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SOLUBILITY DATA SERIES

Volume 35

4-AMINOBENZENESULFONAMIDES

Part II

5-Membered Heterocyclic Substituents

SOLUBILITY DATA SERIES

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Editor-in-Chief A.S. KERTES

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Volume Editors

ANTHONY N. PARUTA

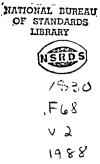
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FOREWORD

If the knowledge is undigested or simply wrong, more is not better

How to communicate and disseminate numerical data effectively in chemical science and technology has been a problem of serious and growing concern to IUPAC, the International Union of Pure and Applied Chemistry, for the last two decades. The steadily expanding volume of numerical information, the formulation of new interdisciplinary areas in which chemistry is a partner, and the links between these and existing traditional subdisciplines in chemistry, along with an increasing number of users, have been considered as urgent aspects of the information problem in general, and of the numerical data problem in particular.

Among the several numerical data projects initiated and operated by various IUPAC commissions, the *Solubility Data Project* is probably one of the most ambitious ones. It is concerned with preparing a comprehensive critical compilation of data on solubilities in all physical systems, of gases, liquids and solids. Both the basic and applied branches of almost all scientific disciplines require a knowledge of solubilities as a function of solvent, temperature and pressure. Solubility data are basic to the fundamental understanding of processes relevant to agronomy, biology, chemistry, geology and oceanography, medicine and pharmacology, and metallurgy and materials science. Knowledge of solubility is very frequently of great importance to such diverse practical applications as drug dosage and drug solubility in biological fluids, anesthesiology, corrosion by dissolution of metals, properties of glasses, ceramics, concretes and coatings, phase relations in the formation of minerals and alloys, the deposits of minerals and radioactive fission products from ocean waters, the composition of ground waters, and the requirements of oxygen and other gases in life support systems.

The widespread relevance of solubility data to many branches and disciplines of science, medicine, technology and engineering, and the difficulty of recovering solubility data from the literature, lead to the proliferation of published data in an ever increasing number of scientific and technical primary sources. The sheer volume of data has overcome the capacity of the classical secondary and tertiary services to respond effectively.

While the proportion of secondary services of the review article type is generally increasing due to the rapid growth of all forms of primary literature, the review articles become more limited in scope, more specialized. The disturbing phenomenon is that in some disciplines, certainly in chemistry, authors are reluctant to treat even those limited-in-scope reviews exhaustively. There is a trend to preselect the literature, sometimes under the pretext of reducing it to manageable size. The crucial problem with such preselection - as far as numerical data are concerned - is that there is no indication as to whether the material was excluded by design or by a less than thorough literature search. We are equally concerned that most current secondary sources, critical in character as they may be, give scant attention to numerical data.

On the other hand, tertiary sources - handbooks, reference books and other tabulated and graphical compilations - as they exist today are comprehensive but, as a rule, uncritical. They usually attempt to cover whole disciplines, and thus obviously are superficial in treatment. Since they command a wide market, we believe that their service to the advancement of science is at least questionable. Additionally, the change which is ta'ing place in the generation of new and diversified numerical data, and the rate at which this is done, is not reflected in an increased third-level service. The emergence of new tertiary literature sources does not parallel the shift that has occurred in the primary literature. With the status of current secondary and tertiary services being as briefly stated above, the innovative approach of the *Solubility Data Project* is that its compilation and critical evaluation work involve consolidation and reprocessing services when both activities are based on intellectual and scholarly reworking of information from primary sources. It comprises compact compilation, rationalization and simplification, and the fitting of isolated numerical data into a critically evaluated general framework.

The Solubility Data Project has developed a mechanism which involves a number of innovations in exploiting the literature fully, and which contains new elements of a more imaginative approach for transfer of reliable information from primary to secondary/tertiary sources. The fundamental trend of the Solubility Data Project is toward integration of secondary and tertiary services with the objective of producing in-depth critical analysis and evaluation which are characteristic to secondary services, in a scope as broad as conventional tertiary services.

Fundamental to the philosophy of the project is the recognition that the basic element of strength is the active participation of career scientists in it. Consolidating primary data, producing a truly critically-evaluated set of numerical data, and synthesizing data in a meaningful relationship are demands considered worthy of the efforts of top scientists. Career scientists, who themselves contribute to science by their involvement in active scientific research, are the backbone of the project. The scholarly work is commissioned to recognized authorities, involving a process of careful selection in the best tradition of IUPAC. This selection in turn is the key to the quality of the output. These top experts are expected to view their specific topics dispassionately, paying equal attention to their own contributions and to those of their peers. They digest literature data into a coherent story by weeding out what is wrong from what is believed to be right. To fulfill this task, the evaluator must cover all relevant open literature. No reference is excluded by design and every effort is made to detect every bit of relevant primary source. Poor quality or wrong data are mentioned and explicitly disgualified as such. In fact, it is only when the reliable data are presented alongside the unreliable data that proper justice can be done. The user is bound to have incomparably more confidence in a succinct evaluative commentary and a comprehensive review with a complete bibliography to both good and poor data.

It is the standard practice that the treatment of any given solute-solvent system consists of two essential parts: I. Critical Evaluation and Recommended Values, and II. Compiled Data Sheets.

The Critical Evaluation part gives the following information:

- (i) a verbal text of evaluation which discusses the numerical solubility information appearing in the primary sources located in the literature. The evaluation text concerns primarily the quality of data after consideration of the purity of the materials and their characterization, the experimental method employed and the uncertainties in control of physical parameters, the reproducibility of the data, the agreement of the worker's results on accepted test systems with standard values, and finally, the fitting of data, with suitable statistical tests, to mathematical functions;
- (ii) a set of recommended numerical data. Whenever possible, the set of recommended data includes weighted average and standard deviations, and a set of smoothing equations derived from the experimental data endorsed by the evaluator;
- (iii) a graphical plot of recommended data.

The Compilation part consists of data sheets of the best experimental data in the primary literature. Generally speaking, such independent data sheets are given only to the best and endorsed data covering the known range of experimental parameters. Data sheets based on primary sources where the data are of a lower precision are given only when no better data are available. Experimental data with a precision poorer than considered acceptable are reproduced in the form of data sheets when they are the only known data for a particular system. Such data are considered to be still suitable for some applications, and their presence in the compilation should alert researchers to areas that need more work. The typical data sheet carries the following information:

- (i) components definition of the system their names, formulas and Chemical Abstracts registry numbers;
- (11) reference to the primary source where the numerical information is reported. In cases when the primary source is a less common periodical or a report document, published though of limited availability, abstract references are also given;
- (11i) experimental variables;
- (1v) identification of the compiler;
- (v) experimental values as they appear in the primary source. Whenever available, the data may be given both in tabular and graphical form. If auxiliary information is available, the experimental data are converted also to SI units by the compiler.

Under the general heading of Auxiliary Information, the essential experimental details are summarized:

- (vi) experimental method used for the generation of data;
- (vii) type of apparatus and procedure employed; (vii) source and purity of materials;
- (1x) estimated error:
 - (x) references relevant to the generation of experimental data as cited in the primary source.

This new approach to numerical data presentation, formulated at the initiation of the project and perfected as experience has accumulated, has been strongly influenced by the diversity of background of those whom we are supposed to serve. We thus deemed it right to preface the evaluation/compilation sheets in each volume with a detailed discussion of the principles of the accurate determination of relevant solubility data and related thermodynamic information.

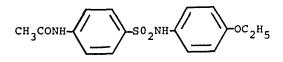
Finally, the role of education is more than corollary to the efforts we are seeking. The scientific standards advocated here are necessary to strengthen science and technology, and should be regarded as a major effort in the training and formation of the next generation of scientists and engineers. Specifically, we believe that there is going to be an impact of our project on scientific-communication practices. The quality of consolidation adopted by this program offers down-to-earth guidelines, concrete examples which are bound to make primary publication services more responsive than ever before to the needs of users. The self-regulatory message to scientists of the early 1970s to refrain from unnecessary publication has not achieved much. A good fraction of the literature is still cluttered with poor-quality articles. The Weinberg report (in 'Reader in Science Information', ed. J. Sherrod and A. Hodina, Microcard Editions Books, Indian Head, Inc., 1973, p. 292) states that 'admonition to authors to restrain themselves from premature, unnecessary publication can have little effect unless the climate of the entire technical and scholarly community encourages restraint...' We think that projects of this kind translate the climate into operational terms by exerting pressure on authors to avoid submitting low-grade material. The type of our output, we hope, will encourage attention to quality as authors will increasingly realize that their work will not be suited for permanent retrievability unless it meets the standards adopted in this project. It should help to dispel confusion in the minds of many authors of what represents a permanently useful bit of information of an archival value, and what does not.

If we succeed in that aim, even partially, we have then done our share in protecting the scientific community from unwanted and irrelevant, wrong numerical information.

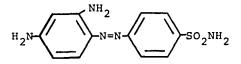
A. S. Kertes

PREFACE

With few exceptions, these volumes of the solubility data series deal with solubilities of the derivatives of 4-aminobenzenesulfonamide, usually referred to as "sulfanilamide" (sulfanilic acid amide), a name coined in 1937 (1). The history of sulfanilamide begins in 1906, when Schroeter (2) synthesized the molecule containing a 4-acetylaminosulfanilamide portion.



In 1908, Gelmo (3) described sulfanilamide and 13 of its derivatives and gave solubility values for these compounds. In 1935, Domagk (4) detected antibacterial activity of a synthetic azo dye, prontosil, with the structure.



This compound had been tested for antibacterial activity (5), the "sulfanilamide" portion being responsible for its activity. This was confirmed (6) by isolation of sulfanilamide in the urine of patients. Fildes (7) and Wood (8), in 1940, demonstrated that the derivatives of sulfanilamide were antimetabolites of p-aminobenzoic acid (PABA) which is a step in the folic acid synthesis of bacteria. Thus, the structural similarity of PABA and sulfonamides caused interference by competitive antagonism and resulted in a bacteriostatic effect. The discoveries of antibacterial activity led to an exciting flood of research, and thousands of sulfanilamide derivatives have been synthesized. As early as 1948, the number of sulfonamide derivatives (9) was estimated to be several thousand. In the two decades after that, the number of synthesized sulfonamides have gone past 10,000(10)

Clinical trials of these sulfonamides and derivatives have been associated with low solubilities and some renal crystalluria. The low solubility, and its sensitivity to pH, could cause crystalline precipitation in the renal tubules in the filtration of blood into acidic urine. Some of the problems of limited solubility were overcome by complexation or salt formation, and solid state manipulations which in turn have stimulated investigations into solubility of the drugs in water, buffers and some binary solvent system. Analytical methodologies span a wide spectrum of techniques and the relevant references are in pharmaceutical, medical and chemical literature.

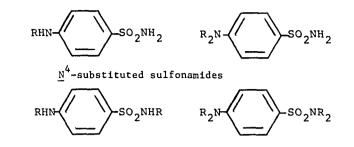
In all volumes the chemical structures, registry number and the molecular weight of the compounds considered are collected in the front of each volume. The compounds as they occur on the data sheets are given successively in each volume. In the first volume of this series there are 35 compounds. The second and third volumes have 58 compounds and 108 compounds, respectively.

NOMENCLATURE:

The nomenclature of sulfanilamide derivatives has conventionally been based on the following numbering system: substituents at the nitrogen atom of the amide group $(-SO_2NH_2)$ are called N^1 -substituents, whereas substitutents at the 4-amino nitrogen $(4-H_2N-)$ are called N^4 -substituents. Substitution in either or both of the two positions lead to compounds referred to as "sulfonamides" (sometimes "sulfanilamides" or even "sulfamides"). Here are illustrative examples of this nomenclature.

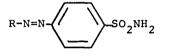


 \underline{N}^{1} -substituted sulfonamides

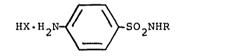


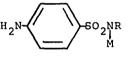
 $\underline{N}^1, \underline{N}^4$ -substituted sulfonamides

The 4-amino group can be diazotized to give derivatives of the formula



As the sulfonamide molecule carries a basic $4-NH_2$ group and an acid $-SO_2NH_2$ one, it is capable of formation the respective salts or complexes, e.g.





where HX stands for an acid and M is a univalent metal atom.

In common use by health practitioners are nonproprietary names of sulfonamides which are brief and reflect the chemical nature of their molecules. Examples are: sulfacetamide, sulfapyridine, sulfathiazole, sulfadiazine, sulfaguanidine, etc. There are numerous trivial names; for example, sulfanilamide has as many as 140 synonyms, and sulfathiazole has 113. Negwer (11) has compiled an excellent guide to this nomenclature. In chemical literature, systematic names in line either with IUPAC (12) or Chemical Abstract rules (13) are used. The latter has been adopted in these volumes and the systematic name is, where appropriate, followed by the nonproprietary or trivial name.

ORGANIZATION OF THE VOLUMES:

The numerical data on the solubility of 2-aminobenzenesulfonamide, 3-aminobenzenesulfonamide, and 4-aminobenzenesulfonamide and its \underline{N}^1 and \underline{N}^4 - derivatives, salts and complexes, compiled up to 1985 inclusive, have been divided into three volumes on the basis of chemical structure of the compounds.

The first volume includes the solubility of 2-aminobenzenesulfonamide, 3-aminobenzenesulfonamide, 4-aminobenzenesulfonamide and the derivatives of the last-named compound substituted at either of the nitrogen atoms, or both, with non-cyclic substituents (see System Index at the end of the first volume). The aroyl substituents, -C(:0)aryl, have also been included here. The second volume includes sulfanilamide derivatives substituted with 5-membered heterocyclic rings at either of the nitrogen atoms, and their derivatives. The third volume covers the solubilities of the derivatives substituted with 6-membered rings, mixtures of sulfonamides, and miscellanea. The compilations do not include compounds devoid of the $-NH_2$, -NHR or $-NR_2$ group in the benzene ring.

The solvent systems include all solvents with the exception of body fluids. The order of solvents for a particular solute are as follows: water; water-mineral acid; watermineral base; water-mineral salt; water-miscellaneous mineral components; water-mineral and organic compounds; water-organic components; organic solvents; carboxylic acid and their salts; aliphatic acids; aromatic acids; other acids; alcohols, phenols (mono-, di-, polyhydric); amides; amines; aliphatic amines (primary, secondary, tertiary); aromatic amines (primary, secondary, tertiary); other amines; aminoalcohols; carboxylic acid esters; ethers (excluding tensides); hydrocarbons; aliphatic hydrocarbons; aromatic hydrocarbons; miscellaneous hydrocarbons; halogenated hydrocarbons (flouro-, chloro-, bromo-, iodo-); aliphatic halogenated hydrocarbons; aromatic halogenated hydrocarbons; ketones; tensides (surface-active agents); miscellaneous organic solvents.

SIGNIFICANT FIGURES AND GRAPHICAL DATA:

In most cases, solubility values given in the primary source by various workers are overstated with respect to significant figures. Since the author(s) original values are given on the data sheets, it is difficult to consider significant figures and analytical limitations in a completely consistant fashion. Therefore, the reader should be aware that in most cases the number of significant figures used for calculations was not that given by the original author(s). This was done to maintain coherence and consistency as data were given to varying significant figures. In many cases graphic data of sufficient size and clarity are reproduced. The data can be regarded of sufficient accuracy to serve as a starting point for more precise determinations. In many instances, the effect of additive concentration, pH, temperature, etc. can be depicted.

POLYMORPHISM:

Many sulfonamides exhibit several cyrstalline forms or polymorphs. There are several studies referenced in these volumes that specifically deal with the solubility difference between polymorphic modifications of the same compound. The solubility differences between polymorphs have been found to vary over a large range of values.

AMPHOLYTES:

Solubility of ampholytic sulfonamides as a function of pH varies enormously, sometimes by several orders of magnitude. Unless the pH is known experimentally, the solubility value may be suspect especially at low (1-3) and high pH (10-12) values. In these cases, the solubility is a rapidly changing value, frequently with small incremental changes of pH. The abrupt change of solubility with pH is usually associated with the formation of water soluble anionic and cationic species. Buffers, especially at higher concentrations may alter solubility by salting effect and the pH is also affected by ionic strength.

EQUILIBRATION TIME:

In general, it appears that many of these determined solubilities may not have been under equilibrium conditions. Unfortunately, in too many instances the equilibration time appears too low. Typically, solutes possess low aqueous solubilities and require long dissolution time to reach saturation. Saturation time should be experimentally determined in each case and for each compound. In many cases up to 24 hours may be required.

The editors consider the vast majority of the solubility values given in these volumes as tentative. It should be stressed, however, that they represent a useful starting point for more accurate determinations of a vast array of substituted 4-aminobenzene-sulfonamides, with many structurally and chemically related compound of various types. They amply illustrate the many factors and parameters affecting solubility and the direction and magnitude of these effects.

This compilation and evaluation is not only the result of the joint efforts of the compiler and evaluator, but also of all those who read the manuscripts, expressed their criticism, who procured copies of hard-to-get journals, who translated texts from Japanese as well as of those who in any other way assisted in the compilation and evaluation. We would like to express our gratitude in particular to the following colleagues: Prof. S. Kertes, Dr. M. Salomon, Prof. S. Yalkowsky, Prof. H. Akaiwa, Prof. C. Kalidas, Prof. W. Riess, Prof. A. Guerrero-Laverat, Prof. P. Rohdewald, Prof. J. Pütter, Dr.K. L. Loening, Dr. A. Brodin, Dr. D. Zimma, Mr. K. Hazelton, Dr. R. Fernandez-Prini, and Mr. E. MacMullan.

REFERENCES TO THE PREFACE:

- 1. Council on Pharmacy and Chemistry, J. Am. Med. Assoc. 1937, 108, 1888.
- 2. Schroeter, G. Ber. Dtsch. Chem. Ges. 1906, 39, 1559.
- 3.
- 4.
- Gelmo, P. J. Prakt, Chem. [2], 1908, 77, 369. Domagk, G. Dtsch. Med. Wschr. 1935, 61, 250 and 829. Trefouël, T. J.; Nitti, F.; Bovet, D. Compt. Rend. Soc. Biol. 1935, 120, 756. 5.
- Fuller, A. T. Lancet, 1937, 194. 6.
- Fildes, P. Lancet, <u>1940</u>, 955. 7.
- 8.
- Woods, D. D. J. Expt. Path. <u>1940</u>, *21*, 74. Langecker, H. Arch. Exptl. Pat. Pharmakol. <u>1948</u>, *205*, 291. 9.
- 10. Rolski, S. Chemia Srodkow Leczniczych (Chemistry of Medicinal Agents), 3rd ed., PZWL, Warsaw, 1968.
- 11. Negwer, M. Organisch-chemische Arzneimittel und ihre Synonyma (Organic-chemical Drugs and their Synonyms), Akademie-Verlag, Berlin, 1978.
- 12. Nomenclature of Organic Chemistry, Definitive Rules for Section C. Characteristic Groups Containing Carbon, Hydrogen, Oxygen, Nitrogen, Halogen, Sulfur, Selenium, and/or Tellurium IUPAC Commission on the Nomenclature of Organic Chemistry, London, Butterworths, 1971, rule 641.8.
- 13. J. Chem. Documentation 1974, 14,

INTRODUCTION TO THE SERIES ON SOLUBILITY OF SOLIDS IN LIQUIDS: SUBSERIES ON PHARMACEUTICALS

Nature of the Project

The Solubility Data Project (SDP) has as its aim a comprehensive search of the literature for solubilities of gases, liquids, and solids in liquids or solids. Data of suitable precision are compiled on data sheets in a uniform format. The data for each system are evaluated, and where data from different sources agree sufficiently, recommended values are proposed. The evaluation sheets, recommended values, and compiled data sheets are published on consecutive pages.

For phamaceuticals, the definitions, thermodynamics and methods of analysis are the same as those for the study of solubility of solids in liquids in general. For this subseries, special sections deal with matters of interest for pharmaceuticals, including discussions of polymorphism, factors influencing the rate of dissolution of drugs, and methods used to inhibit or enhance the rate of dissolution.

Definitions

A mixture (1, 2) describes a gaseous, liquid, or solid phase containing more than one substance, when the substances are all treated in the same way.

A solution (1, 2) describes a liquid or solid phase containing more than one substance, when for convenience one of the substances, which is called the solvent, and may itself be a mixture, is treated differently than the other substances, which are called solutes. If the sum of the mole fractions of the solutes is small compared to unity, the solution is called a dilute solution.

The solubility of a substance B is the relative proportion of B (or a substance related chemically to B) in a mixture which is saturated with respect to solid B at a specified temperature and pressure. Saturated implies the existence of equilibrium with respect to the processes of dissolution and precipitation; the equilibrium may be stable or metastable. The solubility of a substance in metastable equilibrium is usually greater than that of the corresponding substance in stable equilibrium. (Strictly speaking, it is the activity of the substance in metastable equilibrium that is greater.) Care must be taken to distinguish true metastability from supersaturation, where equilibrium does not exist.

Either point of view, mixture or solution, may be taken in describing solubility. The two points of view find their expression in the quantities used as measures of solubility and in the reference states used for definition of activities, activity coefficients and osmotic coefficients.

The qualifying phrase "substance related chemically to B" requires comment. The composition of the saturated mixture (or solution) can be described in terms of any suitable set of thermodynamic components. Thus, the solubility of a salt hydrate in water is usually given as the relative proportion of anhydrous salt in solution, rather than the relative proportions of hydrated salt and water.

For pharmaceuticals, the solubility of a drug substance in a given medium is of special importance in designing a suitable dosage form for a drug or in determination of a regimen for its administration. The solubility and rate of dissolution will determine the rate of appearance of the drug in various body fluids and at various sites of action. Therefore, the bicavailability of a drug is often determined by its solubility and rate of dissolution.

The solubility is a constant for a given substance in a given medium at constant temperature and pressure. Frequently it is possible to alter the solubility and rate of dissolution dramatically through changes in structure, degree of crystallinity or morphology, or by the addition of a solubilizing agent (cosolvent) to the dissolution medium. The appearance of a drug in adequate concentration at its site of action is a requirement for testing clinical efficiency; thus, enhancement of solubility may be required to render a substance clinically useful.

For reviews of recent literature on solubility and solubilization of

drug substances, see (3, 4).

Quantities Used as Measures of Solubility

1. Mole fraction of substance B, x_B :

$$x_{B} = n_{B} / \sum_{g=1}^{C} n_{g}$$
 [1]

where $n_{\rm S}$ is the amount of substance of s, and c is the number of distinct substances present (often the number of thermodynamic components in the system). Mole per cent of B is 100 $x_{\rm B}$.

2. Mass fraction of substance B, WB:

$$w_{B} = m_{B}' / \sum_{s=1}^{C} m_{s}'$$
⁽²⁾

. .

where m_s is the mass of substance s. Mass per cent is 100 w_B . The equivalent terms weight fraction and weight per cent are not used.

3. Solute mole (mass) fraction of solute B (5, 6):

$$x_{s,B} = n_B / \sum_{g=1}^{C'} n_g = x_B / \sum_{g=1}^{C'} x_g$$
 [3]

$$w_{s,B} = m_B' / \sum_{s=1}^{C'} m_s' = w_B / \sum_{s=1}^{C'} w_s$$
 [3a]

where the summation is over the solutes only. For the solvent A, $x_{S,A} = x_A/(1 - x_A)$, $w_{S,A} = w_A/(1 - w_A)$. These quantities are called Janecke mole (mass) fractions in many papers.

4. Molality of solute B (1, 2) in a solvent A:

 $m_{\rm B} = n_{\rm B}/n_{\rm A} M_{\rm A}$ SI base units: mol kg⁻¹ [4]

where M_A is the molar mass of the solvent.

5. Concentration of solute B (1, 2) in a solution of volume V:

$$c_B = [B] = n_B/V$$
 SI base units: mol m⁻³

The symbol c_B is preferred to [B], but both are used. The terms molarity and molar are not used.

Mole and mass fractions are appropriate to either the mixture or the solution point of view. The other quantities are appropriate to the solution point of view only. Conversions among these quantities can be carried out using the equations given in Table I-1 following this Introduction. Other useful quantities will be defined in the prefaces to individual volumes or on specific data sheets.

In addition to the quantities defined above, the following are useful in conversions between concentrations and other quantities.

6. Density: $\rho = m/V$ SI base units: kg m⁻³

[6]

[5]

7. Relative density: d; the ratio of the density of a mixture to the density of a reference substance under conditions which must be specified for both (1). The symbol d_{L}^{+} will be used for the density of a mixture at t°C, 1 bar divided by the density of water at t'°C, 1 bar. (In some cases, 1 atm = 101.325 kPa is used instead of 1 bar = 100 kPa.)

8. A note on nomenclature. The above definitions use the nomenclature of the IUPAC Green Book (1), in which a solute is called B and a solvent A In compilations and evaluations, the first-named component (component 1) is the solute, and the second (component 2 for a two-component system) is the solvent. The reader should bear these distinctions in nomenclature in mind when comparing nomenclature and theoretical equations given in this Introduction with equations and nomenclature used on the evaluation and compilation sheets.

Thermodynamics of Solubility

The principal aims of the Solubility Data Project are the tabulation and evaluation of: (a) solubilities as defined above; (b) the nature of the saturating phase. Thermodynamic analysis of solubility phenomena has two aims: (a) to provide a rational basis for the construction of functions to represent solubility data; (b) to enable thermodynamic Introduction

quantities to be extracted from solubility data. Both these are difficult to achieve in many cases because of a lack of experimental or theoretical information concerning activity coefficients. Where thermodynamic quantities can be found, they are not evaluated critically, since this task would involve critical evaluation of a large body of data that is not directly relevant to solubility. The following is an outline of the principal thermodynamic relations encountered in discussions of solubility. For more extensive discussions and references, see books on thermodynamics, e.g., (7-14).

Activity Coefficients (1)

(a) Mixtures. The activity coefficient f_B of a substance B is given by RT

$$\Gamma \ln (f_B x_B) = \mu_B - \mu_B^*$$
 [7]

where μ_B^* is the chemical potential of pure B at the same temperature and pressure. For any substance B in the mixture,

$$\lim_{x_{B} \to 1} f_{B} = 1$$
 [8]

(b) Solutions.

(i) Solute B. The molal activity coefficient γ_B is given by

$$RT \ln(\gamma_B m_B) = \mu_B - (\mu_B - RT \ln m_B)^{\infty}$$
[9]

where the superscript $^{\infty}$ indicates an infinitely dilute solution. For any solute B,

$$\gamma_{\rm B}^{\infty} \approx 1$$
 [10]

Activity coefficients y_B connected with concentrations c_B , and $f_{x,B}$ (called the rational activity coefficient) connected with mole fractions x_B , are defined in analogous ways. The relations among them (1, 9) are, where ρ^* is the density of the pure solvent:

$$f_{\rm B} = (1 + M_{\rm AS} m_{\rm S}) \gamma_{\rm B} = [\rho + \sum_{\rm S} (M_{\rm A} - M_{\rm S}) c_{\rm S}] y_{\rm B} / \rho^{*}$$
[11]

$$y_{B} = (1 - \sum_{s} x_{s}) f_{x,B} = (\rho - \sum_{s} M_{s} c_{s}) y_{B} / \rho^{*}$$
 [12]

$$y_{B} = \rho^{*} f_{x,B} [1 + \sum (M_{s}/M_{A} - 1)x_{B}] / \rho = \rho^{*} (1 + \sum M_{s}m_{s}) \gamma_{B/\rho}$$
[13]

For an electrolyte solute $B = C_{\nu+}A_{\nu-}$, the activity on the molality scale is replaced by (11):

$$\gamma_{B}m_B = \gamma_{\pm} \nu_{m_B} \nu_Q \nu \qquad [14]$$

where $\nu = \nu_+ + \nu_-$, $Q = (\nu_+^{\nu_+}\nu_-^{\nu_-})^{1/\nu}$, and ν_\pm is the mean ionic activity coefficient on the molality scale. A similar relation holds for the concentration activity, y_{BCB} . For the mole fractional activity,

$$f_{\mathbf{X},\mathbf{B}}\mathbf{x}_{\mathbf{B}} = Q f_{\pm}^{\nu} \mathbf{x}_{\pm}^{\nu}$$
[15]

where $x_{\pm} = (x_{\pm}x_{\pm})^{1/\nu}$. The quantities x_{\pm} and x_{\pm} are the ionic mole fractions (11), which are:

$$x_{+} = \nu_{+}x_{B}/[1 + \sum_{s}(\nu_{s} - 1)x_{s}]; \quad x_{-} = \nu_{-}x_{B}[1 + \sum_{s}(\nu_{s} - 1)x_{s}] \quad [16]$$

where v_{s} is the sum of the stoichiometric coefficients for the ions in a salt with mole fraction x_s . Note that the mole fraction of solvent is now

$$x_{A}' = (1 - \sum_{s} \nu_{s} x_{s}) / [1 + \sum_{s} (\nu_{s} - 1) x_{s}]$$
[17]

so that

$$x_{A}' + \sum_{S} \nu_{S} x_{S} = 1$$
 [18]

The relations among the various mean ionic activity coefficients are: $f_{+} = (1 + M_{\Delta} \Sigma v_{a} m_{s}) v_{+} = [\rho + \Sigma (v_{a} M_{\Delta} - M_{a}) c_{a}] v_{+} / \rho^{*}$ 191

$$(1 - \sum_{x_0})f_{\pm}$$

$$\gamma_{\pm} = \frac{(1 - \sum_{s} x_{s}) + 1}{1 + \sum_{s} (\nu_{s} - 1) x_{s}} = (\rho - \sum_{s} M_{s} c_{s}) y_{\pm} / \rho^{*}$$
[20]

$$y_{\pm} = \frac{\rho^{*}[1 + \sum_{g}(M_{g}/M_{A} - 1)x_{g}]f_{\pm}}{\rho[1 + \sum_{g}(\nu_{g} - 1)x_{g}]} = \rho^{*}(1 + \sum_{g}M_{g}m_{g})\gamma_{\pm}/\rho \qquad [21]$$

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(11) Solvent, A:

The osmotic coefficient,
$$\phi$$
, of a solvent A is defined as (1):
 $\phi = (\mu_A^* - \mu_A)/RT M_A \sum_{S} m_S$
[22]

where μ_A^* is the chemical potential of the pure solvent.

The rational osmotic coefficient,
$$\phi_X$$
, is defined as (1):

$$\phi_{\mathbf{X}} = (\mu_A - \mu_A^*) / RT \ln x_A = \phi M_A \sum_{m_s} / \ln(1 + M_A \sum_{m_s})$$
[23]

The activity, a_A , or the activity coefficient, f_A , is sometimes used for the solvent rather than the osmotic coefficient. The activity coefficient is defined relative to pure A, just as for a mixture.

For a mixed solvent, the molar mass in the above equations is replaced by the average molar mass; i.e., for a two-component solvent with components J, K, M_A becomes

$$M_A = M_J + (M_K - M_J) x_{V,K}$$
 [24]

where $x_{v,K}$ is the solvent mole fraction of component K.

The osmotic coefficient is related directly to the vapor pressure, p, of a solution in equilibrium with vapor containing A only by (14, p.306):

$$\phi M_{A} \sum_{g} m_{g} = -\ln(p/p_{A}^{*}) + (V_{m,A}^{*} - B_{AA})(p - p_{A}^{*})/RT \qquad [25]$$

where p_A^* is the vapor pressure of pure solvent A, $V_{m,A}^*$ is the molar volume of pure A in the liquid phase, and B_{AA} is the second virial coefficient of the vapor.

The Liquid Phase

A general thermodynamic differential equation which gives solubility as a function of temperature, pressure and composition can be derived. The approach is similar to that of Kirkwood and Oppenheim (9); see also (13, 14). Consider a solid mixture containing c thermodynamic components 1. The Gibbs-Duhem equation for this mixture is:

$$\sum_{i=1}^{C} x_{i}'(S_{i}'dT - V_{i}'dp + d\mu_{i}') = 0$$
 [26]

A liquid mixture in equilibrium with this solid phase contains c' thermodynamic components 1, where c' > c. The Gibbs-Duhem equation for the liquid mixture is:

$$\sum_{i=1}^{C} x_{i}(S_{i}dT - V_{i}dp + d\mu_{i}') + \sum_{i=C+1}^{C} x_{i}(S_{i}dT - V_{i}dp + d\mu_{i}) = 0 \quad [27]$$

Subtract [26] from [27] and use the equation

$$d\mu_1 = (d\mu_i)_{T,p} - S_i dT + V_1 dp$$
 [28]

and the Gibbs-Duhem equation at constant temperature and pressure:

$$\sum_{i=1}^{C} x_{i}(d\mu_{1}')_{T,p} + \sum_{i=C+1}^{C} x_{i}(d\mu_{i})_{T,p} = 0$$
[29]

The resulting equation is:

$$RT\sum_{i=1}^{C} x_{i}'(dlna_{i})_{T,p} = \sum_{i=1}^{C} x_{i}'(H_{1} - H_{1}')dT/T - \sum_{i=1}^{C} x_{i}'(V_{1} - V_{i}')dp \quad [30]$$

where

$$H_i - H_i' - T(S_i - S_i')$$
 [31]

is the enthalpy of transfer of component 1 from the solid to the liquid phase at a given temperature, pressure and composition, with H_i and S_1 the partial molar enthalpy and entropy of component *i*.

Use of the equations

$$H_1 - H_1^0 = -RT^2(\partial \ln a_i/\partial T)_{x,p}$$
[32]

and

$$V_i - V_1^0 = RT(\partial \ln a_i / \partial p)_{X,T}$$
[33]

where superscript o indicates an arbitrary reference state gives:

$$RT\sum_{i=1}^{C} x_{i}' d\ln a_{1} = \sum_{i=1}^{C} x_{i}' (H_{i}^{0} - H_{i}') dT/T - \sum_{i=1}^{C} x_{i}' (V_{1}^{0} - V_{i}') dp \quad [34]$$

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where

$$dlna_1 = (dlna_1)_{T,D} + (\partial lna_1/\partial T)_{X,D} + (\partial lna_1/\partial p)_{X,T}$$
[35]

The terms involving enthalpies and volumes in the solid phase can be written as:

$$\sum_{1=1}^{C} x_{1}' H_{1}' = H_{S}^{*} \qquad \sum_{1=1}^{C} x_{1}' V_{1}' = V_{S}^{*} \qquad [36]$$

With eqn [36], the final general solubility equation may then be written:

$$R\sum_{i=1}^{C} x_{i}' dlna_{i} = (H_{g}^{*} - \sum_{i=1}^{C} x_{i}' H_{i}^{0})d(1/T) - (V_{g}^{*} - \sum_{i=1}^{C} x_{i}' V_{i}^{0})dp/T$$
[37]

Note that those components which are not present in both phases do not appear in the solubility equation. However, they do affect the solubility through their effect on the activities of the solutes.

Several applications of eqn [37] (all with pressure held constant) will be discussed below. Other cases will be discussed in individual evaluations.

(a) Solubility as a function of temperature.

Consider a binary solid compound $A_n B$ in a single solvent A. There is no fundamental thermodynamic distinction between a binary compound of A and B which dissociates completely or partially on melting and a solid mixture of A and B; the binary compound can be regarded as a solid mixture of constant composition. Thus, with c = 2, $x_A' = n/(n + 1)$,

$$x_{B}' = 1/(n + 1)$$
, eqn [37] becomes:

$$dln(a_A^n a_B) = -\Delta H_{AB}^0 d(1/RT)$$
[38]

where

$$\Delta H_{AB}^{0} = nH_{A} + H_{B} - (n+1)H_{S}^{*}$$
[39]

is the molar enthalpy of melting and dissociation of pure solid $A_{n}B$ to form A and B in their reference states. Integration between T and T_{0} , the melting point of the pure binary compound $A_{n}B$, gives:

$$\ln(a_{A}^{n}a_{B}) = \ln(a_{A}^{n}a_{B})_{T=T_{0}} - \int_{T_{0}}^{T} \Delta H_{AB}^{0}d(1/RT)$$
 [40]

(i) Non-electrolytes

In eqn [32], introduce the pure liquids as reference states. Then, using a simple first-order dependence of ΔH_{AB}^* on temperature, and assuming that the activitity coefficients conform to those for a simple mixture (8):

$$RT \ln f_A = wx_B^2 \qquad RT \ln f_B = wx_A^2 \qquad [41]$$

then, if w is independent of temperature, eqn [32] and [33] give:

$$\ln\{x_B(1-x_B)^n\} + \ln\left\{\frac{n^n}{(1+n)^{n+1}}\right\} = G(T)$$
 [42]

where

$$G(T) = -\left\{\frac{\Delta H_{AB}^{*} - T^{*} \Delta C_{P}^{*}}{R}\right\} \left\{\frac{1}{T} - \frac{1}{T^{*}}\right\} + \frac{\Delta C_{P}^{*}}{R} \ln(T/T^{*}) - \frac{w}{R} \left\{\frac{x_{A}^{2} + nx_{B}^{2}}{T} - \frac{n}{(n+1)T^{*}}\right\}$$
[43]

where ΔC_p^* is the change in molar heat capacity accompanying fusion plus decomposition of the pure compound to pure liquid A and B at temperature T^* , (assumed here to be independent of temperature and composition), and ΔH_{AB}^* is the corresponding change in enthalpy at $T = T^*$. Equation [42] has the general form:

$$\ln\{x_B(1-x_B)^n\} = A_1 + A_2/(T/K) + A_3\ln(T/K) + A_4(x_A^2 + nx_B^2)/(T/K)$$
[44]

If the solid contains only component B, then n = 0 in eqn [42] to [44].

If the infinite dilution reference state is used, then:

RT
$$\ln f_{x,B} = w(x_A^2 - 1)$$
 [45]

and [39] becomes

$$\Delta H_{\Delta B}^{\infty} = n H_{\Delta}^{*} + H_{B}^{\infty} - (n+1) H_{g}^{*}$$
[46]

where ΔH_{AB}^{∞} is the enthalpy of melting and dissociation of solid compound $A_{\Pi}B$ to the infinitely dilute reference state of solute B in solvent A; H_A^* and H_B^{∞} are the partial molar enthalpies of the solute and solvent at infinite dilution. Clearly, the integral of eqn [32] will have the same form as eqn [35], with ΔH_{AB}^{∞} replacing ΔH_{AB}^* , ΔC_p^{∞} replacing ΔCp^* , and x_A^2 - 1 replacing x_A^2 in the last term.

See (7) and (13) for applications of these equations to experimental data.

(11) Electrolytes

(a) Mole fraction scale

If the liquid phase is an aqueous electrolyte solution, and the solid is a salt hydrate, the above treatment needs slight modification. Using rational mean activity coefficients, eqn [34] becomes:

$$\ln\left\{\frac{x_{B}^{\nu}(1-x_{B})^{n}}{(1+(\nu-1)x_{B})^{n+\nu}}\right\} - \ln\left\{\frac{n^{n}}{(n+\nu)^{n+\nu}}\right\} + \ln\left\{\left[\frac{f_{B}}{f_{B}^{\star}}\right]^{\nu}\left[\frac{f_{A}}{f_{A}}\right]^{n}\right\}$$

$$= -\left\{\frac{\Delta H_{AB}^{\star} - T^{\star}\Delta C_{p}^{\star}}{R}\right\}\left\{\frac{1}{T} - \frac{1}{T^{\star}}\right\} + \frac{\Delta Cp^{\star}}{R}\ln(T/T^{\star})$$

$$(47)$$

where superscript * indicates the pure salt hydrate. If it is assumed that the activity coefficients follow the same temperature dependence as the right-hand side of eqn [47] (15-17), the thermochemical quantities on the right-hand side of eqn [47] are not rigorous thermodynamic enthalpies and heat capacities, but are apparent quantities only. Data on activity coefficients (11) in concentrated solutions indicate that the terms involving these quantities are not negligible, and their dependence on temperature and composition along the solubility-temperature curve is a subject of current research.

A similar equation (with $\nu = 2$ and without the heat capacity terms) or activity coefficients) has been used to fit solubility data for some MOH-H₂O systems, where M is an alkali metal (15); enthalpy values obtained agreed well with known values. The full equation has been deduced by another method in (16) and applied to MCl₂-H₂O systems in (16) and (17). For a summary of the use of equation [47] and similar equations, see (18).

(2) Molality scale Substitution of the mean activities on the molality scale in eqn [40] gives:

$$\nu \ln \left\{ \frac{\gamma_{\pm} m_{B}}{\gamma_{\pm}^{*} m_{B}^{*}} \right\} - \nu (m_{B}/m_{B}^{*} - 1) - \nu \{m_{B}(\phi - 1)/m_{B}^{*} - \phi^{*} + 1\} = G(T)$$
[48]

where G(T) is the same as in eqn [47], $m_B^* = 1/nM_A$ is the molality of the anhydrous salt in the pure salt hydrate and γ_{\pm} and ϕ are the mean activity coefficient and the osmotic coefficient, respectively. Use of the osmotic coefficient for the activity of the solvent leads, therefore, to an equation that has a different appearance to [47]; the content is identical. However, while eqn [47] can be used over the whole range of composition ($0 \le x_B \le 1$), the molality in eqn [48] becomes infinite at x_B =1; use of eqn [48] is therefore confined to solutions sufficiently dilute that the molality is a useful measure of composition. The essentials of eqn [48] were deduced by Williamson (19); however, the form used here appears first in the Solubility Data Series. For typical applications (where activity and osmotic coefficients are not considered explicitly, so that the enthalpies and heat capacities are apparent values, as explained above), see (20).

The above analysis shows clearly that a rational thermodynamic basis exists for functional representation of solubility-temperature curves in two-component systems, but may be difficult to apply because of lack of experimental or theoretical knowledge of activity coefficients and partial molar enthalpies. Other phenomena which are related ultimately to the stoichiometric activity coefficients and which complicate interpretation

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include ion pairing, formation of complex ions, and hydrolysis. Similar considerations hold for the variation of solubility with pressure, except that the effects are relatively smaller at the pressures used in many investigations of solubility (7). (b) Solubility as a function of composition. At constant temperature and pressure, the chemical potential of a saturating solid phase is constant: $\mu_{A_nB}^* = \mu_{A_nB}(sln) = n\mu_A + \mu_B$ [49] = $(n\mu_A^* + \nu_+\mu_+^\infty + \nu_-\mu_-^\infty) + nRT \ln f_A x_A$ + $\nu RT \ln(\gamma_{\pm}m_{\pm}Q)$ for a salt hydrate $A_n B$ which dissociates to water (A), and a salt (B), one mole of which ionizes to give ν_+ cations and ν_- anions in a solution in which other substances (ionized or not) may be present. If the saturated solution is sufficiently dilute, $f_A = x_A = 1$, and the quantity K_B in $\Delta G^{\infty} = (\nu_{+}\mu_{+}^{\infty} + \nu_{-}\mu_{-}^{\infty} + n\mu_{A}^{*} - \mu_{AB}^{*})$ $= -RT \ln K_{g}$ = $-\nu RT \ln(Q\gamma_{\pm}m_B)$ [50] is called the solubility product of the salt. (It should be noted that it is not customary to extend this definition to hydrated salts, but there is no reason why they should be excluded.) Values of the solubility product are often given on mole fraction or concentration scales. In dilute solutions, the theoretical behavior of the activity coefficients as a function of ionic strength is often sufficiently well known that reliable extrapolations to infinite dilution can be made, and values of $K_{\rm S}$ can be determined. In more concentrated solutions, the same problems with activity coefficients that were outlined in the section on variation of solubility with temperature still occur. If these complications do not arise, the solubility of a hydrate salt $C_{\nu}A_{\nu} \cdot nH_2O$ in the presence of other solutes is given by eqn [50] as $\nu \ln\{m_B/m_B(0)\} = -\nu \ln\{\gamma_{\pm}/\gamma_{\pm}(0)\} - n \ln\{a_A/a_A(0)\}$ [51] where a_A is the activity of water in the saturated solution, m_B is the molality of the salt in the saturated solution, and (0) indicates absence of other solutes. Similar considerations hold for non-

electrolytes.

Consideration of complex mixed ligand equilibria in the solution phase is also frequently of importance in the interpretation of solubility equilibria. For nomenclature connected with these equilibria (and solubility equilibria as well) see (21, 22).

(c) Alteration of the dissolution medium for pharmaceuticals

Many substances which are only slightly soluble in water may be made more soluble by the addition of a cosolvent, surface-active agents, or complexing agents.

(i) Addition of a cosolvent. It is frequently necessary to dissolve a quantity of drug in a small volume of liquid so that it may be administered parenterally by injection. If the drug is not sufficiently soluble in water because of its hydrophobicity, the addition of a quantity of water-miscible, but less polar solvent may render the drug soluble in a small quantity of the mixed solvent. Solvents used for this purpose have included propylene glycol, glycerol, ethanol, polyethylene glycol and glycofural. Solubilities of many drug substances in water-organic solvent mixtures have been tabulated by Yalkowsky and Roseman (23).

(11) Surface-active agents. Another approach to increasing the solubility and rate of dissolution of drug substances is to add a surfaceactive agent. There is an extensive literature on the application of surfactants and micellar dissolution, which has been summarized recently by Florence (24). Cationic, anionic or neutral surfactants are available. In choosing a surfactant, the possibility of charge-charge interactions between the drug and the surfactant must be considered, as well as the degree of ionization of each species as a function of pH. Micellar dissolution of drugs or additives may protect the dissolved species from hydrolytic degradation by the aqueous solvent. The stability of drugs may therefore be enhanced considerably by the addition of a surfactant. Surfactants may also facilitate the transport of drugs across biological

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membranes. Examples of substantially improved bioavailability of drugs under the influence of micellar dissolution have been reported (24).

(111) Other modifications of the dissolution medium. The solubility of weak acid and weak base drugs will usually depend on the pH of the medium. Within reasonable limits for pharmaceutical preparations, pH may be adjusted to obtain the drug in the charged (and usually more soluble) form. The addition of complexing agents such as chelating agents, organic salts, cyclodextrins, or ion-pairing agents may be used to enhance solubility and rate of dissolution. Examples are given in the chapter by A.J. Repta in (3).

The Solid Phase

The definition of solubility permits the occurrence of a single solid phase which may be a pure anhydrous compound, a salt hydrate, a nonstoichiometric compound, or a solid mixture (or solid solution, or "mixed crystals"), and may be stable or metastable. As well, any number of solid phases consistent with the requirements of the phase rule may be present. Metastable solid phases are of widespread occurrence, and may appear as polymorphic (or allotropic) forms or crystal solvates whose rate of transition to more stable forms is very slow. Surface heterogeneity may also give rise to metastability, either when one solid precipitates on the surface of another, or if the size of the solid particles is sufficiently small that surface effects become important. In either case, the solid is not in stable equilibrium with the solution. See (25) for the modern formulation of the effect of particle size on solubility. The stability of a solid may also be affected by the atmosphere in which the system is equilibrated.

Many of these phenomena require very careful, and often prolonged, equilibration for their investigation and elimination. A very general analytical method, the "wet residues" method of Schreinemakers (26), is often used to investigate the composition of solid phases in equilibrium with salt solutions. This method has been reviewed in (27), where [see also (28)] least-squares methods for evaluating the composition of the solid phase from wet residue data (or initial composition data) and solubilities are described. In principle, the same method can be used with systems of other types. Many other techniques for examination of solids, in particular X-ray, optical, and thermal analysis methods, are used in conjunction with chemical analyses (including the wet residues method).

Solid State Manipulation in Pharmaceuticals

(1) Polymorphism. Many drug substances may crystallize in more than one form, a phenomenon called polymorphism. The different modifications (polymorphs) arise because of the relative positions and bonding of the molecules in their crystal lattices; true polymorphs do not differ in chemical composition. Polymorphs of the same substance frequently have different physical properties such as solubility and rate of dissolution. Ultimately, the solubility of all forms will revert to that of the form with the lowest Gibbs energy; the solubility of a less-stable form will thus be an initial solubility. The rate of reversion to the most stable form is often very slow, and a form with higher Gibbs energy may exhibit its higher solubility for hours. This phenomenon may be used to advantage by choosing the polymorph with the desired solubility or rate of dissolution. Examples of polymorphism and methods of characterization have been reviewed by Haleblian (29) and Burger (30).

(i1) Crystallinity. In many cases, drug substances may occur in the solid state as amorphous or partly crystalline forms. This is a special case of polymorphism, and may result from rapid precipitation or from freeze-drying. These amorphous or partly crystalline materials are unstable relative to the crystalline form. However, reversion to the crystalline form may be slow, and the less stable forms may be used to enhance solubility and rate of dissolution (31). (111) Choice of salt form. Many drug substances are organic salts.

(111) Choice of salt form. Many drug substances are organic salts. In most cases the drug moiety is the organic cation or anion, such as a quaternary ammonium cation or a carboxylate or sulfonate anion. The counterion is frequently an inorganic ion such as sodium or chloride. It is possible to obtain large variations in initial solubility depending on the choice of the salt form of the drug.

COMPILATIONS AND EVALUATIONS

The formats for the compulations and critical evaluations have been standardized for all volumes. A brief description of the data sheets has been given in the FOREWORD; additional explanation is given below. Guide to the Compilations

The format used for the compilations is, for the most part, selfexplanatory. The details presented below are those which are not found in the FOREWORD or which are not self-evident.

Components. Each component is listed according to IUPAC or Chemical Abstracts (CA) name and CA Registry Number. The formula is given either in terms of the IUPAC or Hill (32) system and the choice of formula is governed by what is usual for most current users: i.e., IUPAC for inorganic compounds, and Hill system for organic compounds. Components are ordered according to:

(a) saturating components;

(b) non-saturating components in alphanumerical order;

(c) solvents in alphanumerical order.

The saturating components are arranged in order according to a 18-column periodic table with two additional rows:

- Columns 1 and 2: H, alkalı elements, ammonıum, alkalıne earth elements 3 to 12: transıtıon elements
 - 13 to 17: boron, carbon, nitrogen groups; chalcogenides, halogens
 18: noble gases
 Provide Contents
 Prov
 - Row 1: Ce to Lu
 - Row 2: Th to the end of the known elements, in order of atomic number.

Salt hydrates are generally not considered to be saturating components since most solubilities are expressed in terms of the anhydrous salt. The existence of hydrates or solvates is carefully noted in the text, and CA Registry Numbers are given where available, usually in the critical evaluation. Mineralogical names are also quoted, along with their CA Registry Numbers, again usually in the critical evaluation.

Original Measurements. References are abbreviated in the forms given by Chemical Abstracts Service Source Index (CASSI). Names originally in other than Roman alphabets are given as transliterated by Chemical Abstracts.

Experimental Values. Data are reported in the units used in the original publication, with the exception that modern names for units and quantities are used; e.g., mass per cent for weight per cent; mol dm⁻³ for molar; etc. Both mass and molar values are given. Usually, only one type of value (e.g., mass per cent) is found in the original paper, and the compiler has added the other type of value (e.g., mole per cent) from computer calculations based on 1983 atomic weights (33).

Errors in calculations and fitting equations in original papers have been noted and corrected, by computer calculations where necessary.

Method. Source and Purity of Materials. Abbreviations used in Chemical Abstracts are often used here to save space.

Estimated Error. If these data were omitted by the original authors, and if relevant information is available, the compilers have attempted to estimate errors from the internal consistency of data and type of apparatus used. Methods used by the compilers for estimating and and reporting errors are based on the papers by Ku and Eisenhart (34).

Comments and/or Additional Data. Many compilations include this section which provides short comments relevant to the general nature of the work or additional experimental and thermodynamic data which are judged by the compiler to be of value to the reader.

References. See the above description for Original Measurements.

Guide to the Evaluations

The evaluator's task is to check whether the compiled data are correct, to assess the reliability and quality of the data, to estimate errors where necessary, and to recommend "best" values. The evaluation takes the form of a summary in which all the data supplied by the compiler have been critically reviewed. A brief description of the evaluation sheets is given below.

Components. See the description for the Compilations.

Evaluator. Name and date up to which the literature was checked.

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Critical Evaluation

(a) Critical text. The evaluator produces text evaluating all the published data for each given system. Thus, in this section the evaluator reviews the merits or shortcomings of the various data. Only published data are considered; even published data can be considered only if the experimental data permit an assessment of reliability.

(b) Fitting equations. If the use of a smoothing equation is justifiable the evaluator may provide an equation representing the solubility as a function of the variables reported on all the compilation sheets.

(c) Graphical summary. In addition to (b) above, graphical summaries are often given.

(d) Recommended values. Data are recommended if the results of at least two independent groups are available and they are in good agreement, and if the evaluator has no doubt as to the adequacy and reliability of the applied experimental and computational procedures. Data are considered as tentative if only one set of measurements is available, or if the evaluator considers some aspect of the computational or experimental method as mildly undesirable but estimates that it should cause only minor errors. Data are considered as doubtful if the evaluator considers some aspect of the computational or experimental method as undesirable but still considers the data to have some value in those instances where the order of magnitude of the solubility is needed. Data determined by an inadequate method or under ill-defined conditions are rejected. However references to these data are included in the evaluation together with a comment by the evaluator as to the reason for their rejection.

(e) References. All pertinent references are given here. References to those data which, by virtue of their poor precision, have been rejected and not compiled are also listed in this section.

Units. While the original data may be reported in the units (f) used by the investigators, the final recommended values are reported in S.I. units (1, 35) when the data can be accurately converted.

References

- 1. Whiffen, D.H., ed., Manual of Symbols and Terminology for Physicochemical Quantities and Units. Pure Applied Chem. 1979, 51, No. 1.
- 2. McGlashan, M.L. Physicochemical Quantities and Units. 2nd ed. Royal Institute of Chemistry. London. 1971.
- 3. Yalkowsky, S.H., ed. Techniques of Solubilization of Drugs. Marcel Dekker. New York. 1981.
- Solid State Chemistry of Drugs. Academic Press. New 4. Byron, S.R. York. 1982.
- Janecke, E. Z. Anorg. Chem. <u>1906</u>, 51, 132.
 Friedman, H.L. J. Chem. Phys. <u>1960</u>, 32, 1351.

- Prigogine, I.; Defay, R. Chemical Thermodynamics. D.H. Everett, transl. Longmans, Green. London, New York, Toronto. <u>1954</u>.
 Guggenheim, E.A. Thermodynamics. North-Holland. Amsterdam.
- 1959. 4th ed. 9. Kirkwood, J.G.; Oppenheim, I. Chemical Thermodynamics. McGraw-Hill. New York, Toronto, London. 1961.
- 10. Lewis, G.N.; Randall, M. (rev. Pitzer, K.S.; Brewer, L.). Thermodynamics. McGraw Hill. New York, Toronto, London. 1961. 2nd. ed. 11. Robinson, R.A.; Stokes, R.H. Electrolyte Solutions. Butterworths.
- London. <u>1959</u>. 2nd ed. 12. Harned, H.S.; Owen, B.B. The Physical Chemistry of Electrolytic Solutions. Reinhold. New York. <u>1958</u>. 3rd ed. 13. Haase, R.; Schönert, H. Solid-Liquid Equilibrium. E.S. Halberstadt,
- trans. Pergamon Press, London, 1969.
- 14. McGlashan, M.L. Chemical Thermodynamics. Academic Press. London. <u>1979</u>. 15. Cohen-Adad, R.; Saugier, M.T.; Said, J. Rev. Chim. Miner. 1973,
- 10, 631.
- Counioux, J.-J.; Tenu, R. J. Chim. Phys. <u>1981</u>, 78, 815.
 Tenu, R.; Counioux, J.-J. J. Chim. Phys. <u>1981</u>, 78, 823.
 Cohen-Adad, R. Pure Appl. Chem. <u>1985</u>, 57, 255.

- Williamson, A.T. Faraday Soc. Trans. <u>1944</u>, 40, 421.
 Siekierski, S.; Mioduski, T.; Salomon, M. Solubility Data Series. Vol. 13. Scandium, Yttrium, Lanthanum and Lanthanide Nitrates. Pergamon Press. 1983.
- Pure Appl. Chem. 1969, 18, 459. 21. Marcus, Y., ed.
- 22. IUPAC Analytical Division. Proposed Symbols for Metal Complex Mixed Ligand Equilibria (Provisional). IUPAC Inf. Bull. 1978, No. 3, 229.

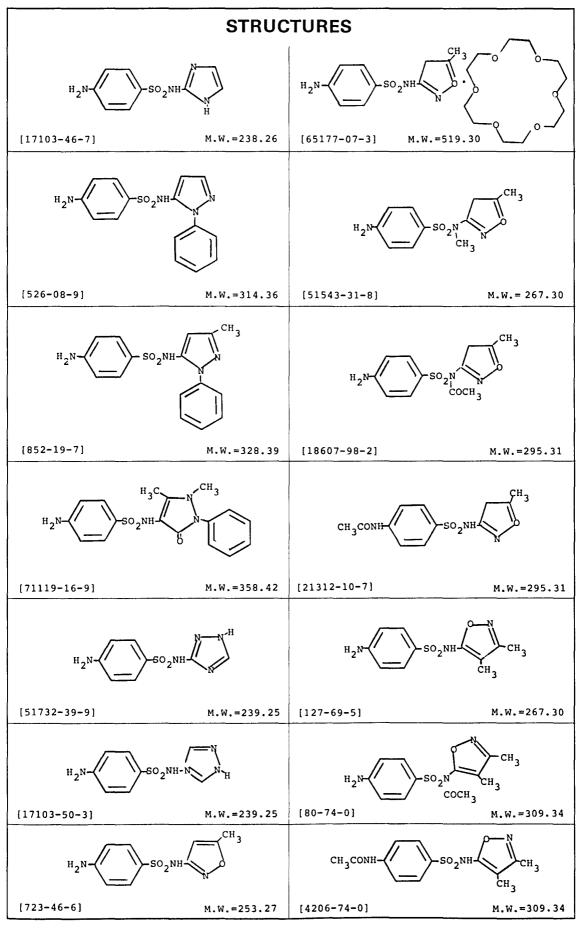
- Yalkowsky, S.H.; Roseman, T.J. in S.H. Yalkowsky, ed. Techniques of Solubilization of Drugs. Marcel Dekker. New York. <u>1981</u>.
 Florence, A.T. in S.H. Yalkowsky, ed. Techniques of Solubilization of Drugs. Marcel Dekker. New York. <u>1981</u>.
 Envistin B.V.: Turkevich J. Am. Char. Soc. 1960, 62, 4502.
- Enüstün, B.V.; Turkevich, J. J. Am. Chem. Soc. <u>1960</u>, 82, 4502.
 Schreinemakers. F.A.H. Z. Phys. Chem., Stoechiom. Verwandschaftsl. <u>1893</u>, 11, 75.
- 27. Lorimer, J.W. Can. J. Chem. <u>1981</u>, 59, 3076.

- 27. Lorimer, J.W. Can. J. Chem. <u>1982</u>, 39, 3078.
 28. Lorimer, J.W. Can. J. Chem. <u>1982</u>, 60, 1978.
 29. Haleblian, J.K. J. Pharm. Sci. <u>1975</u>, 64, 1269.
 30. Burger, A. Pharm. Int. <u>1982</u>, 3, 158.
 31. Shefter, E. in S.H. Yalkowsky, ed. Techniques of Solubilization of Drugs. Marcel Dekker. New York. <u>1981</u>.
- Hill, E.A. J. Am. Chem. Soc. <u>1900</u>, 22, 478.
 IUPAC Commission on Atomic Weights. Pure Appl. Chem. <u>1984</u>, 56, 653.
 Ku, H.H., p. 73; Eisenhart, C., p. 69; in Ku, H.H., ed. Precision
- Measurement and Calibration. NBS Special Publication 300. Vol. 1. Washington. 1969.
- The International System of Units. Engl. transl. approved by the BIPM of Le Système International d'Unités. H.M.S.O. London. <u>1970</u>. 35. The International System of Units.

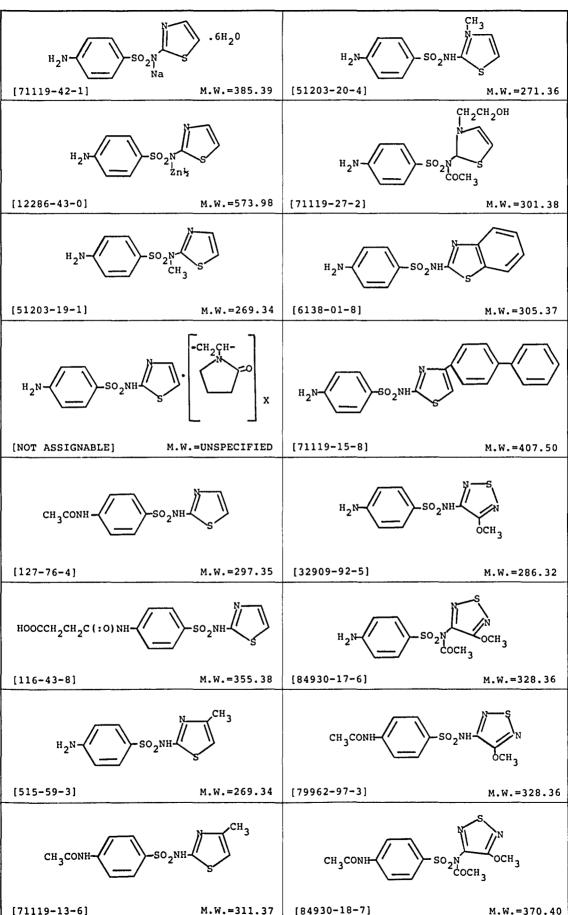
September, 1986

- R. Cohen-Adad, Villeurbanne, France
- S. Lindenbaum, Lawrence, Kansas, U.S.A.
- J.W. Lorimer, London, Ontario, Canada
- A.N. Paruta, Kingston, R.I., U.S.A.
- R. Piekos, Gdansk, Poland
- M. Salomon, Fair Haven, New Jersey, U.S.A.

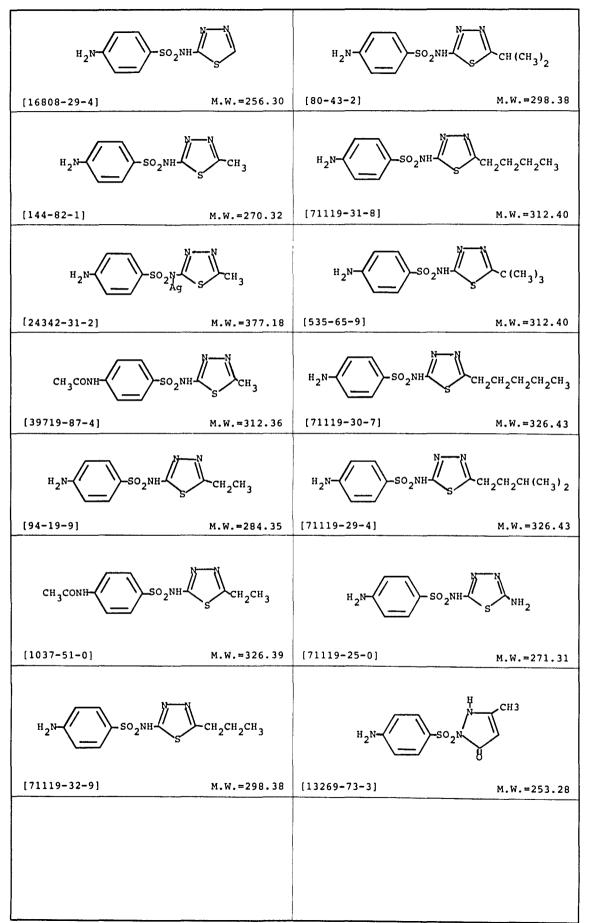
		Table	I-1	
	Conv	cities Used as Mea version Table for Containing Solven	2-Component Sy	stems
1	mole fraction x _B =	mass fraction wg =	molality mg =	concentration c _B =
хB	x _B <u>1-</u> M	$\frac{1}{M_A(1 - 1/x_B)/M_B}$	$\frac{1}{M_A(1/x_B - 1)}$	$\frac{\rho}{M_{\rm B} + M_{\rm A}(1/x_{\rm B} - 1)}$
₩B	$\frac{1}{1 + M_B(1/w_B - 1)}$	wB	$\frac{1}{M_{\rm B}(1/w_{\rm B}-1)}$	ρw _B /M _B
mB	$\frac{1}{1 + 1/m_B M_A}$	$\frac{1}{1 + 1/M_B m_B}$	mB	$\frac{\rho}{M_B + 1/m_B}$
c _B	$\frac{1}{1 + (\rho/c_B - M_B)/}$	M _A M _B c _B /p	$\frac{1}{\rho/c_B - M_B}$	с _В
M _A , M Formu	lensity of solutic 4g = molar masses ilas are given in ilations should be	of solvent, solut forms suitable for	or rapid comput	ation; all



·····			
CH ₃ CONH-SC	P2NCH3 COCH3CH3	HC1.H2N	SO2NH S
[35943-12-5]	M.W.=351.38	[23325-73-7]	M.W.=291.77
H ₂ N-SO ₂ NH	CH ₃	H ₂ N-	SO2N SO2N SO2N SO2N SO2N SO2N SO2N SO2N
[51543-32-9]	M.W.=267.30	[86729-22-8]	M.W.=UNSPECIFIED
H ₂ N-SO ₂	NH	H ₂ N-SC	.nH ₂ 0
[17103-51-4]	M.W.=239.25	[86729-21-7]	M.W.=UNSPECIFIED
H ₂ N-SO ₂ NH	CH3 CH3	H ₂ N-SC	N 21 Mgt₂
[729-99-7]	M.W.=267.30	[84812-78-2]	M.W.=UNSPECIFIED
H ₂ N-SO ₂ N	H-CH3N	H ₂ N-SO	N D ₂ N Mn ¹ ₂
[723-47-7]	M.W.=254.26	[84812-77-1]	M.W.=UNSPECIFIED
H ₂ N-SO ₂ N	VH-VN	H ₂ N-S	02 ^N ₂₁ Ni _k
[17103-53-6]	M.W.=254.26	[84812-76-0]	M.W.=UNSPECIFIED
	NH	H ₂ N-	
[72-14-0]	M.W.=255.31	[144-74-1]	M.W.=277.29



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COMPON	VENTS:	ORIGINAL MEASUREMENTS:
(1)	Benzenesulfonamide, 4-amino-N-1H-	Anderson, G.W.; Faith, H.E.; Marson, H.W;
	imidazo1-2-y1-; $C_{9H_{10}N_40_2S}$;	Winnek, P.S.; Roblin, R.O., Jr.
	[17103-46-7]	J. Am. Chem. Soc. <u>1942</u> , 64, 2902–5.
(2)	Water; H ₂ 0; [7732-18-5]	
VARIA	BLES:	PREPARED BY:
One	temperature: 37°C	R. Piekos

EXPERIMENTAL VALUES:

Solubility of	4-amino-N-1H-imidazo1-2-ylbenzenesulfonamide in water at 37°C	
is 178 mg/100	cm^3 solution (7.47 x 10^{-3} mol dm^{-3} , compiler).	

AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE: Excess sulfonamide in water was heated and stirred on a steam bath for 30 min. The suspension was then agitated for 24 h in a thermostat. A sample of the satd soln was withdrawn through a glass filter, dild, and analyzed by the Marshall method (1) using a General Electric recording spectrophotometer for comparing the colors developed with those of the standards.	<pre>SOURCE AND PURITY OF MATERIALS: The sulfonamide, mp 262°C (cor) was prepd by the authors. Anal: ZC 45.8 (calcd 45.4); ZH 4.6 (4.2); ZN 23.7 (23.5). Purity of the water was not specified.</pre> ESTIMATED ERROR: Nothing specified. REFERENCES: 1. Bratton, A.C.; Marshall, E.K., Jr. J. Pharmacol. 1939, 66, 4.

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COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(1-	Yamasaki, M.; Aoki, M.; Kamada, A.;
phenyl-1H-pyrazol-5-yl)- (sulfa-	Yata, N. Yakuzaigaku <u>1967</u> , 27(1),
phenazole); C ₁₅ H ₁₄ N ₄ O ₂ S; [526-08-9]	37-40.
(2) Water; H ₂ O; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: 30°C	R. Piekos
EXPERIMENTAL VALUES:	
AUXILIARY	INFORMATION
METHOD /APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
Sulfaphenazole (0.5 g) was placed in an	Nothing specified
L-shaped tube together with 20 ml of water.	
The mixt was shaken in a thermostat until	}
equilibrium was attained. The sulfa-	
phenazole was assayed in the supernatant	
spectrophotometrically at 545 nm on a	}
Beckman DU spectrophotometer. The results	
were taken from a calibration graph.	
	ESTIMATED ERROR:
	Soly: not specified
	Temp: ±1°C (authors)
	REFERENCES:
]

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COMPO	NENTS:	ORIGINAL MEASUREMENTS:
(1)	Benzenesulfonamide, 4-amino-N-(1- phenyl-1H-pyrazol-5-yl)- (sulfa- phenazole); C ₁₅ H ₁₄ N ₄ O ₂ S; [526-08-9] Hydrochloric acid; HC1; [7647-01-0]	Ogata, H.; Shibazaki, T.; Inoue, T.; Ejima, A. <i>Chem. Pharm. Bull.</i> <u>1979</u> , 27(6), 1281-6.
(3)	Water; H ₂ 0; [7732-18-5]	
VARIA	BLES: One temperature: 37 ⁰ C	PREPARED BY: R. Piekos
Solu	NIMENTAL VALUES: ubility of sulfaphenazole in 0.1N HCl at ³ , compiler).	37°C is 1.199 mg/ml (3.814 x 10 ⁻³ mol

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE: A centrifuge tube contg 30 ml of 0.1N HCl and 0.5-3.0 g of the sulfaphenazole powder was tightly sealed and shaken at 37°C. The concn of the dissolved drug was detd spectrophotometrically following filtration (type EH, pore size 0.5 μm), and the procedure was repeated every 24 h until a const concn was obtained. A Millipore filter was used for filtration. SOURCE AND PURITY OF MATERIALS: Comm available 500-mg uncoated tablets of sulfaphenazole were used. Hydrochloric acid was of reagent grade.

ESTIMATED ERROR:

Nothing specified

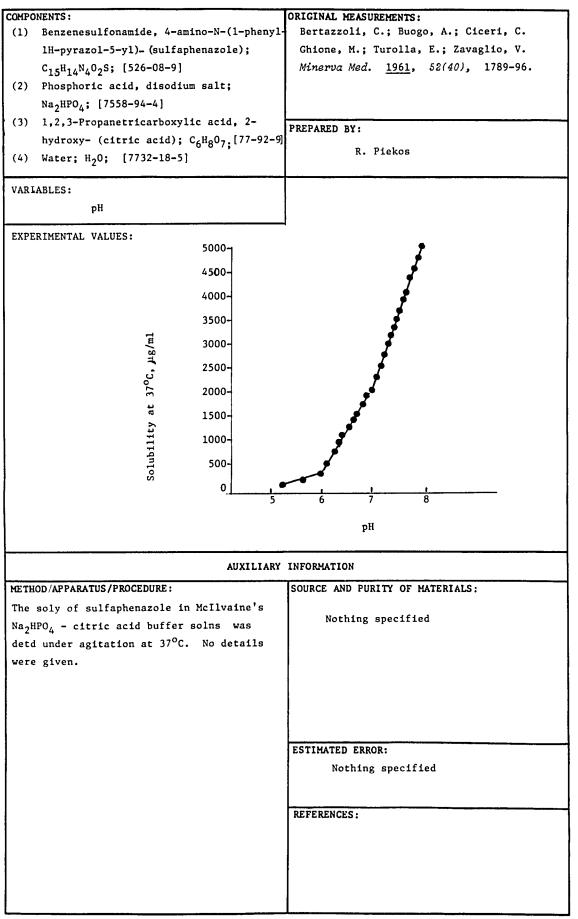
REFERENCES:

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COMPONENTS :	ORIGINAL MEASUREMENTS:	
(1) Benzenesulfonamide, 4-amino-N-(1-	Riess, W.	
phenyl-lH-pyrazol-5-yl)- (sulfa-	Intern. Congr. Chemotherapy, Proc.	
phenazole); C ₁₅ H ₁₄ N ₄ O ₂ S; [526-08-9]	3rd, Stuttgart <u>1963</u> , 7, 627-32.	
(2) Phosphoric acid, disodium salts;		
Na ₂ HPO ₄ ; [7558-94-4]		
(3) Phosphoric acid, monopotassium salt;	PREPARED BY:	
KH ₂ PO ₄ ; [7778-77-0]	D. Bishes	
(4) Water; H_20 ; [7732-18-5]	R. Piekos	
VARIABLES:		
One temperature: 20°C; one pH: 7.4		
EXPERIMENTAL VALUES:		
Solubility of sulfaphenazole in a M/15 Söre	ensen buffer solution (pH 7.4)	
at 20°C is 130 mg% (4.14 x 10^{-3} mol dm ⁻³ so		
	idelon, complier).	
AUXILIARY INFORMATION		
METHOD / APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:	
Sörensen buffer solns of pH varying	Nothing specified	
between 7 and 8 were prepd, satd with		
sulfaphenazole at 20°C, their pH was	1	
measured at equilibrium, and the sulfa-		
phenazole was assayed colorimetrically.	1	
The measured pH values were plotted against		
	1	
concn, and the soly at pH 7.4 was detd by	ļ	
interpolation (personal communication).	ESTIMATED ERROR:	
	Nothing specified	
	1	
	REFERENCES :	

COMPONENTS:	ORIGINAL MEASUREMENTS:	
(1) Benzenesulfonamide, 4-amino-N-(1-phenyl-	Yamazaki, M.; Aoki, M.; Kamada, A.;	
1H-pyrazo1-5-y1)- (sulfaphenazole);	Yata, N, Yakuzaigaku <u>1967</u> , 27(1),	
$C_{15}H_{14}N_{4}O_{2}S;$ [526-08-9]	37-40.	
(2) Phosporic acid, disodium salt;		
Na ₂ HPO ₄ ; [7558-94-4]		
(3) Phosporic acid, monopotassium salt;	PREPARED BY:	
KH ₂ PO ₄ ; [7778-77-0]	R. Piekos	
(4) Water; $H_20;$ [7732-18-5]	K. Flekos	
(4) water, 1120, [//32-10-3]		
VARIABLES:		
One temperature: 30 ^o C; one pH. 7.4		
EXPERIMENTAL VALUES:		
LAFERIMENTAL VALUES.		
Solubility of sulfaphenazole in a phosphate ($\mu = 0.17$) at 30°C is 6.63 mmol/L (2.01g c	e buffer solution of pH 7.4° dm ⁻³ , compiler).	
^a At the end of experiment the pH was 7.	1	
At the end of experiment the ph was /.	-	
	······································	
AUXILIARY	INFORMATION	
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:	
Sulfaphenazole (0.5 g) was placed in an	Nothing specified	
L-shaped tube together with 20 ml of the		
buffer soln. The mixt was shaken in a		
thermostat until equilibrium was attained.		
The sulfaphenazole was assayed in the		
supernatant spectrophotometrically at		
545 nm on a Beckman DU spectrophotometer.		
The results were taken from a calibration		
graph.	ESTIMATED ERROR:	
	Soly and pH: not specified	
	Temp: ±1 ⁰ C (authors)	
	REFERENCES:	





	-
COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(1-phenyl-	Riess, W.
lH-pyrazol-5-yl)- (sulfaphenazole);	Intern. Congr. Chemotherapy, Proc.,
C ₁₅ H ₁₄ N ₄ O ₂ S; [526-08-9]	3rd, Stuttgart <u>1963</u> , 1, 627-32.
<pre>(2) Methane, trichloro- (chloroform);</pre>	
CHC1 ₃ ; [67-66-3]	
VARIABLES:	PREPARED BY:
One temperature: 20°C	R. Piekos
•	
EXPERIMENTAL VALUES:	······································
ERIERINEN VALUES.	
Solubility of sulfaphenazole in chlorofor mol dm ⁻³ solution, compiler).	rm at 20 ⁰ C is 247 mg% (7.86 x 10 ⁻³
AUXILIARY	INFORMATION
METHOD /APPARATUS /PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
Nothing specified	Nothing specified
	1
	ESTIMATED ERROR:
	Nothing specified
	nocurus spectree
	REFERENCES :
	1
	<u> </u>

COMP	ONENTS:	ORIGINAL MEASUREMENTS:
	Benzenesulfonamide, 4-amino-N-(1-pheny1- 1H-pyrazo1-5-y1)- (sulfaphenazole); C ₁₅ H ₁₄ N ₄ O ₂ S; [526-08-9] Methane, trichloro- (chloroform); CHC1 ₃ ; [67-66-3]	Yamazaki, M.; Aoki, M.; Kamada, A.; Yata, N. <i>Yakuzaigaku <u>1967</u>, 27(1),</i> 37-40.
VARI	ABLES:	PREPARED BY:
	One temperature: 30 ⁰ C	R. Piekos

EXPERIMENTAL VALUES:

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Solubility of sulfaphenazole in chloroform at 30^{\circ}C is 9.97 mmol/L ( 3.01 g dm<sup>-3</sup>, compiler).
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AUXILIARY INFORMATION		
METHOD /APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:	
Sulfaphenazole (0.5 g) was placed in an	Nothing specified	
L-shaped tube together with 20 ml of		
chloroform. The mixt was shaken in a		
thermostat until equilibrium was attained.		
The sulfaphenazole was assayed in the		
supernatant spectrophotometrically		
at 545 nm on a Beckman DU spectrophotometer.		
The results were taken from a calibration		
graph.	ESTIMATED ERROR:	
	Soly: not specified	
	Temp: ±1 ⁰ C (authors)	
	REFERENCES :	

8

COMPONENTS: (1) Benzenesulfonamide, 4-amino-N-(3-	ORIGINAL MEASUREMENTS: Riess, W.
methyl-1-phenyl-lH-pyrazol-5-yl)-	Intern. Congr. Chemotherapy, Proc.
(sulfamethylphenazole); C ₁₆ H ₁₆ N ₄ O ₂ S;	3rd, Stuttgart <u>1963</u> , 1, 627-32
[852-19-7]	
(2) Phosphoric acid, disodium salt;	
Na ₂ HPO ₄ ; [7558-94-4]	
(3) Phosphoric acid, monopotassium salt;	PREPARED BY:
КН ₂ РО ₄ ; [7778-77-0]	R. Piekos
(4) Water; H ₂ O; [7732-18-5]	
VARIABLES:	
One temperature: 20 ⁰ C; one pH: 7.4	
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EXPERIMENTAL VALUES:	
1	
Solubility of sulfamethylphenazole in a	
(pH 7.4) at 20° C is 63 mg% (2.0 x 10^{-3}	mol dm ⁻³ solution, compiler).
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Sörensen buffer solns of pH varying	SOURCE AND FURITI OF MATERIALS;
between 7 and 8 were prepd, satd with	Nothing specified
sulfamethylphenazole at 20°C, their pH	
was measured at equilibrium, and the	
sulfamethylphenazole was assayed	
colorimetrically. The measured pH values	}
were plotted against concn, and the soly	
at pH 7.4 was detd by interpolation	
(personal communication).	ESTIMATED ERROR:
	Nothing specified
	REFERENCES:

COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(3-	Riess, W.
methyl-l-phenyl- lH-pyrazol-5-yl)-	Intern. Congr. Chemotherapy, Proc.,
(sulfamethylphenazole); C ₁₆ H ₁₆ N ₄ O ₂ S	3rd, Stuttgart <u>1963</u> , 1, 627-32.
[852-19-7]	· · ·
(2) Methane, trichloro- (chloroform);	
CHG1 ₃ ; [67-66-3]	PREPARED BY:
VARIABLES:	R. Piekos
One temperature: 20 ⁰ C	
EXPERIMENTAL VALUES:	
Solubility of sulfamethylphenazole in chl (1.15 x 10 ⁻² mol dm ⁻³ solution, compiler)	
AUXILIARY	INFORMATION
ME THOD / APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
Nothing specified	Nothing specified
	ESTIMATED ERROR:
	Nothing specified
	REFERENCES :

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(1-phenyl-	
2, 3-dimethy1-5-oxopyrazol-4-y1)-;	Winnek, P.S.; English, J. P.
$C_{17}H_{18}N_4O_3S;$ [71119-16-9]	J. Am. Chem. Soc. <u>1940</u> , 62, 2002-5.
(2) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: 37 ^o C	R. Piekos
EXPERIMENTAL VALUES:	
	Marcharl 5 anonanal (allhannan
Solubility of 4-amino-N-(1-phenyl-2,3- sulfonamide in water at 37 ^o C is 15.6 m	
	mg/100 cm ² solution (4.35 x 10 mol
dm ⁻³ , compiler).	
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Excess sulfonamide in water was heated and	The sulfonamide, mp 260-1°C (dec, cor), was
stirred on a steam bath for 30 min. The	prepd by the authors. Anal: %C 57.5
suspension was then agitated for 24 h in	(calcd 57.0); ZH 5.1 (5.0); ZN 16.1 (15.6).
a thermostat at 37 ^o C. A sample of the	Purity of the water was not specified.
satd soln was withdrawn through a glass	
filter, dild, and analyzed by the Marshall	
method (1) using a General Electric	1
recording spectrophotometer for comparing	
the colors developed with those of the	ESTIMATED ERROR:
standards.	Nothing specified
ļ	
	REFERENCES :
	1. Bratton, A.C.; Marshall, E.K., Jr.
	J. Pharmacol. <u>1939</u> , 66, 4.

12	
COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-1H-1,2,4-	Anderson, G. W.; Faith, H.E.; Marson, H. W.;
triazol-3-yl~; C ₈ H ₉ N ₅ O ₂ S; [51732-39-9]	Winnek, P. S.; Roblin, R. O., Jr.
(2) Water; H ₂ 0; [7732-18-5]	J. Am. Chem. Soc. <u>1942,</u> 64, 2902–5.
-	
VARIABLES:	PREPARED BY:
One temperature: 37 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of 4-amino-N-lH-1,2,4-triazol	-3-wibanzanasulfanamida in watar at
37° C is 60 mg/100 cm ³ solution (2.5 x)	10 ⁻⁵ mol dm ⁻³ , compiler).
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Excess sulfonamide in water was heated and	The sulfonamide, mp 195-6°C (cor), was prepd
stirred on a steam bath for 30 min. The	by the authors. Anal: %C 40.6 (calcd 40.2);
suspension was then agitated for 24 h in a	ZH 3.8 (3.8); ZN 29.1 (29.3).
thermostat. A sample of the satd soln was	Purity of the water was not specified.
withdrawn through a glass filter, dild, and	,
analyzed by the Marshall method (1) using a	
General Electric recording spectrophotometer	
for comparing the colors developed with	
those of the standards.	
	ESTIMATED ERROR:
	Nothing specified.
	REFERENCES :
	1. Bratton, A. C.; Marshall, E. K., Jr.
	J. Pharmacol. 1939, 66, 4.
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COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-4H-1,2,4-	Anderson, G. W.; Faith, H. E.; Marson,H.W.;
triazol-4-yl-; C ₈ H ₉ N ₅ O ₂ S; [17103-50-3]	
(2) Water; H ₂ 0; [7732-18-5]	J. Am. Chem. Soc. <u>1942</u> , 64, 2902-5.
VARIABLES:	PREPARED BY:
One temperature: 37°C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of 4-amino-N-4H-1,2,4-triaz	ole-4-ylbenzenesulfonamide in water
at 37° C is 216 mg/100 cm ³ solution (9	$(3 \times 10^{-3} \text{ mol } dm^{-3} \text{ compiler})$
	.05 x 10 mor dm , compiler).
AUXILIARY	INFORMATION
METHOD /APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
Excess sulfonamide in water was heated and	The sulfonamide, mp 237°C (cor) was prepd
stirred on a steam bath for 30 min. The	by the authors. Anal: %C 40.1 (calcd
suspension was then agitated for 24 h in a	40.2); ZH 3.8 (3.8); ZN 29.4 (29.3).
thermostat. A sample of the satd soln was	Purity of the water was not specified.
withdrawn through a glass filter, dild, and	
analyzed by the Marshall method (1) using a General Electric recording spectrophoto-	
meter for comparing the colors developed	
with those of the standards.	ESTIMATED ERROR:
with those of the standards.	
	Nothing specified.
	REFERENCES :
	1. Bratton, A. C.; Marshall, E. K., Jr.
	J. Pharmacol. <u>1939</u> , 66, 4.

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COMPONENTS: (1) Benzenesulfonamide, 4-amino-N-(5-methyl 3-isoxazolyl)- (sulfamethoxazole) C ₁₀ H ₁₁ N ₃ O ₃ S; [723-46-6] (2) Water (3) Aqueous HCl; (4) Aqueous NaOH (5) Aqueous ethanol (6) Methanol	EVALUATOR: Anthony N. Paruta Department of Pharmaceutics University of Rhode Island Kingston, Rhode Island, USA and Ryszard Piekos Faculty of Pharmacy, University of Gdansk Gdansk, Poland 1986
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CRITICAL EVALUATION:

The aqueous solubility data on the above compound are summarized in Table I. Yamazaki's (2) value was the only value available at 303K, and is not considered further. It is lower than those at 298K (4,6), thus probably unreasonable. Rudy and Senkowski (4) and Shah et al. (6) give identical values for the aqueous solubility at 289K. The solubility values can thus be given as 2×10^{-3} mol dm⁻³ in water at 298K. Kitao et. al. (3) determined the solubility at 310K at a pH value of 4. Since there are no concurring values (1,5) no recommended value can be given for this temperature. The value of Kitao et al. (3) is somewhat similar to that of Ghanem et al. (5), which is interesting since it would be expected that a broad invarient solubility isotherm over a span of pH values should exist. Thus, even though these values are similar, the solubility suggested by Ghanem et al. (5) is probably valid, and can be proposed as the tentative value.

Table I: Solubility of Sulfamethoxazole in water at various temperatures

	10 ³ mol -	$10^3 \text{ mol } \text{dm}^{-3}$ (*indicates mol kg ⁻¹)		
Reference	298K	<u>303K</u>	<u>310K</u>	
1	-	-	4.11	
2	-	1.59	-	
3	-	-	2.48 (pH=4)	
4	2.0	-	-	
5	-	-	2.37	
6	2	-	-	

For ampholytes of this type, solubility can be enhanced by the addition of either acids or bases. The condition produce a more water soluble cationic species (protonation) under acidic conditions, and the more water soluble anionic form under basic conditions at high pH. In two reports (7,8), the solubility was determined in 0.1N HCl both at 298K and 310K. Ogata et al. (7) records a value of 1.24 x 10^{-2} mol dm⁻³ in 0.1N HCl at 310K which is 6.2 times the solubility in water. Shah et al. (8) give a value of 1 x 10^{-4} mol dm⁻³ at a pH = 1, which is clearly incorrect being only a small fraction of the solubility in water (about 5%). However, at a concentration of 0.84N HCl (pH = 0.076) at 298K, a value of 1.12×10^{-2} mol dm⁻³ is reported which is in line with the value of Ogata et al. (7) being about 5.6 times the solubility in water. The value of Shah et al. (8) in 0.84N HCl is some 95 times greater than that in 0.1N HCl. In this context it might be instructive to point out the trend (magnitude enhancement) by comparing the solubility of sulfamethoxazole in different systems. The recommended values at 298K are 2 x 10^{-3} mol dm⁻³ in water, 63 x 10^{-3} mol dm⁻³ in 0.1N NaOH, 149 x 10^{-3} mol dm⁻³ in 95% ethanol in water and 350 x 10^{-3} mol dm⁻³ in methanol. There is a 31 fold increase in solubility in 0.1N NaOH no doubt due to the formation of the anionic form of the compound which has a much higher aqueous solubility. There is a dramatic shift in pH from near neutrality to pH = 13, a strong alkaline solution that forms a water soluble sodium salt of this compound. In methanol, there is a 175 fold increase in solubility due to the semipolar nature of solute and solvent. In 95% ethanol in water (10-12) there is about a 75 fold increase in solubility. The enhancements are quite striking and illustrate the significant latitude that can be used. The solubility of this compound was given by Rudy and Senkowski (9) and Shah et al. (8) in 1973 and 1981 respectively are in excellent agreement and a recommended value of 6.3 x 10^{-2} mol dm⁻³ can be given in aqueous 0.1N NaOH solution at 298K.

Further, the values of solubility in methanol were given by these workers (8,9) and were also in excellent agreement and is given as 0.35 mol dm⁻³ at 298K. The recommended value in 95% ethanol in water is 0.13 mol dm⁻³ at 298K.

REFERENCES:

- (1) Anderson, G.W.; Faith, H.E.; Marson, H.W.; Winnek, P.S.; Roblin, R.O., Jr.
- J. Am. Chem. Soc. <u>1942</u>, 64, 2902-5. Yamazaki, M.; Aoki, M.; Kamada, A.; Yata, N.; Yakuzaigaku <u>1967</u>, 27(1), 3 Kitao, K.; Kubo, K.; Morishita, T.; Yata, N.; Kamada, A. Chem. Fharm. Bull. (2) 37-40. (3) 1973, 21, 2417-26.
- 467-86.
- 675-7.
- (4) Rudy, B.C.; Senkowski, B.Z. Anal. Profiles Drug Subst. <u>1973</u>, 2, 467-86.
 (5) Ghanem, A.; Meshali, M.; Ibraheem, Y. J. Pharm. Pharmacol. <u>1980</u>, 32, 675
 (6) Shah, N.H.; Lazarus, J.H.; Sheth, P.R.; Jarowski, C.I. J. Pharm. Sci. <u>1981</u>, 70(6), 611-13.

