

GUIDE FOR AUTHORS

(Revised—April 1974)

Policy. The *Journal of Chemical and Engineering Data* is a quarterly directed to the publication of experimental or, in some cases, derived data in sufficient detail to form a working basis for applying the information to scientific or engineering objectives. Experimental methods should be referenced or described in enough detail to permit duplication of the data by others familiar with the field. Published or standardized procedures and their simple modifications need not be described, but a readily available reference should be cited. The data should be presented with such precision that information may be easily obtained from the paper within the stated limits of uncertainty of the experimental background. For most studies, a tabular or a mathematical description is preferred to the use of graphical representation. Graphical depiction should be used primarily to portray the effect of the independent variables upon the behavior. A measure of statistical agreement of smoothed data with the experimental background should be included.

Scope. The subject matter of the Journal may be conveniently divided into four categories, each covering a specific portion of the technical data of interest in the fields of chemistry and chemical engineering.

Experimental or, in some cases, derived data relating to pure compounds or mixtures are included. The data usually are reported for a range of states. Quantitative results in the fields of phase equilibria, thermal or material transport, and thermodynamics are examples of the subject matter.

Manuscripts based on published experimental data will be considered. A description of the methods employed in establishing the reported properties should be included along with a statistical statement of the accuracy. There must be a significant and tangible contribution resulting from the reorganization, coordination, or systematic presentation of such available experimental information. Methods of predicting properties of pure substances or mixtures fall in this category.

Data based on experiment to aid in the identification or in the utilization of new or little known organic or inorganic compounds are suitable for publication. Such information need not cover a range of states if it satisfies the requirements for accuracy that are associated with the identification or the utilization of the material in question. Measurements of fundamental physical properties such as density, viscosity, index of refraction, and limited critically chosen spectroscopic records are examples.

Specific comment on the way in which the data have been obtained and the significance of such data should be included. Discussion of theory and preparative detail and techniques may or may not be appropriate to the objectives of the manuscript. Comment on new procedures or on standardized organic procedures may also be appropriate. Extensive tabulation of ultimate analyses and standardized preparative details should be provided as appended tables and descriptive material to be deposited with the ACS Depository Service in connection with the ACS Primary Publications on Microfilm program.

Papers relating primarily to newly developed or novel synthesis of compounds will be considered. Sufficient experimental data of established accuracy concerning the properties of the compound in question must be included to identify the material. Manuscripts pertaining to the synthesis of organic compounds will be published in a separate section entitled "Organic."

The following manuscript preparation guide is published to aid authors in writing and editors in expediting review and publication.

Title. Use specific and informative titles. A main title and a subtitle are preferred to one lengthy title.

Abstract. Provide an abstract for all papers (preferably not to exceed 16 to 20 typewritten lines) presented in a findings-oriented format—that is, one in which the first sentence is a succinct, informative summation of the most important results and conclusions. The remainder should highlight pertinent supporting details, related findings, type or classes of compounds investigated, and methods used. The abstract should be self-contained for direct use in *Chemical Abstracts*.

Authorship. Be consistent in authorship designation. Given name and initial of second name are generally adequate for correct identification. Omit titles. Give complete mailing address of place where work was conducted. If current address is different, include it in a footnote on title page of article. Indicate author to whom all correspondence should be sent.

Text. Give essential information in a concise fashion. Avoid wordiness and unnecessary detail. Avoid unnecessary duplication in text, tables, and graphs. Incorporate footnotes in text.

Tables. Raw Data. *JCED* exists to publish actual data. However, the author must limit the entries in a table to a useful number. For example, multiple measurements can be expressed as a mean, with a statement giving deviation. The authors are encouraged to submit unsmoothed experimental data if, in the authors' opinion, such information enhances the lasting value of the contribution.

Smoothed Data. Smoothed data tables are published if they cannot be expressed as an equation, and if they serve a purpose beyond that of the raw data. For example, tables of raw thermodynamic data are usually very difficult to use. Entries in smoothed data tables should be kept to the minimum required for accurate interpolation.

Figures and Graphs. *JCED* frequently publishes graphs of data even when they repeat tables. When data points are shown on such graphs, they should be unsmoothed, so as not to give a false impression of experimental accuracy and curve fit. Charts should be in such form as to be useful in engineering calculations. Whenever possible they will be published in large enough size to be read to at least ordinary engineering accuracy. Should space become a critical problem, we would choose tables in preference to graphs to provide greater accuracy.

Supplementary Material. Occasionally manuscripts include extensive tables, graphs, spectra, mathematical material, or other "supplementary material" which is of value primarily to those readers who need all of the data or all of the detail. The journals of the American Chemical Society have instituted a policy of including such supplementary material in the microfilm editions which are becoming available in many libraries. Subscribers to the microfilm editions also receive the supplementary material on microfiche cards as each issue of a journal becomes available. Alternatively, interested readers may obtain the microfiche material directly at nominal cost. The supplementary material is abstracted and indexed by "Chemical Abstracts."

