. Ed.</i> <u>1952</u> , 41, 341.																							