REFERENCES: Continuation
(7) Rudy, B.C.; Senkowski, B.Z.; Anal. Profiles Drug Subst. <u>1973</u>, 2, 467-86.
(8) Shah, N.H.; Lazarus, J.H.; Sheth, P.R.; Jarowski, C.I. J. Pharm. Sci. <u>1981</u>, 70(6), 611-13.
(9) Rudy, B.C.; Senkowski, B.Z. Anal. Profiles Drug Subts. <u>1973</u>, 2, 467-86.
(10) Shah, N.H.; Lazarus, J.H.; Sheth, P.R.; Jarowski, C.I. J. Pharm. Sci.

(10) 1981, 70(6), 611-13.
 (11) Rudy, B.C.; Senkowski, B.Z., Anal. Profiles Drug Subst. <u>1973</u>, 2, 467-86.
 (12) Shah, N.H.; Lazarus, J.H.; Sheth, P.R.; Jarowski, C.I. J. Pharm. Sci. <u>1981</u>, 70(6), 611-13.

COMPONENTS :	ORIGINAL MEASUREMENTS:
 Benzenesulfonamide, 4-amino-N-(5-methyl- 	
3-isoxazoly1)- (sulfamethoxazole);	Winnek, P.S.; Roblin, R.O., Jr.
$C_{10}H_{11}N_{3}O_{3}S;$ [723-46-6]	J. Am. Chem. Soc. 1942, 64, 2902-5.
(2) Water; H_20 ; [7732-18-5]	<u></u>
(2) water; n_20 ; [//32-10-5]	
VARIABLES:	PREPARED BY:
One temperature: 37 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
EARENTIENTAL VALUED.	
Solubility of sulfamethoxazole in water	at 37° C is 104 mg/100 cm ³
solution (4.11 x 10^{-3} mol dm ⁻³ , compile	1
	- , .
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Excess sulfonamide in water was heated and	The sulfonamide, mp 169-70°C (cor) was
stirred on a steam bath for 30 min. The	prepd by the authors. Anal: %C 47.4
suspension was then agitated for 24 h in	(calcd 47.4); %H 4.2 (4.4); %N 16.5
a thermostat. A sample of the satd soln	(16.6).
was withdrawn through a glass filter, dild,	Purity of the water was not specified.
and analyzed by the Marshall method (1)	
using a General Electric recording	
spectrophotometer for comparing the colors	
developed with those of the standards.	ESTIMATED ERROR:
developed with those of the standards	
	Nothing specified
	REFERENCES:
	1. Bratton, A.C.; Marshall, E.K., Jr.
	J. Pharmacol. <u>1939</u> , 66, 4.

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(5-methyl-	
3-isoxazoly1)- (sulfisomezole) [*] ;	Yata, N. Yakuzaigaku <u>1967</u> , 27(1),
C ₁₀ H ₁₁ N ₃ 0 ₃ S; [723-46-6]	37-40.
(2) Water; H_20 ; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: 30 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfisomezole [*] in water at	30 ^o C is 1.59 mmol/L
$(0.403 \text{ g dm}^{-3}, \text{ compiler}).$	
*Another common trivial name is sulfamet	hoxazole.
Į.	
AUXILIARY	INFORMATION
	SOURCE AND DURITY OF WATERTALS.
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS;
Sulfisomezole [*] (0.5 g) was placed in an	Nothing specified
L-shaped tube together with 20 ml of water.	
The mixt was shaken in a thermostat until	
equilibrium was attained. The sulfisomezole	
-	
was assayed in the supernatant spectro-	
photometrically at 545 nm on a Beckman DU	
spectrophotometer. The results were taken	
from a calibration graph.	
	ESTIMATED ERROR:
l	Columnat aportificat
	Soly: not specified
	Temp: ±1 ⁰ C (authors)
	REFERENCES:

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COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(5-methyl-	Kitao, K.; Kubo, K.; Morishita, T.;
3-isoxazolyl)- (sulfamethoxazole);	Yata, N.; Kamada, A. Chem. Pharm.
C ₁₀ H ₁₁ N ₃ O ₃ S; [723-46-6]	Bull. <u>1973</u> , 21, 2417-26.
(2) Water; H_20 ; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: 37 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfamethoxazole in water	at 37°C is 2.48 mmol dm ³ solution.
	INFORMATION
AUXILIARY INFORMATION	
METHOD /APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
Soly was detd by continuously adjusting	Comm available sulfamethoxazole (source
the pH of the aq soln to 4 with 0.05N	not specified) was used as supplied.
NaOH. The concn. of sulfamethoxazole	Deionized water was used.
was detd by diazotization.	
	ESTIMATED ERROR:
	ESTIMATED ERROR: Soly: not specified
	Soly: not specified
	Soly: not specified Temp: ±1 ⁰ C (authors).
	Soly: not specified
	Soly: not specified Temp: ±1 ⁰ C (authors).
	Soly: not specified Temp: ±1 ⁰ C (authors).
	Soly: not specified Temp: ±1 ⁰ C (authors).
	Soly: not specified Temp: ±1 ⁰ C (authors).

COMPONENTS:	ORIGINAL MEASUREMENTS:
 Benzenesulfonamide, 4-amino-N-(5-methyl- 3-isoxazolyl)- (sulfamethoxazole); 	Rudy, B.C.; Senkowski, B.Z.
$C_{10}H_{11}N_{3}O_{3}S;$ [723-46-6]	Anal. Profiles Drug Subst. <u>1973</u> ,
(2) Water; H ₂ 0; [7732-18-5]	2, 467-86.
VARIABLES:	PREPARED BY:
One temperature" 25 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfamethoxazole in water	at 25°C is 0.5 mg/ml
$(2.0 \times 10^{-3} \text{ mol dm}^{-3}, \text{ compiler}).^{a}$	
^a The temperature and all auxilliary info	ormation was given by
Edward A. MacMullan from Roche Products	
a personal communication.	
1	
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
An excess of solute was equilibrated with	The sulfamethoxazole was of reference
the solvent overnight at const temp.	standard quality equivalent to USP.
(25°C) while being agitated with a 60 cycle	The distd and deionized water of high
vibrator (VIBROMIXER). A portion of the	resistivity was used.
clear supernatant soln was then taken and	
its concn was detd by uv spectrophotometry	
after suitable diln.	
	ESTIMATED ERROR:
	Soly: precision ±1% (MacMullan)
	Temp: not specified
	DEEEDENCYC .
	REFERENCES:
1	1
1	

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COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(5-methyl-	
3-isoxazolyl)- (sulfamethoxazole);	J. Pharm. Pharmacol. <u>1980</u> , 32, 675-7.
C ₁₀ H ₁₁ N ₃ O ₃ S; [723-46-6]	
(2) Water; H ₂ O; [7732-18-5]	
(2) water; n20; [//32=10=5]	
VARIABLES:	PREPARED BY:
One temperature: 37 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfamethoxazole in water	at 37° C is 0.6 g litre ⁻¹
$(2 \times 10^{-3} \text{ mol dm}^{-3}, \text{ compiler}).$	
AUXILIARY	INFORMATION
METHOD / APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
An excess of sulfamethoxazole was added	Sulfamethoxazole was from Kahira Pharm
to 15 ml of water in a 30-ml glass stoppered	1 1
bottle which was rotated on a water bath	Purity of the water was not specified.
at 37 ⁰ C until equilibrium was attained.	
The sample was filtered and the sulfonamide	
was assayed spectrophotometrically at	
265 nm after dilg with 0.1M HCL. A	
coulometric assay gave similar results.	
	ESTIMATED ERROR:
	Soly: detns were carried out at least in
	duplicate (authors). Temp: <u>+</u> 1 ⁰ C (authors).
	REFERENCES:

COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(5-methyl-	Shah, N.H.; Lazarus, J.H.; Sheth, P.R.;
3-isoxazolyl)- (sulfamethoxazole);	Jarowski, C.I.
C ₁₀ H ₁₁ N ₃ O ₃ S; [723-46-6]	J. Pharm. Sci. <u>1981</u> , 70(6), 611-13.
(2) Water; H ₂ O; [7732-18-5]	
-	
VARIABLES:	PREPARED BY:
One temperature: 25 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
	1
Solubility of sulfamethoxazole in water	at 25 ⁰ C is 0.5 mg/ml
$(2 \times 10^{-3} \text{ mol } dm^{-3}, \text{ compiler}).$	
	INFORMATION
	SOURCE AND PURITY OF MATERIALS:
METHOD/APPARATUS/PROCEDURE:	1
The solubility of sulfamethoxazole was	Sulfamethoxazole was a research compd
determined by the method specified in	purchased from Hoffman - LaRoche,
USP XX (1).	Nutley, N.J. Its purity was not
	specified.
	The purity of water was not specified.
	ESTIMATED ERROR:
	LUTTERIEU ERAURT
	Nothing specified
	REFERENCES:
	1. "The United States Pharmacopeia",
	20th rev., U.S. Pharmacopeial
	Convention, Rockville, Md., 1980,
	p. 120

22	
<pre>COMPONENTS: (1) Benzenesulfonamide, 4-amino-N-(5-methyl- 3-isoxazolyl)- (sulfamethoxazole); C₁₀H₁₁N₃O₃S; [723-46-6] (2) Hydrochloric acid; HC1; [7647-01-0] (3) Water; H₂O; [7732-18-5]</pre>	ORIGINAL MEASUREMENTS: Ogata, H.; Shibazaki, T.; Inoue, T.; Ejima, A: Chem. Pharm. Bull. <u>1979</u> 27(6), 1281-6.
VARIABLES: One temperature: 37 ⁰ C	PREPARED BY: R. Piekos
EXPERIMENTAL VALUES: Solubility of sulfamethoxazole in 0.1N $(1.240 \times 10^{-2} \text{ mol dm}^{-3}, \text{ compiler}).$	HCl at 37 ⁰ C is 3.140 mg/m1
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE: A centrifuge tube contg 30 ml of 0.1N HCl and 0.5-3.0 g of the sulfamethoxazole 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 µm), and the procedure was repeated every 24 h until a const concn was obtained.	INFORMATION SOURCE AND PURITY OF MATERIALS: Comm available 500-mg uncoated tablets of sulfamethoxazole were used. Hydrochloric acid was of reagent grade. ESTIMATED ERROR: Nothing specified REFERENCES:

COMBONENTS .	
COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(5-methyl	
3-isoxazolyl)- (sulfamethoxazole);	Jarowski, C.I.
$C_{10}H_{11}N_{3}O_{3}S;$ [723-46-6]	J. Pharm. Sci. <u>1981</u> , 70(6), 611-13.
(2) Hydrochloric acid; HCl;[7647-01-0]	
(3) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	PREPARED BY:
Concentration of HC1	R.Piekos
concentration of hel	R.Flekos
EXPERIMENTAL VALUES:	
LA ENTENTRE VALUES.	
Concentration of HCl,	Solubility at 25 ⁰ C
N N	mg/m1 mol dm ⁻³ a
24	
0.1	1×10^{-4}
	2
0.84	2.85 1.12×10^{-2}
^a Calculated by compiler	
AUXILIAR	Y INFORMATION
AUXILIAR METHOD/APPARATUS/PROCEDURE:	Y INFORMATION SOURCE AND PURITY OF MATERIALS:
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
METHOD/APPARATUS/PROCEDURE: The solubility of sulfamethoxazole	SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was a research compd
METHOD/APPARATUS/PROCEDURE: The solubility of sulfamethoxazole was determined by the method specified	SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was a research compd purchased from Hoffman - LaRoche,
METHOD/APPARATUS/PROCEDURE: The solubility of sulfamethoxazole	SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was a research compd purchased from Hoffman - LaRoche, Nutley, N.J. Its purity was not
METHOD/APPARATUS/PROCEDURE: The solubility of sulfamethoxazole was determined by the method specified	SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was a research compd purchased from Hoffman - LaRoche,
METHOD/APPARATUS/PROCEDURE: The solubility of sulfamethoxazole was determined by the method specified	SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was a research compd purchased from Hoffman - LaRoche, Nutley, N.J. Its purity was not
METHOD/APPARATUS/PROCEDURE: The solubility of sulfamethoxazole was determined by the method specified	SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was a research compd purchased from Hoffman - LaRoche, Nutley, N.J. Its purity was not specified.
METHOD/APPARATUS/PROCEDURE: The solubility of sulfamethoxazole was determined by the method specified	SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was a research compd purchased from Hoffman - LaRoche, Nutley, N.J. Its purity was not specified. The source and purity of hydrochloric acid
METHOD/APPARATUS/PROCEDURE: The solubility of sulfamethoxazole was determined by the method specified	SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was a research compd purchased from Hoffman - LaRoche, Nutley, N.J. Its purity was not specified. The source and purity of hydrochloric acid
METHOD/APPARATUS/PROCEDURE: The solubility of sulfamethoxazole was determined by the method specified	SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was a research compd purchased from Hoffman - LaRoche, Nutley, N.J. Its purity was not specified. The source and purity of hydrochloric acid
METHOD/APPARATUS/PROCEDURE: The solubility of sulfamethoxazole was determined by the method specified	SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was a research compd purchased from Hoffman - LaRoche, Nutley, N.J. Its purity was not specified. The source and purity of hydrochloric acid was not specified. ESTIMATED ERROR:
METHOD/APPARATUS/PROCEDURE: The solubility of sulfamethoxazole was determined by the method specified	SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was a research compd purchased from Hoffman - LaRoche, Nutley, N.J. Its purity was not specified. The source and purity of hydrochloric acid was not specified.
METHOD/APPARATUS/PROCEDURE: The solubility of sulfamethoxazole was determined by the method specified	SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was a research compd purchased from Hoffman - LaRoche, Nutley, N.J. Its purity was not specified. The source and purity of hydrochloric acid was not specified. ESTIMATED ERROR: Nothing specified
METHOD/APPARATUS/PROCEDURE: The solubility of sulfamethoxazole was determined by the method specified	SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was a research compd purchased from Hoffman - LaRoche, Nutley, N.J. Its purity was not specified. The source and purity of hydrochloric acid was not specified. ESTIMATED ERROR: Nothing specified REFERENCES:
METHOD/APPARATUS/PROCEDURE: The solubility of sulfamethoxazole was determined by the method specified	SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was a research compd purchased from Hoffman - LaRoche, Nutley, N.J. Its purity was not specified. The source and purity of hydrochloric acid was not specified. ESTIMATED ERROR: Nothing specified REFERENCES: 1. "The United States Pharmacopeia",
METHOD/APPARATUS/PROCEDURE: The solubility of sulfamethoxazole was determined by the method specified	SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was a research compd purchased from Hoffman - LaRoche, Nutley, N.J. Its purity was not specified. The source and purity of hydrochloric acid was not specified. ESTIMATED ERROR: Nothing specified REFERENCES:
METHOD/APPARATUS/PROCEDURE: The solubility of sulfamethoxazole was determined by the method specified	SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was a research compd purchased from Hoffman - LaRoche, Nutley, N.J. Its purity was not specified. The source and purity of hydrochloric acid was not specified. ESTIMATED ERROR: Nothing specified REFERENCES: 1. "The United States Pharmacopeia",
METHOD/APPARATUS/PROCEDURE: The solubility of sulfamethoxazole was determined by the method specified	SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was a research compd purchased from Hoffman - LaRoche, Nutley, N.J. Its purity was not specified. The source and purity of hydrochloric acid was not specified. ESTIMATED ERROR: Nothing specified REFERENCES: 1. "The United States Pharmacopeia", 20th rev., U.S. Pharmacopeial
METHOD/APPARATUS/PROCEDURE: The solubility of sulfamethoxazole was determined by the method specified	SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was a research compd purchased from Hoffman - LaRoche, Nutley, N.J. Its purity was not specified. The source and purity of hydrochloric acid was not specified. ESTIMATED ERROR: Nothing specified REFERENCES: 1. "The United States Pharmacopeia", 20th rev., U.S. Pharmacopeial Convention, Rockville, Md., <u>1980,</u>

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COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(5-methy1-	Rudy, B.C.; Senkowski, B.Z.
3-isoxazolyl)- (sulfamethoxazole);	Anal. Profiles Drug Subst. <u>1973</u> ,
$C_{10}H_{11}N_{3}O_{3}S;$ [723-46-6]	2, 467-86.
(2) Sodium hydroxide; NaOH; [1310-73-2]	
(3) Water; H ₂ O; [7732-18-5]	
VARIABLES:	
One temperature: 25°C	PREPARED BY: R. Piekos
one temperature: 25 C	K. Flekos
EXPERIMENTAL VALUES:	
Solubility of sulfamethoxazole in a 0.1N	NaOH solution at 25 ⁰ C is
16.0 mg/ml (6.32 x 10^{-2} mol dm ⁻³ , compile	er). ^a
^a The temperature and all auxiliary inform	mation was given by
Edward A. MacMullan from Roche Products	
	Inc., Manati, F.K.,
in a personal communication.	
	-
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
An excess of solute was equilibrated	The sulfamethoxazole was of reference
with the solvent overnight at const	standard quality equivalent to USP.
_	
temp (25 ⁰) while being agitated with a	Reagent grade NaOH was used. The distd
60 cycle vibrator (VIBROMIXER). A	and deionized water of high resistivity
portion of the clear supernatant	was used.
solution was then taken and its concn	
was detd by uv spectrophotometry after	
suitable diln.	
	ESTIMATED ERROR:
	Soly: precision ±1% (MacMullan)
	Temp: not specified
	remp. Not opecified
	REFERENCES :

Components :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(5-methyl-	Shah, N.H.; Lazarus, J.H.; Sheth, P.R.;
3-isoxazolyl)- (sulfamethoxazole);	Jarowski, C.I.
C ₁₀ H ₁₁ N ₃ O ₃ S; [723-46-6]	J. Pharm. Sci. <u>1981</u> , 70(6) 611-13.
(2) Sodium hydroxide; NaOH; [1310-73-2]	
(3) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: 25°C	R. Piekos
EXPERIMENTAL VALUES:	í
EXPERIMENTAL VALUES:	
Solubility of sulfamethoxazole in a 0.1	N NaOH solution at 25 ⁰ C
is 16 mg/m1 (6.3 x 10^{-2} dm ⁻³ , compiler)	
	•
AUXILIARY	INFORMATION
	······································
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS;
The solubility of sulfamethoxazole was	Sulfamethoxazole was a research compd
determined by the method specified in	purchased from Hoffman - LaRoche,
USP XX (1).	Nutley, N.J. Its purity was not
	specified.
	The source and purity of NaOH and water
	was not specified.
	ESTIMATED ERROR:
	Nothing specified
	REFERENCES :
	11 "The United States Pharmacopeia",
	20th rev., U.S. Pharmacopeial
	Convention, Rockville, Md., <u>1980</u>
	p. 120.

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COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(5-methyl-	
3-isoxazoly1)- (sulfamethoxazole);	Chem. Pharm.Bull. <u>1981</u> , 29(3), 817-27.
$C_{10}H_{11}N_{3}O_{3}S;$ [723-46-6]	
(2) Sodium chloride; NaCl; [7647-14-5]	
(3) Water; H ₂ O; [7732-18-5]	
VARIABLES:	PREPARED BY:
_	R. Piekos
One temperature: 37 ⁰ C	R. Flekos
EXPERIMENTAL VALUES:	
EXFERIMENTAL VALUES.	
Solubility of sulfamethoxazole in a 0.9%	NaCl solution at 37° C
is 0.61 mg/ml (2.4 x 10^{-3} mol dm ⁻³ , comp	1
15 0.01 mg/m1 (2.4 x 10 m01 dm , comp	1161).
	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
An excess amt of powdered sulfamethoxazole	Sulfamethoxazole was synthesized by the
was shaken well at 37°C with a 0.9% NaCl	authors and was of medicinal grade.
soln until attaining satn. The undissolved	The remaining materials were of anal
crystals were removed by filtration	or reagent grade.
through a G5 glass filter or by centri-	
fugation, and the concn of solute in the	
filtrate or supernatant was assayed	
spectrophotometrically at 267 nm, after	
diln with EtOH - H_2O (1:1, v/v), using a	ESTIMATED ERROR:
Perkin Elmer UV-VIS spectrophotometer	Nothing specified
(Hitachi Co., Ltd., Tokyo)	
	REFERENCES:

COMPONENTS :	ORIGINAL MEASUREMENTS:		
(1) Benzenesulfonamide, 4-amino-N-(5-methyl-			
3-isoxazoly1)- (sulfamethoxazole);	Intern. Congr. Chemotherapy, Proc.,		
C ₁₀ H ₁₁ N ₃ O ₃ S; [723-46-6]	3rd, Stuttgart <u>1963</u> , 1, 627-32.		
(2) Phosphoric acid, disodium salt			
Na ₂ HPO ₄ ; [7558-94-4]			
(3) Phosphoric acid, monopotassium salt;	PREPARED BY:		
КН2РО4; [7778-77-0]	R. Piekos		
(4) Water; H ₂ 0; [7732-18-5]			
	· · · · · · · · · · · · · · · · · · ·		
VARIABLES: One temperature: 20 ^o C; one pH: 7.4			
EXPERIMENTAL VALUES:			
Solubility of sulfamethoxazole in a M/15 Sörensen buffer solution (pH 7.4) at 20° C is 930 mg% (3.67 x 10^{-2} mol dm ⁻³ solution, compiler).			
AUXILIARY	INFORMATION		
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS;		
Sörensen buffer solns of pH varying between	Nothing specified		
7 and 8 were prepd, satd with sulfameth-			
oxazole at 20 ⁰ C, their pH was measured			
at equilibrium, and the sulfamethoxazole			
was assayed colorimetrically. The			
measured pH values were then plotted			
against concn, and the soly at pH 7.4 was			
detd by interpolation (personal			
communication).	ESTIMATED ERROR:		
	Nothing specified		
	REFERENCES :		

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COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(5-methyl-	Yamazaki, M; Aoki, M.; Kamada, A.;
3-isoxazolyl)- (sulfisomezole)*;	Yata, N. Yakuzaigaku <u>1967</u> , 27(1),
$C_{10}H_{11}N_{3}O_{3}S;$ [723-46-6]	37-40.
(2) Phosphoric acid, disodium salt;	
Na ₂ HPO ₄ ; [7558-94-4]	
(3) Phosphoric acid, monopotassium salt;	
KH2PO4; [7778-77-0]	PREPARED BY:
	R. Piekos
(4) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	
One temperature: 30 ^o C; one pH: 7.4	
EXPERIMENTAL VALUES:	
Solubility of sulfisomezole in a phospha	te buffer solution of pH 7.4 ^a
$(\mu = 0.17)$ at 30° C is 20.7 mmol/L (5.2)	24 g dm ⁻³ , compiler).
^a At the end of experiment the pH was 6.9	
*Another common trivial name is sulfameth	oxazole.
AUXILIARY	INFORMATION
METHOD / APPARATUS / PROCEDURE :	
Sulfisomezole (0.5 g) was placed in an	SOURCE AND PURITY OF MATERIALS: Nothing specified
	Nothing operited
L-shaped tube together with 20 ml of	
the buffer soln. The mixt was shaken	
in a thermostat until equilibrium was	
attained. The sulfisomezole was assayed	
in the supernatant spectrophotometrically	
at 545 nm on a Beckmann DU spectrophotometer	
The results were taken from a calibration	
graph.	ESTIMATED ERROR:
	Soly and pH: not specified
	Temp: ±1°C (authors)
	REFERENCES :

COMPONENTS :			ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(5-methyl-		-(5-methyl-	Hekster, Y.A.; Vree, T.B.; Damsma, J.E.;
3-isoxazoly1)- (sulfamethoxazole);		ole);	Friesen, W.T.
C ₁₀ H ₁₁ N ₃ O ₃ S; [723-46-6]			J. Antimicrob. Chemother. 1981, 8,
			133-44.
Na2HPO4; [7558-94-4]	•		
			PREPARED BY:
KH ₂ PO ₄ ; [7778-77-0]	5245514	in outry	R. Piekos
(4) Water; H ₂ 0; [7732-18-	-51		A. FIEROS
(4) water, "20," (7.52 10			
VARIABLES: pH			
EVDEDIMENTAL VALUES.			
EXPERIMENTAL VALUES:			
		0 - 1 - 1 / 1	4
	_ **	501UD11	ity at 25 [°] C
	рН	·	$10^3 \text{ mol dm}^{-3} \text{ a}$
		mg/l	10° mol dm $^{\circ}$ a
	5.5	300	1 10
	7.5		1.18
	1.5	1900	7.50
		a _{Calculato}	d by compiler
		Calculate	a by compiler
			······································
		AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:			SOURCE AND PURITY OF MATERIALS:
Satd solns of sulfamethoxa:	zole we	re prepd	The source and purity of the materials
in phosphate buffers of pH	5.5 an	d 7.5 at	was not specified.
room temp (25°C). The cond	en of t	he solute	
was measured by means of a	Spectra	a Physics	
3500B high-performance liqu	uid chro	omatograph	
equipped with a column over	n (Mode)	1 748) and	
a Pye-Unicam LC-UV spectrophotometric		tric	
detector. The detector was connected to		ected to	
a 1-mV recorder. A stainless steel column		el column	ESTIMATED ERROR:
(10 cm x 4.6 mm i.d.) was packed with		with	The detection limit of the solute by HPLC
Lichrosorb RPS, 5 µm, obtained from Chrom-			was 0.5 mg/l (authors). The error in temp-
pack. An injection loop of 100 µl was			erature and pH was not specified.
used. The oven temp was 40°C. Detection			REFERENCES:
of sulfamethoxazole was performed at			
260 nm.			

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	ORIGINAL MEASUREMENTS:
 Benzenesulfonamide, 4-amino-N-(5-methyl- 3-isoxazolyl)- (sulfamethoxazole); 	Meshali, M.; El Sabbagh, H.;
C ₁₀ H ₁₁ N ₃ O ₃ S; [723-46-6]	Ghanem, A.; Foda, A.
(2) Phosphoric acid, disodium salt; Na ₂ HPO ₄ ; [7558-94-4]	Pharmazie <u>1983</u> , <i>38(6)</i> , 403-6.
(3) Phosphoric acid, monopotassium salt; KH ₂ PO ₄ ; [7778-77-0]	
(4) Water; H ₂ 0; [7732-18-5]	PREPARED BY:
VARIABLES:	R. Piekos
One temperature: 37°C	
EXPERIMENTAL VALUES:	
Equilibrium solubility of sulfamethox	
solution of pH 7.2, at 37 ⁰ C, is 0.6%	$(2 \times 10^{-2} \text{ mol kg}^{-1} \text{ solution},$
compiler).	
	INFORMATION
METHOD /APPARATUS /PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
A tablet of sulfamethoxazole was placed in	Sulfamethoxazole tablets were picked up
500 ml of a phosphate buffer of pH 7.2 and	from the market. They satisfied the USP
stirred at 37 ^o C. Samples were taken at time	
intervals and the solute concn was detd by	BP requirements for uniformity of content.
the method reported by the authors (1).	The source and purity of the remaining
	materials were not specified.
	ESTIMATED ERROR:
	Nothing specified.
	REFERENCES :
	1. Ghanem, A.; Meshali, M.; Foda, A.
	J. Pharm. Pharmacol <u>1979</u> , 31,
	122.

COMPONENTS :	ORIGINAL MEASUREMENTS:
 Benzenesulfonamide, 4-amino-N-(5-methyl- 3-isoxazolyl)- (sulfamethoxazole); 	Meshali, M.; El Sabbagh, H.;
$C_{10}H_{11}N_{3}O_{3}S;$ [723-46-6]	Ghanem, A.; Foda, A.
<pre>(2) Aminoacetic acid (glycine); C₂H₅NO₂; [56-40-6]</pre>	Pharmazie, <u>1983</u> , <i>38(6)</i> , 403-6.
(3) Hydrochloric acid; HC1; [7647-01-0]	
(4) Sodium chloride; NaCl; [7647-14-5] (5) Water; H ₂ 0; [7732-18-5]	
VARIABLES: V_20 ; $(7752-10-5)$	PREPARED BY:
One temperature: 37 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Equilibrium solubility of sulfametho	xazole in artificial gastric juice
	• •
(0.5 g glycine, 0.35 g NaCl and 9.4	ml HCl per liter of solution;
pH 1.1) at 37° C is 0.338% (1.33 x	10^{-2} mol kg ⁻¹ solution - compiler).
	i
AUXILIARY METHOD / APPARATUS / PROCEDURE :	INFORMATION SOURCE AND PURITY OF MATERIALS:
A tablet of sulfamethoxazole was placed in	Sulfamethoxazole tablets were picked up
500 ml of artificial gastric juice of pH 1.1	
and the suspension was stirred at $37^{\circ}C$.	requirements for uniformity of wt and the BP requirements for uniformity of content.
Samples were taken at time intervals and	The source and purity of the remaining
the solute concn was detd by the method re-	materials were not specified.
ported by the authors.	1
	ESTIMATED ERROR:
1	Nothing specified.
	REFERENCES :
	1. Ghanem. A.; Meshali, M.; Foda, A.
	J. Pharm. Pharmacol. <u>1979</u> , 31,
	122.
	144.
1	1

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COMPO	DNENTS:	ORIGINAL MEASUREMENTS:
(1)	Benzenesulfonamide, 4-amino-N-(5-methyl- 3-isoxazolyl)- (sulfamethoxazole); C ₁₀ H ₁₁ N ₃ O ₃ S; [723-46-6]	Hirano, K.; Ichihashi, T.; Yamada, H.; <i>Chem. Pharm. Bull. <u>1981</u>, 29(3),</i> 817-27.
(2)	Phosphoric acid, disodium salt; Na2 ^{HPO} 4; [7558-94-4]	
(3)	Phosphoric acid, monopotassium salt ^{KH} 2 ^{PO} 4; [7778-77-0]	PREPARED BY: R. Piekos
(4) (5)		
VARI.	ABLES: One temperature: 37 ⁰ C	
EXP	ERIMENTAL VALUES:	
1	Solubility of sulfamethoxazole in a $1/15$ of pH 7.25, isotonized with NaCl, at 37°	
	mol dm ⁻³ , compiler).	
	AUXILIARY	INFORMATION
METH	HOD /APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
An	excess amt of powdered sulfamethoxazole	Sulfamethoxazole was synthesized by the
was	shaken well at 37°C with 1/15M phosphate	authors and was of medicinal grade. The
buf	fer of pH 7.25, isotonized with NaCl,	remaining materials were of anal or
	il attaining satn. The undissolved	reagent grade.
	stals were removed by filtration through	
	5 glass filter or by centrifugation,	
	the concn of solute in the filtrate	
	supernatant was assayed spectrophoto-	
	rically at 267 nm. after diln with	ESTIMATED ERROR:
	$H - H_20$ (1:1, v/v), using a Perkin	Nothing specified
	er UV-VIS spectrophotometer (Hitachi Co.,	
	., Tokyo).	
	-,,-,+	REFERENCES :
1		

COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(5-methyl-	Rudy, B.C.; Senkowski, B.Z.
3-isoxazoly1)- (sulfamethoxazole);	Anal. Profiles Drug Subst. <u>1973,</u> 2,
C ₁₀ H ₁₁ N ₃ O ₃ S; [723-46-6]	467-86
(2) Ethanol; C ₂ H ₆ 0; [64-17-5]	
(3) Water; H ₂ O; [7732-18-6]	
VARIABLES:	PREPARED BY:
One temperature: 25°C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfamethoxazole in 95% et	hanol at 25 ⁰ C is 37.8 mg/ml
$(0.149 \text{ mol dm}^{-3}, \text{ compiler}).^{a}$	
^a The temperature and all auxiliary inform	ation was given by
Edward A. MacMullan from Roche Products	Inc., Manati, P.K., in a
personal communication.	
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
An excess of solute was equilibrated with	The sulfamethoxazole was of reference
the solvent overnight at const temp (25 ^o C)	standard quality equivalent to USP.
while being agitated with a 60 cycle vibrat-	The solvent was purchased Reagent Grade
or (VIBROMIXER). A portion of the clear	and used without further purification.
supernatant soln was then taken, weighed and	
the solvent removed in a vacuum oven. The	
wt of solute was detd after the residue	
had been dried to const wt. All weighing	
was done on a Mettler microbalance using	ESTIMATED ERROR:
microanal techniques.	Soly: precision ±1% (MacMullan)
	Temp: not specified
	REFERENCES:
1	

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COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(5-methyl	
3-isoxazoly1)- (sulfamethoxazole);	Jarowski, C.I.
C ₁₀ H ₁₁ N ₃ O ₃ S; [723-46-6]	J. Pharm. Sci. <u>1981</u> , 70(6),611-13.
(2) Ethanol; C ₂ H ₆ 0; [64-17-5]	
(3) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: 25 [°] C	R. Piekos
EXPERIMENTAL VALUES:	
EXPERIMENTAL VALUES.	
Solubility of sulfamethoxazole in 95% e (0.12 mol dm ⁻³ , compiler).	thanol at 25 ⁰ C is 30 mg/ml
AUXILIAR	Y INFORMATION
METHOD /APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
The solubility of sulfamethoxazole was	Sulfamethoxazole was a research compd
determined by the method specified in	purchased from Hoffman - LaRoche, Nutley,
USP XX (1).	N.J. Its purity was not specified.
	The source and purity of the 95% EtOH
	was not specified.
	ESTIMATED ERROR:
	Nothing specified
	REFERENCES :
	1. "The United States Pharmacopeia",
	20th rev., U.S. Pharmacopeial Convention,
	Rockville, Md., <u>1980</u> , p. 120.

COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(5-methyl-	
3-isoxazolyl)- (sulfamethoxazole);	J. Pharm. Sci. <u>1982</u> , 71(5), 500-5.
C ₁₀ H ₁₁ N ₃ O ₃ S; [723-46-6]	
(2) Bovine serum albumin	
(3) Phosphoric acid, disodium salt;	
Na ₂ HPO ₄ ; [7558-94-4]	PREPARED BY:
(4) Phosphoric acid, monopotassium salt;	R. Piekos
KH ₂ PO ₄ ; [7778-77-0] (5) Sodium chloride; NaCl; [7647-14-5]	
(5) Sodium chloride; NaCl; [7647-14-5] (6) Water; H ₂ O; [7732-18-5]	
(0) water; n ₂ 0; [//32-10-5]	
VARIABLES:	
One temperature: 37 ^o C; one pH: 7.25	
	1
EXPERIMENTAL VALUES:	
Solubility of sulfamethoxazole in a 2% (w/w) housing comum albumin in
pH 7.25 phosphate buffer (0.067 M Na ₂ HPC NaCl, at 37° C, is 7.2 mg/ml (2.8 x 10^{-2}	
Naci, at 37°C, is 7.2 mg/mi (2.8 x 10	mol dm ⁻ , compiler).
	وروم و المحمد الم
AUXILIARY	INFORMATION
METHOD / APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
The previously developed method was employed	
(1). An excess of powd sulfamethoxazole was	authors and was of medicinal grade.
shaken well at 37° C with the 2% bovine serun	-
albumin in pH 7.25 phosphate buffer isotoniz	
ed with NaCl until attaining satn. The	The remaining materials were of anal or
undissolved crystals were removed by filrat-	-
ion through a G5 glass filter or by	
centrifugation, and the concn of solute	
in the filtrate or supernatant was assayed	POTIMATED EDDAD.
spectrophotometrically at 267 nm using a	ESTIMATED ERROR:
Perkin Elmer UV-VIS spectrophotometer	Nothing specified
(Hitachi Co., Ltd., Tokyo).	
	REFERENCES :
	1. Hirano, K.; Ichihashi, T.; Yamada, H.
	Chem. Pharm. Bull. <u>1981</u> , 29(3),817.

COMPONENTS:	ORIGINAL MEASUREMENTS:
 Benzenesulfonamide, 4-amino-N-(5-methyl 	
3-isoxazolyl)- (sulfamethoxazole);	Chem. Pharm. Bull. 1978, 26(10),
C ₁₀ H ₁₁ N ₃ O ₃ S; [723-46-6]	2965-70.
(2) 1,4,7,10,13,16-Hexaoxacyclooctadecane	2903-70.
(18-C-6); C ₁₂ H ₂₄ O ₆ ; [17455-13-9]	
· · · ·	
(3) Hydrochloric acid; HC1; [7647-01-0]	PREPARED BY:
(4) Water; H ₂ 0; [7732-18-5]	R. Piekos
VARIABLES:	
Temperature	
EXPERIMENTAL VALUES:	
6	
c 1c	concentration
t/~C	ethoxazole after
	ation of its 1:1
complex w	ith 18-C-6 in 0.2N HC1
	10 ² M
30	1.11
35	1.31
40	1.64
40	1.64
	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
An excess of the complex was dissolved	Sulfamethoxazole (Shionogi Pharmaceutical
in 50 ml of 0.2N HCl. The sampling was	Co.) was recrystd from a 30% (V/V) Me_2CO-H_2O
done by a 1-m1 pipet fitted with a G-4	soln. 18-C-6 was of the reagent grade. The
glass filter. The concentration of the	1:1 complex was prepd by the authors.
sulfonamide was detd by uv spectrophoto-	Purity of the HCl soln was not specified.
metry after dilg with 0.2N HC1.	
	ESTIMATED ERROR:
	Nothing specified
	REFERENCES :
1	1

OMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide,4-amino-N-(5-methyl-	Ghanem, A.; Meshali, M.; Ibraheem, Y.
3-isoxazolyl)- (sulfamethoxazole);	J. Pharm. Pharmacol. <u>1980</u> , 32, 675-7.
C _{10H11} N ₃ O ₃ S; [723-46-6]	, •, •, •, •
(2) D-Glucitol (sorbitol); C ₆ H ₁₄ O _{6;} [50-70-4]	
(3) Water; H ₂ O; [7732-18-5]	
VARIABLES:	PREPARED BY:
Concentration of sorbitol	R. Piekos
EXPERIMENTAL VALUES:	
Concentration S	olubility at 37 ⁰ C
of sorbitol g lit	
Weight%	
0.5 0.60	
1.0 0.59	
1.5 0.60	2.37
^a Calculated by compiler	
	INFORMATION
	INFORMATION SOURCE AND PURITY OF MATERIALS:
AUXILIARY	
AUXILIARY METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
AUXILIARY METHOD/APPARATUS/PROCEDURE: An excess of sulfamethoxazole was added	SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was from Kahira Pharm
AUXILIARY METHOD/APPARATUS/PROCEDURE: An excess of sulfamethoxazole was added to 15 ml of sorbitol soln in 30-ml glass-	SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was from Kahira Pharm and Chem Ind Co, Egypt. Sorbitol was
AUXILIARY METHOD/APPARATUS/PROCEDURE: An excess of sulfamethoxazole was added to 15 ml of sorbitol soln in 30-ml glass- stoppered bottles which were rotated	SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was from Kahira Pharm and Chem Ind Co, Egypt. Sorbitol was purchased from El-Nasr Chem Co, Egypt.
AUXILIARY METHOD/APPARATUS/PROCEDURE: An excess of sulfamethoxazole was added to 15 ml of sorbitol soln in 30-ml glass- stoppered bottles which were rotated on a water bath at 37°C until equilibrium	SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was from Kahira Pharm and Chem Ind Co, Egypt. Sorbitol was purchased from El-Nasr Chem Co, Egypt.
AUXILIARY METHOD/APPARATUS/PROCEDURE: An excess of sulfamethoxazole was added to 15 ml of sorbitol soln in 30-ml glass- stoppered bottles which were rotated on a water bath at 37°C until equilibrium was attained. Samples were filtered	SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was from Kahira Pharm and Chem Ind Co, Egypt. Sorbitol was purchased from El-Nasr Chem Co, Egypt.
AUXILIARY METHOD/APPARATUS/PROCEDURE: An excess of sulfamethoxazole was added to 15 ml of sorbitol soln in 30-ml glass- stoppered bottles which were rotated on a water bath at 37°C until equilibrium was attained. Samples were filtered and the sulfonamide was assayed spectro-	SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was from Kahira Pharm and Chem Ind Co, Egypt. Sorbitol was purchased from El-Nasr Chem Co, Egypt.
AUXILIARY METHOD/APPARATUS/PROCEDURE: An excess of sulfamethoxazole was added to 15 ml of sorbitol soln in 30-ml glass- stoppered bottles which were rotated on a water bath at 37°C until equilibrium was attained. Samples were filtered and the sulfonamide was assayed spectro- photometrically at 265 nm after dilg	SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was from Kahira Pharm and Chem Ind Co, Egypt. Sorbitol was purchased from El-Nasr Chem Co, Egypt.
AUXILIARY METHOD/APPARATUS/PROCEDURE: An excess of sulfamethoxazole was added to 15 ml of sorbitol soln in 30-ml glass- stoppered bottles which were rotated on a water bath at 37°C until equilibrium was attained. Samples were filtered and the sulfonamide was assayed spectro- photometrically at 265 nm after dilg with 0.1M HC1. Coulometric assays gave	SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was from Kahira Pharm and Chem Ind Co, Egypt. Sorbitol was purchased from El-Nasr Chem Co, Egypt. Distd waster was used. ESTIMATED ERROR:
AUXILIARY METHOD/APPARATUS/PROCEDURE: An excess of sulfamethoxazole was added to 15 ml of sorbitol soln in 30-ml glass- stoppered bottles which were rotated on a water bath at 37°C until equilibrium was attained. Samples were filtered and the sulfonamide was assayed spectro- photometrically at 265 nm after dilg with 0.1M HC1. Coulometric assays gave	SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was from Kahira Pharm and Chem Ind Co, Egypt. Sorbitol was purchased from El-Nasr Chem Co, Egypt. Distd waster was used. ESTIMATED ERROR: Soly: detns were carried out in duplicate (authors)
AUXILIARY METHOD/APPARATUS/PROCEDURE: An excess of sulfamethoxazole was added to 15 ml of sorbitol soln in 30-ml glass- stoppered bottles which were rotated on a water bath at 37°C until equilibrium was attained. Samples were filtered and the sulfonamide was assayed spectro- photometrically at 265 nm after dilg with 0.1M HC1. Coulometric assays gave	<pre>SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was from Kahira Pharm and Chem Ind Co, Egypt. Sorbitol was purchased from El-Nasr Chem Co, Egypt. Distd waster was used.</pre> ESTIMATED ERROR: Soly: detns were carried out in duplicate (authors) Temp: ±1°C (authors)
AUXILIARY METHOD/APPARATUS/PROCEDURE: An excess of sulfamethoxazole was added to 15 ml of sorbitol soln in 30-ml glass- stoppered bottles which were rotated on a water bath at 37°C until equilibrium was attained. Samples were filtered and the sulfonamide was assayed spectro- photometrically at 265 nm after dilg with 0.1M HC1. Coulometric assays gave	SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was from Kahira Pharm and Chem Ind Co, Egypt. Sorbitol was purchased from El-Nasr Chem Co, Egypt. Distd waster was used. ESTIMATED ERROR: Soly: detns were carried out in duplicate (authors)
AUXILIARY METHOD/APPARATUS/PROCEDURE: An excess of sulfamethoxazole was added to 15 ml of sorbitol soln in 30-ml glass- stoppered bottles which were rotated on a water bath at 37°C until equilibrium was attained. Samples were filtered and the sulfonamide was assayed spectro- photometrically at 265 nm after dilg with 0.1M HC1. Coulometric assays gave	<pre>SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was from K4hira Pharm and Chem Ind Co, Egypt. Sorbitol was purchased from El-Nasr Chem Co, Egypt. Distd waster was used.</pre> ESTIMATED ERROR: Soly: detns were carried out in duplicate (authors) Temp: ±1°C (authors)
AUXILIARY METHOD/APPARATUS/PROCEDURE: An excess of sulfamethoxazole was added to 15 ml of sorbitol soln in 30-ml glass- stoppered bottles which were rotated on a water bath at 37°C until equilibrium was attained. Samples were filtered and the sulfonamide was assayed spectro- photometrically at 265 nm after dilg with 0.1M HC1. Coulometric assays gave	<pre>SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was from Kahira Pharm and Chem Ind Co, Egypt. Sorbitol was purchased from El-Nasr Chem Co, Egypt. Distd waster was used.</pre> ESTIMATED ERROR: Soly: detns were carried out in duplicate (authors) Temp: ±1°C (authors)
AUXILIARY METHOD/APPARATUS/PROCEDURE: An excess of sulfamethoxazole was added to 15 ml of sorbitol soln in 30-ml glass- stoppered bottles which were rotated on a water bath at 37°C until equilibrium was attained. Samples were filtered and the sulfonamide was assayed spectro- photometrically at 265 nm after dilg with 0.1M HC1. Coulometric assays gave	<pre>SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was from Kahira Pharm and Chem Ind Co, Egypt. Sorbitol was purchased from El-Nasr Chem Co, Egypt. Distd waster was used.</pre> ESTIMATED ERROR: Soly: detns were carried out in duplicate (authors) Temp: ±1°C (authors)

COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(5-methy	
3-isoxazolyl)- (sulfamethoxazole);	J. Pharm. Pharmacol. <u>1980</u> , 32, 675-7.
C ₁₀ H ₁₁ N ₃ O ₃ S; [723-46-6]	
(2) Mannitol; $C_6H_{14}O_6$; [87-78-5]	
(3) Water; H_20 ; [7732-18-5]	
VARIABLES:	PREPARED BY:
Concentration of mannitol	R. Piekos
EXPERIMENTAL VALUES:	
EAFERIMENTAL VALUES.	
Concentration	Solubility at 37 ⁰ C
of mannitol	
Weight% g 1:	tre^{-1} 10 ³ mol dm ⁻³ a
0.5 0.6	15 2.43
1.0 0.6	05 2.39
1.5 0.60	2.38
^a Calculated by compiler	
AUXILIAR	Y INFORMATION
METHOD / APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
An excess of sulfamethoxazole was added	Sulfamethoxazole was from Kahira Pharm
to 15 ml of mannitol soln in 30-ml glass-	and Chem Ind Co, Egypt. Mannitol was
stoppered bottles which were rotated on a water bath at 37 ⁰ C until equilibrium	purchased from El-Nasr Chem Co, Egypt. Distd water was used.
_	Dista water was used.
was attained. Samples were filtered	
and the sulfonamide was assayed spectro-	
photometrically at 265 nm after dilg	
with 0.1M HC1. Coulometric assays	ESTIMATED ERROR:
gave similar results.	
	Soly: detns were carried out in duplicate
	(authors). Temp: ±1 ⁰ C (authors).
	REFERENCES :

COMPONENTS:		ORIGINAL MEASUREMENTS:
1) Benzenesulfonamide, 4-amino-N-(5-methyl-		
3-isoxazoly1)- (sul	lfamethoxazole);	J. Pharm. Pharmacol. <u>1980</u> , 32, 675-7.
C ₁₀ H ₁₁ N ₃ O ₃ S; [723-	-466]	
(2) Glucose; C ₆ H ₁₂ O ₆ ;		
(3) Water; H ₂ 0; [7732		
VARIABLES:		PREPARED BY:
Concentration of	f a1	R. Piekos
	giucose	R. FIEROS
EXPERIMENTAL VALUES:	·· <u>···································</u>	······
Concenti	ration	Solubility at 37 [°] C
of gluco		
Weight	t% gli	tre^{-1} 10 ³ mol dm ⁻³ a
0.5	0.67	
1.0	0.75	
1.5	0.76	3.0
aCaloulat	ed by compiler	
Carculat	ted by compiler	
	AUXILI	ARY INFORMATION
METHOD/APPARATUS/PROCEDU	JRE :	SOURCE AND PURITY OF MATERIALS:
An excess of sulfametho	oxazole was added t	o Sulfamethoxazole was from Kahira Pharm
15 ml of glucose soln i	in 30-ml glass-	and Chem Ind Co, Egypt. Glucose was
stoppered bottles which	n were rotated on a	purchased from El-Nasr Chem Co, Egypt.
water bath at 37°C unti	ll equilibrium was	Distd water was used.
attained. Samples were	e filtered and the	
sulfonamide was assayed	l spectrophoto-	
metrically at 265 nm af	fter dilg with	
0.1M HC1. Coulometric	assays gave	
similar results.		ESTIMATED ERROR:
		Soly: detns were carried out in duplicate
		(authors). Temp: ±1 ⁰ C
		REFERENCES:
1		
1		

OMPONENTS :			ORIGINAL MEASUREMENTS:	
	ulfonamide, 4-amino-N olyl)- (sulfamethoxaz		Ghanem, A.; Meshali, M.; Ibraheem, Y. J. Pharm. Pharmacol, <u>1980</u> , 32, 675	
	0 ₃ s; [723-46-6]	,	,,,	
	2; C ₆ H ₁₂ O ₆ ; [26566-	-61-01		
	$H_20;$ [7732-18-5]			
RIABLES:	-		PREPARED BY:	
Concent	ration of galactose		R. Piekos	
XPERIMENTAL V	ALUES:			
	Concentration	Sc	e^{-1} 10 ³ mol dm ⁻³ a	
	of galactose	g litre	e^{-1} 10 ³ mol dm ⁻³ a	
	Weight%			
	0.5	0.67	2.64	
	1.0	0.775		
	1.5	0.80	3.16	
	^a Calculated by comp	iler		
	^a Calculated by comp	iler		
	^a Calculated by comp	iler		
	^a Calculated by comp	iler		
	^a Calculated by comp	iler		
	^a Calculated by comp	oller		
	^a Calculated by comp		INFORMATION	
	TUS / PROCEDURE :	AUXILIARY	SOURCE AND PURITY OF MATERIALS:	
An excess of	TUS/PROCEDURE: sulfamethoxazole was	AUXILIARY added to	SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was from Kahira Pharm	
An excess of 15 ml of gala	TUS/PROCEDURE: sulfamethoxazole was actose soln in 30-ml	AUXILIARY added to glass-	SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was from Kahira Pharm and Chem Ind Co, Egypt. Galactose was	
An excess of 15 ml of gala stoppered bot	TUS/PROCEDURE: sulfamethoxazole was actose soln in 30-ml ctles which were rota	AUXILIARY added to glass- ited	SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was from Kahira Pharm and Chem Ind Co, Egypt. Galactose was purchased from E. Merck.	
An excess of 15 ml of gala stoppered bot on a water ba	TUS/PROCEDURE: sulfamethoxazole was actose soln in 30-ml ttles which were rota ath at 37 ⁰ C until equ	AUXILIARY added to glass- ated ailibrium	SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was from Kahira Pharm and Chem Ind Co, Egypt. Galactose was	
An excess of 15 ml of gala stoppered bot on a water ba was attained.	TUS/PROCEDURE: sulfamethoxazole was actose soln in 30-ml ctles which were rota ath at 37 ⁰ C until equ . Samples were filte	AUXILIARY added to glass- ated allibrium ared and	SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was from Kahira Pharm and Chem Ind Co, Egypt. Galactose was purchased from E. Merck.	
An excess of 15 ml of gala stoppered bot on a water ba was attained. the sulfonami	TUS/PROCEDURE: sulfamethoxazole was actose soln in 30-ml ttles which were rota ath at 37°C until equ . Samples were filte ide was assayed spect	AUXILIARY added to glass- ated allibrium ared and arophoto-	SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was from Kahira Pharm and Chem Ind Co, Egypt. Galactose was purchased from E. Merck.	
An excess of 15 ml of gala stoppered bot on a water ba was attained. the sulfonami metrically at	TUS/PROCEDURE: sulfamethoxazole was actose soln in 30-ml atles which were rota ath at 37°C until equ . Samples were filte ide was assayed spect a 265 nm after dilg w	AUXILIARY a added to glass- ated allibrium ared and arophoto- vith	SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was from Kahira Pharm and Chem Ind Co, Egypt. Galactose was purchased from E. Merck.	
An excess of 15 ml of gala stoppered bot on a water ba was attained. the sulfonami metrically at 0.1M HCl. Co	TUS/PROCEDURE: sulfamethoxazole was actose soln in 30-ml atles which were rota ath at 37°C until equ . Samples were filte de was assayed spect 265 nm after dilg woulometric assays gav	AUXILIARY a added to glass- ated allibrium ared and arophoto- vith	SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was from Kahira Pharm and Chem Ind Co, Egypt. Galactose was purchased from E. Merck. Distd water was used.	
An excess of 15 ml of gala stoppered bot on a water ba was attained. the sulfonami metrically at 0.1M HC1. Co	TUS/PROCEDURE: sulfamethoxazole was actose soln in 30-ml atles which were rota ath at 37°C until equ . Samples were filte de was assayed spect 265 nm after dilg woulometric assays gav	AUXILIARY a added to glass- ated allibrium ared and arophoto- vith	SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was from Kahira Pharm and Chem Ind Co, Egypt. Galactose was purchased from E. Merck. Distd water was used.	3
An excess of 15 ml of gala stoppered bot on a water ba was attained. the sulfonami metrically at 0.1M HC1. Co	TUS/PROCEDURE: sulfamethoxazole was actose soln in 30-ml atles which were rota ath at 37°C until equ . Samples were filte de was assayed spect 265 nm after dilg woulometric assays gav	AUXILIARY a added to glass- ated allibrium ared and arophoto- vith	SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was from Kahira Pharm and Chem Ind Co, Egypt. Galactose was purchased from E. Merck. Distd water was used. ESTIMATED ERROR: Soly: detns were carried out in duplica	3
An excess of 15 ml of gala stoppered bot on a water ba was attained. the sulfonami metrically at 0.1M HCl. Co	TUS/PROCEDURE: sulfamethoxazole was actose soln in 30-ml atles which were rota ath at 37°C until equ . Samples were filte de was assayed spect 265 nm after dilg woulometric assays gav	AUXILIARY a added to glass- ated allibrium ared and arophoto- vith	SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was from Kahira Pharm and Chem Ind Co, Egypt. Galactose was purchased from E. Merck. Distd water was used.	3
An excess of 15 ml of gala stoppered bot on a water ba was attained. the sulfonami metrically at 0.1M HCl. Co	TUS/PROCEDURE: sulfamethoxazole was actose soln in 30-ml atles which were rota ath at 37°C until equ . Samples were filte de was assayed spect 265 nm after dilg woulometric assays gav	AUXILIARY a added to glass- ated allibrium ared and arophoto- vith	SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was from Kahira Pharm and Chem Ind Co, Egypt. Galactose was purchased from E. Merck. Distd water was used. ESTIMATED ERROR: Soly: detns were carried out in duplica (authors).	3
An excess of 15 ml of gala stoppered bot on a water ba was attained. the sulfonami metrically at 0.1M HC1. Co	TUS/PROCEDURE: sulfamethoxazole was actose soln in 30-ml atles which were rota ath at 37°C until equ . Samples were filte de was assayed spect 265 nm after dilg woulometric assays gav	AUXILIARY a added to glass- ated allibrium ared and arophoto- vith	<pre>SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was from Kahira Pharm and Chem Ind Co, Egypt. Galactose was purchased from E. Merck. Distd water was used.</pre> ESTIMATED ERROR: Soly: detns were carried out in duplica (authors). Temp: ±1°C (authors).	3
An excess of 15 ml of gala stoppered bot on a water ba was attained. the sulfonami metrically at 0.1M HC1. Co	TUS/PROCEDURE: sulfamethoxazole was actose soln in 30-ml atles which were rota ath at 37°C until equ . Samples were filte de was assayed spect 265 nm after dilg woulometric assays gav	AUXILIARY a added to glass- ated allibrium ared and arophoto- vith	<pre>SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was from Kahira Pharm and Chem Ind Co, Egypt. Galactose was purchased from E. Merck. Distd water was used.</pre> ESTIMATED ERROR: Soly: detns were carried out in duplica (authors). Temp: ±1°C (authors).	3
An excess of 15 ml of gala stoppered bot on a water ba was attained. the sulfonami metrically at 0.1M HC1. Co	TUS/PROCEDURE: sulfamethoxazole was actose soln in 30-ml atles which were rota ath at 37°C until equ . Samples were filte de was assayed spect 265 nm after dilg woulometric assays gav	AUXILIARY a added to glass- ated allibrium ared and arophoto- vith	<pre>SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was from Kahira Pharm and Chem Ind Co, Egypt. Galactose was purchased from E. Merck. Distd water was used.</pre> ESTIMATED ERROR: Soly: detns were carried out in duplica (authors). Temp: ±1°C (authors).	3
An excess of 15 ml of gala stoppered bot on a water ba was attained. the sulfonami metrically at	TUS/PROCEDURE: sulfamethoxazole was actose soln in 30-ml atles which were rota ath at 37°C until equ . Samples were filte de was assayed spect 265 nm after dilg woulometric assays gav	AUXILIARY a added to glass- ated allibrium ared and arophoto- vith	<pre>SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole was from Kahira Pharm and Chem Ind Co, Egypt. Galactose was purchased from E. Merck. Distd water was used.</pre> ESTIMATED ERROR: Soly: detns were carried out in duplica (authors). Temp: ±1°C (authors).	3

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COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(5-methyl-	
3-isoxazolyl)- (sulfamethoxazole);	J. Pharm. Pharmacol. <u>1980</u> , 32, 675-7.
$C_{10}H_{11}N_{3}O_{3}S;$ [723-46-6]	
(2) α-D-Glucopyranoside, β-D-fructofu- ranosyl- (sucrose); C ₁₂ H ₂₂ O ₁₁ ; [57-60-1]	
(3) Water; H ₂ O; [7732-18-5]	
VARIABLES:	PREPARED BY:
Concentration of sucrose	R. Piekos
EXPERIMENTAL VALUES:	I
Concentration So	plubility at 37°C
of sucrose g lit	
Weight%	
0.5 0.61	.5 2.43
1.0 0.60	2.39
1.5 0.61	.5 2.43
^a Calculated by compiler	
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
A excess of sulfamethoxazole was added to	Sulfamethoxazole was from Kahira Pharm
15 ml of sucrose soln in 30-ml glass-	and Chem Ind Co, Egypt. Sucrose was
stoppered bottles which were rotated on a	purchased.
water bath at 37°C until equilibrium was	Purity of the water was not specified.
attained. Samples were filtered and the	
sulfonamide was assayed spectrophotometric-	
ally at 265 nm after dilg with 0.1M HC1.	
Coulometric assays gave similar results.	
	ESTIMATED ERROR:
	Soly: detns were carried out in duplicate
	(authors). Temp: ±1 ⁰ C (authors)
	REFERENCES :
]

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COMPONENTS: (1) Benzenesulfonamide, 4-amino-N-(5-methyl-	ORIGINAL MEASUREMENTS: Ghanem, A.; Meshali,M.; Ibraheem, Y.
3-isoxazolyl)- (sulfamethoxazole);	J. Pharm. Pharmacol. <u>1980</u> , 32, 675-7.
$C_{10}H_{11}N_{3}O_{3}S;$ [723-46-6]	
(2) D-Glucose, 4-0- α -D-glucopyranosyl-	
(maltose); C ₁₂ H ₂₂ O ₁₁ ; [69-79-4]	
(3) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	PREPARED BY:
Concentration of maltose	R. Piekos
EXPERIMENTAL VALUES:	
Concentration S	olubility at 37 ⁰ C
of maltose g litr	
Weight%	
werght%	
	······
0.5 0.66	2.6
1.0 0.79	3.1
1.5 0.83	3, 3

^a Calculated by compiler	
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
An excess of sulfamethoxazole was added	Sulfamethoxazole was from Kahira Pharm
to 15 ml of maltose soln in 30-ml glass-	and Chem Ind Co, Egypt. Maltose was
stoppered bottles which were rotated	purchased from Spolek, Czechoslovakia.
on a water bath at 37 ⁰ C until equilibrium	Distd water was used.
was attained. Samples were filtered	
and the sulfonamide was assayed spectro-	
photometrically at 265 nm after dilg	
with 0.1M HC1. Coulometric assays gave	
similar results.	ESTIMATED ERROR:
	Soly: detns were carried out in duplicate
	(authors).
	Temp: ±1°C
	REFERENCES :

COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(5-methyl-	Rudy, B.C.; Senkowski, B.Z.
3-isoxazoly1)- (sulfamethoxazole);	Anal. Profiles Drug Subst, <u>1973</u> , 2,
C ₁₀ H ₁₁ N ₃ O ₃ S; [723-46-6]	467-86.
(2) Methanol; CH_40 ; [67-56-1]	
4, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	
VARIABLES :	
One temperature: 25 ^o C	PREPARED BY: R. Piekos
one cemperature: 25 C	R. FIEROS
EXPERIMENTAL VALUES:	
Solubility of sulfamethoxazole in meth	anol at 25°C is 90.3 mg/ml
$(0.356 \text{ mol dm}^{-3}, \text{ compiler }).^a$	
âmi,	
^a The temperature and all auxiliary inf	
Edward A. MacMullan from Roche Produc	ts Inc., Manati, P.R.,
in personal communication.	
AUXILIARY	INFORMATION
	······
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
An excess of solute was equilibrated with	The sulfamethoxazole was of reference
the solvent overnight at const temp (25°C)	standard quality equivalent to USP.
while being agitated with a 60 cycle	The solvent was purchased Reagent Grade
vibrator (VIBROMIXER). A portion of the	and used without further purification.
clear supernatant soln was then taken,	
weighed and the solvent removed in a	
vacuum oven. The wt. of solute was detd	
after the residue had been dried to const	
	POTIMATED EDDAD.
wt. All weighing was done on a Mettler	ESTIMATED ERROR: Soly: precision ±1% (MacMullan)
microbalance using microanal techniques.	Temp: not specified
	REFERENCES :
	REFERENCES;

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COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(5-methyl-	Shah, N.H.; Lazarus, J.H.; Sheth, P.R.;
3-isoxazolyl)- (sulfamethoxazole);	Jarowski, C.I.
$C_{10}H_{11}N_{3}O_{3}S;$ [723-46-6]	J. Pharm. Sci. <u>1981</u> , 70(6), 611-13.
(2) Methanol; CH ₄ 0; [67-56-1]	
VARIABLES:	PREPARED BY:
One temperature: 25 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfamethoxazole in metha	$n = 1$ at 25° C do 90 mg/m
(0.35 mol dm^{-3} , compiler).	
(0.55 mol dm , compiler).	
	······································
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
The solubility of sulfamethoxazole was	Sulfamethoxazole was a research compd
determined by the method specified in	purchased from Hoffmann - LaRoche,
USP XX (1).	Nutley, N.J. Its purity was not
	specified.
	The source and purity of methanol was
	not specified.
	not specified.
	CTIMATED EDDOD.
	ESTIMATED ERROR:
	Nothing specified
	REFERENCES :
	1. "The United States Pharmacopeia",
	20th rev. U.S. Pharmacopeial
	Convention, Rockville, Md., <u>1980</u> ,
	p. 120.

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COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide,4-amino-N-(5-methyl-	Sunwoo, C.; Eisen, H.
3-isoxazolyl)- (sulfamethoxazole);	J. Pharm. Sci., <u>1971</u> , 60, 238-44.
C ₁₀ H ₁₁ N ₃ O ₃ S; [723-46-6]	
(2) Ethanol, 2-ethoxy-; $C_4 H_{10} O_2$;	
[110-80-5]	
VARIABLES:	PREPARED BY:
One temperature: 25°C	R. Piekos
EXPERIMENTAL VALUES:	
The mole fraction solubility of sulfame	thoxazole in 2-ethoxyethanol
at 25 [°] C is 0.0911 (22.0 g/100 g solut	
	INFORMATION
ME THOD / APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
Soly was detd by the method reported by	Sulfamethoxazole (Hoffmann - La Roche, Inc.,
Restaino and Martin. Sulfamethoxazole	Nutley, N.J.) was recrystd from warm
was assayed on a Coleman-Hitachi 124	alcohol. 2-Ethoxyethanol (Cellosolve
double-beam spectrophotometer at 271 nm	solvent, Union Carbide, New York, N.Y.)
after diln of a sample with 95% alcohol	was of industrial grade.
or water.	
	ESTIMATED ERROR:
	Soly: the mean of 3 runs was given (authors).
	Temp: ±1.0 ⁰ C (authors).
	REFERENCES: 1. Restaino, F.A.; Martin, A.N.
	J. Pharm. Sci. <u>1964</u> , 53, 636.

COMPONENTS: (1) Benzenesulfonamide, 4-amino-N-(5-methyl-	ORIGINAL MEASUREMENTS: Rudy, B.C.; Senkowski, B.Z.
3-isoxazolyl)- (sulfamethoxazole);	Anal. Profiles Drug Subst. <u>1973</u> , 2,
$C_{10}H_{11}N_{3}O_{3}S;$ [723-46-6]	467-86.
(2) Ethanol; C ₂ H ₆ 0; [64-17-5]	
(3) Methanol; CH ₄ 0; [67-56-1]	
	PREPARED BY:
VARIABLES:	
One temperature: 25 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfamethoxazole in 3A alo	cohol (ethanol containing
approximately 5% methanol) at 25°C is 30	$0.6 \text{ mg/m1} (0.121 \text{ mol } \text{dm}^{-3},$
compiler). ^a	
^a The temperature, the composition of 3A	alcohol and all auxiliary
information was given by Edward A. Mach	fullan from Roche Products Inc.,
Manati, P.R., in a personal communicati	on.
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
An excess of solute was equilibrated with	The sulfamethoxazole was of reference
the solvent overnight at const temp (25°)	standard quality equivalent to USP.
while being agitated with a 60 cycle	The solvent was purchased Reagent Grade
vibrator (VIBROMIXER). A portion of the	and used without further purification.
	and used without further purfication.
clear supernatant soln was then taken,	
weighed and the solvent removed in a	
vacuum oven. The wt of solute was detd	
after the residue had been dried to	
const wt. All weighing was done on a	ESTIMATED ERROR:
Mettler microbalance using microanal	Soly: precision ±1% (MacMullan)
techniques.	Temp: not specified
	REFERENCES :

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COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(5-methyl-	Rudy, B.C.; Senkowski, B.Z.
3-isoxazolyl)- (sulfamethoxazole);	Anal. Profiles Drug Subst. <u>1973</u> , 2,
$C_{10}H_{11}N_{3}O_{3}S;$ [723-46-6]	467-86.
(2) Ethane, 1,1'-oxybis- (ethyl ether);	
C ₄ H ₁₀ 0; [60-29-7]	
VARIABLES:	PREPARED BY:
One temperature: 25 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
EALDRINE VALUES.	
Solubility of sulfamethoxazole in ethyl	ether at 25°C is 2.7 mg/ml
$(1.1 \times 10^{-2} \text{ mol dm}^{-3}, \text{ compiler}).^{a}$	Ç.
(111 h 10 mol 0m) complete, /	
arbo topporture and all survivient info	rmation was given by
^a The temperature and all auxiliary info	
Edward A. MacMullan from Roche Product	s Inc., Manati, P.K.,
in a personal communication.	
AUXILIARY	INFORMATION
METHOD / APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
	The sulfamethoxazole was of reference
An excess of solute was equilibrated with	
the solvent overnight at const temp (25°C)	standard quality equivalent to USP.
while being agitated with a 60 cycle	The solvent was purchased Reagent Grade
vibrator (VIBROMIXER). A portion of the	and used without further purification.
clear supernatant soln was then taken,	
readahad and aha 1	
weighed and the solvent removed in a	
weighed and the solvent removed in a vacuum oven. The wt of solute was detd	
-	
vacuum oven. The wt of solute was detd	ESTIMATED ERROR:
vacuum oven. The wt of solute was detd after the residue had been dried to const	ESTIMATED ERROR: Soly: precision ±1% (MacMullan)
vacuum oven. The wt of solute was detd after the residue had been dried to const wt. All weighing was done on a Mettler	Soly: precision ±1% (MacMullan)
vacuum oven. The wt of solute was detd after the residue had been dried to const wt. All weighing was done on a Mettler	
vacuum oven. The wt of solute was detd after the residue had been dried to const wt. All weighing was done on a Mettler	Soly: precision ±1% (MacMullan)
vacuum oven. The wt of solute was detd after the residue had been dried to const wt. All weighing was done on a Mettler	Soly: precision ±1% (MacMullan) Temp: not specified
vacuum oven. The wt of solute was detd after the residue had been dried to const wt. All weighing was done on a Mettler	Soly: precision ±1% (MacMullan) Temp: not specified
vacuum oven. The wt of solute was detd after the residue had been dried to const wt. All weighing was done on a Mettler	Soly: precision ±1% (MacMullan) Temp: not specified
vacuum oven. The wt of solute was detd after the residue had been dried to const wt. All weighing was done on a Mettler	Soly: precision ±1% (MacMullan) Temp: not specified
vacuum oven. The wt of solute was detd after the residue had been dried to const wt. All weighing was done on a Mettler	Soly: precision ±1% (MacMullan) Temp: not specified

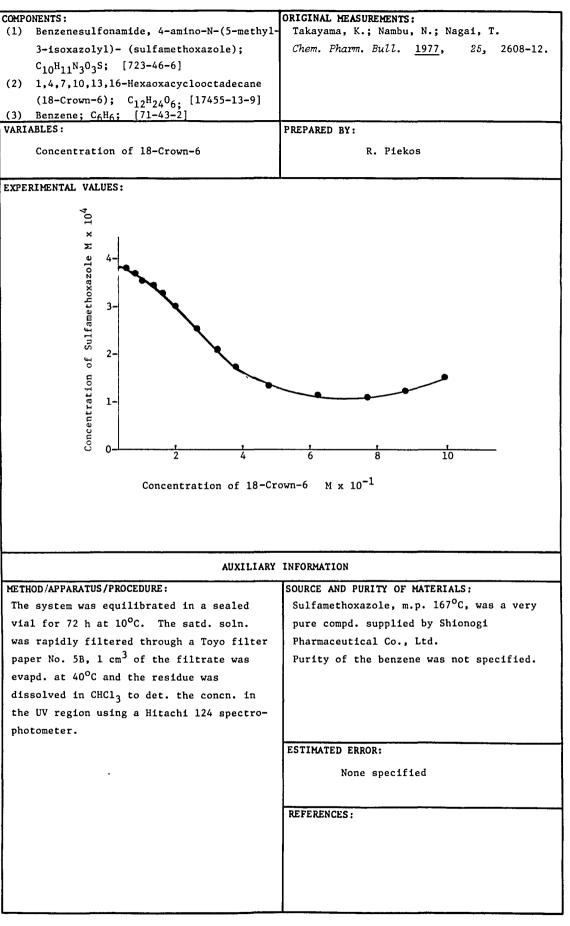
COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(5-methyl-	Rudy, B.C.; Senkowski, B.Z.
3-isoxazoly1)- (sulfamethoxazole);	Anal. Profiles Drug Subst. 1973, 2,
C ₁₀ H ₁₁ N ₃ O ₃ S; [723-46-6]	467-86.
(2) Petroleum ether; [8032-32-4]	
VARIABLES:	PREPARED BY:
One temperature: 25 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfamethoxazole in petrol	eum ether (boiling range
$30-60^{\circ}$ C) at 25°C is 0.2 mg/m1 (8 x 10^{-4}	mol dm ⁻³ , compiler). ^a
^a The temperature and all auxiliary infor	mation was given by
Edward A. MacMullan from Roche Products	Inc., Manati, P.R.,
in a personal communication.	
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
An excess of solute was equilibrated with	The sulfamethoxazole was of reference
the solvent overnight at const temp (25°C)	standard quality equivalent to USP.
while being agitated with a 60 cycle	The solvent was purchased Reagent Grade
vibrator (VIBROMIXER). A portion of the	and used without further purification.
clear supernatant soln was then taken,	
weighed and the solvent removed in a	
vacuum oven. The wt of solute was detd	
after the residue had been dried to const	
wt. All weighing was done on a Mettler	ESTIMATED ERROR:
microbalance using microanal techniques.	Soly: precision ±1% (MacMullan)
	Temp: not specified
	REFERENCES :
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COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(5-methyl-	Rudy, B.C.; Senkowski, B.Z.
3-isoxazoly1)- (sulfamethoxazole);	Anal. Profiles Drug Subst. 1973, 2,
$C_{10}H_{11}N_{3}O_{3}S;$ [723-46-6]	467-86.
(2) Benzene; C ₆ H ₆ ; [71-43-2]	407 00.
(2) benzene, 66n6, [/1 45 2]	
VARIABLES:	PREPARED BY:
One temperature: 25 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfamethoxazole in benzen (2.0 x 10 ⁻³ mol dm ⁻³ , compiler). ^a ^a The temperature and all auxiliary infor Edward A. MacMullan from Roche Products in a personal communication.	mation was given by
AUXILIARY	INFORMATION
METHOD / APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
An excess of solute was equilibrated with	The sulfamethoxazole was of reference
benzene overnight at const temp (25 ⁰ C)	standard quality equivalent to USP.
while being agitated with a 60 cycle	The solvent was purchased Reagent Grade
vibrator (VIBROMIXER). A portion of the	and used without further purification.
clear supernatant soln was then taken,	
weighed and the solvent removed in a	
vacuum oven. The wt of solute was detd	
after the residue had been dried to const	
wt. All weighing was done on a Mettler	ESTIMATED ERROR:
microbalance using microanal techniques.	Soly: precision ±1% (MacMullan)
	Temp: not specified
	DEPENDING
	REFERENCES :

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(5-methyl-	
3-isoxazoly1)- (sulfamethoxazole);	Chem. Pharm. Bull. <u>1977</u> , 25, 2608-12.
C ₁₀ H ₁₁ N ₃ O ₃ S; [723-46-6]	
(2) Benzene; C_6H_6 ; [71-43-2]	
VARIABLES:	PREPARED BY:
One temperature: 10 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfamethoxazole in benzer	ne at 10 ⁰ C is
$3.60 \times 10^{-4} \text{ mol dm}^{-3} \text{ a}.$	
^a Numerical value supplied by the authors	3.
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE: The system was equilibrated in a sealed	SOURCE AND PURITY OF MATERIALS: Sulfamethoxazole, m.p. 167°C, was a
vial for 72 h at 10° C. The satd soln	very pure compd supplied by Shionogi
was rapidly filtered through a Toyo filter	Pharmaceutical Co., Ltd.
paper No. 5B, 1 cm^3 of the filtrate was	Purity of the benzene was not specified.
evapd at 40° C and the residue was dissolved	
in CHCl ₃ to det the concn in the UV region	
using a Hitachi 124 spectrophotometer.	
	ESTIMATED ERROR:
	None specified
	REFERENCES :





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COMPONENTS:	ORIGINAL MEASUREMENTS:
<pre>(1) Benzenesulfonamide, 4-amino-N-(5-methyl- 3-isoxazolyl)- (sulfamethoxazole); C₁₀H₁₁N₃O₃S; [723-46-6]</pre>	Takayama, K.; Nambu, N.; Nagai, T., Chem. Pharm. Bull. <u>1977</u> , 25, 2608-12.
<pre>(2) 1,4,7,10,13,16-Hexaoxacyclooctadecane (18-Crown-6); C₁₂H₂₄O₆; [17455-13-9]</pre>	
(3) Benzene; C ₆ H ₆ ; [71-43-2]	
VARIABLES:	PREPARED BY:
Concentration of 18-Crown-6	R. Piekos
EXPERIMENTAL VALUES:	
Concentration of 18-Crown- 10 ³ mol dm ⁻³	6 Solubility at 10 ^o C ^a 10 ⁴ mol dm ⁻³
0.30	3.70
0.60	3.42
0.90	3.56
1.20	3.30
1.50	3.10
1.80	2.92
2.10	2.82
2.40	2.66
2.70	2.50
3.00	2.44
4.00	2.25
5.00	1.54
6.00	1.40
7.00	1.30
8.00	0.95
9.00	1,25
10.00	1.28
^a Numerical values supplied by the	authors
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
The system was equilibrated in a sealed	Sulfamethoxazole, m.p. 167°C, was a very
vial for 72 h at 10 ⁰ C. The satd soln was	pure compd supplied by Shionogi Pharma-
rapidly filtered through a Toyo filter paper	
No. 5B, 1 cm ³ of the filtrate was evapd	18-Crown-6 was of the reagent grade.
at 40 [°] C and the residue was dissolved in	Purity of the benzene was not specified.
CHCl ₃ to det the concn in the UV region	
using a Hitachi 124 spectrophotometer .	
	ESTIMATED ERROR:
	REFERENCES :
	ESTIMATED ERROR: None specified REFERENCES:

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COMPONENTS:	ORIGINAL MEASUREMENTS:	
 Benzenesulfonamide, 4-amino-N-(5-methyl- 	Riess, W.	
 3-isoxazolyl)- (sulfamethoxazole); 	Intern. Congr. Chemotherapy, Proc.,	
	3rd, Stuttgart <u>1963</u> , 1, 627-32.	
$C_{10}H_{11}N_{3}O_{3}S;$ [723-46-6]	5ra, Stattgart <u>1905</u> , 1, 027-52.	
(2) Methane, trichloro- (chloroform);		
CHC1 ₃ ; [67-66-3]		
VARIABLES:	PREPARED BY:	
One temperature: 20 ⁰ C	R. Piekos	
EXPERIMENTAL VALUES:		
Solubility of sulfamethoxazole in chloroform at 20° C is 206 mg% (8.13 x 10^{-3} mol dm ⁻³ solution, compiler).		
AUXILIARY	INFORMATION	
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:	
Nothing specified	Nothing specified	
	ESTIMATED ERROR:	
	Nothing specified	
	REFERENCES :	

COMPONENTS:	ORIGINAL MEASUREMENTS:
 Benzenesulfonamide, 4-amino-N-(5-methyl- 	Yamazaki, M.; Aoki, M.; Kamada, A.;
3-isoxazolyl)- (sulfisomezole);	Yata, N. Yakuzaigaku, <u>1967</u> , 27(1),
$C_{10}H_{11}N_{3}O_{3}S;$ [723-46-6]	37-40.
(2) Methane, trichloro- (chloroform);	57-40.
CHC1 ₃ ; [67-66-3]	
VARIABLES:	PREPARED BY:
One temperature: 30 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfisomezole*in chlorofor	rm at 30°C is
6.75 mmol/L (1.71 g dm ⁻³ , compiler).	
* Another common trivial name is sulfame	ethoxazole.
AUXILIARY	INFORMATION
METHOD / APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
Sulfisomezole (0.5 g) was placed in an	Nothing specified
L-shaped tube together with 20 ml of	
chloroform. The mixt was shaken in a	
thermostat until equilibrium was attained.	
The sulfisomezole was assayed in the	
supernatant spectrophotometrically at	
545 nm on a Beckmann DU spectrophotometer.	
The results were taken from a calibration	
graph.	ESTIMATED ERROR:
	Soly: not specified
	Temp: ±1 ⁰ C (authors)
	DEFERENCE
	REFERENCES :

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COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(5-methyl-	Kitao, K.; Kubo, K.; Morishita, T.;
3-isoxazolyl)- (sulfamethoxazole);	Yata, N.; Kamada, A.
$C_{10}H_{11}N_{3}O_{3}S;$ [723-46-6]	Chem. Pharm. Bull. <u>1973</u> , 21, 2417-26.
(2) Methane, trichloro-; CHCl ₃ ;	
[67-66-3]	
VARIABLES:	PREPARED BY:
One temperature: 37°C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfamethoxazole in CHC1	₃ at 37°C is
13.1 mmol dm^{-3} solution.	
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE: One ml of the CHCl ₃ soln of sulfameth-	SOURCE AND PURITY OF MATERIALS: Comm available sulfamethoxazole (source
oxazole at equilibrium was taken into	not specified) was used as supplied.
a test tube. After evapn of the solvent,	Neither source nor the purity of the
the residue was dissolved in 1N NaOH,	CHCl ₃ was specified.
the soln was properly dild with	
deionized water, and the concn of	
sulfamethoxazole was detd by diazotization.	
	ESTIMATED ERROR:
	Soly: not specified
	Temp: ±1 ^o C (authors)
	REFERENCES :

COMPONENTS: (1) Benzenesulfonamide, 4-amino-N-(5-methyl-	ORIGINAL MEASUREMENTS: Rudy, B.C.; Senkowski, B.Z.
3-isoxazolyl)- (sulfamethoxazole);	Anal. Profiles Drug Subst. 1973, 2,
$C_{10}H_{11}N_{3}O_{3}S;$ [723-46-6]	467-86.
(2) Methane, trichloro-; CHCl ₃	
[67-66-3]	
VARIABLES:	PREPARED BY:
One temperature: 25 [°] C	R. Piekos
EXPERIMENTAL VALUES:	
	_
Solubility of sulfamethoxazole in tr	
2.3 mg/ml (9.1 x 10^{-3} mol dm ⁻³ , co	mpiler). ^a
amine the supervision of all supervisions of	-formation was adress by
^a The temperature and all auxiliary i	
Edward A. MacMullan from Roche Prod	ucts inc., Manati, P.K.,
in a personal communication.	
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS;
An excess of solute was equilibrated with	The sulfamethoxazole was of reference
trichloromethane overnight at const temp	standard quality equivalent to USP.
$(25^{\circ}C)$ while being agitated with a 60 cycle	The solvent was purchased Reagent Grade
vibrator (VIBROMIXER). A portion of the	and used without further purification.
clear supernatant soln was then taken,	
weighed and the solvent removed in a	
vacuum oven. The wt of solute was detd	
after the residue had been dried to const	
wt. All weighing was done on a Mettler	ESTIMATED ERROR:
microbalance using microanal techniques.	Soly: precision ±1% (MacMullan)
microbalance using microanal techniques.	
	Temp: not specified
	REFERENCES :
}	

(1) Benzenesu			ORIGINAL MEASUREMENTS:
	lfonamide, 4-amino	-N-(5-methy1-	Takayama, K.; Nambu, N.; Nagai, T.
3-isoxazo	soxazolyl) 1,4,7,10,13,16-hexaoxa-		Chem. Pharm. Bull. <u>1978,</u> 26(10), 2965-70.
cyclooctadecane complex (1:1);		1);	
C ₁₀ H ₁₁ N ₃ O	3 ^{S·C} 12 ^H 24 ⁰ 6; [651	77-07-3]	
(2) Hydrochlo	ric acid; HCl; [7	647-01-0]	
(3) Water; H ₂ O; [7732-18-5] VARIABLES: Temperature			PREPARED BY: R. Piekos
EXPERIMENTAL V	ALUES:	<u> </u>	
	Si	aturated conc	entration
	t/ ^o C of	f the complex	in 0.2N HCl
		10 ²	M
	30	2.2	3
	35	2.4	
	40	2.6	
	-		
	. <u></u>		
		AUXILIARY	INFORMATION
			SOURCE AND PURITY OF MATERIALS:
An excess of	the complex was dis	ssolved	SOURCE AND PURITY OF MATERIALS: The complex was prepd by sealing 5 g of th
An excess of in 50 ml of 0	the complex was dia .2N HC1. Sampling	ssolved was done	SOURCE AND PURITY OF MATERIALS: The complex was prepd by sealing 5 g of th sulfonamide (Shionogi Pharmaceutical Co.)
An excess of in 50 ml of 0 by a 1-ml pip	the complex was dia .2N HCl. Sampling et fitted with a G-	ssolved was done -4 glass	SOURCE AND PURITY OF MATERIALS: The complex was prepd by sealing 5 g of th sulfonamide (Shionogi Pharmaceutical Co.) with 5.2 g of the reagent grade crown ether
An excess of in 50 ml of 0 by a 1-ml pip filter. The	the complex was dis .2N HCl. Sampling et fitted with a G- concn of the sulfor	ssolved was done -4 glass namide	SOURCE AND PURITY OF MATERIALS: The complex was prepd by sealing 5 g of th sulfonamide (Shionogi Pharmaceutical Co.) with 5.2 g of the reagent grade crown ether in a flask and stirring well for 10 days a
An excess of in 50 ml of 0 by a 1-ml pip filter. The in the comple	the complex was dia .2N HCl. Sampling et fitted with a G- concn of the sulfor x was detd by uv sp	ssolved was done -4 glass namide	SOURCE AND PURITY OF MATERIALS: The complex was prepd by sealing 5 g of th sulfonamide (Shionogi Pharmaceutical Co.) with 5.2 g of the reagent grade crown ethe in a flask and stirring well for 10 days a 10°C. The complex was filtered off, washe
in 50 ml of 0 by a 1-ml pip filter. The in the comple	the complex was dis .2N HCl. Sampling et fitted with a G- concn of the sulfor	ssolved was done -4 glass namide	SOURCE AND PURITY OF MATERIALS: The complex was prepd by sealing 5 g of th sulfonamide (Shionogi Pharmaceutical Co.) with 5.2 g of the reagent grade crown ethe in a flask and stirring well for 10 days a 10°C. The complex was filtered off, washe with benzene and dried under vacuum for
An excess of in 50 ml of 0 by a 1-ml pip filter. The in the comple	the complex was dia .2N HCl. Sampling et fitted with a G- concn of the sulfor x was detd by uv sp	ssolved was done -4 glass namide	SOURCE AND PURITY OF MATERIALS: The complex was prepd by sealing 5 g of th sulfonamide (Shionogi Pharmaceutical Co.) with 5.2 g of the reagent grade crown ether in a flask and stirring well for 10 days a 10°C. The complex was filtered off, washed with benzene and dried under vacuum for 24 h. Purity of the HCl soln was not
An excess of in 50 ml of 0 by a 1-ml pip filter. The in the comple	the complex was dia .2N HCl. Sampling et fitted with a G- concn of the sulfor x was detd by uv sp	ssolved was done -4 glass namide	SOURCE AND PURITY OF MATERIALS: The complex was prepd by sealing 5 g of th sulfonamide (Shionogi Pharmaceutical Co.) with 5.2 g of the reagent grade crown ether in a flask and stirring well for 10 days at 10°C. The complex was filtered off, washed with benzene and dried under vacuum for
An excess of in 50 ml of 0 by a 1-ml pip filter. The in the comple	the complex was dia .2N HCl. Sampling et fitted with a G- concn of the sulfor x was detd by uv sp	ssolved was done -4 glass namide	SOURCE AND PURITY OF MATERIALS: The complex was prepd by sealing 5 g of the sulfonamide (Shionogi Pharmaceutical Co.) with 5.2 g of the reagent grade crown ether in a flask and stirring well for 10 days at 10°C. The complex was filtered off, washed with benzene and dried under vacuum for 24 h. Purity of the HCl soln was not specified.
An excess of in 50 ml of 0 by a 1-ml pip filter. The in the comple	the complex was dia .2N HCl. Sampling et fitted with a G- concn of the sulfor x was detd by uv sp	ssolved was done -4 glass namide	SOURCE AND PURITY OF MATERIALS: The complex was prepd by sealing 5 g of the sulfonamide (Shionogi Pharmaceutical Co.) with 5.2 g of the reagent grade crown ether in a flask and stirring well for 10 days at 10°C. The complex was filtered off, washed with benzene and dried under vacuum for 24 h. Purity of the HCl soln was not specified. ESTIMATED ERROR:
An excess of in 50 ml of 0 by a 1-ml pip filter. The in the comple	the complex was dia .2N HCl. Sampling et fitted with a G- concn of the sulfor x was detd by uv sp	ssolved was done -4 glass namide	SOURCE AND PURITY OF MATERIALS: The complex was prepd by sealing 5 g of the sulfonamide (Shionogi Pharmaceutical Co.) with 5.2 g of the reagent grade crown ether in a flask and stirring well for 10 days at 10°C. The complex was filtered off, washed with benzene and dried under vacuum for 24 h. Purity of the HCl soln was not specified. ESTIMATED ERROR: Nothing specified
An excess of in 50 ml of 0 by a 1-ml pip filter. The in the comple	the complex was dia .2N HCl. Sampling et fitted with a G- concn of the sulfor x was detd by uv sp	ssolved was done -4 glass namide	SOURCE AND PURITY OF MATERIALS: The complex was prepd by sealing 5 g of the sulfonamide (Shionogi Pharmaceutical Co.) with 5.2 g of the reagent grade crown ether in a flask and stirring well for 10 days at 10°C. The complex was filtered off, washed with benzene and dried under vacuum for 24 h. Purity of the HCl soln was not specified. ESTIMATED ERROR: Nothing specified
An excess of in 50 ml of 0 by a 1-ml pip filter. The in the comple	the complex was dia .2N HCl. Sampling et fitted with a G- concn of the sulfor x was detd by uv sp	ssolved was done -4 glass namide	SOURCE AND PURITY OF MATERIALS: The complex was prepd by sealing 5 g of th sulfonamide (Shionogi Pharmaceutical Co.) with 5.2 g of the reagent grade crown ethe in a flask and stirring well for 10 days a 10°C. The complex was filtered off, washe with benzene and dried under vacuum for 24 h. Purity of the HCl soln was not specified. ESTIMATED ERROR: Nothing specified

COMPONENTS -	OPICINAL MEACURPLEMENT
COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-methyl-	Kitao, K.; Kubo, K.; Morishita, T.;
N-(5-methyl-3-isoxazolyl)-;	Yata, N.; Kamada, A.
C ₁₁ H ₁₃ N ₃ O ₃ S; [51543-31-8]	Chem. Pharm. Bull. <u>1973</u> , 21, 2417–26.
(2) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: 37 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of 4-amino-N-methyl-N-(5	· ·
benzenesulfonamide in water at 37 [°] C	is 0.628 mmol dm^{-3} solution.
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
The sulfonamide was detd in the aq soln	The sulfonamide was synthesized by the
(pH 6) by diazotization . No details	authors. Its purity was not specified.
were given.	Deionized water was used.
	ESTIMATED ERROR:
1	Soly: not specified.
	Temp: $\pm 1^{\circ}C$ (authors).
	REFERENCES :

60	
COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-methyl	- Kitao, K.; Kubo, K.; Morishita, T.;
N-(5-methyl-3-isoxazolyl)-;	Yata, N.; Kamada, A.
C ₁₁ H ₁₃ N ₃ O ₃ S; [51543-31-8]	Chem. Pharm. Bull. <u>1973</u> , 21, 2417-26.
(2) Methane, trichloro-; CHCl ₃ ;	
[67-66-3]	
VARIABLES :	PREPARED BY:
One temperature: 37°C	R. Piekos
EXPERIMENTAL VALUES:	
	'l-N-(5-methyl-3-isoxazolyl)- at 37 ⁰ C is 1000 mmol dm ⁻³ solution.
AUXIL	IARY INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
One ml of the CHCl ₃ soln of the sulfonam	
at equilibrium was taken into a test tub	
After evapn of the solvent, the residue	Neither source nor purity of the CHCl ₃
was dissolved in EtOH, the soln was prop	5
dild with deionized water, and the concm	
of the sulfonamide was detd by diazotiza	tion.
	ESTIMATED ERROR:
	Soly: not specified
	Temp: ±1 ⁰ C (authors)
	REFERENCES:

COMPONENTS:	ORIGINAL MEASUREMENTS:
 Acetamide, N-[(4-aminophenyl)sulfonyl]- 	Hirano, H.; Ichihashi, T.; Yamada, H.
N-(5-methyl-3-isoxazolyl)-(N ¹ -acetyl-	Chem. Pharm. Bull. 1981, 29(3),817-27.
sulfamethoxazole); C ₁₂ H ₁₃ N ₃ 0 ₄ S; [18607-98-2]	
(2) Sodium chloride; NaCl; [7647-14-5]	
(3) Water; H_20 ; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: 37 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of N ¹ -acetylsulfametho	oxazole in a 0.9%
NaCl solution at 37°C is 0.076 mg/	$m1 (2.6 \times 10^{-4})$
mol dm ⁻³ , compiler).	
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
An excess of powdered N ¹ -acetylsulfameth-	N^1 -Acetylsulfamethoxazole was synthesized
oxazole was shaken well at 37° C with a 0.9%	by the authors and was of medical grade.
NaCl soln until attaining satn. The un-	The remaining materials were of anal or
dissolved crystals were removed by	reagent grade.
filtration through a G5 glass filter or	
by centrifugation, and the concn of the	
solute was assayed spectrophotometrically	
at 289 nm, after diln with EtOH - H_2O	
(1:1, v/v) using a Perkin Elmer UV-VIS	ESTIMATED ERROR:
spectrophotometer (Hitachi Co., Ltd.,	Nothing specified
Tokyo).	
	REFERENCES :

^	2
b	2

02		
COMPONENTS :		ORIGINAL MEASUREMENTS:
(1) Acetamide, N-[(4-aminophenyl)sulfonyl]-		Hekster, Ch. A.; Vree, T. B.
\underline{N} -(5-methyl-3-isoxazolyl)-(\underline{N}^{\perp} -acetyl-		Antibiotics Chemother. 1982, 31, 22-118.
sulfamethoxazole); C ₁₂ H ₁₃ N ₃ O ₄ S; [18607-98-2]		Antibiotics Chemother. <u>1902</u> , 51, 22-116.
(2) Phosphoric acid, disodium sa	alt;	
Na ₂ HPO ₄ ; [7558-94-4] (3) Phosphoric acid, monopotassi	um colt.	
KH ₂ PO ₄ ; [7778-77-0]	um sart,	
(4) Water; H ₂ 0; [7732-18-5]		PREPARED BY:
VARIABLES:		R. Piekos
pH		
EXPERIMENTAL VALUES:		
EALERINE VALUES.		
	Sol	ubility at 25°C
pH		
	mg/l	$10^4 \text{ mol } dm^{-3} a$
	0,	
5.5	66	2.2
7.5 ^b	66	2.2
DErroneous article	pH value of	7.0 is given in the
	AUXILIARY	INFORMATION
METHOD / APPARATUS / PROCEDURE :		SOURCE AND PURITY OF MATERIALS:
The earlier developed method (1)	was need	Neither source nor the purity of the
-		
(personal communication). Satd		materials was specified.
N ¹ -acetylsulfamethoxazole were		
phosphate buffers of pH 5.5 and		
25°C. The concn of the solute v	vas measured	
by means of a Spectra Physics 3	500B high-	
performance liquid chromatograph	n equipped	
with a Model 748 column oven and	l a Pye-	
Unicam LC-UV spectrophotometric	detector.	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. <u>1981</u> , 8, 133.