Authors are encouraged to make use of this resource in the interests of shorter articles as well as clearer and more readable presentation. Supplementary material for inclusion in the microfilm edition should accompany each copy of a paper at

the time of its original submission to an editor. Authors' attention is directed to the following specifications. (1) Material to be deposited should be identified as to content, manuscript title, and author, and must be in a form easily handled for photo-reproduction. (2) The paper on which the supplementary material is displayed should preferably be 8½ × 11 in. in dimensions. Maximum acceptable paper size is 18 × 11 in. (3) Original typed sheets are preferable to carbon or Xerox copies. A good clear, contrasty copy is acceptable, however, if the individual characters are clean. Likewise, computer printouts are acceptable if the individual figures are each clearly legible. (4) Minimum character size: in no case should the size of the smallest character on a sheet of supplementary material be less than 1.5 mm. (5) Figures and illustrative material must be glossy prints. (6) Refer to the supplementary material in the text where appropriate and include a paragraph at the end of the paper indicating the nature of the supplementary material and ordering information for obtaining copies of the material. An example follows.

Supplementary Material Available. The complete Table I will appear following these pages in the microfilm edition of this volume of the journal. Photocopies of the supplementary material from this paper only or microfiche (105 × 148 mm, 24X reduction, negatives) containing all of the supplementary material for the papers in this issue may be obtained from the Journals Department, American Chemical Society, 1155 16th St., N.W., Washington, D.C. 20036. Remit check or money order for \$3.00 for photocopy or \$2.00 for microfiche, referring to code number JCED-000-000.

Nomenclature. Follow the nomenclature recommendations found in publications of the ACS Committee on Nomenclature or the appropriate international organizations. If trade names are used, define at point of first use. Trade names should carry an initial capital only, with no accompanying footnote.

This journal will publish papers which use any commonly accepted system of dimensions and units and has no preference of one system over another. However, authors are urged to use only a single system in any one contribution.

Whenever symbolic nomenclature is employed, include a "Nomenclature" section at end of paper, giving dimensions and units for all terms. Write out names of Greek letters and special symbols in margin of manuscript at point of first use. Some typed letters of the alphabet used to represent numbers can be misinterpreted—e.g., "el" and one, or "oh" and zero. Clearly identify to avoid ambiguity.

Equations and Formulas. Write all equations and formulas clearly and number equations consecutively. Place superscripts and subscripts accurately; avoid superscripts that may be confused with exponents. Complicated structural formulas, including those containing benzene rings, must be submitted as drawings.

Safety. Authors are requested to call special attention—in both their manuscripts and their correspondence with the editors—to safety considerations such as explosive tendencies, special precautionary handling procedures, and toxicity.

Acknowledgment. Include only necessary credits in the acknowledgment section at the end of text. Include financial support in a note after Literature Cited.

Literature Cited. Keep literature references to a minimum. In some areas where much work has been done, citing all prior references could take more space than the new data. Our purpose is to publish data, not literature searches. List citations at the end of the article, in alphabetical order according to author, patentee, or equivalent. Number consecutively and use appropriate number (in parentheses) to indicate reference in text. Do not list references as "in press" unless they have been formally accepted for publication. Do not list a reference under anonymous. Give complete information as in following examples:

- (1) Bates, R. G., "Determination of pH," pp 241, 282, Wiley, New York, N.Y., 1964.
- (2) Chen, D. H. T., MS thesis, University of Rhode Island, Kingston, R.I., 1961.
- (3) Ferris, L. M., Kibbey, A. H., Bradley, M. J., U.S. At. Energy Comm., Rept. ORNL-3196, 1961.
- (4) Goates, J. R., Ott, J. B., Mangelson, N. F., *J. Phys. Chem.*, **67**, 2874 (1963).
- (5) Hudgins, C. M., Division of Petroleum Chemistry, 144th Meeting, ACS, Los Angeles, Calif., March 1963.
- (6) Luthy, R. V. (to California Research Corp.), U.S. Patent 2,855,444 (Oct. 7, 1958).
- (7) Pollard, J. D., FMC Corp., Baltimore, Md., private communication, 1962.

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Submit originals of drawings, graphs, and diagrams or clear, glossy photographic reproductions. Prepare original drawings on tracing cloth or high quality paper; use black India ink and a lettering set. Typing is unacceptable in graphs. All letters, numbers, and symbols should be the same size to allow for maximum reduction while maintaining legibility. Choose graph paper with the blue cross-sectional lines; other colors interfere with reproduction. Label ordinates and abscissas of graphs along the axes and outside the graph proper. *Full coordinate lines are preferred to tic marks along the coordinate axes.* (Full coordinate systems are necessary whenever the diagrams depict the quantitative nature of the data.) Figure captions and legends are set in type and need not be lettered on the drawing. Number all illustrations consecutively. Supply typed captions and legends (plus courtesy lines for photos) on a separate page. The journal reserves the right to reject the manuscript unless adequate copy for the figures is submitted.

If drawings are mailed under separate cover, identify by name of author and title of manuscript. Advise editor if drawings or photographs are to be returned to the authors.

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