COMPONENTS:
(1) Acetamide, N-[[4-[[5-methyl-1,3,4-thiadiazol-2-yl]amino]sulfonyl]phenyl]-
    (acetyl sulfamethylthiadiazole); C_{11}H_{12}N_{4}O_{3}S_{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_{4}H_{2}P_{2}O_{7}; [7722-76-1]
(5) Potassium chloride; KCl; [7447-40-7]
(6) Sodium chloride; NaCl; [7647-14-5]
(7) Urea; CH_{4}N_{2}O; [57-13-6]
(8) Water; H_{2}O; [7732-18-5]

ORIGINAL MEASUREMENTS:
Bandelin, F. J.; Malesh, W.
J. Am. Pharm. Assoc., Sci. Ed. 1959,
48, 177-81.

PREPARED BY:
R. Piekos

VARIABLES:

pH at 37°C

EXPERIMENTAL VALUES:

Solubility of acetyl sulfamethylthiadiazole in a solution containing CaCl_{2}
0.143, MgCl_{2} 0.121, NH_{4}H_{2}PO_{4} 0.300, KCl 1.660, NaCl 2.950 and urea 20 g/dm^3
(synthetic urine, Mosher Vehicle) at 37°C.

<table>
<thead>
<tr>
<th>Equilibrium pH</th>
<th>Solubility (mg/100 ml)</th>
<th>Solubility (mol/dm^3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.5</td>
<td>10</td>
<td>3.7 x 10^{-4}</td>
</tr>
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<td>5.0</td>
<td>21</td>
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<td>1.7 x 10^{-3}</td>
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<tr>
<td>6.0</td>
<td>145</td>
<td>5.4 x 10^{-3}</td>
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<tr>
<td>6.5</td>
<td>380</td>
<td>1.4 x 10^{-2}</td>
</tr>
<tr>
<td>7.0</td>
<td>995</td>
<td>3.7 x 10^{-2}</td>
</tr>
</tbody>
</table>

aCalculated by compiler

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:
Excess acetyl sulfamethylthiadiazole was added to aliquots of synthetic urine solns and
1% H_{3}PO_{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 spectrophotome-
trically by the method described by Biamonte and Schneller (1). Before detn the soln was reflushed with 5% H_{2}SO_{4} for 1 h to liberate the fee amino compd.

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.,
1952, 41, 341.