COMPONENTS:			ORIGINAL MEASUREMENTS:
 Acetamide, N-[4[[(5-methyl-3-isoxazolyl) -amino]sulfonyl]phenyl]- (N⁴-acetyl- sulfamethoxazole); C₁₂H₁₃N₃0₄S; [21312-10-7] Phosphoric acid, disodium salt; Na₂HPO₄; [7558-94-4] Phosphoric acid, monopotassium salt; 		acetyl- 4S;	Hekster, Y.A.; Vree, T.B.; Damsma, J.E.; Friesen, W. T. <i>J. Antimicrob. Chemother</i> , <u>1981</u> , 8,
		-	133-44.
(3) Phosphoric acid, mor KH2PO4; [7778-77-0]		m sait;	
(4) Water; H ₂ 0; [7732-18-5]			PREPARED BY: R. Piekos
VARIABLES: pH			
EXPERIMENTAL VALUES:			
		Solu	bility at 25 ⁰ C
	рН	mg/l	$10^3 \text{ mol } \text{dm}^{-3} \text{ a}$
	5.5	115	0.389
	7.5	1000	3.386
	^a Calcul	ated by com	piler
		AUXILIARY	INFORMATION
METHOD / APPARATUS / PROCEDUR			SOURCE AND PURITY OF MATERIALS:
Satd solns of \underline{N}^4 -acetylsulfamethoxazole were			
	prepd in phosphate buffers of pH 5.5 and		The source and purity of the materials
prepd in phosphate buffer	•	5.5 and	The source and purity of the materials was not specified.
prepd in phosphate buffer 7.5 at room temp (25 ⁰ C).	The cond	5.5 and on of the	
prepd in phosphate buffer 7.5 at room temp (25 ^o C). solute was measured by me	The conc eans of a	5.5 and on of the Spectra	
prepd in phosphate buffer 7.5 at room temp (25°C). solute was measured by me Physics 3500B high-perfor	The conc eans of a rmance lic	5.5 and on of the Spectra quid chro-	
prepd in phosphate buffer 7.5 at room temp (25°C). solute was measured by me Physics 3500B high-perfor matograph equipped with a	The condeans of a rmance lid	5.5 and en of the Spectra quid chro-	
prepd in phosphate buffer 7.5 at room temp (25°C). solute was measured by me Physics 3500B high-perfor matograph equipped with a (Model 748) and a Pye-Un:	The condeans of a rmance lide column de column	5.5 and en of the Spectra quid chro- oven 7 spectro-	
prepd in phosphate buffer 7.5 at room temp (25°C). solute was measured by me Physics 3500B high-perfor matograph equipped with a	The condeans of a rmance lide column of a column of the detector of the detect	5.5 and en of the Spectra quid chro- oven 7 spectro- or was	was not specified.
prepd in phosphate buffer 7.5 at room temp (25°C). solute was measured by me Physics 3500B high-perfor matograph equipped with a (Model 748) and a Pye-Uni photometric detector. Th	The condeans of a rmance lide a column of	5.5 and en of the Spectra quid chro- oven 7 spectro- or was stainless	was not specified. ESTIMATED ERROR:
prepd in phosphate buffer 7.5 at room temp (25°C). solute was measured by me Physics 3500B high-perfor matograph equipped with a (Model 748) and a Pye-Un photometric detector. Th connected to a 1-mV record	The condens of a rmance lide a column of a	5.5 and on of the Spectra quid chro- oven 7 spectro- or was stainless 9 was packed	was not specified. ESTIMATED ERROR:
prepd in phosphate buffer 7.5 at room temp (25°C). solute was measured by me Physics 3500B high-perfor matograph equipped with a (Model 748) and a Pye-Uns photometric detector. Th connected to a 1-mV recons steel column (10 cm x 4.6	The condeans of a rmance lide of a column of a column, a	5.5 and en of the Spectra quid chro- oven 7 spectro- or was stainless 9 was packed ed from	was not specified. ESTIMATED ERROR: The detection limit of solute by HPLC was 0.5 mg/l (authors). The error in temper- ature and pH was not specified.
prepd in phosphate buffer 7.5 at room temp (25°C). solute was measured by me Physics 3500B high-perfor matograph equipped with a (Model 748) and a Pye-Uni photometric detector. Th connected to a 1-mV recon steel column (10 cm x 4.6 with Lichrosorb RPS, 5 µ	The condeans of a rmance lid a column of a column, obtain of a column, obtain of a column of a column of a column of a column.	5.5 and en of the Spectra quid chro- oven 7 spectro- or was stainless 9 was packed ed from 100 µl was	was not specified. ESTIMATED ERROR: The detection limit of solute by HPLC was 0.5 mg/l (authors). The error in temper-
prepd in phosphate buffer 7.5 at room temp (25°C). solute was measured by me Physics 3500B high-perfor matograph equipped with a (Model 748) and a Pye-Uni photometric detector. Th connected to a 1-mV recons steel column (10 cm x 4.6 with Lichrosorb RPS, 5 µm Chrompack. An injection	The condens of a rmance life a column of a column, obtained loop of a column of a column of a column.	5.5 and en of the Spectra quid chro- oven 7 spectro- or was stainless 9 was packed ed from 100 µ1 was section of	was not specified. ESTIMATED ERROR: The detection limit of solute by HPLC was 0.5 mg/l (authors). The error in temper- ature and pH was not specified.
prepd in phosphate buffer 7.5 at room temp (25°C). solute was measured by me Physics 3500B high-perfor matograph equipped with a (Model 748) and a Pye-Un photometric detector. Th connected to a 1-mV recon steel column (10 cm x 4.6 with Lichrosorb RPS, 5 µr Chrompack. An injection used. The oven temp was	The condens of a rmance life a column of a column, obtained loop of a column of a column of a column.	5.5 and en of the Spectra quid chro- oven 7 spectro- or was stainless 9 was packed ed from 100 µ1 was section of	was not specified. ESTIMATED ERROR: The detection limit of solute by HPLC was 0.5 mg/l (authors). The error in temper- ature and pH was not specified.
prepd in phosphate buffer 7.5 at room temp (25°C). solute was measured by me Physics 3500B high-perfor matograph equipped with a (Model 748) and a Pye-Un photometric detector. Th connected to a 1-mV recon steel column (10 cm x 4.6 with Lichrosorb RPS, 5 µr Chrompack. An injection used. The oven temp was	The condens of a rmance life a column of a column, obtained loop of a column of a column of a column.	5.5 and en of the Spectra quid chro- oven 7 spectro- or was stainless 9 was packed ed from 100 µ1 was section of	was not specified. ESTIMATED ERROR: The detection limit of solute by HPLC was 0.5 mg/l (authors). The error in temper- ature and pH was not specified.

COMPONENTS:	EVALUATOR:
<pre>(1) Benzenesulfonamide, 4-amino-N-(3-4- dimethyl-5-isoxazolyl)~ (sulfisoxazole) C₁₁H₁₃N₃O₃S; [127-69-5]</pre>	Anthony N. Paruta Department of Pharmaceutics University of Rhode Island Kingston, Rhode Island, USA
(2) Water	and Ryszard Piekos
(3) Ethanol	Faculty of Pharmacy, University of Gdansk Gdansk, Poland 1986

CRITICAL EVALUATION:

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 $1.09 \times 10^{-3} \text{ mol } \text{dm}^{-3}$ in water at 298K.

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.

REFERENCES:

- Kaneniwa, N.; Watari, N. Chem. Pharm. Bull. <u>1978</u>, 26(3), 813-26.
 Watari, N.; Kaneniwa, N.; Hanano, M. Int. J. Pharm. <u>1980</u>, 6(2), 155-66.
 Mauger, J.W.; Petersen, H., Jr.; Alexander, K.S.; Paruta, A.N. Drug Dev. Ind. Pharm. <u>1977</u>, 3(2), 163-83.
 Selikawa, H.; Nakano, M.; Arita, T. Chem. Pharm. Bull. <u>1978</u>, 26(1), 118-2

- 118-26.

COMPONENTS :	ORIGINAL MEASUREMENTS:
 Benzenesulfonamide, 4-amino-N-(3,4- 	Yamazaki, M; Aoki, M.; Kamada, A.;
dimethyl-5-isoxazolyl)- (sulfisoxazole);	Yata, N.; Yakuzaigaku <u>1967</u> , 27(1),
C ₁₁ H ₁₃ N ₃ O ₃ S; [127-69-5]	37-40.
(2) Water; H ₂ 0; [7732-18-5]	
-	
VARIABLES:	PREPARED BY:
One temperature: 30°C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfisoxazole in wa	ter at 30°C is 0.83 mmol/L
$(0.22 \text{ g dm}^{-3}, \text{ compiler}).$	
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Culture and (0.5 c) and alread in an	Nothing specified
Sulfisoxazole (0.5 g) was placed in an	Nothing specified
L-shaped tube together with 20 ml of water.	
The mixt was shaken in a thermostat until	
equilibrium was attained. The sulfisox-	
azole was assayed in the supernatant	
spectrophotometrically at 545 nm on a	
Beckman DU spectrophotometer. The results	
were taken from a calibration graph.	POTIVATED EDDAR
	ESTIMATED ERROR:
	Soly: not specified
1	Temp: ±1 ⁰ C (authors)
	REFERENCES:
1	1

b	
COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(3,4-	Kaneniwa, N.; Watari, N.
dimethy1-5-isoxazoly1)- (sulf-	Chem. Pharm. Bull. <u>1978</u> , 26(3), 813-26.
isoxazole); C ₁₁ H ₁₃ N ₃ O ₃ S; [127-69-5]	
(2) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: 37 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
	1
Solubility of sulfisoxazole in wa solution (1.09 \times 10 ⁻³ mol dm ⁻³ ,	
solution (1.09 \times 10 mol dm ,	compiler).
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
An excess of sulfisoxazole was placed in a	Commercial sulfisoxazole of the Japanese
flask contg 25 ml of water. The flask was	Pharmacopeia grade and distd water were
shaken (2 strokes/s at the amplitude of	used.
3 cm) in a thermostatically controlled	usea.
water bath at 37° C. One-m1 sample was	
-	
withdrawn every 6 h (total equilibration	
period was 3-5 days) using a warmed Milli-	
pore filter syringe with a filter pore size	
of 0.45 μ (Millipore HAWP 01300) and the	ESTIMATED ERROR:
filtrate was dild with water and assayed	Soly: not specified.
spectrophotometrically (1).	Temp: ±0.05 [°] C (authors).
	REFERENCES :
	1. Kaneniwa, N.; Watari, N.
	Chem. Pharm. Bull. <u>1974</u> , 22, 1699.
	······

COMPONENTS :	ORIGINAL MEASUREMENTS:
 Benzenesulfonamide, 4-amino-N-(3,4- 	Watari, N; Kaneniwa, N.; Hanano, M.
dimethyl-5-isoxazolyl)- (sulf-	Int. J. Pharm. <u>1980</u> , 6(2), 155-66.
isoxazole);	
(2) Water; H ₂ O; [7732-18-5]	
L	
VARIABLES:	PREPARED BY:
One temperature: 37 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfisoxazole in w	rater at 37° C is 29.2 mg/100 ml
$(1.09 \times 10^{-3} \text{ mol dm}^{-3}, \text{ compile}^{-3})$	
j.	
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
The earlier developed method was employed	Sulfisoxazole was of the Japanese
 (1), whereby an excess of sulfisoxazole, 	Pharmacopeia grade.
required to saturate medium, was placed in	Distilled water was used.
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	ESTIMATED ERROR:
filter pore size of 0.45 µ (Millipore HAWP	Soly: not specified
01300) and the filtrate was dild with water	Temp: ±0.05 ^o C (authors)
and assayed spectrophotometrically.	REFERENCES :
	1. Kaneniwa, N.; Watari, N.
	Chem. Pharm. Bull. <u>1974</u> , 22, 1699.
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COMPONENTS: (1) Benzenesulfonamide, 4-amino-N-(3,4- dimethyl-5-isoxazolyl)- (sulfisoxazole); C ₁₁ H ₁₃ N ₃ O ₃ S; [127-69-5]	ORIGINAL MEASUREMENTS: Ogata, H.; Shibazaki, T.; Inoue, T.; Ejima, A. Chem. Pharm. Bull. <u>1979</u> , 27(6), 1281-6.
(2) Hydrochloric acid; HC1; [7647-01-0] (3) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: 37 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfisoxazole in 0. (5.387 x 10 ⁻³ mol dm ⁻³ , compile:	-
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 µm), 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:	ORIGINAL MEASUREMENTS:
 Benzenesulfonamide, 4-amino-N-(3,4- 	Takubo, T.; Matsumaru, H.; Tsuchiya, S.;
<pre>dimethyl=5-isoxazolyl)-(sulfisoxazole);</pre>	Hiura, M. Chem. Pharm. Bull. 1973,
C ₁₁ H ₁₃ N ₃ O ₃ S; [127-69-5]	21(7), 1440-5.
(2) Carbonic acid, monosodium salt;	
NaHCO ₃ ; [144-55-8]	
(3) Water; H ₂ O; [7732-18-5]	PREPARED BY:
VARIABLES:	R. Piekos
One temperature: 37 ⁰ C; one pH: 8.4 EXPERIMENTAL VALUES:	
ml water) of pH 8.4 at 37 ^o C is 31 mol dm ⁻³ solution, compiler).	data was given by one of the authors
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Aliquots of the NaHCO3 soln were placed in	The sulfisoxazole was of the pharmaceutical
glass-stoppered flasks with excess of sulf-	grade. The source and purity of NaHCO ₃
isoxazole. The flasks were allowed to stand	
at 37±1 ⁰ C and shaken vigorously for 4 h	Distd was used.
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).	
	ESTIMATED ERROR:
	Soly and pH: not specified.
	Temp: $\pm 1^{\circ}C$ (authors).
	REFERENCES :
	1. Takubo, T.; Tsuchiya, S.; Hiura, M.
	Yakuzaigaku <u>1971</u> , <i>31</i> , 298.

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70	
<pre>COMPONENTS: (1) Benzenesulfonamide, 4-amino-N-(3,4- dimethyl-5-isoxazolyl)-(sulfisoxazole); C₁₁H₁₃N₃O₃S; [127-69-5] (2) Carbonic acid; disodium salt; Na₂CO₃; [497-19-8] (3) Water; H₂O; [7732-18-5]</pre>	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 ⁰ C; one pH: 11.3	PREPARED BY: R. Piekos
ml water) of pH 11.3 at 37 ⁰ C is 54 mol dm ⁻³ solution, compiler).	a_2CO_3 solution (2.120 g Na ₂ CO ₃ /100 4.12 mg/ml solution ^a (2.025 x 10^{-1} data was given by one of the authors n.
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE: Aliquots of the Na ₂ CO ₃ solution were placed in glass-stoppered flasks with excess of sulfisoxazole. The flasks were allowed to stand at $37\pm1^{\circ}$ 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 Na2C03 was not specified. Distd water was used. ESTIMATED ERROR: Soly and pH: not specified. Temp: ±1°C. REFERENCES: 1. Takubo, T.; Tsuchiya, S.; Hiura, M. Yakuzaigaku 1971, 31, 298.

COMP	ONENTS:	ORIGINAL MEASUREMENTS:
(1)	Benzenesulfonamide, 4-amino-N-(3,4- dimethyl-5-isoxazolyl)-(sulfisoxazole); C ₁₁ H ₁₃ N ₃ O ₃ S; [127-69-5] Carbonic acid; disodium salt; Na ₂ CO ₃ ; [497-19-8]	Takubo, T.; Matsumaru; H. ; Tsuchiya, S.; Hiura, M. <i>Chem. Pharm. Bull.</i> <u>1973</u> , 21(7), 1440-5.
(3)	Carbonic acid; monosodium salt; NaHCO ₃ ; [144-55-8]	
(4)	Water; H ₂ 0; [7732-18-5]	PREPARED BY:
VAR	PIABLES: pH	R. Piekos

EXPERIMENTAL VALUES:

Na2C03	NaHCO3		Solubility at 37 ⁰ C	
g/100 ml water	g/100 ml water	рH	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

^aNumerical values to the graphical data were given by one of the authors (S.T.) in personal communication.

^bCalculated by compiler.

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Aliquots of carbonate buffer solns were	The sulfisoxazole was of pharmaceutical
placed in glass-stoppered flasks with	grade. The source and purity of Na ₂ CO ₃
excess of sulfisoxazole. The flasks were	and NaHCO3 were not specified.
allowed to stand at 37±1°C and shaken	Distd water was used.
vigorously for 4 h until equilibrium was	
established. One ml of the supernatant	Į
was removed by means of a filter pipet	
and sulfisoxazole was assayed by the pre-	1
viously reported method (1).	ESTIMATED ERROR:
	Soly and pH: not specified.
	Temp: ±1 ^o C (authors).
	REFERENCES :
	1. Takubo, T.; Tsuchiya, S.; Hiura, M.
	Yakuzaigaku, <u>1971</u> , 31, 298.
	14746419474, <u>1771</u> , 51, 290.
	1

COMPONENTS:	ORIGINAL MEASUREMENTS:
 Benzenesulfonamide, 4-amino-N-(3,4- dimethyl-5-isoxazolyl)- (sulfisoxazole) 	Bandelin, F.J.; Malesh, W. J. Am.Pharm. Assoc., Sci. Ed. 1959,
$C_{11}H_{13}N_{3}O_{3}S;$ [127-69-5]	
(2) Phosphoric acid, disodium salt; Na ₂ HPO ₄ ; [7558-94-4]	48, 177-81.
(3) Phosphoric acid, monopotassium salt;	
КН ₂ РО ₄ ; [7778-77-0]	
(4) Water; H ₂ 0; [7732-18-5]	PREPARED BY:
VARIABLE:	R. Piekos
pH	
EXPERIMENTAL VALUES:	
Solubility of sulfisoxazole in buffers of	
(71.6 g/1; distilled water; 0.27 mol da	
distilled water; 0.27 mol dm^{-3} , compile	er) at 37°C
Solub	lity
Initial pH	
mg/100 m1	$0^2 \text{ mol } dm^{-3} a$
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
^a calculated by compiler	
AUXILIARY	INFORMATION
METHOD / APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
Solns were prepd by adding an excess of	Neither source nor purity of the reagents
sulfisoxazole to 10 ml of buffer soln at	were specified.
each pH level in 18 x 150-mm test tubes,	Distilled water was used.
stoppering the tubes and placing them in a	
water bath at 37° 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 ascert-	ESTIMATED ERROR:
ain any change in pH value. The sulfonamide	
was assayed colorimetrically by the method	ported (authors).
of Bratton and Marshall as described in	Temp and pH: not specified.
detail by Biamonte and Schneller (1). A	REFERENCES :
standard curve was prepd using accurately	1. Biamonte, A.R.; Schneller, G.E.
prepd standard solutions.	J. Am. Pharm. Assoc., Sci. Ed., 1952,
	<i>41</i> , 341.
	-

COMPONENTS :	ORIGINAL MEASUREMENTS:
 Benzenesulfonamide, 4-amino-N-(3,4- dimethyl-5-isoxazolyl)- (sulfisoxazole); 	Riess, W.
$C_{11}H_{12}N_{2}O_{2}S: [127-69-5]$	Intern. Congr. Chemotherapy, Proc.
C ₁₁ H ₁₃ N ₃ O ₃ S; [127-69-5] (2) Phosphoric acid, disodium salt;	
Na ₂ HPO ₄ ; [7558-94-4]	3rd, Stuttgart <u>1963</u> , 1, 627-32.
(3) Phosphoric acid, monopotassium salt;	
кн ₂ ро ₄ [7778-77-0]	
(4) Water; H ₂ 0; [7732-18-5]	PREPARED BY:
VARIABLE:	FREFARED BI:
One temperature: 20 ⁰ C; one pH: 7.4	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfisoxazole in a M/15 S	Hrensen huffer solution $(nH, 7, 4)$
1	-
at 20° C is 4000 mg% (0.1496 mol dm ⁻³	solution, compiler).
AUXILIARY	INFORMATION
	· · · · · · · · · · · · · · · · · · ·
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Sörensen buffer solns of pH varying between	Nothing specified.
7 and 8 were prepd, satd with sulfisoxazole	
at 20°C, their pH was measured at equilibrium	
and the sulfisoxazole was assayed colorimet-	
rically. The measured pH values were then	
plotted against concn., and the soly at pH	
7.4 was detd by interpolation (personal	
communication).	
	ESTIMATED ERROR:
1	Nothing specified.
	REFERENCES :
1	
ļ	
1	
1	

COMPONENTS:	ORIGINAL MEASUREMENTS:
 Benzenesulfonamide, 4-amino-N-(3,4- 	Yamazaki, M.; Aoki, M.; Kamada, A.;
<pre>dimethyl-5-isoxazolyl)- (sulfisoxazole);</pre>	Yata, N. Yakuzaigaku, 1967, 27(1), 37-40.
C ₁₁ H ₁₃ N ₃ O ₃ S; [127-69-5] (2) Phosphoric acid, disodium salt;	
Na ₂ HPO ₄ ; [7558-94-4]	
(3) Phosphoric acid, monopotassium salt;	
KH ₂ PO ₄ ; [7778-77-0] (4) Water; H ₂ O; [7732-18-5]	PREPARED BY:
VARIABLES:	R. Piekos
One temperature: 30 ^o C; one pH: 7.4	
EXPERIMENTAL VALUES:	
Solubility of sulfisoxazole in a pho	
$(\mu = 0.17)$ at 30°C is 32.1 mmo1/L	(8.580 g dm ⁻³ , compiler).
^a At the end of experiment the pH was	6 E
At the end of experiment the pH was	
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Sulfisoxazole (0.5 g) was placed in an L-	Nothing specified
shaped tube together with 20 ml of the	
buffer soln. The mixt was shaken in a ther-	
mostat until equilibrium was attained. The	
sulfisoxazole was assayed in the supernatant	
spectrophotometrically at 545 nm on a Beck-	
mann DU spectrophotometer. The results were	
taken from a calibration graph.	
	ESTIMATED ERROR: Soly and pH: not specified
	Temp: $\pm 1^{\circ}C$ (authors)
	REFERENCES :

				75
COMPONENTS :			ORIGINAL MEASUREMENTS	
 Benzenesulfonamid dimethyl-5-isoxaz C₁₁H₁₃N₃O₃S; [12 Phosphoric acid, 	olyl)- (sulfa 7-69-5]	afurazole) [*] ;	Hekster, Ch. A.; Vr Antibiotics Chemoth	ree, T.B. <i>1982, 31,</i> 22-118.
Na ₂ HPO ₄ ; [7558-9 (3) Phosphoric acid,	4-4] monopotassiu			
KH ₂ PO ₄ ; [7778-77			DEDARED BY	
(4) Water; H ₂ O; [77 VARIABLES:	32-18-5]		PREPARED BY: R. Pie	akas
pH			K. 11	
EXPERIMENTAL VALUES:				
	рН	Solu	bility at 25 ⁰ C	
		mg/1	10^3 mol dm ⁻³	-
	5.5	1,533	5.735	
	7.5 ^b	4,724	17.670	
				-
	^a Calculat	ed by compi	ler	
		•	of 7.0 is given in	
	the arti		ial name is sulfisoxa	_
		AUXILIARY	INFORMATION	·····
METHOD/APPARATUS/PROCE	DURE:		SOURCE AND PURITY OF	MATERIALS:
The earlier developed			Neither source nor	
(personal communicati			materials was spect	ified.
sulfafurazole [*] were pr ers of pH 5.5 and 7.5				
of the solute was mea		he concn		
Spectra Physics 3500B	-			
liquid chromatograph				
748 column oven and a				
spectrophotometric de	•		ESTIMATED ERROR:	
			Soly: the detection	n limit of the solute by
			HPLC was 0.5 mg/1 temp and pH were no	(authors). The errors in ot specified.
				Vree, T.B.; Damsma, J.E.;
			Friesen, W.T. J. Antimicrob. (Chemother. <u>1981</u> , 8, 133.

	ONENTS :	ORIGINAL MEASUREMENTS:
(1) (2) (3) (4)	Benzenesulfonamide, 4-amino-N-(3,4- dimethyl-5-isoxazolyl)- (sulfisoxazole); $C_{11}H_{13}N_3O_3S$; [127-69-5] Calcium chloride; CaCl ₂ ; [10043-52-4] Magnesium chloride; MgCl ₂ ; [7786-30-3] Phosphoric acid, monoammonium salt; NH ₄ H ₂ PO ₄ ; [7722-76-1]	Bandelin, F. J.; Malesh, W. J. Am. Pharm. Assoc., Sci. Ed. <u>1959</u> , 48, 177-81.
(5) (6) (7) (8)	Potassium chloride; KC1; [7447-40-7] Sodium chloride; NaC1; [7647-14-5] Urea; CH ₄ N ₂ 0; [57-13-6] Water; H ₂ 0; [7732-18-5]	PREPARED BY: R. Piekos
VARI	ABLES: pH at 37 ⁰	

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 $37^{\circ}C$.

	Solubility		
Equilibrium pH	mg/100 ml	$10^2 \text{ mol/dm}^3 \text{ a}$	
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	

^acalculated by compiler

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE: Excess sulfisoxazole was added to aliquots	SOURCE AND PURITY OF MATERIALS:
of synthetic urine solns and 1% H_3PO_4 or 1%	Nothing specified
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 des-	ESTIMATED ERROR:
cribed by Biamonte and Schneller (1).	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. <u>1952</u> ,
	41, 341.

COMPONENTS:	ORIGINAL MEASUREMENTS:		
 Benzenesulfonamide, 4-amino-N-(3,4- dimethyl~5-isoxazolyl)- (sulfisoxazole); 	Takubo, T.; Matsumaru, H.; Tsuchiya, S.;		
$C_{11}H_{13}N_{3}O_{3}S; [127-69-5]$	Hiura, M. Chem. Pharm. Bull.		
(2) 1,2,3-Propanetricarboxylic acid,	1973, 21(7), 1440-5.		
2-hydroxy- (citric acid); C ₆ H ₈ 0 ₇ ; [77-92-9]			
(3) Water; H ₂ 0; [7732-18-5]			
VARIABLES:	PREPARED BY:		
One temperature: 37 ⁰ C; one pH: 2.1	R. Piekos		
EXPERIMENTAL VALUES:			
EXTERINE VALUES.			
Solubility of sulfisoxazole in a ci	tria anid solution (2,100 c citria		
acid per 100 ml water) of pH 2.1 a			
$(1.16 \times 10^{-3} \text{ mol dm}^{-3} \text{ solution, co})$	-		
(1.16 x 10 ° mol dm ° solution, co	mpiler).		
^a Numerical value to the graphical	one was given by one of the authors		
(S.T) in personal communication.			
AUXILIARY	INFORMATION		
METHOD /APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:		
Aliquots of the citric acid soln were placed			
in glass-stoppered flasks with excess of	•		
sulfisoxazole. The flasks were allowed to	grade. Source and purity of the citric		
stand at $37\pm1^{\circ}$ C and shaken vigorously for	acid was not specified.		
	Distd water was used.		
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).	ESTIMATED ERROR:		
[Soly and pH: not specified		
	Temp: ±1 ⁰ C (authors)		
	REFERENCES:		
	1. Takubo, T.; Tsuchiya, S.; Hiura, M.		
	Yakuzaigaku <u>1971</u> , 31, 298.		

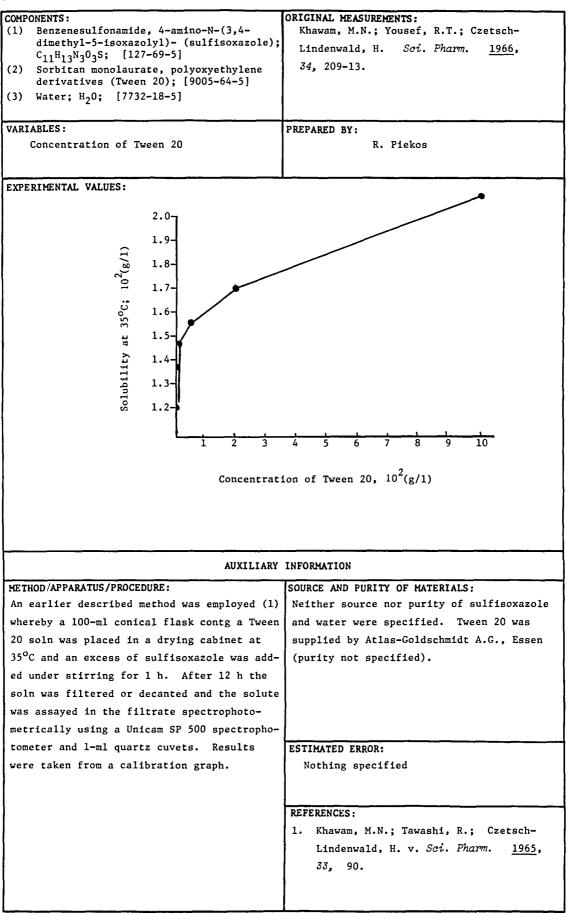
	ONENTS :			ORIGINAL MEASURE	MENTS .							
(1)		mide, 4-amino-N-(3	3,4-	ORIGINAL MEASUREMENTS: Takubo, T.; Matsumaru, H.; Tsuchiya, S.; Hiura, M. Chem. Pharm. Bull.								
		xazolyl)- (sulfiso	xazole);									
C ₁₁ H ₁₃ N ₃ O ₃ S; [127-69-5] (2) Phosphoric acid, disodium salt; Na ₂ HPO ₄ ; [7558-94-4] (3) 1,2,3-Propanetricarboxylic acid,				<u>1973</u> , <i>21(7)</i> , 1440-5.								
								2-hydroxy- (c1) [77-92-9]	tric acid); C ₆ H ₈ C			
							(4) Water; H ₂ O; [7732-18-5]				PREPARED BY:	
	ABLES:			R. Piekos								
	pH											
EXPE	RIMENTAL VALUES:	:										
	Citric acid	Na ₂ HPO ₄		Solubility at 37 ⁰ C								
_		<u> </u>	— рН		10^2 mol dm ⁻³ soln ^b							
g	/100 g water	g/100 g water		mg/ml soln ^a	10 ⁻ mol dm ⁻ soln ⁻							
	1.680	0.572	3.1	0.23	0.086							
	1.260	0.144	4.2	0.30	0.112							
	0.840	1.716	5.8	1.70	0.636							
	0.420	2,228	6.8	8.50	3.180							
	in personal co											
	^b Calculated by	compiler.										
	^b Calculated by	- 	UXILIARY	INFORMATION								
	^b Calculated by HOD/APPARATUS/PR	A OCEDURE :		SOURCE AND PURI	TY OF MATERIALS:							
A11	^b Calculated by HOD/APPARATUS/PR quots of the but	A OCEDURE: ffer solns were pl	aced in	SOURCE AND PURI The sulfisoxaz	ole was of the pharmaceutica							
Ali gla	^b Calculated by HOD/APPARATUS/PRo quots of the but ss-stoppered fla	A OCEDURE: ffer solns were pl asks with excess o	aced in of sulf-	SOURCE AND PURI The sulfisoxazo grade. The so	ole was of the pharmaceutica urce and purity of Na ₂ HPO ₄							
Ali gla íso	^b Calculated by HOD/APPARATUS/PR quots of the but ss-stoppered fla xazole. The fla	A OCEDURE: ffer solns were pl asks with excess o asks were allowed	aced in of sulf- to stand	SOURCE AND PURIT The sulfisoxaze grade. The sou and citric acid	ole was of the pharmaceutica urce and purity of Na ₂ HPO ₄ d were not specified.							
Ali gla iso at	^b Calculated by HOD/APPARATUS/PR quots of the but ss-stoppered fla xazole. The fla 37±1°C and shake	A OCEDURE: ffer solns were pl asks with excess o asks were allowed en vigorously for	aced in of sulf- to stand 4 h un-	SOURCE AND PURI The sulfisoxazo grade. The so	ole was of the pharmaceutica urce and purity of Na ₂ HPO ₄ d were not specified.							
Ali gla iso at	^b Calculated by HOD/APPARATUS/PR quots of the but ss-stoppered fla xazole. The fla 37±1°C and shake	A OCEDURE: ffer solns were pl asks with excess o asks were allowed	aced in of sulf- to stand 4 h un-	SOURCE AND PURIT The sulfisoxaze grade. The sou and citric acid	ole was of the pharmaceutica urce and purity of Na ₂ HPO ₄ d were not specified.							
Ali gla iso at til	^b Calculated by HOD/APPARATUS/PR quots of the but ss-stoppered fla xazole. The fla 37±1°C and shake equilibrium was	A OCEDURE: ffer solns were pl asks with excess o asks were allowed en vigorously for	aced in of sulf- to stand 4 h un- ne ml of	SOURCE AND PURIT The sulfisoxaze grade. The sou and citric acid	ole was of the pharmaceutica urce and purity of Na ₂ HPO ₄ d were not specified.							
Ali gla iso at til the	^b Calculated by HOD/APPARATUS/PR quots of the but ss-stoppered fla xazole. The fla 37±1°C and shaka equilibrium was supernatant was	A OCEDURE: ffer solns were pl asks with excess o asks were allowed en vigorously for s established. On	aced in of sulf- to stand 4 h un- me ml of s of a	SOURCE AND PURIT The sulfisoxaze grade. The sou and citric acid	ole was of the pharmaceutica urce and purity of Na ₂ HPO ₄ d were not specified.							
Ali gla iso at til the fil	^b Calculated by HOD/APPARATUS/PR quots of the but ss-stoppered fla xazole. The fla 37±1°C and shake equilibrium was supernatant was ter pipet and su	A OCEDURE: ffer solns were pl asks with excess o asks were allowed en vigorously for s established. On s removed by means	aced in of sulf- to stand 4 h un- me ml of a of a assayed	SOURCE AND PURIT The sulfisoxaze grade. The sou and citric acid	ole was of the pharmaceutica urce and purity of Na ₂ HPO ₄ d were not specified.							
Ali gla iso at til the fil	^b Calculated by HOD/APPARATUS/PR quots of the but ss-stoppered fla xazole. The fla 37±1°C and shake equilibrium was supernatant was ter pipet and su	A OCEDURE: ffer solns were pl asks with excess o asks were allowed en vigorously for s established. On s removed by means ulfisoxazole was a	aced in of sulf- to stand 4 h un- me ml of a of a assayed	SOURCE AND PURIT The sulfisoxaze grade. The sou and citric acid	ole was of the pharmaceutica urce and purity of Na ₂ HPO ₄ d were not specified. s used.							
Ali gla iso at til the fil	^b Calculated by HOD/APPARATUS/PR quots of the but ss-stoppered fla xazole. The fla 37±1°C and shake equilibrium was supernatant was ter pipet and su	A OCEDURE: ffer solns were pl asks with excess o asks were allowed en vigorously for s established. On s removed by means ulfisoxazole was a	aced in of sulf- to stand 4 h un- me ml of a of a assayed	SOURCE AND PURIT The sulfisoxaze grade. The sou and citric acid Distd water way	ole was of the pharmaceutica urce and purity of Na ₂ HPO ₄ d were not specified. s used.							

REFERENCES:

 Takubo, T.; Tsuchiya, S.; Hiura, M. Yakuzaigaku, <u>1971</u>, 31, 298.

						-
COMPO	DNENTS:			ORIGINAL MEASURE	MENTS:	
(1)	 Benzenesulfonamide, 4-amino-N-(3,4- dimethyl-5-isoxazolyl)- (sulfisoxazole); 			Biamonte, A.R.; Schneller, G.H.		
C ₁₁ H ₁₃ N ₃ O ₃ S; [127-69-5]			J. Am. Pharm. Assoc., Sci. Ed. 1952,			
(2)	Phosphoric acid, disodium salt; Na ₂ HPO ₄ ; [7558-94-4]			41, 341-5.		
(3)			cid,			
	2-hydroxy- (ci					
(λ)	[77-92-9]	[7722-10-5]		PREPARED BY:		
(4)	Water; H ₂ 0;	[//32=18=5]			. Piekos	
VARI.	ABLES: pH			R. Flexos		
EXPE	RIMENTAL VALUES				······	18 B I.
			*			
				aine's disodium p	phosphate - cit	ric
	acid buffer	r solution at	37°.			
		Initial pH	Solubi	Solubility		
		of buffer	mg/100 ml	10^2 mol dm ⁻³ 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	
		aCalculate	d by compile	r		
				l name is sulfiso	oxazole.	
			AUXILIARY	INFORMATION		······································
METH	HOD / APPARATUS / PR	OCEDURE:		SOURCE AND PURI	TY OF MATERIALS	:
Sul	fafurazole [*] (500	mg) was equil	ibrated in a	The source of	sulfafurazole*	(mp 193.4 -
wat	er bath with 50	ml of the buf	fer soln for			
18	h at 37 ⁰ C with a	agitation. Th	e suspension	-		
	then immediate			specified.		
	tman No. 1 paper		-			
	approx 2 min.					
	te was assayed a					
	Bratton and Man	• •				
	eckman DU spect			ESTIMATED ERROR	pH and temp:	not specified
				Accuracy of the	anal method w	as illustrate
					ng values: expension of the second se	
				3.06, 4.12, 5.		
				REFERENCES:		
				1. Bratton, A.	C.; Marshall,	E.K., Jr.
				J. Biol. Chem. <u>1939</u> , 128, 537.		
				1		





COMPONENTS :		-			
			NAL MEASUREMENTS:		
(1) Benzenesulfonamide, 4			ger, J.W. ; Peters		
dimethy1-5-isoxazoly1)		Alex	xander, K. S.; Part	uta, A. N.	
$C_{11}H_{13}N_{3}O_{3}S;$ [127-69-		Drug	g Dev. Ind. Pharm.	<u>1977</u> , <i>3(2)</i> , 163	8-83
(2) Methanol; CH ₄ 0; [67-1	56-1]				
VARIABLES:		PREPA	ARED BY:		
Temperature			R. Piekos		
EXPERIMENTAL VALUES:					
t/ ^o C	Solut	ility			
t/~C	mg/ml 10 ²	x a	mol dm ^{-3 b}		
25	49.4 7.	52	0.184		
30	56.0 8.	57	0.209		
37	67.9 10.	40	0.254		
$a_{X = mole}$	e fraction				
^b calculate	ed by compiler				
	· · · · · · · · · · · · · · · · · · ·				
		INFOR	MATION		
	AUXILIARY				
METHOD/APPARATUS/PROCEDURE	:	SOUR	CE AND PURITY OF MAT		
A const temp bath contg so	: crew-capped bottles	SOUR	CE AND PURITY OF MAT fisoxazole: lot 3780	067, Hoffman-LaRoc	
A const temp bath contg so with sulfisoxazole in exce	: crew-capped bottles ess and methanol	SOUR Sulf Its	CE AND PURITY OF MAT fisoxazole: lot 3780 mp agreed with the	067, Hoffman-LaRoc literature value.	
A const temp bath contg so with sulfisoxazole in exce was rotated for 24 h. Sam	: crew-capped bottles ess and methanol mples were with-	SOURC Sulf Its Meth	CE AND PURITY OF MAT fisoxazole: lot 3780 mp agreed with the nanol was spectrogra	067, Hoffman-LaRoc literature value. ade solvent from	
A const temp bath contg so with sulfisoxazole in exce was rotated for 24 h. Sam drawn through a pledget of	: crew-capped bottles ess and methanol mples were with- f glass wool into	SOURC Sulf Its Meth	CE AND PURITY OF MAT fisoxazole: lot 3780 mp agreed with the	067, Hoffman-LaRoc literature value. ade solvent from	
A const temp bath contg so with sulfisoxazole in exce was rotated for 24 h. San drawn through a pledget of a pipet, which was wiped of	: crew-capped bottles ess and methanol mples were with- f glass wool into clean and allowed	SOURC Sulf Its Meth	CE AND PURITY OF MAT fisoxazole: lot 3780 mp agreed with the nanol was spectrogra	067, Hoffman-LaRoc literature value. ade solvent from	
A const temp bath contg so with sulfisoxazole in exce was rotated for 24 h. San drawn through a pledget of a pipet, which was wiped o to drain into a volumetric	: crew-capped bottles ess and methanol mples were with- f glass wool into clean and allowed c flask. Soly was	SOURC Sulf Its Meth	CE AND PURITY OF MAT fisoxazole: lot 3780 mp agreed with the nanol was spectrogra	067, Hoffman-LaRoc literature value. ade solvent from	
A const temp bath contg so with sulfisoxazole in exce was rotated for 24 h. San drawn through a pledget of a pipet, which was wiped of to drain into a volumetric detd from absorbance and p	: crew-capped bottles ess and methanol mples were with- f glass wool into clean and allowed c flask. Soly was previously ascert-	SOURC Sulf Its Meth	CE AND PURITY OF MAT fisoxazole: lot 3780 mp agreed with the nanol was spectrogra	067, Hoffman-LaRoc literature value. ade solvent from	
A const temp bath contg so with sulfisoxazole in exce was rotated for 24 h. San drawn through a pledget of a pipet, which was wiped of to drain into a volumetric detd from absorbance and p ained Beer's law plots det	: crew-capped bottles ess and methanol mples were with- f glass wool into clean and allowed c flask. Soly was previously ascert-	SOUR(Sulf Its Meth Mall	CE AND PURITY OF MAT fisoxazole: lot 3780 mp agreed with the nanol was spectrogra linckrodt Chemical W	067, Hoffman-LaRoc literature value. ade solvent from Works.	
A const temp bath contg so with sulfisoxazole in exce was rotated for 24 h. Sam drawn through a pledget of a pipet, which was wiped of to drain into a volumetric detd from absorbance and p	: crew-capped bottles ess and methanol mples were with- f glass wool into clean and allowed c flask. Soly was previously ascert-	SOUR(Sulf Its Meth Mall	CE AND PURITY OF MAT Fisoxazole: lot 3780 mp agreed with the hanol was spectrogra linckrodt Chemical W	067, Hoffman-LaRoc literature value. ade solvent from Works.	
A const temp bath contg so with sulfisoxazole in exce was rotated for 24 h. San drawn through a pledget of a pipet, which was wiped of to drain into a volumetric detd from absorbance and p ained Beer's law plots det	: crew-capped bottles ess and methanol mples were with- f glass wool into clean and allowed c flask. Soly was previously ascert-	SOUR(Sulf Its Meth Mall	CE AND PURITY OF MAT fisoxazole: lot 3780 mp agreed with the hanol was spectrogra linckrodt Chemical W MATED ERROR: 2: av. of at least 3	067, Hoffman-LaRoc literature value. ade solvent from Works.	
A const temp bath contg so with sulfisoxazole in exce was rotated for 24 h. San drawn through a pledget of a pipet, which was wiped of to drain into a volumetric detd from absorbance and p ained Beer's law plots det	: crew-capped bottles ess and methanol mples were with- f glass wool into clean and allowed c flask. Soly was previously ascert-	SOURC Sulf Its Meth Mall ESTIN Soly	CE AND PURITY OF MAT fisoxazole: lot 3780 mp agreed with the hanol was spectrogra linckrodt Chemical W MATED ERROR: 7: av. of at least 3 (authors).	067, Hoffman-LaRoc literature value. ade solvent from Works. 3 detns is reporte	
A const temp bath contg so with sulfisoxazole in exce was rotated for 24 h. San drawn through a pledget of a pipet, which was wiped of to drain into a volumetric detd from absorbance and p ained Beer's law plots det	: crew-capped bottles ess and methanol mples were with- f glass wool into clean and allowed c flask. Soly was previously ascert-	SOUR(Sulf Its Meth Mall ESTII Soly Temp	CE AND PURITY OF MAT fisoxazole: lot 3780 mp agreed with the hanol was spectrogra linckrodt Chemical W MATED ERROR: 2: av. of at least 3	067, Hoffman-LaRoc literature value. ade solvent from Works. 3 detns is reporte	
A const temp bath contg so with sulfisoxazole in exce was rotated for 24 h. San drawn through a pledget of a pipet, which was wiped of to drain into a volumetric detd from absorbance and p ained Beer's law plots det	: crew-capped bottles ess and methanol mples were with- f glass wool into clean and allowed c flask. Soly was previously ascert-	SOUR Sulf Its Meth Mall ESTI Soly Temp REFE	CE AND PURITY OF MAT fisoxazole: lot 3780 mp agreed with the hanol was spectrogra linckrodt Chemical W MATED ERROR: 7: av. of at least 3 (authors). 5: ±0.1°C (authors	067, Hoffman-LaRoc literature value. ade solvent from Works. 3 detns is reporte	
A const temp bath contg so with sulfisoxazole in exce was rotated for 24 h. San drawn through a pledget of a pipet, which was wiped of to drain into a volumetric detd from absorbance and p ained Beer's law plots det	: crew-capped bottles ess and methanol mples were with- f glass wool into clean and allowed c flask. Soly was previously ascert-	SOURC Sulf Its Meth Mall ESTIN Soly Temp REFE 1. M	CE AND PURITY OF MAT Fisoxazole: lot 3780 mp agreed with the hanol was spectrogra- linckrodt Chemical W MATED ERROR: 7: av. of at least 3 (authors). 0: ±0.1 ^o C (authors RENCES;	067, Hoffman-LaRoc literature value. ade solvent from Works. 3 detns is reporte s).	.d
A const temp bath contg so with sulfisoxazole in exce was rotated for 24 h. San drawn through a pledget of a pipet, which was wiped of to drain into a volumetric detd from absorbance and p ained Beer's law plots det	: crew-capped bottles ess and methanol mples were with- f glass wool into clean and allowed c flask. Soly was previously ascert-	SOURC Sulf Its Meth Mall ESTIN Soly Temp REFE 1. M	CE AND PURITY OF MAT Fisoxazole: lot 3780 mp agreed with the hanol was spectrogra linckrodt Chemical W MATED ERROR: 7: av. of at least 3 (authors). b: ±0.1 ^o C (authors RENCES: fauger, J. W.; Par	067, Hoffman-LaRoc literature value. ade solvent from Works. 3 detns is reporte s).	.d
A const temp bath contg so with sulfisoxazole in exce was rotated for 24 h. San drawn through a pledget of a pipet, which was wiped of to drain into a volumetric detd from absorbance and p ained Beer's law plots det	: crew-capped bottles ess and methanol mples were with- f glass wool into clean and allowed c flask. Soly was previously ascert-	SOURC Sulf Its Meth Mall ESTIN Soly Temp REFE 1. M	CE AND PURITY OF MAT fisoxazole: lot 3780 mp agreed with the hanol was spectrogra linckrodt Chemical W MATED ERROR: 2: av. of at least 3 (authors). b: ±0.1 ^o C (authors RENCES: fauger, J. W.; Par erraughty, R. J. J.	067, Hoffman-LaRoc literature value. ade solvent from Works. 3 detns is reporte s).	.d
A const temp bath contg so with sulfisoxazole in exce was rotated for 24 h. San drawn through a pledget of a pipet, which was wiped of to drain into a volumetric detd from absorbance and p ained Beer's law plots det	: crew-capped bottles ess and methanol mples were with- f glass wool into clean and allowed c flask. Soly was previously ascert-	SOURC Sulf Its Meth Mall ESTIN Soly Temp REFE 1. M	CE AND PURITY OF MAT fisoxazole: lot 3780 mp agreed with the hanol was spectrogra linckrodt Chemical W MATED ERROR: 2: av. of at least 3 (authors). b: ±0.1 ^o C (authors RENCES: fauger, J. W.; Par erraughty, R. J. J.	067, Hoffman-LaRoc literature value. ade solvent from Works. 3 detns is reporte s).	.d

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COMPONENTS:		ORIGINAL MEASUREMENTS:	
	lfonamide, 4-amino-N-(3,4-		
	5-isoxazoly1)- (sulfisoxa	cole); Chem. Pharm. Bull. <u>1978</u> , 26(1), 11	8-26.
	₃ S; [127-69-5]		
(2) Ethanol;	C ₂ H ₆ 0; [64-17-5]		
VARIABLES:	—	PREPARED BY:	
	Temperature	R. Piekos	
EXPERIMENTAL V	ALUES:		
	t/°C	Solubility ^a	
	27 0	10^2 mol dm ⁻³ solution	
		io moi um solution	
	10	4.43	
	20	5.98	
	30	7.86	
	40	11.0	
	50	15.2	
	50	13.6	
	^a Original data	a are presented graphically.	
		a are presented graphically. data are given by the authors.	
	The numerica		
METHOD/APPARA'	The numerica	data are given by the authors.	
	The numerica:	L data are given by the authors. ILLIARY INFORMATION SOURCE AND PURITY OF MATERIALS:	1 Co.
After attaini	The numerica: AUX TUS/PROCEDURE:	L data are given by the authors. LLIARY INFORMATION SOURCE AND PURITY OF MATERIALS: .ns Sulfisoxazole (Yamanouchi Pharmaceutica)	
After attaini were removed 1	The numerica AUX TUS/PROCEDURE: ng equilibrium, sample so	L data are given by the authors. LLIARY INFORMATION SOURCE AND PURITY OF MATERIALS: Sulfisoxazole (Yamanouchi Pharmaceutica) was of the Japanese Pharmacopeia IX grad	de.
After attainin were removed 1 quickly throug	The numerical AUX TUS/PROCEDURE: ng equilibrium, sample so by a syringe and filtered gh a membrane filter (pore	L data are given by the authors. LLIARY INFORMATION SOURCE AND PURITY OF MATERIALS: Sulfisoxazole (Yamanouchi Pharmaceutical was of the Japanese Pharmacopeia IX grad a size Abs EtOH was obtained by drying and dist	de. tn of
After attaining were removed of quickly throug 0.2 µ) and so	The numerical AUX TUS/PROCEDURE: ng equilibrium, sample so by a syringe and filtered gh a membrane filter (pore ulfisoxazole was assayed s	LLIARY INFORMATION SOURCE AND PURITY OF MATERIALS: Sulfisoxazole (Yamanouchi Pharmaceutical was of the Japanese Pharmacopeia IX grad spec- EtOH was obtained by drying and dist EtOH following the conventional procedur	de. tn of
After attaining were removed of quickly throug 0.2µ) and so trophotometric	The numerical AUX TUS/PROCEDURE: ng equilibrium, sample so by a syringe and filtered gh a membrane filter (pore	LLIARY INFORMATION SOURCE AND PURITY OF MATERIALS: Sulfisoxazole (Yamanouchi Pharmaceutical was of the Japanese Pharmacopeia IX grad spec- EtOH was obtained by drying and dist EtOH following the conventional procedur	de. tn of
After attaining were removed if quickly throug 0.2µ) and so trophotometric	The numerical AUX TUS/PROCEDURE: ng equilibrium, sample so by a syringe and filtered gh a membrane filter (por ulfisoxazole was assayed s cally at 269 nm using a H	LLIARY INFORMATION SOURCE AND PURITY OF MATERIALS: Sulfisoxazole (Yamanouchi Pharmaceutical was of the Japanese Pharmacopeia IX grad spec- EtOH was obtained by drying and dist EtOH following the conventional procedur	de. tn of
After attaining were removed if quickly throug 0.2µ) and so trophotometric	The numerical AUX TUS/PROCEDURE: ng equilibrium, sample so by a syringe and filtered gh a membrane filter (por ulfisoxazole was assayed s cally at 269 nm using a H	LLIARY INFORMATION SOURCE AND PURITY OF MATERIALS: Sulfisoxazole (Yamanouchi Pharmaceutical was of the Japanese Pharmacopeia IX grad spec- EtOH was obtained by drying and dist EtOH following the conventional procedur	de. tn of
After attaining were removed if quickly throug 0.2µ) and so trophotometric	The numerical AUX TUS/PROCEDURE: ng equilibrium, sample so by a syringe and filtered gh a membrane filter (por ulfisoxazole was assayed s cally at 269 nm using a H	LLIARY INFORMATION SOURCE AND PURITY OF MATERIALS: Sulfisoxazole (Yamanouchi Pharmaceutical was of the Japanese Pharmacopeia IX grad spec- EtOH was obtained by drying and dist EtOH following the conventional procedur	de. tn of
After attaining were removed if quickly throug 0.2µ) and so trophotometric	The numerical AUX TUS/PROCEDURE: ng equilibrium, sample so by a syringe and filtered gh a membrane filter (por ulfisoxazole was assayed s cally at 269 nm using a H	I data are given by the authors. ILIARY INFORMATION SOURCE AND PURITY OF MATERIALS: .ns Sulfisoxazole (Yamanouchi Pharmaceutical was of the Japanese Pharmacopeia IX grad Abs EtOH was obtained by drying and dist EtOH following the conventional proceduated in the second secon	de. tn of
After attaining were removed if quickly throug 0.2µ) and so trophotometric	The numerical AUX TUS/PROCEDURE: ng equilibrium, sample so by a syringe and filtered gh a membrane filter (por ulfisoxazole was assayed s cally at 269 nm using a H	I data are given by the authors. ILIARY INFORMATION SOURCE AND PURITY OF MATERIALS: .ns Sulfisoxazole (Yamanouchi Pharmaceutical was of the Japanese Pharmacopeia IX grad Abs EtOH was obtained by drying and dist EtOH following the conventional procedure tachi	de. tn of
After attaining were removed a quickly throug 0.2µ) and so trophotometric	The numerical AUX TUS/PROCEDURE: ng equilibrium, sample so by a syringe and filtered gh a membrane filter (por ulfisoxazole was assayed s cally at 269 nm using a H	I data are given by the authors. ILIARY INFORMATION SOURCE AND PURITY OF MATERIALS: .ns Sulfisoxazole (Yamanouchi Pharmaceutical was of the Japanese Pharmacopeia IX grad Abs EtOH was obtained by drying and dist EtOH following the conventional proceduated in the second secon	de. tn of
After attaining were removed a quickly throug 0.2µ) and so trophotometric	The numerical AUX TUS/PROCEDURE: ng equilibrium, sample so by a syringe and filtered gh a membrane filter (por ulfisoxazole was assayed s cally at 269 nm using a H	I data are given by the authors. ILIARY INFORMATION SOURCE AND PURITY OF MATERIALS: .ns Sulfisoxazole (Yamanouchi Pharmaceutical was of the Japanese Pharmacopeia IX grad Abs EtOH was obtained by drying and dist EtOH following the conventional proceduated in the second secon	de. tn of
After attaining were removed a quickly throug 0.2µ) and so trophotometric	The numerical AUX TUS/PROCEDURE: ng equilibrium, sample so by a syringe and filtered gh a membrane filter (por ulfisoxazole was assayed s cally at 269 nm using a H	I data are given by the authors. ILIARY INFORMATION SOURCE AND PURITY OF MATERIALS: .ns Sulfisoxazole (Yamanouchi Pharmaceutical was of the Japanese Pharmacopeia IX grad Abs EtOH was obtained by drying and dist EtOH following the conventional proceduated in the second secon	de. tn of
After attaining were removed a quickly throug 0.2µ) and so trophotometric	The numerical AUX TUS/PROCEDURE: ng equilibrium, sample so by a syringe and filtered gh a membrane filter (por ulfisoxazole was assayed s cally at 269 nm using a H	I data are given by the authors. ILIARY INFORMATION SOURCE AND PURITY OF MATERIALS: .ns Sulfisoxazole (Yamanouchi Pharmaceutical was of the Japanese Pharmacopeia IX grad Abs EtOH was obtained by drying and dist EtOH following the conventional proceduated in the second secon	de. tn of
After attaining were removed a quickly throug 0.2µ) and so trophotometric	The numerical AUX TUS/PROCEDURE: ng equilibrium, sample so by a syringe and filtered gh a membrane filter (por ulfisoxazole was assayed s cally at 269 nm using a H	I data are given by the authors. ILIARY INFORMATION SOURCE AND PURITY OF MATERIALS: .ns Sulfisoxazole (Yamanouchi Pharmaceutical was of the Japanese Pharmacopeia IX grad Abs EtOH was obtained by drying and dist EtOH following the conventional proceduated in the second secon	de. tn of
After attaining were removed a quickly throug 0.2µ) and so trophotometric	The numerical AUX TUS/PROCEDURE: ng equilibrium, sample so by a syringe and filtered gh a membrane filter (por ulfisoxazole was assayed s cally at 269 nm using a H	I data are given by the authors. ILIARY INFORMATION SOURCE AND PURITY OF MATERIALS: .ns Sulfisoxazole (Yamanouchi Pharmaceutical was of the Japanese Pharmacopeia IX grad Abs EtOH was obtained by drying and dist EtOH following the conventional proceduated in the second secon	de. tn of

COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(3,4-	Mauger, J. W.; Petersen, H., Jr.;
dimethy1-5-isoxazoly1)-(sulfisoxazo1	e); Alexander, K. S.; Paruta, A. N.
C ₁₁ H ₁₃ N ₃ O ₃ S; [127-69-5]	Drug Dev. Ind. Pharm. <u>1977</u> , 3(2),
(2) 1-Propanol; C ₃ H ₈ 0; [71-23-8]	163-83.
VARIABLES:	PREPARED BY:
Temperature	R. Piekos
EXPERIMENTAL VALUES:	
(0.5	
	Solubility
mg/m1 1	0^{3} x a 10^{2} mol dm ⁻³ b
25 7.95	2.23 2.97
30 9.53	2.69 3.56
37 12.2	3.44 4.56
a X = mole fraction	
^b calculated by com	ad los
carculated by com	piler
AUXILIA	ARY INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
A const temp bath contg screw-capped bott	
with sulfisoxazole in excess and 1-propan	
was rotated for 24 h. Samples were with-	
drawn through a pledget of glass wool int	
a pipet, which was wiped clean and allowe	
to drain into a volumetric flask. Soly w	
detd from absorbance and previously ascer	
tained Beer's law plots detd on a Cary mo	
16 spectrophotometer (1).	ESTIMATED ERROR:
	Soly: av. of at least 3 detns is reported
	(authors). Temp: ±0.1 ^o C
	REFERENCES :
	1. Mauger, J.W.; Paruta, A.N.
	Gerraughty, R.J. J. Pharm. Sci. 1972,
	61(1), 94.

COMPONENT	nc .	······		ORIGINAL MEASUREMENTS:
		mida / andro-	N-(2.4-	
		mide, 4-amino-		Mauger, J. W.; Petersen, H., Jr.;
		xazolyl)- (su	11150xazole);	Alexander, K. S.; Paruta, A. N.,
	H ₁₃ N ₃ O ₃ S;			Drug Dev. Ind. Pharm. <u>1977</u> 3(2),
(2) 1 - B	utanol; C ₄	H ₁₀ 0; [71-36-	-3]	163-83.
VARIABLE	<u>s:</u>			PREPARED BY:
******	Temper	ature		R. Piekos
	•			
EXPERIME	NTAL VALUES	:		
			SOLUB	ri TTV
	<i>i</i> 0 -			
	t/ ^o C	mg/ml	$10^{3}x^{a}$	$10^2 \text{ mol } \text{dm}^{-3} \text{ b}$
	25	4.31	1.48	1.61
	30	5.30	1.83	1.98
	37	6.53	2.26	2.44
	5,	0133		
	a x = mo	le fraction		
	b	ated by compil		
	- calcul	ated by compil	Ler	
			AUXILIARY	INFORMATION
METHOD /A	PPARATUS/PR	OCEDURE :	· · · · · · · · · · · · ·	SOURCE AND PURITY OF MATERIALS:
-		es with sulfis	soxazole and	Sulfisoxazole: lot 378067, Hoffman-LaRoche,
BuOH wer	re rotated	in a const tem	np bath for	Inc. M.p. agreed with literature values.
24 h.	Samples wer	e withdrawn th	irough a	1-Butanol was purchased from Mallinckrodt
pledget	of glass w	ool into a pip	pet, which	Chem Works. Refractive index value and
		d allowed to d		density agreed with literature values.
a volum	etric flask	. Soly was de	etd from	
		viously ascert		
		a Cary Model 1		
	ter (1).	-	•	ESTIMATED ERROR:
}				Temp: ±0.1°C (authors).
				Soly: an average of at least 3 detns is reported (authors).
				REFERENCES :
				1. Paruta, A. N.; Mauger, J. W.;
				Gerraughty, R. J., J. Pharm. Sci.
				<u>1972</u> , <i>61</i> , 94.
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COMPONENTS :			ORIGINAL ME	EASUREMENTS:	
(1) Benzenes	sulfonamide, 4-	-amino-N-(3,4-	Mauger, J	. W.; Petersen, H., Jr.;	
dimethyl	L-5-isoxazolyl)	- (sulfisoxazole);		, K. S.; Paruta, A. N.	
C ₁₁ H ₁₃ N ₃	3 ⁰ 3 ^s ; [127-69-	-5]	Drug Dev	. Ind. Pharm. <u>1977</u> , 3(2),	
(2) 1-Pentar	nol; C ₅ H ₁₂ 0;	[71-41-0]	163-83.		
VARIABLES:			PREPARED BY:		
	Temperature			R. Piekos	
EXPERIMENTAL	VALUES:				
			BILITY		
	t/ ^o C	mg/ml	10 ³ X ^a	$10^2 \text{ mol } dm^{-3} \text{ b}$	
	25	2.61	1.06	0.98	
	30	3.20	1.30	1.20	
	37	3.95	1.62	1.48	
		<u></u>			
	a X = mo	le fraction			
	^b calcula	ated by compiler			
		AUXILIARY	INFORMATION	1	
METHOD/APPARA	TUS/PROCEDURE:		SOURCE AND	PURITY OF MATERIALS:	
The soly was	detd by the m	ethod of Paruta et	Sulfisoxaz	ole: lot 378067, Hoffman-LaRoche,	
al. (1): Sci	rew-capped bot	tles with sulf-	Inc. M.p.	agreed with literature values.	
	-	pentanol were ro-	1	was purchased from Fisher Scien-	
				Refractive index valu and density	
	0 1	ledget of glass	agreed wit	h literature values.	
1		as wiped clean and			
1		lumetric flask.			
		nce and previously ts detd on a Cary	ESTIMATED	FREOR -	
	ctrophotometer		Temp: ±0		
noder to she			1 -	ot specified.	
			REFERENCES	:	
			1. Parut	a, A. N.; Mauger, J. W.;	
				ughty, R. J. J. Pharm. Sci.	
			ł	61, 94.	
L			<u> </u>		

COMPONENTS	•		ORIGINAL MEASUREMEN	
	enesulfonamide, 4-			Petersen, H. Jr.;
		- (sulfisoxazole);		; Paruta, A. N.
	13 ^N 3 ⁰ 3 ^S ; [127-69-			Pharm. <u>1977</u> , 3(2),
(2) 1-0ct	tanol; C ₈ H ₁₆ 0;	111-87-5]	163-83.	
VARIABLES:			PREPARED BY:	
	Temperature		R. Pi	lekos
EXPERIMENT	AL VALUES:			· · · · · · · · · · · · · · · · · · ·
		SOLUBI	LITY	
	t/ ^o C	mg/ml	$10^3 \text{ mol } dm^{-3} b$	10 ³ v a
	17 0	mg/mi	TO HOL UN	10- X -
	25	0.94	3.52	0.55
	30			0.69
	50	1.17	4.38	
	37	1.40	5.24	0.83
	^a X = mole	fraction		
	b			
	- calculat	ed by compiler		
		AUXILIARY	INFORMATION	
METHOD / APP	PARATUS / PROCEDURE :	<u></u>	SOURCE AND PURITY	OF MATERIALS:
The soly	was detd by the m	ethod of Paruta	Sulfisoxazole: lo	t 378067, Hoffman-LaRoche,
et al. (1	l): Screw-capped	bottles with	Inc. M.p. agreed	with the literature values
sulfisoxa	zole in excess an	d 1-Octanol were	1-Octanol was pur	chased from Fisher Scien-
rotated i	ln a const temp ba	th for 24 h. Sam-	tific Co. Refrac	tive index value and den-
ples were	e withdrawn throug	h a pledget of	sity agreed with	literature values.
glass woo	ol into a pipet, w	hich was wiped		
clean and	l allowed to drain	into a volumetric		
	Soly was detd from			
previousl	y ascertained Bee	r's law plots	ESTIMATED ERROR:	
detd on a	a Cary Model 16 sp	ectrophotometer.	Temp: ±0.1°C	
			Soly: not specif	ied.
			REFERENCES:	······
			1	; Mauger, J. W.;
				R. J. J. Pharm. Sci.
			1972, 61,	94.
		-		

COMPONENTS :			ORIGINAL ME	A CHIDENGANGC .	—
	Famanda, (
(1) Benzenesult	-			J. W.; Petersen, H. Jr.;	
	-)- (sulfisoxazole);		r, K. S.; Paruta, A. N.,	
$C_{11}H_{13}N_{3}O_{3}S_{3}$			Drug, De 163-83.	ev. Ind. Pharm. <u>1977</u> , 3(2),	
(2) 1-Decanol;	C10 ^H 22 ^U ;	[112-30-1]	103-83.		
VARIABLES:			PREPARED BY	•	
	perature			R. Piekos	
EXPERIMENTAL VAL	UES:				-
		SOLUB	ILITY		
	t/ ^o C	mg/ml	10 ³ x ^a	$10^3 \text{ mol } dm^{-3} b$	
	25	0.57	0.41	2.13	
	30	0.68	0.49	2.54	
	37	0.85	0.61	3.18	
	57	0.05	0.01	5.10	
	a X = mo	le fraction			
	b calcul	ated by compiler			
	0 001001	area of comprise			
			INFORMATION		
METHOD/APPARATUS				PURITY OF MATERIALS:	
-		nethod of Paruta		cole: lot 378067. Hoffman-LaRoch	
et al. (1): Sc	• •		· ·	agreed with that of literature	
		nd 1-decanol were		was purchased from Matheson, Co ell. Refractive index value and)1e-
		ath for 24 h. Sam- gh a pledget of			
1	•			reed with those reported in the	·
		which was wiped n into a volumetric	literature	-	
		n absorbance and			
-		er's law plots detd	FOTIMATIO		
on a Cary Model				2RROR: 1 ⁰ C (authors).	
I a dary noder	. To oberri	PHOLOMELEL .	-	specified.	
			REFERENCES	:	
			1. Paruta,	A. N.; Mauger, J. W.;	
			Gerraug	hty, R. J. J. Pharm. Sci.	
			<u>1972</u> ,	61, 94.	
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COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(3,4-	Sunwoo, C.; Eisen, H.
dimethyl-5-isoxazolyl)- (sulfisoxazole);	J. Pharm. Sci. <u>1971</u> , 60, 238-44.
C ₁₁ H ₁₃ N ₃ O ₃ S; [127-69-5]	
(2) Ethanol, 2-ethoxy-; $C_4H_{10}O_2$; [110-80-5]	
VARIABLES:	PREPARED BY:
One temperature	R. Piekos
EXPERIMENTAL VALUES:	
The mole fraction solubility of sulfi	soxazole in 2-ethoxyethanol at
25 ^o C is 0.0495 (13.4 g/100 g soluti	on, compiler).
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Soly was detd by the method reported by	Sulfisoxazole (Hoffman-LaRoche Inc., Nutley,
Restaino and Martin. Sulfisoxazole was	N.J.) was recrystd from warm alcohol. 2-
assayed on a Coleman-Hitachi 124 double-	Ethoxyethanol (Cellosolve solvent, Union
beam spectrophotometer at 270 nm after diln	Carbide, New York, N.Y.) was of industrial
of a sample with 95% alcohol or water.	grade.
	ESTIMATED ERROR:
	Temp: ±1.0 ⁰ C (authors).
	Soly: the mean of 3 runs was given (authors).
1	REFERENCES :
	1. Restaino, F. A.; Martin, A. N.
	J. Pharm. Sci. <u>1964</u> , 53, 636.

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(3,4- dimethyl-5-isoxazolyl)- (sulfisoxazole)	Sekikawa, H.; Nakano, M.; Arita, T.
$C_{11}H_{13}N_{3}O_{3}S;$ [127-69-5]	Chem. Pharm. Bull. <u>1978</u> , 26(1),118-26.
(2) 2-Pyrrolidinone, 1-ethenyl-, polymers	
(poly(vinyl pyrrolidone)); (C ₆ H ₉ NO) _x ; [9003-39-8] K-15	
(3) Ethanol; C ₂ H ₆ 0; [64-17-5]	
VARIABLES:	PREPARED BY:
Temperature	R. Piekos
EXPERIMENTAL VALUES:	
Mx1	0 ² sulfisoxazole
t/ ^o C solut	ilized by 1M vinyl-
руггс	lidone equivalent
10.0	7.52
20.0	8.89
30.0	10.4
40.0	12.5
50.0	14.5
	· · · · · · · · · · · · · · · · · · ·
AUXILIA	RY INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
After attaining equilibrium, sample solns	
were removed by a syringe and filtered qui	
ly through a membrane filter (pore size 0.	• • • • • • • • • • • • • • • • • • • •
 and sulfisoxazole was assayed spectro- 	
photometrically at 269 nm using a Hitachi	EtOH was obtained by drying and distn of
Type 200-20 spectrophotometer. No signifi	
cant absorbance was found for poly(viny1	for the content procedures.
pyrrolidone).	
	ESTIMATED ERROR:
	Nothing specified
	REFERENCES :

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(3,4-	Grady, L.T.; Hays, S.E.; King, R.H.;
dimethyl-5-isoxazolyl)- (sulfisoxazole)	
C ₁₁ H ₁₃ N ₃ O ₃ S; [127-69-5]	Zimmerer, R.O., Jr. J. Pharm. Sci.
(2) Acetic acid, ethyl ester (ethyl acetate)	<u>1973</u> , 62(3), 456-64.
$C_4H_8O_2; [141-78-6]$	
VARIABLES:	PREPARED BY:
One temperature: 25 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfisoxazole in ethy	yl acetate at 25 ⁰ C is 15.4 mg/g
$(5.76 \times 10^{-2} \text{ mol kg}^{-1}, \text{ compiler })$).
AUXILIARY	INFORMATION
METHOD / APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
The phase solubility method was employed (1).	. Sulfisoxazole contained 0.14% impurities
	and produced two spots on a thin-layer
	and produced two spots on a thin-layer chromatogram.
	chromatogram.
	chromatogram. Purity of the ethyl acetate was not spe-
	chromatogram. Purity of the ethyl acetate was not spe-
	chromatogram. Purity of the ethyl acetate was not spe-
	chromatogram. Purity of the ethyl acetate was not spe- cified.
	chromatogram. Purity of the ethyl acetate was not spe- cified. ESTIMATED ERROR:
	chromatogram. Purity of the ethyl acetate was not spe- cified. ESTIMATED ERROR: Soly: ±0.3 mg/g (authors).
	chromatogram. Purity of the ethyl acetate was not spe- cified. ESTIMATED ERROR:
	chromatogram. Purity of the ethyl acetate was not spe- cified. ESTIMATED ERROR: Soly: ±0.3 mg/g (authors).
	chromatogram. Purity of the ethyl acetate was not spe- cified. ESTIMATED ERROR: Soly: ±0.3 mg/g (authors). Temp: not specified. REFERENCES:
	chromatogram. Purity of the ethyl acetate was not spe- cified. ESTIMATED ERROR: Soly: ±0.3 mg/g (authors). Temp: not specified. REFERENCES: 1. The National Formulary, 13th Ed.,
	<pre>chromatogram. Purity of the ethyl acetate was not spe- cified. ESTIMATED ERROR: Soly: ±0.3 mg/g (authors). Temp: not specified. REFERENCES: 1. The National Formulary, 13th Ed., Mack Publishing Co., Easton, Pa.,</pre>
	chromatogram. Purity of the ethyl acetate was not spe- cified. ESTIMATED ERROR: Soly: ±0.3 mg/g (authors). Temp: not specified. REFERENCES: 1. The National Formulary, 13th Ed.,
	<pre>chromatogram. Purity of the ethyl acetate was not spe- cified. ESTIMATED ERROR: Soly: ±0.3 mg/g (authors). Temp: not specified. REFERENCES: 1. The National Formulary, 13th Ed., Mack Publishing Co., Easton, Pa.,</pre>

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COMPONENTS :	ORIGINAL MEASUREMENTS:
 Benzenesulfonamide, 4-amino-N-(3,4- 	Riess, W.
<pre>dimethyl-5-isoxazolyl)- (sulfisoxazole);</pre>	
$C_{11}H_{13}N_{3}O_{3}S;$ [127-69-5]	3rd, Stuttgart <u>1963</u> , 1, 627-32.
(2) Methane, trichloro- (chloroform);	
CHC1 ₃ ; [67-66-3]	
VARIABLES:	PREPARED BY:
One temperature: 20°C	R. Piekos
EXPERIMENTAL VALUES:	
	2
	roform at 20° C is 80 mg% (3.0 x 10^{-3}
mol dm^{-3} solution, compiler).	
	· · · · · · · · · · · · · · · · · · ·
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Nothing specified	Nothing specified
	ESTIMATED ERROR:
	Nothing specified
	REFERENCES :
	· · · · · · · · · · · · · · · · · · ·

COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(3,4-	Yamazaki, M.; Aoki, M.; Kamada, A.;
dimethyl=5-isoxazolyl)- (sulfisoxazole);	
C ₁₁ H ₁₃ N ₃ O ₃ S; [127-69-5]	37-40.
<pre>(2) Methane, trichloro- (chloroform);</pre>	
CHC1 ₃ ; [67-66-3]	
VARIABLES:	PREPARED BY:
One temperature: 30°C	R. Piekos
EXPERIMENTAL VALUES:	
EXTERINE VALUES.	
Solubility of sulfisoxazole in chlor	oform at 30 [°] C is 2.40 mmol/L
$(0.641 \text{ g dm}^{-3}, \text{ compiler }).$	
AUXTLIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Sulfisoxazole (0.5 g) was placed in an L-	Nothing specified
shaped tube together with 20 ml of chloroform	
The mixt was shaken in a thermostat until	
equilibrium was attained. The sulfisoxazole	
was assayed in the supernatant spectrophoto-	
metrically at 545 nm on a Beckmann DU spectro	
photometer. The results were taken from	
a calibration graph.	
	ESTIMATED ERROR:
	Soly: not specified
	Temp: ±1 ⁰ C (authors)
	REFERENCES:

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COMPONENTS:	ORIGINAL MEASUREMENTS:
 Acetamide, N-[(4-aminophenyl)sulfonyl]- N-(3,4-dimethyl-5-isoxazolyl)- (N¹-acetylsulfisoxazole); C_{13H15}N₃04S; [80-74-0] Phosphoric acid, monopotassium salt; KH₂P0₄; [7778-77-0] Sodium hydroxide; NaOH; [1310-73-2] Water; H₂O; [7732-18-5] 	Muzakami, S.; Nagata, K. Ann. Rept. Shionogi Res. Lab. <u>1956</u> , 6, 58-64.
VARIABLES: pH	PREPARED BY: R. Piekos

EXPERIMENTAL VALUES:

рН	Solubility of N ¹ -acetylsulfisoxazole in Clark and Lubs buffer mixtures at 37 ⁰ C			
	mg%	$10^4 \text{ mol } dm^{-3} a$		
6.5	3.93	1.27		
7.0	3.83	1.24		
7.5	4.19	1.35		

^a calculated by compiler

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
About 100 mg of N ¹ -acetylsulfisoxazole was	N ¹ -acetylsulfisoxazole was synthesized by
placed in a flask and 100 cm^3 of the buffer	the authors and dried over CaCl ₂ .
soln of a known pH was added. The mixt was	The source and purity of the remaining
vigorously agitated for 4 h in a water bath	materials was not specified.
at 37.0±0.2 ⁰ C and filtered through a Toyo	
No. 6 filter paper, keeping the temp at about	
40° C. The first 10 cm ³ of the filtrate was	
discarded and in the following 15 cm ³ , kept	
still at about 40° C, the sulfonamide concn	ESTIMATED ERROR:
was detd colorimetrically at 540 nm using a	Soly: the error was below $\pm 3\%$ (authors).
Tsuda reagent and a Beckman Model B spectro-	Temp: ±0.2 ^o C (authors); pH: not specified (a Beckman type G pH meter was used).
photometer.	
	REFERENCES :

COMPONENTS:	ORIGINAL MEASUREMENTS:
 (1) Acetamide, N-[(4-aminophenyl)sulfonyl]- N-(3,4-dimethyl-5-isoxazolyl)- (N¹-acetylsulfisoxazole); C₁₃H₁₅N₃O₄S; [80-74-0] (2) 1,2-Benzenedicarboxylic acid, monopotas sium salt; C₈H₅KO₄; [877-24-7] (3) Sodium hydroxide; NaOH; [1310-73-2] (4) Water; H₂O; [7732-18-5] 	Ann. Rept. Shionogi Res. Lab. <u>1956,</u> 6, 58-64.
VARIABLES: pH	PREPARED BY: R. Piekos
EXPERIMENTAL VALUES:	

рН	Solubility of N ¹ -acetylsulfisoxazole in Clark and Lubs buffer mixtures at 37 ⁰ C			
	mg%	$10^4 \text{ mol } dm^{-3} a$		
4.0	6.04	1.95		
4.5	5.27	1.70		
5.0	4.86	1.57		
5.5	4.43	1.43		

^a calculated by compiler

AUXILIARY INFORMATION					
METHOD/APPARATUS/PROCEDURE: About 100 mg of N ¹ -acetylsulfisoxazole was placed in a flask and 100 cm ³ of the buffer soln of a known pH was added. The mixt was vigorously agitated for 4 h in a water bath at $37\pm0.2^{\circ}$ C and filtered through a Toyo No.6 filter paper, keeping the temp at about 40°C. The first 10 cm ³ of the filtrate was discard- ed and in the following 15 cm ³ , kept still at about 40°C, the sulfonamide concn was	ESTIMATED ERROR:				
detd colorimetrically at 540 nm using a Tsuda reasgent and a Beckman Model B spectro- photometer.	Soly: the error was below ±3% (authors). Temp: ±0.2°C (authors) pH : not specified (a Beckman type G pH meter was used). REFERENCES:				

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J	υ

96			
COMPONENTS:	ORIGINAL MEASUREMENTS:		
(1) Acetamide, N-[4-[[(3,4-dimethy1-5-	Bandelin, F. J. ; Malesh, W.		
isoxazolyl)amino]sulfonyl]phenyl]- (acetyl sulfisoxazole);	J. Am. Pharm. Assoc. Sci. Ed. <u>1959</u> ,		
$C_{13}H_{15}N_{3}O_{4}S; [4206-74-0]$	48, 177-81.		
 Phosphoric acid, disodium salt; Na₂HPO₄; [7558-94-4] 			
 Phosphoric acid, monopotassium salt; KH₂PO₄; [7778-77-0] 			
(4) Water; H_20 ; [7732-18-5]	PREPARED BY:		
VARIABLES:	R. Piekos		
pH EXPERIMENTAL VALUES:			
Solubility of acetyl sulfisoxazol	e in buffers of varying mixtures of Na ₂ HPO ₄ .		
7H ₂ 0 (71.6 g/1 distilled water; (0.27 mol dm ⁻³ , compiler) and KH ₂ PO ₄		
(36.3 g/l distilled water; 0.27 m	nol dm ⁻³ , compiler) at 37°C		
Solubil:	ity (based on sulfisoxazole)		
	2 2 2		
Equilibrium pH mg/10	00 ml $10^2 \text{ mol dm}^{-5} a$		
4.5 8	8 0.030		
5.0 12			
5.5 38			
6.0 105			
6.4 190	0.711		
6.8 375 7.2 1040			
^a calculated by compiler			
AUXILIAR	Y INFORMATION		
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:		
Solns were prepd by adding an excess of ace	e- Neither source nor purity of the reagents		
tyl sulfisoxazole to a 10 ml of buffer solr	were specified. Distilled water was used.		
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	or		
24 h. The solute was then hydrolyzed with 5			
H_2SO_4 for 1 h to liberate the free sulfon-			
amide. One-ml aliquot of the hydrolyzate			
was accurately pipetted into a volumetric	ESTIMATED EDDOD.		
	ESTIMATED ERROR:		
flask for diln and analysis. The sulfonamid			
was assayed colorimetrically by the method	Temp and pH: not specified		
of Bratton and Marshall as described in de-	REFERENCES :		
tail by Biamonte and Schneller (1). A stand	i- 1 Biamonte A R • Schneller, G. E.		
ard curve was prepd using accurately prepd			
standard solutions.	J. Am. Pharm. Assoc., Sci. Ed.		
	<u>1952</u> , <i>41</i> , 341.		

								97
COMPONENTS	:			ORIGINAL MEASU	REMENTS :			
	Acetamide, <u>N-[4-[[(3,4-dimethyl-5-</u> isoxazolyl)amino]sulfony <u>1</u>]pheny1]-		Hekster, Ch. A.; Vree, T. B.					
(N ⁴ -ac	cetylsulfafura	zole)*	ÀT]-	Antibiotics	Chemother.	1982,	<u>31</u> ,	22-118.
	5 ^{N304} S; [4206							
Na ₂ HPO	horic acid, di D ₄ ; [7558-94-	4]						
(3) Phosph KH ₂ PO	noric acid, mo ; [7778-77-0	nopotassium]	salt;	PREPARED BY:				·····
1 -	н ₂ 0; [7732			TREFARED BI:	R. Piekos			
VARIABLES:	pH				Nº TICKOS			
EXPERIMENT	AL VALUES:			I				
ł		рH	Solu	bility at 25°C				
		P	mg/1	mol dr	n-3 a			
		5.5	250	8.08 x	10 ⁻⁴			
		7.5 ^b	6,893	2.228	× 10 ^{−2}			
			• • •					
				·····				
		^a Calcula	ated by com	piler				
				-	ven in			
	^b Erroneous pH valu			e or 7.0 is giv	/en in			
		the art						
		"Another	common tr:	lvial name is a	cetyl sulfi	soxazole	2.	
			AUVIT TADV					
			AUXILIARY	INFORMATION				
1	ARATUS/PROCEDU			SOURCE AND PU	RITY OF MATE	RIALS:		
	r developed me			Neither sourc	e nor the p	urity o	f the	
1.	communication)			materials was	specified.			
	ulfafurazole [*] w			2				
1	pH 5.5 and 7.		The					
	he solute was	-		ł				
	Physics 3500B							
	omatograph equ	••						
748 column oven and a Pye-Unicam LC-UV spectrophotometric detector.			ESTIMATED ERROR:					
spectropho	tometric detec	tor.						
				Soly: the det HPLC was 0.5 temp and pH w	mg/l (autho:	rs). Th		
				REFERENCES:				
1				1. Hekster,	Y.A. Vree	, Т.В.	;	
1				Damsma, J	. E.; Fries			
				J. Antim	icrob. Cher	nother.	<u>198</u>	11,
				<u>8</u> , 133.				

98							
(1) (2) (3) (4) VAR	isoxazoly (acetyl s C ₁₃ H ₁₅ N ₃ O Phosphori Na ₂ HPO ₄ ; 1,2,3-Pro 2-hydroxy [77-92-9] Water; H RIABLES: ERIMENTAL V	20;]7732-18- pH /ALUES:	y1]pheny1]- ;)] um salt; 1ic acid,); C ₆ H ₈ 0 ₇ ; 5]	ORIGINAL MEASUREMEN Biamonte, A. R.; J. Am. Fharm. A 1952, 41, 341-5. PREPARED BY: R. P: McIlvaine's disodiu	Schneller, G. H. Assoc. Sci. Ed. Iekos		
	citri	c acid buffer :	solution at 37 ⁰ C				
		Initial pH	Sol	ubility	Final pH		
		of buffer	mg/100 m1 solution	$10^3 \text{ mol } \text{dm}^{-3} \text{ a}$			
		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		
			l by compiler mon trivial name	is acetyl sulfisoxaz	ole.		
			AUXILIARY	INFORMATION			
		TUS/PROCEDURE:	uilibrated with	SOURCE AND PURITY O	DF MATERIALS: ple, mp 214.8-15.9 ⁰ C,		
1	-		or 18 h at 37° C		ne American Cyanamid Co,		
			sion was immedi-	Calco Chem Div, Bound Brook, N.J. The			
Th bo as	e compd was iling for i sulfafura:	s assayed in th 15-20 min with zole [*] by the met	hatman No. 1 paper. he filtrate after 30% NaOH soln shod of Bratton sckman DU spec-	source and purity was not specified.	of the remaining materials		
tr	ophotomete	r, at 545 nm.		Accuracy of the ana by the following va	and temp: not specified. I method was illustrated lues: expected 2.003, mg/100 ml; found 2.08; resp.		
				REFERENCES :	······································		
					2.; Marshall, E. K. Jr. 2. <u>1939</u> , <i>128</i> , 537.		

