

PREFACE

The 87th Edition of the *CRC Handbook of Chemistry and Physics* continues the overall philosophy of this work, namely, to provide broad coverage of all types of physical science data commonly encountered by scientists and engineers. Notwithstanding the growing availability of specialized databases on the Internet, we feel there is still a need for a concise, reliable reference source spanning the full range of the physical sciences and focusing on key data that are frequently needed by R&D professionals, engineers, and students. The *CRC Handbook*, in its print, CD-ROM, and Internet formats, is aimed at serving these needs. The data contained in the *Handbook* have been carefully evaluated by experts in each field; quality control is a high priority and the sources are documented. The annual updates make it possible to add new and better data in a timely fashion. In this way we hope to continue the role of the *CRC Handbook* as a unique reference source.

Among the changes in the 87th Edition are major revisions of four heavily used tables:

- *Physical Constants of Inorganic Compounds* has been completely updated, and the number of compounds has been increased by 20%.
- *Bond Dissociation Energies* has been updated with results from the latest literature, and the coverage has been expanded to include organometallics, low molecular weight biochemical compounds, and positive ions. The total number of chemical bonds covered is now 4193, as compared to 2579 in the 86th Edition.
- *Table of the Isotopes*, the comprehensive listing of the energies and radiation properties of all known isotopes, has been brought up to date with results from the literature up to the beginning of 2006. This definitive compilation now includes over 4500 individual isotopes.
- *Scientific Abbreviations and Symbols* has been expanded to about 1100 entries and includes more acronyms from quantum chemistry and abbreviations for chemicals of environmental interest.

Fourteen other tables have been updated. Of particular note are two tables based on very recent IUPAC recommendations: *Standard Atomic Weights (2005)* and *Nomenclature for Inorganic Ions and Ligands*. There is also a new table on *Specific Enthalpies of Solution of Polymers and Copolymers*.

In addition to offering the full text of the print edition in searchable pdf format, the Internet version presents the major tables of numerical data in the form of interactive tables that can be sorted, filtered, and combined in various ways. Substances in these tables can be retrieved by searching on name, formula, or CAS Registry Number, and such a search can be combined with a request for a desired property. Thus one can request a specific property of a specific substance and receive a customized table with exactly that information. Inverse searches can also be done, in which one asks for all substances that have a set of properties falling within specified ranges.

The Editor appreciates suggestions on new topics for the *Handbook* and notification of any errors. Comments on the search software are also welcomed. Address all comments to Editor-in-Chief, *CRC Handbook of Chemistry and Physics*, Taylor & Francis Group, 6000 Broken Sound Parkway NW, Suite 300, Boca Raton, FL 33487. Comments may also be sent by electronic mail to drlide@post.harvard.edu.

The *Handbook of Chemistry and Physics* is dependent on the efforts of many contributors throughout the world. The list of current contributors follows this Preface. Valuable suggestions have been received from the Editorial Advisory Board and from many users. The assistance and support of Dr. Fiona Macdonald is greatly appreciated. Finally, I want to thank Ronel Decius and Robert Morris of Taylor & Francis for their excellent work in developing the programs for the Internet version.

David R. Lide

June 2006

The 87th Edition is dedicated to the memory of Elizabeth G. Breen, 1916-2005

How To Cite this Reference

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