

Joint Statement of Editors of Journals Publishing Thermophysical Property Data

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Process for Article Submission for *The Journal of Chemical Thermodynamics*, *Fluid Phase Equilibria*, *International Journal of Thermophysics*, *Thermochimica Acta*, and *Journal of Chemical and Engineering Data*

A requirement for submission of a manuscript describing properties is a literature search and comparison of the results with previously reported literature values. Often, reviewers cannot make informed decisions regarding the manuscript because the authors have made only a minimal literature review and comparisons. It is then an unacceptable burden to require reviewers to research previously published literature data to ensure a proper comparison has been made and hence determine the ultimate worth of the manuscript. To accommodate this, a new arrangement has been made with the Thermodynamics Research Center (TRC) of the National Institute of Standards and Technology (NIST). Specifically, thermophysical property data for systems reported in a newly submitted manuscript will be compared against the NIST TRC databases. TRC will provide a report to the Editors who at their discretion will forward it to the reviewers and/or the authors. This new procedure is mandatory and will operate by collaborative agreement with Journals in this field including *The Journal of Chemical Thermodynamics*, *Fluid Phase Equilibria*, *International Journal of Thermophysics*, *Thermochimica Acta*, and *Journal of Chemical and Engineering Data*. The Editors will adhere strictly to this policy and there will be no exceptions. This new procedure becomes effective from January 2009 and consists of the following elements.

1. When a manuscript is submitted containing experimental property data that are within the scope of the *NIST ThermoML Data Archive* (<http://www.trc.nist.gov/ThermoML.html>), authors will be required to complete a *Data-Summary* form (available from either the journal website or from <http://trc.nist.gov/DataSubmissionSupport.html>). This form will provide NIST with a summary of the experimental data reported in each table (chemical systems, properties, variables/constraints,

experimental methods [very brief], variables, combined expanded uncertainties for properties, and standard uncertainties for variables). Reporting of experimental property values in the text is discouraged. The *Data-Summary* form should be submitted as *Supporting Information* with the manuscript.

2. Papers reporting new experimental data will be sent immediately to NIST for pre-review. With the aid of the *Data-Summary* form, NIST personnel will: (1) capture the new experimental data with *Guided Data Capture* (GDC) software; (2) compare the new data against that existing in the *NIST SOURCE Data Archival System* through application of the *NIST ThermoData Engine* technology; and (3) generate a report that will be returned to the editor handling the manuscript. It will take NIST approximately two business days to generate a report. In all cases, the NIST report will include the list of articles that previously reported experimental data for the particular chemical systems and the properties studied. Typographic problems and major inconsistencies with the available literature will be cited in the report. The numerical literature data will not be included in the report.
3. Editors will then proceed with the review process using the report provided by NIST at their discretion, which can include providing the report to the referees to aid the review process or including the report along with an immediate return of the manuscript to the author for revision, including correction of typographic errors and requesting further comparison with literature data. If there are changes to the experimental data in the submitted manuscript during the revision process, authors are expected to notify both the editor and NIST.
4. After publication, the experimental data from the accepted manuscript will be available in ThermoML formatted files from the *NIST ThermoML Data Archive* and can be retrieved in Microsoft Excel[®] format using *ThermoML Opener* software, which is available at no charge for download (http://trc.nist.gov/ThermoML_Opener.html). Experimental data on ionic liquids and mixtures containing ionic liquids will also be available in the *Ionic Liquids Database-ILThermo* (<http://ilthermo.boulder.nist.gov/ILThermo/mainmenu.uix>).

Details of implementation might vary between the participating journals; however, all of the elements listed above will be preserved. We, the Editors, are convinced that this additional data review will substantially benefit the scientific and engineering communities because of the increase in quality and usefulness of the reported experimental data.

Fluid Phase Equilibria

Peter T. Cummings, Editor

Theo de Loos, Editor

John P. O'Connell, Editor

International Journal of Thermophysics

W.M. (Mickey) Haynes Editor-In-Chief

Daniel G. Friend, Associate Editor

Andreas Mandelis, Associate Editor

Journal of Chemical and Engineering Data

Kenneth N. Marsh, Editor-in- Chief
Paul L. Brown, Associate Editor
Robert Chirico, Associate Editor
Anthony R. H. Goodwin, Associate Editor
Jiangtao Wu, Associate Editor

The Journal of Chemical Thermodynamics

Ronald D. Weir, Editor
J. P. Martin Trusler, Editor
Agilio Pádua, Editor

Thermochimica Acta

V. Rives, Editor
C. Schick, Editor
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Lee D. Hansen, Consulting Editor