 OMPONENTS: Acetamide, N-[4-[[(3,4-(isoxazoly1)amino]sulfon(acety1 sulfisoxazole); [4206-74-0] Calcium chloride; CaCl2 Magnesium chloride; MgC Phosphoric acid, monoam NH4H2PO4; [7722-76-1] Potassium chloride; NaCl; Sodium chloride; NaCl; Urea; CH4N20; [57-13-6] Water; H20; [7732-18-1] 	dimethy1-5- y1]pheny1]- C ₁₃ H ₁₅ N ₃ O ₄ S; ; [10043-52-4] 1 ₂ ; [7786-30-3] monium salt; ; [7447-40-7] [7647-15-5]]	DRIGINAL 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		solution containing CaCl ₂ 0.143,
VARIABLES: pH at 37° C EXPERIMENTAL VALUES: Solubility of acetyl	4 0.300, KCl 1.660, sher Vehicle) at 37	NaCl 2.950 and urea 20 g/dm^3
VARIABLES: pH at 37 ^o C EXPERIMENTAL VALUES: Solubility of acetyl MgCl ₂ 0.121, NH ₄ H ₂ PO	4 0.300, KCl 1.660, sher Vehicle) at 37	NaCl 2.950 and urea 20 g/dm ³ $r^{o}C$ $r^$
VARIABLES: pH at 37 ^o C EXPERIMENTAL VALUES: Solubility of acetyl MgCl ₂ 0.121, NH ₄ H ₂ PO (synthetic urine, Mos	4 0.300, KC1 1.660, sher Vehicle) at 37 	NaCl 2.950 and urea 20 g/dm ³ $r^{o}C$ $r^$
VARIABLES: pH at 37° C EXPERIMENTAL VALUES: Solubility of acetyl MgCl ₂ 0.121, NH ₄ H ₂ PO, (synthetic urine, Mos Equilibrium pH	4 0.300, KCl 1.660, sher Vehicle) at 37 Solu mg/100 ml as sulfisoxazol	NaCl 2.950 and urea 20 g/dm ³ ^{0}C ability $10^{2} \text{ mol dm}^{-3} \text{ a}$.e
VARIABLES: pH at 37° C EXPERIMENTAL VALUES: Solubility of acetyl MgCl ₂ 0.121, NH ₄ H ₂ PO, (synthetic urine, Mos Equilibrium pH 4.5	4 0.300, KC1 1.660, sher Vehicle) at 37 Solu mg/100 m1 as sulfisoxazol 30	NaCl 2.950 and urea 20 g/dm^3 so c sbility 10 ² mol dm ⁻³ a .e 0.097
VARIABLES: pH at 37° C EXPERIMENTAL VALUES: Solubility of acetyl MgCl ₂ 0.121, NH ₄ H ₂ PO, (synthetic urine, Mos Equilibrium pH 4.5 5.0	4 0.300, KC1 1.660, sher Vehicle) at 37 Solu mg/100 m1 as sulfisoxazol 30 44	NaCl 2.950 and urea 20 g/dm ³ ^{10}C $^{102} mol dm^{-3} a$ e 0.097 0.140
VARIABLES: pH at 37° C EXPERIMENTAL VALUES: Solubility of acetyl MgCl ₂ 0.121, NH ₄ H ₂ PO, (synthetic urine, Mos Equilibrium pH 4.5 5.0 5.5	4 0.300, KC1 1.660, sher Vehicle) at 37 	NaCl 2.950 and urea 20 g/dm ³ r_{OC} $r_$

AUXILIARY INFORMATION				
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:			
Excess acetyl sulfisoxazole was added to ali- quots 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 agi- tated for 24 h with addn of acid or base to keep them at the desired pH level until equi- librium was attained. Then the solns were filtered and in aliquots the acetyl sulfon-				
amide was assayed spectrophotometrically by the method described by Biamonte and Schnel- ler (1). Before detn the soln was refluxed with 5% H ₂ SO ₄ for 1 h to liberate the free amino compound.	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. <u>1952</u> , 41, 341.			

MPONENTS:	ORIGINAL MEASUREMENTS:
 Acetamide, <u>N</u> -[4-[[(3,4-dimethyl-5- 	Grady, L.T.; Hays, S.E.; King, R.H.;
isoxazolyl)amino[sulfonyl]phenyl]-	Klein, H. R.; Mader, W. J.;
(acetyl sulfisoxazole);	Wyatt, D. K.; Zimmerer, R. O., Jr.
C ₁₃ H ₁₅ N ₃ O ₄ S; [4206-74-0]	J. Pharm. Sci. <u>1973</u> , 62(3), 456-64.
 Methane, trichloro- (chloroform); 	
CHCl ₃ ; [67-66-3]	PREPARED BY:
ARIABLES:	
One temperature: 25 ⁰ C	R. Piekos
XPERIMENTAL VALUES:	
Solubility of acetyl sulfisoxazole i (5.01 x 10 ⁻² mol kg ⁻¹ , compiler).	
,	
AUXILIAR	Y INFORMATION
AUXILIAR ETHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
ETHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS: Acetyl sulfisoxazole contained 0.02%
ETHOD/APPARATUS/PROCEDURE: The phase solubility method was employed	SOURCE AND PURITY OF MATERIALS: Acetyl sulfisoxazole contained 0.02% impurities and produced one spot in a
ETHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS: Acetyl sulfisoxazole contained 0.02% impurities and produced one spot in a thin-layer chromatogram.
ETHOD/APPARATUS/PROCEDURE: The phase solubility method was employed	SOURCE AND PURITY OF MATERIALS: Acetyl sulfisoxazole contained 0.02% impurities and produced one spot in a thin-layer chromatogram. Source and purity of the chloroform was
ETHOD/APPARATUS/PROCEDURE: The phase solubility method was employed	SOURCE AND PURITY OF MATERIALS: Acetyl sulfisoxazole contained 0.02% impurities and produced one spot in a thin-layer chromatogram.
ETHOD/APPARATUS/PROCEDURE: The phase solubility method was employed	SOURCE AND PURITY OF MATERIALS: Acetyl sulfisoxazole contained 0.02% impurities and produced one spot in a thin-layer chromatogram. Source and purity of the chloroform was
ETHOD/APPARATUS/PROCEDURE: The phase solubility method was employed	SOURCE AND PURITY OF MATERIALS: Acetyl sulfisoxazole contained 0.02% impurities and produced one spot in a thin-layer chromatogram. Source and purity of the chloroform was
ETHOD/APPARATUS/PROCEDURE: The phase solubility method was employed	SOURCE AND PURITY OF MATERIALS: Acetyl sulfisoxazole contained 0.02% impurities and produced one spot in a thin-layer chromatogram. Source and purity of the chloroform was not specified.
ETHOD/APPARATUS/PROCEDURE: The phase solubility method was employed	SOURCE AND PURITY OF MATERIALS: 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:
ETHOD/APPARATUS/PROCEDURE: The phase solubility method was employed	SOURCE AND PURITY OF MATERIALS: 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)
ETHOD/APPARATUS/PROCEDURE: The phase solubility method was employed	SOURCE AND PURITY OF MATERIALS: 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:
ETHOD/APPARATUS/PROCEDURE: The phase solubility method was employed	SOURCE AND PURITY OF MATERIALS: 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)
ETHOD/APPARATUS/PROCEDURE: The phase solubility method was employed	SOURCE AND PURITY OF MATERIALS: 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:
ETHOD/APPARATUS/PROCEDURE: The phase solubility method was employed	SOURCE AND PURITY OF MATERIALS: 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.,
ETHOD/APPARATUS/PROCEDURE: The phase solubility method was employed	SOURCE AND PURITY OF MATERIALS: 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:

COMP	ONENTS:			ORIGINAL MEASUREMENTS:		
	Acetamide, <u>N-[[4-(acetylamino)phenyl]-</u>			Hekster, Ch. A.; Vree, T. B.		
	sulfonyl]-N-(3,4-d	l]-N-(3,4-dimethyl-5-isoxazolyl)- -diacetylsulfafurazole);		Antibiotics Chemother. <u>1982</u> , 31, 22-	118.	
	$C_{15}H_{17}N_{3}O_{5}S;$ [359		:/ ;			
(2)	Phosphoric acid, d Na ₂ HPO ₄ ; [7558-94	isodium sal	Lt;			
(3)	Phosphoric acid, m		ım salt;			
	KH ₂ PO ₄ ; [7778-77-0] 4) Water; H ₂ O; [7732-18-5] VARIABLES:			PREPARED BY:		
_				R. Piekos		
	pH					
EXPI	ERIMENTAL VALUES:					
		рН	Solu	oility at 25°C		
		P11	mg/l	$10^5 \text{ mol } dm^{-3} a$		
		5.5	12.3	3.50		
		7.5 ^b	5.2	1.50		
		^a Calcula	ted by comp	ller		
			•	of 7.0 is given in		
		the art				
				ial name is N ¹ ,N ⁴ -diacetyl-		
				lai name is h ,h -diacetyi-		
		sulfiso:	xazole			
	<u></u>		AUXILIARY	INFORMATION		
MET	HOD/APPARATUS/PROCED	URE :		SOURCE AND PURITY OF MATERIALS:		
The	earlier developed r	method (1)	was used	Neither source nor the purity of the		
	rsonal communication			materials was specified.		
	N ⁴ -diacetylsulfafura					
pho	sphate buffers of ph	ł 5.5 and 7	.5 at 25°C.			
The	concn of the solute	e was measu	red by			
mea	ns of a Spectra Phys	sics 3500B	high-per-			
for	mance liquid chromat	ograph equ	ipped with			
a M	odel 748 column over	n and a Pye	-Unicam			
LC-	UV spectrophotometri	lc detector	•	ESTIMATED ERROR:		
				Soly: the detection limit of the solute HPLC was 0.5 mg/l (authors). The errors 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.		
			and the second			

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COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(2,5-	
dimethyl-2,3-dihydroisoxazolyl)-	Kitao, K.; Kubo, K.; Morishita, T.;
$C_{11}H_{13}N_{3}O_{3}S;$ [51543-32-9]	Yata, N.; Kamada, A.
(2) Water; H ₂ 0; [7732-18-5]	Chem. Pharm. Bull. <u>1973,</u> 21, 2417-26.
VARIABLES:	PREPARED BY:
One temperature: 37°C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of 4-amino-N-(2,5-dimethyl	-2,3-dihydroisoxazolyl)benzene-
sulfonamide in water at 37 ⁰ C is 7.59	mmol dm ⁻³ solution.
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	
	SOURCE AND PURITY OF MATERIALS;
The sulfonamide was detd in the aq soln	The sulfonamide was synthesized by the
(pH 6) by diazotization. No details were	authors. its purity was not specified.
given.	Deionized water was used.
	DAMINUMPA DADAD
	ESTIMATED ERROR: Soly: not specified.
	Temp: $\pm 1^{\circ}C$ (authors).
	Long, II o (utenoito).
	REFERENCES :

COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(2,5-	Kitao, K.; Kubo, K.; Morishita, T.;
dimethyl-2,3-dihydroisoxazolyl)-;	Yata, N.; Kamada, A.
1	
$C_{11}H_{13}N_{3}O_{3}S;$ [51543-32-9]	Chem. Pharm. Bull. <u>1973</u> , 21, 2417-26.
(2) Methane, trichloro-; CHC1 ₃ ; [67-66-3]	
VARIABLES:	PREPARED BY:
One temperture: 37°C	R. Piekos
	i
EXPERIMENTAL VALUES:	
Solubility of 4-amino-N-(2,5-dimethyl-	-2,3-dihydroisoxazolyl)benzene-
sulfonamide in CHCl ₃ at 37°C is 29.7 m	mor am solution.
1	
AUXILIARY	INFORMATION
	······
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
One m1 of the CHC1 ₃ soln of the sulfonamide	The sulfonamide was synthesized by the
at equilibrium was taken into a test tube.	authors. Its purity was not specified.
After evapn of the solvent, the residue was	Neither source nor purity of the CHCl ₃
dissolved in 1N HCl, the soln was properly	was specified.
dild with deionized water, and the concn	1
of the sulfonamide was detd by diazotization.	
	ESTIMATED ERROR:
	Soly: not specified.
	Temp: ±1°C (authors).
	REFERENCES:
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COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-2-	Anderson, G. W.; Faith, H.E.; Marson, H.W.;
oxazoly1-; C ₉ H ₉ N ₃ O ₃ S; [17103-51-4]	Winnek, P. S.; Roblin, R. O. Jr.
(2) Water; H ₂ 0; [7732-18-5]	J. Am. Chem. Soc. <u>1942</u> , 64, 2902–5.
VARIABLES:	PREPARED BY:
One temperature: 37 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of 4-amino-N-2-oxazolylben	zenesulfonamide in water at 37 ⁰ C
is 282 mg/100 cm ³ solution (1.18×1	0^{-2} mol dm ⁻³ , compiler).
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Excess sulfonamide in water was heated and	The sulfonamide, mp 175-6 ⁰ C (cor), was
stirred on a steam bath for 30 min. The	prepd by the authors. Anal. %C 45.0
suspension was then agitated for 24 h in a	(calcd 45.2); %H 3.9 (3.8); %N 17.6
thermostat. A sample of the satd soln was	(17.6).
withdrawn through a glass filter, dild, and	Purity of the water was not specified.
analyzed by the Marshall method (1) using a	
General Electric recording spectrophotometer	
for comparing the colors developed with	
those of the standards.	ESTIMATED ERROR:
	Nothing specified
	REFERENCES :
	1. Bratton, A.C.; Marshall, E. K., Jr.
	J. Pharmacol. <u>1939</u> , 66, 4.

 COMPONENTS: (1) Benzenesulfonamide, 4-amino-N-(4,5-dimethyl-2-oxazolyl)-; C₁₁H₁₃N₃O₃S; [729-99-7] (2) Hydrochloric acid: HC1; [7647-01-0] (3) Sodium chloride; NaC1; [7647-14-5] (4) Water; H₂O; [7732-18-5] 	ORIGINAL MEASUREMENTS: Hamlin, W.E.; Northam, J.J.; Wagner, J.G. J. Pharm. Sci. <u>1965</u> , 54, 1651-3.
VARIABLES: One temperature: 37 ⁰ C	PREPARED BY: R. Piekos
EXPERIMENTAL VALUES:	L
Solubility of 4-amino-N-(4,5-dimethy a 0.05 N HCl (ionic strength 0.1 wit is 6.10 mg/ml solution (2.28 x 10 ⁻	h NaCl; pH 1.3) solution at 37°C
AUXILIARY	INFORMATION
METHOD / APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
Excess powd compd was equilibrated in a thermostat by rotating a vial contg the suspension for at least 48 h. The soln was filtered from excess solids at 37°C. The filtrate, after appropriate diln, was assayed	The sulfonamide was a brand of Normark- Werke GmbH, Hamburg, Germany. Its purity was not specified. Purity of the remaining materials was not
spectrophotometrically.	

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COMPONENTS :	e	N (/ 5	ORIGINAL MEASUREMENTS:		
(1) Benzenesulfonamide, 4-amino-N-(4,5- dimethyl-2-oxazolyl)- (sulfuno); C ₁₁ H ₁₃ N ₃ O ₃ S; [729-99-7]					M.; Martinek, A. <i>Acta</i> . 1956, 909-
 Phosphoric acid, disodium salt; Na₂HPO₄; [7558-94-4] 					
 (3) Phosphoric acid, monopotassium salt; KH₂PO₄; [7778-77-0] 					
4) Water; H ₂	0; [7732-18-5]		PREPARED BY:		
ARIABLES: pH			R. Piekos		
EXPERIMENTAL V	ALUES:				
		Solubili	ty of sulfuno i	n a 0.066 1	1 phosphate
	рН		ty of sulfuno in a 0.066 M phosphate according to Sørensen) at 20 ⁰ C line form I Crystalline form II		
		mg%	$10^3 \text{ mol } \text{dm}^{-3} \text{ a}$	mg% 10	$mo1 dm^{-3} a$
	6.0	96.1	3.595	87.6	3.277
	7.3	167.7	6.274	145.6	5.447
	^a Calculated	by compiler			
		AUXILIARY	INFORMATION		
METHOD/APPARAT	US/PROCEDURE:	<u> </u>	SOURCE AND PU	RITY OF MAT	TERIALS:
	e buffer soln wer	-	}	able form	II of sulfuno was
	essel, agitated fo				Ined by recrystn o
exclusion of oxygen, filtered, and the				• •	L. Distilled wate
sulfonamide was assayed in the filtrate by					and purity of the
uv spectrophometry. The solid phase was			remaining ma	terials was	s not specified.
examd for iden	tity of the cryst	form.			
			ESTIMATED ERF	OR:	
			Soly: not s	•	
				pecified C (authors	3)
			REFERENCES :		

COME	PONENTS :	ORIGINAL MEASUREMENTS:
(1)	Benzenesulfonamide, 4-amino-N-(4,5- dimethyl-2-oxazolyl)- (sulfuno); C ₁₁ H ₁₃ N ₃ O ₃ S; [729-99-7] Hydrochloric acid; HC1; [7647-01-0]	Kuhnert-Brandstätter, M.; Martinek, A. <i>Microchim. Ichnoaral. Acta</i> <u>1956</u> , 909-19.
(3)	1,2,3-Propanetricarboxylic acid, 2-hydroxy-, disodium salt; C ₆ H ₆ Na ₂ O ₇ ; [144-33-2]	
(4)	Water; H ₂ 0; [7732-18-5]	PREPARED BY:
VARI	ABLES: One temperature: 20 ⁰ C; one pH: 3.8	R. Piekos
EXPI	ERIMENTAL VALUES:	

Solubility of crystalline forms I and II of sulfuno in a 0.066 M citrate buffer (according to Sørensen) of pH 3.8 at 20° C is 91.7 mg% (3.40 x 10^{-3} mol dm⁻³, compiler) and 84.6 mg% (3.16 x 10^{-3} mol dm⁻³, compiler), respectively.

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Sulfuno and the buffer soln were placed in a polyethylene vessel, agitated for 3.5 h un- der exclusion of oxygen, filtered, and the sulfonamide was assayed in the filtrate by uv spectrophotometry. The solid phase was examd thermomicroscopically for identity of the cryst form.	A comm available form II of sulfuno was used. Form I was obtained by recrystn of form II form 2-propanol. Distilled water was used. The source and purity of the remaining materials was not specified.
	ESTIMATED ERROR: Soly: not specified pH : not specified Temp: ±0.5°C (authors) REFERENCES:

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COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(5-methyl-	Anderson, G. W.; Faith, H.E.; Marson, H.W.;
1,2,4-oxadiazol-3-y1)-;	Winnek, P. S.; Roblin, R. O., Jr.
[723-47-7]	J. Am. Chem. Soc. <u>1942</u> , 64, 2902-5.
(2) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: 37 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of 4-amino-N-(5-methyl-1,2, in water at 37 ⁰ C is 113 mg/100 cm ³ sol	4-oxadiazol-3-yl)benzenesulfonamide ution (4.44 x 10 ⁻³ mol dm ⁻³ , compiler).
AUXILIARY	INFORMATION
METHOD / APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
Excess sulfonamide in water was heated and	The sulfonamide, mp 211-13 ^o C, was prepd by
stirred on a steam bath for 30 min. The	the authors. Anal: %C 42.7 (calcd 42.5);
suspension was then agitated for 24 h in a	ZH 3.8 (3.9); ZN 22.2 (22.0). Purity of
thermostat. A sample of the satd soln was	the water was not specified.
withdrawn through a glass filter, dild, and	
analyzed by the Marshall method (1) using	
a General Electric recording spectrophoto-	
meter for comparing the colors developed	
with those of the standards.	ESTIMATED ERROR:
	Nothing specified
	REFERENCES :
	1. Bratton, A. C.; Marshall, E. K. Jr.
	III. BEATTOD. A. C. MARCHALL, K. K. IP
	J. Pharmacol. <u>1939</u> , 66, 4.

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(4-methyl-	Anderson, G. W.; Faith, H.E.; Marson, H.W.;
1,2,5-oxadiazo1-3-y1)-; C ₉ H ₁₀ N ₄ O ₃ S;	Winnek, P. S.; Roblin, R. O., Jr.
[17103-53-6]	J. Am. Chem. Soc. 1942, 64, 2902-5.
	<u></u> ,,
(2) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: 37 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	· · · · · · · · · · · · · · · · · · ·
Solubility of 4-amino-N-(4-methyl-1,2,5	-oxadiazol-3-y1)benzenesulfonamide
in water at 37°C is 180 mg/100 cm ³ solu	ution ($7.08 \times 10^{-3} \text{ mol dm}^{-3}$, compiler).
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Excess sulfonamide in water was heated and	The sulfonamide, mp 148-50°C (cor), was
stirred on a steam bath for 30 min. The	prepd by the authors. Anal: %C 42.3
suspension was then agitated for 24 h in a	(calcd 42.5); %H 4.4 (3.9); %N 22.0
thermostat. A sample of the satd soln was	(22.0). Purity of the water was not
withdrawn through a glass filter, dild, and	specified.
analyzed by the Marshall method (1) using a	
General Electric recording spectrophotometer	
for comparing the colors developed with	
those of the standards.	ESTIMATED ERROR:
	Nothing specified.
	Nothing specified.
	REFERENCES:
	1. Bratton, A. C.; Marshall, E. K., Jr.
	J. Pharmacol. <u>1939</u> , 66, 4.

COMPONENTS: (1) Benzenesulfonamide, 4-amino-N-2-			EVALUATOR: Anthony N. Paruta		
	(sulfathiazole)	6	Department of		
$C_{9}H_{9}N_{3}O_{2}S_{2};$	[72-14-0]		University of		
°9"9"3°2°2'	[/2-14-0]		•	le Island, USA	
Water			and	te istand; USA	
			Ryszard Piekos	4	
Aqueous phosp	hate buffer		Faculty of Pharmacy, University of Gdansk Gdansk, Poland 1986		
ITICAL EVALUATIO	N:				
The solubili	ty data available	for sulfath:	Lazole cover a	44 year span and are summa-	
Lzed in Table I.	•			<i>,</i>	
able I: Solubil	ity of Sulfathiaz	ole in water	at various tem	perature	
		10 ³ mol	dm ⁻³ (*indicat	es mol kg ⁻¹)	
Reference	293K	298K	303К	310К	
1	-	2.35(299K)	-	-	
2	-	-	-	3.7	
3	-	2.35(298.9K)) –	· 3.56	
4	-	-	-	23.5	
5	-	1.96*(299K)		3.76*	
6	1.45*	-	-	3.45*	
7	2.7*	-		-	
8	2.0(291-292K)	-	-	-	
9	-	-	-	3.72	
10	-	-	-	1.9	
11	-	-	2.43	-	
12	-	-	2.27	-	
13	1.76*(Form II)	-	-	-	
14	-	-	2.350(α)	3.055(α,308K)	
15	1.68	-		-	
16	-	1.837(a)	-	3.122(α,308K)	
17	1.7	-	-	-	
18	1.394(pm)	1.837(pm)	2.400(pm)	3.122(pm,308K)	
19	-	-	2.34	-	
20	1.5*	-	-	-	
21	-	-	2.5	_	
22	-	1.821(a)	2.326 (a)	3.094(α,308K)	
22	-	3.29 (B)	4.308(β)	5.354(β,308K)	
23	-	-	-	2.56 (pH = 4)	
24	-	-	-	3.13	
25	-	-	-	3.44	
26	-	3.05	-	-	
27	-	-	-	3.44	
28	1.3	-	-	-	
	polymorphs				
	boramorbus				
pm					

The solubility of the most stable form (1) at values temperatures is deal with initially followed by a discussion of the polymorphic forms and their effect on solubility. In the column of values at 293K, those of Weinstein and McDonald (7) and Becher and Leya (8) should be disregarded as being substantially higher than the rest and not considered further. The solubility reported by Kuhnert-Brandstätter and Martinek (13) of a form II (probably the same as "normal" sulfathiazole) is quite similar to those given for "normal" sulfathiazole. Since there is some question as to the identity of this form (13), the value was not considered further. The values of Ito and Sekiguchi (18) at the four temperatures, are not considered for the "normal" sulfathiazole, but for the alpha (α) form solubility discussion. The remaining values (6,15,17,20,28) were considered as potentially acceptable in deriving a pool of "good" values.

Sapozhnikova and Postovskii (6) used an equilibrium time of one hour was not considered further despite their reasonable values. The values of Miseta, Kedvessy and Selmeczi (28), while no doubt at equilibrium (2 days), gave only an approximate solubility of one part in 3000, thus not considered as accurate as the other values given. The remaining values (15,17,20,28) are the pool of acceptable values. The recommended value for sulfathiazole at 293K is the average of the four values (15,17,20,28) and is given as 1.6 x 10^{-3} mol dm⁻³. Values given at 298K by two workers (22,26) were quite high. The solubility of the beta (β) form (22) is also quite high both at 303K and 308K. The values reported at 298K-299K (1,3,5) are not sufficiently similar to allow a recommended value since the value given in (3) is a repeat of the value given in (1).

Sulfathiazole has two crystalline forms, one melts at 493K, the other at 445K, which are expected to exhibit different solubilities (14,16,18,22). Sanchez (14) and Kanke

and Sekiguchi (22) specifically annotate the lower melting-point alpha form of this compound, and the values at 298K, 303K and 308K are very close to one another. Although Sekiguchi and Ito (16,18) do not specifically identify the solubility values for the alpha form, the similarity of the results leads to the probable conclusion that they refer to the lower melting point form. Thus, recommended values for the alpha form are 1.832 x 10^{-3} mol dm⁻³ at 298K, 2.338 x 10^{-3} mol dm⁻³ at 303K, and 3.098 x 10^{-3} mol dm⁻³ at 308K. At 303K, the values (11,12,19,21) were close to lead to an average value of 2.4 x 10^{-3} mol dm⁻³. This value should be compared with the recommended value of 2.338 x 10^{-3} mol dm⁻³ for the alpha form are quite similar. While there may be some doubt as to the crystalline form in the work of Bhattacharyya and Basu (11), there is no doubt that the Higuchi and Lach (12) used the higher melting point beta (β) form, to which recrystallization usually leads. Yamazaki et al. (19) did not specify the form of the sulfathiazole. Since there is some doubt about the forms used in these reports, the average value given above can only be considered tentative.

At body temperature, 310K, there were eight values reported (2,3,5,6,9,10,24,25,27). That given by Tréfouël (4) is obviously too high, and that of Kitao et al. (23) refers to pH = 4. Neish's (10) value is too low, as is that of Dubois and Tawashi (24) and were not considered further. The remaining values (2,3,5,6,9,25,27) were averaged, and a recommended value of 3.6 x 10^{-3} mol dm⁻³ for sulfathiazole in water at 310K can be given.

The solubility of sulfathiazole in aqueous buffers have been studied at two temperatures (29,30,31) as shown in Table II. There are slight differences in the pH values reported and it is assumed that pH 5.9 and pH 6.9 can be considered as pH 6 and pH 7 for purposes of this evaluation.

Table II: Solubility of Sulfathiazole in aqueous buffer systems at various pH values at two temperatures

			10 ³ mol dm ⁻³
Reference pH		293K	310K
29	6*	2.115	3.76
30	6	2.00	-
31	6**	-	3.68
29	7	2.820	6.306
30	7	2.54	-
31	7***	-	7.99
29	8	5.640	-
30	8	4.90	-
* pH •	5.906	** pH = 5.9	*** pH = 6.9

At a pH 6,7,8 Krüger-Thiemer (29) and Pulver and Suter (30) give values at 293K, showing good agreement at pH 6 and 7, but a 15% variance at a pH = 8. At pH 6 and 7, the recommended values at 293K are 2.06 x 10^{-3} mol dm⁻³ and 2.68 x 10^{-3} mol dm⁻³ respectively. At 310K, Krüger-Thiemer (29) and Langecker (31) provided a set of values at pH 6, and the recommended value is 3.72×10^{-3} mol dm⁻³.

It is instructive to compare the values in buffer and water: the value in water at 293K is 1.62×10^{-3} mol dm⁻³, which is about 78% of that in buffer at pH 6. At neutrality, the water solubility is about 60% of the buffer value. At 310K, however, the aqeuous value is 96% of the buffer value. There are several problems associated with the above data at different pH (29-31). There is no recognition of the change in the pkw with temperature which would somewhat affect the pH values in the Table. Pulver and Suter (31) do not give any specific information for methods, purity and error. Krüger-Thiemer (29) use a two hour equilibrium time at 293K which may not be sufficient. In Langecker's work (31) there is an inconsistency in the tabular data which show a higher solubility at pH 4.9 compared to pH 5.9. However, Krüger-Thiemer(29) show an increasing solubility with increasing pH. Therefore, these results while interesting are magnitude directing and considered approximate.

REFERENCES:

(1)	Lott, W.A., Bergeim, F.H. J. Am. Chem. Soc. <u>1939</u> , 61, 3593-4.
(2)	Roblin, R.O., Jr.; Williams, J.H.; Winnek, P.S.; English, J.P. J. Am. Chem. Soc.
	<u>1940, 62, 2002–5.</u>
(3)	Durel, M.P.; Allinne, M. Bull. Soc. Med. Hop. Paris III 1941, 251-9.
(4)	Trefouël, M. Bull. Acad. Med. Paris <u>1941,</u> 124, 546-54.
(5)	Clark, W.G.; Strakosch, E.A.; Levitan, N.I. J. Lab. Clin. Med. 1942, 28, 188-9
(6)	Sapozhnikova, N.V.; Postovskii, I.Ya. Zh. Prikl. Khim. <u>1944,</u> 17, 427-34.
	Weinstein, L.; McDonald, A. Science 1945, 101, 44-5.
(8)	Becher, R.; Leya, S. <i>Experientia</i> <u>1946,</u> 2, 459-60.
(9)	Langecker, H. Arch. Exptl. Path. Pharmakol. 1948, 205, 291-301.
	Neish, W.J.P.; Rec. trav. chim. <u>1948</u> , 67, <u>361</u> -71.
(11)	Bhattacharyya, R.; Basu, U.P. Indian Pharmacist 1950, 6(3), 77-8, 86.

REFERENCES: Higuchi, T.; Lach, J.L. J. Amer. Pharm. Assoc., Sci. Ed. <u>1954</u>, 43, 349-54. Kuhnert-Brandstätter, M.; Martinek, A. Microchim. Ichnoanal. Acta <u>1956</u>, 909-19. Sánchez, F.M.E. Rev. Fac. Farm. Univ. Central Venezuela <u>1962</u>, <u>3(7)</u>, (12)(13)(14)31-45. Likhol'ot, N.M. FArm. Zh. (Kiev) 1965, 20(5), Sekiguchi, K. Ito, K. Chem. Pharm. Bull. 1965, Gusyakov, V.P.; Likhol'ot, N.M.; Kutna, I.M. Farm. 20(5), 44-6. (15) 405-13. (16) 13(4), Zh. (Kiev) 1967, 22(3), (17)34-9. Ito, K.; Sekiguchi, K. Chem. Pharm. Bull. <u>1967</u>, 15(4), 420 Yamazaki, M. Aoki, M.; Kamada, A.; Yata, N. Yakuzaigaku <u>1967</u>, Shkadova, A.I. Farm. Zh. (Kiev) <u>1969</u>, 24(3), 39-41. 420-6. (18)(19) 27(1), 37-40. (20) Mehta, S.C.; Bernardo, P.D.; Higuchi, W.I.; Simonelli, A.P. J. Pharm. Sci. 1970, (21) 59(5), 638-44. Kanke, M.; Sekiguchi, K. Chem. Pharm. Bull. <u>1973</u>, 21(4), 878-84. Kitao, K.; Kubo, K.; Morishita, T.; Yata, N.; Kamada, A. Chem. Pharm. Bull. (22) (23) 1973, 21, 2417-26. Dubois, S.; Tawashi, R. Pharm. Acta Helv. <u>1975</u>, Kaneniwa, N.; Watari, N. Chem. Pharm. Bull. <u>1978</u>, Badawi, A.A.; El-Sayad, A.A. J. Pharm. Sci. <u>1980</u>, <u>1975,</u> 50, 184-7. (24) 26(3), 813-26. (25) 69(5), 492-7. (26) Watari, N.; Kaneniwa, N.; Hanano, M. Int. J. Pharm. 1980, 6(2), 155-66. (27) (28) Miseta, M.; Kedvessy, G.; Selmeczi, B. Pharmazie <u>1983</u>, <u>38</u>(5), 326-7. (29) Krüger-Thiemer, E. Arch. Dermatol. Syphilis <u>1942</u>, 183, 90-116. (30) Pulver, R.; Suter, R. Schweiz. Med. Wochenschr. <u>1943</u>, 73(13), 403-8. (31) Langecker, H. Arch. Exptl. Path. Pharmakol. <u>1948</u>, 205, 291-301.

COMPONENTS :	ORIGINAL MEASUREMENTS:
 Benzenesulfonamide, 4-amino-N-2- 	Lott, W. A.; Bergeim, F. H.
thiazoly1- (sulfathiazole);	J. Am. Chem. Soc. <u>1939</u> , 61, 3593-4.
$C_{9}H_{9}N_{3}O_{2}S_{2};$ [72-14-0]	<u></u> ,,
(2) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: 26 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
EXPERIMENTAL VALUES:	
Solubility of sulfathiazole in wate	r at 26 ⁰ C is about 60 mg/100 cm ³
$(2.35 \times 10^{-3} \text{ mol dm}^{-3}, \text{ compiler })$	
(1000 m 20 m 20 m 7 comparer)	
AUXILIARY	INFORMATION
METHOD /APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
Nothing specified	Sulfathiazole, mp 197-7.5 ⁰ C (uncor) and
	202.0-2.5 ⁰ C (cor) was prepd by the
	authors. Purity of the water was not
	specified.
	ESTIMATED ERROR:
ļ	
	Nothing specified
	REFERENCES:

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COMPONENTS :	ORIGINAL MEASUREMENTS:
 Benzenesulfonamide, 4-amino-N-2- thiazolyl- (sulfathiazole); C₉H₉N₃O₂S₂; [72-14-0] Water; H₂O; [7732-18-5] 	Roblin, R. O., Jr.; Williams, J. H.; Winnek, P. S.; English, J. P. <i>J. Am. Chem. Soc.</i> <u>1940</u> , <i>62</i> , 2002-5.
VARIABLES:	PREPARED BY:
One temperature: 37 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfathiazole in water (3.7 x 10 ⁻³ mol dm ⁻³ , compiler).	
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Excess sulfathiazole in water was heated and	Sulfathiazole had mp of 201-2 ⁰ C (cor),
stirred on a steam bath for 30 min. The	consistent with the literature data.
suspension was then agitated for 24 h in a thermostat at 37°C. A sample of the satd soln was withdrawn through a glass filter, dild, and analyzed by the Marshall method (1) using a General Electric recording spectrophotometer for comparing the colors	Purity of the water was not specified.
developed with those of the standards.	ESTIMATED ERROR:
	Nothing specified
	REFERENCES :
	 Bratton, A.C.; Marshall, E. K., Jr. J. Pharmacol. <u>1939</u>, 66, 4.

COMPONENTS:	ORIGINAL MEASUREMENTS:
 Benzenesulfonamide, 4-amino-N-2- 	Durel, M. P.; Allinne, M.
	Bull, Soc. Med. Hop. Paris III
thiazolyl- (sulfathiazole);	
$C_{9}H_{9}N_{3}O_{2}S_{2};$ [72-14-0]	<u>1941</u> , 251-9.
(2) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: 37 ^o C	R. Piekos
one cemperature: 57 C	K. Flekos
EXPERIMENTAL VALUES:	
Solubility of sulfathiazole in water	at 37°C is 0.91 g/liter
$(3.56 \times 10^{-3} \text{ mol dm}^{-3}, \text{ compiler }).$	0.
(3.56 x 10 ° mol dm °, compiler).	
	INFORMATION
METHOD / APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
A mixt of sulfathiazole and water was agi-	Source and purity of sulfathiazole was
tated for 24 hours at 37°C.	not specified.
	Distilled water was used.
	ESTIMATED ERROR:
	Nothing specified
	REFERENCES :

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COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-2-	Trefouël, M.
thiazolyl- (sulfathiazole);	Bull. Acad. Med. Paris <u>1941</u> , 124,
$C_{9}H_{9}N_{3}O_{2}S_{2};$ [72-14-0]	546-54.
(2) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: 37 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfathiazole in water	at 37 ⁰ C is 0.6 part per 100 parts
water (2.35 x 10^{-2} mol kg ⁻¹ , water	, compiler).
	•
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Sulfathiazole was diazotized, coupled with	Nothing specified
N-naphthyl-l-N-diethyl-3-propylenediamine	
and assayed colorimetrically.	
	ESTIMATED ERROR:
	Nothing specified
	DEDERBUANA
	REFERENCES:

COMPONENTS	•		ADICINAL MEASUDEMENTS.	
COMPONENTS: (1) Benzenesulfonamide, 4-amino-N-2-			ORIGINAL MEASUREMENTS:	
	(1) Benzenesulfonamide, 4-amino-N-2- thiazolyl- (sulfathiazole);		Clark, W. G.; Strakosch, E. A.; Levitan, N. I. J. Lab. Clin. Med.	
	N ₃ 0 ₂ S ₂ ; [72-		1942, 28, 188-9.	
	r; H ₂ 0; [77		<u>1772</u> , 203, 100 %	
(1) "400		52 20 5]		
VARIABLES:	······································	· · · · · · · · · · · · · · · · · · ·	PREPARED BY:	
1	Temperature		R. Piekos	
EXPERIMENT	AL VALUES:			
	t/ ^o C	Solubilit	у	
	t/°C	g/100 g water	$10^3 \text{ mol kg}^{-1} \text{ water}^{a}$	
	26	0.0502	1.96	
	37	0.0960	3.76	
		lated by compiler		
	Carcu	lated by compiler		
100 miles (100		······	INFORMATION	
	PARATUS / PROCEI		SOURCE AND PURITY OF MATERIALS:	
	-	ontainer contg excess	Neither source nor purity of sulfathiazole	
		was shaken in a water	was specified.	
		h. The satd soln was	CO ₂ -free distd water was used.	
		ation through a washed		
		ter stick into a		
weighed we	eighing bottl	e. The entire app was		
kept at th	he temp at wh	ich the compd was dis-		
		lved was then detd by		
the method	d of Bratton	and Marshall (1), using	ESTIMATED ERROR:	
a photoele	ectric colori			
			Soly: not specified	
			Soly: not specified Temp: ±0.1 ⁰ C (authors)	
			Temp: ±0.1 ⁰ C (authors)	
			Temp: ±0.1 [°] C (authors) REFERENCES:	
			Temp: ±0.1 ^o C (authors) REFERENCES: 1. Bratton, A. C.; Marshall, E. K. Jr.	
			Temp: ±0.1 ^o C (authors) REFERENCES: 1. Bratton, A. C.; Marshall, E. K. Jr.	
			Temp: ±0.1 ^o C (authors) REFERENCES: 1. Bratton, A. C.; Marshall, E. K. Jr.	

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COMPONENTS :			ORIGINAL MEASUREMENTS:
(1) Benzenesulf	fonamide, 4-	-amino-N-2	Sapozhnikova, N. V.; Postovskii, I. Ya.
thiazoly1-	(sulfathia:	zole);	Zh. Prikl. Khim. <u>1944,</u> 17, 427-34.
C9H9N302S2;	[72-14-0]		
(2) Water; H ₂ (); [7732-18	3-5]	
VARIABLES:			PREPARED BY:
Tempe	erature		R. Piekos
EXPERIMENTAL VAL	UES:		
		Solub	414
	t/ ^o C _		
		Weight%	10 ³ mol kg ⁻¹ water ^a
	20	0.0370	1.45
	37	0.0880	3.45
	50	0.1680 ^b	6.59
	75	0.530	20.87
	99	1.20; 1.32	47.57 ; 52.39
	a	ated by compiler	
	^D calcula	ated from the heat of	of dissolution
			INFORMATION
	(0000000000	• • • • • • • • • • • • • • • • • • • •	
METHOD/APPARATUS Sulfathiazole w			SOURCE AND PURITY OF MATERIALS: Pure, recrystd sulfathiazole was used.
			Its mp conformed to that reported in the
			literature.
			Purity of the water was not specified.
)-cm ³ samples of	r
		in Pt crucibles	
or dishes and e	-		
lower than 110-		-	
dried to const	wt at 105-1	10 ⁰ C and weighed.	ESTIMATED ERROR: Soly: quite reliable re-
			sults were obtained over the temp range 20-75°C. At higher temps the accuracy was
			poor due to evapn of water during sampling
			(authors). Temp: ±0.05 ^o C (authors). REFERENCES:
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COMPONENTS:	ORIGINAL MEASUREMENTS:
 Benzenesulfonamide, 4-amino-N-2- 	Weinstein, L.; McDonald, A.
thiazolyl- (sulfathiazole); [72-14-0]	Science, <u>1945</u> , 101, 44-5.
(2) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: 20 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	i
EXPERIMENTAL VALUES:	
Solubility of sulfathiazole in wate	er at 20° C is 69 mg/100 cm ³
water (2.7 x 10^{-3} mol kg ⁻¹ , compil	
water (2.7 x 10 - moi kg , compil	Ler J.
······	
	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Nothing specified	Nothing specified
	B -f
	ESTIMATED ERROR:
	Nothing specified
	DEPENDING
	REFERENCES :

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COMPONENTS :	ORIGINAL MEASUREMENTS:
 Benzenesulfonamide, 4-amino-N-2- 	Becher, R.; Leya, S. Experientia,
thiazolyl- (sulfathiazole);	1946, 2, 459-60.
$C_{9}H_{9}N_{3}O_{2}S_{2};$ [72-14-0]	<u>1940</u> , 2, 499-00.
(2) Water; H_2O ; [7732-18-5]	
(2) water, n_20 , $[7/32-10-5]$	
VARIABLES:	PREPARED BY:
One temperature: 18-19 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
	(10, 10,00)
Solubility of sulfathiazole in wate	
is 50 mg% (2.0 x 10^{-3} mol dm ⁻³ , co	mpiler).
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
After standing for more than two days the	Nothing specified
soln of sulfathiazole in water was filtered	
and sulfathiazole was assayed in the filtrate	
colorimetrically by the method of Druey and	
Oesterheld (1).	
	ESTIMATED ERROR:
	Nothing specified
	REFERENCES :
	1. Druey, J.; Oesterheld, G.
	Helv. Chim. Acta <u>1942</u> , 25, 753.

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COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-2-	Langecker, H.
thiazolyl- (sulfathiazole);	Arch. Exptl. Path. Pharmakol. <u>1948</u> ,
C ₉ H ₉ N ₃ O ₂ S ₂ ; [72-14-0]	205, 291-301.
(2) Water; H ₂ 0; [7732-18-5]	
VARIABLES: One temperature: 37 ⁰ C	PREPARED BY: R. Piekos
one competitute: 57 6	A. TIEKOS
EXPERIMENTAL VALUES:	
Solubility of sulfathiazole in water	at 37° C is 95 mg% (3.721 x 10^{-3}
mol dm^{-3} , compiler).	
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
An excess of sulfathiazole was boiled with	Nothing specified
water and left for 24 h in a vessel protected	
from access of CO ₂ . The concn of sulfanil-	
amide was detd by the method of Bratton and	
Marshall (1) using a Havemann colorimeter	
(2), as well as by microanal detn of the	
solid residue.	
	ESTIMATED ERROR:
1	Nothing specified
	REFERENCES :
	 Bratton, A. G.; Marshall, E. K. J. Biol. Chem. <u>1939</u>, 128, 537.
	1. Havemann, R. Klin. Wochenschr.
	<u>1940</u> , p. 503.
	<u></u> , p. 505.

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COMPONENTS:	ORIGINAL MEASUREMENTS:
 Benzenesulfonamide, 4-amino-N-2- 	Neish, W. J. P. Rec. trav. chim.
thiazolyl- (sulfathiazole);	<u>1948</u> , 67, 361-71.
$C_{gH_{g}N_{3}O_{3}S_{2}};$ [72-14-0]	<u>1740</u> , 07, 301-71.
(2) Water; H_20 ; [7732-18-5]	
(2) water; 1120; [7732-10-5]	
VARIABLES:	PREPARED BY:
One temperature: 37 ⁰ C	R. Piekos
	A. FIEROS
EXPERIMENTAL VALUES:	
Solubility of sulfathiazole in water a	t 37 ⁰ C is 490 Y/ml
$(1.9 \times 10^{-3} \text{ mol dm}^{-3}, \text{ compiler }).$	
	INFORMATION
METHOD /APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
A suspension of sulfathiazole in water was	Sulfathiazole : not specified.
kept for 5 h at 37°C and 1 h at room temp	The distd water was used.
before filtration. Soly was detd by the	
Westfall's method (1) based on diazotization	
of the sulfonamide, coupling with Na 2-	
napthol-3,6-disulfonate and comparing the	
color with that of a satd soln in a Klett	
colorimeter.	
	ESTIMATED ERROR:
	Nothing specified.
	REFERENCES:
	1. Westfall, B. B. J. Nat. Cancer Inst.
	<u>1945</u> , 6, 23.

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-2-	Bhattacharyya, R.; Basu, U. P.
thiazolyl- (sulfathiazole);	Indian Pharmacist <u>1950</u> , 6(3), 77-8, 86.
$C_{9}H_{9}N_{3}O_{2}S_{2};$ [72-14-0]	
(2) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: 30°C	R. Piekos
-	
	······································
EXPERIMENTAL VALUES:	
Solubility of sulfathiazole in water	$at 30^{\circ}$ C is 62 mg par 100 ml
	at so o is of mg ber too mi
$(2.43 \times 10^{-3} \text{ mol dm}^{-3}, \text{ compiler }).$	
	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
A weighed sample of sulfathiazole was placed	Neither source nor purity of the sulfa-
in a clean reagent bottle and a known vol of	thiazole was not specified.
water was added. The mixt was shaken in a	Doubly distd water was used.
mech shaker at 80-100 strokes/min. After	
at least 24 h the mixt was filtered through	
a clean, dried and weighed sintered-glass	
crucible. At the end of the filtration	
the crucible was washed with about 1 ml of	1
water, dried at 105 ⁰ C for 2-3 h, cooled,	ESTIMATED ERROR:
and weighed to const wt.	Soly: not specified
	Temp: ±0.2°C (authors)
	remp: 10.2 C (authors)
	REFERENCES :

COMPONENTS:	ORIGINAL MEASUREMENTS:
 Benzenesulfonamide, 4-amino-N-2- 	Higuchi, T.; Lach, J. L.
thiazoly1- (sulfathiazole);	J. Amer. Pharm. Assoc., Sci. Ed.
$C_{gH_{g}N_{3}}O_{2}S_{2};$ [72-14-0]	1945, 43, 349-54.
(2) Water; H ₂ 0; [7732-18-5]	<u>174</u> , ±0, 547-54.
(2) water, n ₂ 0, [//32-10-5]	
VARIABLES:	
	PREPARED BY:
One temperature: 30°C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfathiazole in water	at 30° C is 2.27 x 10^{-3} mol dm ⁻³
solution (0.58 g dm ^{-3} , compiler).	
AUXILIARY	INFORMATION
METHOD / APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
Excess sulfathiazole (75 mg) was placed in	Recrystd sulfathiazole (U.S.P.), mp
a 125-ml glass-stoppered bottle together	$201-2^{\circ}C$ and distilled water were used.
with 50 ml of water. The bottle was placed	201-2 C and distilled water were used.
-	
in a mech shaker in a const temp bath and	
equilibrated for 8 h at 30°C. Aliquot of	
the supernatant liquid was analyzed for the	
sulfonamide by the method of Bratton and	
Marshall (1).	
1	ESTIMATED ERROR:
	Nothing specified.
	DEPENDING .
	REFERENCES :
	1. Bratton, A. C.; Marshall, E. K. Jr.
	J. Biol. Chem. <u>1939</u> , 128, 537.

COMPONENTS:	ORIGINAL MEASUREMENTS:
 Benzenesulfonamide, 4-amino-N-2-	Kuhnert-Brandstätter, M.; Martinek, A.
thiazolyl- (sulfathiazole);	<i>Michrochim. Ichnoanal. Acta</i> <u>1956</u> ,
C ₉ H ₉ N ₃ O ₂ S ₂ ; [72-14-0] Water; H₂O; [7732-18-5]	909-19.
VARIABLES:	PREPARED BY:
Temperature	R. Piekos
EXPERIMENTAL VALUES:	·····

Crystalline form II Crystalline form I t/⁰C 10² mol kg⁻¹ solution^b 10² mol kg⁻¹ solution^b g/100 g solution g/100 g solution 20.0 0.090 0.352 0.045 0.176 30.0 0.130 0.509 ---___ 30.5 -----0.070 0.274 40.0 0.180 0.705 0.100 0.392 50.0 0.265 1.038 C.180 0.705 59.5 0.410 1.606 0.290 1.136 69.5 0.610 2.389 ----70.0 ----0.515 2.017

 a Numerical data received from the authors b Calculated by compiler

AUXILIARY INFORMATION				
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:			
Sulfathiazole and water were placed in a	A comm available form II of sulfathiazole			
polyethylene vessel, agitated for 3 h,	was used. Form I was obtained by keeping			
filtered, and the sulfonamide was assayed	the comm reagent at 170 ⁰ C for 2 h.			
in the filtrate gravimetrically. The solid	Distilled water was used.			
phase was examd thermomicroscopically				
for identity of the cryst form.				
	ESTIMATED ERROR:			
	Soly: not specified.			
	Temp: ±0.5 [°] C (authors).			
	REFERENCES:			

Saturation solubility^a

COMPONENTS :		ORIGINAL MEASUREMENTS:	
(1) Benzenesulfo	namide, 4-amino-N-2-	Sanchez, F.M.E.	
thiazolyl- (sulfathiazole);	Rev. Fac. Farm. Univ.	Central Venezuela
C9H9N302S2;	[72-14-0]	<u>1962</u> , 3(7), 31-45.	
(2) Water; H ₂ O;	[7732-18-5]		
ARIABLES:	<u> </u>	PREPARED BY:	·····
Tempera	ture	R. Piekos	
EXPERIMENTAL VALUE	S:		
	Solubility of crystall	ine form A of sulfathiazole	
t/ ^o C	mg/1000 cm ³ solution	$10^3 \text{ mol } \text{dm}^{-3} \text{ a}$	
30	600.00	2.350	
35	780.00	3.055	
40	1025.00	4.015	
45	1310.00	5.131	
50	1750.00	6.854	
^a Cal	culated by compiler	······································	
	AUXILIAR	INFORMATION	
METHOD/APPARATUS/	PROCEDURE :	SOURCE AND PURITY OF MATER	RIALS:

AUXILIARI	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
The soly was detd by the std Hill method (1):	Cryst form A of sulfathiazole was prepd
two 0.50-mg samples of sulfathiazole were	by moistening a sample of a FNAR grade
placed in a 100-ml conical test tubes to-	sulfathiazole with abs EtOH followed by
gether with 35 ml of water and stoppered.	drying the sample for 4 h at 60 ⁰ C under
One of the solns was heated to 55°C and the	vacuum. Microscopic detn of the mp showed
other kept at a given temp. Both solns were	the specimen to contain 100% of form A, mp
then kept in a const temp bath. Five-ml sam-	173-5 ⁰ C. Purity of the water was not
ples were withdrawn through a filter into	specified.
500-ml flasks, dild to the mark with water	ESTIMATED ERROR:
and sulfathiazole was assayed at 283 nm	Soly: not specified.
using a Beckman DU spectrophotometer.	Temp: ±0.01 ⁰ C (author).
	REFERENCES:
	1. Weissberger, Pysical methods, Pt. I,
	third edition, p. 677.

COMPONENTS :	ORIGINAL MEASUREMENTS:			
 Benzenesulfonamide, 4-amino-N-2- 	Likhol'ot, N.M. Farm. Zh. (Kiev)			
thiazoly1- (sulfathiazole);				
	<u>1965</u> , 20(5), 44-6.			
$C_{9}H_{9}N_{3}O_{2}S_{2};$ [72-14-0]				
(2) Water; H ₂ 0; [7732-18-5]				
VARIABLES:				
	PREPARED BY:			
One temperature: 20°C	R. Piekos			
EXPERIMENTAL VALUES:				
Solubility of sulfathiazole in water	at 20 [°] C is 0.043 g/100 m1			
$(1.68 \times 10^{-3} \text{ mol dm}^{-3}, \text{ compiler}).$				
(1.68 x 10 mol dm ', compiler).				
AUXILIARY	INFORMATION			
	COURCE AND DUDITY OF WATERLAID.			
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:			
An earlier described method was employed	Nothing specified			
(1) whereby a small excess of sulfathiazole				
was equilibrated with 20 ml of water for 8				
h in a 50-ml test tube. Aliquots were				
withdrawn through a filter and sulfathiazole				
was assayed bromatometrically.				
	ESTIMATED ERROR:			
	Soly: not specified			
	Temp: ±0.1 ⁰ C (authors).			
	DEEEDENCUC.			
	REFERENCES:			
	1. Gusyakov, V. P.; Likhol'ot, N. M.			
	Farm. Zh. (Kiev) <u>1960</u> , 15(8), 21.			
1				

COMPONENTS:ORIGINAL MEASUREMENTS:(1) Benzenesulfonamide, 4-amino-N-2-
thiazoly1- (sulfathiazole);
C9H9N3⁰2^S2; [72-14-0]Sekiguchi, K.; Ito, K.
Chem. Pharm. Bull. 1965, 13(4), 405-13.(2) Water; H20; [7732-18-5]PREPARED BY:
R. Piekos

EXPERIMENTAL VALUES:

-	Solubility		
t/°C	10 ³ mol dm ⁻³ solution	g dm ⁻³ a	
15	1.047	0.2673	
25	1.837	0.4690	
35	3.122	0.7971	

^aCalculated by compiler

AUXILIARY INFORMATION		
METHOD/APPARATUS/PROCEDURE: In a 200-ml egg-plant type flask, immersed in a thermostat, an excess of sulfathiazole was placed with 100 ml of redistd water (pH 5.7~ 5.9) which was previously kept at appropriate	grade. The most stable polymorphic modification was used.	
temp. Immediately after addn of water, the mixt was vigorously agitated with an elec stirrer. Aliquots were withdrawn at certain time intervals with a pipet equipped with		
a filter, and the concn of solute was detd spectrophotometrically at 283 m μ	ESTIMATED ERROR: Soly: not specified Temp: ±0.05 ⁰ C (authors)	
	REFERENCES :	

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-2-	Gusyakov, V.P.; Likhol'ot, N.M.; Kutna, I.M.
thiazolyl- (sulfathiazole);	Farm. Zh. (Kiev) <u>1967</u> , 22(3), 34-9.
$C_9H_9N_3O_2S_2;$ [72-14-0]	
(2) Water; H ₂ 0; [7732-18-5]	
VARIABLES :	PREPARED BY:
One temperature: 20°C	R. Piekos
EXPERIMENTAL VALUES:	
	i
Solubility of sulfathiazole in wate	$r = 120^{\circ}$ (15.0.043 g/100 m)
$(1.7 \times 10^{-3} \text{ mol dm}^{-3}, \text{ compiler})$	
(1.7 x 10 ° mol dm °, compiler)	
AUXILIARY	INFORMATION
ME THOD /APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
An excess of sulfathiazole in water was	Sulfathiazole conformed to the requirements
equilibrated for 24 h in an ampul immersed	of the State Pharmacopeia IX.
in a water thermostat. Aliquots of the satd	Purity of the water was not specified.
soln were withdrawn through a filter and	
the sulfathiazole content was assayed in the	
filtrate photometrically.	
	ESTIMATED ERROR:
	Soly: not specified.
	Temp: ±0.1 ⁰ C (authors).
	REFERENCES :
1	
1	1

COMPONENTS:			ORIGINAL MEASUREMENTS:			
(1) Benzenesulfonamide, 4-amino-N-2-			Ito, K.; Sekiguchi, K.			
thiazolyl- (sulfathiazole);			Chem. Pharm. Bull. <u>1967</u> , 15(4), 420-6.			
$C_{9}H_{9}N_{3}O_{2}S_{2};$ [72-14-0]						
(2) Water; H_20 ; [7732-18-5]						
VARIABLES:			PREPARED BY:			
	Temperatur	e	R. Piekos			
EXPERIMENTAL VALUES:						
		Solub	lity			
	t/ ^o C					
		$10^3 \text{ mol } dm^{-3} \text{ soln}$	g dm ⁻³ a			
	20	1.394	0.3559			
	25	1.837	0.4690			
	30	2.400	0.6127			
	35	3.122	0.7971			
-						
	^a Calcu	lated by compiler				
		AUXILIARY	INFORMATION			
METHOD/APPAR.	ATUS/PROCE	:DURE :	SOURCE AND PURITY OF MATERIALS:			
The earlier described method (1) was used:			Polymorphic modifications of sulfathiazole			
in a 200-m1	egg-plant	type flask immersed in				
a thermostat	, an exce	ss of sulfathiazole was	method of Grove (2).			
placed with 100 ml of distd water which was			Distd water was used.			
previously kept at appropriate temp. Imme-						
diately after addn of water the mixt was						
vigorously agitated by an elec stirrer.						
Aliquots were withdrawn at certain time in-			POTIMATED EDDAD.			
tervals with a pipet equipped with a filter			ESTIMATED ERROR:			
and the concn of solute was detd spectropho-			Nothing specified.			
tometrically at 283 mµ.						
			REFERENCES:			
			l. Sekiguchi, K.; Ito, K.			
			Chem. Pharm. Bull, <u>1965</u> , 13(4), 405.			
			2. Grove, D. C.; Keenan, G. L.			
			J. Am. Chem. Soc. <u>1941</u> , 63, 97.			

COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-2-	Yamazaki, M.; Aoki, M.; Kamada, A. ;
thiazolyl- (sulfathiazole);	Yata, N. Yakuzaigaku <u>1967</u> , 27(1), 37-40.
C ₉ H ₉ N ₃ O ₂ S ₂ ; [72-14-0]	
(2) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: 30 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfathiazole in water	at 30°C is 2.34 mmol/L
(0.597 g dm ⁻³ , compiler).	
(0.557 g um) comprise /·	
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Sulfathiazole (0.5 g) was placed in an L-	Nothing specified
shaped tube together with 20 ml of water.	
The mixt was then shaken in a thermostat	
until equilibrium was attained. The	
sulfathiazole was then assayed in the super-	
natant spectrophotometrically at 545 nm on a Beckman DU spectrophotometer. The results	
were taken from a calibration graph.	
	ESTIMATED ERROR:
	Soly: not specified
	Temp: ±1 ⁰ C (authors)
	REFERENCES:

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COMPONENTS:	ORIGINAL MEASUREMENTS:
 Benzenesulfonamide, 4-amino-N-2- 	Shkadova, A. I.
thiazolyl- (sulfathiazole);	Farm. Zh. (Kiev) <u>1969</u> , 24(3), 39-41.
$C_9H_9N_3O_2S_2;$ [72-14-0]	
(2) Water; H_20 ; [7732-18-5]	
(2) water, 120, [//32-10-5]	
VARIABLES:	PREPARED BY:
One temperature: 20 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfathiazole in water	$at 20^{\circ}C$ is 0.15×10^{-2} mol/kg
$(3.8 \times 10^{-2} \text{ g/100 g, compiler}).$	ů – Li – L
$(3.8 \times 10^{-} \text{g/100 g, compiler}).$	
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
A satd aqueous soln of sulfathiazole was	Purity of sulfathiazole conformed to the
equilibrated in a water thermostat at $20\pm0.1^{\circ}$	
C. The concn of sulfathiazole was detd by	Distd water was used.
alkalimetric titration.	
	ESTIMATED ERROR:
	Soly: not specified.
	Temp: $\pm 0.1^{\circ}C$ (author).
	REFERENCES :

COMPONENTS:	ORIGINAL MEASUREMENTS:		
(1) Benzenesulfonamide, 4-amino-N-2-	Mehta, S. C.; Bernardo, P. D.;		
thiazolyl- (sulfathiazole);	Higuchi, W. I.; Simonelli, A. P.		
$C_{9}H_{9}N_{3}O_{2}S_{2};$ [72-14-0]	J. Pharm. Sci. 1970, 59(5), 638-44.		
(2) Water; H ₂ O; [7732-18-5]			
2 2 2 2			
VARIABLES:	PREPARED BY:		
One temperature: 30°C	R. Piekos		
EXPERIMENTAL VALUES:			
Solubility of sulfathiazole in water	at 30 ⁰ C is 0.065 g/100 g		
$(2.5 \times 10^{-3} \text{ mol kg}^{-1}, \text{ compiler }).$			
AUXILIARY	INFORMATION		
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:		
An excess of the amount of the recrystd sul-	Sulfathiazole (source not specified) was		
fathiazole needed to produce a satd soln was	purified by crystallization.		
placed in a volumetric flask with water and	Purity of the water was not specified.		
agitated in a water bath at 30°C. Duplicate			
samples were withdrawn at 12-24 h intervals,			
filtered through a 0.45-µ Millipore filter,			
and analyzed spectrophotometrically.			
	ESTIMATED ERROR:		
	Nothing specified.		
	REFERENCES :		
	1		

COMPONENTS :				ORIGINAL ME	ASUREMENTS:		
(1)	(1) Benzenesulfonamide, 4-amino-N-2-			Kanke, M.	; Sekiguchi,	к.	
thiazolyl- (sulfathiazole);			Chem. Pho	ırm. Bull. <u>19</u>	973, 21(4),	878 - 84	
	C ₉ H ₉ N ₃ O ₂ S ₂ ; [7						
(2)	Water; H ₂ 0; [7732-18-5]					
VARIA	ABLES:			PREPARED BY	:		
	Temperatu	re			R. Piekos		
EXPER	RIMENTAL VALUES:			·			··
			Solut	oility			
	t/°C	α -	form	β	- form		
	2, 3	g/liter	$10^3 \text{ mol } dm^{-3a}$	g/liter	10^3 mol dm ⁻³⁴	3	
	25	0.465	1.821	0.840	3.290		
	30	0.594	2.326	1.100	4.308		
	35	0.790	3.094	1.367	5.354		
	40	1.040	4.073	1.690	6.619		
	45	1,350	5,288	2.115	8.284		
	49	1,683	6,592	2.544	9.964		
	^a Calcu	ulated by co	ompiler				
			AUXILIARY	INFORMATION		•	
METH	OD/APPARATUS/PROC	EDURE:		SOURCE AND	PURITY OF MATE	RIALS:	
Abou	t 1.5 g of sulfat	thiazole was	s placed in	α-Sulfathi	azole: comm pr	oduct of the	JP VII
	ml of water and a	-	-	1-	ecrystd from d		
-	uots of the soln		-		mp 200-2°C, v	-	
-	syringe at short time intervals at the be-				forms were ch	naracterized	ЬУ
-	ing of each expt		-				
intervals until equilibrium was attained. The sample soln was then immediately fil-				Fully of t	he water was r	tor specified	•
tered through a $0.45-\mu$ membrane filter and			1				
a carefully measured aliquot was dild for			ESTIMATED E	RROR:		·	
spec	trophotometric as	ssay on a Hi	itachi Perkin-	Nothing s	pecified.		
	r 139 spectrophot	cometer at 2	283 nm.				
Elme	r is, spectrophot						
Elme				REFERENCES:	<u></u>		
Elme	1 155 Speerrophot			REFERENCES :			
Elme	r 155 Speersophot			REFERENCES :			
Elme	r 199 opeerophot			REFERENCES :	<u></u>		

COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-2-	Kitao, K.; Kubo, K.; Morishita, T.;
thiazolyl- (sulfathiazole);	Yata, N.; Kamada, A. Chem. Pharm.
$C_{9}H_{9}N_{3}O_{2}S_{2};$ [72-14-0]	Bull. 1973, 21, 2417-26.
(2) Water; H_2^0 ; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: 37°C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfathiazole in water	at 3/-C is 2.56 mmol dm ~ solution.
]	
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Soly was detd by continuously adjusting the	Comm available sulfathiazole (source not
pH of the aq soln to 4 with 0.05 N NaOH.	specified) was used as supplied.
The concn of sulfathiazole was detd by	Deionized water was used.
diazotization after proper diln.	1
	ESTIMATED ERROR:
	Soly: not specified.
	Temp: ±1 ⁰ C (authors).
	REFERENCES:
	1
1	

COMPONENTS :	ORIGINAL MEASUREMENTS:
 Benzenesulfonamide, 4-amino-N-2- thiazoly1- (sulfathiazole); C₉H₉N₃O₂S₂; [72-14-0] Water; H₂O; [7732-18-5] 	Dubois, S.; Tawashi, R. <i>Pharm. Acta Helv</i> . <u>1975</u> , 50, 184-7.
VARIABLES:	PREPARED BY:
One temperature: 37 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfathiazole in water	at 37°C is 8.00 x 10 ⁻⁴ g/ml
$(3.13 \times 10^{-3} \text{ mol dm}^{-3}, \text{ compiler}).$	
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Samples were filtered through a Millipore	USP grade sulfathiazcle without further
filter 0.45 µm and the amount of dissolved sulfathiazole was detd spectrophotometrically	treatment was used and distilled water.
at 280 nm.	
	ESTIMATED ERROR:
	Nothing specified
	REFERENCES :

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-2-	Kaneniwa, N.; Watari, N.
thiazolyl- (sulfathiazole);	Chem. Pharm. Bull. <u>1978</u> , 26(3), 813-26.
$C_{9}H_{9}N_{3}O_{2}S_{2};$ [72-14-0]	
(2) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: 37 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfathiazole in wate	er at 37 ⁰ C is 0.879 mg/ml
solution $(3.44 \times 10^{-3} \text{ mol dm}^{-3},$	compiler)
Solution (3.44 X IO mol dm ,	Compiler).
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
An excess of sulfathiazole was placed in a	Commercial sulfathiazole of the Japanese
flask contg 25 ml of water. The flask was	Pharmacopeia grade and distd water were
shaken (2 strokes/s at the amplitude of 3	used.
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	ESTIMATED ERROR:
dild with water and assayed spectrophoto-	Soly: not specified.
metrically (1).	Temp: ±0.05 ^o C (authors).
	REFERENCES :
	l. Kaneniwa, N.; Watari, N.
	Chem. Pharm. Bull. <u>1974</u> , 22, 1699.

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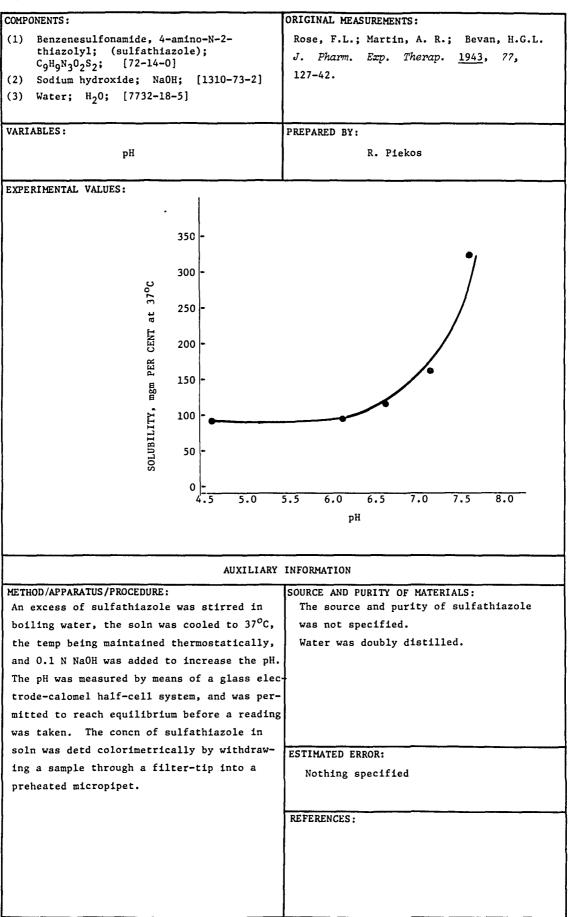
COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-2-	Badawi, A. A.; El-Sayed, A. A.
thiazolyl- (sulfathiazole);	J. Pharm. Sci. <u>1980</u> , 69(5), 492-7.
C ₉ H ₉ N ₃ O ₂ S ₂ ; [72-14-0]	
(2) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: 25 ⁰	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfathiazole in water	
$(3.05 \times 10^{-3} \text{ mol dm}^{-3} \text{ water, compi}$	ler).
AUXILIARY	INFORMATION
METHOD / APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
A weighed excess of sulfathiazole was placed	
in a 25-ml ampul contg 10 ml of water. The	Purity of the water was not specified.
ampul was sealed and placed on a rotating	
shaft (42 rpm) immersed in a water bath at	
25±1°C. Duplicate samples were withdrawn,	
filtered, and assayed spectrophotometrically	
at 283 nm.	1
	ESTIMATED ERROR:
	Soly: not specified.
	Temp: ±1 ⁰ C (authors)
	REFERENCES :

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-2-	Watari, N.; Kaneniwa, N.; Hanano, M.
thiazolyl- (sulfathiazole);	Int. J. Pharm. 1980, 6(2), 155-66.
$C_{gH_{g}N_{3}0_{2}S_{2}};$ [72-14-0]	
(2) Water; H_20 ; [7732-18-5]	
(-,,,,	
VARIABLES:	PREPARED BY:
One temperature: 37 ⁰ C	R. Piekos
one temperature: 57 C	R. FIEROS
EXPERIMENTAL VALUES:	
Solubility of sulfathiazole in water	at 37 ⁰ C is 87.9 mg/100 ml
$(3.44 \times 10^{-3} \text{ mol dm}^{-3}, \text{ compiler}).$	-
(3.44 x 10 mol dm , compiler).	
AUXILIARY	INFORMATION
METHOD / APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
	Sulfathiazole was of the Japanese Pharma-
The earlier developed method was employed	
(1), whereby an excess of sulfathiazole,	copeia grade. Distilled water was used.
required to saturate medium, was placed in a	Distilled water was used.
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 fil-	ESTIMATED ERROR:
ter pore size of 0.45 μ (Millipore HAWP	Soly: not specified
01300) and the fitrate was dild with water	Temp: ±0.05°C (authors)
and assayed spectrophotometrically.	
	REFERENCES :
	1. Kaneniwa, N.; Watari, N.
	Chem. Pharm. Bull. <u>1974</u> , 22, 1699.

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COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-2-	Rupprecht, H.; Ziller, K. H.
thiazolyl- (sulfathiazole);	Pharmazie, <u>1981</u> , 36(4), 298.
$C_9H_9N_3O_2S_2;$ [72-14-0]	<u> </u>
(2) Water; H_20 ; [7732-18-5]	
(2) water, which is to sh	
VARIABLES:	PREPARED BY:
One temperature: 20 ⁰ C	R. Piekos
	W TERO
EXPERIMENTAL VALUES:	
Solubility of sulfathiazole in water	at 20°C is 40.9 mg/100 ml
$(1.60 \times 10^{-3} \text{ mol dm}^{-3}, \text{ compiler}).$	
AUXILIARY INFORMATION	
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Fifty ml of a suspension contg 2.0 g of sul-	
fathiazole was placed in a thermostat and	was specified.
stirred with a magnetic stirrer. The concn	Distilled water was used.
of the solute was monitored continuously af-	
ter filtration through a G3 or G4 fritted-	
glass filters by means of a Knauer differen-	
tial refractometer or a Shimadzu 100-02 UV	
spectrophotometer. The cuvets of the refrac- tometer were thermostated. The variations	
	ESTIMATED ERROR:
of the refractive index or light absorption were recorded as a function of time by means	Nothing specified
of a Servogor 220 two-line recorder.	
or a bervogor 220 two-rime recorder.	REFERENCES :

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-2-	Miseta, M.; Kedvessy, G.; Selmeczi, B.
thiazolyl- (sulfathiazole);	Pharmazie <u>1983</u> , 38(5), 326-7.
$C_{9}H_{9}N_{3}O_{2}S_{2};$ [72-14-0]	
(2) Water; H ₂ 0; [7732-18-5]	
VARIABLES :	PREPARED BY:
One temperature: 20 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfathiazole in water a	t 20 ⁰ C is 1 part in 3000 parts
of water ($1.3 \times 10^{-3} \text{ mol kg}^{-1}$ water -	compiler).
	-
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE: Soly was detd by the Pharmacopeia Hungarica	SOURCE AND PURITY OF MATERIALS: The source and purity of sulfathiazole
	-
V method. The equilibration time was 2 days	
with occasional shaking (personal communica- tion). The concn of the solute in the satd	Distilled water was used.
soln was detd spectrophotometrically at 282	
nm using a Spektromom 195 spectrophotometer.	
	ESTIMATED ERROR:
	Soly: not specified
	Temp: ±2 ⁰ C (personal communication).
1	REFERENCES :



COMPONENTS :	<u></u>	ORIGINAL MEASUREMENTS:
	namide, 4-amino-N-2-	Holz, E.; Garcia Onandia, A.; Holz, S.
thiazoly1-	(sulfathiazole);	Acta Cient. Venezolana 1955, 6(2),
C9H9N302S2;		68-73.
(2) Sodium hydro (3) Water; H_20 ;	xide; NaOH; [1310-73-2]	
(3) water; n ₂ 0;	[//32-10-3]	
VARIABLES:		PREPARED BY:
Concentrati	on of NaOH	R. Piekos
EXPERIMENTAL VALUE	5:	<u> </u>
Concentration of NaOH soln	Volume of the NaOH soln r to dissolve 1 g of sulfat at 26 ⁰ C	equired Solubility of sulfathiazole hiazole at 26 ⁰ C
N	cm ³	mol dm ⁻³ NaOH soln ^a
1/10	41.650	0.0940
1/4	16.650	0.2352
1/2	8.325	0.4705
1.0	4.175	0.9382
1.5	2.750	1.4243
1.75	2.425	1.6152
1.8	5.200	0.7530
1.9	7.200	0.5440
2.0	7.833	0.5000
2.5	46.830	0.0836
a calcul	ated by compiler	
AUXILIARY INFORMATION		
METHOD/APPARATUS/P	ROCEDURE :	SOURCE AND PURITY OF MATERIALS:
Nothing specif	ied	Nothing specified. Distd water was used.
		ESTIMATED ERROR:
		Nothing specified
		REFERENCES:
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COMPONENTS:	ORIGINAL MEASUREMENTS:
 Benzenesulfonamide, 4-amino-N-2- 	Becher, R.; Leya, S. Experientia
thiazolyl- (sulfathiazole);	<u>1946,</u> 2, 459-60.
C ₉ H ₉ N ₃ O ₂ S ₂ ; [72-14-0] (2) Sodium chloride; NaCl; [7647-14-5]	<u></u> , -,
(2) Solium chioride; Naci; $[7647-14-5]$ (3) Water; H_20 ; $[7732-18-5]$	
(J) water, 1120, [7732-10-5]	
VARIABLES :	PREPARED BY:
One temperature: 18-19 ⁰ C	R. Piekos
	N. LICKUS
EXPERIMENTAL VALUES:	
Solubility of sulfathiazole in a 5% N	acl solution at room temperature
$(18-19^{\circ}C)$ is 45 mg% (1.8 x 10 ⁻³	
(10-19 C) 18 45 mg/ (1.8 x 10 -	mol dm ', compiler).
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
After standing for more than two days the	Nothing specified
soln of sulfathiazole was filtered and sul-	
fathiazole was assayed in the filtrate colo-	
rimetrically by the method of Druey and	
Oesterheld (1).	
	ESTIMATED ERROR:
	Nothing specified
	REFERENCES :
	1. Druey, J.; Oesterheld, G.
	Helv. Chim. Acta <u>1942,</u> 25, 753.

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COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-2-	Avico, U.; Cavazutii, G.; di Francesco, R.;
thiazolyl; (sulfathiazole); C ₉ H ₉ N ₃ O ₂ S ₂ ; [72-14-0]	Signoretti Ciranni, E.; Zuccaro, P.
(2) Sodium chloride, NaCl; [7647-14-5]	Farmaco, Ed. Pratica <u>1975</u> , 30(1), 40-6.
(3) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	PREPARED BY:
Temperature	R. Piekos
EXPERIMENTAL VALUES:	
Solubility o	f amorphous sulfathiazole in
	al NaCl solutions
g/100 g wat	er 10 ³ mol kg ⁻¹ water ^a
25 0.627	2.456
35 1.010	3.956
40 1.214	4.755
^a Calculated by compiler	
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE: SOURCE AND PURITY OF MATERIALS:	
A soln of Na salt of sulfathiazole was added	
to a HCl soln contg stoichiometric quantity	not purified. The mp of crystalline sulfa-
of the acid to neutralize the salt. The	thiazole was 200-4°C.
neutralization was carried out in a thermo-	Purity of the water was not specified.
stat and the pH of the mixt was maintained	
close to that of a satd sulfathiazole soln.	
The procedure was repeated using various	
initial concess of the reagents to find the	
max concn of sulfathiazole at which no pptn	ESTIMATED ERROR:
occurred.	
	Nothing specified
	REFERENCES :
	I

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COMPONENTS:	ORIGINAL MEASUREMENTS:
 Benzenesulfonamide, 4-amino-N-2- 	Higuchi, T.; Gupta, M.; Busse, L. W.
thiazolyl- (sulfathiazole);	J. Am. Pharm. Assoc., Sci. Ed.
$C_{9}H_{9}N_{3}O_{2}S_{2};$ [72-14-0]	<u>1953, 52, 157-61.</u>
(2) Potassium chloride; KCl; [7447-40-7]	<u>1755,</u> 02, 157-01.
(3) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: 25 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfathiazole in a KCl solution (ionic strength 0.15 M)	
at 25 [°] C is 0.0373 g/100 cm ³ saturate	d solution ($1.46 \times 10^{-3} \text{ mol dm}^{-3}$,
compiler).	
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE: A 10-30% excess of sulfathiazole was equi-	SOURCE AND PURITY OF MATERIALS:
	Sulfathiazole (source not specified) was
librated in a sealed vial for 1-8 days. An	recrystd from hot water. The source and
aliquot of the supernatant was withdrawn with	
a hypodermic syringe, the liquid was weighed,	
and the sulfathiazole was detd in it spectro-	
photometrically at 283 nm using 0.1 M citrate	
buffer of pH 5 as the solvent.	
	ESTIMATED ERROR:
	Soly: the average of the following soly va- lues was given: 0.0372, 0.0373, 0.0384, and
	$0.0363 \text{ g/100 cm}^3 \text{ satd soln.}$
	Temp: not specified. REFERENCES:

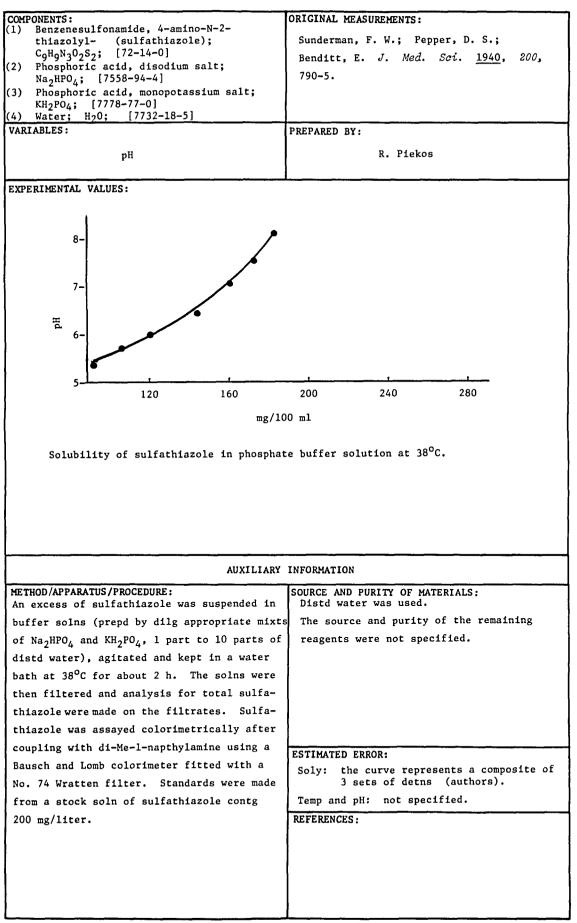
COMPONENTS:	ORIGINAL MEASUREMENTS:
 Benzenesulfonamide, 4-amino-N-2- thiazolyl- (sulfathiazole); 	Krüger-Thiemer, E.
$C_9^{H}9^{N}3^{0}2^{S}2;$ [72-14-0]	Arch. Dermatol. Syphilis <u>1942</u> , 183,
(2) Phosphoric acid, disodium salt;	90-116.
Na ₂ HPO ₄ ; [7558-94-4]	
(3) Water; H ₂ O; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: ca 20 ^o C; one pH: 8.74	R. Piekos
one competatore ca 20 0, one part off,	
EXPERIMENTAL VALUES:	
Solubility of sulfathiazole in a 0.70	5 M (10%) Na ₂ HPO ₄ solution of
pH 8.74, at room temperature (about 2	0 [°] C), is 0.228 g% (8.93 x
10^{-3} mol dm ⁻³ solution, compiler).	
10 mol dm solution, compiler).	
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Sulfathiazole (0.5 g) was dissolved in 10	Sulfathiazole was the product manufd by
cm^3 of the 0.705 M (10%) Na ₂ HPO ₄ soln, shaken	Ciba under the name Cibazol.
for 2 h at room temp (about 20°C), and fil-	The source and purity of the remaining
tered. A 1-cm ³ aliquot of the filtrate was	materials was not specified.
withdrawn, cooled, acidified with 1 cm ³ of	
2 N HCl, and the sulfathiazole content was	
detd colorimetrically by the method of	
Marshall modified by Kimmig (1) using an	
Autenrieth colorimeter. The pH was detd on	ESTIMATED ERROR:
an ultraionograph using a glass electrode.	Soly: precision ±5% (author) Temp: not specified
	pH ; ±0.05 pH unit (author)
	REFERENCES:
	1. Kimmig, J. Arch. Dermatol. <u>1938</u> ,
	176, 722; Erg. Hyg. <u>1941</u> , 24, 398.

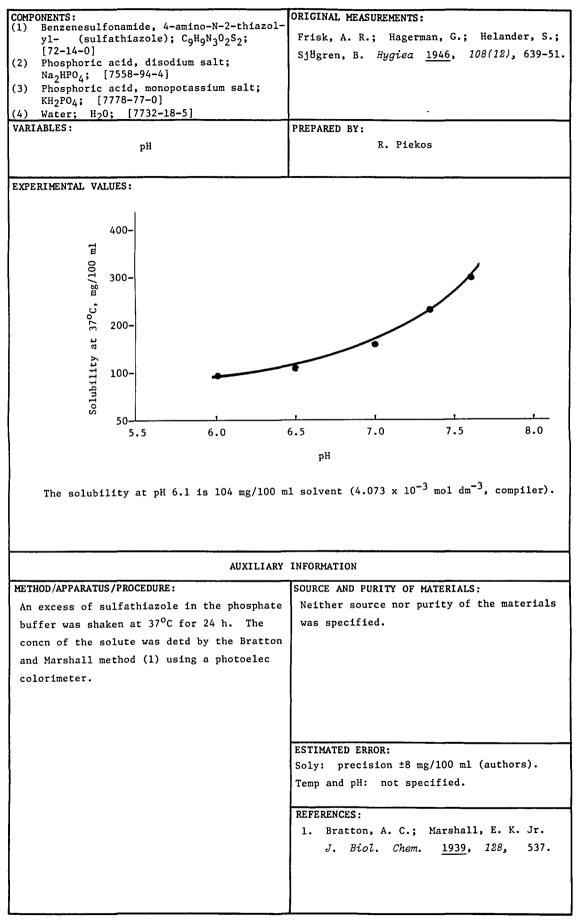
148	
COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-2-	Krüger-Thiemer, E.
thiazolyl- (sulfathiazole); C ₉ H ₉ N ₃ O ₂ S ₂ ; [72-14-0]	Arch. Dermatol. Syphilis <u>1942</u> , 183, 90-116.
(2) Phosphoric acid, monopotassium salt; KH₂PO₄; [7778-77-0]	
(3) Water; H ₂ O; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: ca 20 ⁰ C; one pH: 4.37	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfathiazole in a 0.7 of pH 4.37, at room temperature (ab (1.13 x 10 ⁻³ mol dm ⁻³ solution, c	out 20 ⁰ C), is 0.029 g%
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Sulfathiazole (0.5 g) was dissolved in 10 cm^3	
of the 0.735 M (10%) KH ₂ PO ₄ soln, shaken for	by Ciba under the name of Cibazol.
2 h at room temp (about 20° C), and filtered.	The source and purity of the remaining
A 1-cm ³ aliquot of the filtrate was with-	materials was not specified.
drawn, cooled, acidified with 1 cm ³ of 2 N	
HCl, and the sulfathiazole content was detd	
colorimetrically by the method of Marshall	
modified by Kimmig (1) using an Autenrieth	
colorimeter. The pH was detd on an ultra-	ESTIMATED ERROR:
ionograph using a glass electrode.	Soly: precision ±5% (author) Temp: not specified pH : ±0.05 pH unit (author)
	REFERENCES:
	 Kimmig, J. Arch. Dermatol. 176, 722; Erg. Hyg. <u>1941</u>, 24, 398.

COMPONENTS: (1) Benzenesu	lfonamide, 4-amin	10 - N-2-	ORIGINAL MEASUREMENTS:
thiazolyl	L- (sulfathiazole 5 ₂ ; [72-14-0]);	Hawking, F. Lancet, <u>1941</u> , 240, 786-8.
(2) Cálcium (chloride; CaCl ₂ ; chloride; KCl;		<u>1,111,111,111,111,111,111,111,111,111,</u>
(4) Sodium ch	loride; NaCl; [
	H ₂ 0; [7732-18-5]		
VARIABLES:	Temperature		PREPARED BY: R. Piekos
			A. TIEKOS
EXPERIMENTAL V	ALUES:		
		Solubility in	bicarbonate-free Locke's solution ^a
	t/ ^o C		m1 $10^3 \text{ mol dm}^{-3} \text{ b}$
		mg/100	mi 10° mol dm ° °
-			
	17	36	1.4
	36	91	3.6
-	· · · · · · · · · · · · · · · · · · ·		
	a The solution	contained NaCl	9 g, KC1 0.2 g, CaCl ₂ 0.2 g,
			-
		, and had a pH	01 0.0.
	^b Calculated by	compiler	
		AUXILIARY	INFORMATION
METHOD/APPARAT	TUS/PROCEDURE:	<u></u>	SOURCE AND PURITY OF MATERIALS:
	was shaken up wi		Nothing specified
	ocke's soln for m	-	
1	s corked to preve	-	
1 -	nt was filtered t room to prevent		
	s detd by the met		
shall and Lit	-		
			ESTIMATED ERROR: Soly: average of 3 detns has been given
			(authors).
			Temp: not specified.
			REFERENCES:
			1. Marshall, E. K., Jr.; Litchfield, J.
			T., Jr. <i>Science</i> , <u>1938</u> , <i>88</i> , 85.

COMPONENTS :					ORIGINAL MEASUREMENTS:			
(1) Benzenesulfonamide, 4-amino-N-2-				Krüger-Thiemer, E.				
thiazoly1- (sulfathiazole); CgHgN302S2; [72-14-0]				Arch. Dermatol. Syphilis <u>1942</u> , 183,				
 (2) Phosphoric acid, disodium salt; Na₂HPO₄; [7558-94-4] (3) Phosphoric acid, monopotassium salt; KH₂PO₄; [7778-77-0] 				90-1	90-116.			
4) Water;	; H ₂ 0; [7	732-18-5]		PREPARED BY: R. Piekos				
ARIABLES:	Temperatur	e. nH		1				
XPERIMENTA				L			····_	
Composition of 1/15 M phosphate				Solubility				
	ouffer solu	tions	pH	Roo	m temp (ca 20 ⁰	C)	37°C	
Na ₂ HPO ₄	кн ₂ ро ₄	% content		g%	10 ³ mol dm ⁻³ solution ^a	g%	10 ³ mol dm ⁻³ solution ^a	
1.0	99.0	0.91	4.944	0.053	2.076	-	-	
10.0	90.0	0.91	5.906	0.054	2.115	0.096	3.760	
61.1	38.9	0.93	7.005	0.072	2.820	0.161	6.306	
9.5	0.5	0.733 ^b	7.51	0.089	3.486			
94.7	5.3	0.95	8.018	0.144	5.640	_	-	
L		by compiler						
L		by compiler ent; 10% buf	fer solutio	n				
L			fer solutio		1ATION			
ь ,		ent; 10% buf		INFORM	TATION E AND PURITY O	F MATERI	ALS;	
b y ETHOD/APP#	folar cont ARATUS/PROC	ent; 10% buf	AUXILIARY	INFOR				
by ÆTHOD/APP4 Sulfathiaz cm ³ of a b	ARATUS/PROC cole (0.5 g puffer soln	ent; 10% buf EDURE:) was dissolv , shaken for	AUXILIARY red in 10 2 h at 20 ⁰ 0	INFORM SOURC Sulf	E AND PURITY O	the produ	uct manufd by	
b _y ÆTHOD/APPA Sulfathiaz cm ³ of a b (or left f	ARATUS/PROC cole (0.5 g puffer soln for 48 h at	ent; 10% buf EDURE:) was dissolv , shaken for 37°C), and f	AUXILIARY red in 10 2 h at 20 ⁰ (iltered at	INFORM SOURC Sulf Ciba The	E AND PURITY O athiazole was under the name source and pure	the produ e of Ciba ity of ti	uct manufd by azol. he remaining	
b y ÆTHOD/APPA Sulfathiaz cm ³ of a b (or left f respective	ARATUS/PROC cole (0.5 g puffer soln for 48 h at temp. A	ent; 10% buf EDURE:) was dissolv , shaken for 37°C), and f 1 cm ³ aliquot	AUXILIARY red in 10 2 h at 20 ⁰ iltered at of the fil	INFORM SOURC Sulf Ciba The	E AND PURITY O athiazole was under the name	the produ e of Ciba ity of ti	uct manufd by azol. he remaining	
b y ÆTHOD/APPA Sulfathiaz cm ³ of a b (or left f respective trate was	ARATUS/PROC cole (0.5 g puffer soln for 48 h at a temp. A then withd	ent; 10% buf EDURE:) was dissolw , shaken for 37°C), and f 1 cm ³ aliquot rawn, cooled	AUXILIARY red in 10 2 h at 20 ⁰ (iltered at of the fil (dild for	INFORM SOURC Sulf Ciba The	E AND PURITY O athiazole was under the name source and pure	the produ e of Ciba ity of ti	uct manufd by azol. he remaining	
b y ÆTHOD/APPA Sulfathiaz cm ³ of a b (or left f respective trate was	ARATUS/PROC cole (0.5 g puffer soln for 48 h at a temp. A then withd	ent; 10% buf EDURE:) was dissolv , shaken for 37°C), and f 1 cm ³ aliquot	AUXILIARY red in 10 2 h at 20 ⁰ (iltered at of the fil (dild for	INFORM SOURC Sulf Ciba The	E AND PURITY O athiazole was under the name source and pur:	the produ e of Ciba ity of ti	uct manufd by azol. he remaining	
b y ÆTHOD/APPA Sulfathiaz cm ³ of a b (or left f respective trate was expts at 3	ARATUS/PROC cole (0.5 g puffer soln for 48 h at a temp. A then withd 17°C), acid	ent; 10% buf EDURE:) was dissolw , shaken for 37°C), and f 1 cm ³ aliquot rawn, cooled	AUXILIARY red in 10 2 h at 20 ⁰ (iltered at of the fil (dild for cm ³ of 2 N	INFORM SOURC Sulf Ciba The reage	E AND PURITY O athiazole was a under the name source and pur ents was not sp	the produ e of Ciba ity of ti	uct manufd by azol. he remaining	
b y ÆTHOD/APPA Sulfathiaz cm ³ of a b (or left f respective trate was expts at 3 HC1, and t	ARATUS/PROC cole (0.5 g puffer soln for 48 h at t temp. A then withd 17°C), acid the sulfath	ent; 10% buf EDURE:) was dissolw , shaken for 37°C), and f 1 cm ³ aliquot rawn, cooled ified with 1	AUXILIARY red in 10 2 h at 20 ⁰ (iltered at of the fil (dild for cm ³ of 2 N t was detd	INFORM SOURC Sulf Ciba The reage	E AND PURITY O athiazole was under the name source and pur- ents was not sp ATED ERROR:	the product of Ciba ty of the of the opecified	uct manufd by azol. he remaining	
b y AETHOD/APPA Sulfathiaz cm ³ of a b (or left f respective trate was expts at 3 HCl, and t colorimetr	ARATUS/PROC cole (0.5 g puffer soln for 48 h at temp. A then withd 17 ⁰ C), acid the sulfath ically by	ent; 10% buf EDURE:) was dissolv , shaken for 37°C), and f 1 cm ³ aliquot rawn, cooled ified with 1 iazole conten	AUXILIARY red in 10 2 h at 20°C iltered at of the fil (dild for cm ³ of 2 N t was detd Marshall	INFORM SOURC Sulf Ciba The reage	E AND PURITY OF athiazole was a under the name source and purs ents was not sp tATED ERROR: precision ± not specific	the product of Ciba ity of the pecified	uct manufd by azol. he remaining nor)	
^b y 4ETHOD/APP4 Sulfathiaz cm ³ of a b (or left f respective trate was expts at 3 HCl, and t colorimetr modified b	ARATUS/PROC cole (0.5 g puffer soln for 48 h at then withd then withd the sulfath ically by y Kimmig (ent; 10% buf EDURE:) was dissolv , shaken for 37°C), and f 1 cm ³ aliquot rawn, cooled ified with 1 iazole conten the method of	AUXILIARY red in 10 2 h at 20°C iltered at of the fil (dild for cm ³ of 2 N t was detd Marshall utenrieth	INFORM SOURC Sulf. Ciba The reag. ESTIM Soly Temp pH	E AND PURITY OF athiazole was a under the name source and purs ents was not sp tATED ERROR: precision ± not specific	the product of Ciba ity of the pecified	uct manufd by azol. he remaining nor)	

COMPONENTS:				• •							
(1) 11	•• ••		ORIGINAL MEASUREMENTS:								
 Benzenesulfonamide, 4-amino-N-2- thiazolyl- (sulfathiazole); C9H9N302S2; [72-14-0] Phosphoric acid, disodium salt; Na₂HPO₄; [7558-94-4] Phosphoric acid, monopotassium salt KH₂PO₄; [7778-77-0] Water; H₂0; [7732-18-5] 			Pulver R.; Suter, R.								
			Schweiz. Med. Wochenschr. <u>1943</u> , 73(13),								
			403-8. PREPARED BY:								
							VARIABLES:			R. Piekos	·
								рН			
EXPERIMENTAL	VALUES:										
		Solubility of s	ulfathiazole in M/15 phosphate								
	pН		ing to Sørensen) at 20 [°] C								
		mg%	$10^3 \text{ mol } dm^{-3} a$								
	6.0	51	2.00								
	7.0	65	2.54								
	8.0	125	4.90								
	a _{ca1}	culated by compile:	r								
		AUXILIAR	Y INFORMATION								
METHOD/APPAR	ATUS/PROCEDUR	E:	SOURCE AND PURITY OF MATERIALS:								
Nothing specified			Nothing specified								
Nothing	apecirica		Nothing Specifica								
			ESTIMATED ERROR:								
			ESTIMATED ERROR: Nothing specified								
			Nothing specified								
			Nothing specified								
			Nothing specified								
			Nothing specified								





COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-2-	Frisk, A. R.; Hagerman, G.; Helander, S.;
thiazolyl- (sulfathiazole);	Sjögren, B. <i>Hygiea</i> 1946, <i>108(12)</i> ,
C ₉ H ₉ N ₃ O ₂ S ₂ ; [72-14-0] (2) Phosphoric acid, disodium salt;	639-51.
Na ₂ HPO ₄ ; [7558-94-4]	
(3) Phosphoric acid, monopotassium salt; KH ₂ PO ₄ ; [7778-77-0]	
(4) Water; H ₂ 0; [7732-18-5]	PREPARED BY:
VARIABLES:	R. Piekos
pH: 6.1	
EXPERIMENTAL VALUES:	
	100 11 11 11 10 10 10 10 10 10
The solubility at pH 6.1 is 104 mg/	
mol dm ⁻³ , compiler). This is	the solubility value of sulfathiazole
at 37°C.	
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
An excess of sulfathiazole in the phosphate	Neither source nor purity of the materials
buffer was shaken at 37 ⁰ C for 24 h. The	was specified.
concn of the solute was detd by the Bratton	
and Marshall method (1) using a photoelec	
colorimeter.	
	ESTIMATED ERROR:
	Soly: precision ±8 mg/100 ml (authors).
	Temp and pH: not specified
	REFERENCES :
	1. Bratton, A. C.; Marshall, E. K. Jr.
	J. Biol. Chem. 1939, 128, 537.
	<u> </u>

	ODTOTALL AND CHARTER
COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-2- thiazolyl- (sulfathiazole); C ₉ H ₉ N ₃ O ₂ S ₂ ; [72-14-0]	Langecker, H. Arch. Exptl. Path. Pharmakol. <u>1948</u> ,
(2) Phosphoric acid, disodium salt; Na ₂ HPO ₄ ; [7558-94-4]	205, 291-301.
 Phosphoric acid, monopotassium salt; KH₂PO₄; [7778-77-0] 	
(4) Water; H ₂ 0; [7732-18-5]	PREPARED BY:
VARIABLES:	R. Piekos
pH	
EXPERIMENTAL VALUES:	
pH of the 1/15 M Solubility	v at 37 ⁰ C
phosphate buffer	
	$10^3 \text{ mol } dm^{-3} a$
4.9 108	4.23
5.9 94	3.68
6.9 204	7.99
7.5 356	13.94
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
An excess of sulfathiazole was added to the	Source and purity of the materials was
buffer soln and boiled for 1 h in a sealed	not specified.
ampul followed by keeping the ampul at $37^{\circ}C$.	
The concn of sulfathiazole was detd colori-	
metrically by the method of Bratton and	
Marshall (1) using a Havemann colorimeter	
(2), as well as by microanal detn of the solid residue.	
solld lesidue.	
	ESTIMATED ERROR:
	Nothing specified
	REFERENCES :
	1. Bratton, A.G.; Marshall, E.K. Jr.
	J. Biol. Chem. <u>1939</u> , 128, 537.
	 Havemann, R. Klin. Wochenschr. <u>1940</u>, p. 503.

COMPONENTS :	ORIGINAL MEASUREMENTS:	
(1) Benzenesulfonamide, 4-amino-N-2- thiazolyl- (sulfathiazole); C ₉ H ₉ N ₃ O ₂ S ₂ ; [72-14-0]	Kuhnert-Brandstätter, M.; Martinek, A. <i>Microchim. Ichnoanal. Acta</i> <u>1956</u> , 909-19.	
 Phosphoric acid, disodium salt; Na₂HPO₄; [7558-94-4] 		
(3) Phosphoric acid; monopotassium salt; KH ₂ PO ₄ ; [7778-77-0]		
(4) Water; H ₂ 0; [7732-18-5]	PREPARED BY: R. Piekos	
VARIABLES: One temperature: 20 ⁰ C; one pH: 7.3	R. FIEROS	
XPERIMENTAL VALUES:		
Solubility of crystalline forms I a	and II of sulfathiazole in a 0.066 M	
phosphate buffer (according to Sør	and II of sulfathiazole in a 0.066 M ensen) of pH 7.3 at 20° C is 113.0 mg%) and 62.8 mg% (2.46 x 10^{-3} mol dm ⁻³ ,	
phosphate buffer (according to Sør	ensen) of pH 7.3 at 20 ⁰ C is 113.0 mg%	
phosphate buffer (according to Søre (4.43 x 10^{-3} mol dm ⁻³ , compiler)	ensen) of pH 7.3 at 20 ⁰ C is 113.0 mg%	
phosphate buffer (according to Søre (4.43 x 10^{-3} mol dm ⁻³ , compiler)	ensen) of pH 7.3 at 20 ⁰ C is 113.0 mg%	
phosphate buffer (according to Søre (4.43 x 10^{-3} mol dm ⁻³ , compiler)	ensen) of pH 7.3 at 20 ⁰ C is 113.0 mg%	
phosphate buffer (according to Søre (4.43 x 10^{-3} mol dm ⁻³ , compiler)	ensen) of pH 7.3 at 20 ⁰ C is 113.0 mg%	
phosphate buffer (according to Søre (4.43 x 10^{-3} mol dm ⁻³ , compiler)	ensen) of pH 7.3 at 20 ⁰ C is 113.0 mg%	
phosphate buffer (according to Søre (4.43 x 10^{-3} mol dm ⁻³ , compiler)	ensen) of pH 7.3 at 20 ⁰ C is 113.0 mg%	
phosphate buffer (according to Søre (4.43 x 10^{-3} mol dm ⁻³ , compiler)	ensen) of pH 7.3 at 20 ⁰ C is 113.0 mg%	

AUXILIARY INFORMATION		
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:	
Sulfathiazole and the buffer soln were pla- ced in a polyethylene vessel, agitated for 3 h, filtered, and the sulfonamide was assayed in the filtrate by uv spectrophoto- metry using water as a reference and diluent. The solid phase was examd thermomicroscopi- cally for identity of the cryst form.	A comm available form II of sulfathiazole was used. Form I was obtained by keeping the comm reagent at 170°C for 2 h. The source and purity of the remaining materials was not specified. Distilled water was used.	
	ESTIMATED ERROR: Soly: not specified pH : not specified Temp: ±0.5°C (authors). REFERENCES:	

COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-2-	Riess, W.
thiazolyl- (sulfathiazole);	Intern. Congr. Chemotherapy, Proc.,
C ₉ H ₉ N ₃ O ₂ S ₂ ; [72-14-0] (2) Phosphoric acid, disodium salt;	3rd, Stuttgart <u>1963</u> , 1, 627-32.
Na_2HPO_4 ; [7558-94-4]	<u></u> , -,
(3) Phosphoric acid, monopotassium salt; KH ₂ PO ₄ ; [7778-77-0]	
(4) Water; H ₂ 0; [7732-18-5]	PREPARED BY:
VARIABLES:	R. Piekos
One temperature: 20 ⁰ C; one pH: 7.4	
EXPERIMENTAL VALUES:	
Solubility of sulfathiazole in a M/1	5 Sörensen buffer solution (pH 7.4)
at 20 [°] C is 75 mg% (2.9 x 10^{-3} mol	dm ⁻³ solution, compiler)
	da solution, compiler).
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Sürensen buffer solns of pH varying between	Nothing specified
7 and 8 were prepd, satd with sulfathiazole	
at 20 ⁰ C, their pH was measured at equilibri-	
um, and the sulfathiazole was assayed colori-	
metrically. The measured pH values were	
then plotted against concn, and the soly	
at pH 7.4 was detd by interpolation	
(personal communication).	
	ESTIMATED ERROR:
	Nothing specified
	REFERENCES :
	[

COMPONENTS :	ORIGINAL MEASUREMENTS:
 Benzenesulfonamide, 4-amino-N-2- 	Yamazaki, M.; Aoki, M.; Kamada, A.; Yata, N.
thiazolyl- (sulfathiazole);	Yakuzaigaku 1967, 27(1), 37-40.
$C_9H_9N_3O_2S_2;$ [72-14-0]	<u> </u>
(2) Phosphoric acid, disodium salt; Na ₂ HPO ₄ ; [7558-94-4]	
(3) Phosphoric acid, monopotassium salt;	
KH ₂ PO ₄ ; [7778-77-0]	
(4) Water; H ₂ 0; [7732-18-5] VARIABLES:	R. Piekos
One temperature: 30 ^o C; one pH: 7.4	A. FIEROS
EXPERIMENTAL VALUES:	
Solubility of sulfathiazole in a pho	osphate buffer solution of pH 7.4
$(\mu = 0.17)$ at 30 ^o C is 4.38 mmol/I	$(1.12 \text{ g dm}^{-3}, \text{ compiler}).$
	- ()
AUXILIARY	INFORMATION
METHOD /APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
Sulfathiazole (0.5 g) was placed in an L-	Nothing specified
shaped tube together with 20 ml of the	
buffer soln. The mixt was shaken in a	
thermostat until equilibrium was attained.	
The sulfathiazole content was assayed in the	
supernatant spectrophotometrically at 545 nm	
on a Beckman DU spectrophotometer. The	
results were taken from a calibration graph.	
	ESTIMATED ERROR:
	Soly and pH: not specified
	Temp: ±1 ⁰ C (authors)
	REFERENCES :

			ODICINAL ADVOLUTION		155
COMPONENTS:			ORIGINAL MEASUREMENT		
thiazolyl- (s C ₉ H ₉ N ₃ O ₂ S ₂ ; [(2) Phosphoric aci	thiazolyl- (sulfathiazole); CgHgN ₃ O ₂ S ₂ ; [72-14-0] 2) Phosphoric acid, disodium salt;		Hekster, Y.A.; Vr Damsma, J.E.; F J. Antimicrob. C	Friesen, W. T.	
(3) Phosphoric aci	Na ₂ HPO ₄ ; [7558-94-4]		133-44.		
(4) Water; H ₂ O;	[7722_18_5]		PREPARED BY:		
VARIABLES:	[7/32-18-5]	<u> </u>	R. Pi	ekos	
	ЭН				
EXPERIMENTAL VALUES	:				
		Solub	ility at 25 ⁰ C		
	рН		2		
		mg/1	mol $dm^{-3} a$		
	5.5	4565	0.01788		
	7.5	130868	0.51258		
	^a Calc	ulated by c	ompiler		
		AUXILIARY	INFORMATION		
METHOD ADDADATILS (DD	OCEDURE .		SOURCE AND PURITY O	E MATERTALC.	
METHOD/APPARATUS/PROCEDURE: Satd solns of sulfathiazole were prepd in			rity of the materials		
phosphate buffers			was not specified.	-	
temp (25°C). The	-			•	
measured by means					
high-performance 1					
ped with a column					
Pye-Unicam LC-UV s	Pye-Unicam LC-UV spectrophotometric detec-				
tor. The detector was connected to a 1-mV					
recorder. A stainless steel column (10 cm		ESTIMATED ERROR:			
x 4.6 mm id.) was packed with Lichrosorb RPS			it of the solute by HP	LC	
5μm, obtained from Chrompack. An injection		was 0.5 mg/l (auth The error in tempe	hors). erature and pH was not		
loop of 100 μ l was used. The oven temp was		specified.	was not		
40 ⁰ C. Detection of sulfathiazole was		REFERENCES:			
performed at 260 nm.					

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160		
COMPONENTS :	ORIGINAL MEASUREMENTS:	
 Benzensulfonamide, 4-amino-N-2- thiazolyl- (sulfathiazole); C9H9N302S2; [72-14-0] Hydrochloric acid; HC1; [7647-01-0] 1,2,3-Propanetricarboxylic acid, 2-hydroxy-, disodium salt; C6H6Na207; [144-33-2] 	Kuhnert- Brandstätter, M.; Martinek, A. <i>Microchim. Ichnoanal. Acta</i> <u>1956</u> , 909–19.	
(4) Water; H_20 ; [7732-18-5]	PREPARED BY:	
VARIABLES:	R. Piekos	
One temperature: 20 ⁰ C; one pH: 3.8		
EXPERIMENTAL VALUES: Solubility of crystalline forms I a citrate buffer (according to Søren (2.48 x 10 ⁻³ mol dm ⁻³ , compiler) compiler), respectively.		
AUXILIARY	INFORMATION	
METHOD/APPARATUS/PROCEDURE: Sulfathiazole and the buffer soln were placed in a polyethylene vessel, agitated for 3 h, filtered, and the sulfonamide was assayed in the filtrate by uv spectrophoto- metry using water as a reference and diluent. The solid phase was examd thermomicroscopi- cally for identity of the cryst form.	SOURCE AND PURITY OF MATERIALS: A comm available form II of sulfathiazole was used. Form I was obtained by keeping the comm reagent at 170°C for 2 h. The source and purity of the remaining materials was not specified. Distilled water was used.	
	ESTIMATED ERROR: Soly: not specified pH : not specified Temp: ±0.5°C (authors) REFERENCES:	

				16
COMPC	DNENTS:		ORIGINAL MEASUREMENTS:	
(1)	Benzenesulfonamide, 4-amino-N- thiazolyl- (sulfathiazole); C ₉ H ₉ N ₃ O ₂ S ₂ ; [72-14-0]	-2-	Likhol'ot, N. M. Farm. Zh. (Kiev <u>1965,</u> 20(5), 44-6.)
(2)	Phosphoric acid, disodium salt Na_2HPO_4 ; [7558-94-4]	t;		
(3)	1,2,3-Propanetricarboxylic act 2-hydroxy- (citric acid); C [77-92-9]			
(4)	Water; H ₂ 0; [7732-18-5]		PREPARED BY:	
	ABLES:		R. Piekos	
EXPEI	PH RIMENTAL VALUES:	<u></u>		
	pH of McIlvaine's buffer	·	Solubility at 20 ⁰ C	
	solution	g/100 m	$1 10^3 \text{ mol } dm^{-3} a$	
	4.1	0.043	1.68	
	5.1	0.045	1.76	
	5.9	0.049	1.92	
	6.5	0.059	2.31	
	6.9	0.081	3.17	
	7.5	0.153	5.99	
	^a Calculated by compil			
·		AUXILIARY	INFORMATION	
METHO	DD/APPARATUS/PROCEDURE:		SOURCE AND PURITY OF MATERIALS:	
	earlier described method was en	nployed (1)	Sulfathiazole: not specified.	
whereby a small excess of sulfathiazole was			McIlvaine's buffer solns were prepd 0.1 M citric acid solns. Source an	
equilibrated with 20 ml of the McIlvaine's		of the buffer components were not s		
buf	fer soln for 8 h in a 50-ml tes	st tube.		
Ali	quots were withdrawn through a	filter		
and	sulfathiazole was assayed brom	natometri-		
cal	ly.			
			ESTIMATED ERROR:	
			Soly: not specified Temp: ±0.1°C (authors) pH : not specified	
			REFERENCES: 1. Gusyakov, V. P.; Likhol'ot, N. 7 <i>Farm. Zh. (Kiev)</i> <u>1960</u> , <i>15(8)</i>	
			1010/	,
		· · · · · · · · · · · · · · · · · · ·		

AAVD AVD AVD A		<u> </u>	
COMPONENTS: (1) Benzenesulfonamide, 4-amino-N-2-	ORIGINAL MEASUREMENTS: Gasco, M. R.; Aimonetto, S.		
thiazolyl- (sulfathiazole);	Atti Accad. Sci. Torino,		
$C_{9}H_{9}N_{3}O_{2}S_{2};$ [72-14-0] 2) Ethanesulfonic acid, 2-[[3 α ,5 β ,7 α ,	Mat. Nat. 1979, 113(1-2)		
12α)-3,7,12-trihydroxy-24-oxocholan-24-	<u> </u>	,,,	
yl]amino]-, monosodium salt (Na tauro-			
cholate); C ₂₆ H ₄₅ NO ₇ S·Na; [145-42-6] 3) Phosphoric acid, disodium salt;			
Na ₂ HPO ₄ ; [7558-94-4]	PREPARED BY:		
 Phosphoric acid, monosodium salt; NaH₂PO₄; [7558-80-7] 	R. Piekos		
5) Water; $H_20;$ [7732-18-5]			
VARIABLES:			
Concentration of Na taurocholate; pH			
EXPERIMENTAL VALUES:			
Concentration of Na	Solubility of sulfathiazole at	25 ⁰ C	
taurocholate	μ_m/ml solution ^a		
mM/l solution ^a	рН 6.3 рН 7	2	
	ph 0.5 ph /	• 2	
2.0	3.65 6.42	 L	
4.0	3.28 6.2	7	
6.0	3.42 5.77	7	
8.0	3.60 6.0	5	
12.0	3.70 6.18	3	
16.0	3.89 6.73	3	
20.0	4.21 7.02	2	
^a Numerical values given by the fi	rst author in personal commun:	lcation.	
AUXILIARY	INFORMATION		
METHOD /APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIAL	.S :	
The soly of sulfathiazole was detd by the	Neither source nor purity of	the materials	
method of Hofmann (1). In a series of 15-ml	was specified.		
glass cylinders with ground-in stoppers, 75	The phosphate buffer was 0.3	3 M in respect	
mg of sulfathiazole was suspended in 15 ml	of the Na ⁺ ion concn.		
of phosphate buffer solns of increasing Na			
taurocholate concn. The suspensions were			
agitated for 20 h at 25°C and filtered. The			
quantity of sulfathiazole dissolved was			
detd by measuring surface tension by means	ESTIMATED ERROR:		
of a Dognon-Abribat (Prolabo) tensiometer	Soly: precision $\pm 2\%$ (authors ± 0.02 pH w		
and spectrophotometrically by using a Perkir	pH : precision ±0.02 pH un Temp: ±0.5°C (authors)	iii (authors)	
Elmer EPS-35 spectrophotometer.			
	REFERENCES :		
	 Hofmann, A. F.; Biocher 57. 	ı. J. <u>1963</u> , 89,	

COMPONENTS: (1) Benzenesulfonamide, 4-amino-N-2- thiazoly1- (sulfathiazole); C9H9N302S2; [72-14-0] (2) Ethanesulfonic acid, 2-[[[[(3 α , 5 β , 7 α , 12 α)-3,7,12-trihydroxy-24- oxocholan-24-y1]amino]acety1]amino]-, sodium salt (Na tauroglycocholate); C28H48N208S·Na [11006-55-6] (3) Phosphoric acid, disodium salt; Na2HP04; [7558-94-4] (4) Phosphoric acid, monosodium salt; NaH2P04; [7558-80-7]	ORIGINAL MEASUREMENTS: Gasco, M. R.; Aimonetto, S. Atti Accad. Sci. Torino, Cl. Sci. Fis. Mat. Nat. <u>1979</u> , 113(1-2), 119-22. PREPARED BY: R. Piekos	
(5) Water; H ₂ O; [7732-18-5] VARIABLES: Concentration of Na tauroglycocholate; pH		
EXPERIMENTAL VALUES:	4	
tauroglycocholate	Solubility of sulfathiazole at 25 ⁰ C µM/ml solution ^a	
mM/l solution ^a	рН 6.3 рН 7.2	
2.0	3.80 6.69	
4.0	3.52 6.50	
6.0	3.62 6.32	
8.0	3.70 6.41	
12.0	3.90 6.43	
16.0	4.08 6.50	
20.0	4.17 6.52	
^a Numerical values given by the f	irst author in personal communication.	
AUXILIARY	INFORMATION	
METHOD / APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:	
The soly of sulfathiazole was detd by the	Neither source nor purity of the materials	
Hofmann method (1). In a series of 15-ml	was specified.	
glass cylinders with ground-in stoppers, 75 mg of sulfathiazole was placed in 15 ml of	The phosphate buffer was 0.3 M in respect of the Na ⁺ ion concn.	
phosphate buffer solns of increasing Na		
tauroglycocholate concn. The suspensions		
were agitated for 20 h at $25^{\circ}C$ and filtered.		
The quantity of sulfathiazole dissolved was	ESTIMATED ERROR:	
detd by measuring surface tension by means of a Dognon-Abribat (Prolabo) tensiometer	Soly: precision $\pm 2\%$ (authors)	
and spectrophotometrically on a Perkin Elmer	nH : precision +0.02 pH unit (authors)	
EPS-35 spectrophotometer.	REFERENCES :	
	1. Hofmann, A. F., <i>Biochem. J.</i> <u>1963</u> , <i>89</i> , 57.	

COMPONENTS:	ORIGINAL MEASUREMENTS:
 Benzenesulfonamide, 4-amino-N-2- thiazolyl- (sulfathiazole); 	Becher, R.; Leya, S. Experientia
$C_{9}H_{9}N_{3}O_{2}S_{2};$ [72-14-0]	<u>1946</u> , 2, 459-60.
(2) Pectinic acid, sodium salt; (C ₁₃ H ₁₇ Na0 ₁₂) _n ; [9049-37-0]	
(3) Water; H_20 ; [7732-18-5]	
VARIABLES: One temperature : 18-19 ⁰ C	PREPARED BY: R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfathiazole in a 2.	6% neutral sodium pectinate solution
([sodium pectinate] = 6.7 x 10 ⁻² m	ol kg ⁻¹ (n = 1), compiler) at room
-	
temperature (18 - 19 ⁰ C) is 75 mg%	$(2.9 \times 10^{-5} \text{ mol dm}^{-5}, \text{ compiler}).$
	TURODUARTON
	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
The soln was allowed to stand for more than	Nothing specified.
2 days at room temp. The soln was then	
filtered, and sulfathiazole assayed in the	
filtrate colorimetrically by the method of	
Druey and Oesterheld (1).	
	ESTIMATED ERROR:
	Nothing specified.
	REFERENCES :
	1. Druey, J.; Oesterheld, G.;
	Helv. Chim. Acta <u>1942,</u> 25, 753.

CONTROLIENTS -	ODICINAL MEASUDENENTS.
COMPONENTS:	ORIGINAL MEASUREMENTS:
 Benzenesulfonamide, 4-amino-N-2- thiazolyl- (sulfathiazole); 	Dubois, S.; Tawashi, R.
$C_{9}H_{9}N_{3}O_{2}S_{2};$ [72-14-0]	Pharm. Acta Helv. <u>1975</u> , 50, 184-7.
(2) Cholan-24-oic acid, 3,7,12-trihydroxy-,	
(3 α, 5 β, 7α, 12α)-, monosodium salt (Na cholate); C ₂₄ H ₃₉ NaO ₅ ; [361-09-1]	
(3) Water; H_20 ; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: 37 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
EXPERIMENTAL VALUES:	
Solubility of sulfathiazole in a 0.0	4 mol dm ⁻³ Na cholate solution
at 37° C is 15.60 x 10^{-4} g/ml (6.11	0 10-3 1 1 -3
at 57 C 18 15.60 x 10 g/m1 (6.11	0x10 moldm , compiler).
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Samples were filtered through a Millipore	USP grade sulfathiazole was used without
filter 0.45 µm and the amount of dissolved	further treatment. Na cholate was reagent
sulfathiazole was detd spectrophotometri-	grade. Distilled water was used.
cally at 280 nm.	
cally at 200 nm.	
	ESTIMATED ERROR:
	Nothing specified
	REFERENCES :

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COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-2-	Dubois, S.; Tawashi, R.
thiozolyl- (sulfathiazole);	Pharm. Acta Helv. <u>1975</u> , 50, 184-7.
$C_{9H_9N_30_2S_2};$ [72-14-0]	
 (2) Cholan-24-oic acid, 3,7,12-trihydroxy-, (3 α, 5 β, 7α, 12α)-, monosodium salt 	
(Na cholate); C24H39NaO5; [361-09-1]	
(3) Ext. D. and C. Blue No.1;	
$C_{16H_{18}N_{3}S} \cdot C1; [61-73-4]$	
(4) Water; H ₂ O; [7732-18-5]	PREPARED BY:
VARIABLES:	R. Piekos
One temperature: 37 [°] C	
	L
EXPERIMENTAL VALUES:	
	1
Solubility of sulfathiazole in a 0.0	
Solubility of sullathiazole in a U.(14 MOL GM WA CHOIATE SOLUTION
containing 50 μ g/ml of Ext. D. and	C. Blue No. 1 at 37 ^o C is
14.90×10^{-4} g/ml (5.84×10^{-3} mc	ol dm ⁻³ , compiler).
	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Samples were filtered through a Millipore	USP grade sulfathiazole, reagent grade Na
filter 0.45 µm and the amount of dissolved	cholate, certified Ext. D. and C. Blue
sulfathiazole was detd spectrophotometri-	No. 1 and distd water were used.
cally at 280 nm.	
	1
	1
]]
	ESTIMATED ERROR:
	Nothing specified
	1
	REFERENCES :
	1
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	1
	l

	OPTOINAL MEACUPENERS
COMPONENTS: (1) Benzenesulfonamide, 4-amino-N-2-	ORIGINAL MEASUREMENTS:
thiazolyl- (sulfathiazole);	Dubois, S.; Tawashi, R.
$C_{9}H_{9}N_{3}O_{2}S_{2};$ [72-14-0]	Pharm. Acta Helv. <u>1975</u> , 50, 184-7.
(2) Cholan-24-oic acid, 3,7,12-trihydroxy-,	
(3α, 5β, 7α, 12α)-, monosodium salt (Na cholate); C ₂₄ H ₃₉ NaO ₅ ;[361-09-1]	
(3) F.D. and C. Violet No.1;	
$C_{39}H_{41}N_{3}O_{6}S_{2} \cdot Na;$ [1694-09-3]	
(4) Water; H_20 ; [7732-18-5]	PREPARED BY:
VARIABLES:	R. Piekos
One temperature: 37 [°] C	
EXPERIMENTAL VALUES:	·······
Solubility of sulfathiazole in a 0.	04 mol dm ~ Na cholate solution
containing 50 μ g/ml of F.D. and C.	Violet No. 1 at 37 ⁰ C is
14.50×10^{-4} g/m1 (5.68 x 10^{-3} m	
14.50 x 10 ' g/m1 (5.68 x 10 ' m	ol dm , compiler).
AUXILIARY	INFORMATION
METHOD / APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS;
Samples were filtered through a Millipore	USP grade sulfathiazole, reagent grade
filter 0.45 µm and the amount of dissolved	Na cholate, certified F.D. and C. Violet
sulfathiazole was detd spectrophotometri-	No. 1 and distd water were used.
11	
cally at 280 nm.	
	ESTIMATED ERROR:
	Nothing specified
	REFERENCES :
	J

COMPONEN	TS:			ORIGINAL MEASUREMEN	ITS :
th Cg (2) Et	1azoly1- H ₉ N ₃ 0 ₂ S ₂ ; hanol; C	onamide, 4-ami (sulfathiazol [72-14-0] 2 ^H 6 ⁰ ; [64-17- ; [7732-18-5]	e); 5]	Milosovich , G. J. Pharm. Sci.	<u>1964</u> , <i>53</i> , 484-7
VARIABLE	: :	······································		PREPARED BY:	
	Temperatu	re		R. Pie	kos
EXPERIME	NTAL VALU	VES:			
			Solu	bility in 95% v/v eth	anol
	t/ ^o C	Form 1			Form II
		g/1000 g sol	vent mol kg ⁻¹	a g/1000 g sol	vent mol kg ^{-1 a}
	59.1	31.50	0.1234	40.7	0.1594
	48.8	19.80	0.0775	28.1	0.1101
	39.4	14.00	0.0548	21.4	0.0838
	29.6	9.93	0.0389	16.7	0.0654
	24.1	8.15	0.0319	14.2	0.0556
	20.4	7.10	0.0278	13.1	0.0513

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14.5 5.70 0.0223

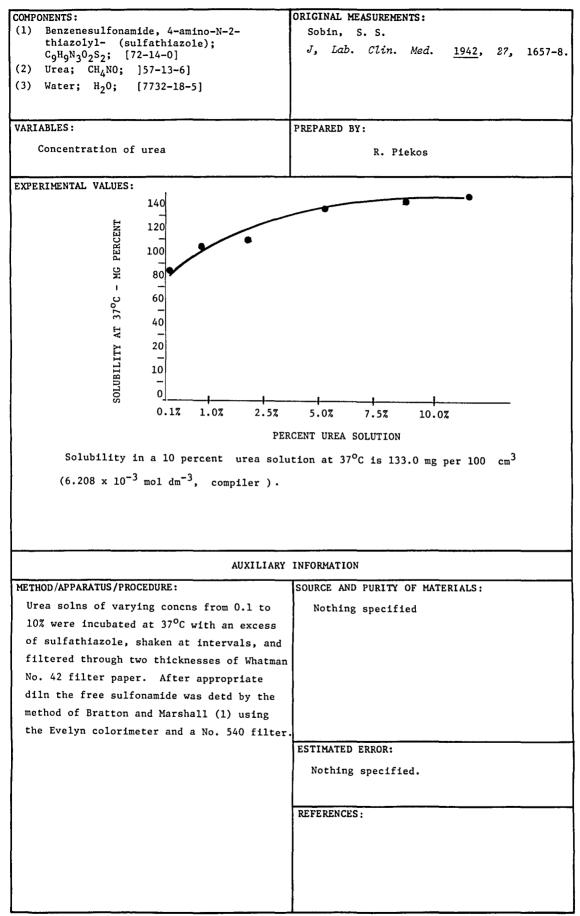
^a Calculated by compiler	
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE: A large excess of form I powder was added to about 500 ml of 95% EtOH in a beaker and held at a desired temp with stirring until equilibrium was obtained. Stirring was stopped, and samples were pipetted through a glass wool to remove suspended particles. The samples were weighed and quant dild with 95% EtOH for spectrophotometric assay at	SOURCE AND PURITY OF MATERIALS: A U.S.P. sulfathiazole was used. Form I, mp 174-5 ^o C, was obtained by slow recrystn from warm EtOH. Form II was obtained by heating form I to 180 ^o C. The source and purity of the materials was not specified.
288 nm. Solubilities of form II were calcd from the dissoln rate date.	ESTIMATED ERROR: Nothing specified
	REFERENCES:

COMPON	VENTS:		ORIGINAL MEA	ASUREMENTS:			
(1)	Benzenesulfonami thiazolyl- (sul CgHgN302S2; [7	fathiazole);	Shkadova, Farm. Zh	A. I. . (Kiev)	<u>1969</u> ,	24(3),	39-41.
	Ethanol; C ₂ H ₆ O;						
(3)	Water; H ₂ 0; [7	732-18-5]					
VARIA	BLES:		PREPARED BY				
	Concentratio	n of ethanol		R. Piekos	1		
EXPER	IMENTAL VALUES:						
	Concentratio	n of ethanol	Solubili	ty at 20 ⁰ C			
	mole %	weight %	10 ² mol kg ⁻¹	g/100 g	a		
	0	0.00	0.15	0.038			
	10	22.14	0.76	0.194			
	20	39.01	1.66	0.424			
	30	52.31	4.46	1.139			
	40	63.04	5.53	1.412			
	50	71.90	5.60	1.430			
	60	79.33	5.23	1.335			
	70	85.65	4.71	1.202			
	80	91.10	3.33	0.842			
	90	95.83	1.72	0.439			
	^a Calculate	d by compiler	- <u>1884 </u>				
		AUXILIA	Y INFORMATION		<u> </u>		
	D/APPARATUS/PROCE	DURE: ilibrated with the	SOURCE AND Purity of				o the
	-	ermostat at 20±0.1 ⁰ C.	Purity of sulfathiazole conformed to the requirements of the State Pharmacopeia IX.				
The o	concn of sulfathi	azole was detd by	The EtOH -	The EtOH - water mixts were prepd from abs			
alkalimetric titration.		EtOH (purity and source not specified) and					
		distd wate	r.				
			FOTIMATED F	PPOP.		-	
		ESTIMATED ERROR: Soly: not specified					
				1 ⁰ C (auth			
			REFERENCES :				

70	
COMPONENTS:	ORIGINAL MEASUREMENTS:
 Benzenesulfonamide, 4-amino-N-2- thiazolyl- (sulfathiazole); 	Mehta, S. C.; Bernardo, P. D.
$C_{9}H_{9}N_{3}O_{2}S_{2};$ [72-14-0]	Higuchi, W. I.; Simonelli, A. P.
(2) Ethanol; C ₂ H ₆ O; [64-17-5]	J. Pharm. Sci. <u>1970</u> , 59(5), 638-44.
(3) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	PREPARED BY:
Concentration of ethanol	R. Piekos
EXPERIMENTAL VALUES:	
Vol/vol % ethanol in water	Solubility at 30°C
8	$/100 \text{ g}$ $10^2 \text{ mol kg}^{-1} \text{ a}$
50	1.30 5.09
95	1.06 4.15
^a Calculated by compiler	
AUXILIAR	Y INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
An excess of the amt of the recrystd sulfa-	- Sulfathiazole (source not specified) was
thiazole needed to produce a satd soln was	purified by crystallization.
placed in a volumetric flask with the sol-	The source and purity of the remaining
vent and agitated in a water bath at $30^{\circ}C$.	materials were not specified.
Duplicate samples were withdrawn at 12-24-	h
intervals, filtered through a 0.45- μ Milli-	-
pore filter, and analyzed spectrophotome-	
trically.	
	ESTIMATED ERROR:
	ESTIMATED ERROR: Nothing specified
	ESTIMATED ERROR: Nothing specified
	Nothing specified
	Nothing specified
	Nothing specified
	Nothing specified

COMPONENTS :	ORIGINAL MEASUREMENTS:
 Benzenesulfonamide, 4-amino-N-2- 	Dolique, R. ; Foucault, J.
thiazolyl- (sulfathiazole);	Trav. soc. pharm. Montpellier <u>1952</u> , 12,
$C_9H_9N_3O_2S_2;$ [72-14-0]	145-53.
(2) Ethanol; C_2H_60 ; [64-17-5] (3) 1.2.3 Present tol: C.H.O.: [56-81-5]	149-95.
 (3) 1,2,3-Propanetriol; C₃H₈O₃; [56-81-5] (4) Water; H₂O; [7732-18-5] 	
VARIABLES:	PREPARED BY:
One temperature: 26-28°C	R. Piekos
One temperature: 20-28°C	R. Flekos
EXPERIMENTAL VALUES:	
EXPERIMENTAL VALUES:	
Solubility of sulfathiazole in a mixt	ure of 1,2,3-propanetriol and 95 ⁰
	.08% ($8.32 \times 10^{-2} \text{ mol kg}^{-1}$, compiler).
$\frac{1}{2} = \frac{1}{2} = \frac{1}$.00% (8.32 X 10 mol kg , complier).
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
The sulfathiazole content was detd by	Nothing specified
diazotization of the amine group in a cold	
acidified 0.1N KNO ₂ soln. An excess of	
KNO ₂ was detected by using iodinated starch.	
	ESTIMATED ERROR:
	Nothing specified
	REFERENCES:

COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-2-	Dolique, R.; Foucault, J.
thiazolyl- (sulfathiazole); C ₉ H ₉ N ₃ O ₂ S ₂ ; [72-14-0]	Trav. soc. pharm. Montpell ier 1952, 12,
(2) Ethanol; C_2H_60 ; [64-17-5]	145-53.
(3) 1,2,3-Propanetriol; C ₃ H ₈ O ₃ ; [56-81-5]	
(4) Urea; CH ₄ N ₂ O; [57-13-6]	
(5) Water; H ₂ O; [7732-18-5]	
VARIABLES: One temperature: 26-28°C	PREPARED BY:
one temperature: 20-28 C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfathiazole at 26-28 ⁰	
in a mixture of 1,2,3-propanetriol an	d 95° ethanol (2:1 by wt),
containing 54.5 g of urea per 100 g o	f the mixture, is 2.82% (0.114
mol kg ⁻¹ solvent, compiler).	
AUXILIARY	INFORMATION
METHOD /APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
The sulfathiazole content was detd by	Nothing specified
diazotization of the amine group in a cold	
acidified 0.1N KNO2 soln. An excess of	
KNO ₂ was detected by using iodinated starch.	
2 0 0	
	ESTIMATED ERROR:
	}
	Nothing specified
	REFERENCES:
	1
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COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-2-	Weinstein, L.; McDonald, A.
thiazoly1- (sulfathiazole); C ₉ H ₉ N ₃ O ₂ S ₂ ; [72-14-0]	Science <u>1945</u> , 101, 44-5.
(2) Carbamic acid, ethyl ester (urethane); $C_3H_7NO_2$; [51-79-6]	
(3) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: 20 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfathiazole in a 10% 20 ⁰ C is 200 mg/100 cm ³ urethane solu compiler).	
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Nothing specified	Nothing specified
	ESTIMATED ERROR:
	Nothing specified
	REFERENCES:

COMPONENTS:	ORIGINAL MEASUREMENTS:
<pre>(1) Benzenesulfonamide, 4-amino-N-2- thiazoly1- (sulfathiazole); C₉H₉N₃O₂S₂; [72-14-0]</pre>	Higuchi, T.; Lach, J. L. J. Amer. Pharm. Assoc., Sci. Ed. 1954, 43, 349-54.
<pre>(2) 1H-Purine-2,6-dione, 3,7-dihydro- 1,3,7-trimethyl- (caffeine); C₈H₁₀N₄O₂; [58-08-2] (3) Water; H₂O; [7732-18-5]</pre>	
VARIABLES:	PREPARED BY:
Concentration of caffeine	R. Piekos
EXPERIMENTAL VALUES:	e in vator containing caffeine at 30°C
Total solubility of sulfathiazol	e in water containing caffeine at 30 ⁰ C

Caffeine Sulfa		azole	Caffeine	Sulfathiazole		
10^2 mol dm ⁻³	10 ³ mol dm	$^{-3}$ g dm ⁻³ a	10^2 mol dm ⁻³	10 ⁻³ mol dm	n ⁻³ g dm ⁻³ a	
0.000	2.27	0.58	10.485	5.01	1.28	
1.419	2.66	0.68	12.250	5.35	1.37	
1.514	2.63	0.67	13.342	5.45	1.39	
1.674	2.74	0.70	14.069	5.54	1.41	
3.457	3.21	0.82	14.074	5.46	1.39	
3.922	3.35	0.85	14.908	5.62	1.43	
3.944	3.27	0.83	15.089	5.69	1.45	
4.573	3.47	0.89	15.907	5.58	1.42	
5.468	3.68	0.94				
6.375	3.92	1.00				
7.951	4.27	1.09				
7.956	4.30	1.10				
9.017	4.59	1.17				
10.448	4.73	1.21				

AUXILIAKY	INFORMATION

METHOD/APPARATUS/PROCEDURE: SOURCE AND PURITY OF MATERIALS: Recrystd sulfathiazole (U.S.P.), mp 201-2°C Sulfathiazole (75 mg) was placed in 125-ml and recrystd caffeine (U.S.P.), mp 235-7°C glass-stoppered bottles together with varying but accurately weighed amts of were used. The water used was distilled. caffeine and 50-ml portions of water. The bottles were placed in a mech shaker in a const temp bath and equilibrated for 8 h at 30°C. Aliquots of the supernatant liquid were analyzed for the sulfonamide by the method of Bratton and Marshall (1). ESTIMATED ERROR: Nothing specified **REFERENCES**: 1. Bratton, A. C.; Marshall, E. K., Jr. J. Biol. Chem. <u>1939</u>, 128, 537.

COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-2-	Neish, W.J.P. <i>Rec. trav. chim.</i>
thiazolyl- (sulfathiazole); C ₉ H ₉ N ₃ O ₂ S ₂ ; [72-14-0]	<u>1948</u> , <i>67</i> , 361-71.
(2) 1H-Purine-2,6-dione, 3,7-dihydro-	
1,3,7-trimethy1- (caffeine);	
$\begin{array}{c} C_{8H_{10}N_{4}O_{2}}; & [58-08-2] \\ \hline (3) & \text{Water; } H_{2}O; & [7732-18-5] \end{array}$	
VARIABLES:	PREPARED BY:
Concentration of caffeine	R. Piekos
EXPERIMENTAL VALUES:	
Concentration Sc	lubility of sulfathiazole at 37 ⁰ C
of caffeine	
g/100 ml	$\gamma/ml = 10^3 mo1 dm^{-3} a$
B/100 m1	
0.50	500 1.96
0.75	530 2.08
1.00	650 2.50
1.00	2.50
^a Calculated by compiler	
ļ	
AUXILIARY	INFORMATION
METHOD /APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
A suspension of sulfathiazole in caffeine	Sulfathiazole: not specified
soln was kept for 5 h at 37° C and 1 h at	-
-	Anhydrous caffeine was a good commercial
room temp before filtration. Soly was detd	product (source not specified).
by the Westfall's method (1) based on	Distilled water was used.
diazotization of the sulfonamide, coupling	
with Na 2-naphthol-3,6-disulfonate and	
comparing the color with that of a std soln	
in a Klett colorimeter.	
	ESTIMATED ERROR:
	Nothing specified
1	REFERENCES:
	1. Westfall, B. B. J. Nat. Cancer
	Inst. <u>1945</u> , 6, 23.
1	

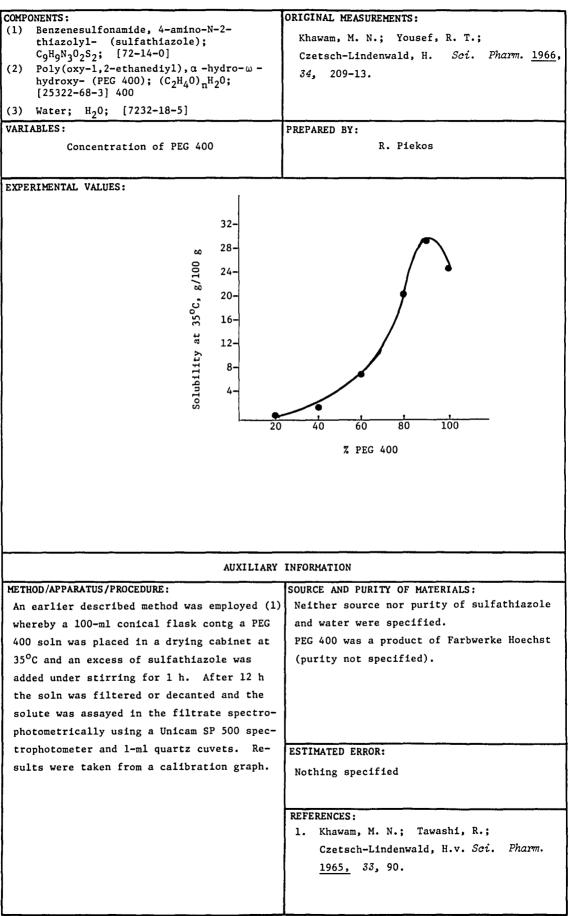
COMPONENTS:	ORIGINAL MEASUREMENTS:
 Benzenesulfonamide, 4-amino-N-2- 	Rupprecht, H.; Ziller, K. H.
thiazolyl- (sulfathiazole);	Pharmazie 1981, 36(4), 298.
$C_{9}H_{9}N_{3}O_{2}S_{2};$ [72-14-0]	,
<pre>(2) 2-Pyrrolidinone, 1-ethenyl-,polymers (PVP); (C₆H₉NO)_x; [9003-39-8]</pre>	
(3) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: 20 ⁰ C	R. Piekos
·	
EXPERIMENTAL VALUES:	· · · · · · · · · · · · · · · · · · ·
Solubility of sulfathiazole in a su	spension containing 2.0 mg PVP/100
ml at 20°C is 37.2 mg/100 ml (1.4	$46 \times 10^{-3} \text{ mol dm}^{-3}$, compiler).
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
To 50 ml of a suspension of 2.0 g of sulfa-	Sulfathiazole: neither source nor purity
thiazole, 1.0 mg of PVP was added, the mixt	was specfied.
was placed in a thermostat and stirred with	PVP K30 was from BASF, Ludwigshafen.
a magnetic stirrer. The concn of the solute	Its purity was not specified.
was monitored continuously after filtration	Distilled water was used.
through a G3 or G4 fritted-glass filters	
by means of a Knauer differential refracto-	
meter or a Shimadzu 100-02 UV spectrophoto-	
meter. The cuvets of the refractometer were	
thermostated. Variations of the refractive	Nothing specified
index or light absorption were recorded as a	
function of time with a Servogor 220 two-	REFERENCES:
line recorder.	

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COMPONENTS:	ORIGINAL MEASUREMENTS:	
(1) Benzenesulfonamide, 4-amino-N-2- thiazolyl; (sulfathiazole);	Becher, R.; Leya, S. <i>Experientia</i> <u>1946</u> , 2, 459-60.	
$C_{9}H_{9}N_{3}O_{2}S_{2};$ [72-14-0] (2) D-Glucose; $C_{6}H_{12}O_{6};$ [50-99-7]		
(3) Water; H ₂ 0; [7732-18-5]		
VARIABLES:	PREPARED BY:	
One temperature: 18-19 ⁰ C	R. Piekos	
EXPERIMENTAL VALUES:		
Solubility of sulfathiazole in a 10% D-glucose solution at room		
temperature (18-19 ⁰ C) is 57 mg%	$(2.2 \times 10^{-5} \text{ mol dm}^{-5},$	
compiler).		
AUXILIARY	INFORMATION	
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:	
After standing for more than two days the	Nothing specified	
soln of sulfathiazole was filtered and the		
sulfonamide was assayed in the filtrate		
colorimetrically by the method of Druey and		
Oesterheld (1).		
	ESTIMATED ERROR:	
	Nothing specified	
	REFERENCES:	
1	1. Druey, J.; Oesterheld, G. <i>Helv. Chim. Acta</i> <u>19</u> 42, 25, 753.	
	11600. Onom. Acta <u>1742</u> , 20, 733.	

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COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-2- thiazolyl- (sulfathiazole); C ₉ H ₉ N ₃ O ₂ S ₂ ; [72-14-0]	Becher, R.; Leya, S., <i>Experientia</i> <u>1946</u> , 2, 459-60.
(2) Pectin; $(C_{13}H_{18}O_{12})_n$; [9000-69-5]	
(3) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: 18-19 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	L
Solubility of sulfathiazole in a 2.	5% pectin solution ([pectin] =
$6.8 \times 10^{-2} \text{ mol kg}^{-1}$, compiler), or	f pH about 2.6, at room
temperature (18-19 ⁰ C) is 86 mg%	
AUXILIARY	INFORMATION
METHOD / APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
The soln was allowed to stand for more than	A high quality apple pectin was used: the
2 days at room temp. The soln was the	rel viscosity of a 0.5% soln was 6.2, and
filtered, and sulfathiazole assayed colori-	for neutralization of 1 g of the pectin, 1.67 cm ³ of a 1 mol dm ⁻³ NaOH soln was used.
metrically in the filtrate by the method of Druey and Oesterheld (1).	The source and purity of sulfathiazole and
of bruey and besterneru (1).	water were not specified.
	ESTIMATED ERROR:
	Nothing specified
	REFERENCES :
	1. Druey, J.; Oesterheld, G.
	Helv. Chim. Acta <u>1942</u> , 25, 753.



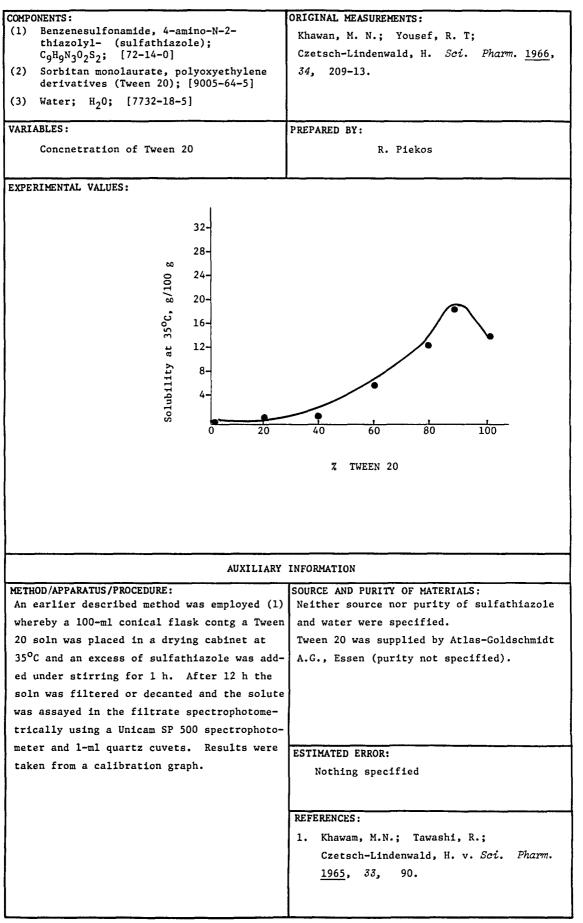


COMPONENTS:	ORIGINAL MEASUREMENTS:
 Benzenesulfonamide, 4-amino-N-2- thiazolyl- (sulfathiazole); 	Khawam, M. N.; Yousef, R. T.;
$C_9H_9N_3O_2S_2;$ [72-14-0]	Czetsch-Lindenwald, H. <i>Sci. Pharm.</i> <u>1966</u> ,
(2) Poly(oxy-1,2-ethanediy1), α -hydro- ω -	34, 209-13.
hydroxy- (PEG 4000); (C ₂ H ₄ 0) _n H ₂ 0; [25322-68-3]	
(3) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	PREPARED BY:
Concentration of PEG 4000	R. Piekos
	L
EXPERIMENTAL VALUES:	
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00	
<u> </u>	
⁸ /100	
<u>.</u> 4–	
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ਸ਼ੂ 3–	
2- 2- 2-	
Inl	
о <mark>о 1-</mark>	
0 5	10 15 20 25 30
	a bbo (000
	% PEG 4000
	······································
AUXILIARY	INFORMATION
METHOD /APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
An earlier described method was employed (1)	
whereby a 100-ml conical flask contg a PEG	and water were specified.
4000 soln was placed in a drying cabinet at	PEG 4000 was a product of Farbwerke Hoechst
35 ⁰ C and an excess of sulfathiazole was add-	(purity not specified).
ed under stirring for 1 h. After 12 h the	
soln was filtered or decanted and the solute	
was assayed in the filtrate spectrophotome-	
trically using a Unicam SP 500 spectrophoto-	
meter and 1-ml quartz cuvets. Results were	
	ESTIMATED ERROR:
taken from a calibration curve.	Nothing specified
	REFERENCES:
	1. Khawam, M.N.: Tawashi, R.;
	· · · · · · ·
	<u>1965</u> , <i>33</i> , 90.

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COMPONENTS:	ORIGINAL MEASUREMENTS:
 Benzenesulfonamide, 4-amino-N-2- thiazoly1- (sulfathiazole); 	Gusyakov, V.P.; Likhol'ot, N. M.; Kutna, I.M.; <i>Farm. Zh. (Kiev)</i> 1967,
$C_{9}H_{9}N_{3}O_{2}S_{2};$ [72-14-0]	22(3), 34-9.
(2) Sorbitan monolaurate, polyoxyethylene	22(3), 34-9.
derivatives (Tween 20); [9005-64-5] (3) Water; H ₂ 0; [7732-18-5]	
_	
VARIABLES:	PREPARED BY:
One temperature: 20 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
s/s _o = :	2.0 at 20 ⁰
where S is the solubility of	f sulfathiazole in a 2% by
weight Tween 20 solution, an	nd
S _o is the solubility	of sulfathiazole in water
(0.043 g/100 ml).	
	3.4 x 10^{-3} mol dm ⁻³), compiler.
Hence $S = 0.086 \text{ g/100 m1}$ (3.4 x 10 - moi dm -), compiler.
AUXILIARY	INFORMATION
METHOD / APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
An excess of sulfathiazole in a 2% by wt	Sulfathiazole conformed to the requirements
aq Tween 20 soln was equilibrated for 24	of the State Pharmacopeia IX.
h in an ampul immersed in a water thermo-	Tween 20 was a product of Gee Lawson,
stat. Aliquots of the satd soln were with-	England.
drawn through a filter and the sulfathia-	Purity of the water was not specified.
zole content was assayed in the filtrate	
photometrically.	
	ESTIMATED ERROR:
	Soly: not specified.
	Temp: ±0.1 ^o C (authors).
	REFERENCES :

OMPONENTS :	
	ORIGINAL MEASUREMENTS:
 Benzenesulfonamide, 4-amino-N-2- thiazolyl- (sulfathiazole); CgHgN302S2; [72-14-0] Sorbitan monopalmitate, polyoxyethylene derivaties (Tween 40); [9005-66-7] 	Gusyakov, V. P.; L1khol'ot, N. M. Kutna, I.M. <i>Farm. Zh. (Kiev)</i> <u>1967</u> , 22(3), 34-9.
) Water; H ₂ 0; [7732-18-5]	
ARIABLES:	PREPARED BY:
One temperature: 20°C	R. Piekos
XPERIMENTAL VALUES:	
U	2.0 at 20 [°] C
where S is the solubility of sulfathiazole in a 2% weight	
Tween 40 solution in water, a	
-	thiazole in water (0.043 g/100 ml). 4 x 10^{-3} mol dm ⁻³), compiler.
	INFORMATION
AUXILIARY ÆTHOD/APPARATUS/PROCEDURE: An excess of sulfathiazole in a 2% by wt aq Tween 40 soln was equilibrated for 24 h in an ampul immersed in a water thermostat. Aliquots of the satd soln were withdrawn through a filter and the sulfathiazole content was assayed in the filtrate photo- metrically.	INFORMATION SOURCE AND PURITY OF MATERIALS: Sulfathiazole conformed to the require- ments of the State Pharmacopeia IX. Tween 40 was a product of Gee Lawson, England. Purity of the water was not specified.
ÆTHOD/APPARATUS/PROCEDURE: An excess of sulfathiazole in a 2% by wt aq Tween 40 soln was equilibrated for 24 h in an ampul immersed in a water thermostat. Aliquots of the satd soln were withdrawn through a filter and the sulfathiazole content was assayed in the filtrate photo-	SOURCE AND PURITY OF MATERIALS: Sulfathiazole conformed to the require- ments of the State Pharmacopeia IX. Tween 40 was a product of Gee Lawson, England.
ÆTHOD/APPARATUS/PROCEDURE: An excess of sulfathiazole in a 2% by wt aq Tween 40 soln was equilibrated for 24 h in an ampul immersed in a water thermostat. Aliquots of the satd soln were withdrawn through a filter and the sulfathiazole content was assayed in the filtrate photo-	SOURCE AND PURITY OF MATERIALS: Sulfathiazole conformed to the require- ments of the State Pharmacopeia IX. Tween 40 was a product of Gee Lawson, England. Purity of the water was not specified. ESTIMATED ERROR: Soly: not specified.

COMPO	DNENTS:	ORIGINAL MEASUREMENTS:
(1) (2) (3)	Benzenesulfonamide, 4-amino-N-2 thaizolyl- (sulfathiazole); C ₉ H ₉ N ₃ O ₂ S ₂ ; [72-14-0] Sorbitan monooleate, polyoxyethylene derivatives (Tween 80) [9005-65-6] Water; H ₂ O; [7732-18-5]	Gusyakov, V. P.; Likhol'ot, N. M.; Kutna, I.M. <i>Farm. Zh. (Kiev) <u>1967</u>, 22(3),</i> 34-9.
VARI.	ABLES: One temperature: 20 ⁰ C	PREPARED BY: R. Piekos
EXPE	RIMENTAL VALUES:	-4

$S/S_{o} = 2.0 \text{ at } 20^{\circ}C$

where S is the solubility of sulfathiazole in a 2% by weight aqueous Tween 80 solution, and S_o is the solubility of sulfathiazole in water (0.043 g/100 ml). Hence S = 0.086 g/100 ml (3.4 x 10⁻³ mol dm⁻³), compiler.

AUXILIARY INFORMATION		
METHOD/APPARATUS/PROCEDURE: An excess of sulfathiazole in a 2% by wt aq Tween 80 soln was eqilibrated for 24 h in an ampul immersed in a water thermostat. Aliquots of the satd soln were withdrawn through a filter and the sulfathiazole content was assayed in the filtrate photo-	SOURCE AND PURITY OF MATERIALS: Sulfathiazole conformed to the requirements of the State Pharmacopeia IX. Tween 80 was a product of Gee Lawson, England. Purity of the water was not specified.	
metrically.	ESTIMATED ERROR: Soly: not specified. Temp: ±0.1 ^o C (authors). REFERENCES:	

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-2-	Lott, W. A.; Bergeim, F. H.
thiazolyl- (sulfathiazole);	J. Am. Chem. Soc. <u>1939</u> , 61, 3593–4.
$C_{9}H_{9}N_{3}O_{2}S_{2};$ [72-14-0]	
(2) Ethanol; C ₂ H ₆ 0; [64-17-5]	
VARIABLES:	PREPARED BY:
One temperature: 26 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfathiazole in eth	anol at 26°C is 525 mg/100 cm ³
$(2.06 \times 10^{-2} \text{ mol dm}^{-3}, \text{ compiler})$	
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Nothing specified	Sulfathiazole, mp 197-7.5 ⁰ C (uncor) and
Nothing specified.	
	202.0-2.5°C (cor) was prepd by the authors.
	Purity of the ethanol was not specified.
	ESTIMATED ERROR:
	Nothing specified.
	. .
	REFERENCES:

COMPONENTS:	ORIGINAL MEASUREMENTS:				
(1) Benzenesulfonamide, 4-amino-N-2-	Burlage, H. M. J. Am. Pharm. Assoc.,				
thiazolyl- (sulfathiazole);	Sci. Ed. <u>1948</u> , 37, 345.				
$C_{9}H_{9}N_{3}O_{2}S_{2};$ [72-14-0]					
(2) 2-Propanol; C ₃ H ₈ 0; [67-63-0]					
VARIABLES:	PREPARED BY:				
One temperature: 25°C	R. Piekos				
EXPERIMENTAL VALUES:					
EATENIAL VALUES.					
Solubility of sulfathiazole in 2-p	ropanol at 25 ⁰ C is 0.5750 g/100 cm ³				
solution (2.252 x 10^{-2} mol dm ⁻³ , compiler).					
AUXILIARY	INFORMATION				
METHOD / APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:				
Satd solns of sulfathiazole in 2-propanol	The sulfathiazole was manufd by Merck and				
were prepd at 25°C and definite vols of the	was of the U.S.P. purity. The source and				
solns were measured into tared dishes by	purity of 2-propanol was not specified.				
means of standard pipets. The alcohol was					
allowed to evap at room temp and the residue					
was dried at 105°C. In the case of losses					
due to apparent decompn, the residue was					
dried in a desiccator (1).					
	ESTIMATED ERROR:				
	Nothing specified.				
	REFERENCES :				
	1. Burlage, H. M. J. Am. Pharm. Assoc.,				
	Sci. Ed. <u>1947</u> , 36(1), 16.				
	1				

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COMPONENTS:				ORIGINAL MEASUREMENTS:		
 Benzenesulfonamide, 4-am thiazolyl- (sulfathiazo 		mide, 4-amino	-N-2-	Kuhnert-Brandstätter, M.; Martinek, A. <i>Microchim. Ichnoanal. Acta</i> <u>1956</u> , 909-19.		
		ulfathiazole)	;			
	C9H9N302S2;	[72-14-0]				
(2)			-0]			
		5.0				
VARIABLES:			PREPARED BY:			
	Tempera	ture		R. Piekos		
EXPE	RIMENTAL VALUES	:			· · · · · · · · · · · · · · · · · · ·	
Saturation solubility ^a						
	t/ ^o C	Crystal	Crystalline form I		Crystalline form II	
	2, 0	g/100 g	10^2 mol kg ⁻¹	l g/100 g	10^2 mol kg^{-1}	
		solution	solution ^b	solution	solution ^b	
						-
	30.5	0.400	1.567	-	-	
	31.0	-	-	0.220	0.862	
	40.5	0.500	1.958	0.310	1.214	
	50.5	0.660	2.585	0.510	2.000	
	59.5	0.890	3.486	-	-	
	60.0	-	-	0.735	2.879	
	61.0	-	-	0.770	3.016	
	65.0	-	-	0.880	3.447	
	69.0	1.215	4.759	-	-	
	70.0	1.260	4.935	1.085	4.250	
^a Numerical data received from the authors.						
⁻ Numerical data received from the authors. ^b Calculated by compiler.						
	<u> </u>		AUXILIARY	INFORMATION		
METH	IOD/APPARATUS/PR	OCEDURE :	·····	SOURCE AND PURI	TY OF MATERIALS:	
Sulfathiazole and 2-propanol were placed in			A comm available form II of sulfathiazole			
	olyethylene ves			was used. Form I was obtained by keeping		
filtered, and the sulfonamide was assayed			the comm reagent at 170 ⁰ C for 2 h. The			
in	the filtrate gr	avimetrically	. The solid	source and purity of 2-propanol was not		
phase was examd thermomicroscopically for			specified.			
identity of the cryst form.						
			ESTIMATED ERROR:			
			Soly: not specified.			
			Temp: ±0.5 ⁰ C (authors).			
			REFERENCES:			

COMPONENTS	OPICINAL MEASUREMENTS.	
COMPONENTS:	ORIGINAL MEASUREMENTS: Sunwoo, C.; Eisen, H.	
(1) Benzenesulfonamide, 4-amino-N-2-		
thiazoly1- (sulfathiazole);	J. Pharm. Sci. <u>1971</u> , 60, 238-44.	
$C_{9}H_{9}N_{3}O_{2}S_{2};$ [72-14-0]		
(2) Ethanol, 2-ethoxy-; C ₄ H ₁₀ O ₂ ;		
[110-80-5]		
VARIABLES:	PREPARED BY:	
One temperature: 25 ⁰ C	R. Piekos	
EXPERIMENTAL VALUES: The mole fraction solubility of cry in 2-ethoxyethanol at 25°C'is 0.022 compiler).		
AUXILIARY	INFORMATION	
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:	
Soly was detd by the method reported by	Sulfathiazole (American Cyanamid Co.,	
Restaino and Martin (1). Sulfathiazole was	Pearl River, N.Y.) was recrystd from super-	
assayed spectrophotometrically on a Coleman-	satd soln of warm acetone to give cryst	
Hitachi 124 double-beam spectrophotometer	form II.	
at 280 nm after dilg the sample with 95%	Industrial grade 2-ethoxyethanol (Cellosolve	
EtOH or water.	solvent, Union Carbide Corp., New York, N.Y.)	
	was used.	
	ESTIMATED ERROR:	
	Temp: ±1.0°C (authors).	
	Soly: the mean of 3 runs was given	
	(authors).	
	REFERENCES:	
	1. Restaino, F. A.; Martin, A. N.	
	J. Pharm. Sci. 1964, 53, 636.	

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COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-2-	Mehta, S. C.; Bernardo, P. D.;
thiazolyl- (sulfathiazole);	Higuchi, W. I.; Simonelli, A. P.
$^{C_{9}H_{9}N_{3}O_{2}S_{2}}$; [72-14-0]	J. Pharm. Sci. <u>1970</u> , 59(5), 638-44.
(2) 2-Butanol; $C_4H_{10}0$; [78-92-2] (3) Etheral: C H 0; [64-17-5]	
(3) Ethanol; C ₂ H ₆ O; [64-17-5]	
VARIABLES:	PREPARED BY:
One temperature: 30 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfathiazole in a	
in 2-butanol, at 30 ⁰ C, is 0.555 g	$/100 \text{ g}$ (2.17 x $10^{-2} \text{ mol kg}^{-1}$,
compiler).	
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
An excess of the amt of the recrystd sulfa-	Sulfathiazole (source not specified) was
thiazole needed to produce a satd soln was	purified by crystallization.
placed in a volumetric flask with the sol-	The source and purity of the remaining
vent and agitated in a water bath at 30° C.	materials was not specified.
Duplicate samples were withdrawn at 12-24-h	
intervals, filtered through a 0.45-µ Milli-	
pore filter, and analyzed spectrophotometri-	
cally.	
	ESTIMATED ERROR:
	Nothing specified.
	REFERENCES :
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COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-2-	Riess, W.
thiazolyl- (sulfathiazole);	Intern. Congr. Chemotherapy, Proc.,
$C_{9}H_{9}N_{3}O_{2}S_{2};$ [72-14-0]	3rd, Stuttgart <u>1963</u> , 1, 627-32.
(2) Methane, trichloro- (chloroform);	
CHC1 ₃ ; [67-66-3]	
VARIABLES:	PREPARED BY:
One temperature: 20 ⁰ C	R. Piekos
EXPERIMENTAL VALUES: Solubility of sulfathiazole in chlord (5.9 x 10 ⁻⁴ mol dm ⁻³ solution, com	
AUXILIARY	INFORMATION
METHOD /APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
Nothing specified.	Nothing specified.
	ESTIMATED ERROR:
	Nothing specified.
	REFERENCES :

COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-2-	Yamazaki, M.; Aoki, M.; Kamada, A.;
thiazolyl- (sulfathiazole);	Yata, N. Yakuzaigaku <u>1967</u> , 27(1),
$C_9H_9N_3O_2S_2;$ [72-14-0]	37-40.
(2) Methane, trichloro- (chloroform);	
CHCl ₃ ; [67 -66-3]	
VARIABLES:	PREPARED BY:
One temperature: 30 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfathiazole in chlo	proform at 30°C is 0.48 mmol/L.
	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Sulfathiazole (0.5 g) was placed in an L-	Nothing specified.
shaped tube together with 20 ml of chloro-	
form. The mixt was then shaken in a thermo-	
stat until equilibrium was attained. The	
sulfathiazole was then assayed in the	
supernatant spectrophotometrically at 545 nm	
on a Beckmann DU spectrophotometer. The re-	
sults were taken from a calibration graph.	
	ESTIMATED ERROR:
	Soly: not specified.
	Temp: ±1 ⁰ C (authors).
	REFERENCES:

COMPONENTS:	ORIGINAL MEASUREMENTS:	
 Benzenesulfonamide, 4-amino-N-2- 	Kitao, K.; Kubo, K.; Morishita, T.;	
thiazolyl- (sulfathiazole);	Yata, N.; Kamada, A. Chem. Pharm. Bull.	
$C_{9}H_{9}N_{3}O_{2}S_{2};$ [72-14-0]	<u>1973, 21, 2417-26.</u>	
(2) Methane, trichloro-; CHCl ₃ ; [67-66-3]	<u>1975</u> , 21, 242, 201	
VARIABLES:	PREPARED BY:	
One temperature: 37°C	R. Piekos	
EXPERIMENTAL VALUES:		
Solubility of sulfathiazole in CHC1	$_{3}$ at 37°C is 0.843 mmol dm ⁻³	
solution.		
	INFORMATION	
METHOD / APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:	
One ml of the sulfathiazole soln in CHCl ₃	Comm available sulfathiazole (source not	
at equilibrium was taken into a test tube.	specified) was used as supplied.	
After evapn of the solvent, the residue	Neither source nor purity of the CHCl ₃	
was dissolved in 1N NaOH, the soln was pro-	was specified.	
perly dild with deionized water and the		
concn of sulfathiazole was detd by		
diazotization.		
	ESTIMATED ERROR: Soly: not specified.	
	Temp: $\pm 1^{\circ}C$ (authors).	
	REFERENCES :	
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OMPONENTS	:				ORIGINAL	. MEASUREME	NTS:			
 Benzenesulfonamide, 4-amino-N-2- 				Gutierrez, F. H.						
(1) Benzenesuironamide, 4-amino-N-2- thiazolyl- (sulfathiazole);										
	•				Anales fis. quim. (Madrid) <u>1945</u> , 41,					
		[72-14			537-6	0.				
(2) 2-Pr	ropanone	(acetone	e); C ₃ H ₆ 0;							
[67-	-64-1]									
ARIABLES:	:		· · · · · · · · · · · · · · · · · · ·		PREPARED BY:					
Temperature						R. P	iekos			
XPERIMENT	CAL VALUE	S :	<u></u>	;;						
t/ ^o C	G ^a	Eb	Xg/1 ^c	mol/1 ^d	acetone	mmol/mol acetone	1:Xg	1 +	xfcc	
0	0.994	0.984	8.097	31.	7	2.26	100.60	123.	50	
5	1.247	1.212	10.086	39.		2.84	80.19	99.		
10	1.506	1.484	12.093	47.		3.43	64.41			
15 20	1.728 2.025	1.699 1.985	13.774 16.022	53. 62.		3.93 4.61	57.87 49.38			
20	2.349	2.295	18.484	72.		5.34	42.58			
30	2.653	2.584	20.675	80.		6.03	37.69			
35	3.000	2.913	23.199	90.		6.82	33.33	43.	11	
40	3.380		25.938	101.		7.70	29.58			
45 50	3.704 4.133	3.571 3.969	28.200 31.225	110. 122.		8.43 9.40	26.99 24.19			
20	41133	5.707	520225		5	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	24122			
^e g of a	acetone 1	-; ^c g/l required	acetone; ^d	ved 1 g of	mmo1/1 ;	acetone (co ^f volume (c	ompiler);	cetone		
^e g of a	G 100 G + 100 acetone 1	-; ^c g/l required	acetone; ^d to dissolv	ved 1 g of	mmo1/1 ;		ompiler);	cetone		
^e g of a	G 100 G + 100 acetone 1	-; ^c g/l required	acetone; ^d to dissolv . g of solu	ved 1 g of	mmol/1 ;	^f volume (c	ompiler);	cetone		
^e g of a requir	G <u>100</u> G + 100 acetone 1 red to di	-; ^c g/l required issolve l	acetone; ^d to dissolv g of solu	red 1 g of tte.	mmol/1 ; solute; INFORMAT	^f volume (c	ompiler); m ³) of ac			
^e g of a requir ÆTHOD/APP	G 100 G + 100 acetone m red to di	-; ^c g/1 required issolve 1 PROCEDURE	acetone; ^d to dissolv g of solu	red 1 g of ite. AUXILIARY	mmol/1 ; solute; INFORMAT	f _{volume} (c	ompiler); m ³) of ac	ALS :	not sp	eci-
^e g of a requir ÆTHOD/APP A special	G 100 G + 100 acetone m red to di PARATUS/F 1 all-gla	-; ^C g/1 required issolve 1 PROCEDURE ass app w	acetone; ^d to dissolv g of solu ;	red 1 g of ite. AUXILIARY	mmol/1 a solute; INFORMAT SOURCE A The sou	f _{volume} (c 'ION AND PURITY	ompiler); m ³) of ac OF MATERI material	ALS: Ls was	-	
^e g of a requir ÆTHOD/APP A special bling the	G 100 G + 100 acetone m red to df PARATUS/P 1 all-gla e prepn c	-; ^c g/1 required issolve 1 PROCEDURE ass app w of satd s	acetone; d to dissolv g of solu g of solu	AUXILIARY AUXILIARY Aution by	mmol/1 a solute; INFORMAT SOURCE A The son fied. 1	fvolume (c TION AND PURITY urce of the	ompiler); m ³) of ac OF MATERI material acetone	ALS: Ls was was us	ed. Th	e
^e g of a requir ÆTHOD/APP A special bling the bubbling	G 100 G + 100 acetone m red to df PARATUS/F 1 all-gla e prepn c a stream	-; ^c g/1 required issolve 1 PROCEDURE ass app w of satd s m of acet	acetone; d to dissolv g of solu g of solu solns, agit	AUXILIARY AUXILIARY AUXILIARY Aution by I, filtra-	mmol/1 a solute; INFORMAT SOURCE A The son fied. 1 absence	fvolume (c TION AND PURITY urce of the Pure, anhyd	ompiler); m ³) of ac OF MATERI material acetone ties and	ALS: is was was us water	ed. Th was co	e n-
^e g of a requir ÆTHOD/APP A special bling the bubbling tion and	G 100 G + 100 acetone m red to di PARATUS/F l all-gla e prepn c a stream distn of	-; ^c g/1 required issolve 1 PROCEDURE ass app w of satd s n of acet ff the so	acetone; d to dissolv g of solu g of solu a solutions, agit toone-satd N	AUXILIARY acted ena- cation by a, filtra- cout con-	mmol/1 a solute; INFORMAT SOURCE A fied. 1 absence firmed	fvolume (c TION AND PURITY urce of the Pure, anhyd e of impuri	ompiler); m ³) of ac OF MATERI material acetone ties and ares of th	ALS: is was was us water ne Germ	ed. Th was co an Pha	e n- rma-
^e g of a requir ÆTHOD/APP A special bling the bubbling tion and tact with	G 100 G + 100 acetone m red to di PARATUS/F l all-gla e prepn c a stream distn of h air. Tw	-; ^c g/1 required issolve 1 PROCEDURE ass app w of satd s m of acet ff the so wo exchan	acetone; d to dissolv g of solu g of solu solution toolns, agit cone-satd N olvent with ageable dis	AUXILIARY AUXILIARY ACted ena- ation by I, filtra- aout con- asoln ves-	mmol/1 a solute; INFORMAT SOURCE A The sou fied. 1 absence firmed copeia	fvolume (c TION AND PURITY urce of the Pure, anhyd e of impuri by procedu	ompiler); m ³) of ac OF MATERI material cres and tres of th mish Phan	ALS: is was was us water ne Germ rmacope	ed. Th was co an Pha ia VII	e n- rma-
^e g of a requir ÆTHOD/APP A special bling the bubbling tion and tact with sels of 1	G 100 G + 100 acetone m red to di red to di	-; ^c g/1 required issolve 1 PROCEDURE ass app w of satd s n of acet ff the so wo exchan cm ³ work	acetone; d to dissolv g of solu g of solu solns, agit cone-satd N lvent with ageable dis sing capaci	AUXILIARY AUXILIARY acted ena- cation by I, filtra- cout con- csoln ves- cty were	mmol/1 a solute; INFORMAT SOURCE A fied. 1 absence firmed copeia The put	fvolume (c TION AND PURITY urce of the Pure, anhyd e of impuri by procedu VI and Spa rity of sul	ompiler); m ³) of ac OF MATERI material cres and tres of th mish Phan	ALS: is was was us water ne Germ rmacope	ed. Th was co an Pha ia VII	e n- rma-
^e g of a requir ÆTHOD/APP A special bling the bubbling tion and tact with sels of 1 used depe	G 100 G + 100 accetone m red to di red to di PARATUS/F l all-gla e prepn c a stream distn of h air. Tw l5 and 8 ending or	-; ^c g/1 required issolve 1 PROCEDURE ass app w of satd s n of acet ff the so wo exchan cm ³ work n the sol	acetone; d to dissolv g of solu g of solu vas constru- cone-satd N olvent with ageable dis ing capaci y of solut	AUXILIARY acted ena- cation by a, filtra- cout con- csoln ves- ty were ce. The	mmol/1 a solute; INFORMAT SOURCE A The sou fied. 1 absence firmed copeia	fvolume (c TION AND PURITY urce of the Pure, anhyd e of impuri by procedu VI and Spa rity of sul	ompiler); m ³) of ac OF MATERI material cres and tres of th mish Phan	ALS: is was was us water ne Germ rmacope	ed. Th was co an Pha ia VII	e n- rma-
^e g of a requir ÆTHOD/APP A special bling the bubbling tion and tact with sels of 1 used depe app was i	G 100 G + 100 accetone m red to di PARATUS/F l all-gla e prepn c a stream distn of h air. Tw l5 and 8 ending or immersed	-; ^c g/1 required issolve 1 PROCEDURE ass app w of satd s n of acet ff the so wo exchan cm ³ work n the sol in a the	acetone; d to dissolv g of solu g of solu vas constru- cone-satd N olvent with ageable dis ing capaci y of solut rmostat. T	AUXILIARY AUXILIARY acted ena- tation by a, filtra- tout con- tsoln ves- ty were te. The the vols	mmol/1 a solute; INFORMAT SOURCE A The son fied. 1 absence firmed copeia The put specif:	fvolume (c TION AND PURITY urce of the Pure, anhyd e of impuri by procedu VI and Spa rity of sul ied.	ompiler); m ³) of ac OF MATERI material cres and tres of th mish Phan	ALS: is was was us water ne Germ rmacope	ed. Th was co an Pha ia VII	e n- rma-
^e g of a requir ETHOD/APP A special bling the bubbling tion and tact with sels of 1 used depe app was i of aceton	C 100 C + 100 acetone m red to di red to di PARATUS/F 1 all-gla e prepn c a stream distn of h air. Tw 15 and 8 ending or immersed he used w	-; ^c g/1 required issolve 1 PROCEDURE ass app w of satd s n of acet ff the so wo exchan cm ³ work n the sol in a the were 15 o	acetone; d to dissolv g of solu g of solu ; as constru- tone-satd N elvent with geable dis ing capaci y of solut ermostat. T or 5 cm ³ , a	AUXILIARY AUXILIARY acted ena- cation by d, filtra- cout con- cooln ves- cty were ce. The the vols and the	mmol/1 a solute; INFORMAT SOURCE A The sou fied. 1 absence firmed copeia The put specif: ESTIMAT	fvolume (c TION AND PURITY urce of the Pure, anhyd e of impuri by procedu VI and Spa rity of sul ied. ED ERROR:	ompiler); m ³) of ac OF MATERI acetone ties and tres of th nish Phan fathiazol	ALS: is was was us water ne Germ cmacope le was	ed. Th was co an Pha ia VII not	e n- rma- I.
^e g of a requir ÆTHOD/APP A special bling the bubbling tion and tact with sels of 1 used depe app was i of aceton equilibra	C 100 C + 100 accetone n red to di red to di PARATUS/F 1 all-gla e prepn c a stream distn of h air. Tw 15 and 8 ending or immersed ne used w	-; ^c g/1 required issolve 1 PROCEDURE ass app w of satd s n of acet ff the so wo exchan cm ³ work n the sol in a the were 15 o me was 2-	acetone; d to dissolv g of solu g of solu acetons, agit cone-satd N elvent with ageable dis cing capaci y of solut armostat. T or 5 cm ³ , a 2.5 h. The	AUXILIARY acted ena- ation by a, filtra- action by a, filtra- action ves- ty were te. The the vols and the a satd	mmol/1 a solute; INFORMAT SOURCE A The sou fied. 1 absence firmed copeia The put specif: ESTIMAT Soly:	fvolume (c TION AND PURITY urce of the Pure, anhyd e of impuri by procedu VI and Spa rity of sul ied. ED ERROR: measuremen	OF MATERI material acetone ties and tres of th nish Phan fathiazo	ALS: Is was was us water ne Germ cmacope Le was cepeate	ed. Th was co an Pha ia VII not d unti	e n- rma- I. 1 2
^e g of a requir ÆTHOD/APP A special bling the bubbling tion and tact with sels of 1 used depe app was i of aceton equilibra	C 100 C + 100 accetone n red to di red to di PARATUS/F 1 all-gla e prepn c a stream distn of h air. Tw 15 and 8 ending or immersed ne used w	-; ^c g/1 required issolve 1 PROCEDURE ass app w of satd s n of acet ff the so wo exchan cm ³ work n the sol in a the were 15 o me was 2-	acetone; d to dissolv g of solu g of solu ; as constru- tone-satd N elvent with geable dis ing capaci y of solut ermostat. T or 5 cm ³ , a	AUXILIARY acted ena- ation by a, filtra- action by a, filtra- action ves- ty were te. The the vols and the a satd	mmol/1 a solute; INFORMAT SOURCE A The sou fied. 1 absence firmed copeia The put specif: Soly: values were ol	fvolume (c TION AND PURITY urce of the Pure, anhyd e of impuri by procedu VI and Spa rity of sul ied. ED ERROR: measuremen not differ btained (au	ompiler); m ³) of ad OF MATERI material acetone ties and ares of th inish Phan fathiazol ts were n ing in th actor).	ALS: Is was was us water ne Germ cmacope Le was cepeate	ed. Th was co an Pha ia VII not d unti	e n- rma- I. 1 2
^e g of a requir ÆTHOD/APP A special bling the bubbling tion and tact with sels of 1 used depe app was i of acetom equilibra solns wer	C 100 G 100 G + 100 accetone m red to di red to di PARATUS/F l all-gla e prepn c a stream distn of h air. Tw 15 and 8 ending or immersed ne used w ation tim re filter	-; ^c g/1 required issolve 1 PROCEDURE ass app w of satd s n of acet ff the so wo exchan cm ³ work n the sol in a the were 15 o ne was 2- red, weig	acetone; d to dissolv g of solu g of solu acetons, agit cone-satd N elvent with ageable dis cing capaci y of solut armostat. T or 5 cm ³ , a 2.5 h. The	AUXILIARY AUXILIARY acted ena- cation by I, filtra- cout con- cout con- cout con- cout con- cout con- cout con- cout con- con- cout con- con- cout con- con- cout con- con- cout con- con- cout con- con- cout con- con- cout con- con- cout con- con- cout con- cout con- con- cout con- con- cout con- cout cout cout cout cout cout cout cout	mmol/1 a solute; INFORMAT SOURCE A The sou fied. 1 absence firmed copeia The put specif: Soly: values were of Temp:	fvolume (c TION AND PURITY urce of the Pure, anhyd e of impuri by procedu VI and Spa rity of sul ied. ED ERROR: measuremen not differ btained (au ±0.1°C (au	ompiler); m ³) of ad OF MATERI material acetone ties and ares of th inish Phan fathiazol ts were n ing in th actor).	ALS: Is was was us water ne Germ cmacope Le was cepeate	ed. Th was co an Pha ia VII not d unti	e n- rma- I. 1 2
^e g of a requir ÆTHOD/APP A special bling the bubbling tion and tact with sels of 1 used depe app was i of acetom equilibra solns wer was distd	G 100 G + 100 acetone m red to di red to di PARATUS/F 1 all-gla e prepn c a stream distn of h air. Tw 15 and 8 ending or immersed he used w ation tim re filter d off, th	-; ^c g/1 required issolve 1 PROCEDURE ass app w of satd s n of acet ff the so wo exchan cm ³ work n the sol in a the were 15 o ne was 2- red, weig ne residu	acetone; d to dissolv g of solu g of solu acetons as constru- tone-satd N dvent with ageable dis ting capaci y of solut armostat. T or 5 cm ³ , a 2.5 h. The thed, the s	AUXILIARY AUXILIARY acted ena- cation by I, filtra- cout con- cout cout cout cout cout cout cout cout	mmol/1 a solute; INFORMAT SOURCE A The son fied. 1 absence firmed copeia The put specif: Soly: values were ol Temp:	fvolume (c TION AND PURITY urce of the Pure, anhyd e of impuri by procedu VI and Spa rity of sul ied. ED ERROR: measuremen not differ btained (au ±0.1°C (au	ompiler); m ³) of ad OF MATERI material acetone ties and ares of th inish Phan fathiazol	ALS: Is was was us water ne Germ cmacope Le was cepeate	ed. Th was co an Pha ia VII not d unti	e n- rma- I. 1 2
^e g of a requir ÆTHOD/APP A special bling the bubbling tion and tact with sels of 1 used depe app was i of aceton equilibra solns wer was distd 105°C, we	G 100 G + 100 acetone n red to di PARATUS/F 1 all-gla e prepn c a stream distn of h air. Tw 15 and 8 ending or immersed ne used w ation tim re filten d off, th eighed ar	-; ^c g/1 required issolve 1 PROCEDURE ass app w of satd s m of acet ff the so wo exchan cm ³ work n the sol in a the were 15 o me was 2- red, weig ne residu nd examd	acetone; d to dissolv g of solu g of solu acetons, agit cone-satd N divent with ageable diss ing capaci y of solut armostat. T or 5 cm ³ , a 2.5 h. The shed, the s	AUXILIARY AUXILIARY acted ena- cation by I, filtra- cout con- cout cout cout cout cout cout cout cout	mmol/1 a solute; INFORMAT SOURCE A The son fied. 1 absence firmed copeia The put specif: Soly: values were ol Temp:	fvolume (c TION AND PURITY urce of the Pure, anhyd e of impuri by procedu VI and Spa rity of sul ied. ED ERROR: measuremen not differ btained (au ±0.1°C (au	ompiler); m ³) of ad OF MATERI material acetone ties and ares of th inish Phan fathiazol	ALS: Is was was us water ne Germ cmacope Le was cepeate	ed. Th was co an Pha ia VII not d unti	e n- rma- I. 1 2
^e g of a requir ÆTHOD/APP A special bling the bubbling tion and tact with sels of 1 used depe app was i of acetom equilibra solns wer was distd	G 100 G + 100 acetone n red to di PARATUS/F 1 all-gla e prepn c a stream distn of h air. Tw 15 and 8 ending or immersed ne used w ation tim re filten d off, th eighed ar	-; ^c g/1 required issolve 1 PROCEDURE ass app w of satd s m of acet ff the so wo exchan cm ³ work n the sol in a the were 15 o me was 2- red, weig ne residu nd examd	acetone; d to dissolv g of solu g of solu acetons, agit cone-satd N divent with ageable diss ing capaci y of solut armostat. T or 5 cm ³ , a 2.5 h. The shed, the s	AUXILIARY AUXILIARY acted ena- cation by I, filtra- cout con- cout cout cout cout cout cout cout cout	mmol/1 a solute; INFORMAT SOURCE A The son fied. 1 absence firmed copeia The put specif: Soly: values were ol Temp:	fvolume (c TION AND PURITY urce of the Pure, anhyd e of impuri by procedu VI and Spa rity of sul ied. ED ERROR: measuremen not differ btained (au ±0.1°C (au	ompiler); m ³) of ad OF MATERI material acetone ties and ares of th inish Phan fathiazol	ALS: Is was was us water ne Germ cmacope Le was cepeate	ed. Th was co an Pha ia VII not d unti	e n- rma- I. 1 2
^e g of a requir ÆTHOD/APP A special bling the bubbling tion and tact with sels of 1 used depe app was i of aceton equilibra solns wer was distd 105°C, we	G 100 G + 100 acetone n red to di PARATUS/F 1 all-gla e prepn c a stream distn of h air. Tw 15 and 8 ending or immersed ne used w ation tim re filten d off, th eighed ar	-; ^c g/1 required issolve 1 PROCEDURE ass app w of satd s m of acet ff the so wo exchan cm ³ work n the sol in a the were 15 o me was 2- red, weig ne residu nd examd	acetone; d to dissolv g of solu g of solu acetons, agit cone-satd N divent with ageable diss ing capaci y of solut armostat. T or 5 cm ³ , a 2.5 h. The shed, the s	AUXILIARY AUXILIARY acted ena- cation by I, filtra- cout con- cout cout cout cout cout cout cout cout	mmol/1 a solute; INFORMAT SOURCE A The son fied. 1 absence firmed copeia The put specif: Soly: values were ol Temp:	fvolume (c TION AND PURITY urce of the Pure, anhyd e of impuri by procedu VI and Spa rity of sul ied. ED ERROR: measuremen not differ btained (au ±0.1°C (au	ompiler); m ³) of ad OF MATERI material acetone ties and ares of th inish Phan fathiazol	ALS: Is was was us water ne Germ cmacope Le was cepeate	ed. Th was co an Pha ia VII not d unti	e n- rma- I. 1 2
^e g of a requir ÆTHOD/APP A special bling the bubbling tion and tact with sels of 1 used depe app was i of aceton equilibra solns wer was distd 105°C, we	G 100 G + 100 acetone n red to di PARATUS/F 1 all-gla e prepn c a stream distn of h air. Tw 15 and 8 ending or immersed ne used w ation tim re filten d off, th eighed ar	-; ^c g/1 required issolve 1 PROCEDURE ass app w of satd s m of acet ff the so wo exchan cm ³ work n the sol in a the were 15 o me was 2- red, weig ne residu nd examd	acetone; d to dissolv g of solu g of solu acetons, agit cone-satd N divent with ageable diss ing capaci y of solut armostat. T or 5 cm ³ , a 2.5 h. The shed, the s	AUXILIARY AUXILIARY acted ena- cation by I, filtra- cout con- cout cout cout cout cout cout cout cout	mmol/1 a solute; INFORMAT SOURCE A The son fied. 1 absence firmed copeia The put specif: Soly: values were ol Temp:	fvolume (c TION AND PURITY urce of the Pure, anhyd e of impuri by procedu VI and Spa rity of sul ied. ED ERROR: measuremen not differ btained (au ±0.1°C (au	ompiler); m ³) of ad OF MATERI material acetone ties and ares of th inish Phan fathiazol	ALS: Is was was us water ne Germ cmacope Le was cepeate	ed. Th was co an Pha ia VII not d unti	e n- rma- I. 1 2
^e g of a requir ÆTHOD/APP A special bling the bubbling tion and tact with sels of 1 used depe app was i of aceton equilibra solns wer was distd 105°C, we	G 100 G + 100 acetone n red to di PARATUS/F 1 all-gla e prepn c a stream distn of h air. Tw 15 and 8 ending or immersed ne used w ation tim re filten d off, th eighed ar	-; ^c g/1 required issolve 1 PROCEDURE ass app w of satd s m of acet ff the so wo exchan cm ³ work n the sol in a the were 15 o me was 2- red, weig ne residu nd examd	acetone; d to dissolv g of solu g of solu acetons, agit cone-satd N divent with ageable diss ing capaci y of solut armostat. T or 5 cm ³ , a 2.5 h. The shed, the s	AUXILIARY AUXILIARY acted ena- cation by I, filtra- cout con- cout cout cout cout cout cout cout cout	mmol/1 a solute; INFORMAT SOURCE A The son fied. 1 absence firmed copeia The put specif: Soly: values were ol Temp:	fvolume (c TION AND PURITY urce of the Pure, anhyd e of impuri by procedu VI and Spa rity of sul ied. ED ERROR: measuremen not differ btained (au ±0.1°C (au	ompiler); m ³) of ad OF MATERI material acetone ties and ares of th inish Phan fathiazol	ALS: Is was was us water ne Germ cmacope Le was cepeate	ed. Th was co an Pha ia VII not d unti	e n- rma- I. 1 2

COMPONENTS:	ORIGINAL MEASUREMENTS:	
(1) Benzenesulfonamide, 4-amino-N-2-	Barber, H. J.; Wilkinson, J. H.	
thiazolyl- (sulfathiazole);	Quart. J. Pharm. Pharmacol. 1946,	
$C_9H_9N_3O_2S_2;$ [72-14-0]	19, 248-55.	
(2) Methylcyclohexanone; C ₇ H ₁₂ O;		
[1331-22-2]		
VARIABLES:	PREPARED BY:	
One temperature: 25 ⁰ C	R. Piekos	
EXPERIMENTAL VALUES: Approximate solubility of sulfathiaz 37 ⁰ C is 8.5 percent w/v (0.33 mol		
AUXILIARY	INFORMATION	
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:	
Nothing specified.	Nothing specified	
	ESTIMATED ERROR:	
	Nothing specified	
1		
	REFERENCES:	

(1) Benzenesulfonamide, 4-amino-N-2-		
	Barber, H. J.; Wilkinson, J. H.	
thiazolyl- (sulfathiazole);	Pharm. J. <u>1946</u> , 105-6.	
$C_{9}H_{9}N_{3}O_{2}S_{2};$ [72-14-0]		
(2) Methylcyclohexanone; C ₇ H ₁₂ O;		
[1331-22-2]		
VARIABLES:	PREPARED BY:	
One temperature: 25 ⁰ C	R. Piekos	
EXPERIMENTAL VALUES:		
Approximate solubility of sulfathi	lazole in methylcyclohexanone at 25 ⁰ C	
is 8.5 percent w/v (0.33 mol dm ⁻		
is o.percent w/v (0.33 mol dm	solution, complier).	
AUXILI	ARY INFORMATION	
· · · · · · · · · · · · · · · · · · ·	SOURCE AND PURITY OF MATERIALS:	
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:	
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METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:	
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METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS: Nothing specified	
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS: Nothing specified ESTIMATED ERROR:	
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS: Nothing specified	
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METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS: Nothing specified ESTIMATED ERROR:	
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METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS: Nothing specified ESTIMATED ERROR: Nothing specified	

COMPO	DNENTS:	ORIGINAL MEASUREMENTS:
(1)	Benzenesulfonamide, 4-amino-N-2-	Wahlgren, S.; Svensk farm. tidskr.
	thiazolyl- (sulfathiazole);	<u>1962</u> , <i>66</i> , 585-91.
	$C_{9}H_{9}N_{3}O_{2}S_{2};$ [72-14-0]	
(2)	Poly(oxy-1,2-ethanediy1), α -hydro- ω - hydroxy-(PEG 400); (C ₂ H ₄ 0) _n H ₂ 0; [25322-68-3]	
VARI	ABLES:	PREPARED BY:
	Temperature	R. Piekos
		J
EXPE	RIMENTAL VALUES:	

	Solubilit	y in PEG 400
t/ ^o C	weight %	mol kg ⁻¹ a
20	22	1.1
60	22	1.1

^a Calculated by compiler

AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE: The soly detns were made in 100-cm ³ Erlen- meyer flasks immersed in a const-temp bath. The suspension was stirred with an electri- cally driven propeller stirrer for a least 4 h.	SOURCE AND PURITY OF MATERIALS: The source and purity of sulfathiazole was not specified. PEG 400: pH 4.7 (1.00 g in 20.0 g of water); ash content 0.030%; free acid: 0.30 cm ³ of 0.1N NaOH was required to neutralize free acids in 5.0 g of PEG 400 dissolved in 20 cm ³ of EtOH; average mol wt 400; water content 0.2%.
,	ESTIMATED ERROR: Temp: ±0.5°C (author). Soly: duplicate tests were made of concns on both sides of the borderline value (author). REFERENCES:

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COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-2- thiazoly1- (sulfathiazole); $C_{9}H_{9}N_{3}O_{2}S_{2}$; [72-14-0] (2) Poly(oxy-1,2-ethanediy1), α -hydro- ω -	Gusyakov, V.P.; Likhol'ot, N.M.; Kutna,I.M. <i>Farm. Zh. (Kiev)</i> <u>1968</u> , 23(6), 56-61.
hydroxy- (PEG 400); $(C_2H_40)_nH_20$;	
[25322-68-3] VARIABLES:	PREPARED BY:
One temperature: 21-25°C	R. Piekos
EXPERIMENTAL VALUES:	
·	hydro-ω-hydroxypoly(oxy-1,2-ethanediyl) is 28% by weight (1.5 mol kg ⁻¹ PEG
	Y INFORMATION
METHOD /APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
	Source and Portifi of Malerials: Sulfathiazole: neither source nor purity
Small quanitites (2-4 mg) of sulfathiazole	
were added to a known quantity of PEG 400	was specified. PEG 400: source not speci-
under stirring until satn was attained.	fied; sp. gr. 1.127 g cm ⁻³ ; temp of
	solidification approx 6 ⁰ C; refractive
	index 1.466 (temp not indicated).
	ESTIMATED ERROR:
	Nothing specified.
	Nothing specified.
	DEDERMONA
	REFERENCES :
	ļ

COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-2-	Wahlgren, S.; Svensk farm. tidskr.
thiazolyl- (sulfathiazole);	<u>1962</u> , 66, 585-91.
$C_{9}H_{9}N_{3}O_{2}S_{2};$ [72-14-0]	<u>1902</u> , 80, 909-91.
 Poly(oxy-1,2-ethanediyl), α-hydro-ω - hydrozy- (poly(ethylene glycol) 3000)); 	
$(C_2H_4O)_nH_2O;$ [25322-68-3]	
VARIABLES:	PREPARED BY:
One temperature: 60 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfathiazole in poly(e	thylene glycol) 3000 at 60 ⁰ C
is 20% by weight (0.98 mol kg ⁻¹ , con	npiler).
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
The soly detns were made in 100-cm ³ Erlen-	The source and purity of sulfathiazole was
meyer flasks immersed in a const-temp bath.	not specified. PEG 3000: mp 56 ⁰ C; pH 6.4
The suspension was stirred with an electri-	(1.00 g in 20.0 g of water); ash content
cally driven propeller stirrer for at least	0.025%; free acid: 0.05 cm ³ of 0.1N NaOH
4 h.	was required to neutralize free acids in
	5.0 g of PEG dissolved in 20 cm ³ of EtOH
	against phenolphthalein; average mol wt
	3000: water content 0.4%.
	ESTIMATED ERROR: Temp: ±0.5 ^o C (author).
	Soly: duplicate tests were made of concns
	on both sides of the borderline value
	(author). REFERENCES:

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COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-2-	
thiazolyl- (sulfathiazole);	Whitworth, C. W.; Becker, C. H. J. Pharm. Sci. <u>1965</u> , 54(4), 569-73.
$C_{0}H_{0}N_{3}O_{2}S_{2};$ [72-14-0]	0. 176274. 562. 1905, $54(47), 505-75.$
(2) Cottonseed oil	
VARIABLES:	PREPARED BY:
One temperature: 37.5 ⁰ C	R. Piekos
one temperature. 57.5 C	R. Flekos
EXPERIMENTAL VALUES:	
Solubility of sulfathiazole in cottons	eed oil at 37.5 ⁰ C is 0.863 mg%
(3.38×10^{-5} mol dm ⁻³ solution, compi	ler).
AUXILIARY	INFORMATION
METHOD /APPARATUS /PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
A satd soln of sulfathiazole in cottonseed	Sulfathiazole (N.F. grade) was from Eli
oil was made and filtered carefully at a const	1
temp to remove suspended particles. A porti-	Neither source nor purity of the cotton-
on of the soln was shaken for 4 h with 100	seed oil was specified.
ml of EtOH. The alcoholic layer was centri-	
fuged for 30 min. Aliquot portions of the	
alcoholic soln were allowed to evap to dry-	
ness, a trichloroacetic acid soln added, and	
subsequently the Marshall reagents. From the	ESTIMATED ERROR:
intensity of the color developed it was pos-	
sible to det the amt of the drug extd by the	Temp: ±1 ⁰ C (authors)
process utilized. A Klett-Summerson colori-	
meter with a No 54 filter was employed to	REFERENCES :
det the color intensity, which was compared	
to that of standard solns.	

	DNENTS:	ORIGINAL MEA				
 Benzenesulfonamide, 4-amino-N-2- thiazolyl- (sulfathiazole); 		Whitworth, C.W.; Becker, C. H.				
	$C_{9}H_{9}N_{3}O_{2}S_{2};$ [72-14-0]	J. Pharm.	Sci.	<u>1965</u> ,	54(4),	569-73.
(2)	Sorbitan, (<u>Z</u>)-9-octadecenoate (2:3) (Arlacel 83); [8007-43-0]					
(3)	White petrolatum (liquid petrolatum)					
VARI	ABLES:	PREPARED BY:				<u>. </u>
	Concentration of Arlacel 83		R. P	iekos		
EXPEI	RIMENTAL VALUES:	L				
	Concentration of Arlacel 83		Solubi	lty at 3	7.5°C	
	Z	mgZ	10 ⁵	mol dm ⁻³	soln ^a	
	1	2.178		8.53	L	
	5	2.272		8.89	Ð	
	10	17.136		67.11	Ð	
	AUXILIARY	INFORMATION				
METH	OD/APPARATUS/PROCEDURE:	SOURCE AND P	URITY	OF MATERI	ALS:	
A sa	td soln of sulfathiazole in the solvent	Sulfathiazo				om Eli
was n	made and filtered carefully at a const	Lilly and C				
temp	to remove all suspended particles. A 5-	Arlacel 83	(Lot N	o 129) wa	as from A	Atlas Pow-
ml po	ortion of the soln was shaken for 4 h	der Co. (pu	rity n	ot speci:	ied).	
with	100 ml of EtOH. The alcoholic layer was	White petrolatum (liquid petrolatum)			1m)	
cent	rifuged for 30 min. Aliquot portions of	(U.S.P. gra	de) wa	s from F:	lsher Sc:	lentific
the a	alcoholic solns were allowed to evap to	Co.				
dryn	ess, a trichloroacetic acid soln was add-	ļ				
ed, and subsequently the Marshall reagents.		ESTIMATED ER	ROR:			
From the intensity of the color developed it						
was possible to det the amt of the drug extd		Temp: ±1 ⁰	C (au	thors)		
by the process utilized. A Klett-Summerson						
color	rimeter with a No 54 filter was employed	REFERENCES:				
to det the color intensity, which was compar-						
ed to that of standard solns.						

COMPONENTS	:		ORIGINAL MEASUREMENTS:		
<pre>(1) Benzenesulfonamide, 4-amino-N-2- thiazolyl- (sulfathiazole); C₉H₉N₃O₂S₂; [72-14-0]</pre>			Whitworth, C. W.; Becker, C. H. J. Pharm. Sci. <u>1965</u> , 54(4), 569-73.		
(2) Cotto	onseed oil				
	<pre>(3) Sorbitan, (<u>2</u>)-9-octadecenoate (2:3) (Arlacel 83); [8007-43-0]</pre>				
VARIABLES:	· · · · · · · · · · · · · · · · · · ·		PREPARED BY:		
Cond	centration of Arlacel	83	R. Piekos		
EXPERIMENT	TAL VALUES:				
	Concentration	Solu	bility at 37.5 ⁰ C		
	of Arlacel 83				
	7.	mg%	$10^5 \text{ mol dm}^{-3} \text{ soln}^a$		
	1	0,798	3.120		
	5	8.098	31.710		
)	10	19,953	78.152		
	^a Calculated by	compiler			
		AUXILIARY	INFORMATION		
METHOD/APP	PARATUS / PROCEDURE :		SOURCE AND PURITY OF MATERIALS:		
A satd sol	ln of sulfathiazole in	the solvent	Sulfathiazole (N.F. grade) was from Eli		
was made a	and filtered carefully	at a const	Lilly and Co.		
temp to remove all suspended particles. A 5-			Neither source nor purity of the cotton-		
ml portion	n of the soln was shake	n for 4 h	seed oil was specified.		
with 100 ml of EtOH. The alcoholic layer was		-	Arlacel 83 (Lot No 129) was from Atlas		
centrifuged for 30 min. Aliquot portions of		-	Powder Co. (purity not specified).		
	olic soln were allowed	-			
dryness, a trichloroacetic acid soln was add- ed, and subsequently the Marshall reagents.					
ed, and subsequently the Marshall reagents. From the intensity of the color developed it		_	ESTIMATED ERROR: Soly: not specified		
1	was possible to det the amt of the drug extd		Temp: ±1°C (authors)		
	ocess utilized. A Klett	-			
colorimete	er with a No 54 filter	was employed	REFERENCES :		
to det the	e color intensity , whi	ch was com-			
pared to t	that of standard solns.				
-					
			1		
L					

COMPONENTS :	ORIGINAL MEASUREMENTS:
 Benzenesulfonamide, 4-amino-N-2- thiazolyl- (sulfathiazole); C9H9N302S2; [72-14-0] Hydrochloric acid; HC1; [7647-01-0] Sodium chloride; NaC1; [7647-14-5] Water; H20; [7732-18-5] 	Miseta, M.; Kedvessy, G.; Selmeczi, B. <i>Pharmazie</i> <u>1983</u> , <i>38(5)</i> , 326-7.
VARIABLES: One temperature: 20 ⁰	PREPARED BY: R. Piekos

EXPERIMENTAL VALUES:

Solubility of sulfathiazole in a simulated gastric juice (composition: 2.0 g NaCl, 25.0 g 10% HCl, and distilled water up to 1000 cm³; pH 1.2), at 20°C, is 1 part sulfathiazole in 240 parts of the gastric juice ($1.6 \times 10^{-2} \text{ mol kg}^{-1}$ gastric juice - compiler).

AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE: Soly was detd by the Pharmacopeia Hungarica V method. The equilibration time was 2 days with occasional shaking (personal communica- tion). The concn of the solute in the satd soln was detd spectrophotometrically at 282 nm using a Spektromom 195 spectrophoto-	SOURCE AND PURITY OF MATERIALS: The source and purity of sulfathiazole was not specified. The simulated gastric juice was prepd by the authors. The source and purity of the components was not specified. Distilled water was used.
meter.	ESTIMATED ERROR: Soly: not specified Temp: ±2 ^o C (personal communication). REFERENCES:

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<pre>COMPONENTS: (1) Benzenesulfonamide, 4-amino-N-2- thiazoly1- (sulfathiazole); CgHgN302S2; [72-14-0] (2) Cellulose, ethers, 2-hydroxypropy1 ether (Klucel MF) [9004-64-2] (3) Hydrochloric acid; HC1; [7647-01-0] (4) Sodium chloride; NaC1; [7647-14-5] (5) Water; H₂0; [7732-18-5]</pre>	ORIGINAL MEASUREMENTS: Miseta, M.; Kedvessy, G.; Selmeczi, B. <i>Pharmazie</i> <u>1983</u> , <i>38(5)</i> , 326-7.
VARIABLES:	PREPARED BY:
One temperature: 20 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfathiazole in a simu 2.0 g NaCl; 25.0 g 10% HCl, and disti containing 0.5% Klucel MF, at 20°C, is the simulated gastric juice containing simulated gastric juice containing 0.5	lled water up to 1000 cm ³ ; pH 1.2), 1 part sulfathiazole in 135 parts of 0.5% Klucel MF (2.9 x 10^{-2} mol kg ⁻¹
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Soly was detd by the Pharmacopeia Hungarica	The source and purity of sulfathiazole was
V method. The equilibration time was 2 days	specified. The simulated gastric juice contg
with occasional shaking (personal communi-	0.5% Klucel MF was prepd by the authors. The
cation). The concn of the solute in the	source and purity of the components was not
satd soln was detd spectrophotometrically	specified. Distilled water was used.
at 282 nm using a Spektromom 195 spectro-	
photometer.	ESTIMATED ERROR: Soly: not specified Temp: ±2 [°] C (personal communication). REFERENCES:

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COMPONENTS: (1) Benzenesulfonamide, 4-amino-N-2- thiazolyl- (sulfathiazole); $C_{9}H_{9}N_{3}O_{2}S_{2}$; [72-14-0] (2) Cellulose, ethers, 2-hydroxypropyl me- thyl ether (Methocel 65 HG) [9004-65-3] (3) Hydrochloric acid; HCl; [7647-01-0] (4) Sodium chloride; NaCl; [7647-14-5] (5) Water; H ₂ O; [7732-18-5] VARIABLES: One temperature: $20^{\circ}C$	ORIGINAL MEASUREMENTS: Miseta, M.; Kedvessy, G.; Selmeczi, B. Pharmazie <u>1983</u> , 38(5), 326-7. PREPARED BY: R. Piekos
····	
Solubility of sulfathiazole in a simu 2.0 g NaCl, 25.0 g 10% HCl, and disti	
containing 0.5% Methocel 65 HG, at 20	
parts of the simulated gastric juice	-
(2.4 x 10 ⁻² mol kg ⁻¹ simulated gastri	c juice containing 0.5% Methocel

AUXILIARY INFORMATION METHOD/APPARATUS/PROCEDURE: SOURCE AND PURITY OF MATERIALS: Soly was detd by the Pharmacopeia Hungarica The source and purity of sulfathiazole was not specified. The simulated gastric juice V method. The equilibration time was 2 days with occasional shaking (personal communicontg 0.5% Methoce1 65 HG was prepd by cation). The concn of the solute in the the authors. The source and purity of the satd soln was detd spectrophotometrically components was not specified. at 282 nm using a Spektromom 195 spectropho-Distilled water was used. tometer. ESTIMATED ERROR: Soly: not specified Temp: ±2°C (personal communication) **REFERENCES:**

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COMPONENTS :	ORIGINAL MEASUREMENTS:			
 Benzenesulfonamide, 4-amino-N-2- thiazoly1- (sulfathiazole); 	Badawi, A. A.; El-Sayed, A. A.			
$C_{9}H_{9}N_{3}O_{2}S_{2};$ [72-14-0]	J. Pharm. Sci. <u>1980</u> , 69(5), 492-7.			
(2) Benzenesulfonamide, 4-amino-N-2-				
thiazoly12-pyrrolidinone, 1-etheny1-, homopolymer, complex;				
$C_{9}H_{9}N_{3}O_{2}S_{2} \cdot (C_{6}H_{9}NO)_{x}; [*]$				
(3) 2-Pyrrolidinone, 1-ethenyl-, homopolymer	PREPARED BY:			
$(povidone); (C_6H_9NO)_x; [9003-39-8]$ (4) Water; H ₂ 0; [7732-18-5]	R. Piekos			
VARIABLES: Concentration of povidone				
EXPERIMENTAL VALUES:				
Amount of Amount of Amount of	Solubility at 25 ^o C			
povidone complexed complex % sulfathiazole %	expressed as mg 10^2 mol dm ⁻³			
Z Z	sulfathiazole water ^a per ml of water			
20 11.48 31.48	2.45 0.960			
40 22.96 62.96	5.02 1.966			
60 34.44 84.44 ^b	7.60 2.977			
Registry System (information of Ca.; Jan. 12, 1981) - com	from Knox Hazelton, Exptl. Services piler.			
AUXILIARY	INFORMATION			
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:			
Mixts contg a weighed excess of sulfathi-	Sulfathiazole was of the BP 1963 purity.			
azole and a povidone-sulfathiazole coacer-	The povidone-sulfathiazole coacervated			
vated system were placed in 25-ml ampuls	systems were prepd by the authors. Povidone			
contg 10 ml of water. The ampuls were	(mol wt 25,000) was manufd by BASF (West			
sealed and placed on a rotating shaft (42	Germany).			
rpm) immersed in a water bath at $25\pm1^{\circ}$ C. Du-	Purity of the water was not specified.			
plicate samples were withdrawn, filtered,				
and assayed spectrophotometrically at 283				
nm.	ESTIMATED ERROR:			
	Soly: not specified.			
	Temp: ±1 ⁰ C (authors).			
	REFERENCES :			

	207
COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-2- thiazolyl- monohydrochloride (sulfathiazole hydrochloride); C ₉ H ₉ N ₃ O ₂ S ₂ ·HC1; [23325-73-7]	Lott, W. A.; Bergeim, F. H. J. Am. Chem. Soc. <u>1939</u> , 61, 3593-4.
(2) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: 26 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfathiazole hydrochl than 2% (7 x 10 ⁻² mol kg ⁻¹ solu	
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Nothing specified	Sulfathiazole hydrochloride, mp 193-7°C (uncor), was prepd by the authors by adding alcoholic HCl to an alcoholic soln of sulfa- thiazole and adding ether. Purity of the water was not specified.
	ESTIMATED ERROR:
	Nothing specified
	REFERENCES :

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ORIGINAL MEASUREMENTS: Tskitishvili, M. G.; Mikadze, I. I. Soobshch. Akad. Nauk Gruz. SSR <u>1978</u> , 89(3), 589-92. PREPARED BY: R. Piekos
$2.5 \times 10^{-2} - 2.5 \times 10^{-5} \text{ mol cm}^{-3}$,
INFORMATION
SOURCE AND PURITY OF MATERIALS:
Nothing specified. n
ESTIMATED ERROR: Nothing specified. REFERENCES:

	209
COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Copper, bis(4-amino- <u>N</u> -2-thiazolyl-	Tskitishvili, M. G.; Mikadze, I. I.
benzenesulfonamidato- <u>N,0</u>)-,hydrate;	Soobshch. Akad. Nauk Gruz. SSR
C ₁₈ H ₁₆ CuN ₆ O ₄ S ₄ .nH ₂ O; [86729-21-7]	<u>1978</u> , 89(3), 589-92.
(2) Hydrochloric acid; HCl; [7647-01-0]	<u></u>
(3) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	PREPARED BY:
рН	R. Piekos
	L
EXPERIMENTAL VALUES:	
K _{SO} over the HCl concentration range	a r 10 ⁻² a r 10 ⁻⁵ 1 1 -3
1	$2.5 \times 10^{-2} - 2.5 \times 10^{-2} \text{ mol } \text{am}^{-2}$
at 25° C, is 2.17 x 10^{-17} .	
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
In a glass vessel, a mixt of 100 ml of HC1	Nothing specified.
of appropriate concn and the solute was	
placed and shaken for 6 h in a water ther-	
mostat at 25°C. After attaining equilibrium	
the pH of the soln was measured and the Cu^{2+}	
and S content was detd to caluculate K_{so} .	
	ESTIMATED ERROR:
	Nothing specified.
	REFERENCES :

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210
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COMPONENTS: (1) Magnesium, (<u>T</u> -4)-bis(4-amino- <u>N</u> -2-thi-	ORIGINAL MEASUREMENTS: Tskitishvili, M. G.; Shvelashvili, A. E.;
azolylbenzenesulfonamidato- <u>N</u> <u>0</u>)- hydrate	
$C_{18}H_{16}MgN_60_4S_4 \cdot nH_20;$ [84812-78-2]	Mikadze, I. I; Zhorzholiani, N. B.; Chrelashvili, M. V. Izv. Akad. Nauk
(2) Hydrochloric acid; HC1; $[7647-01-0]$	Gruz. SSR, Ser. Khim. 1981, 7(4),
	300-4.
(3) Water; H ₂ 0; [7732-18-5]	300-4.
VARIABLES:	PREPARED BY:
pH	R. Piekos
EXPERIMENTAL VALUES:	
	2
K _{so} over the HC1 concentration rang	$se 5.0 \times 10^{-3}$ to 1.5 x 10^{-5}
mol dm ⁻³ at 25°C is 4.05×10^{-4} .	
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
The earlier described apparatus and method	0.1M solns of chem pure Mg(OAc) ₂ , mono-
was used (1): in a glass vessel, a mixt of	sodium salt of sulfathiazole, and HC1 as
100 ml of HCl of appropriate concn and the	well as doubly distd water were used. The
solute were placed and shaken for 6 h in	source of the materials was not specified.
a water thermostat at 25°C. After attain-	
ing equilibrium, the pH of the soln was mea-	
sured and the Mg ²⁺ and S content was deter-	1
mined to calculate K so. The pH was measured	
on a pH-673 pH meter.	ESTIMATED ERROR:
	Nothing specified.
1	ļ
	REFERENCES:
	1. Tskitishvili, M. G.; Mikadze, I. I.
	Soobshch. Akad. Nauk. Gruz. SSR
	<u>1978</u> , 89(3), 589.

	21
 COMPONENTS: Manganese, bis(4-amino-N-2-thiazolyl-benzenesulfonamidato-N^N,0)-hydrate; C₁₈H₁₆MnN₆0₄S₄ *nH₂0; [84812-77-1] Hydrochloric acid; HC1; [7647-01-0] Water; H₂0; [7732-18-5] VARIABLES: 	ORIGINAL MEASUREMENTS: Tskitishvili, M.G.; Shvelashvili, A. E.; Mikadze, I. I.; Zhorzholiani, N. B.; Chrelashvili, M. V. Izv. Akad. Nauk Gruz. SSR, Ser. Khim. <u>1981</u> , 7(4), 300-4.
pH	PREPARED BY: R. Piekos
EXPERIMENTAL VALUES:	· · · · · · · · · · · · · · · · · · ·
Concentration of HCl pH (mol/l)	10 ⁹ K _{so} at 25°C
5.0×10^{-3} 5.54	1.50
2.5×10^{-3} 5.57	1.48
1.0×10^{-3} 5.65	1.52
5.0×10^{-4} 5.79	1.46
2.5×10^{-4} 6.08	1.49
1.0×10^{-4} 6.29 5.0×10^{-5} 6.45	1.51
5.0×10^{-5} 6.45 1.5×10^{-5} 6.72	1.49
1.5 x 10 0.72	Mean 1.49
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
The earlier described apparatus and method was used (1): in a glass vessel a mixt of	0.1M solns of chemically pure Mn(OAc) ₂ , monosodium salt of sulfathiazole and HC1
100 ml of HCl of appropriate concn and the	as well as doubly distd water were used.
solute were placed and shaken for 6 h in a	The source of the materials was not spe-
water thermostat at 25° C. After attaining equilibrium, the pH of the soln was measured and the Mn ²⁺ and S content was detd to cal- culate K _{S0} . The pH was measured on a pH-	cified.
673 pH meter.	ESTIMATED ERROR:
	K_{so} : std deviation 2 x 10 ⁻¹¹ (compiler)
	Temp and pH: not specified.
	REFERENCES: 1. Tskitishvili, M. G.; Mikadze, I. I.; Soobshch. Akad. Nauk Gruz. SSR <u>1978</u> , 89(3), 589.

<pre>ÆASUREMENTS: vili, M. G.; Shvelashvili, A. E.; I. I.; Zhorzholiani, N. B.; vili, M. V. Izv. Akad. Nauk SR. Ser. Khim. <u>1981</u>, 7(4), BY: R. Piekos</pre>
R. Piekos
¹² K _{so} at 25 ^o C
3.29
3.24
3.23
3.22
3.22
3.30
3.28
3.25
3.23
3.22
3.25
N
D PURITY OF MATERIALS: ns of chemically pure Ni(OAc) ₂ ,
um salt of sulfathiazole, and HCl
as doubly distd water were used.
ce of the materials was not speci-
ERROR:
d deviation 1 x 10^{-13} (compiler).
pH: not specified.
S: tishvili, M. G.; Mikadze, I. I. shch. Akad. Nauk Gruz. SSR . 89(3), 589.

thia: (sod:			ORIGINAL MEASUREMENTS:
• -	enesulfonan zolyl-, mor Lum sulfath N ₃ NaO ₂ S ₂ ;	nide, 4-amino-N-2- nosodium salt niazole); [144-74-1] [7732-18-5]	Clark, W. G.; Strakosch, E. A.; Levitan, N. I. J. Lab. Clin. Med. <u>1942</u> , 28, 188-9.
VARIABLES: Temperature		ire	PREPARED BY: R. Piekos
EXPERIMENT	AL VALUES:		<u></u>
	t/ ^o C	Solut	ility
		g/100 g water mol	kg ⁻¹ water ^a
	25	45.0	1.62
	37	60.0	2.16
		AUXILIARY	INFORMATION
A small t Na sulfat water bat soln was a washed to a weig app was k	hiazole in h thermost then filte	CEDURE: s container contg excess water was shaken in a at for 24 h. The satd red by aspiration through asbestos filter stick in-	

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<pre>COMPONENTS: (1) Benzenesulfonamide, 4-amino-N-2- thiazolyl-, monosodium salt, hexahydrate; C₉H₈N₃Na0₂S₂·6H₂0; [71119-42-1] (2) Water; H₂0; [7732-18-5]</pre>		ORIGINAL MEASUREMEN Sapozhnikova, N. W Zh. Prikl. Khim.	.; Postovskii, I. Ya.	
VARIABLES:		PREPARED BY:		
Temperature		R. F	'iekos	
EXPERIMENTAL VALUES:		· · · · · · · · · · · · · · · · · · ·		
t/°CS		olubility		
	Weight%	mol kg ⁻¹ water ^a		
0	9.7	0.280		
5	11.0	0.321		
20	23.7	0.806		
37	43.8	2.022		
^a Calculato	ed by compiler			
	AUXILIARY	INFORMATION		
METHOD/APPARATUS/PROCEDURE:		SOURCE AND PURITY O	F MATERIALS:	
The salt was dissolved in wa		Pure, recrystd sa		
satd soln which was occasion a glass vessel immersed in a			r was not specified.	
-				
equilibrium was usually attained after 1 h. Five to 100-cm ³ samples of the satd soln				
were placed in Pt crucibles		:		
evapd to dryness at temps lo	ower than 110-			
115°C. The residue was drie	ed to const wt			
at 105-110 ⁰ C and weighed.		ESTIMATED ERROR: Soly: quite reli (authors). Temp: ±0.05°C (ained
		REFERENCES:		

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COMPONENTS: (1) Zinc, $(\underline{T}-4)$ -bis(4-amino- <u>N</u> -2-thiazolyl- benzenesulfonamidato- $\underline{N}^{N}, \underline{0}$)- (Zn(II) sulfathiazole); C ₁₈ H ₁₆ N ₆ O ₄ S ₄ Zn; [12286-43-0] (2) Water; H ₂ 0; [7732-18-5] VARIABLES: One temperature: 28-30°C EXPERIMENTAL VALUES:	ORIGINAL MEASUREMENTS: Fox, Ch. L., Jr.; Modak, S.; Stanford, J. W.; Fox, P. L. Scand. J. Plast. Reconstr. Surg. <u>1979</u> , 13(1), 89-94. PREPARED BY: R. Piekos
Solubility of Zn(II) sulfathiazole in (28-30 ⁰ C) ^a is 50.4 mg% (8.78 x 10 ⁻⁴ ^a Value given by one of the authors (mol dm^{-3} solution, compiler).
AUXILIARY	INFORMATION
METHOD /APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
METHOD/AFFAKATOS/FROCEDOKE: Satd soln of Zn(II) sulfadiazine was prepd in water and after 24 h aliquots from the clear supernatant were assayed for sulfathiazole content using the colorimetric method of Bratton and Marshall (1). The soly value was then calculated from the molecular for- mula.	
	Nothing specified REFERENCES: 1. Bratton, A. C.; Marshall, E. K. Jr. J. Biol. Chem. <u>1939</u> , 120, 537.

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COMPONENTS:
                                                ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-methyl-N-
                                                 Shepherd, R. G.; Bratton, A. C.;
                                                 Blanchard, K. C. J. Am. Chem. Soc.
     2-thiazoly1-; C_{10}H_{11}N_3O_2S_2;
                                                 <u>1942</u>, 64,
     [51203-19-1]
                                                               2532-7.
(2) Water; H<sub>2</sub>0; [7732-18-5]
VARIABLES:
                                                PREPARED BY:
           One temperature: 37°C
                                                               R. Piekos
EXPERIMENTAL VALUES:
           Solubility of 4-amino-N-methyl-N-2-thiazolylbenzenesulfonamide in
           water at 37°C is 57 mg% ( 2.1 \, x 10<sup>-3</sup> mol dm<sup>-3</sup> solution, compiler ).
                                     AUXILIARY INFORMATION
METHOD/APPARATUS/PROCEDURE:
                                                SOURCE AND PURITY OF MATERIALS:
 The sulfonamide was assayed colorimetrically The sulfonamide, mp 111-2°C, was synthe-
 (1). No details were given.
                                                 sized by the authors. Analysis: %C 45.00
                                                 (calcd 44.60); %H 4.19 (4.12); %N 15.36
                                                 (15.60). Colorimetric factor 0.618 (0.639).
                                                 Purity of the water was not specified.
                                                ESTIMATED ERROR:
                                                 Nothing specified
                                                REFERENCES:
                                                 1. Bratton, A. C.; Marshall, E. K., Jr.
                                                     J. Biol. Chem. 1939, 128, 537.
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COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-methyl-N-	Kitao, K.; Kubo, K.; Morishita, T.;
2-thiazoly1-; $C_{10}H_{11}N_{3}O_{2}S_{2};$	Yata, N.; Kamada, A.
[51203-19-1]	Chem. Pharm. Bull, <u>1973</u> , 21, 2417-26.
(2) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: 37 ⁰ C	R. Piekos
one temperature. 57 0	NI I LEROS
EXPERIMENTAL VALUES:	
EXPERIMENTAL VALUES:	
Solubility of 4-amino-N-methyl-N-2-th	iazolylbenzenesulfonamide in water
at 37° C is 1.15 mmol dm ⁻³ solution.	
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
The sulfonamide was assayed by diazotizati-	The sulfonamide was synthesized by the
on. No details were given.	authors. Its purity was not specified.
	Deionized water was used.
	ESTIMATED ERROR:
	Soly: not specified.
	Temp: ±1 ⁰ C (authors).
	REFERENCES :

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COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-methyl-N-	Kitao, K.; Kubo, K.; Morishita, T.;
2-thiazoly1-; C ₁₀ H ₁₁ N ₃ O ₂ S ₂ ;	Yata, N.; Kamada, A. Chem. Pharm. Bull.
[51203-19-1]	<u>1973</u> , <i>21</i> , 2417-26.
(2) Methane, trichloro-; CHCl ₃ ;	
[67-66-3]	
VARIABLES:	PREPARED BY:
One temperature: 37 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of 4-amino-N-methyl-N-2-th	iazolylbenzenesulfonamide in CHCl ₃
at 37° is 1415 mmol dm ⁻³ solution.	
	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
One ml of the sulfonamide soln in CHCl ₃ at	The sulfonamide was sysnthesized by the
equilibrium was taken into a test tube.	authors. Its purity was not specified.
After evapn of the solvent, the residue	Neither source nor purity of CHC1 ₃ was
was dissolved in EtOH, the soln was properly	specified.
dild with deionized water and the concn	
of the sulfonamide was detd by diazotiza- tion.	
tion.	
	ESTIMATED ERROR:
	Soly: not specified.
	Temp: $\pm 1^{\circ}C$ (authors).
	REFERENCES :
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CONDONENTS .	OPICINAL MEACHDENENING
COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Acetamide, N-[4-[(2-thiazolylamino)sul-	Roblin, R. O., Jr.; Williams, J. H.
<pre>fonyl]phenyl]- (acetyl sulfathiazole);</pre>	Winnek, P. S.; English, J. P.
C ₁₁ H ₁₁ N ₃ O ₃ S ₂ ; [127-76-4]	J. Am. Chem. Soc. <u>1940</u> , 62, 2002-5.
(2) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: 37 [°] C	R. Piekos
EXPERIMENTAL VALUES: Solubility of acetyl sulfathiazole f solution (2.4 x 10 ⁻⁴ mol dm ⁻³ , comp	
	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Excess acetyl sulfathiazole in water was	Acetyl sulfathiazole was prepd by the
heated and stirred on a steam bath for 30 min. The suspension was then agitated for	authors by condensing recrystd acetylsul-
24 h in a thermostat at 37° C. A sample of	fanilyl chloride with 2-aminothiazole in
the satd soln was withdrawn through a glass	AcOEt or dioxane.
filter, dild and analyzed by the Marshall	Purity of the water was not specified.
method (1) using a General Electric spectro-	-
photometer for comparing the colors develop-	
ed with those of the standards.	ESTIMATED ERROR:
	Nothing specified
	Nothing Spectree
	DE DEDEMARA
	REFERENCES :
	 Bratton, A. C.; Marshall, E. K., Jr. J. Pharmacol. <u>1939</u>, 66, 4.

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COMPONENTS :	ORIGINAL MEASUREMENTS:	
(1) Acetamide, N-[4-[(2-thiazolylamino)sul-		
<pre>fony1]pheny1]- (acety1 sulfathiazole);</pre>	Bull. Soc. Med. Hop. Paris III	
$C_{11}H_{11}N_{3}O_{3}S_{2};$ [127-76-4]	<u>1941</u> , 251-9.	
(2) Water; H ₂ 0; [7732-18-5]		
VARIABLES:	PREPARED BY:	
One temperature: 37 ⁰ C	R. Piekos	
EXPERIMENTAL VALUES:		
Solubility of acetyl sulfathiazole i	n water at 37°C is 0.10 g/liter	
$(3.4 \times 10^{-4} \text{ mol dm}^{-3}, \text{ compiler}).$		
AUXILIARY INFORMATION		
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:	
A mixt of acetyl sulfathiazole and water	Source and purity of acetyl sulfathiazole	
was agitated for 24 hours at 37 ⁰ C.	was not specified.	
	Distilled water was used.	
	ESTIMATED ERROR:	
	Nothing specified.	
	REFERENCES :	

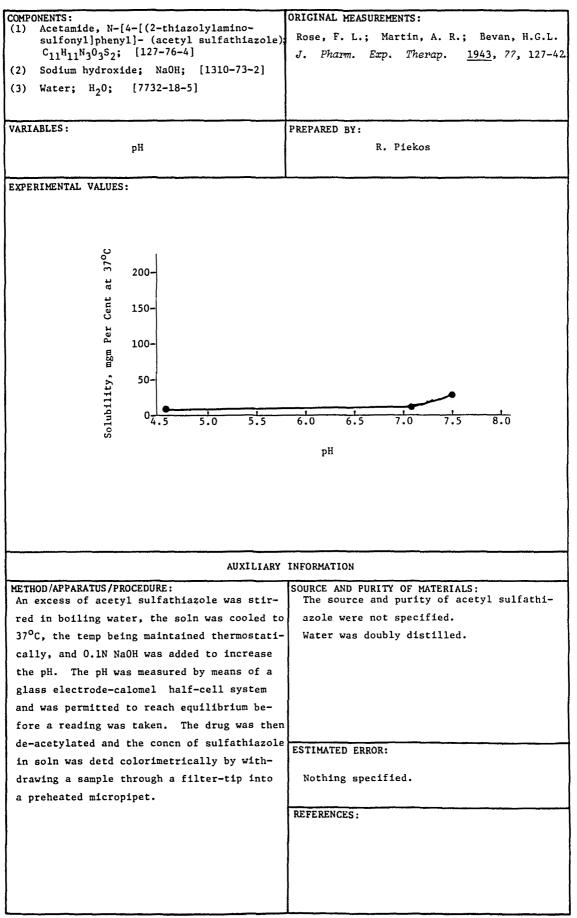
	ONENTS:			ORIGINAL MEASUREMENTS:	
(1)	1) Acetamide, N-[4-[(2-thiazolylamino)sul-			Sapozhnikova, N.V.; Postovskii, I.	ľa.
	fonyl]phenyl]-	(acetyl sulf	athiazole);	Zh. Prikl. Khim. <u>1944</u> , 17, 427	-34.
	c ₁₁ H ₁₁ N ₃ O ₃ S ₂ ;	[127-76-4]			
(2)	Water; H ₂ O ;	[7732-18-5]			
VARIABLES:				PREPARED BY:	
	Temperature			R. Piekos	
EXPE	RIMENTAL VALUES	:	i		
				Solublity	
		t/ ^o C	Weight%	$10^3 \text{ mol } \text{kg}^{-1} \text{ water}^{a}$	
		50	0.013	0.44	
		75	0.047	1.58	
		99	0.126 ^b	4.24	
		8			
	^a Calculated by compile				
		⁵ Calculat	ed from the h	eat of dissolution	
		OCEDURE -	AUXILIARY	INFORMATION	<u> </u>
	IOD/APPARATUS/PR			SOURCE AND PURITY OF MATERIALS:	
Ace	tyl sulfathiazo	le was dissol	ved in water	SOURCE AND PURITY OF MATERIALS: Pure, recrystd acetyl sulfathiazole wa	
Ace to	tyl sulfathiazo form a satd sol	le was dissol n which was o	ved in water ccasionally	SOURCE AND PURITY OF MATERIALS: Pure, recrystd acetyl sulfathiazole wa used. Its mp conformed to that report	
Ace to agi	tyl sulfathiazo form a satd sol tated in a glas	le was dissol n which was o s vessel imme	ved in water ccasionally rsed in a	SOURCE AND PURITY OF MATERIALS: Pure, recrystd acetyl sulfathiazole wa used. Its mp conformed to that report in the literature.	ted
Ace to agi the	tyl sulfathiazo form a satd sol	le was dissol n which was o s vessel imme quilibrium wa	ved in water ccasionally rsed in a s usually	SOURCE AND PURITY OF MATERIALS: Pure, recrystd acetyl sulfathiazole wa used. Its mp conformed to that report	ted

crucibles or dishes and evapd to dryness at temps lower than 110-115°C. The residue was dried to const wt at $105-110^{\circ}C$ and

weighed.

ESTIMATED ERROR: Soly: quite reliable results were obtained at 50 and 75° C. At 99° C the accuracy was poor due to evapn of water during sampling (authors). Temp: $\pm 0.05^{\circ}C$ (authors).

REFERENCES:



COMPONENTS: (1) Acetamide, N-[4-[(2-thiazolylamino) - sulfonyl]phenyl]- (acetyl sulfathiazole); $C_{11}H_{11}N_3O_3S_2$; [127-76-4] (2) Phosphoric acid, disodium salt; Na_2HPO_4 ; [7558-94-4] (3) Water; H ₂ O; [7732-18-5]	ORIGINAL MEASUREMENTS: Krüger-Thiemer, E. Arch. Dermatol. Syphilis <u>1942</u> , 183, 90-116.
VARIABLES:	PREPARED BY:
One temperature: ca 20 ⁰ C; one pH: 8.74	R. Piekos

EXPERIMENTAL VALUES:

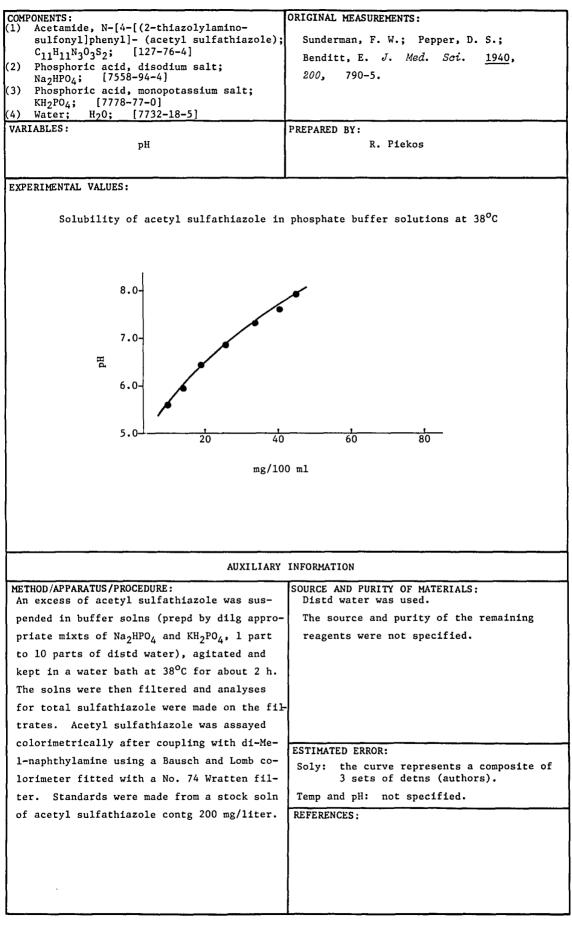
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Solubility of acetyl sulfathiazole in a 0.705 M (10%) $\rm Na_2HPO_4$ solution of pH 8.74 at room temperature (about 20°C) is 0.060 g% (2.02 x 10^{-3} mol dm^{-3} solution, compiler).

525-11-11-11-11-11-11-11-11-11-11-11-11-11						
AUXILIARY INFORMATION						
METHOD/APPARATUS/PROCEDURE: Acetyl sulfathiazole (0.5 g) was dissolved in 10 cm ³ of the 0.705 M (10%) Na ₂ HPO ₄ soln of pH 8.74, shaken for 2 h at room temp (about 20°C), and filtered. The filtrate was treat- ed with equal vol of 2N HCl and refluxed for 15 min. After proper diln, a 1-cm ³ aliquot was witdrawn, acidified, cooled, and the sulfonamide content was detd colorimetrically (as sulfathiazole) by the Marshall method modified by Kimmig (1) using an Autenrieth colorimeter. The pH was detd on an ultraiono- graph using a glass electrode.	<pre>gave no coloration upon diazotization of its satd soln, thus showing absence of sulfathiazole. The source and purity of the remaining materials was not specified. ESTIMATED ERROR: Soly: precision ±5% (author) Term: pat encedified</pre>					

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<pre>COMPONENTS: (1) Acetamide, N-[4-[(2-thiazolylamino)- sulfonyl]phenyl]- (acetyl sulfathiazole); C₁₁H₁₁N₃O₃S₂; [127-76-4] (2) Phosphoric acid, monopotassium salt; KH₂PO₄ [7778-77-0]</pre>	ORIGINAL MEASUREMENTS: Krüger-Thiemer, E. Arch. Dermatol. Syphilis <u>1942</u> , 183, 90-116.
(3) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: ca ⁹ 0 ⁰ C; one pH: 4.37	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of acetyl sulfatiazole in of pH 4.37 at room temperature (abo 10 ⁻⁵ mol dm ⁻³ solution, compiler).	
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE: Acetyl sulfathiazole (0.5 g) was dissolved in 10 cm ³ of the 0.735 M (10%) KH ₂ PO ₄ soln of pH 4.37, shaken for 2 h at room temp (about 20°C), and filtered. The filtrate was treated with equal vol of 2N HCl, and refluxed for 15 min. After proper diln, a 1-cm ³ aliquot was withdrawn, acidified, cooled, and the sulfonamide content was detd colorimetrically (as sulfathiazole) by Mar- shall method modified by Kimmig (1) using an Authenrieth colorimeter. The pH was detd on an ultraionograph using a glass electrode.	ESTIMATED ERROR: Soly: precision ±5% (author) Temp: not specified pH : ±0.05 pH unit (author)



COMPONENTS: (1) Acetamide,N-[4-[(2-thiazolylamino)-	ORIGINAL MEASUREMENTS:			
<pre>sulfonyl]phenyl]- (acetyl sulfathiazole);</pre>	Krüger- Thiemer, E.			
$C_{11}H_{11}N_{3}O_{3}S_{2};$ [127-76-4]	Arch. Dermatol. Syphilis 1942, 183,			
(2) Phosphoric acid, disodium salt; Na ₂ HPO ₄ ; [7558-94-4]	90-116.			
(3) Phosphoric acid, monopotassium salt;				
KH2PO4; [7778-77-0] (4) Water; H ₂ O; [7732-18-5]				
VARIABLES:	PREPARED BY:			
Temperature, pH	R. Piekos			
EXPERIMENTAL VALUES:				
Composition of 1/15 M phosphate buffer solutions	Solubility			
No UBO KU BO Zoontont PH	$\frac{\text{Room temp (ca 20^{\circ}\text{C})}}{4} = \frac{37^{\circ}\text{C}}{4}$			
	g% 10 ⁴ mol dm ⁻³ g% 10 ⁴ mol dm ⁻³ solution solution ^a			
1.0 99.0 0.91 4.944 0.	0080 2.70			
10.0 90.0 0.91 5.906 0.	0073 2.40 0.0092 3.1			
61.1 38.9 0.93 7.005 0.	0101 3.40 0.0188 6.32			
9.5 0.5 0.733 ^b 7.51 0.	0101 3.40			
94.7 5.3 0.95 8.018 0.	0360 12.00			
^a Calculated by compiler ^b Molar content; 10% buffer sol	ution			
AUXILIARY	INFORMATION			
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:			
Acetyl sulfathiazole (0.5 g) was dissolved	Acetyl sulfathiazole (source not specified)			
in 10 cm^3 of a buffer soln, shaken for 2 h	gave no coloration upon diazotization			
at 20° C (or left for 48 h at 37° C), and fil-				
tered at respective temp. The filtrate was	sulfathiazole.			
treated with equal vol of 2N HCl and reflux-				
ed for 15 min. After proper diln, a 1-cm ³	materials was not specified.			
aliquot was withdrawn, acidified, cooled, and the sulfonamide content was detd colori-				
metrically (as sulfathiazole) by the Mar-				
shall method modified by Kimmig (1) using	ESTIMATED ERROR: Soly: precision ±5% (author)			
an Authenrieth colorimeter. The pH was detd	RTemp: not specified pH : ±0.05 pH unit (author)			
on an ultraionograph using a glass elec-				
trode.	REFERENCES:			
	1. Kimmig, J. Arch. Dermatol. <u>1938</u> ,			
	176, 722; Erg. Hyg. <u>1941</u> , 24, 398.			

			221	
COMPONENTS :		MEASUREMENTS:		
(1) Acetamide, N-[4-[(2-thiazolyl sulfonyl]phenyl]- (acetyl sul		<u></u> ,		
$C_{11}H_{11}N_{3}O_{3}S_{2}$ [127-76-4]	20.100			
(2) Phosphoric acid, disodium sal	t; $73(13)$), 403-8.		
Na ₂ HPO ₄ ; [7558-94-4] (3) Phosphoric acid; monopotassium	m salt:			
KH ₂ PO ₄ ; [7778-77-0]				
(4) Water; H ₂ 0; [7732-18-5]	PREPARE	D BY:		
VARIABLES:		R. Piekos		
PH				
EXPERIMENTAL VALUES:				
	Solubility of acety	lsulfathiazole in M/15 phosp	hate	
рН	buffers (accordin	g to Sørensen) at 20 ⁰ C		
		$10^3 \text{ mol } dm^{-3} a$		
	mg%			
6.0	8	0.30		
7.0	11	0.37		
8.0	35	1.2		
	AUXILIARY INFORMA			
METHOD/APPARATUS/PROCEDURE:	l	AND PURITY OF MATERIALS:		
Nothing specified	Noth	ing specified		
	ļ			
	1			
	FOTTMAT	ED ERROR:		
		ing specified		
	NOCH	THE OBSCILLER		
1				
1	REFEREN	ICES:		
}				
			i	
	1			
	1		1	

COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Acetamide, N-[4-[(2-thiazolylamino)-	
<pre>sulfony1]pheny1]-(acety1 sulfathiazole); C₁₁H₁₁N₃O₃S₂; [127-76-4]</pre>	
(2) Phosphoric acid, disodium salt;	Helander, S.; Sjögren, B. <i>Hygiea</i> <u>1946,</u>
Na ₂ HPO ₄ ; [7558-94-4]	108(12) 639-51.
(3) Phosphoric acid, monopotassium salt;	
KH ₂ PO ₄ ; [7778-77-0] (4) Water; H ₂ O; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: 37°C; one pH: 6.1	R. Piekos
· · · · · · · · · · · · · · · · · · ·	
EXPERIMENTAL VALUES:	
Solubility of acetyl sulfathiazole in	M/30 phosphate buffer of pH 6.1
at 37 ⁰ C is 8.4 mg/100 ml solvent (2.8	$x 10^{-4} \text{ mol } dm^{-3}$, compiler).
······································	
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
An excess of acetyl sulfathiazole in the	Neither source nor purity of the materials
phosphate buffer was shaken at 37°C for 24	was specified.
h. The concn of acetyl sulfathiazole was	
detd by the Bratton and Marshall method	
(1) using a photoelec colorimeter.	
	ESTIMATED ERROR:
	Soly: precision $\pm 0.7 \text{ mg}/100 \text{ ml}$ (authors).
	Temp and pH: not specified.
	REFERENCES:
	1. Bratton, A. C.; Marshall, E. K., Jr.
	J. Biol. Chem. <u>1939</u> , 128, 537.

			• • • • • • • • • • • • • • • • • • •			
COMPONENTS: (1) Acetamide, N-[4-[(2-thiazolylamino)-			ORIGINAL MEASUREMENTS:			
sulfonly]pheny1]- $(N^4$ -acety1sulfathi-			Hekster, Y. A.;	Vree, T. B.;		
azole); C ₁₁ H ₁₁ N ₃ O ₃ S ₂ ; [127-76-4] (2) Phosphoric acid, disodium salt; Na ₂ HPO ₄ ; [7558-94-4]			Damsma, J. E.; Friesen, W. T.			
				Chemother. <u>1981</u> , 8,		
(3) Phosphor:	ic acid, mone	opotassium salt;	133-44.	onemotica: <u></u> , 0,		
KH ₂ PO ₄ ; (4) Water; 1	[7778-77-0]					
VARIABLES:			PREPARED BY:	· · · · · · · · · · · · · · · · · · ·		
VARIADDED.	pH		FREFARED BI:	R. Piekos		
	pu			A. FIEROS		
EXPERIMENTAL V	VALUES:					
		Solubilit	y at 25°C			
	рН	mg/1 10	$4 \text{ mol } \text{dm}^{-3} \text{ a}$			
	5.5	54	1.8			
	7.5	233	7.83			
	<u> </u>	AUXILIARY	INFORMATION			
METHOD/APPARA	TUS / PROCEDUR		SOURCE AND PURIT			
		ulfathiazole were		l purity of the materials		
prepd in pho	sphate buffer	rs of pH 5.5 and 7.5	was not speci	fied.		
at room temp	(25 ⁰ C). The	concn of the solute				
-		a Spectra Physics				
		iquid chromatograph				
		ven (Model 748) and				
• ••		rophotometric detec-				
-	-	onnected to a 1-mV				
		teel column (10 cm				
		d with Lichrosorb	ESTIMATED ERROR	imit of the solute by HPLC		
		Chrompack. An in-		authors). The error in temper		
jection loop		-	ature and pH wa	is not specified.		
		n of the solute was	REFERENCES :			
performed at		a of the solute was				
berrormed at	200 110.					
-			1			
			1			

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Butanoic acid, 4-oxo-4-[[4-[(2-thiazoly]-	
amino)sulfonyl]phenyl]amino]-(sulfa-	Ed. <u>1948</u> , 37, 345.
<pre>suxidine); C13H13N3O5S2; [116-43-8]</pre>	<u> </u>
(2) 2-Propano1; $C_{3}H_{8}0$; [67-63-0]	
VARIABLES:	PREPARED BY:
One temperature: 25 ⁰ C	R. Piekos
one temperature. 25 C	R. Flekos
EXPERIMENTAL VALUES:	
Solubility of sulfasuxidine in 2-prop	anol at 25°C is 0.5690 g/100 cm ³
solution ($1.601 \times 10^{-2} \text{ mol dm}^{-3}$, co	mpiler).
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Satd soln of sulfasuxidine in 2-propanol	The sulfasuxidine N.N.R. was manufd by
were prepd at 25°C and definite vols of the	Sharp and Dohme. The source and purity
solns were measured into tared dishes by	of 2-propanol was not specified.
means of standard pipets. The alcohol was	
allowed to evap at room temp and the residue was dried at 105 ⁰ C. In the case of losses	
due to apparent decompn, the residue was	
dried in a desiccator.	
	ESTIMATED ERROR:
	Nothing specified
	REFERENCES :
	1. Burlage, H. M. J. Am. Pharm. Assoc.
	<i>Sci. Ed.</i> <u>1947</u> , <i>36(1)</i> , 16.

COMP (1) (2)	ONENTS: Benzenesulfonam 2-thiazoly1)- C ₁₀ H ₁₁ N ₃ O ₂ S ₂ ; Water	hide, 4-amino-N-(4-methyl- (sulfamethylthiazole); [515-59-3]	EVALUATOR: Anthony N. Paruta Department of Pharmaceutics University of Rhode Island Kingston, Rhode Island, USA and Ryszard Piekos Faculty of Pharmacy, University of Gdansk, Poland 1986	f Gdansk
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CRITICAL EVALUATION:

Sulfamethylthiazole solubilities in water at 310K have been reported by three groups (1-3). In 1940, Roblin et al. (1), using a correct technique gave a solubility value of 1.07×10^{-3} mol dm⁻³. Durel and Allinne's (2) is 0.965 x 10^{-3} mol dm⁻³. In this case, however, no details are provided for the analytical method or error estimate, but it is considered of sufficient accuracy to use in the average result. Sapozhnikova and Postov-skii (3) provide a value at 310K of 0.869 x 10^{-3} mol kg⁻¹. The short equilibrium time of one hour probably mitigate against being a saturation value and was not considered further. The simple average of the two acceptable values allow for a recommended value of 1.02 x 10^{-3} mol dm⁻³ in water at 310K.

REFERENCES:

- (1) Roblin, R.O., Jr.; Williams, J.H.; Winnek, P.S.; English, J.P. J. Am. Chem. Soc. (1) About, Alli, and Strand, and Alli, and
- 251-9.
- 427-34.

COMPONENTS:	ORIGINAL MEASUREMENTS:
 Benzenesulfonamide, 4-amino-N-(4-methyl- 	
2-thiazolyl)-(sulfamethylthiazole);	Winnek, P. S.; English, J. P.
	J. Am. Chem. Soc. 1940, 62, 2002-5.
$C_{10}H_{11}N_{3}O_{2}S_{2};$ [515-59-3]	<i>i</i> , <i>Am. onem. 500.</i> <u>1940</u> , <i>02</i> , 2002 <i>J</i> .
(2) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: 37 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfamethylthiazole in	water at 37°C is 28.9 mg/100 cm ³
solution ($1.07 \times 10^{-3} \text{ mol dm}^{-3}$, comp	
solution (1.07 x 10 ° mol dm °, comp	iler).
	1
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
	Sulfamethylthiazole had mp of 237-8°C
Excess sulfamethylthiazole in water was	(cor) consistent with the literature data.
heated and stirred on a steam bath for 30	
min. The suspension was then agitated for	Purity of the water was not specified.
24 h in a thermostat at 37 ⁰ C. A sample of	
the satd soln was withdrawn through a glass	
filter, dild, and analyzed by the Marshall	
method (1) using a General Electric record-	
ing spectrophotometer for comparing the	
colors developed with those of the standards	
toris actoropod with those of the standards	
	Nothing specified
	REFERENCES :
	1. Bratton, A. C.; Marshall, E. K., Jr.
	J. Pharmacol. <u>1939</u> , 66, 4.

	ORIGINAL MEASUREMENTS:
COMPONENTS:	
(1) Benzenesulfonamide, 4-amino-N-(4-methyl-	
2-thiazolyl)-(sulfamethylthiazole);	Bull. Soc. Med. Hop. Paris III
$C_{10}H_{11}N_{3}O_{2}S_{2};$ [515-59-3]	<u>1941</u> , 251-9.
(2) Water; H ₂ 0; [7732-18-5]	
-	
VARIABLES:	PREPARED BY:
One temperature: 37°C	R. Piekos
one temperature: 57 0	
EXPERIMENTAL VALUES:	
Solubility of sulfamethylthiazole in	water at 37 ⁰ C is 0.26 g/liter
$(9.65 \times 10^{-4} \text{ mol dm}^{-3}, \text{ compiler}).$	
$(9.65 \times 10^{\circ} \text{ mol } \text{dm}^{\circ}, \text{ compiler}).$	
AUXILIARY	INFORMATION
METHOD /APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
A mixt of sulfamethylthiazole and water	Source and purity of sulfamethylthiazole
was agitated for 24 hours at 37 ⁰ C.	was not specified.
	Distilled water was used.
	ESTIMATED ERROR:
	Nothing specified
	REFERENCES :
	I STERENCES,

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COMPONENTS			ORIGINAL MEASUREMENTS .			
<pre>COMPONENTS: (1) Benzenesulfonamide, 4-amino-N-(4- methyl-2-thiazolyl)-(sulfamethylthi- azole); C₁₀H₁₁N₃0₂S₂; [515-59-3] (2) Water; H₂0; [7732-18-5]</pre>			ORIGINAL MEASUREMENTS: Sapozhnikova, N. V.; Postovskii, I. Ya. Zh. Prikl. Khim. <u>1944</u> , 17, 427-34.			
VARIABLES:			PREPARED BY:			
	Temperature		R. Piekos			
EXPERIMENTAL	L VALUES:		······································			
			Solubility			
	t/°C	Weight%	10 ² mol kg ⁻¹ water ^a			
	20	0.0088	3.47			
	37	0.0220	8.69			
	50	0.0423	1.67			
	75	0.130	5.14			
	99	0.390 ; 0.333	b 15.46; 13.19			
		ted by compiler ted from the heat	of dissolution (9,866 cal mol ⁻¹)			
		AUXILIARY	INFORMATION			
METHOD/APPA	RATUS/PROCEDURE:		SOURCE AND PURITY OF MATERIALS:			
-	lthiazole was dis		Pure, recrystd sulfamethylthiazole was used.			
	satd soln which w		Its mp conformed to that reported in the literature.			
•	n a glass vessel . The equilibriu		Purity of the water was not specified.			
	fter 1 h. Five-					
ples of the	e satd soln were	placed in Pt cru-				
	dishes and evapd					
-	r than 110-115 ⁰ C. to const wt at 10		ESTIMATED ERROR:			
weighed.		5 110 0 and	Soly: quite reliable results were obtained over the temp range 20-75°C. At higher temps the accuracy was pure due to evapn of water during sampling (authors). Temp:±0.05°C(auth ors). REFERENCES:			

COMPONENTS: (1) Benzenesulfonamide, 4-amino-N-(4-methyl-	ORIGINAL MEASUREMENTS:
2-thiazolyl)- (sulfamethylthiazole);	Krüger-Thiemer, E.
C ₁₀ H ₁₁ N ₃ O ₂ S ₂ ; [515-59-3]	Arch. Dermatol. Syphilis <u>1942,</u> 183,
(2) Phosphoric acid, disodium salt; Na ₂ HPO ₄ ; [7558-94-4]	90-116.
(3) Water; H_20 ; [7732-18-5]	
(3) water, n ₂ 0, [//32-10-5]	
VARIABLES:	PREPARED BY:
One temperature: ca 20 ^o C; one pH: 8.74	R. Piekos
one temperature: ca 20 C; one ph: 0.74	K. Flekos
EXPERIMENTAL VALUES:	
Solubility of sulfamethylthiazole in a	a 0.705 M (10%) Na_2HPO_4 solution
of pH 8.74, at room temperature (about	t 20 ⁰ C), is 0.058 g% (2.15 x
10 ⁻³ mol dm ⁻³ solution, compiler).	
10 mol dm solution, compiler).	
	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Sulfamethylthiazole (0.5 g) was dissolved in	Sulfamethylthiazole was the product manufd
10 cm^3 of the 0.705 M (10%) Na_2HPO_4 soln	by Sanebo under the name Ultraseptyl. The
of pH 8.74, shaken for 2 h at room temp	source and purity of the remaining materials
(about 20°C), and filtered. A 1-cm ³ aliquot	was not specified.
of the filtrate was withdrawn, cooled, aci-	
dified with 1 cm ³ of 2N HC1, and the sulfon-	
amide content was detd colorimetrically by	
the method of Marshall modified by Kimmig	
(1) using an Authenrieth colorimeter. The pH	ESTIMATED ERROR:
was detd on an ultraionograph using a glass	Soly: precision ±5% (author)
electrode.	Temp: not specified pH : ±0.05 pH unit (author)
electione.	
	REFERENCES:
	1. Kimmig, J. Arch. Dermatol. 1938,
	176, 722; Erg. Hyg. 1941, 24, 398.

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COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-4-methyl-	Krüger-Thiemer, E.
2-thiazolyl)- (sulfamethylthiazole); C ₁₀ H ₁₁ N ₃ O ₂ S ₂ ; [515-59-3]	Arch. Dermatol. Syphilis <u>1942</u> , 183,
(2) Phosphoric acid, monopotassium salt;	90-116.
кн ₂ РО ₄ ; [7778-77-0]	
(3) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: ca 20 ⁰ C; one pH: 4.37	R. Piekos
EXPERIMENTAL VALUES:	·
Solubility of sulfamethylthiazole in	$a = 0.735 \text{ M} (10\%) \text{ KH} - \text{PO}_{a}$ solution
of pH 4.37, at room temperature (ab	
$(3.5 \times 10^{-4} \text{ mol dm}^{-3} \text{ solution, co}$	mpiler).
AUXILIARY	INFORMATION
METHOD /APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
Sulfamethylthiazole (0.5 g) was dissolved in	
10 cm ³ of the 0.735 M (10%) KH ₂ PO ₄ soln of	by Sanebo under the name Ultraseptyl.
pH 4.37, shaken for 2 h at room temp (about	The source and purity of the remaining
20° C), and filtered. A 1-cm ³ aliquot of	materials was not specified.
the filtrate was withdrawn, cooled, acidifi-	
ed with 1 cm ³ of 2N HC1, and the sulfonamide	
content was detd colorimetrically by the	
method of Marshall modified by Kimmig (1)	
using an Authenrieth colorimeter. The pH	ESTIMATED ERROR:
was detd on an ultraionograph using a glass	Soly: precision ±5% (author)
electrode.	Temp: not specified pH : ±0.05 pH unit (author)
	-
	REFERENCES:
	1. Kimmig, J. Arch. Dermatol. <u>1938</u> ,
	176, 722; Erg. Hyg. <u>1941</u> , 24, 398.
1	I

				Tontot			
<pre>COMPONENTS: (1) Benzenesulfonamide, 4-amino-N-(4-methyl- 2-thiazolyl)- (sulfamethylthiazole); C₁₀H₁₁N₃O₂S₂; [515-59-3] (2) Phosphoric acid, disodium salt; Na₂HPO₄; [7558-94-4]</pre>			y1- Krüg Arch	ORIGINAL MEASUREMENTS: Krüger-Thiemer, E. Arch. Dermatol. Syphilis <u>1942</u> , 183, 90-116.			
(3) Phosph	•	monopotassi	um salt;				
(4) Water	-	732-18-5]		PREPA	RED BY:		
VARIABLES:	Temperature	, рН			R. P	iekos	
EXPERIMENT	AL VALUES:			l	<u></u>		·
1 .	on of 1/15 M ffer solutio					ubility	
		ons	pН	Room 1	temp (ca 20 ⁰ C)		37°C
Na ₂ HPO ₄	кн ₂ ро ₄	%content	-	g%	10 ³ mol dm ⁻³ solution ^a	g%	10 ³ mol dm ⁻³ solution ^a
1.0	99.0	0.91	4.944	0.021	0.780	-	-
10.0	90.0	0.91	5.906	0.021	0.780	0.023	0.854
61.1	38.9	0.93	7.005	0.022	0.817	0.028	1.040
9.5	0.5	0.733 ^b	7.510	0.0178	0.661	-	-
94.7	5.3	0.95	8.018	0.042	1.559	-	-
1		l by compile ent: 10% b		ution			
		<u></u>	AUXILIA	RY INFOR	MATION		
METHOD/APPA	ARATUS / PROCE	DURE:		SOURC	SOURCE AND PURITY OF MATERIALS:		
Sulfamethy	ylthiazole (0.5 g) was	dissolved	Sulf	Sulfamethylthiazole was the product manufd		
in 10 cm^3	of a buffer	soln, shak	en for 2	h by s	by Sanebo under the name Ultraseptyl.		
		48 h at 37 ⁰			The source and purity of the remaining		
		ve temp. A			materials was not specified.		
-		was withdra ^{'O} C), acidif		d			
	-	the sulfona					
1		imetrically					
1	thod of Marshall modified by Kimmig (1)			ESTI	ATED ERROR:		
-		olorimeter.	-	Tem	Soly: precision ±5% (author) Temp: not specified		
[lonograph us	ing a gla	ss pH	: ±0.05 pH u	nit (au	thor)
electrode	•			REFE	RENCES :		·····
				1.	1. Kimmig, J. Arch. Dermatol. 1938,		
					176, 722;	Erg. Hy	g. <u>1941</u> , 24, 398.

COMPONENTS :					ORIGINAL ME	ASUREMENTS :		
 Benzenesulfonamide, 4-amino-N-(4-methyl- 								
) Benzenesulfonamide, 4-amino-N-(4-methyl- 2-thiazolyl)- (sulfamethylthiazole);					-	(Madrid)	1945, <i>41</i> ,
	$C_{10}H_{11}N_{3}O_{2}S_{2};$ [515-59-3]				537-60.	444	(nuti vu)	<u>1743</u> , 11,
		acetone);			557 00.			
	-64 - 1]	acceone,	0360,		-			
VARIABLES					DDCOLDED BY			
VARIADDES					PREPARED BY:			
	Temperat	ure				R. Pieko	S	
FYPERIMEN	TAL VALUE	<u>s.</u>						
	G ^a		x _g /1 ^c	mol	/1 ^d acetone	mmol/mol acetone	1:Xg	$1 + x_{cc}^{f}$
0	1.068	1.050	8.700	3	2.3	2.30	93.63	114.90
5	1.125	1.112	9.099		3.7	2.30	88.88	109.90
10	1.410	1.361	11.322		2.0	3.04	70.92	88.32
15	1.504	1.482	11.988		4.5	3.24	66.49	
20	1.677	1.649	13.268		9.3	3.64		
25	1.813	1.783	14.236		2.9	3.93		70.24
30	2.152	2.107	16.771		2.1	4.64	46.47	
35		2.445	19.371		1.9	5.40		
40		2.822	22.278		2.7	6.26		
45	3.513	3.394	26.798		9.5	7.57		
50	4.524	4.328	34.179		6.9	9.76	23.10	29.25
$a_{G} = \frac{p \ 100}{P - p}$, where p and P are the we $b_{E} = \frac{G \ 100}{G + 100}$; $c_{g/1}$ acetone; d should e_{g} of acetone required to dissolved 1 g of					be mmol/l a	cetone (com	piler);	
to dissolve 1 g of solute.								
			AUX	ILIARY	INFORMATION			
METHOD/APPARATUS/PROCEDURE: A special all-glass app was constructed ena-					SOURCE AND			
_	-		lns, agitat:					s not specifi-
-	• •		ne-satd N, d	•	ed. Pure, anhyd acetone was used. The ab- sence of impurities and water was confirmed			
-	•		lvent withou		· ·			
tact with air. Two exhangeable dissoln ves- sels of 15 and 8 cm^3 working capacity were					of sulfame	•		
	used depending on the soly of solute. The				specified.		,	
app was immersed in a thermostat. The vols					-p			
of acetone used were 15 or 5 cm^3 , and the								
equilibration time was 2-2.5 h. The satd				ESTIMATED E Soly: meas		re repeate	ed until 2 va-	
solns were filtered, weighed, the solvent was distd off, the residues were dried at				lues not d	iffering in ned (author	the secon		
				REFERENCES:				
105°C, weighed, and examd for the presence								
of solvated acetone.								

COMPONENTS:	EVALUATOR:
(1) Acetamide, N-[4-[[(4-methy1)-2- thiazolylamino]sulfony1]pheny1]- (acetyl sulfamethylthiazole); C ₁₂ H ₁₃ N ₃ O ₃ S ₂ ; [71119-13-6]	Anthony N. Paruta Department of Pharmaceutics University of Rhode Island Kingston, Rhode Island, USA and
(2) Water	Ryszard Piekos Faculty of Pharmacy, University of Gdansk Gdansk, Poland 1986

CRITICAL EVALUATION:

For this compound, the acetyl derivative of the previously evaluated sulfonamide, two values were available (1,2) in water at 310K. Roblin et al. (1) give a value of 1.8×10^{-4} mol dm⁻³, and Durel and Allinne (2) 2×10^{-4} mol dm⁻³. Both groups used quite adequate equilibrium times, though Durel and Allinne (2) do not specify the analytical technique. The similarity of the two values is considered to be evidence of accuracy and an average value of 1.9×10^{-4} mol dm⁻³ is the recommended value in water at 310K. It is interesting to note that the acetyl-derivative possesses a solubility of about one fifth (20%) of the parent compound, sulfamethylthiazole. This is usually the case, decreasing solubility for acetyl-derivative compounds.

REFERENCES:

- (1) Roblin, R.O., Jr.; Williams, J.H.; Winnek, P.S.; English, J.P. J. Am. Chem. Soc. 1940, 62, 2002-5.
- (2) Durel, M.P.; Allinne, M. Bull. Soc. Med. Hop. Paris III 1941, 251-9.

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	IONTCINAL ARTICURPTONICS			
COMPONENTS: (1) Acetamide, N-[4-[[(4-methyl)-2-thiazo-	ORIGINAL MEASUREMENTS: Roblin, R. O., Jr.; Williams, J. H.;			
lylamino]sulfonyl]phenyl]- (acetyl	Winnek, P.S.; English, J. P.			
sulfamethylthiazole); C ₁₂ H ₁₃ N ₃ O ₃ S ₂ ;	J. Am. Chem. Soc. 1940, 62, 2002-5.			
[71119-13-6]	0. Am. Onem. 500. <u>2510</u> , 00, 2012			
(2) Water; H ₂ 0; [7732-18-5]				
VARIABLES:	PREPARED BY:			
One temperature: 37°C	R. Piekos			
EXPERIMENTAL VALUES:	.			
Solubility of acetyl sulfamethylthia:	zole in water at 37 ⁰ C is 5.5 mg/100			
cm^3 solution (1.8 x 10 ⁻⁴ mol dm ⁻³ ,	compiler).			
AUXILIARY	INFORMATION			
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:			
Excess acetyl sulfamethylthiazole in water	Acetyl sulfamethylthiazole was prepd by			
was heated and stirred on a steam bath for	treating 2 moles of 2-amino-4-methyl-			
30 min. The suspension was then agitated	thiazole with 1 mole of acetylsulfanilyl			
for 24 h in a thermostat at 37°C. A sample				
of the satd soln was withdrawn through a	Purity of the water was not specified.			
glass filter, dild, and analyzed by the				
Marshall method (1) using a General Electri	c			
spectrophotometer for comparing the colors				
developed with those of the standards.	ESTIMATED ERROR:			
	Nothing specified			
	DEFEDENCES.			
	REFERENCES:			
	1. Bratton, A. C.; Marshall, E. K., Jr.			
	1			
	1. Bratton, A. C.; Marshall, E. K., Jr.			

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Acetamide, N-[4-[[(4-methy1-2-	Durel, M.P.; Allinne, M.
thiazolyl)amino]sulfonyl]phenyl]-	Bull. Soc. Med. Hop. Paris III
	1941, 251-9.
(acetyl sulfamethylthiazole);	
C ₁₂ H ₁₃ N ₃ 0 ₃ S ₂ ; [71119–13–6]	
(2) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: 37°C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of acetyl sulfamethylthia:	zole in water at 37 ⁰ C is
0.07 g/liter ($2 \times 10^{-4} \text{ mol dm}^{-3}$,	compiler).
	i
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
A mixt of acetyl sulfamethylthiazole and	Source and purity of acetyl sulfamethyl-
water was agitated for 24 hours at 37° C.	thiazole was not specified.
water was agreated for an moore to entry	Distilled water was used.
	ESTIMATED ERROR:
	Nothing specified.
	REFERENCES :

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COMPONENTS:			ORIGINAL MEASUREMENTS			
amino)s methylt [71119-	sulfonyl]pheny thiazole); C _l -13-6]		Sapozhnikova, N. V.; Zh. Prikl. Khim.			
	н ₂ 0; [7732	-18-5]	DEDADED DV.			
VARIABLES: Temperature			PREPARED BY: R. Piekos			
EXPERIMENTAL	. VALUES:		<u></u>			
	t ^o /C	Solu	bility			
		Weight%	10 ³ mol kg ⁻¹ water ^a			
	20	0.0022	0.071			
	50	0.0080; 0.0100 ^b	0.260; 0.320			
	75	0.0350	1.100			
	99	0.0860 ^b	2.800			
	^b Calcul	ated by compiler ated from the heat o 48 cal mol ⁻¹).	f dissolution			
		AUXILIARY	INFORMATION	<u> </u>		
METHOD/APPAR	RATUS/PROCEDUR	E:	SOURCE AND PURITY OF	MATERIALS:		
		le was dissolved in		yl sulfamethylthiazole		
•		In which was occa-		conformed to that re-		
sionally agitated in a glass vessel immersed in a thermostat. The equilibrium was usual- ly attained after 1 h. Five- to 100-cm ³ samples of the satd soln were placed in Pt crucibles or dishes and evapd to dryness at temps lower than 110-115°C. The residue			-	was not specified.		
was dried to const wt at 105-110 ⁰ C and weighed.			were obtained over the higher temps the accu evapn of water during			

<pre>COMPONENTS: (1) Acetamide, N-[4-[[(4-methyl-2-thiazolyl)- amino]sulfonyl]phenyl]- (acetyl sulfa- methylthiazole); C12H13N303S2; [71119-13-6] (2) Phosphoric acid, disodium salt; Na2HP04; [7558-94-4] (3) Water; H20; [7732-18-5]</pre>	ORIGINAL MEASUREMENTS: Krüger-Thiemer, E. Arch. Dermatol. Syphilis <u>1942</u> , 183, 90-116.
VARIABLES: One temperature: ca 20 ⁰ C; one pH: 8.74 EXPERIMENTAL VALUES:	PREPARED BY: R. Piekos

Solubility of acetyl sulfamethylthiazole in a 0.705 M (10%) Na_2HPO_4 solution of pH 8.74 at room temperature (about $20^{\circ}C$) is 0.052 g% (1.67 x 10^{-3} mol dm⁻³ solution, compiler).

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:		
Acetyl sulfamethylthiazole (0.5 g) was dis-	Acetyl sulfamethylthiazole (source not		
solved in 10 cm^3 of the 0.705 M (10%) $\mathrm{Na_2HPQ}$	specified) gave no coloration upon diazo-		
soln, shaken for 2 h at room temp (about	tization of its satd soln, thus showing		
20 ⁰ C), and filtered. The filtrate was treat-	absence of sulfamethylthiazole. The		
ed with equal vol of 2N HCl and refluxed for	source and purity of the remaining materi-		
15 min. After proper diln, a 1-cm ³ aliquot	als was not specified.		
was withdrawn, acidified, cooled, and the			
sulfonamide content was detd colorimetrical-			
ly (as sulfamethylthiazole) by the Marshall	ESTIMATED ERROR:		
method modified by Kimmig (1) using an	Soly: precision ±5% (author) Temp: not specified		
Autenrieth colorimeter. The pH was detd on	pH : ±0.05 pH unit (author)		
an ultraionograph using a glass electrode.			
	REFERENCES :		
	1. Kimmig, J. Arch. Dermatol. <u>1938</u> ,		
	176, 722; Erg. Hyg. <u>1941</u> , 24, 398.		

COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Acetamide, N-[4-[[(4-methyl-2-thiazolyl)-	Krüger-Thiemer, E.
<pre>amino]sulfony1]pheny1]- (acety1 sulfa- methylthiazole); C₁₂H₁₃N₃O₃S₂;</pre>	5
[71119-13-6]	Arch. Dermatol. Syphilis <u>1942</u> , 183,
(2) Phosphoric acid, monopotassium salt; KH ₂ PO ₄ ; [7778-77-0]	90-116.
(3) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: ca 20°C; one pH: 4.37	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of acetyl sulfamethylthiaz solution of pH 4.37 at room temperatu (1.25 x 10 ⁻⁴ mol dm ⁻³ , compiler).	2 ,
	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Acetyl sulfamethylthiazole (0.5 g) was dis-	Acetyl sulfamethylthiazole (source not spe-
solved in 10 cm^3 of the 0.735 M (10%)	cified) gave no coloration upon diazotiza-
KH_2PO_4 soln, shaken for 2 h at room temp	tion of its satd soln, thus showing absence
(about 20°C), and filtered. The filtrate was	of sulfamethylthiazole. The source and
treated with equal vol of 2N HCl and reflux-	purity of the remaining materials was not
ed for 15 min. After proper diln, a 1-cm ³	specified.
aliquot was withdrawn, acidified, cooled,	
and the sulfonamide content was detd colori-	
metrically (as sulfamethylthiazole) by the	ESTIMATED ERROR:
Marshall method modified by Kimmig (1) using	Soly: precision ±5% (author)
	Temp: not specified
an Autenrieth colorimeter. The pH was detd	pH : ±0.05 pH unit (author)
on an ultraionograph using a glass electrode	REFERENCES :
	1. Kimmig, J. Arch. Dermatol. <u>19</u> 38,
	176, 722, Erg. Hyg. 1941, 24,
	398.
	570.

COMPONENTS :	ORIGINAL MEASUREMENTS:
 Acetamide, N-[4-[{(4-methyl-2-thiazolyl) amino]sulfonyl]phenyl]- (acetyl sulfa- methylthiazole); C₁₂H₁₃N₃O₃S₂; [71119-13-6] Phosphoric acid, disodium salt; Na₂HPO₄; [7558-94-4] Phosphoric acid, monopotassium salt; KH₂PO₄; [7778-77-0] 	Krüger-Thiemer, E. Arch. Dermatol. Syphilis <u>1942</u> , 183,
(4) Water; H ₂ O; [7732-18-5]	PREPARED BY:
VARIABLES: Temperature; pH	R. Piekos

EXPERIMENTAL VALUES:

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Composition of 1/15 M phosphate buffer solutions			_	Solubility			
				Room temp (ca 20 ⁰ C)		37°C	
Na ₂ HPO ₄	кн ₂ ро ₄	%content	рН	g%	10 ⁴ mol dm ⁻³ solution	g%	10 ⁴ mol dm ⁻³ solution
1.0	99.0	0.91	4.944	0.0069	2.215	_	_
10.0	90.0	0.91	5.906	0.0070	2.248	0.0092	2.954
61.0	38.9	0.93	7.005	0.0078	2.505	0.0188	6.037
9.5	0.5	0.733 ^b	7.510	0.0097	3.115	-	-
94.7	5.3	0.95	8.018	0.0199	6.391	-	-

^aCalculated by compiler

^bMolar content; 10% buffer solution

AUXILIARY INFORMATION

	••••••••••••••••••••••••••••••••••••••
METHOD / APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
Acetyl sulfamethylthiazole (0.5 g) was dis-	Acetyl sulfamethylthiazole (source not spe-
solved in 10 cm ³ of a buffer soln, shaken for	cified) gave no coloration upon diazotiza-
2 h at 20° C (or left for 48 h at 37° C), and	tion of its satd soln, thus showing absence
filtered at respective temp. The filtrate	of sulfamethylthiazole. The source and
was treated with equal vol of 2N HC1 and re-	purity of the remaining materials were not
fluxed for 15 min. After proper diln, a 1-cm ³	specified.
aliquot was withdrawn, acidified, cooled, and	
the sulfonamide content was detd colorimetri-	
cally (as sulfamethylthiazole) by the Mar-	ESTIMATED ERROR:
shall nethod modified by Kimmig (1) using an	Soly: precision ±5% (author)
Authenrieth colorimeter. The pH was detd on	Temp: not specified
an ultraionograph using a glass electrode.	pH : ±0.05 pH unit (author)
	REFERENCES:
	1. Kimmig, J. Arch. Dermatol. <u>1938</u> ,
	176, 722; Erg. Hyg. <u>1941</u> , 24, 398.

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COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(3-methyl-	Shepherd, R. G.; Bratton, A. C.;
2,3-dihydro-2-thiazoly1)-;	Blanchard, K. C.; J. Am. Chem. Soc.
C ₁₀ H ₁₁ N ₃ O ₂ S ₂ ; [51203-20-4]	<u>1942</u> , <i>64</i> , 2532-7.
(2) Water; H_20 ; [7732-18-5]	
2	
VARIABLES:	PREPARED BY:
One temperature: 37 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of 4-amino-N-(3-methyl-2,2	3-dihydro-2-thiazoly1) benzene-
sulfonamide in water at 37 ⁰ C is 22 mg	3^{2} (8.2 x 10 ⁻⁴ mo1 dm ⁻³
solution, compiler).	
solution, compiler).	
AUXILIARY	INFORMATION
METHOD / APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
The sulfonamide was assayed colorimetrically	The sulfonamide, mp 250-1°C, was synthe-
(1). No details were given.	sized by the authors. Analysis: %C 44.49
	(calcd 44.60); %H 4.13 (4.12); %N 15.54
	(15.60). Colorimetric factor: 0.656 (calcd
	0.639).
	Purity of the water was not specified.
	ESTIMATED ERROR:
	Nothing specified
	REFERENCES :
	1. Bratton, A. C.; Marshall, E. K., Jr.
	J. Biol. Chem. <u>1939</u> , 128, 537.

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(3-methyl-	Kitao, K.; Kubo, K.; Morishita, T.;
2,3-dihydro-2-thiazolyl)-;	Yata, N.; Kamada, A.
C ₁₀ H ₁₁ N ₃ O ₂ S ₂ ; [512O3-20-4]	Chem. Pharm. Bull. <u>1973</u> , 21, 2417–26.
(2) Water; H_20 ; [7732-18-5]	
2 2 2	
VARIABLES:	PREPARED BY:
One temperature: 37 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of 4-amino-N-(3-methyl-2,3-a	lihydro-2-thiazolyl)benzene-
sulfonamide in water at 37 ^o C is 0.569 r	
AUXILIARY	INFORMATION
METHOD / APPARATUS / PROCEDURE :	
The sulfonamide was assayed by diazotizati-	SOURCE AND PURITY OF MATERIALS: The sulfonamide was synthesized by the
on. No details were given.	authors. Its purity was not specified.
on. No details were given.	Deionized water was used.
	belomized water was used.
	ESTIMATED ERROR:
	Soly: not specified.
	Temp: ±1 ⁰ C (authors).
	REFERENCES :

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N- (3-	Kitao, K.; Kubo, K.; Morishita, T.;
methy1-2,3-dihydro-2-thiazoly1)-	Yata, N.; Kamada, A. Chem. Pharm. Bull.
C ₁₀ H ₁₁ N ₃ O ₂ S ₂ ; [51203-20-4]	<u>1973</u> , <i>21</i> , 2417-26.
(2) Methane-, trichloro-; CHCl ₃ ; [67-66-3]	
VARIABLES:	PREPARED BY:
One temperature: 37 ⁰ C	R. Piekos
EXPERIMENTAL VALUES: Solubility of 4-amino-N -(3-methyl-2 sulfonamide in CHCl ₃ at 37 ^o C is 3.15	
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
One ml of the sulfonamide soln in CHCl ₃ at	The sulfonamide was synthesized by the
equilibrium was taken into a test tube. Af-	authors. Its purity was not specified.
ter evapn of the solvent, the residue was	Neither source nor purity of the CHCl ₃
dissolved in 1N HCl, the soln was properly	was specified.
dild with dionized water and the concn of the	
sulfonamide was detd by diazotization.	
	ESTIMATED ERROR:
	Soly: not specified. Temp: ±1 ⁰ C (authors).
	Temp. 11 0 (duenors).
	REFERENCES:

	ABTOTIVIT I TOTOLOGICAL
COMPONENTS :	ORIGINAL MEASUREMENTS:
 Benzenesulfonamide, 4-amino-N-2-[3-(2- 	Shepherd, R. G.; Bratton, A. C.;
hydroxyethy1)-2,3-dihydro-2-thiazoly1]-;	Blanchard, K.C.; J. Am. Chem. Soc.
C ₁₁ H ₁₅ N ₃ O ₃ S ₂ ; [71119-27-2]	<u>1942,</u> 64, 2532-7.
(2) Water; H_20 ; [7732-18-5]	
2	
VARIABLES:	PREPARED BY:
One temperature: 37 ⁰ C	R. Piekos
	· · · · · · · · · · · · · · · · · · ·
EXPERIMENTAL VALUES:	
Solubility of 4-amino-N-2-[3-(2-hydro:	<pre>kyethy1)-2,3-dihydro-2-thiazoly1]-</pre>
benzenesulfonamide in water at 37 ⁰ C i	169 mg (5.96 x $10^{-3} \text{ mol dm}^{-3}$
solution, compiler).	
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
The sulfonamide was assayed colorimetrically	
(1). No details were given.	sized by the authors. Analysis: %C 44.42
(1). No decalls were given.	(calcd 44.13); %H 4.35 (4.38); %N 14.36
	(14.04). Colorimetric factor: 0.600
	(calcd 0.575).
	Purity of the water was not specified.
	ESTIMATED ERROR:
	Nothing specified.
	Nothing specified.
	REFERENCES:
	1. Bratton, A. C.; Marshall, E. K. Jr.
1	J. Biol. Chem. <u>1939</u> , 128, 537.
	5. 2007. Gron. <u>1757</u> , 120, 557.

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COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-2-benzo-	Roblin, R. O.,Jr.; Williams, J. H.;
thiazoly1-; C ₁₃ H ₁₁ N ₃ O ₂ S ₂ ; [6138-01-8]	Winnek, P.S.; English, J. P.
(2) Water; H ₂ O; [7732-18-5]	J. Am. Chem. Soc. <u>1940</u> , 62, 2002-5.
2	
VARIABLES:	PREPARED BY:
One temperature: 37°C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of 4-amino-N-2-benzothiazoly	lbenzenesulfonamide in water at 37 ⁰ C
is 0.1 mg/100 cm ³ solution (3 x 10^{-6}	
is one mg/100 cm solution () X 10	mor am , comprise).
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Excess sulfonamide in water was heated and	The sulfonamide, mp 304-5°C (cor, dec)
stirred on a steam bath for 30 min. The	was prepd by the authors. Anal: %C 38.2
suspension was then agitated for 24 h in a	(calcd 37.5); %H 2.9 (3.1); %N 21.0
thermostat at 37° C. A sample of the satd	(21.8). Purity of the water was not spe-
soln was withdrawn through a glass filter,	cified.
dild, and analyzed by the Marshall method	
(1) using a General Electric recording	
spectrophotometer for comparing the colors	
developed with those of the standards.	ESTIMATED ERROR:
	Nothing specified.
	REFERENCES:
	1. Bratton, A. C.; Marshall, E. K., Jr.
	J. Pharmacol. <u>1939</u> , 66, 4.

	ODTOTIVAL IN THE OTHER
COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-4-[4-(4-	Roblin, R. O., Jr.; Williams, J. H.
<pre>biphenyly1)-2-thiazoly1]-;</pre>	Winnek, P. S.; English, J. P.
C ₂₁ H ₁₇ N ₃ O ₂ S ₂ ; [71119-15-8]	J. Am. Chem. Soc. <u>1940</u> , 62, 2002–5.
(2) Water; H ₂ 0; [7732-18-5]	
	DDDD ADDD DV
VARIABLES: One temperature: 37°C	PREPARED BY:
one cemperature: 37°C	R. Piekos
	l
EXPERIMENTAL VALUES:	
Solubility of 4-amino-N-4-[4-(4-bipher	nylyl)-2-thiazolyl}benzenesulfonamide
in water at 37°C is 0.1 mg/100 cm ³ so	lution (2 $\times 10^{-6}$ mol dm ⁻³ , compiler).
-	- · ·
	······
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Excess sulfonamide in water was heated and	The sulfonamide was prepd by the authors.
stirred on a steam bath for 30 min. The	Mp 304-5°C (cor, dec). Anal: ZC 51.1
suspension was then agitated for 24 h in a	(calcd 51.1); XH 3.9 (3.6); XN 13.6
thermostat at 37° C. A sample of the satd	(13.8). Purity of the water was not spe-
soln was withdrawn through a glass filter,	cified.
dild, and analyzed by the Marshall method	
(1) using a General Electric recording spec-	
trophotometer for comparing the colors de-	ESTIMATED ERROR:
veloped with those of the standards.	
	Nothing specified
	REFERENCES :
	1. Bratton, A. C.; Marshall, E. K., Jr.
	J. Pharmacol. 1939, 66, 4.
	0. 1. 1717, 00, 4.

OMPONENTS :			ORIGINAL MEASUREM	
1) Benzenesulfona 1,2,5-thiadiaz $C_{9}H_{10}N_4O_3S_2;$ 2) Phosphoric aci $Na_2HPO_4;$ [75] 3) Phosphoric aci $KH_2PO_4;$ [777]	ol-3-y1)-; ([32909-92-5 d, disodium 58-94-4] d, monopotas 8-77-0] [7732-18-5 pH	Sulfametrole);] salt; sium salt;	Hekster, Y. A.; Damsma, J. E.; J. Antimicrob. 133-44. PREPARED BY:	Vree, T. B.; Friese, W. T.
	- 11	Solubil	ity at 25 ⁰ C	
	рН 	mg/1	$10^3 \text{ mol } dm^{-3} a$	
	5.5	460	1.61	
	7.5	1700	5.94	
	^a Ca:	lculated by cor	npiler	

AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE: Satd solns of sulfametrole were prepd in phosphate buffers of pH 5.5 and 7.5 at room temp (25°C). The concn of the solute was measured by means of a Spectra Physics 3500B high-performance liquid chromatograph equipped with a column oven (Model 748) and a Pye-Unicam LC-UV spectrophotometric detec- tor. The detector was connected to a 1-mV	
recorder. A stainless steel column (10 cm x 4.6 mm i.d.) was packed with Lichrosorb RPS, 5 μ m, obtained from Chrompack. An injection loop of 100 μ l was used. The oven temp was 40°C. Detection of sulfametrole was performed at 260 nm.	ESTIMATED ERROR: The detection limit of the solute by HPLC was 0.5 mg/l (authors). The error in temperature and pH were not specified. REFERENCES:

				253
COMPONENTS:				ORIGINAL MEASUREMENTS:
(1)	 Acetamide, <u>N</u>-[(4-aminophenyl)sulfonyl]- <u>N</u>-(4-methoxy-1,2,5-thiadiazol-3-yl)- (N¹-acetylsulfametrole) C₁₁H₁₂N₄O₄S₂; [84930-17-6] Phosphoric acid, disodium salt; Na₂HPO₄; [7558-94-4] 			Hekster, Ch. A.; Vree, T. B.
				Antibiotics, Chemother. <u>1982</u> , 31,
(2)			salt;	22-118.
(3)		, monopota	ssium salt;	
(4)		[7732-18-	5]	PREPARED BY:
VARI	ABLES:	- 17		R. Piekos
EXPE	RIMENTAL VALUES:	рН		
		-11	Solubili	ty at 25°C
		pH	mg/1 1	$0^4 \text{ mol } dm^{-3} a$
		5.5	34	1.00
		7.5 ^b	24	0.73
				<u></u>
		^a Calcu	lated by compil	.er.
	^b Erroneous pH value c			of 7.0 is given
in the article.		e article.		
			AUXILIARY	INFORMATION
	HOD/APPARATUS/PRO earlier develop		(1) was used	SOURCE AND PURITY OF MATERIALS: Neither source nor the purity of the
1	rsonal communica		-	materials was specified.
ace	tylsulfametrole	were prepd	in phosphate	
buf	fers of pH 5.5 a	nd 7.5 at	25 ⁰ C. The	
соп	concn of the solute was measured by means			
of	of a Spectra Physics 3500B high-performance			
	liquid chromatograph equipped with a Model			
748 column oven and a Pye-Unicam LC-UV spec-		cam LC-UV spec-		
tro	photometric dete	ctor.		ESTIMATED ERROR: Soly: the detection limit of the solute by
				HPLC was 0.5 mg/l (authors). 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. <u>1981</u> ,
				8, 133.
L				l

COMPONENTS: (1) Acetamide, N-[4-[[(4-methoxy-1,2,5-		ORIGINAL MEASUREMENTS:	
thiadiazo1-3-y1)amino]sulfony1]pheny1]-		Hekster, Y. A.; Vree, T. B.;	
(N ⁴ -acetylsulfametrole); $C_{11}H_{12}N_4O_4S_2$; [79962-97-3] (2) Phosphoric acid, disodium salt;		Damsma, J. E.; Friesen, W. T.	
(2) Phosphoric acid, disodium salt; Na ₂ HPO ₄ ; [7558-94-4]		J. Antimicrob. Chemother. <u>1981</u> , 8,	
(3) Phosphoric acid, mono KH ₂ PO ₄ ; [7778-77-0]		133-44.	
(4) Water; H ₂ 0; [7732-1	8-5]	PREPARED BY:	
VARIABLES:		R. Piekos	
рН		R. FIEROS	
		l	
EXPERIMENTAL VALUES:			
		ility at 25°C	
pi	H mg/1	$10^3 \text{ mol } dm^{-3} a$	
5	.5 1100	3.350	
7	.5 6000	18.273	
	^a Calculated by com	piler	
	AUXILIARY	INFORMATION	
METHOD/APPARATUS/PROCEDURE	:	SOURCE AND PURITY OF MATERIALS:	
Satd solns of \underline{N}^4 -acetylsu		\underline{N}^4 -acetylsulfametrole was obtained from	
prepd in phosphate buffers	of pH 5.5 and 7.5	Chemie, Linz. The compd was 100% pure	
at room temp (25°C). The	concn of the solute	according to the HPLC chromatogram.	
was measured by means of a	a Spectra Physics	The source and purity of the remaining	
3500B high-performance lie	quid chromatograph	materials were not specified.	
equipped with a column over	en (Model 748) and		
a Pye-Unicam LC-UV spectro	ophotometric detec-		
tor. The detector was com	nected to a 1-mV		
recorder. A stainless stee	el column (10 cm x	ESTIMATED ERROR:	
4.6 mm i.d.) was packed with	ith Lichrosorb RPS,	The detection limit of the solute by HPL	с
5μ m, obtained from Chrom	pack. An injection	was 0.5 mg/l (authors). The error in temperature and pH were not specified.	
loop of 100 μ l was used. T	The oven temp was		
40°C. Detection of the so	olute was performed	REFERENCES :	
at 260 nm.			
			ł

				20	
COMI	COMPONENTS: (1) Acetamide, <u>N</u> -[[4-(acetylamino)phenyl]-			ORIGINAL MEASUREMENTS:	
sulfonyl]-N-(4-methoxy-1,2,5-thiadiazol-			thiadiazol-	Hekster, Ch. A.; Vree, T. B.	
	3-y1)- $(N^{1}, N^{4}$ -diacety1sulfametrole); $C_{13}H_{14}N_{4}O_{5}S_{2}$; [84930-18-7] (2) Phosphoric acid, disodium salt; $Na_{2}HPO_{4}$; [7558-94-4]			Antibiotics Chemother. <u>1982</u> , 31,	
(2)				22-118.	
(3)	Phosphoric acid, m KH ₂ PO ₄ ; [7778-77		m salt;		
4)	2 4	-0] 32-18-5]		PREPARED BY:	
	RIABLES:			R. Piekos	
	рН				
EXP	ERIMENTAL VALUES:		······································	I	
		рH	Solubi	lity at 25°C	
		pir	mg/l	$10^5 \text{ mol } \text{dm}^{-3} \text{ a}$	
		5.5	22.7	6.12	
		7.5 ^b	00 F	F F O	
		1.5-	20.5	5.53	
	-				
		^a Calcula	ted by compi	ler.	
		bErrores		of 7.0 to sime	
	^b Erroneous pH value			or 7.0 is given	
in the article.			article.		
			AUXILIARY	INFORMATION	
MET	HOD/APPARATUS/PROCE	DURE :		SOURCE AND PURITY OF MATERIALS:	
Th	e earlier developed	method (1)	was used	Neither source nor the purity of the	
(p	ersonal communicatio	on). Satd	solns of N ¹ ,	materials was specified.	
N ⁴	-diacetylsulfametro	le were pre	pd in phos-		
ph	ate buffers of pH 5.	.5 and 7.5	at 25 ⁰ C. The		
co	ncn of the solute was	s measured	by means of		
a	Spectra Physics 3500)B high-per	formance		
11	quid chromatograph e	equipped wi	th a Model		
74	748 column oven and a Pye-Unicam LC-UV spec-				
tr	trophotometric detector.			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	
1				REFERENCES:	
				1. Hekster, Y.A.; Vree, T. B.;	
				Damsma, J.E.; Friesen, W. T.	
				J. Antimicrob. Chemother. <u>1981</u> ,	
1				8, 133.	

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COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzensulfonamide, 4-amino-N-1,3,4-thia-	Roblin, R.O., Jr.; Williams, J. H.;
diazol-2-yl-; C ₈ H ₈ N ₄ O ₂ S ₂ ; [16806-29-4]	Winnek, P. S.; English, J. P.
(2) Water; H ₂ 0; [7732-18-5]	J. Am. Chem. Soc. <u>1940,</u> 62, 2002–5.
(1) water, 120, [())2 10 5]	
VARIABLES:	PREPARED BY:
One temperature: 37 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of 4-amino-N-1,3,4-thiadiaz	ol-2-vlbenzenesulfonamide in water
at $37^{\circ}C$ is 73 mg/100 cm ³ solution (2.	$85 \times 10^{-3} \text{ mol dm}^{-3}$, compiler).
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Excess sulfonamide in water was heated and	The sulfonamide, mp 216-18°C (dec, cor), was
stirred on a steam bath for 30 min. The	prepd by the authors. Anal: %C 38.1 (calcd
suspension was then agitated for 24 h in a	37.5); %H 2.9 (3.1); %N 21.0 (21.8).
thermostat at 37° C. A sample of the satd	
	Purity of the water was not specified.
soln was withdrawn through a glass filter,	
dild, and analyzed by the Marshall method	
(1) using a General Electric recording spec-	
trophotometer for comparing the colors	
developed with those of the standards.	ESTIMATED ERROR:
	Nothing specified.
	REFERENCES:
	1. Bratton, A. C.; Marshall, E.K., Jr.
	J. Pharmacol <u>1939</u> , 66, 4.

COMPONENTS: (1) Benzenesulfonamide, 4-amino-N-(5- methyl-1,3,4-thiadiazol-2-yl)- (sulfamethylthiadiazole); CgH ₁₀ N ₄ O ₂ S ₂ ; [144-82-1]	EVALUATOR: Anthony N. Paruta Department of Pharmaceutics University of Rhode Island Kingston, Rhode Island, USA and
(2) Water	Ryszard Piekos Faculty of Pharmacy, University of Gdansk Gdansk, Poland 1986

CRITICAL EVALUATION:

At 310K, three values were available (1-3) for the aqueous solubility of this compound: Durel and Allinne (1) reported a value of 3.25×10^{-3} mol dm⁻³. Kaneniwa and Watari (2) gave a value of 3.27×10^{-3} mol dm⁻³, a value of $3.27 \times mol^{-3}$ dm⁻³ in 1978 (3) and in 1980 (4) with Hanano a value of 3.27×10^{-3} mol dm⁻³ was given. Since all these values were produced by the same workers (2-4) using identical methodologies, the value given was only considered once. The simple average of the two values (1) and (2-4) were taken and a recommended value of 3.26×10^{-3} mol dm⁻³ is given in water at 310K.

REFERENCES:

(1)	Durel, M.P.; Allinne, M.	Bull.	Soc. 1	Med. H	op. Paris	3 III	<u>1941,</u>	251-9.
\dot{a}	Watari, N.: Kaneniwa, N.	Chem.	Pharm.	Bull.	1976,	24(11),	, 2577-	-84.
(3)	Kaneniwa, N.: Watari, N.	Cehm.	Pharm.	Bull.	1978,	26(3),	813-26	•
(4)	Watari N.; Kaneniwa, N.;	Hanano,	M. In	t. J.	Pharm.	1980,	6(2),	155-66.

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(5-methyl-	Durel, M. P.; Allinne, M.
l,3,4-thiadiazol-2-y1)- (sulfamethyl-	Bull. Soc. Med. Hop. Paris III
thiadiazole);	1941, 251-9.
(2) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: 37 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
	ĺ
Solubility of sulfamethylthiadiazole	in water at 37°C is 0.88 g/liter
$(3.25 \times 10^{-3} \text{ mol dm}^{-3}, \text{ compiler}).$	
(J.25 x 10 moi um ; compilei).	
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
A mixt of sulfamethylthiadiazole and water	Source and purity of sulfamethylthiadiazole
was agitated for 24 hours at $37^{\circ}C$.	were not specified.
	Distilled water was used.
	Distilled water was used.
	Į
	ESTIMATED ERROR:
]	Nothing specified.
	REFERENCES:
	1

COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(5-methyl- 1,3,4-thiadiazol -2-yl)- (sulfame- thizole); C ₉ H ₁₀ N ₄ O ₂ S ₂ ; [144-82-1]	Watari, N.; Kaneniwa, N. <i>Chem. Pharm. Bull. <u>1976</u>, 24(11),</i> 2577-84.
(2) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: 37 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Total solubility of sulfamethizole in solution (3.27 x 10 ⁻³ mol dm ⁻³ , co	_
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE: An excess of sulfamethizole, required to	SOURCE AND PURITY OF MATERIALS: Commercial sulfamethizole of the Japanese
saturate water, 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 removed every 6 h (total equilibration period 3-5 days) using a warmed Millipore filter syringe with a	Pharmacopeia grade and distd water were used.
filter pore size of 0.45 μ (Millipore HAWP	ESTIMATED ERROR:
01300) and the filtrate was dild with water	Soly: not specified
and assayed spectrophotometrically (1).	Temp: ±0.05 ⁰ C (authors).
	REFERENCES :
	l. Kaneniwa, N.; Watari, N.
	Chem. Pharm. Bull. <u>1974</u> , 22, 1699.

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COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(5-methyl-	Kaneniwa, N.; Watari, N.
1,3,4-thiadiazol-2-yl)-(sulfamethizole);	Chem. Pharm. Bull. <u>1978</u> , 26(3),
$C_{9}H_{10}N_{4}O_{2}S_{2};$ [144-82-1]	813-26.
(2) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: 37 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfamethizole in water (3.27 x 10 ⁻³ mol dm ⁻³ , compiler).	at 37 ⁰ C is 0.884 mg/ml solution
AUXILIARY	INFORMATION
ME THOD / APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
An excess of sulfamethizole was placed in a	Commercial sulfamethizole of the Japanese
flask contg 25 ml of water. The flask was	
	Pharmacopeia grade and distd water were
shaken (2 strokes/s at the amplitude of 3	used.
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	ESTIMATED ERROR:
dild with water and assayed spectrophotome-	Soly: not specified.
trically (1).	Temp: ±0.05 ⁰ C (authors).
	REFERENCES :
	1. Kaneniwa, N.; Watari, N. <i>Chem. Pharm. Bull.</i> <u>1974,</u> 22, 1699.

COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(5-methyl-	Watari, N.; Kaneniwa, N.; Hanano, M.
1,3,4-thiadiazol-2-y1)-	Int. J. Pharm. <u>1980</u> , 6(2), 155-66.
(sulfamethizole); C ₉ H ₁₀ N ₄ O ₂ S ₂ ;	
[144-82-1]	
(2) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: 37 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfamethizole in water	c at 37°C is 88.4 mg/100 ml
$(3.27 \times 10^{-3} \text{ mol dm}^{-3}, \text{ compiler}).$	
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
The earlier developed method was employed	Sulfamethizole was of the Japanese Pharma-
(1), whereby an excess of sulfamethizole, re-	- copeia grade.
quired to saturate medium, was placed in a	Distilled water was used.
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 equi-	
libration time was 3-5 days) using a warmed	
Millipore filter syringe with a filter pore	ESTIMATED ERROR:
soze pf 0.45 μ (Millipore HAWP 01300) and	Soly: not specified.
the filtrate was dild with water and assayed	Temp: ±0.05 ^o C (authors).
spectrophotometrically.	
	REFERENCES :
	l. Kaneniwa, N.; Watari, N.
	Chem. Pharm. Bull. <u>1974</u> , 22, 1699.
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A—J	

4047 04 W1184 -	
COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(5-methy1-	
1,3,4-thiadiazol-2-yl)- (sulfameth-	Tagawa, K.; Kawata, M.
izole); C ₉ H ₁₀ N ₄ O ₂ S ₂ ; [144-82-1]	Chem. Pharm. Bull. <u>1983</u> , 31(1), 256-61.
(2) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	PREPARED BY:
Temperature	R. Piekos
EXPERIMENTAL VALUES:	
Solubilit	у
$t/^{\circ}C = \frac{10^{3} \text{ mol}}{\text{g/l}}$	$dm^{-3} a$
37 0.87 3	.22
55 2.10 7	.77
55 2.10 7	.//
······································	
2	
^a Calculated by compile	r
AUXILIARY	INFORMATION
METHOD / APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
A 3 g sample of sulfamethizole powder was	Sulfamethizole had mp 207-11°C.
accurately weighed into a 20-ml ampul and	The purity of water was not specified.
10 ml of water was added. The ampul was	
sealed, placed in a const temp $(37^{\circ} \text{ or } 55^{\circ}\text{C})$	1
bath and allowed to stand for several days.	
The equilibrium concn of the solute was	
neasured spectrophotometrically at 542 nm	
after diazotization with the 0.1% Tsuda	
reagent (1).	ESTIMATED ERROR:
-	Nothing specified.
	REFERENCES :
	1. Tsuda, K.; Matsunaga, S.
	Yakugaku Zasshi <u>1942</u> , 62, 362.

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(5-methyl-	
1,3,4-thiadiazol-2-yl)- (sulfamethizole);	Ogata, H.; Shibazaki, T.;
$C_9H_{10}N_4O_2S_2;$ [144-82-1]	Inoue, T.; Ejima, A.
(2) Hydrochloric acid; HCl; [7647-01-0]	Chem. Pharm. Bull. <u>1979</u> , 27(6), 1281-6.
(3) Water; H ₂ 0; [7732-18-5]	,,,
VARIABLES:	PREPARED BY:
One temperature: 37°C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfamethizole in 0.1N H	C1 at 37° C is 9.172 mg/ml
$(3.393 \times 10^{-2} \text{ mol dm}^{-3}, \text{ compiler }).$	
,	
1	
	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
A centrifuge tube contg 30 ml of 0.1N HCl	Comm available 250-mg uncoated tablets of
and 0.5-3.0 g of the sulfamethizole powder	sulfamethizole were used. Hydrochloric
was tigthly sealed and shaken at $37^{\circ}C$. The	acid was of reagent grade.
	aciu was of reagent grade.
concn of the dissolved drug was detd spec-	
trophotometrically following filtration	
through a Millipore filter (type EH, pore	
size 0.5 um), and the procedure was repeated	
every 24 h until a const concn was obtained.	
every 24 h antii a const conch was obtained.	ESTIMATED ERROR:
	Nothing specified
	REFERENCES :

COMPONENTS: ORIGINAL MEASUREMENTS:	i
 Benzenesulfonamide, 4-amino-N-(5-methyl- 1,3,4-thiadiazol-2-yl)-(sulfamethizole); Nicklasson, M.; Brodin, A. 	: Nynviet. H
$C_{9}H_{10}N_{4}O_{2}S_{2};$ [144-82-1]	1
(2) hydrochloric acid; HCI; [/64/-01-0]	,,
(3) Sodium chloride; NaCl; [7647-14-5]	
(4) Water; H ₂ 0; [7732-18-5]	
VARIABLES: PREPARED BY:	
One temperature: 37 ⁰ C; one pH: 1.20 R. Piekos	
EXPERIMENTAL VALUES:	
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	[
Solubility of sulfamethizole in a HCl - NaCl buffer solution of pH	1.20
(ionic strength 0.2) at 37° C is 5.62 mg/ml ^a (2.08 x 10^{-2} mol dm ⁻³ ,	, [
compiler).	
^a Numerical value given by one of the authors (M. N.)	
	ļ
AUXILIARY INFORMATION	
METHOD/APPARATUS/PROCEDURE: SOURCE AND PURITY OF MATERIA	
METHOD/APPARATUS/PROCEDURE: Sulfamethizole, taken in excess of a quanti- Sulfamethizole of commerci	al grade was
METHOD/APPARATUS/PROCEDURE: Sulfamethizole, taken in excess of a quanti- ty required for satn, was added to the HC1- Used (source not specified WG1 and MaC1 ware anal are	al grade was).
METHOD/APPARATUS/PROCEDURE:SOURCE AND PURITY OF MATERIASulfamethizole, taken in excess of a quanti-Sulfamethizole of commercity required for satn, was added to the HCl-used (source not specified)NaCl buffer soln of pH 1.20. The suspensionHCl and NaCl were anal grading (source not specified).	al grade was).
METHOD/APPARATUS/PROCEDURE:SOURCE AND PURITY OF MATERIASulfamethizole, taken in excess of a quanti-Sulfamethizole of commercity required for satn, was added to the HC1-used (source not specifiedNaC1 buffer soln of pH 1.20. The suspensionHC1 and NaC1 were anal grade	al grade was). ide reagents
METHOD/APPARATUS/PROCEDURE:SOURCE AND PURITY OF MATERIASulfamethizole, taken in excess of a quanti-Sulfamethizole of commercity required for satn, was added to the HC1-used (source not specified)NaC1 buffer soln of pH 1.20. The suspensionHC1 and NaC1 were anal grading (source not specified).	al grade was). ide reagents
METHOD/APPARATUS/PROCEDURE:SOURCE AND PURITY OF MATERIASulfamethizole, taken in excess of a quanti- ty required for satn, was added to the HCl- NaCl buffer soln of pH 1.20. The suspension was equilibrated at 37°C for 18-24 h using aSOURCE AND PURITY OF MATERIA Sulfamethizole of commerci used (source not specified). Purity of the water was not	al grade was). ide reagents
METHOD/APPARATUS/PROCEDURE: Sulfamethizole, taken in excess of a quanti- ty required for satn, was added to the HCl- NaCl buffer soln of pH 1.20. The suspension was equilibrated at 37°C for 18-24 h using a magnetic stirrer. No degradation of the drug was observed at the pH indicated. Five- ml samples were filtered through 0.1-im poly-	al grade was). ide reagents
METHOD/APPARATUS/PROCEDURE:SOURCE AND PURITY OF MATERIASulfamethizole, taken in excess of a quanti- ty required for satn, was added to the HCl- NaCl buffer soln of pH 1.20. The suspension was equilibrated at 37°C for 18-24 h using a magnetic stirrer. No degradation of the drug was observed at the pH indicated. Five- ml samples were filtered through 0.1-µm poly carbonate filters (Nuclepore [®] Co.), and dildSOURCE AND PURITY OF MATERIA Sulfamethizole of commercia used (source not specified) HCl and NaCl were anal grading (source not specified). Purity of the water was not ESTIMATED ERROR: Soly: mean of 2 detns is general section.	al grade was). de reagents of specified. Siven (authors).
METHOD/APPARATUS/PROCEDURE:SOURCE AND PURITY OF MATERIASulfamethizole, taken in excess of a quanti- ty required for satn, was added to the HCl- NaCl buffer soln of pH 1.20. The suspension was equilibrated at 37°C for 18-24 h using a magnetic stirrer. No degradation of the drug was observed at the pH indicated. Five- ml samples were filtered through 0.1-µm polySOURCE AND PURITY OF MATERIA Sulfamethizole of commerch used (source not specified) Purity of the water was not ESTIMATED ERROR:	al grade was). de reagents t specified. iven (authors).
METHOD/APPARATUS/PROCEDURE:SOURCE AND PURITY OF MATERIASulfamethizole, taken in excess of a quanti- ty required for satn, was added to the HCl- NaCl buffer soln of pH 1.20. The suspension was equilibrated at 37°C for 18-24 h using a magnetic stirrer. No degradation of the drug was observed at the pH indicated. Five- ml samples were filtered through 0.1-µm poly carbonate filters (Nuclepore [®] Co.), and dildSOURCE AND PURITY OF MATERIA Sulfamethizole of commercial used (source not specified). Purity of the water was not ESTIMATED ERROR: Soly: mean of 2 detns is g 	al grade was). de reagents t specified. iven (authors).
METHOD/APPARATUS/PROCEDURE:SOURCE AND PURITY OF MATERIASulfamethizole, taken in excess of a quanti- ty required for satn, was added to the HCl-Sulfamethizole of commerchNaCl buffer soln of pH 1.20. The suspension was equilibrated at 37°C for 18-24 h using a magnetic stirrer. No degradation of the drug was observed at the pH indicated. Five- ml samples were filtered through 0.1-\mum poly carbonate filters (Nuclepore [®] Co.), and dild to suitable concn for spectrophotometry.SOURCE AND PURITY OF MATERIA Sulfamethizole of commerch used (source not specified) Purity of the water was not ESTIMATED ERROR: Soly: mean of 2 detns is g 	al grade was). de reagents t specified. iven (authors).
METHOD/APPARATUS/PROCEDURE: Sulfamethizole, taken in excess of a quanti- ty required for satn, was added to the HCl- NaCl buffer soln of pH 1.20. The suspension was equilibrated at 37°C for 18-24 h using a magnetic stirrer. No degradation of the drug was observed at the pH indicated. Five- ml samples were filtered through 0.1-\mu poly- carbonate filters (Nuclepore [®] Co.), and dild to suitable concn for spectrophotometry.SOURCE AND PURITY OF MATERIA Sulfamethizole of commerciants used (source not specified). Purity of the water was not 	al grade was). de reagents t specified. iven (authors).
METHOD/APPARATUS/PROCEDURE: Sulfamethizole, taken in excess of a quanti- ty required for satn, was added to the HC1- NaC1 buffer soln of pH 1.20. The suspension was equilibrated at 37°C for 18-24 h using a magnetic stirrer. No degradation of the drug was observed at the pH indicated. Five- ml samples were filtered through 0.1-\mathcal{tm} poly- carbonate filters (Nuclepore [®] Co.), and dild to suitable concn for spectrophotometry. Concns were determined using a Pye UnicamSOURCE AND PURITY OF MATERIA Sulfamethizole of commercial used (source not specified). 	al grade was). de reagents t specified. iven (authors).

COMPONENTS :	ORIGINAL MEASUREMENTS:
 Benzenesulfonamide, 4-amino-N-(5-methyl- 1,3,4-thiadiazol-2-yl)- (sulfamethyl- 	Mager-Intemer, E.
thiadiazole); $C_{9}H_{10}N_{4}O_{2}S_{2}$; [144-82-1]	Arch. Dermatol. Syphilis <u>1942</u> , 183,
(2) Phosphoric acid, disodium salt; Na ₂ HPO ₄ ; [7558-94-4]	90-116.
(3) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: ca 20 ⁰ C; one pH: 8.74	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfamethylthiadiazole	in a 0.705 M (10%) Na ₂ HPO ₄
solution of pH 8.74, at room temperat	ture (about 20 ⁰ C), is 1.625 g%
$(6.011 \times 10^{-2} \text{ mol dm}^{-3} \text{ solution, contrast of } 10^{-2}$	omniler)
	Suprici).
	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Sulfamethylthiadiazole (0.5 g) was dissolved	
in 10 cm^3 of the 0.705 M (10%) Na_2HPO_4 solu-	
tion of pH 8.74, shaken for 2 h at room	The source and purity of the remaining
temp (about 20 ^o C), and filtered. A 1-cm ³	materials was not specified.
aliquot of the filtrate was withdrawn, cool-	
ed, acidified with 2N HCl, and the sulfon-	
ed, acidified with 2N HCl, and the sulfon- amide content was detd colorimetrically by	
amide content was detd colorimetrically by	
	ESTIMATED ERROR:
amide content was detd colorimetrically by the method of Marshall modified by Kimmig (1) using an Authenrieth colorimeter. The	ESTIMATED ERROR: Soly: precision ±5% (author).
amide content was detd colorimetrically by the method of Marshall modified by Kimmig (1) using an Authenrieth colorimeter. The pH was detd on an ultraionograph using a	
amide content was detd colorimetrically by the method of Marshall modified by Kimmig (1) using an Authenrieth colorimeter. The	Soly: precision ±5% (author).
amide content was detd colorimetrically by the method of Marshall modified by Kimmig (1) using an Authenrieth colorimeter. The pH was detd on an ultraionograph using a	Soly: precision ±5% (author). Temp: not specified.
amide content was detd colorimetrically by the method of Marshall modified by Kimmig (1) using an Authenrieth colorimeter. The pH was detd on an ultraionograph using a	Soly: precision ±5% (author). Temp: not specified. pH : ±0.05 pH unit (author). REFERENCES:
amide content was detd colorimetrically by the method of Marshall modified by Kimmig (1) using an Authenrieth colorimeter. The pH was detd on an ultraionograph using a	Soly: precision ±5% (author). Temp: not specified. pH : ±0.05 pH unit (author). REFERENCES: 1. Kimmig, J. Arch. Dermatol. <u>1938</u> ,
amide content was detd colorimetrically by the method of Marshall modified by Kimmig (1) using an Authenrieth colorimeter. The pH was detd on an ultraionograph using a	<pre>Soly: precision ±5% (author). Temp: not specified. pH : ±0.05 pH unit (author). REFERENCES: 1. Kimmig, J. Arch. Dermatol. <u>1938</u>, 176, 722; Erg. Hyg. <u>1941</u>, 24,</pre>
amide content was detd colorimetrically by the method of Marshall modified by Kimmig (1) using an Authenrieth colorimeter. The pH was detd on an ultraionograph using a	Soly: precision ±5% (author). Temp: not specified. pH : ±0.05 pH unit (author). REFERENCES: 1. Kimmig, J. Arch. Dermatol. <u>1938</u> ,
amide content was detd colorimetrically by the method of Marshall modified by Kimmig (1) using an Authenrieth colorimeter. The pH was detd on an ultraionograph using a	<pre>Soly: precision ±5% (author). Temp: not specified. pH : ±0.05 pH unit (author). REFERENCES: 1. Kimmig, J. Arch. Dermatol. <u>1938</u>, 176, 722; Erg. Hyg. <u>1941</u>, 24,</pre>

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COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(5-methyl-	Krüger-Thiemer, E.
1,3,4-thiadiazole-2-y1)- (sulfamethyl- thiadiazol); C ₉ H ₁₀ N ₄ O ₂ S ₂ ; [144-82-1]	Arch. Dermatol. Syphilis <u>1942</u> , 183,
(2) Phosphoric acid, monopotassium salt; KH ₂ PO ₄ ; [7778-77-0]	90-116.
(3) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: ca 20 ⁰ C; one pH: 4.37	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfamethylthiadiazole	in a 0.735 M (10%) KH_2PO_4
solution of pH 4.37, at room tempera	ture (about 20°C), is
0.027 g% ($9.99 \times 10^{-2} \text{ mol dm}^{-3} \text{ solu}$	
	cion, compiler).
	ſ
AUXILIARY	INFORMATION
ME THOD / APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
Sulfamethylthiadiazole (0.5 g) was dissolved	Sulfamethylthiadiazole was the product
in 10 cm ³ of the 0.735 M (10%) KH ₂ PO ₄ soln,	manufd by Schering under the name Tetracid.
shaken for 2 h at room temp (about 20°C),	The source and purity of the remaining
and filtered. A 1-cm ³ aliquot of the fil- trate was withdrawn, cooled, acidified with	reagents were not specified.
2N HCl, and the sulfonamide content was detd	
colorimetrically by the method of Marshall	
modified by Kimmig (1) using an Authenrieth	
colorimeter. The pH was detd on an ultra-	ESTIMATED ERROR:
ionograph using a glass electrode.	Soly: precision ±5% (author)
	Temp: not specified
	pH : ±0.05 pH unit (author) REFERENCES:
	1. Kimmig, J. Arch. Dermatol. <u>1938</u> ,
	176, 722; Erg. Hyg. <u>1941</u> , 24, 398.

(1) (2) (3) (4)	PONENTS: Benzenesulfonamide, 4-amino-N-(5-methyl- 1,3,4-thiadiazole-2-y1)- (sulfamethyl- thiadiazole); $C_{9}H_{10}N_{4}O_{2}S_{2}$; [144-82-1] Phosphoric acid, disodium salt; Na ₂ HPO ₄ ; [7558-94-4] Phosphoric acid, monopotassium salt; KH ₂ PO ₄ ; [7778-77-0] Water; H ₂ O; [7732-18-5]	ORIGINAL MEASUREMENTS: Krüger-Thiemer, E. Arch. Dermatol. Syphilis <u>1942</u> , 183, 90-116.
VAR	Temperature, pH	PREPARED BY: R. Piekos

EXPERIMENTAL VALUES:

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Compositio	on of 1/15	M phosphat	9	<u></u>	Sol	ubility	
b	uffer solu	tions	- рН	Room	temp (ca 20 ⁰ C)		37 ⁰ C
Na ₂ HPO ₄	кн ₂ ро ₄	%Content	-	g%	10 ² mol dm ⁻³ solution	g%	10 ² mol dm ⁻³ solution ^a
1.0	99.0	0.91	4.944	0.058	0.214	-	_
10.0	90.0	0.91	5.906	0.155	0.573	0.212	0.784
61.1	38.9	0.93	7.005	0.823	3.044	0.913	3.377
9.5	0.5	0.733 ^b	7.51	1.235	4.569	-	-
94.7	5.3	0.95	8.018	1.232	4.557	-	-

^a Calculated by compiler

^b Molar content; 10% buffer solution

AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	<pre>SOURCE AND PURITY OF MATERIALS:</pre>
Sulfamethylthiadiazole (0.5 g) was dissolved	Sulfamethylthiadiazole was the product
in 10 cm ³ of a buffer soln, shaken for 2 h	manufd by Schering under the name Tetracid.
at 20°C (or left for 48 h at 37°C), and fil-	The source and purity of the remaining
tered at respective temp. A 1-cm ³ aliquot	materials were not specified.
of the filtrate was then withdrawn, cooled	ESTIMATED ERROR:
(dild for expts at 37°C), acidified with	Soly: precision ±5% (author)
1 cm ³ of 2N HCl, and the sulfonamide content	Temp: not specified
was detd colorimetrically by the method of	pH : ±0.05 pH unit (author)
Marshall modified by Kimmig (1) using an	REFERENCES:
Authenrieth colorimeter. The pH was detd	1. Kimmig, J. Arch. Dermatol. <u>1938</u> ,
on an ultraionograph using a glass electrode.	176, 722; Erg. Hyg. <u>1941</u> , 24, 398.

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COMP	ONENTS:	ORIGINAL MEASUREMENTS:
(1)	Benzenesulfonamide, 4-amino-N-(5-methyl- 1,3,4-thiadiazo1-2-y1)- (sulfamethyl- thiadiazole); $C_9H_{10}N_4O_2S_2$; [144-82-1] Phosphoric acid, disodium salt; Na_2HPO_4 ; [7558-94-4]	Bandelin, F. J.; Malesh, W. J. Am. Pharm. Assoc. Sci. Ed. <u>1959</u> , 48, 177-81.
(3) (4)	Phosphoric acid, monopotassium salt; KH ₂ PO ₄ ; [7778-77-0] Water; H ₂ 0; [7732-18-5]	PREPARED BY:
VAR	IABLES: pH	R. Piekos
EXPE	RIMENTAL VALUES:	

Solubility of sulfamethylthiadiazole in buffers of varying mixtures of Na₂HPO₄.7H₂O (71.6 g/l distilled water; 0.27 mol dm⁻³, compiler) and KH₂PO₄ (36.3 g/l distilled water; 0.27 mol dm⁻³, compiler) at 37° C.

Initial pH	Solubility		
	mg/100 ml	10^2 mol dm ⁻³ a	
4.5	105	0.388	
5.0	125	0.462	
5.5	200	0.739	
6.0	470	1.738	
6.5	1000	3.699	
7.0	1990	7.361	
8.0	9250	34.218	

^a Calculated by compiler

AUXILIARY INFORMATION		
METHOD/APPARATUS/PROCEDURE: Solns were prepd by adding an excess of sul- famethylthiadiazole 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°C with gentle agitation for 24 h. The mixt was then filtered and a l-ml aliquot was accurately pipetted into a volumetric flask for diln and analysis. The	SOURCE AND PURITY OF MATERIALS: Neither source nor purity of the reagents were specified. Distilled water was used	
balance was retained for pH detn to ascer- tain any change in pH value. The sulfon- amide 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.	ESTIMATED ERROR: Soly: av values of duplicate runs are re- ported (authors). <u>Temp and pH: not specified.</u> REFERENCES: 1. Biamonte, A. R.; Schneller, G. E. J. Am. Pharm. Assoc. Sci. Ed.; <u>1952</u> , 41, 341.	

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COMP (1)	Benzenesulfonamide, 4-amino-N-(5-methyl- 1,3,4-thiadiazol-2-yl)- (sulfameth- izole); C9H ₁₀ N ₄ O ₂ S ₂ ; [144-82-1]		-(5-methv1-	ORIGINAL MEASUREMENTS:	
(1)			fameth-	Hekster; Y. A.; Vree, T. B.; Damsma	-
			Friesen, W. T.; J. Antimicrob. Chem	other.	
 (2) Phosphoric acid, disodium salt; Na₂HPO₄; [7558-94-4] (3) Phosphoric acid, monopotassium salt; KH₂PO₄; [7778-77-0] (4) Water; H₂O; [7732-18-5] 		<u>1981</u> , 8, 133-44.			
				PREPARED BY:	
		VARI	ARIABLES: pH		
EXPE	RIMENTAL VALUES:				
			So	blubility at 25 ⁰ C	
		рH	mg/1	$10^3 \text{ mol } \text{dm}^{-3} \text{ a}$	
		5.5	1555	5.752	
		7.5	5022	18.578	
		^a Calculat	ted by comp:	ller	
		, <u>, , , , , , , , , , , , , , , , , , </u>	AUXILIARY	INFORMATION	
METI	HOD/APPARATUS/PROCED	URE :		SOURCE AND PURITY OF MATERIALS:	
Sat	d solns of sulfamet	hizole were	prepd in	The source and purity of the materia	als
pho	sphate buffers of pH 5.5 and 7.5 at room		were not specified.		
tem	p (25 ⁰ C). The concn of the solute was				
mea	sured by means of a Spectra Physics 3500B				
hig	gh-performance liquid chromatograph equip-				
ped	d with a column oven (Model 748) and a Pye-				
-	nicam LC-UV spectrophotometric detector.				
	The detector was connected to a 1-mV record-				
er. A stainless steel column (10 cm x 4.6 mm i.d.) was packed with Lichrosorb RPS, 5				ESTIMATED ERROR:	
				The detection limit of the solute by	
			h RPS 5	was 0.5 mg/l (authors). The error in tem-	
	µm, obtained from Chrompack. An injection				
loop of 100 µl was used. The oven temp			njection	was 0.5 mg/l (authors). The error in perature and pH was not specified.	
	p of 100 µl was used	d. The oven	njection temp		
was	p of 100 µl was used 40 ⁰ C. Detection of	d. The oven	njection temp	perature and pH was not specified.	
was	p of 100 µl was used	d. The oven	njection temp	perature and pH was not specified.	
was	p of 100 µl was used 40 ⁰ C. Detection of	d. The oven	njection temp	perature and pH was not specified.	
was	p of 100 µl was used 40 ⁰ C. Detection of	d. The oven	njection temp	perature and pH was not specified.	
was	p of 100 µl was used 40 ⁰ C. Detection of	d. The oven	njection temp	perature and pH was not specified.	

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COMPONENTS :			ORIGINAL MEASUREMENTS:	
) Benzenesulfonamide, 4-amino-N-(5-methyl- 1,3,4-thiadiazol -2-yl)- (sulfamethizole);			Nicklasson M.: Product A.: Nyoudot H	
	$C_{9}H_{10}N_{4}O_{2}S_{2};$ [144-82-1]		Acta Pharm. Suec. <u>1981</u> , 18, 119-2	
2) Phosphoric acid; H ₃ PO ₄ ; [7664-38-2]				
3) Phosphoric acid; monosodium salt; NaH ₂ PO ₄ ; [7558-80-7]				
Sodium chlor	ide; NaCl; [7647-14-5]		
5) Water; H ₂ O;	[7732-18-5]		PREPARED BY:	
/ARIABLES:	н		R. Piekos	
	19.0		<u>I</u>	
EXPERIMENTAL VAL	JES:		I <u>. </u>	
EXPERIMENTAL VAL	JES:		I <u></u>	
EXPERIMENTAL VAL	JES:		I <u></u>	
EXPERIMENTAL VAL	JES:			
EXPERIMENTAL VAL	JES:		in a H_3PO_4 - NaH ₂ PO ₄ - NaCl buffer	
EXPERIMENTAL VAL			in a H ₃ PO ₄ - NaH ₂ PO ₄ - NaCl buffer onic strength 0.2) at 37 ^o C ^a	
XPERIMENTAL VAL	JES: pH		onic strength 0.2) at 37°C ^a	
EXPERIMENTAL VAL	рН	solution (i 	onic strength 0.2) at $37^{\circ}C^{a}$ 1 $10^{3} \text{ mol dm}^{-3} b$	
XPERIMENTAL VAL		solution (i	onic strength 0.2) at $37^{\circ}C^{a}$ 1 $10^{3} \text{ mol dm}^{-3} b$	
XPERIMENTAL VAL	рН	solution (i 	onic strength 0.2) at 37°C ^a 1 10 ³ mol dm ⁻³ b 6.40	

 a Numerical values given by one of the authors (M.N.)

^b Calculated by compiler

AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE: Sulfamethizole, taken in excess of a quanti- ty required for satn, was added to the H ₃ PO ₄ - NaH ₂ PO ₄ -NaCl buffer soln and the suspension	The remaining materials were anal grade
was equilibrated at 37°C for 18-24 h using a magnetic stirrer. No degradation of the drug was observed at the pH values indicated. Five-ml samples were filtered through 0.1-µm polycarbonate filters (Nuclepore [®] Co.), and	regents (source not specified). Purity of the water was not specified.
dild to suitable concn for spectrophotometry. Concns were determined using a Pye Unicam SP8-100 spectrophotometer. Samples were assayed at wavelengths of max absorption,	ESTIMATED ERROR: Soly: mean of 2 detns is given (authors). pH : precision ±0.01 pH unit (authors). Temp: ±0.5°C (authors).
taking into consideration changes in spectra due to ionization.	REFERENCES :

COMPONENTS: (1) Benzenesulfonamide, 4-amino-N-(5-methyl-	ORIGINAL MEASUREMENTS:	
1,3,4-thiadiazo1-2-y1)- (sulfamethizole);	Nicklasson, M.; Brodin, A.; Nyqvist, H.	
$C_{9}H_{10}N_{4}O_{2}S_{2};$ [144-82-1]	Acta Pharm. Suec. <u>1981</u> , 18, 119-28.	
(2) Phosphoric acid, disodium salt; Na ₂ HPO ₄ ; [7558-94-4]		
(3) 1,2,3-Propanecarboxylic acid, 2-hydroxy- (citric acid); C ₆ H ₈ 0 ₇ ; [77-92-9]		
(4) Sodium chloride; NaCl; [7647-14-5]	PREPARED BY:	
(5) Water; H ₂ 0; [7732-18-5]	R. Piekos	
VARIABLES: pH		
EXPERIMENTAL VALUES:	· · · · · · · · · · · · · · · · · · ·	
Solubility	in a citric acid - Na ₂ HPO ₄ - NaCl	
	ition (ionic strength 0.2) at $37^{\circ}C^{a}$	
pH		
	mg/ml mol dm ⁻³ b	
4.50	0.77 2.85×10^{-3}	
5.32	1.66 6.14×10^{-3}	
6.10	9.55 3.53×10^{-2}	
7.38 13	34.9 0.4990	
^a Numerical values given by	y one of the authors (M.N.).	
^b Calculated by compiler.		
AUXILIARY	INFORMATION	
METHOD /APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:	
Sulfamethizole, taken in excess of a quanti-		
ty required for satn, was added to the ci-	used (source not specified).	
tirc acid-Na ₂ HPO ₄ -NaCl buffer soln and the	The remaining materials were anal grade	
suspension was equilibrated at 37° C for 18-	reagents (source not specified).	
24 h using magnetic stirrer. No degradation		
of the drug was observed at the pH values	, wer wer optimited.	
indicated. Five-ml samples were filtered		
through 0.1-µm polycarbonate filters (Nu-		
clepore [®] Co.), and dild to suitable concn	ESTIMATED ERROR:	
for spectrophotometry. Concns were deter-	Soly: mean of 2 detns is given (authors). pH : precision ±0.01 pH unit (authors).	
mined using a Pye Unicam SP8-100 spectro-		
photometer. Samples were assayed at wave-	Temp: ±0.5 ⁰ C (authors).	
lengths of max absorption, taking into con-	REFERENCES :	
sideration changes in spectra due to ioniza-	1	
tion.		

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	ARTATIVIT IN ICHRYSTER
COMPONENTS: (1) Benzenesulfonamide, 4-amino-N-(5-methyl-	ORIGINAL MEASUREMENTS:
1,3,4-thiadiazo1-2-y1)- (sulfamethy1-	milley ary rucchy at
thiadiazole); $C_{9}H_{10}N_{4}O_{2}S_{2}$; [144-82-1]	J. Pharmacol. (Paris) <u>1971</u> , 2(2),
(2) Phosphoric acid, disodium salt;	141-54.
Na ₂ HPO ₄ ; [7558-94-4]	
(3) 1,2,3-Propanetricarboxylic acid, 2- hydroxy- (citric acid); C ₆ H ₈ O ₇ ;	
[77-92-9]	BBED AND DV.
(4) Water; H ₂ O; [7732-18-5]	PREPARED BY:
VARIABLES:	R. Piekos
One temperature: 37 ^o C; one pH: 4	
EXPERIMENTAL VALUES:	
Intrinsic solubility ^a of sulfamethylt	hiadiazole in a solution 0.025 M
in Na_2HPO_4 and 0.05 M in citric acid,	of pH 4, at 37 ^o C is (33.2 ± 0.8
$\times 10^{-4}$ mol liter ⁻¹ , compiler)	
^a Under "intrinsic solubility" a minim	um on the solubility - pH curve
is meant which corresponds to the li	-iting concentration of the
is meant which corresponds to the if	miting concentration of the
undissociated form of sulfamethylthi	adiazole.
AUXILIAN	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
The soln was equilibrated for 48 h in a	Nothing specified.
thermostat under occasional stirring. Sam-	
ples were withdrawn through a $1-\mu$ membrane	
filter, dild with 0.155M NaOH soln to ensure	
total dissocn of sulfamethylthiadiazole,	
and the sulfonamide was assayed by UV spec-	
trophotometry.	ESTIMATED ERROR: Soly: std_error of 8 measurements was
	$\pm 0.8 \times 10^{-4}$ mol liter ⁻¹ (authors). pH:
	accuracy ±0.5 pH unit (authors).
	Temp: ±0.1°C (authors).
	REFERENCES:
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COMI	PONENTS:	ORIGINAL MEASUREMENTS:
(1) (2) (3) (4)	Benzenesulfonamide, 4-amino-N-(5-methyl- 1,3,4-thiadiazo1-2-y1)- (sulfamethyl- thiadiazole); $C_9H_{10}N_4O_2S_2$; [144-82-1] Calcium chloride; CaCl ₂ ; [10043-52-4] Magnesium chloride; MgCl ₂ ; [7786-30-3] Phosphoric acid, monoammonium salt; NH ₄ H ₂ PO ₄ ; [7722-76-1]	Bandelin, F. J.; Malesh, W. J. Am. Pharm. Assoc. Sci. Ed. <u>1959</u> , 48, 177-81.
(7)	Potassium chloride; KC1; [7447-40-7] Sodium chloride; NaC1; [7647-14-5] Urea; CH ₄ N ₂ O; [57-13-6] Water; H ₂ O; [7732-18-5]	PREPARED BY: R. Piekos
VAR	IABLES:	

pH at 37⁰C

EXPERIMENTAL VALUES:

Solubility of sulfamethylthiadiazole in a solution containing CaCl₂ 0.143, $MgCl_2$ 0.121, $NH_4H_2PO_4$ 0.300, KCl 1.660, NaCl 2.950 and urea 20 g/dm³ (synthetic urea, Mosher Vehicle) at $37^{\circ}C$.

	Solubility		
Equilibrium p	H mg/100 ml	$10^2 \text{ mol/dm}^3 \text{ a}$	
4.5	120	0.444	
5.0	150	0.555	
5.5	260	0.962	
6.0	620	2.293	
6.5	1980	7.324	
6.9	8400	31.074	

^aCalculated by compiler

AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE: Excess 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 spectrophotometrically by the method described by Biamonte and Schneller (1).	

<pre>COMPONENTS: (1) Benzenesulfonamide, 4-amino-N-(5-methyl- 1,3,4-thiadiazol-2-yl)- (sulfamethizole); [144-82-1] (2) Sulfuric acid monododecyl ester, sodium salt (Na lauryl sulfate); C₁₂H₂₅Na0₄S; [151-21-3] (3) Water; H₂0; [7732-18-5] VARIABLES:</pre>		
VARIADLES:	PREPARED BY:	
Concentration of Na lauryl sulfate	R	. Piekos
EXPERIMENTAL VALUES:		
Concentration Total of Na lauryl sulfate	solubility of su	lfamethizole at 37 ⁰ C
Z w/v n	ng/ml solution	$10^3 \text{ mol } dm^{-3} a$
0.01	0.864	3.196
0.05	0.877	3.504
0.10	0.899	3.325
0.25	1.00	3.70
0.50	1.36	5.03
1.00	1.86	6.88
2.00	2.64	9.77
3.00	3.42	12.65
4.00	4.05	14.98
6.00	5.45	20.16
^a Calculated by compiler		
AUXILIARY	INFORMATION	
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURIT	Y OF MATERIALS:
An excess of sulfamethizole was added to 15	Commercial sul	famethizole of the Japanese
ml of the Na lauryl sulfate soln contained	Pharmacopeia g	rade and distd water were
in a 50-ml flask and the flask was shaken	used.	
(2 strokes/s at the amplitude of 3 cm) in a	Na lauryl sulf	ate was of the reagent grade
thermostatically controlled water bath at	(Wako Pure Che	mical Industries, Ltd. lot No.
37°C. One-ml sample was removed every 6 h	PA10233) and u	sed without further purifi-
(total equilibration period was 3-5 days)	cation.	
using a warmed Millipore filter syringe with		
a filter pore size of 0.45 μ (Millipore HAWF	ESTIMATED ERROR: Soly: not spe	
01300) and the filtrate was dild with water	1 .	(authors).
and assayed spectrophotometrically (1).	1emp: 20.05 0	(44611020).
	REFERENCES:	
		N.; Watari, N.
	Chem. Pha	rm. Bull. <u>1974</u> , 22, 1699.

	2/3
COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(5-meth	
1,3,4-thiadiazol-2-yl)-(sulfamethizol	e); Chem. Pharm. Bull. <u>1978</u> , 26(1), 118-26.
C ₉ H ₁₀ N ₄ O ₂ S ₂ ; [144-82-1]	
(2) Ethanol; C ₂ H ₆ 0; [64-17-5]	
VARIABLES:	PREPARED BY:
Temperature	R. Piekos
EXPERIMENTAL VALUES:	
	9
	bility ^a
10 ² mol	dm ⁻³ solution
	na an a
10 2	•44
20 3	• 24
30 4	.28
40 5	.84
50 7	•90
50 7	• > •
" Original data ar	e presented graphically.
The numerical va	lues are given by the authors.
	RY INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
After attaining equilibrium, sample solns	
were removed by a syringe and filtered qu	
ly through a membrane filter (pore size 0	
μ) and sulfamethizole was assayed spectro	
photometrically at 284 nm using a Hitachi	
Type 200-20 spectrophotometer.	
	ESTIMATED ERROR:
	Nothing specified.
	DEFEDENCIE.
	REFERENCES :

COMPONENTS:	ORIGINAL MEASUREMENTS:
 Benzenesulfonamide, 4-amino-N-(5-methyl- 1,3,4-thiadiazol-2-yl)- (sulfamethizole); 	Sekikawa, H.; Nakano, M.; Arita, T.
$C_{9}H_{10}N_{4}O_{2}S_{2};$ [144-82-1]	Chem. Pharm. Bull. 1978, 26(1),
(2) 2-Pyrrolidinone-, 1-ethenyl-, polymers	
<pre>(poly-vinyl pyrrolidone));</pre>	118-26.
(C ₆ H ₉ NO) _x ; [9003-39-8] K-15	
(3) Ethanol; C ₂ H ₆ 0; [64-17-5]	
VARIABLES:	PREPARED BY:
Temperature	R. Piekos
EXPERIMENTAL VALUES:	
	0 ² sulfamethizole
t/ ⁰ C solub	ilized by 1M vinyl
pyrro	lidone equivalent
10.0	5.51
20.0	6.58
30.0	7.85
40.0	9.75
50.0	12.1
2000	
	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
After attaining equilibrium, sample solns	Poly(vinyl pyrrolidone) K-15 was from
were removed by a syringe and filtered	Daiichi Pure Chemicals Co., Tokyo.
quickly through a membrane filter, (pore	Sulfamethizole (Esai Co.) was of the
size 0.2 μ) and sulfamethizole was assayed	Japanese Pharmacopeia IX grade. Abs EtOH
spectrophotometrically at 284 nm using a	was obtained by drying and distn of EtOH
Hitachi Type 200-20 spectrophotometer. No	following the conventional procedures.
significant absorbance was found for poly-	,
vinyl pyrrolidone.	
vinyi pyrioridone.	
	ESTIMATED ERROR:
	Nothing specified.
	REFERENCES:
	1

	27.
COMPONENTS :	ORIGINAL MEASUREMENTS:
 Benzenesulfonamide, 4-amino-N-(5-methyl- 1,3,4-thiadiazol-2-yl)-, monosilver salt 	Nesbitt, R. U., Jr.; Sandmann, B. J.
(Ag sulfamethizole); $C_0H_0AgN_4O_2S_2$;	J. Pharm. Sci. <u>1978</u> , 67(7), 1012-17.
[24342-31-2]	<u>1970;</u> 97(77; 1012-17;
(2) 4-Morpholinepropanesulfonic acid;	
$C_{7H_{15}NO_4S}$; [1132-61-2]	
(3) 4-Morpholinepropanesulfonic acid, sodium salt; C ₇ H ₁ Nna0 ₄ S; [71119-22-7]	
(4) Potassium nitrate; KNO ₃ ; [7757-79-1]	PREPARED BY: R. Piekos
(5) Water; H ₂ O; [7732-18-5]	A. TIEROS
VARIABLES:	
Hydronium-ion concentration	{
EXPERIMENTAL VALUES:	
Equilibrium values of S ² (S = total mola	r solubility) versus [H ₂ 0 ⁺] for
for Ag sulfamethizole in 0.05M 4-morphol	•
	_
at 0.1M ionic strength (KNO $_3$) and 25 \pm 0.1	-C.
30-	
30-	
20- ×	
ногот × 10-	
10	•
× 10- 25	
ŵ	
$0 - \frac{1}{2} - \frac{1}{4}$	6 8 10 12
 [1]	$0^{+}] \times 10^{8}$
¹ "3	0] X 10
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE: Mixt of 100 mg Ag sulfamethizole and 25 or 27	SOURCE AND PURITY OF MATERIALS:
	All reagents used were anal or USP grade.
ml of the 4-morpholinepropanesulfonic acid buf	Ag sulfamethizole was prepd by the method
fer were placed in paraffin-coated vials, ad-	of Rosenzweig and Fuchs (1) and recrystd
justed to an ionic strength 0.1M with KNO ₃ ,	from ammonia (2). Water had a sp cond of
and rotated end over end in a thermostated	$(1-10) \times 10^{-7} \text{ ohm}^{-1} \text{ cm}^{-1}$.
bath until equilibrium soly was obtained (3-	The buffer soln was from US Biochem. Corp.,
7 days). After filtration through 20M glass	-
	Cleveland, Ohio (purity not specified).
filtering crucibles, the solns were analyzed	
at 25±0.1 ⁰ C in paraffin-coated beakers for Ag ⁺	ESTIMATED ERROR:
ions with a silver-ion selective electrode No.	Soly: not specified.
94-16,Orion Res.,Cambridge,Mass) standardized	
at the temp indicated and 0.1M ionic strength.	Temp: ±0.1 ⁰ C (authors).
•	pH : accuracy ±0.001 pH unit (authors).
The pH was measured with a triple-purpose pH	REFERENCES:
electrode (Corning Sci. Instruments, Medfield,	1. Rosenzweig, S.; Fuchs, W. U.S. pat.
erectione (corning ser. instruments, neuriera,	
	2,536,095 (1951).
Mass) standardized using buffers meeting NBS	2,536,095 (1951). 2. Sandmann, B.J.; Nesbitt, R. U., Jr.;
Mass) standardized using buffers meeting NBS requirements. The buffers were prepd with a	2,536,095 (1951).
Mass) standardized using buffers meeting NBS	2,536,095 (1951). 2. Sandmann, B.J.; Nesbitt, R. U., Jr.; Sandmann, R. A. J. Pharm. Sci.

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OMPONENTS	:		ORIGINAL MEA	SUREMENTS :
(1) Benzenesulfonamide, 4-amino-N-(5-methyl-				. U., Jr.; Sandman, B. J.
		-2-y1)-, monosilver salt le); C ₉ H ₉ AgN ₄ O ₂ S ₂ ;		Sci. <u>1</u> 978, 67(7), 1012-17.
[2434	42-31-2}	, <u> </u>	0. 17a1m.	<u>1978</u> , 07(7), 1012-17.
		3; [53081-02-0]		
		e; KNO ₃ ; [7757-79-1]		
	г; H ₂ 0; [7	732–18–5]		
VARIABLES:			PREPARED BY:	
	pH			R. Piekos
VDEDIMEN	TAL VALUES:		<u> </u>	
		otal Silver Sulfamethizo	le Molar Solu	ubility, S, Determined by
				entration of the Silver Ion
Dete	ermined by D	irect Potentiometry of 1	dentical Samm	oles at 25±0.1 ^o C, 0.1M Ionic
		tric Acid Buffer	u	
	0			
	·····	1.931		pH 2.565
	S x 10 ⁴	[Ag ⁺] x 10 ⁹	S x 10 ⁴	$[Ag^+] \times 10^4$
	4.073	4.052	1.477	1.486
	4.077	4.068	1.491	1.486
	4.088	4.068	1.477	1.492
	4.062	4.036	1.459	1.475
	4.120	4.099	1.482	1.486
	4.080	4.021	1.476	1.475
Mean	4.084	4.057	1.477	1,483
				1.403
				1.403
	PARATIIS /DDOO	AUXILIARY	INFORMATION	
METHOD/AP	PARATUS/PROC	AUXILIARY EDURE:	INFORMATION SOURCE AND P	PURITY OF MATERIALS:
METHOD/AP Mixts of	100 mg of A	AUXILIARY EEDURE: g sulfamethizole and 25	INFORMATION SOURCE AND I All reagent	PURITY OF MATERIALS: rs were anal or USP grade. Ag
METHOD/AP Mixts of or 27 ml	100 mg of A of the nitr	AUXILIARY EDURE: g sulfamethizole and 25 ic acid buffer were pla-	INFORMATION SOURCE AND F All reagent sulfamethiz	PURITY OF MATERIALS: s were anal or USP grade. Ag cole was prepd by the method of
METHOD/AP Mixts of or 27 ml ced in pa	100 mg of A of the nitr araffin-coat	AUXILIARY EDURE: g sulfamethizole and 25 ic acid buffer were pla- ed vials, adjusted to an	INFORMATION SOURCE AND I All reagent sulfamethiz Rosenzweig	PURITY OF MATERIALS: Is were anal or USP grade. Ag cole was prepd by the method of and Fuchs (1) and recrytd from
METHOD/AP Mixts of or 27 ml ced in pa ionic str	100 mg of A of the nitr araffin-coat cength 0.1M	AUXILIARY EEDURE: g sulfamethizole and 25 ic acid buffer were pla- ed vials, adjusted to an with KNO3, and rotated	INFORMATION SOURCE AND E All reagent sulfamethiz Rosenzweig ammonia (2)	PURITY OF MATERIALS: as were anal or USP grade. Ag cole was prepd by the method of and Fuchs (1) and recrytd from b. Water had a sp cond of
METHOD/AP Mixts of or 27 ml ced in pa ionic stu end over	100 mg of A of the nitr araffin-coat rength 0.1M end in a th	AUXILIARY EDURE: g sulfamethizole and 25 ic acid buffer were pla- ed vials, adjusted to an with KNO ₃ , and rotated ermostated bath until e-	INFORMATION SOURCE AND F All reagent sulfamethiz Rosenzweig ammonia (2) (1 - 10) x	PURITY OF MATERIALS: as were anal or USP grade. Ag cole was prepd by the method of and Fuchs (1) and recrytd from b. Water had a sp cond of 10^{-7} ohm ⁻¹ cm ⁻¹ .
METHOD/AP Mixts of or 27 ml ced in pa ionic str end over quilibriu	100 mg of A of the nitr raffin-coat rength 0.1M end in a th m soly was	AUXILIARY EDURE: g sulfamethizole and 25 ic acid buffer were pla- ed vials, adjusted to an with KNO ₃ , and rotated ermostated bath until e- obtained (3-7 days). Af-	INFORMATION SOURCE AND F All reagent sulfamethiz Rosenzweig ammonia (2) (1 - 10) x	PURITY OF MATERIALS: as were anal or USP grade. Ag cole was prepd by the method of and Fuchs (1) and recrytd from b. Water had a sp cond of 10^{-7} ohm ⁻¹ cm ⁻¹ .
METHOD/AP Mixts of or 27 ml ced in pa ionic str end over quilibrit ter filtr	100 mg of A of the nitr araffin-coat ength 0.1M end in a th m soly was cation throu	AUXILIARY EDURE: g sulfamethizole and 25 ic acid buffer were pla- ed vials, adjusted to an with KNO ₃ , and rotated ermostated bath until e- obtained (3-7 days). Af- gh 20M glass filtering	INFORMATION SOURCE AND I All reagent sulfamethiz Rosenzweig ammonia (2) (1 - 10) x The source	PURITY OF MATERIALS: as were anal or USP grade. Ag cole was prepd by the method of and Fuchs (1) and recrytd from b. Water had a sp cond of 10^{-7} ohm ⁻¹ cm ⁻¹ .
METHOD/AP Mixts of or 27 ml ced in pa ionic str end over quilibriu ter filts crucibles	100 mg of A of the nitr araffin-coat rength 0.1M end in a th am soly was ration throu s, the solns	AUXILIARY EDURE: g sulfamethizole and 25 ic acid buffer were pla- ed vials, adjusted to an with KNO ₃ , and rotated ermostated bath until e- obtained (3-7 days). Af- gh 20M glass filtering were analyzed at 25±0.1	INFORMATION SOURCE AND F All reagent sulfamethiz Rosenzweig ammonia (2) (1 - 10) x The source	PURITY OF MATERIALS: as were anal or USP grade. Ag cole was prepd by the method of and Fuchs (1) and recrytd from b. Water had a sp cond of 10^{-7} ohm ⁻¹ cm ⁻¹ . of the reagents was not specifi
METHOD/AP Mixts of or 27 ml ced in pa ionic str end over quilibriu ter filts crucibles	100 mg of A of the nitr araffin-coat rength 0.1M end in a th am soly was ration throu s, the solns	AUXILIARY EDURE: g sulfamethizole and 25 ic acid buffer were pla- ed vials, adjusted to an with KNO ₃ , and rotated ermostated bath until e- obtained (3-7 days). Af- gh 20M glass filtering	INFORMATION SOURCE AND F All reagent sulfamethiz Rosenzweig ammonia (2) (1 - 10) x The source	PURITY OF MATERIALS: The second sec
METHOD/AP Mixts of or 27 ml ced in pa ionic str end over quilibriu ter filtr crucibles C in para	100 mg of A of the nitr raffin-coat rength 0.1M end in a th m soly was ration throu s, the solns affin-coated	AUXILIARY EDURE: g sulfamethizole and 25 ic acid buffer were pla- ed vials, adjusted to an with KNO ₃ , and rotated ermostated bath until e- obtained (3-7 days). Af- gh 20M glass filtering were analyzed at 25±0.1	INFORMATION SOURCE AND I All reagent sulfamethiz Rosenzweig ammonia (2) (1 - 10) x The source ESTIMATED E analysis of	PURITY OF MATERIALS: This were anal or USP grade. Ag tole was prepd by the method of and Fuchs (1) and recrytd from 0. Water had a sp cond of 10 ⁻⁷ ohm ⁻¹ cm ⁻¹ . of the reagents was not specifi RROR: Soly: when tested by one was to variance, the means displayed
METHOD/AP Mixts of or 27 ml ced in pa ionic str end over quilibriu ter filtr crucibles C in para with a st	100 mg of A of the nitr araffin-coat ength 0.1M end in a th m soly was cation throu s, the solns affin-coated liver-ion se	AUXILIARY EDURE: g sulfamethizole and 25 ic acid buffer were pla- ed vials, adjusted to an with KNO ₃ , and rotated ermostated bath until e- obtained (3-7 days). Af- gh 20M glass filtering were analyzed at 25±0.1 beakers for Ag ⁺ ions	INFORMATION SOURCE AND I All reagent sulfamethiz Rosenzweig ammonia (2) (1 - 10) x The source ESTIMATED E analysis of the Table w different a	PURITY OF MATERIALS: as were anal or USP grade. Ag cole was prepd by the method of and Fuchs (1) and recrytd from b. Water had a sp cond of
METHOD/AP Mixts of or 27 ml ced in pa ionic str end over quilibriu ter filtr crucibles C in para with a st 16, Orior	100 mg of A of the nitr araffin-coat rength 0.1M end in a th am soly was ration throu s, the solns affin-coated liver-ion se a Res., Camb	AUXILIARY EDURE: g sulfamethizole and 25 ic acid buffer were pla- ed vials, adjusted to an with KNO ₃ , and rotated ermostated bath until e- obtained (3-7 days). Af- gh 20M glass filtering were analyzed at 25±0.1 beakers for Ag ⁺ ions lective electrode (No.94	INFORMATION SOURCE AND I All reagent sulfamethiz Rosenzweig ammonia (2) (1 - 10) x The source ESTIMATED E analysis of the Table w different a (authors).	PURITY OF MATERIALS: The series and or USP grade. Ag tole was prepd by the method of and Fuchs (1) and recrytd from 0. Water had a sp cond of 10^{-7} ohm ⁻¹ cm ⁻¹ . of the reagents was not specifi RROR: Soly: when tested by one was to variance, the means displayed vere found not to be statistical at the 1% confidence level
METHOD/AP Mixts of or 27 ml ced in pa ionic str end over quilibriu ter filtr crucibles C in para with a st l6, Orior ed at the	100 mg of A of the nitr araffin-coat ength 0.1M end in a th m soly was sation throu s, the solns affin-coated liver-ion se a Res., Camb e temp indic	AUXILIARY EDURE: g sulfamethizole and 25 ic acid buffer were pla- ed vials, adjusted to an with KNO ₃ , and rotated ermostated bath until e- obtained (3-7 days). Af- gh 20M glass filtering were analyzed at 25±0.1 beakers for Ag ⁺ ions lective electrode (No.94 ridge, Mass) standardiz-	INFORMATION SOURCE AND I All reagent sulfamethiz Rosenzweig ammonia (2) (1 - 10) x The source ESTIMATED E analysis of the Table w different a (authors). REFERENCES:	PURITY OF MATERIALS: The series and or USP grade. Ag tole was prepd by the method of and Fuchs (1) and recrytd from 0. Water had a sp cond of 10^{-7} ohm ⁻¹ cm ⁻¹ . of the reagents was not specifi RROR: Soly: when tested by one was to variance, the means displayed vere found not to be statistical at the 1% confidence level

 2,536,095 (1951).
 Sandmann,R.A.; Nesbitt, R.U., Jr.; Sandmann,R. A. J. Pharm. Sci.

<u>1974</u>, *63*, 948.

acid buffers were prepd by diln to 0.1M HNO3

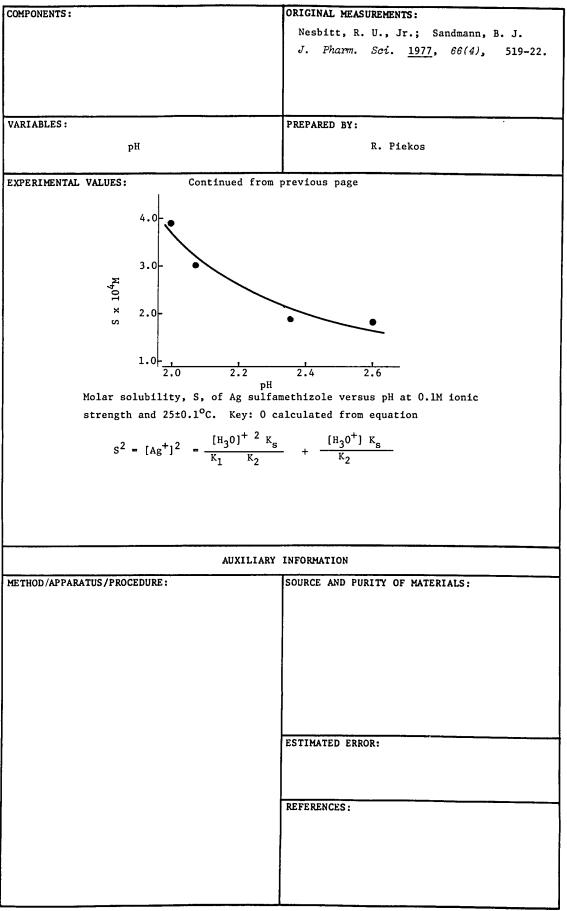
ments, Medfield, Mass) standardized using buffers meeting NBS requirements. The nitric

COMPONENTS :			ORIGINAL MEASU	REMENTS:
				., Jr.; Sandman, B. J.
				ci. <u>1978</u> , 67(7), 1012-17.
				<u>1970</u> ; 07(7); 1012-17.
VARIABLES:			PREPARED BY:	
	рН			R. Piekos
EXPERIMENTAL VAL	LUES:	Continued from pr	evious page	
Calculatio	on of the sol	ubility product o	f Ag sulfamethi:	zole ^a , K _s , at
25±0.1°C a	and 0.1M ioni	c strength		
			•	
}	pН	f _o	s ²	к _s а
-		/	7	
	1.965	1.583×10^{-4}		
	2.102	2.526×10^{-4}	1.051×10^{-7}	2.65×10^{-11}
	2.345	5.448 x 10 ⁻⁴	4.693 x 10 ⁻⁸	2.56 x 10^{-11}
	2.598	1.132×10^{-3}	2.508×10^{-8}	2.85×10^{-11}
1			Moon	(2.70±0.12)10 ⁻¹¹
_			riean	
}	8			
	-	rted as mean ±SD	[T	1 0 ⁺ 1 (11 0 ⁺ 1 ²
	^a from eq	• $K_s = f_o S^2$, wher	$e f_0 = (1 + \frac{1}{k})$	$\frac{H_30^+}{K_2} + \frac{(H_30^+)^2}{K_1 K_2} > 1$
	S is the	total molar solu	bility, and K_1 a	and K ₂ are the
				- (amino) and N ¹ -
	(amido)	hydrogens of sulf	amethizole, respe	ectively.
		AUXILIARY	INFORMATION	
METHOD/APPARATU	S/PROCEDURE:		SOURCE AND PUR	ITY OF MATERIALS:
}				
			ESTIMATED ERRO	R:
			REFERENCES :	
			ALTERENCES:	
1				
]			1	
L			A	

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COMPONENTS:	ORIGINAL MEASUREMENTS:			
	Nesbitt, R. U., Jr.; Sandmann, B. J.			
	J. Pharm. Sci. <u>1978</u> , 67(7), 1012-17.			
VARIABLES:	PREPARED BY:			
рН	R. Piekos			
-				
EXPERIMENTAL VALUES: Continued from	previous page			
2.0-				
105				
×				
[A8 ⁺] ² /[H ₃ 0 ⁺] × 10 ⁵				
2/				
+8				
1				
0,				
2.0	4.0 6.0 8.0 10.0			
	$[H_{3}0^{+}] \times 10^{3}$			
Equilibrium values of [Ag	$[H_{3}0^{+}]$ versus $[H_{3}0^{+}]$ for			
silver sulfamethizole in a	nitric acid buffer at 0.1M			
ionic strength and 25±0.1	°c			
AUXILIARY	INFORMATION			
METHOD /APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:			
	}			
	ESTIMATED EDDOR			
	ESTIMATED ERROR:			
	1			
	REFERENCES :			
]			
	l l			
	L			



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282
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COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Acetamide, N-[4-[[(5-methyl -1,3,4-	Durel, M. P.; Allinne, M.
thiadiazol-2-yl)amino]sulfonyl]phenyl]-	Bull. Soc. Med. Hop. Paris III
(acetyl sulfamethythiadiazole);	<u>1941</u> , 251-9.
C ₁₁ H ₁₂ N ₄ O ₃ S ₂ ; [39719-87-4]	,
(2) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: 37 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of acetyl sulfamethythiad:	lazole in water at 37 ⁰ C is 0.10 g/liter
$(3.2 \times 10^{-4} \text{ mol dm}^{-3}, \text{ compiler }).$	÷.
(3.2 x 10 mol dm -, compiler).	
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS;
The mixt of acetyl sulfamethylthiadiazole	Source and purity of acetyl sulfamethyl-
and water was agitated for 24 hours at 37°C.	thiadiazole were not specified.
	Distilled water was used.
]
	ESTIMATED ERROR:
	Nothing specified.
1	
	REFERENCES:
	Į į

Na ₂ HPO ₄ ; [7558-94-4]	90-116.
(3) Water; H ₂ O; [7732-18-5] VARIABLES: One temperature: ca 20 ^o C; one pH: 8.74	REPARED BY: R. Piekos

Solubility of acetyl sulfamethylthiadiazole in a 0.705M (10%) Na_2HPO_4 solution of pH 8.74 at room temperature (about $20^{\circ}C$) is 1.250 g% (4.002×10^{-2} mol dm⁻³ solution, compiler).

METHOD/APPARATUS/PROCEDURE:

Acetyl sulfamethylthiadiazole (0.5 g) was dissolved in 10 cm³ of the 0.705M (10%) Na_2HPO_4 soln, shaken for 2 h at room temp (about 20°C), and filtered. The filtrate was treated with equal vol of 2N HC1 and refluxed for 15 min. After proper diln, a 1-cm³ aliquot was withdrawn, acidified, cooled, and the sulfonamide content was detd colorimetrically (as sulfamethylthiadiazole) by the Marshall method modified by Kimmig (1) using an Authenrieth colorimeter. The pH was detd on an ultraionograph using a glass electrode. SOURCE AND FURITY OF MATERIALS: Acetyl sulfamethylthiadiazole (source not specified) gave no coloration upon diazotization of its satd soln, thus showing absence of sulfamethylthiadiazole. The source and purity of the remaining materials were not specified.

ESTI	MATED	ERROR:				
Soly: precision ±5%		n ±5%	(author)			
Tem	р: п	ot spec	ified.			
рН	: ±	0.05 pH	unit	(aut)	or)	
REFE	RENCE	S:				
1.	Kimm	ig, J.	Arch.	Derm	atol.	<u>1938</u> ,
	176 ,	722;	Erg.	Hyg.	<u>1941</u> ,	24, 398.

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COMPONENTS :	ORIGINAL MEASUREMENTS:				
(1) Acetamide, N-[4-[[(5-methyl-1,3,4-	Krüger-Thiemer, E.				
<pre>thiadiazol-2-yl)amino]sulfonyl]phenyl]- (acetyl sulfamethylthiadiazole);</pre>	Arch. Dermatol. Syphilis 1942, 183,				
C ₁₁ H ₁₂ N ₄ O ₃ S ₂ ; [39719-87-4]	90-116.				
(2) Phosphoric acid, monopotassium salt;					
KH ₂ PO ₄ ; [7778-77-0] (3) Water; H ₂ O; [7732-18-5]					
VARIABLES:	PREPARED BY:				
One temperature: ca 20 ^o C; one pH: 4.37	R. Piekos				
EXPERIMENTAL VALUES:	L <u></u> ,				
Solubility of acetyl sulfamethylthiad	diazole in a 0.735M (10%) KH ₂ PO ₄				
solution of pH 4.37 at room temperatu	$re (about 20^{\circ}C)$ is 0.0066 eZ				
(2.11 x 10^{-4} mol dm ⁻³ solution, comp	piler).				
	INFORMATION				
METHOD /APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:				
Acetyl sulfamethylthiadiazole (0.5 g) was	Acetyl sulfamethylthiadiazole (source not				
dissolved in the 0.735M (10%) KH_2PO_4 soln,	specified) gave no coloration upon diazo-				
shaken for 2 h at room temp (about 20°C),	tization of its satd soln, thus showing				
and filtered. The filtrate was treated with					
equal vol of 2N HC1, and refluxed for 15	source and purity of the remaining materi-				
min. After proper diln, a 1-cm ³ aliquot was	als were not specified.				
withdrawn, acidified, cooled, and the sul-					
fonamide content was detd colorimetrically					
by the Marshall method modified by Kimmig	ESTIMATED ERROR:				
(1) using an Authenrieth colorimeter. The	Soly: precision ±5% (author)				
pH was detd on an ultraionograph using a	Temp: not specified				
glass electrode.	pH : ±0.05 pH unit (author)				
	REFERENCES:				
1	1. Kimmig, J. Arch. Dermatol. <u>1938</u> ,				
1	176, 722; Erg. Hyg. <u>1941</u> , 24, 398.				

COMPONENTS:	ORIGINAL MEASUREMENTS:
 Acetamide, N-[4-[[(5-methyl-1,3,4-thiadiazol-2-yl)amino]sulfonyl]phenyl]-(acetyl sulfamethylthiadiazole); C11^H12^N4⁰3^S2; [39719-87-4] Phosphoric acid, disodium salt; Na₂HPO₄; [7558-94-4] Phosphoric acid, monopotassium salt; KH₂PO₄; [7778-77-0] 	Krüger-Thiemer, E. <i>Arch. Dermatol. Syphilis</i> <u>1942</u> , <i>183</i> , 90-116.
(4) Water; H ₂ 0; [7732-18-5]	PREPARED BY:
VARIABLES: Temperature; pH	R. Piekos

EXPERIMENTAL VALUES:

Composition of 1/15M phosphate				Solubility			
buffer solution		- рН	Room t	Room temp (ca 20 ⁰ C)		37 ⁰ C	
Na ₂ HPO ₄	кн ₂ ро ₄	%Content	F	g%	10 ³ mol dm ⁻³ solution	g%	10 ³ mol dm ⁻³ solution
1.0	99.0	0.91	4.944	0.0073	0.23	-	-
10.0	90.0	0.91	5.906	0.022	0.70	0.022	0.70
61.1	38.9	0.93	7.005	0.197	6.31	0.274	8.77
9.5	0.5	0.733 ^b	7.51	0.726	23.24	-	-
94.7	5.3	0.95	8.018	0.455	14.57	-	-

^a Calculated by compiler

^b Molar content; 10% buffer solution

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE: Acetyl sulfamethylthiadiazole (0.5 g) was dissolved in 10 cm³ of a buffer soln, shaken for 2 h at 20° C (or left for 48 h at 37° C), and filtered at respective temp. The filtrate was treated with equal vol of 2N HCl and refluxed for 15 min. After proper diln, a 1-cm³ aliquot was withdrawn, acidified, cooled, and the sulfonamide content was detd colorimetrically (as sulfamethylthiadiazole) by the Marshall method modified by Kimmig (1) using an Authenrieth colorimeter. The pH was detd on an ultraionograph using a glass electrode.

SOURCE AND PURITY OF MATERIALS: Acetyl sulfamethylthiadiazole (source not specified) gave no coloration upon diazotization of its satd soln, thus showing absence of sulfamethylthiadiazole. The source and purity of the remaining materials were not specified.

:)) ESTIMATED ERROR:							
	Soly: precision ±5%			(auth	or).			
	Temp: not specified.							
	pH : ±0.05 pH unit			(auth				
	REFERENCES :							
	1.	Kimmi	g, J.	Arch.	Derma	tol.	1938	<u>B</u> ,
l		176 ,	722;	Erg.	Hyg.	<u>1941</u> ,	24,	398.

2	o	6
2	ο	υ

MPONE	TS:	ORIGINAL	ÆASUREMENTS:
l) Ac th (a	etamide, N-[4-[[(5-methyl-1,3, iadiazol-2-yl)amino]sulfonyl]p cetyl sulfamethylthiadiazole); 1 ^H 12 ^N 403 ^S 2; [39719-87-4]	4- henyl]- Bandelin	, F. J.; Malesh, W. <i>Pharm. Assoc., Sci. Ed.</i> <u>1959</u>
Na	osphoric acid, disodium salt; 2 ^{HPO} 4; [7558-94-4]		
3) Ph	osphoric acid, monopotassium s		
	2 ^{PO} ₄ ; [7778-77-0]	PREPARED	
RIABL	ter; H ₂ 0; [7732-18-5] ES:		R. Piekos
	pH		
	ENTAL VALUES:		
of	lubility of acetyl sulfamethyl Na ₂ HPO ₄ •7H ₂ O (71.6 g/l distil ₂ PO ₄ (36.3 g/l distilled water	led water; 0.27 mo	1 dm ⁻³ , compiler) and
of		led water; 0.27 mo; ; 0.27 mol dm ⁻³ ,	1 dm ⁻³ , compiler) and
of	$Na_2HPO_4 \cdot 7H_2O$ (71.6 g/l distil) $_2PO_4$ (36.3 g/l distilled water	led water; 0.27 mo; ; 0.27 mol dm ⁻³ ,	l dm ⁻³ , compiler) and compiler) at 37 ⁰ C.
of	$Na_2HPO_4 \cdot 7H_2O$ (71.6 g/l distil) $_2PO_4$ (36.3 g/l distilled water	led water; 0.27 mo; ; 0.27 mol dm ⁻³ , Solubility (base	l dm ⁻³ , compiler) and compiler) at 37 ^o C. d on sulfamethylthiadiazole)
of	Na ₂ HPO ₄ •7H ₂ O (71.6 g/l distil: 2 ^{PO} 4 (36.3 g/l distilled water Equilibrium pH	led water; 0.27 mo ; 0.27 mol dm ⁻³ , o Solubility (based mg/100 ml	l dm ⁻³ , compiler) and compiler) at 37°C. d on sulfamethylthiadiazole) 10 ² mol dm ⁻³ a
of	Na ₂ HPO ₄ •7H ₂ O (71.6 g/l distill ₂ PO ₄ (36.3 g/l distilled water Equilibrium pH <u>4.5</u>	led water; 0.27 mo ; 0.27 mol dm ⁻³ , Solubility (based mg/100 ml 41	1 dm ⁻³ , compiler) and compiler) at 37°C. d on sulfamethylthiadiazole) 10 ² mol dm ⁻³ a 0.151
of	Na ₂ HPO ₄ •7H ₂ O (71.6 g/l distil) ₂ PO ₄ (36.3 g/l distilled water Equilibrium pH 4.5 5.0	led water; 0.27 mo ; 0.27 mol dm ⁻³ , o Solubility (base mg/100 ml 41 50	l dm ⁻³ , compiler) and compiler) at 37°C. d on sulfamethylthiadiazole) 10 ² mol dm ⁻³ a 0.151 0.185
of	Na ₂ HPO ₄ •7H ₂ O (71.6 g/l distil: 2 ^{PO} 4 (36.3 g/l distilled water Equilibrium pH 4.5 5.0 5.5	led water; 0.27 mo ; 0.27 mol dm ⁻³ , Solubility (base mg/100 ml 41 50 71	1 dm ⁻³ , compiler) and compiler) at 37° C. d on sulfamethylthiadiazole) 10^{2} mol dm ⁻³ a 0.151 0.185 0.262
of	Na ₂ HPO ₄ .7H ₂ O (71.6 g/l distil: ₂ PO ₄ (36.3 g/l distilled water Equilibrium pH 4.5 5.0 5.5 6.0	led water; 0.27 mo ; 0.27 mol dm ⁻³ , o Solubility (based mg/100 m1 41 50 71 102	1 dm ⁻³ , compiler) and compiler) at 37° C. d on sulfamethylthiadiazole) 10^{2} mol dm ⁻³ a 0.151 0.185 0.262 0.377

^a Calculated by compiler

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AUXILIARY	INFORMATION
ETHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Solns were prepd by adding an excess of ace-	Neither source nor purity of the reagents
tyl sulfamethylthiadiazole to 10 ml of buffer	were specified. Distilled water was used.
soln at each pH level in 18 x 150-mm test	
tubes, stoppering the tubes, placing them in	
water bath at 37°C with gentle agitation for	
24 h. The solute was then hydrolyzed with	
5% $ m H_2SO_4$ for 1 h to liberate the free sulfon-	
amide. One-ml aliquot of the hydrolyzate was	5
accurately pipetted into a volumetric flask	ESTIMATED ERROR:
for diln and analysis. The sulfonamide was	Soly: ave values of duplicate runs are
assayed colorimetrically by the method of	reported (authors).
Bratton and Marshall as described in detail	Temp and pH: not specified.
by Biamonte and Schneller (1). A standard	REFERENCES :
curve was prepd using accurately prepd stan-	1. Biamonte, A. R.; Schneller, G. E.
dard solutions.	J. Am. Pharm. Assoc., Sci. Ed.
	<u>1952, 41,</u> 341.

COMP((1)				
	ONENTS: Acetamide.	N-[4-[[(5-ma	thv1-1.3.4-	ORIGINAL MEASUREMENTS:
(+)	thiadiazole-2-yl)amino]sulfonyl]phenyl]-			Hekster, Y.A.; Vree, T. B.; Damsma, J. E.
	(<u>N</u> "-acetyls	sulfamethizol 5 ₂ ; [39719-8	e); 7-41	Friesen, W. T. J. Antimicrob. Chemother
(2)	Phosphoric	acid, disodi		<u>1981</u> , <i>8</i> , 133-44.
	Na ₂ HPO ₄ ;	[7558-94-4]		
(3)	Phosphoric KH ₂ PO ₄ ; []	acid, monopo 7778-77-01	tassium salt;	
(4)); [7732-18-	5]	PREPARED BY:
VAR.	IABLES:			R. Piekos
		pH		
EXPE	RIMENTAL VAL	LUES:		
			pH S	olubility at 25 ⁰ C
			рн	
			шg	/1 10 mot dm
			5.5 2	00 0.640
			7.5 30	00 9.604
			,15 50	
			· · · · · · · · · · · · · · · · · · ·	
			8	
			^a Calculated b	y compiler
			AUXILIARY	INFORMATION
		S/PROCEDURE :		SOURCE AND PURITY OF MATERIALS:
		•	AUXILIARY famethizole were	
Sat	td solns of	\underline{N}^4 -acetylsul		SOURCE AND PURITY OF MATERIALS: The source and purity of the materials
Sat pre	td solns of epd in phosp	\underline{N}^4 -acetylsul bhate buffers	famethizole were	SOURCE AND PURITY OF MATERIALS: The source and purity of the materials 5 were not specified.
Sat pre at	td solns of epd in phosp room temp (N^4 -acetylsul bhate buffers (25 ^o C). The	famethizole were of pH 5.5 and 7.	SOURCE AND PURITY OF MATERIALS: The source and purity of the materials were not specified.
Sat pre at ute	td solns of epd in phosp room temp (e was measur	N ⁴ -acetylsul bhate buffers (25 ⁰ C). The red by means	famethizole were of pH 5.5 and 7. concn of the sol-	SOURCE AND PURITY OF MATERIALS: The source and purity of the materials were not specified.
Sat pre at ute sic	td solns of epd in phosp room temp (e was measur cs 3500B hig	№ ⁴ -acetylsul bhate buffers (25 ⁰ C). The ced by means gh-performanc	famethizole were of pH 5.5 and 7. concn of the sol- of a Spectra Phy-	SOURCE AND PURITY OF MATERIALS: The source and purity of the materials were not specified.
Sat pre at ute sic tog	td solns of epd in phosp room temp (e was measur cs 3500B hig graph equipp	\underline{N}^4 -acetylsul ohate buffers (25 ^o C). The ced by means gh-performanc oed with a co	famethizole were of pH 5.5 and 7. concn of the sol- of a Spectra Phy- e liquid chroma-	SOURCE AND PURITY OF MATERIALS: The source and purity of the materials were not specified.
Sat pre at ute sic tog 748	td solns of epd in phosp room temp (e was measur cs 3500B hig graph equipp B) and a Pye	№4-acetylsul ohate buffers (25 ^o C). The ced by means gh-performanc ped with a co e-Unicam LC-U	famethizole were of pH 5.5 and 7. concn of the sol- of a Spectra Phy- e liquid chroma- lumn oven (Model	SOURCE AND PURITY OF MATERIALS: The source and purity of the materials were not specified.
Sat pre at ute sic tog 748 met	td solns of epd in phosp room temp (e was measur cs 3500B hig graph equipp B) and a Pye tric detecto	\underline{N}^4 -acetylsul phate buffers (25 ^o C). The red by means gh-performanc ord with a co e-Unicam LC-U or. The dete	famethizole were of pH 5.5 and 7. concn of the sol- of a Spectra Phy- e liquid chroma- lumn oven (Model V spectrophoto-	SOURCE AND PURITY OF MATERIALS: The source and purity of the materials were not specified.
Sat pre at ute sic tog 748 met	td solns of epd in phosp room temp (e was measur cs 3500B hig graph equipp 8) and a Pye tric detecto to a 1-mV r	\underline{N}^4 -acetylsul phate buffers (25°C). The red by means gh-performanc ped with a co e-Unicam LC-U pr. The dete recorder. A	famethizole were of pH 5.5 and 7. concn of the sol- of a Spectra Phy- e liquid chroma- lumn oven (Model V spectrophoto- ctor was connect-	SOURCE AND PURITY OF MATERIALS: The source and purity of the materials were not specified.
Sat pre at ute sic tog 748 met ed col	td solns of epd in phosp room temp (e was measur cs 3500B hig graph equipp B) and a Pye tric detecto to a 1-mV r Lumn (10 cm	\underline{N}^4 -acetylsul ohate buffers (25 ^o C). The red by means gh-performanc bed with a co e-Unicam LC-U br. The dete recorder. A x 4.6 mm 1.d	famethizole were of pH 5.5 and 7. concn of the sol- of a Spectra Phy- e liquid chroma- lumn oven (Model V spectrophoto- ctor was connect- stainless steel	SOURCE AND PURITY OF MATERIALS: The source and purity of the materials were not specified. ESTIMATED ERROR:
Sat pre at ute sic tog 748 met ed col wit	td solns of epd in phosp room temp (e was measur cs 3500B hig graph equipp B) and a Pye tric detecto to a 1-mV r lumn (10 cm th Lichroson	\underline{N}^4 -acetylsul ohate buffers (25 ^o C). The red by means gh-performanc oed with a co e-Unicam LC-U or. The dete recorder. A x 4.6 mm i.d cb RPS, 5 µm,	famethizole were of pH 5.5 and 7. concn of the sol- of a Spectra Phy- e liquid chroma- lumn oven (Model V spectrophoto- ctor was connect- stainless steel .) was packed	SOURCE AND PURITY OF MATERIALS: The source and purity of the materials were not specified. ESTIMATED ERROR: The detection limit of the solute by HPLC was 0.5 mg/l (authors). The error in tem-
Sat pre at ute sic tog 748 met ed col wit	td solns of epd in phosp room temp (e was measur cs 3500B hig graph equipp B) and a Pye tric detecto to a 1-mV r lumn (10 cm th Lichroson rompack. Ar	\underline{N}^4 -acetylsul phate buffers (25°C). The red by means gh-performanc bed with a co e-Unicam LC-U or. The dete recorder. A x 4.6 mm i.d cb RPS, 5 μ m, n injection 1	famethizole were of pH 5.5 and 7. concn of the sol- of a Spectra Phy- e liquid chroma- lumn oven (Model V spectrophoto- ctor was connect- stainless steel .) was packed obtained from	SOURCE AND PURITY OF MATERIALS: The source and purity of the materials were not specified. ESTIMATED ERROR: The detection limit of the solute by HPLC was 0.5 mg/l (authors). The error in tem-
Sat pre at ute sic tog 748 met ed col wit Chi	td solns of epd in phosp room temp (e was measur cs 3500B hig graph equipp B) and a Pye tric detecto to a 1-mV r lumn (10 cm th Lichroson rompack. Ar ed. The ove	\underline{N}^4 -acetylsul phate buffers (25°C). The red by means gh-performanc bed with a co e-Unicam LC-U or. The dete recorder. A x 4.6 mm i.d cb RPS, 5 μ m, n injection 1	famethizole were of pH 5.5 and 7. concn of the sol- of a Spectra Phy- e liquid chroma- lumn oven (Model V spectrophoto- ctor was connect- stainless steel .) was packed obtained from oop of 100 µl was 0°C. Detection	SOURCE AND PURITY OF MATERIALS: The source and purity of the materials were not specified. ESTIMATED ERROR: The detection limit of the solute by HPLC was 0.5 mg/l (authors). The error in tem- perature and pH were not specified.
Sat pre at ute sic tog 748 met ed col wit Chi	td solns of epd in phosp room temp (e was measur cs 3500B hig graph equipp B) and a Pye tric detecto to a 1-mV r lumn (10 cm th Lichroson rompack. Ar ed. The ove	\underline{N}^4 -acetylsul ohate buffers (25°C). The red by means gh-performanc bed with a co e-Unicam LC-U br. The dete recorder. A x 4.6 mm i.d cb RPS, 5 μ m, n injection 1 en temp was 4	famethizole were of pH 5.5 and 7. concn of the sol- of a Spectra Phy- e liquid chroma- lumn oven (Model V spectrophoto- ctor was connect- stainless steel .) was packed obtained from oop of 100 µl was 0°C. Detection	SOURCE AND PURITY OF MATERIALS: The source and purity of the materials were not specified. ESTIMATED ERROR: The detection limit of the solute by HPLC was 0.5 mg/l (authors). The error in tem- perature and pH were not specified.
Sat pre at ute sic tog 748 met ed col wit Chi	td solns of epd in phosp room temp (e was measur cs 3500B hig graph equipp B) and a Pye tric detecto to a 1-mV r lumn (10 cm th Lichroson rompack. Ar ed. The ove	\underline{N}^4 -acetylsul ohate buffers (25°C). The red by means gh-performanc bed with a co e-Unicam LC-U br. The dete recorder. A x 4.6 mm i.d cb RPS, 5 μ m, n injection 1 en temp was 4	famethizole were of pH 5.5 and 7. concn of the sol- of a Spectra Phy- e liquid chroma- lumn oven (Model V spectrophoto- ctor was connect- stainless steel .) was packed obtained from oop of 100 µl was 0°C. Detection	SOURCE AND PURITY OF MATERIALS: The source and purity of the materials were not specified. ESTIMATED ERROR: The detection limit of the solute by HPLC was 0.5 mg/l (authors). The error in tem- perature and pH were not specified.
Sat pre at ute sic tog 748 met ed col wit Chi	td solns of epd in phosp room temp (e was measur cs 3500B hig graph equipp B) and a Pye tric detecto to a 1-mV r lumn (10 cm th Lichroson rompack. Ar ed. The ove	\underline{N}^4 -acetylsul ohate buffers (25°C). The red by means gh-performanc bed with a co e-Unicam LC-U br. The dete recorder. A x 4.6 mm i.d cb RPS, 5 μ m, n injection 1 en temp was 4	famethizole were of pH 5.5 and 7. concn of the sol- of a Spectra Phy- e liquid chroma- lumn oven (Model V spectrophoto- ctor was connect- stainless steel .) was packed obtained from oop of 100 µl was 0°C. Detection	SOURCE AND PURITY OF MATERIALS: The source and purity of the materials were not specified. ESTIMATED ERROR: The detection limit of the solute by HPLC was 0.5 mg/l (authors). The error in tem- perature and pH were not specified.

COMP	ONENTS:	ORIGINAL MEASUREMENTS:
(1) (2) (3) (4)	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] Calcium chloride; CaCl ₂ ; [10043-52-4] Magnesium chloride; MgCl ₂ ; [7786-30-3] Phosphoric acid, monoammonium salt;	Bandelin, F. J.; Malesh, W. J. Am. Pharm. Assoc., Sci. Ed. <u>1959</u> , 48, 177-81.
(5) (6) (7) (8)	NH ₄ H ₂ PO ₄ ; [7722-76-1] Potassium chloride; KC1; [7447-40-7] Sodium chloride; NaC1; [7647-14-5] Urea; CH ₄ N ₂ O; [57-13-6] Water; H ₂ O; [7732-18-5]	PREPARED BY: R. Piekos
VAR	IABLES: pH at 37 ^o C	

EXPERIMENTAL VALUES:

Solubility of acetyl sulfamethylthiadiazole in a solution containing $CaCl_2$ 0.143, MgCl₂ 0.121, NH₄H₂PO₄ 0.300, KCl 1.660, NaCl 2.950 and urea 20 g/dm³ (synthetic urine, Mosher Vehicle) at 37°C.

	Solubility			
quilbiruum pH	mg/100 m1	mol/dm ³ a		
	(as sulfamethylthiadiazole)			
4.5	10	3.7×10^{-4}		
5.0	21	7.8×10^{-4}		
5.5	45	1.7×10^{-3}		
6.0	145	5.4×10^{-3}		
6.5	380	1.4×10^{-2}		
7.0	995	3.7×10^{-2}		

^aCalculated by compiler

AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
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	Nothing specified.
the sulfonamide was assayed spectrophotome- trically by the method described by Biamonte and Schneller (1). Before detn the soln was refluxed with 5% H ₂ SO ₄ for 1 h to liberate the fee amino compd.	

COMPONENTS: (1) Benzenesulfonamide, 4-amino-N-(5- ethyl-1,3,4-thiadiazol-2-yl)- (sulfaethylthiadiazole); C ₁₀ H ₁₂ N ₄ O ₂ S ₂ ; [94-19-9]	EVALUATOR: Anthony N. Paruta Department of Pharmaceutics University of Rhode Island Kingston, Rhode Island, USA and
(2) Aqueous phosphate buffers	Ryszard Piekos Faculty of Pharmacy, University of Gdansk Gdansk, Poland 1986

CRITICAL EVALUATION:

For the above compound, there were three reports (1-3) which determined the solubility in water at 293K and 310K at five pH levels as shown in Table I.

Table I: Solubility of Sulfaethylthiadiazole in water at various pH's and temperatures

		<u> </u>	mo1_dm ⁻³	
Reference	рН	<u>293K</u>	310K	
1 3	4.9 ^a 5.0 ^b	1.48	- 11.4	
1	5.91 ^a	2.95	4.64	
2	5.9 ^a	-	5.13	
3	6.0 ^b	-	26.7	
1	7.0 ^a	17.80	22.93	
2	7.1 ^a	_	21.45	
3	7.0 ^b	_	207.5	
1	7.51 ^a	44.91	256.7	
3	7.5 ^b	-		
1	8.02 ^a	32.64	_	
3	8.0 ^b		597.8	

a = buffer concentration at 0.066 mol dm_3^{-3} b = buffer concentration at 0.27 mol dm_3^{-3}

The data of Bandelin and Malesh (3) reported solubility over a pH range of 5-8 in phosphate buffers of 0.27 mol dm⁻³ concentration substantially greater than in the other data (1,2). The data, while showing the expected large increases in solubility with pH, refer only to initial pH values. At concentrations reported here, especially those about 0.1 mol dm⁻³ (~pH 6.5), the dissolved amount should affect the final pH of the equilibrated solution. This would occur at pH values greater than about 5.5 (pK_a) by the production of highly soluble anionic species affecting the pH value through the ionic strength effect. The values given by Krllger-Thiemer (1) and Langecker (2) are for 0.066 mol dm⁻³ phosphate buffer. There are two sets of values that merit consideration, those at pH 5.9 and pH 7.0 (1,2). If it can be assumed that the solubility at 310K and a pH 5.5 (\approx pK_a) is about 2 x 10⁻³ mol dm⁻³ then at pH 5.9, about 2.5 times as many highly water solubble anions are formed leading to a value of about 5 x 10⁻³ mol dm⁻³. The average of the two values (1,2) lead to a tentative solubility value at a pH = 5.9 in phosphate buffer of 4.88 x 10⁻³ mol dm⁻³. At a pH of 7, there would be about 31 fold increase in anions, however, the values only indicate about a 10-11 fold increase. Although the values at a pH 7 (1,2) are reasonable in magnitude they could not be reconciled with each other and were not considered further. None of the data at 293K was duplicated by any two authors and are shown for completeness and data enhancement trend (except for pH 7.5) as a function of pH.

REFERENCES:

(1)	Krüger-Thier	ner, E.	Arch.	Dermatol.	Syphillis	<u>1942,</u>	183,	90-116.	

(2) Langecker, H. Arch. Exptl. Path. Pharmakol. <u>1948</u>, 205, 291-301.
 (3) Bandelin, F.J.; Malesh, W. J. Am. Pharm. Assoc., Sci. Ed. <u>1959</u>, 48, 177-81.

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COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(5-ethyl-	Durel, M. P.; Allinne, M.
1,3,4-thiadiazol-2-yl)- (sulfaethyl-	
thiadiazole); $C_{10}H_{12}N_4O_2S_2$; [94-19-9]	Bull. Soc. Med. Hop. Paris III
(2) Water; H_20 ; [7732-18-5]	<u>1941</u> , 251-9.
(1) (1201) (120)	
VARIABLES:	PREPARED BY:
One temperature: 37 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
	1
Solubility of sulfaethylthiadiazole in	water at 37°C is 0.40 g/liter
	.
$(1.41 \times 10^{-3} \text{ mol dm}^{-3}, \text{ compiler }).$	
AUXILIAN	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
A mixture of sulfaethylthiadiazole and	Source and purity of sulfaethylthiadiazole
water was agitated for 24 hours at 37°C.	were not specified.
water was agreated for 24 hours at 57 c.	
	Distilled water was used.
	j l
	۱. ۱
	ESTIMATED ERROR:
	Nothing and the second se
	Nothing specified.
	REFERENCES:
	ALFERLED;
	1
	1

COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(5-ethyl-	Langecker, H.
1,3,4-thiadiazol-2-yl)- (sulfaethyl-	Arch. Exptl. Path. Pharmakol. <u>1948</u> ,
thiadiazole); $C_{10}H_{12}N_4O_2S_2$;	205, 291-301.
[94-19-9]	
(2) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: 37°C	R. Piekos
EXPERIMENTAL VALUES:	
Colubility of outfoothetaite1- t-	water at 3790 da 60 ac"
Solubility of sulfaethylthiadiazole in	water at 3/~6 15 60 mg%
$(2.11 \times 10^{-3} \text{ mol dm}^{-3}, \text{ compiler }).$	
AUXILIARY	INFORMATION
ME THOD / APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
An excess of sulfaethylthiadiazole in water	Source and purity of the materials were
was boiled and left for 24 h in a vessel	not specified.
protected from access of CO ₂ . The concn	
of the sulfonamide was detd colorimetrically	
by the method of Bratton and Marshall (1)	
using a Havemann colorimeter (2), as well	
as by microanal detn of the solid residue.	
as by microanar dech of the solid residue.	
	ESTIMATED ERROR:
	Nothing specified.
]	
}	REFERENCES :
	1. Bratton, A. G.; Marshall, E. K., Jr.
	J. Biol. Chem. <u>1939</u> , 128, 537.
	2. Havemann, R. Klin. Wochenschr.
	<u>1940</u> , p. 503.

COMPANYING -	
COMPONENTS: (1) Benzenesulfonamide, 4-amino-N-(5-ethy)-	ORIGINAL MEASUREMENTS:
 Benzenesulfonamide, 4-amino-N-(5-ethyl- 1,3,4-thiadiazol-2-yl)- (sulfaethyl- 	Langecker, H.
thiadiazole); $C_{10}H_{12}N_4O_2S_2$; [94-19-9]	Arch. Exptl. Path. Pharmakol. <u>1948</u> ,
(2) Sodium chloride; NaCl; [7647-14-5]	205, 291-301.
(3) Water; H ₂ O; [7732-18-5]	
-	
VARIABLES:	PREPARED BY:
One temperature: 37 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfaethylthiadiazole	in a 0.9% w/w NaCl solution
at 37° C is 62 mg% (2.2 x 10^{-3} mol	dm^{-3} computer)
	dm , compiler).
AUXILIARY	INFORMATION
METHOD /APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
An excess of sulfaethylthiadiazole in the	Source and purity of the materials were
0.9% w/w NaCl soln was boiled for 1 h in a	not specified.
sealed ampul followed by keeping the ampul	
at 37 ⁰ C. The concn of the sulfonamide	
was assayed colorimetrically by the method	
of Bratton and Marshall (1) using a Havemann	
colorimeter (2), as well as by microanal	
detn of the solid residue.	
deth of the sofia festade.	ESTIMATED ERROR:
	Nothing specified.
	DEFEDENCIS.
	REFERENCES:
	1. Bratton, A. G.; Marshall, E. K., Jr.
	J. Biol. Chem. <u>1939</u> , 128, 537.
	2. Havemann, R. Klin. Wochenschr.
	<u>1940</u> , p. 503.
1	1

 Benzenesulfonamide, 4-amino-N-(5-ethyl- 1,3,4-thiadiazol-2-yl)- (sulfaethyl- thiadiazole); C10H12N402S2; [94-19-9] Phosphoric acid, disodium salt; Na2HP04; [7558-94-4] Water; H20; [7732-18-5] 	Krüger-Thiemer, E. Arch. Dermatol. Syphilis <u>1942</u> , 183, 90-116.
VARIABLES:	PREPARED BY:
One temperature: ca 20 ⁰ C; one pH: 8.74	R. Piekos
EXPERIMENTAL VALUES: Solubility of sulfaethylthiadiazole of pH 8.74 at room temperature (abo 10 ⁻² mol dm ⁻³ solution, compiler).	
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Sulfaethylthiadiazole (0.5 g) was dissolved	Sulfaethylthiadiazole was the product
in 10 cm^3 of the 0.705M (10%) $\mathrm{Na_2HPO_4}$ solu-	manufd by Schering under the name Globucid.
tion of pH 8.74, shaken for 2 h at room temp	
(about 20°C), and filtered. A 1-cm ³ aliquot	materials were not specified.
of the filtrate was withdrawn, cooled, aci- dified with 1 cm^3 of 2N HC1, and the sulfon-	
amide content was detd colorimetrically by	
the method of Marshall modified by Kimmig	
(1) using an Authenrieth colorimeter. The	ESTIMATED ERROR: Soly: precision ±5% (author).
pH was detd on an ultraionograph using a	Temp: not specified.
glass electrode.	pH : ±0.05 pH unit (author).
	REFERENCES :
	1. Kimmig, J. Arch. Dermatol. <u>1938</u> , 176 722: Frag. Hug. 1941 24
	176, 722; Erg. Hyg. <u>1941</u> , 24, 398.
4A—K	

ORIGINAL MEASUREMENTS:

COMPONENTS:

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COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(5-ethyl- 1,3,4-thiadiazol-2-yl)- (sulfaethyl-	Krüger-Thiemer, E.
thiadiazole); $C_{10}H_{12}N_4O_2S_2$; [94-19-9]	Arch. Dermatol. Syphilis <u>1942</u> , 183,
(2) Phosphoric acid, monopotassium salt; KH ₂ PO ₄ ; [7778-77-0]	90-116.
(3) Water; H ₂ O; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: ca 20 ⁰ C; one pH: 4.37	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of sulfaethylthiadiazole i	a 0 735M (10%) KH_PO, solution
	2 +
of pH 4.37 at room temperature (about	20 [°] C) is 0.0167 g% (5.87 x
10^{-4} mol dm ⁻³ solution, compiler).	
	· · · · ·
	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Sulfaethylthiadiazole (0.5 g) was dissolved	
in 10 cm ³ of the 0.735M (10%) KH_2PO_4 soln	manufd by Schering under the name Globucid.
of pH 4.37, shaken for 2 h at room temp	The source and purity of the remaining
(about 20 [°] C), and filtered. A 1-cm ³ aliquo	materials were not specified.
of the filtrate was withdrawn, cooled, aci-	
dified with 1 cm^3 of 2N HCl, and the sulform	1
amide content was detd colorimetrically by	
the method of Marshall modified by Kimmig	
(1) using an Authenrieth colorimeter. The	ESTIMATED ERROR: Soly: precision ±5% (author).
pH was detd on an utraiongraph using a	Temp: not specified.
glass electrode.	pH : ±0.05 pH unit (author)
	REFERENCES:
	1. Kimmig, J. Arch. Dermatol. <u>1938</u> ,
	176, 722; Erg. Hyg. <u>1941</u> , 24,
	398.

COMPONENTS:		ORIGINAL MEASUREMENTS:
 Benzenesulfonamide, 4-amino-N-(5-ethyl- 1,3,4-thiadiazol-2-yl)- (sulfaethyl- thiadiazole); C₁₀H₁₂N₄0₂S₂; [94-19-9] Phosphoric acid, disodium salt; Na₂HPO₄; [7558-94-4] Phosphoric acid, monopotassium salt; KH₂PO₄; [7778-77-0] Water; H₂0; [7732-18-5] VARIABLES: Temperature; pH 		Krüger-Thiemer, E. <i>Arch. Dermatol. Syphilis <u>1942</u>, 183,</i> 90-116.
		PREPARED BY:
		R. Piekos

EXPERIMENTAL VALUES:

Composition of 1/15M phosphate buffer solution			Solubility				
			— рН	Room temp (ca 20 ⁰ C)		37°C	
Na2HPO4	кн ₂ ро ₄	KH ₂ PO ₄ %Content		g%	10 ² mol dm ⁻³ solution ^a	g%	10 ² mol dm ⁻³ solution ^a
1.0	99.0	0.91	4.944	0.042	0.148	-	-
10.0	90.0	0.91	5.906	0.084	0.295	0.132	0.464
61.1	38.9	0.93	7.005	0.506	1.780	0.652	2.293
9.5	0.5	0.733 ^b	7.51	1.277	4.491	-	-
94.7	5.3	0.95	8.018	0.928	3.264	-	-

^aCalculated by compiler.

 b Molar content; 10% buffer solution.

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:	SOUR
Sulfaethylthiadiazole (0.5 g) was dissolve	d Sulf
in 10 cm ³ of a buffer soln, shaken for 2 h at 20° C (or left for 48 h at 37° C), and fi tered at respective temp. A 1-cm ³ aliquot	
of the filtrate was then withdrawn, cooled (dild for expts at 37° C), acidified with 1 cm ³ of 2N HCl, and the sulfonamide content was detd colorimetrically by the method of	l, mate
Marshall modified by Kimmig (1) using an Authenrieth colorimeter. The pH was detd on an ultraionograph using a glass electro	рH
	DEEL

SOURCE AND PURITY OF MATERIALS:
Sulfaethylthiadiazole was the product
manufd by Schering under the name Globucid.
The source and purity of the remaining
materials were not specified.

ESTIMATED ERROR: Soly: precision ±5 (author)					
Temp:	not specified				
рН :	±0.05 pH unit (author)				
REFERE	NCES:				
1. Ki	mmig, J. Arch. Dermatol. <u>1938</u> ,				
17	26, 722; Erg. Hyg. <u>1941</u> , 24,				
39	98.				

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COMPONENTS:			ORIGINAL MEASUREMENTS:
(1) Benzen	esulfonamide, 4-amino-N-(5-et)		Langecker, H.
	thiadiazol-2-yl)- (sulfaethy		
	azole); C ₁₀ H ₁₂ N ₄ O ₂ S ₂ ; [94-19· oric acid, disodium salt;	-21	Arch. Exptl. Path. Pharmakol. <u>1948</u> ,
	4; [7558-94-4]		205, 291-301.
(3) Phosph	oric acid, monopotassium salt	;	
(4) Water;	; [7778-77-0] H ₂ 0; [7732-18-5]		
VARIABLES:	n ₂ 0; (7732-18-5)		PREPARED BY:
VARIADLES:	рH		R. Piekos
	-		
EXPERIMENTAL	. VALUES:		
	pH of the 1/15M	9	Solubility at 37 ⁰ C
	phosphate buffer		
	phosphate ballet p	ng%	$10^3 \text{ mol } dm^{-3} a$
1			5.12
1		L46	5.13
1	5.9	146 ^b	5.13
	6.6	500	17.58
	7.1	510	21.45
	^a Calculated by compil	67	
	Garculated by compris		
	^b Measured at 20 ⁰ C.		
	AUXIL	IARY	INFORMATION
METHOD APPAI	RATUS/PROCEDURE:	·	SOURCE AND PURITY OF MATERIALS:
	of sulfaethylthiadiazole was a		
	soln and boiled for 1 h in a		not specified.
-	il followed by keeping the amp		
at 37°C. 1	The concn of the sulfonamide w	as	
detd colori	metrically by the method of		
Bratton and	l Marshall (1) using a Haveman	n	
colorimeter	(2), as well as by microanal	-	
	solid residue.		
			ESTIMATED ERROR:
			Nothing specified.
1			REFERENCES:
			1. Bratton, A. G.; Marshall, E. K., Jr.
1			J. Biol. Chem. <u>1939</u> , 128, 537.
			2. Havemann, R. Klin. Wochenschr.
1			1940, p. 503.
			, p
L			

COMPONENTS:	ORIGINAL MEASUREMENTS:
 Benzenesulfonamide, 4-amino-N-(5-ethyl- 1,3,4-thiadiazole-2-yl)- (sulfaethyl- thiadiazole); C₁₀H₁₂N₄O₂S₂; [94-19-9] Phosphoric acid, disodium salt; Na₂HPO₄; [7558-94-4] Phosphoric acid, monopotassium salt; KH₂PO₄; [7778-77-0] 	Bandelin, F. J.; Malesh, W. J. Am. Pharm. Assoc., Sci. Ed. <u>1959</u> , 48, 177-81.
(4) Water; H ₂ 0; [7732-18-5]	PREPARED BY:
VARIABLES: pH	R. Piekos

EXPERIMENTAL VALUES:

Solubility of sulfaethylthiadiazole 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 $37^{\circ}C$.

.	So1	ubility
Initial pH	mg/100 ml	mol dm ^{-3 a}
5.0	325	0.0114
5.5	465	0.0163
6.0	760	0.0267
6.5	2250	0.0791
7.0	5900	0.2075
7.5	7300	0.2567
8.0	17,000	0.5978

^aCalculated by compiler.

AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE: Solns were prepd by adding an excess of sul- faethylthiadiazole 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°C with gentle agitation for 24 h. The mixt was then filtered and a 1-ml aliquot was accurately pipetted into a volu- metric flask for diln and analysis. The ba-	were specified. Distilled water was used.
lance 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 stan- dard solutions.	<pre>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.</pre>

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200	
COMPONENTS: (1) Benzenesulfonamide, 4-amino-N-(5-ethyl-	ORIGINAL MEASUREMENTS:
1,3,4-thiadiazol-2-y1)- (sulfaethy1-	Riess, W.
thiadiazole); $C_{10}H_{12}N_4O_2S_2$; [94-19-9]	Intern. Congr. Chemotherapy, Proc.
(2) Phosphoric acid, disodium salt; Na ₂ HPO ₄ ; [7558-94-4]	3rd. Stuttgart <u>1963</u> , 1, 627-32.
 (3) Phosphoric acid, monopotassium salt; KH₂PO₄; [7778-77-0] 	
(4) Water; H ₂ 0; [7732-18-5]	PREPARED BY:
VARIABLES:	R. Piekos
One temperature: 20 ⁰ C; one pH: 7.4	KT TIENUS
EXPERIMENTAL VALUES:	
Solubility of sulfaethylthiadiazole in	n M/15 phosphate buffer (pH 7.4) at 20 ⁰ C
is 1500 mgZ (5.275 x 10^{-2} mol dm ⁻³ , co	ompiler).
	/
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS;
Sürensen buffer solns of pH varying between	Nothing specified.
7 and 8 were prepd, satd with sulfaethyl-	
thiadiazole at 20 ⁰ C, their pH was measured	
at equilibrium , and the sulfaethylthia-	
diazole was assayed colorimetrically. The	
measured pH values were plotted against	
concn, and the soly at pH 7.4 was detd by	
interpolation (personal communication).	
	ESTIMATED ERROR:
	Nothing specified.
	REFERENCES :
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COMPONENTS :			ORIGINAL MEASUREMENTS:	
(1) Benzenesulfonamide 1,3,4-thiadiazol-2			Hekster, Ch. A.; Vree,	Т. В.
thiadiazole); C ₁₀ H			Antibiotics Chemother.	<u>1982,</u> 31,
(2) Phosphoric acid, o Na ₂ HPO ₄ ; [7558-94	disodium salt 4-4]	:;	22-118.	
(3) Phosphoric acid, r KH ₂ PO ₄ ; [7778-77-	monopotassium -0]	n salt;		
(4) Water; H ₂ 0; [7]	732-18-8]		PREPARED BY:	
VARIABLES:			R. Piekos	
pH				
EXPERIMENTAL VALUES:				
		So	lubility at 25 ⁰ C	
	рН	mg/l	10^3 mol dm ⁻³ a	
	5.5	489	1.72	
	7.5 ^b	7,110	25.00	
		AUXILIARY	INFORMATION	
METHOD/APPARATUS/PROCE	DURE:		SOURCE AND PURITY OF MATE	RIALS:
The earlier developed	d method (1)	was used	Neither source nor the p	ourity of the
(personal communicati			materials was specified.	
sulfaethylthiadiazole				
phate buffers of pH	• •	•		
The concn of the solut				
means of a Spectra Ph		•		
formance liquid chron	•			
-				
a Model 748 column ov LC-UV spectrophotomet	-		ESTIMATED ERROR: Soly: the detection lim:	
			HPLC was 0.5 mg/1 The errors in temp and pl	
				-
			REFERENCES:	T D -
			1. Hekster, Y. A.; Vro	
			Damsma, J. E.; Fr:	
			J. Antimicrob. Che 8, 133.	emother. <u>1981</u> ,

COME	ONENTS:	ORIGINAL MEASUREMENTS:
(2)	Benzenesulfonamide, 4-amino-N-(5-ethyl- 1,3,4-thiadiazol-2-yl)- (sulfaethyl- thiadiazole); $C_{10}H_{12}N_4O_2S_2$; [94-19-9] Calcium chloride; CaCl ₂ ; [10043-52-4] Magnesium chloride; MgCl ₂ ; [7786-30-3] Phosphoric acid, monoammonium salt; NH ₄ H ₂ PO ₄ ; [7722-76-1] Potassium chloride; KCl; [7447-40-7]	Bandelin, F. J.; Malesh, W. <i>J. Am. Pharm. Assoc., Sci. Ed.</i> <u>1959</u> , 48, 177-81.
(6) (7) (8)	Sodium chloride; NaCl; $[7447-40-7]$ Urea; CH ₄ N ₂ O; $[57-13-6]$ Water; H ₂ O; $[7732-18-5]$	PREPARED BY: R. Piekos
	IABLES: pH at 37°C	
EXI	PERIMENTAL VALUES: Solublity of sulfaethylthiadiazole in a MgCl ₂ 0.121, NH ₄ H ₂ PO ₄ 0.300, KCl 1.660, (synthetic urine, Mosher Vehicle) at 37 ⁰	NaCl 2.950 and urea 20 g/dm ³

Solubility Equilibrium pH $10^2 \text{ mol/dm}^3 \text{ a}$ mg/100 m1 4.4 360 1.27 4.7 380 1.34 5.2 440 1.55 5.6 480 1.69 6.35 600 2.11 6.7 1875 6.59

^aCalculated by compiler.

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Excess sulfaethylthiadiazole 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	Nothing specified
sulfonamide was assayed spectrophotometri- cally by the method described by Biamonte and Schneller (1).	ESTIMATED ERROR: Soly: average values of 2 detns were given. Temp: not specified. pH : not specified.
	REFERENCES: 1. Blamonte, A. R.; Schneller, G. E. J. Am. Pharm. Assoc., Sci. Ed. <u>1952</u> , 41, 341.

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(5-ethyl-	
1,3,4-thiadiazol-2-yl)- (sulfaethyl-	Riess, W.
thiadiazole); C ₁₀ H ₁₂ N ₄ O ₂ S ₂ ; [94-19-9]	Intern. Congr. Chemotherapy, Proc.,
(2) Methane, trichloro- (chloroform);	3rd. Stuttgart <u>1963</u> , 1, 627-32.
CHCl ₃ ; [67-66-3]	
VARIABLES: One temperature: 20 ⁰ C	PREPARED BY: R. Piekos
one temperature: 20 C	K. Flekos
EXPERIMENTAL VALUES:	
Solubility of sulfaethylthiadiazole in	chloroform at 20 ⁰ C is 109 mg%
$(3.83 \times 10^{-3} \text{ mol dm}^{-3} \text{ solution, compi}$	ler).
	1
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Nothing specified.	Nothing specified.
	ESTIMATED ERROR:
	Nothing specified.
1	REFERENCES:
1	
}	
1	
	1 1

001/D01/01/07	
COMPONENTS: (1) Acetamide. N-[4[[(5-ethyl-1,3,4-thia-	ORIGINAL MEASUREMENTS:
	Durel, M. P.; Allinne, M.
diazol-2-yl)amino]sulfonyl]phenyl]-	Bull. Soc. Med. Hop. Paris III
(acetyl sulfaethylthiadiazole);	<u>1941</u> , 251-9.
$C_{12}H_{14}N_{4}O_{3}S_{2};$ [1037-51-0]	
(2) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	
	PREPARED BY:
One temperature: 37 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of acetyl sulfaethylthiadia	zole in water at 37°C is 0.20 g/liter
$(6.1 \times 10^{-4} \text{ mol dm}^{-3}, \text{ compiler }).$	
(6.1 x 10 ' mol dm ', compiler).	
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
A mixt of acetyl sulfaethylthiadiazole and	Source and purity of acetyl sulfaethyl-
water was agitated for 24 hours at 37°C.	thiadiazole was not specified.
	Distilled water was used.
	ļ
	ESTIMATED ERROR:
	Nothing specified.
	DEFEDENCIC.
	REFERENCES :
	1

(1) Acctanide, N=[4-[[(5-cthyl=1,3,4-thia- diazol=2-y1]amino]sulfonyl]phenyl]- (acetyl sulfactylthiadiazole); C12H14N4035; [1037-51-0] (2) Water; H_20; [7732-18-5] WARIABLES: pH	3	· · · · · · · · · · · · · · · · · · ·	ORIGINAL MEASUREMENTS:			ONENTS .	<u></u>
diazol-2-yl)amino]sulfonyl]phenyl]- (acetyl sulfacthylthiddiazolo); Cl2HidN40352; [1037-51-0] (2) Water; H_20; [7732-18-5] WARIABLES: pH <u>pH</u> <u>solubility at 37°C</u> <u>pH</u> <u>solubility at 37°C</u> <u>pH</u> <u>solubility at 37°C</u> <u>pH</u> <u>solubility at 37°C</u> <u>http://water/soluty.com/soluty.c</u>		3;		thy1-1,3,4- thia-	N-[4-[[(5-ethy		
(acetyl sulfaethylthiadiazole); C12H14N4Q0352; [1037-51-0] (205, 291-301. (205, 201. (205, 201. (205, 201. (201, 201, 201, 201, 201, 201, 201, 201,		b Dharmalial 10/9	•	ony1]pheny1]-)amino]sulfony	diazo1-2-yl)a	
C12H14N40332: [1037-51-0] (2) Water: H_0: [7732-18-5] VARIABLES: pH PH PH PH PH	<u>></u> ,	1. Fhaimakov. <u>1948</u> ,					
(2) Water; H ₂ 0; [7732-18-5] VARIABLES: pH PH PH Solubility at 37°C 6.0 5.2 10 ⁴ mol dm ⁻³ a 5.2 6.0 16 4 9 4 5.2 10 ⁴ mol dm ⁻³ a 5.2 12 3.7 6.0 16 4.9 a Calculated by compiler AUXILIARY INFORMATION METHOD/AFPARATUS/PROCEDURE: An excess of acetyl sulfaethylthiadiazole in water was boiled for 1 h in a sealed ampul followed by keeping the ampul at 37°C. Before the assaying, the solute was treated with 2.6N NaOH soln (1) to cleave the acetyl group and the sulfaethylthiadiazole was detd colorimetrically by the method of Bratt ton and Marshall (2) using a Havemann color rimeter (3), as well as by microanal detd of the solid residue. EFFERENCES: 1. Scudt, J.V. J. Lab. Clin. Med. 1940, 25, 404. <			200, 291-301.				
VARIABLES: pH PREPARED BY: R. Piekos PH Solubility at 37°C pH mgZ 10 ⁴ mol dm ^{-3 a} 5.2 12 3.7 6.0 16 4.9 AUXILIARY INFORMATION AUXILIARY INFORMATION AUXILIARY INFORMATION AUXILIARY INFORMATION METHOD/APPARATUS/PROCEDURE: A excess of acetyl sulfaethylthiadiazole in water was boiled for 1 h in a sealed ampul at 37°C. Before the assaying, the solute was treated with 2.6N NaOH soln (1) to cleave the acetyl group and the sulfaethylthiadiazole was detd colorimetrically by the method of Bratton and Marshall (2) using a Havemann colorimeter (3), as well as by microanal detd of the solid residue. REFERENCES: Station, A. G.; Marshall, E.K., JJ							(2)
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pH mgZ 10 ⁴ mol dm ^{-3 a} 5.2 12 3.7 6.0 16 4.9 a Calculated by compiler AUXILIARY INFORMATION AUXILIARY INFORMATION METHOD/APPARATUS/PROCEDURE: An excess of acetyl sulfaethylthiadiazole in water was boiled for 1 h in a sealed ampul at 37°C . Before the assaying, the solute was treated with 2.6N NaOH soln (1) to cleave the acetyl group and the sulfaethylthiadiazole was det colorimetrically by the method of Bratton and Marshall (2) using a Havemann colorimetrically by the method of Bratton (3), as well as by microanal detd of the solid residue. REFERENCES: 1. Scudi, J.V. J. Lab. Clin. Med. 25. 404. REFERENCES: 1. Scudi, J.V. J. Lab. Clin. Med. Stratton, A. G.; Marshall, E.K., JR							
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AUXILIARY INFORMATION AUXILIARY INFORMATION METHOD/APPARATUS/PROCEDURE: An excess of acetyl sulfaethylthiadiazole in water was boiled for 1 h in a sealed am- pul followed by keeping the ampul at 37°C. Before the assaying, the solute was treated with 2.6N NaOH soln (1) to cleave the acetyl group and the sulfaethylthiadiazole was detd colorimetrically by the method of Brat ton and Marshall (2) using a Havemann colo- rimeter (3), as well as by microanal detd of the solid residue. AUXILIARY INFORMATION SOURCE AND PURITY OF MATERIALS: Source and purity of the materials we not specified. ESTIMATED ERROR: Nothing specified. REFERENCES: Source and purity of the materials we not specified. Nothing specified. Source and purity of the materials we not specified. REFERENCES: Source and purity of the materials we not specified. Source and purity of the materials we addited of the solid residue. Source and purity of the materials we addited of the solid residue. Source and purity of the materials we addited of the solid residue. Source and purity of the materials we addited of the solid residue. Source and purity of the addited of the solid residue. Source and purity of the addited of the addited of the solid residue. Source and purity of the addited of the addited			3.7	12	5.2		
AUXILIARY INFORMATION METHOD/APPARATUS/PROCEDURE: An excess of acetyl sulfaethylthiadiazole in water was boiled for 1 h in a sealed am- pul followed by keeping the ampul at 37°C. Before the assaying, the solute was treated with 2.6N NaOH soln (1) to cleave the acetyl group and the sulfaethylthiadiazole was detd colorimetrically by the method of Brat- ton and Marshall (2) using a Havemann colo- rimeter (3), as well as by microanal detd of the solid residue. EFFERENCES: 1. Scudi, J.V. J. Lab. Clin. Med. 1940, 25, 404, 2. Bratton, A. G.; Marshall, E.K., JR			4.9	16	6.0		
AUXILIARY INFORMATION METHOD/APPARATUS/PROCEDURE: An excess of acetyl sulfaethylthiadiazole in water was boiled for 1 h in a sealed am- pul followed by keeping the ampul at 37°C. Before the assaying, the solute was treated with 2.6N NaOH soln (1) to cleave the acetyl group and the sulfaethylthiadiazole was detd colorimetrically by the method of Brat- ton and Marshall (2) using a Havemann colo- rimeter (3), as well as by microanal detd of the solid residue. EFFERENCES: 1. Scudi, J.V. J. Lab. Clin. Med. 1940, 25, 404, 2. Bratton, A. G.; Marshall, E.K., JR			······································		<u></u>		
METHOD/APPARATUS/PROCEDURE: SOURCE AND PURITY OF MATERIALS: An excess of acetyl sulfaethylthiadiazole source and purity of the materials we not specified. in water was boiled for 1 h in a sealed ampul followed by keeping the ampul at 37°C. Before the assaying, the solute was treated with 2.6N NaOH soln (1) to cleave the acetyl group and the sulfaethylthiadiazole was detd colorimetrically by the method of Bratton and Marshall (2) using a Havemann colorimeter (3), as well as by microanal detd Nothing specified. REFERENCES: 1. Scudi, J.V. J. Lab. Clin. Med. 1940, 25, 404. Bratton, A. G.; Marshall, E.K., Jr							
An excess of acetyl sulfaethylthiadiazole in water was boiled for 1 h in a sealed am- pul followed by keeping the ampul at 37°C. Before the assaying, the solute was treated with 2.6N NaOH soln (1) to cleave the acetyl group and the sulfaethylthiadiazole was detd colorimetrically by the method of Brat- ton and Marshall (2) using a Havemann colo- rimeter (3), as well as by microanal detd of the solid residue.			INFORMATION	AUXILIARY		<u> </u>	 ,
<pre>in water was boiled for 1 h in a sealed am- pul followed by keeping the ampul at 37°C. Before the assaying, the solute was treated with 2.6N NaOH soln (1) to cleave the acetyl group and the sulfaethylthiadiazole was detd colorimetrically by the method of Brat- ton and Marshall (2) using a Havemann colo- rimeter (3), as well as by microanal detd of the solid residue.</pre> State Stimated State S		MATERIALS:	SOURCE AND PURITY OF M		/PROCEDURE:	HOD/APPARATUS/P	METH
pul followed by keeping the ampul at 37°C. Before the assaying, the solute was treated with 2.6N NaOH soln (1) to cleave the acetyl group and the sulfaethylthiadiazole was detd colorimetrically by the method of Brat- ton and Marshall (2) using a Havemann colo- rimeter (3), as well as by microanal detd of the solid residue.	re	of the materials wer	Source and purity of	ethylthiadiazole	cetyl sulfaeth	excess of ace	An
pul followed by keeping the ampul at 37°C. Before the assaying, the solute was treated with 2.6N NaOH soln (1) to cleave the acetyl group and the sulfaethylthiadiazole was detd colorimetrically by the method of Brat- ton and Marshall (2) using a Havemann colo- rimeter (3), as well as by microanal detd of the solid residue.			not specified.	h in a sealed am-	oiled for 1 h	water was boil	in
Before the assaying, the solute was treated with 2.6N NaOH soln (1) to cleave the acetyl group and the sulfaethylthiadiazole was detd colorimetrically by the method of Brat- ton and Marshall (2) using a Havemann colo- rimeter (3), as well as by microanal detd of the solid residue. REFERENCES: 1. Scudi, J.V. J. Lab. Clin. Med. <u>1940</u> , 25, 404. 2. Bratton, A. G.; Marshall, E.K., Jr			-				
<pre>with 2.6N NaOH soln (1) to cleave the acetyl group and the sulfaethylthiadiazole was detd colorimetrically by the method of Brat- ton and Marshall (2) using a Havemann colo- rimeter (3), as well as by microanal detd of the solid residue. REFERENCES: 1. Scudi, J.V. J. Lab. Clin. Med. 1940, 25, 404. 2. Bratton, A. G.; Marshall, E.K., Jr</pre>							
group and the sulfaethylthiadiazole was detd colorimetrically by the method of Brat- ton and Marshall (2) using a Havemann colo- rimeter (3), as well as by microanal detd of the solid residue.						-	
detd colorimetrically by the method of Brat- ton and Marshall (2) using a Havemann colo- rimeter (3), as well as by microanal detd of the solid residue. REFERENCES: 1. Scudi, J.V. J. Lab. Clin. Med. <u>1940</u> , 25, 404. 2. Bratton, A. G.; Marshall, E.K., Jr				cleave the acetyl	soln (1) to c	th 2.6N NaOH so	wit
ton and Marshall (2) using a Havemann colo- rimeter (3), as well as by microanal detd of the solid residue.				niadiazole was	sulfaethylthia	oup and the su	gro
rimeter (3), as well as by microanal detd of the solid residue.		<u></u>	ESTIMATED ERROR:	the method of Brat-	rically by the	td colorimetrie	det
of the solid residue. REFERENCES: 1. Scudi, J.V. J. Lab. Clin. Med. <u>1940</u> , 25, 404. 2. Bratton, A. G.; Marshall, E.K., Jr			Nothing specified.	g a Havemann colo-	11 (2) using a	n and Marshall	tor
of the solid residue. 1. Scudi, J.V. J. Lab. Clin. Med. <u>1940</u> , 25, 404. 2. Bratton, A. G.; Marshall, E.K., Jr				v microanal detd	s well as by m	meter (3), as v	rin
J. Biol. Chem. <u>1939</u> , 128, 537 3. Havemann, R. <u>Klin. Wochenschr.</u> <u>1940</u> , p. 503.	•	Marshall, E.K., Jr. M. <u>1939</u> , <i>128</i> , 537. Klin. Wochenschr.	 Scudi, J.V. J. <u>1940</u>, 25, 404. Bratton, A. G.; J. Biol. Chem. Havemann, R. KI 		esidue.	the solid res	of

COMPONENTS: (1) Acetamide, N-[4-[[(5-ethyl-1,3,4-thia- diazol-2-yl)amino]sulfonyl]phenyl]- (acetyl sulfaethylthiadiazole); $C_{12}H_{14}N_40_3S_2$; [1037-51-0] (2) Phosphoric acid, disodium salt; Na_2HPO_4 ; [7558-94-4] (3) Water; H_20 ; [7732-18-5] VARIABLES: One temperature: ca 20°C; one pH: 8.74	ORIGINAL MEASUREMENTS: Krüger-Thiemer, E. Arch. Dermatol. Syphilis <u>1942</u> , 183, 90-116. PREPARED BY: R. Piekos
EXPERIMENTAL VALUES:	
Solubility of acetyl sulfaethylt	hiadiazole in a 0.705M (10%)
Na ₂ HPO ₄ solution of pH 8.74 at r	pom temperature (about 20 ⁰ C)
1s 1.840 gZ (5.637 x 10^{-2} mol du	n ⁻³ solution, compiler).
AUXILIARY	INFORMATION
ME THOD / APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
Acetyl sulfaethylthiadiazole (0.5 g) was dis-	- · · · · ·
solved in 10 cm ³ of the 0.705M (10%) Na_2HPO_4	specified) gave no coloration upon diazo-
soln, shaken for 2 h at room temp (about 20°	tization of its satd soln, thus showing
C), and filtered. The filtrate was treated with equal vol of 2N HC1, and refluxed for 15	absence of sulfaethylthiadiazole. The source and purity of the remaining materials
min. After proper diln, a $1-cm^3$ aliquot was	were not specified.
withdrawn, acidified, cooled, and the sulfon-	-
amide content was detd colorimetrically (as	
sulfaethylthiadiazole) by the Marshall method	ESTIMATED ERROR: Soly: precision ±5% (author).
modified by Kimmig (1) using an Authenrieth colorimeter. The pH was detd on an ultra-	Temp: not specified.
ionograph using a glass electrode.	pH : ±0.05 pH unit (author).
	REFERENCES:
	 Kimmig, J. Arch. Dermatol. <u>1938</u>, 176, 722; Erg. Hyg. <u>1941</u>, 24, 398.

COMP (1) (2) (3)	ONENTS: Acetamide, N-[4-[[(5-ethyl-1,3,4-thia- diazol-2-yl)amino]sulfonyl]phenyl]- (acetyl sulfaethylthiadiazole); $C_{12}H_{14}N_4O_3S_2$; [1037-51-0] Phosphoric acid, monopotassium salt; KH_2PO_4 ; [7778-77-0] Water; H_2O ; [7732-18-5]	ORIGINAL MEASUREMENTS: KrUger-Thiemer, E. Arch. Dermatol. Syphilis <u>1942</u> , 183, 90-116.
	ABLES: ne temperature: ca 20 ⁰ C; one pH: 4.37	PREPARED BY: R. Piekos
FYPE	RIMENTAL VALUES:	

Solubility of acetyl sulfaethylthiadiazole in a 0.735M (10%) $\rm KH_2PO_4$ solution of pH 4.37 at room temperature (about 20°C) is 0.0063 g% (1.9 x 10^{-4} mol dm⁻³ solution, compiler).

AUVITICARY	INFORMATION
NUNTLINKI	INFORMATION

METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Acetyl sulfaethylthiadiazole (0.5 g) was dis-	Acetyl sulfaethylthiadiazole (source not
solved in 10 cm^3 of the 0.735M (10%) KH_2PO_4	specified) gave no coloration upon diazo-
soln, shaken for 2 h at room temp (about 20°	tization of its satd soln, thus showing
C), and filtered. The filtrate was treated	absence of sulfaethylthiadiazole. The
with equal vol of 2N HCl and refluxed for 15	source and purity of the remaining mate-
min. After proper diln, a 1-cm ³ aliquot was	rials was not specified.
withdrawn, acidified, cooled, and the sulfon-	
amide content was detd colorimetrically (as	
sulfaethylthiadiazole) by the Marshall me-	ESTIMATED ERROR:
thod modified by Kimmig (1) using an Authen-	Soly: precision ±5% (author).
rieth colorimeter. The pH was detd on an	Temp: not specified.
ultraionograph using a glass electrode.	pH : ±0.05 pH unit (author).
	REFERENCES:
	1. Kimmig, J. Arch. Dermatol. <u>1938,</u>
	176, 722; Erg. Hyg. <u>1941</u> , 24,
	398.

COMP	ONENTS :	ORIGINAL MEASUREMENTS:
(1)(2)(3)	Acetamide, N-[4-[[(5-ethyl-1,3,4-thia- diazole-2-yl)amino]sulfonyl]phenyl]- (acetyl sulfaethylthiadiazole); $C_{12}H_{14}N_4O_3S_2$; [1037-51-0] Phosphoric acid, disodium salt; Na ₂ HPO ₄ ; [7558-94-4] Phosphoric acid, monopotassium salt; KH ₂ PO ₄ ; [7778-77-0]	Krüger-Thiemer, E. <i>Arch. Dermatol. Syphilis</i> <u>1942</u> , 183, 90-116.
(4)	Water; H ₂ O; [7732-18-5]	PREPARED BY:
VARI	ABLES: Temperature; pH	R. Piekos

EXPERIMENTAL VALUES:

Composition of 1/15M phosphate buffer solutions				Solubility			
		— рН	Room temp (ca 20 ⁰ C)		37°C		
Na ₂ HPO ₄	кн ₂ ро ₄	%Content		g%	10 ³ mol dm ⁻³ solution ^a	g%	10 ³ mol dm ⁻³ solution ^a
1.0	99.0	0.91	4.944	0.0128	0.392	-	-
10.0	90.0	0.91	5.906	0.0530	1.600	0.112	3.43
61.1	38.9	0.93	7.005	0.3910	12.0	0.750	22.98
9.5	0.5	0.733 ^b	7.51	1.1100	34.01	-	-
94.7	5.3	0.95	8.018	0.8790	26.9	-	-

^a Calculated by compiler

^b Molar content; 10% buffer solution

AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE: Acetyl sulfaethylthiadiazole (0.5 g) was dis- solved in 10 cm ³ of a buffer soln, shaken for 2 h at 20 ^o C (or left for 48 h at 37 ^o C), and filtered at respective temp. The filtrate was treated with equal vol of 2N HCl and reflux- ed for 15 min. After proper diln, a 1-cm ³ aliquot was withdrawn, acidified, cooled, and	specified) gave no coloration upon diazo- tization of its satd soln, thus showing absence of sulfaethylthiadiazole. The source and purity of the remaining mate- rials were not specified.
the sulfonamide content was detd colorime- trically (as sulfaethylthiadiazole) by the Marshall method modified by Kimmig (1) using an Authenrieth colorimeter. The pH was detd on an ultraionograph using a glass electrode.	ESTIMATED ERROR: Soly: precision ±5% (author). Temp: not specified. pH : ±0.05 pH unit (author). REFERENCES: 1. Kimmig, J. Arch. Dermatol. <u>1938,</u> 176, 722; Erg. Hyg. <u>1941</u> , 24, 398.

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Acetamide, N-[4-[(5-ethyl-1,3,4-thia- diazol-2-y1)amino]sulfonyl]phenyl]- (acetyl sulfaethylthiadiazole); $C_{12}H_{14}N_4O_3S_2$; [1037-51-0]	Bandelin, F. J.; Malesh, W. J. Am. Fharm. Assoc., Sci. Ed. 1959, 48, 177-81.
(2) Phosphoric acid, disodium salt; Na ₂ HPO ₄ ; [7558-94-4]	<u>1777</u> , 40, 177-01.
(3) Phosphoric acid, monopotassium salt; KH ₂ PO ₄ ; [7778-77-0]	
(4) Water; H_20 ; [7732-18-5]	PREPARED BY:
VARIABLES: pH	R. Piekos

EXPERIMENTAL VALUES:

Solubility of acetyl sulfaethylthiadiazole 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 $37^{\circ}C$.

		Solubility (based	on sulfaethylthiadiazole)
	Equilibrium pH	mg/100 ml	10^2 mol dm ⁻³ a
	4.5	140	0.492
	4.6	162	0.570
	5.2	212	0.745
	5.6	300	1.055
	6.2	510	1.794
	6.6	740	2.602
	6.8	1175	4.132

^a Calculated by compiler

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE: Solns were prepd by adding an excess of ace-	SOURCE AND PURITY OF MATERIALS: Neither source nor purity of the reagents		
tyl sulfaethylthiadiazole to 10 ml of buffer	were specified. Distilled water was used.		
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 sulfon-	4		
amide. One-ml aliquot of the hydrolyzate was			
accurately pipetted into a volumetric flask	ESTIMATED ERROR:		
for diln and analysis. The sulfonamide was	Soly: av values of ducplicate runs are re-		
assayed colorimetrically by the method of	ported (authors).		
Bratton and Marshall as described in detail	Temp and pH: not specified.		
by Biamonte and Schneller (1). A standard	REFERENCES:		
curve was prepd using accurately prepd stan-	1. Biamonte, A. R.; Schneller, G. E.		
dard solutions.	J. Am. Pharm. Assoc., Sci. Ed.		
	<u>1952</u> , <i>41</i> , 341.		

COMPONENTS :	ORIGINAL MEASUREMENTS:
 Acetamide, N-[4,[[(5-ethyl-1,3,4-thia-diazol-2-yl]amino]sulfonyl]phenyl]- (acetyl sulfaethylthiadiazole); C12H14N403S2; [1037-51-0] Phosphoric acid, disodium salt; Na2HP04; [7558-94-4] Phosphoric acid, monopotassium salt; KH2P04; [7778-77-0] 	
(4) Water; H ₂ 0; [7732-18-5]	PREPARED BY:
VARIABLES: pH	R. Piekos

EXPERIMENTAL VALUES:

		Solubility at 25 ⁰ C		
рН	mg/1	10^3 mol dm ⁻³ a		
5.5	392	1.20		
7.5 ^b	7,850	24.05		

^aCalculated by compiler

 $^{\rm b}{\rm Erroneous}$ pH value of 7.0 is given

in the article

AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS;
The earlier developed method (1) was used	Neither source nor the purity of the
(personal communication). Satd solns of ace-	materials was not specified.
tyl sulfaethylthiadiazole were prepd in phos-	
phate 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 spec-	
trophotometric detector.	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. <u>1981</u> , 8,
	133.

				3
d (2) (3) (4) (5) (5) (6) (7) U	Acetamide, N-[4-[(5-ethy Hazol-2-y1)amino]sulfon (acetyl sulfaethylthiadi $C_{12}H_{14}N_{4}O_{3}S_{2}$; [1037-51- Calcium chloride; CaCl ₂ ; Hagnesium chloride; MgCl ₂ Phosphoric acid, monoamm $H_{4}H_{2}PO_{4}$; [7722-76-1] Potassium chloride; KCl; Godium chloride; NaCl; Jrea; CH ₄ N ₂ O; [57-13-6]	y1]pheny1]- azole); 0] [10043-52-4] ; [7786-30-3] onium salt; [7447-40-7] [7647-14-5]	ORIGINAL MEASUREMEN Bandelin, F. J.; J. Am. Pharm. A <u>1959</u> , 48, 177-81. PREPARED BY: R. Pie	Malesh, W. 880c., Sci. Ed.
/ARIAB	Mater; H ₂ O; [7732-18-5 DLES: pH at 37 ^o C MENTAL VALUES:	J		
М	olubility of acetyl sul NgCl ₂ 0.121, NH4H2PO4 0. Drine, Mosher Vehicle) a	300, KC1 1.660,		· ·
	Equilbrium pH	mg/100 ml as sulfaethylt	olubility 10 ² mol dm ^{3 a} hiadiazole	
	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	
	^a Calculated	l by compiler		
METHO	D/APPARATUS/PROCEDURE:	AUXILIARY	INFORMATION SOURCE AND PURITY O	F MATERIALS:
Exce	ss acetyl sulfaethylthia to aliquots of synthetic			
1% H	3PO4 or 1% NaOH solns we	ere used to ad-		

H₃PO₄ or 1% NaOH solns were used just 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 spectrophoto-ESTIMATED ERROR: Soly: average values of 2 detns were given. metrically by the method described by Biamonte and Schneller (1). Before detn the Temp: not specified. soln was refluxed with 5% $\mathrm{H}_2\mathrm{SO}_4$ for 1 h to pH : not specified. liberate the free amino compound. **REFERENCES:**

pH : not specified.
REFERENCES:
1. Biamonte, A. R.; Schneller, G. E.
J. Am. Pharm. Assoc., Sci. Ed.
1952, 41, 341.

4A--L

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COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(5-propyl-	
1,3,4-thiadiazo1-2-y1);	Alric, R.; Puech, R.
$C_{11}H_{14}N_{4}O_{2}S_{2};$ [71119-32-9]	J. Pharmacol. (Paris) 1971, 2(2),
(2) Phosphoric acid, disodium salt;	141-54.
Na ₂ HPO ₄ ; [7558-94-4]	
(3) 1,2,3-Propanetricarboxylic acid, 2-hy-	
droxy- (citric acid); C ₆ H ₈ O ₇ ; [77-92-9]	
(4) Water; H ₂ O; [7732-18-5]	PREPARED BY:
VARIABLES:	
One temperature: 37 ^o C; one pH: 3.5	R. Piekos
EXPERIMENTAL VALUES:	
Intrinsic solubility ^a of 4-amino-N-(5-p	ronv1-1.3.4-thiadiazo1-2-v1)benzene-
	topyi ijsja eniduluzoi z jijbenzene
sulfonamide in a solution 0.025M in Na_2	HPO, and 0.05M in citric acid, of
-	
pH 3.5, at 37° C is (8.98 ± 0.23) x 10^{-1}	" mol liter".
^a Under "intrinsic solubility" a minimum	on the solubility $-$ pH curve
is meant which corresponds to the limit	
dissociated form of the sulfonamide.	
	1
	1
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
The soln was equilibrated for 48 h in a	SOURCE AND FURITI OF MATERIALS;
thermostat under occasional stirring. Sam-	Nothing specified.
ples were withdrawn through a $1-\mu$ membrane	
filter, dild with 0.155M NaOH soln to en-	
sure total dissocn of the sulfonamide,	
and its content was detd by UV spectrophoto-	
metry.	
metry.	
	ESTIMATED EPPOPA
	ESTIMATED ERROR: Solv: std error of 8 measurements was +0.23
	Soly: std error of 8 measurements was ±0.23 x 10 ⁻⁴ mol liter ⁻¹ (authors).
1	I XIV MOL LICEY - (AUCHORS).
1	pH : accuracy ±0.5 pH unit (authors).
	pH : accuracy ±0.5 pH unit (authors).
	pH : accuracy ±0.5 pH unit (authors). Temp: ±0.1 ^o C (authors).
	pH : accuracy ±0.5 pH unit (authors). Temp: ±0.1 ^o C (authors).
	pH : accuracy ±0.5 pH unit (authors). Temp: ±0.1 ^o C (authors).
	pH : accuracy ±0.5 pH unit (authors). Temp: ±0.1 ^o C (authors).
	pH : accuracy ±0.5 pH unit (authors). Temp: ±0.1 ^o C (authors).
	pH : accuracy ±0.5 pH unit (authors). Temp: ±0.1 ^o C (authors).

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COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-[5-(2- propy1)-1,3,4-thiadiazol-2-y1]-	Alric, R.; Puech, R.
$C_{11}H_{14}N_4O_2S_2;$ [80-34-2]	J. Pharmacol. (Paris) <u>1971</u> , 2(2),
(2) Phosphoric acid, disodium salt; Na ₂ HPO ₄ ; [7558-94-4]	141-54.
(3) 1,2,3-Propanetricarboxylic acid, 2-	
hydroxy- (citric acid); C ₆ H ₈ 07; [77-92-9]	
(4) Water; H_20 ; [7732-18-5]	PREPARED BY:
VARIABLES:	R. Piekos
One temperature: 37 ^o C; one pH: 4	
EXPERIMENTAL VALUES:	
Intrinsic solubility of 4-amino-N-[5-(2	2-propy1)-1,3,4-thiadiazo1-2-y1]benzene-
sulfonamide in a solution 0.025M in Na_2HE	PO_4 and 0.05M in citric acid, of pH 4,
at 37° C is (7.33 ± 0.20) x 10^{-4} mol 1	lter ⁻¹ .
^a Under "intrinsic solubility" a minimum	a on the solubility - pH curve
is meant which corresponds to the limit	ing concentration of the un-
dissociated form of the sulfonamide.	
	INFORMATION
	·····
METHOD/APPARATUS/PROCEDURE: The soln was equilibrated for 48 h in a	SOURCE AND PURITY OF MATERIALS:
thermostat under occassional stirring. Sam-	Nothing specified.
ples were withdrawn through a $1-\mu$ membrane	
filter, dild with 0.155M NaOH soln to ensure	
total dissocn of the sulfonamide, and its	
content was detd by UV spectrophotometry.	
	ESTIMATED ERROR:
	Soly: std error of 8 measurements was ± 0.20 x 10^{-4} mol liter ⁻¹ (authors).
	pH : accuracy ±0.5 pH unit (authors). Temp: ±0.1 ^o C (authors).
	REFERENCES:

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COMPONENTS: (1) Benzenesulfonamide, 4-amino-N-[5-butyl- 1,3,4-thiadiazol-2-yl]-; C ₁₂ H ₁₆ N ₄ O ₂ S ₂ ; [71119-31-8] (2) Phosphoric acid, disodium salt; Na ₂ HPO ₄ ; [7558-94-4] (3) 1,2,3-Propanetricarboxylic acid, 2- hydroxy- (Citric acid); C ₆ H ₈ O ₇ ; [77-92-9] (4) Water; H ₂ O; [7732-18-5] VARIABLES: One temperature: 37°C; one pH: 3.5 EXPERIMENTAL VALUES: Intrinsic solubility ^a of 4-amino-N-[5-b sulfonamide in a solution 0.025M in Na ₂ pH 3.5, at 37°C is (2.71 ± 0.06) x 10 ^a Under "intrinsic solubility" a minimum is meant which corresponds to the limid dissociated form of the sulfonamide.	PREPARED BY: R. Piekos putyl-1,3,4-thiadiazol-2-yl]benzene- HPO4 and 0.05M in citric acid, of -4 mol liter ⁻¹ .
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE: The soln was equilibrated for 48 h in a thermostat under occassional stirring. Sam- ples 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.	
	ESTIMATED ERROR: Soly: std error of 8 measurements was ±0.06 x 10 ⁻⁴ mol liter ⁻¹ (authors). pH : accuracy of ±0.5 pH unit (authors). Temp: ±0.1°C (authors). REFERENCES:

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	ONENTS:	ORIGINAL MEASUREMENTS:
(1)	<pre>Benzenesulfonamide, 4-amino-N-[5-(2-me- thyl-2-propyl)-1,3,4-thiadiazol-2-yl]-;</pre>	Alric, R.; Puech, R.
	$C_{12}H_{16}N_4O_2S_2;$ [535-65-9]	J. Pharmacol. (Paris) <u>1971</u> , 2(2),
	Phosphoric acid, disodium salt; Na ₂ HPO ₄ ; [7558-94-4]	141-54.
(3)	1,2,3-Propanetricarboxylic acid, 2-hydroxy- (citric acid); C ₆ H ₈ O ₇ ; [77-92-9]	
(4)	Water; H ₂ 0; [7732-18-5]	PREPARED BY:
VAR On	IABLES: le temperature: 37 ⁰ C; one pH: 3.5	R. Piekos
EXPE	ERIMENTAL VALUES:	
	Intrinsic solubility ^a of 4-amino-N-[5-(2-y1]benzenesulfonamide in a solution (acid, of pH 3.5, at 37 ^o C is (1.82 ± 0. ^a Under "intrinsic solubility" a minimum is meant which corresponds to the limi dissociated form of the sulfonamide.	0.025M in Na ₂ HPO ₄ and 0.05M in citric 05) x 10^{-4} mol liter ⁻¹ .
	AUXILIARY	INFORMATION
MET	HOD /APPARATUS / PROCEDURE :	SOURCE AND PURITY OF MATERIALS:
Th	e soln was equilibrated for 48 h in a	Nothing specified.
th	ermostat under occassional stirring. Sam-	
p1	es were withdrawn through a 1−µ membrane	
fi	lter, dild with 0.155M NaOH soln to ensure	
to	tal dissocn of the sulfonamide, and its	
1	ntent was detd by UV spectrophotometry.	
1		
		ESTIMATED ERROR:
		Soly: std error of 8 measurements was ± 0.05 x 10^{-4} mol liter ⁻¹ (authors).
ſ		pH : accuracy ±0.5 pH unit (authors).
		Temp: ±0.1 ^o C (authors).
		REFERENCES :
1		
1		
1		

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COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(5-pentyl-	
1,3,4-thiadiazo1-2-y1)-; C ₁₃ H ₁₈ N ₄ O ₂ S ₂ ;	Alric, R.; Puech, R.
[71119-30-7] (2) Phosphoric acid, disodium salt;	J. Pharmacol. (Paris) <u>1971</u> , 2(2),
Na_2HPO_4 ; [7558-94-4]	141-54.
(3) 1,2,3-Propanetricarboxylic acid, 2-hydroxy- (citric acid); C ₆ H ₈ O ₇ ;	
[77-92-9] (4) Water; H ₂ 0; [7732-18-5]	PREPARED BY:
VARIABLES:	
One temperature: 37°C; one pH: 3.5	R. Piekos
EXPERIMENTAL VALUES:	
,	
Intrinsic solubility ^a of 4-amino-N-(5-p	enty1-1,3,4-thiadiazo1-2-y1)benzene-
sulfonamide in a solution of 0.025M in	Na-HPO, and 0.05M in citric sold
of pH 3.5, at 37 ⁰ C is (1.12 ± 0.04) x	10^{-4} mol liter ⁻¹ .
^a Under "intrinsic solubility" a minimum	on the solubility - pH curve is
meant which corresponds to the limiting	concentration of the undissociated
form of the sulfonamide.	
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
The soln was equilibrated for 48 h in a	Nothing specified.
thermostat under occasional stirring. Sam-	
ples 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.	
	ESTIMATED ERROR:
	ESTIMATED ERROR: Soly: std error of 8 measurements was ±0.04
	Soly: std error of 8 measurements was ± 0.04 x 10^{-4} mol liter ⁻¹ (authors).
	Soly: std error of 8 measurements was ±0.04 x 10 ⁻⁴ mol liter ⁻¹ (authors). Temp: ±0.1 ^o C (authors).
	Soly: std error of 8 measurements was ±0.04 x 10 ⁻⁴ mol liter ⁻¹ (authors). Temp: ±0.1 ^o C (authors). pH : accuracy ±0.5 pH unit (authors).
	Soly: std error of 8 measurements was ±0.04 x 10 ⁻⁴ mol liter ⁻¹ (authors). Temp: ±0.1 ^o C (authors). pH : accuracy ±0.5 pH unit (authors).
	Soly: std error of 8 measurements was ±0.04 x 10 ⁻⁴ mol liter ⁻¹ (authors). Temp: ±0.1 ^o C (authors). pH : accuracy ±0.5 pH unit (authors).
	Soly: std error of 8 measurements was ±0.04 x 10 ⁻⁴ mol liter ⁻¹ (authors). Temp: ±0.1 ^o C (authors). pH : accuracy ±0.5 pH unit (authors).

COMPONENTS :	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-[5-(3-me- thylbutyl)-1,3,4-thiadiazol-2-yl]-;	Alric, R.; Puech, R.
$C_{13}H_{18}N_4O_2S_2$; [71119-29-4]	J. Pharmacol. (Paris) 1971, 2(2),
(2) Phosphoric acid, disodium salt;	141-54.
Na ₂ HPO ₄ ; [7558-94-4]	141-24.
<pre>(3) 1,2,3-Propanetricarboxylic acid, 2-hydroxy- (citric acid); C₆H₈O₇;</pre>	
[77-92-9]	
(4) Water; H ₂ 0; [7732-18-5]	PREPARED BY:
VARIABLES:	R. Piekos
One temperature: 37°C; one pH: 3.5	
EXPERIMENTAL VALUES:	
Intrinsic solubility ^a of 4-amino-N-[5-(3	3-methylbutyl)-1,3,4-thiadiazol-
2-y1]benzenesulfonamide in a solution 0.	.025M in Na_2HPO_4 and 0.05M in
citric acid, of pH 3.5, at 37°C is (0.5	90 ± 0.06) x 10^{-4} mol liter ⁻¹ .
}	
^a Under "intrinsic solubility" a minimum	on the colubility of even
Under intrinsic solubility a minimum	on the solubility - ph curve
is meant which corresponds to the limit	ing concentration of the
undissociated form of the sulfonamide.	
and is sociated form of the barronamider	
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
The soln was equilibrated for 48 h in a	
thermostat under occasional stirring. Sam-	Nothing specified.
ples were withdrawn through a $1-\mu$ membrane	
filter, dild with 0.155M NaOH soln to ensure	
total dissocn of the sulfonamide, and its	
content was detd by UV spectrophotometry.	
1	
	ESTIMATED ERROR:
	Soly: std error of 8 measurements was
	$\pm 0.06 \times 10^{-4}$ mol liter ⁻¹ (authors). pH : accuracy ± 0.5 pH unit (authors).
	Temp: $\pm 0.1^{\circ}C$ (authors).
	REFERENCES :

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COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-amino-N-(5-amino-	Anderson, G. W.; Faith, H. E.; Marson, H.W.
1,3,4-thiadiazo1-2-y1)-;	Winnek, P. S.; Roblin, R. O. Jr.
C ₈ H ₉ N ₅ O ₂ S ₂ ; [71119-25-0]	J. Am. Chem. Soc. <u>1942</u> , 64, 2902–5.
(2) Water; H ₂ 0; [7732-18-5]	
(2) water, w20, [//32 10 5]	
VARIABLES:	PREPARED BY:
One temperature: 37 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of 4-amino-N-(5- amino-1,3,4	
sulfonamide in water at 37 ⁰ C is 36.3 mg	g/100 cm ³ solution
$(1.34 \times 10^{-3} \text{ mol dm}^{-3}, \text{ compiler}).$	
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Excess sulfonamide in water was heated and	The sulfonamide, mp 259 ⁰ C (cor), was
stirred on a steam bath for 30 min. The	prepd by the authors. Anal. %C 35.3
suspension was then agitated for 24 h in a	(calcd 35.4); %H 3.5 (3.7); %N 25.5
thermostat. A sample of the satd soln was	(25.8). Purity of the water was not
withdrawn through a glass filter, dild, and	specified.
analyzed by the Marshall method (1) using	
a General Electric recording spectrophoto-	
meter for comparing the colors developed	
with those of the standards.	ESTIMATED ERROR:
	Nothing specified.
	REFERENCES:
	1. Bratton, A. C.; Marshall, E. K. Jr.
	J. Pharmacol. 1939, 66, 4.
	·

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Benzenesulfonamide, 4-(4,5-dihydro-3-	Roblin, R. O., Jr.; Williams, J. H.;
methy1-5-oxo-1H-pyrazo1-1-y1)-;	Winnek, P. S.; English, J. P.
C ₁₀ H ₁₁ N ₃ O ₃ S; [13269-73-3]	J. Am. Chem. Soc. <u>1940</u> , 62, 2002-5.
(2) Water; H ₂ 0; [7732-18-5]	
VARIABLES:	PREPARED BY:
One temperature: 37 ⁰ C	R. Piekos
EXPERIMENTAL VALUES:	
Solubility of 4-(4,5-dihydro-3-meth	y1-5-oxo-1H-pyrazo1-1-y1)benzene-
sulfonamide in water at 37 ⁰ C is 45.	9 mg/100 cm ³ solution (1.81 x
10^{-3} mol dm ⁻³ , compiler).	
10 ° mol dm °, compiler).	
AUXILIARY	INFORMATION
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Excess sulfonamide in water was heated and	The sulfonamide, mp 166-7 ⁰ C (cor), was
stirred on a steam bath for 30 min. The sus-	
pension was then agitated for 24 h in a ther	
mostat at 37°C. A sample of the satd soln was	(16.6).
withdrawn through a glass filter, dild, and	Purity of the water was not specified.
analyzed by the Marshall method (1) using	
a General Electric recording spectrophoto-	
meter for comparing the colors developed	
with those of the standards.	ESTIMATED ERROR:
	Nothing specified.
	REFERENCES :
	1. Bratton, A. C.; Marshall, E. K., Jr.
	J. Pharmacol. <u>1939</u> , 66, 4.

SYSTEM INDEX

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Acetamide, N-[[4-(acetylamino)phenyl]sulfonyl]-N-(3.4-dimethyl-
5-isoxazolvl)-
                                                                          101
          + water
Acetamide, N-[[4-(acetylamino)phenyl]sulfonyl]-N-(3,4-dimethyl-
5-isoxazolyl)-, (aq)
           + phosphoric acid, disodium salt
                                                                          101
          + phosphoric acid, monopotassium salt
                                                                          101
Acetamide, N-[[4-(acetylamino)phenyl]sulfonyl]-N-(4-methoxy-
1,2,5-thiadiaxol-3-yl)-
                                                                          255
          + water
Acetamide, N-[[4-(acetylamino)phenyl]sulfonyl]-N-(4-methoxy-
1,2,5-thiadiaxol-3-yl)-, (aq)
           + phosphoric acid, disodium salt
                                                                          255
          + phosphoric acid, monopotassium salt
                                                                          255
Acetamide, N-[(4-aminophenyl)sulfonyl]-N-(3,4-dimethyl-5-isoxazolyl)-,(ag)
          + 1,2-benzenedicarboxylic acid, monopotassium salt
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          + phosphoric acid, monopotassium salt
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          + sodium hydroxide
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Acetamide, N-[(4-aminophenyl)sulfonyl]-N-(4-methoxy-
1,2,5-thiad1azol-3-y1)-, (aq)
          + phosphoric acid, disodium salt
                                                                          253
          + phosphoric acid, monopotassium salt
                                                                          253
          + water
                                                                          253
Acetamide, N-[(4-aminophenyl)sulfonyl]-N-(5-methyl-3-isoxazolyl)-,(aq)
          + phosphoric acid, disodium salt
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          + sodium chloride
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                                                                        61-63
          + water
Acetamide, N-[4-[((3,4-dimethyl-5-isoxazolyl)-amino]sulfonyl]phenyl]-
          + trichloromethane
                                                                          100
          + water
                                                                        96-99
Acetamide, N-[4-[[(3,4-dimethyl-5-isoxazolyl)~amino]sulfonyl]phenyl]-,(aq)
                                                                           99
          + calcium chloride
                                                                           98
          + 2-hydroxy-1,2,3-propanetricarboxylic acid
                                                                           99
          + magnesium chloride
          + phosphoric acid, monoammonium salt
+ phosphoric acid, disodium salt
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                                                                        96-98
          + phosphoric acid, monopotassium salt
                                                                       96, 97
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          + potassium chloride
          + sodium chloride
                                                                           99
          + urea
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Acetamide, N-[4-[[(5-ethyl-1,3,4-thiadiazol-2-yl)amino]sulfonyl]-
phenyl]-
                                                                      302-309
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phenyl]-, (aq)
                                                                          309
          + calcium chloride
          + magnesium chloride
                                                                          309
                                                                 304, 306-308
          + phosphoric acid, disodium salt
          +
            phosphoric acid, monoammonium salt
                                                                          309
                                                                      305-308
          + phosphoric acid, monopotassium salt
          + potassium chloride
                                                                          309
                                                                          309
          + sodium chloride
                                                                          309
          + urea
Acetamide, N-[4-[[(4-methoxy-1,2,5-thiadiazol-3-yl)amino]sulfonyl]-
phenyl]-, (aq)
                                                                          254
          + phosphoric acid, disodium salt
          + phosphoric acid, monopotassium salt
                                                                          254
                                                                          254
          + water
Acetamide, N-[4-[[(5-methyl-3-isoxaxolyl)amino]sulfonyl]phenyl]-
                                                                           63
          + water
Acetamide, N-[4-[[(5-methyl-3-isoxaxolyl)amino]sulfonyl]phenyl]-, (aq)
                                                                           63
          + phosphoric acid, disodium salt
            phosphoric acid, monopotassium salt
                                                                           63
Acetamide, N-[4-[((5-methyl-1,3,4-thiadiazol-2-yl)amino]sulfonyl]-phenyl]-
          + water
                                                                      282-288
Acetamide, N-[4-[[(5-methyl-1,3,4-thiadiazol-2-yl)amino]sulfonyl]-
phenyl]-, (aq)
          + calcium chloride
                                                                          288
                                                                          288
          + magnesium chloride
          + phosphoric acid, disodium salt
                                                                 283, 285-287
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Acetamide, N-[4-[(5-methyl-1,3,4-thiadiazol-2-yl)amino]sulfonyl]-
phenyl]-, (aq)
           + phosphoric acid, monoammonium salt
                                                                         288
           + phosphoric acid, monopotassium salt
                                                                     284-287
            potassium chloride
                                                                         288
           + sodium chloride
                                                                         288
           + urea
                                                                         288
Acetamide, N-[4-[[(4-methyl)-2-thiazolylamino]sulfonyl]phenyl]-
           + water
                                                               E239, 240-245
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           + phosphoric acid, disodium salt
                                                                    243, 245
           + phosphoric acid, monopotassium salt
                                                                    244, 245
Acetamide, N-[4-[(2-thiazolylamino)sulfonyl]phenyl]-, (aq)
           + phosphoric acid, disodium salt
                                                                223, 225-229
           + phosphoric acid, monopotassium salt
                                                                     224-229
           + sodium hydroxide
                                                                         222
           + water
                                                                     219-229
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             N-(3,4-dimethyl-5-isoxazolyl)-
N-[[4-(Acetylamino)phenyl]sulfonyl]-N-(4-methoxy-1,2,5-thiadiaxol-3-yl)
acetamide
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             N-(3,4-dimethyl-5-isoxazolyl)-
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             N-(3,4-dimethyl-5-isoxazolyl)-
Acetylsulfadimethylisoxazole
         see acetamide, N-[4-[[(3,4-dimethyl-5-isoxazolyl)-amino]sulfonyl]-
             phenyl]-
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         see acetamide, N-[4-[[(5-ethyl-1,3,4-thiadiazol-2-yl)amino]-
             sulfonyl]-phenyl]-
N4-Acetylsulfafurazole
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             phenyl]-
Nl-Acetyl sulfametrole
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             1,2,5-thiadiazol-3-yl)-
N4-Acetyl sulfametrole
         see acetamide, N-[4-[[(4-methoxy-1,2,5-thiadiazol-3-yl)amino]-
             sulfonyl]-phenyl]-
N4-Acetylsulfamethizole
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             sulfonyl]-phenyl]-
Acetylsulfamethoxazole
         see acetamide, N-[4-[[(5-methyl-3-isoxaxolyl)amino]sulfonyl]phenyl]
N4-Acetylsulfamethoxazole
         see acetamide, N-[4-[[(5-methyl-3-isoxaxolyl)amino]-
             sulfonyl]phenyl]-
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         see acetamide, N-[4-[[(5-methyl-3-1soxaxolyl)amino]sulfonyl]phenyl]
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         see acetamide, N-[4-[[(5-methyl-1,3,4-thiadiazol-2-yl)amino]-
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Acetyl sulfamethylthiazole
         see acetamide, N-[4-[[(4-methyl)-2-thiazolylamino]sulfonyl]phenyl]-
Acetylsulfathiazole
         see acetamide, N-[4-[(2-thiazolylamino)sulfonyl]phenyl]-
N4-Acetylsulfismezole
         see acetamide, N-[4-[[(5-methyl-3-isoxaxolyl)amino]sulfonyl]phenyl]
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N'-Acetylsulfisoxazole
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               3-isoxazolyl)-
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                                                                      250
           ⊦ water
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                                                                      312
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                                                                      312
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                                                                      312
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                                                                      103
          + trichloromethane
          + water
                                                                      102
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          + trichloromethane
                                                                 246, 247
          + water
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1,3,4-th1adiazol-2-yl)-, (aq)
          + 2-hydroxy-1,2,3-propanetricarboxylic acid
                                                                      313
          + phosphoric acid, disodium salt
                                                                      313
Benzenesulfonamide, 4-amino-N-(3,4-dimethyl-5-isoxazolyl)-
                                                                       91
          + acetic acid, ethyl ester
          + 1-butanol
                                                                       85
          + 1-decanol
                                                                       88
                                                             E64, 82,
                                                                       83
          + ethanol
          + 1-etheny1-2-pyrrolidinone polymer
                                                                       90
                                                                       89
          + 2-ethoxyethanol
          + methanol
                                                                       81
          + 1-octanol
                                                                       87
                                                                       86
          + 1-pentanol
          + 1-propanol
                                                                       84
                                                                   92, 93
          + trichloromethane
                                                              E64, 65-80
          + water
Benzenesulfonamide, 4-amino-N-(3,4-dimethyl-5-isoxazolyl)- (aq)
          + calcium chloride
                                                                       76
                                                                   70,
          + carbonic acid, disodium salt
                                                                      71
          + carbonic acid, monosodium salt
                                                                   69,
                                                                       71
                                                                       68
          + hydrochloric acid
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+ 2-hydroxy-1,2,3-propanetricarboxylic acid	77-79	
+ magnesıum chloride	76	
+ phosphoric acid, disodium salt 72-75	, 78, 79	
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+ sodium chloride	76	
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+ urea	76	
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	300 295-299	
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+ water	- 252	
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+ phosphoric acid, monopotassium salt	252	
Benzenesulfonamide, 4-amino-N-[5-(3-methylbuty)]-		
1,3,4-thiadiazol-2-yl)-, (aq) + 2-hydroxy-1,2,3-propanetricarboxylic acid	315	
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+ glucose	39	

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Benzenesulfonamide, 4-amino-N-(5-methyl-3-isoxazolyl)-, (aq)
          + 1,4,7,10, 13, 16-hexaoxacyclooctadecane
                                                                        36
          + hydrochloric acid
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          + mannitol
          + phosphoric acid, disodium salt
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                                                                        10
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                                                                         9
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                                                                       (ag)
          + phosphoric acid, disodium salt
                                                                         q
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              sulfonyl]phenyl]-
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Pancid			-amino-N-(3,4-dimethyl-5-isoxazolyl)
PASIT			
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		benzenesulfonamide, 4- 1,3,4-thiadiazol-2-yl)	-amino-N-(5-propyl-
N1-(5-Iso	prop	yl-1,3,4-thiadiazol-2-y	/l)sulfanilamide
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Radonil			
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Rolsul		lH-pyrazol-5-yl)-	
	see	<pre>butanoic acid, 4-oxo-4 sulfonyl]phenyl]amino]</pre>	4-[[4-[(2-thiaxolylamino)-]-
Roxosul	566		-amıno-N-(3,4-dimethyl-5-isoxazolyl)-
RP 146			
RP 2145			-amino-N-(4-methyl-2-thiazolyl)-
	see	<pre>benzenesulfonamide, 4- 1,3,4-th1adiazol-2-yl)</pre>	
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Rufol		1,3,4-thiadiazol-2-yl]	
RUIDI	see	benzenesulfonamide, 4-	-amino-N-(5-methyl-
		1,3,4-thiadiazol-2-yl)) -
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SETD			-
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