

Landolt-Börnstein

Numerical Data and Functional Relationships in Science and Technology

New Series / Editor in Chief: W. Martienssen

Group III: Condensed Matter

Volume 27

Magnetic Properties of Non-Metallic Inorganic Compounds Based on Transition Elements

Subvolume B 8

Pnictides and Chalcogenides III (Ternary actinide pnictides and
chalcogenides)

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Springer

ISSN 1615-1925 (Condensed matter)

ISBN 3-540-42995-6 Springer-Verlag Berlin Heidelberg New York

Library of Congress Cataloging in Publication Data

Zahlenwerte und Funktionen aus Naturwissenschaften und Technik, Neue Serie

Editor in Chief: W. Martienssen

Vol. III/27B8: Editor: H.P.J. Wijn

At head of title: Landolt-Börnstein. Added t.p.: : Numerical data and functional relationships in science and technology.

Tables chiefly in English.

Intended to supersede the Physikalisch-chemische Tabellen by H. Landolt and R. Börnstein of which the 6th ed. began publication in 1950 under title: Zahlenwerte und Funktionen aus Physik, Chemie, Astronomie, Geophysik und Technik.

Vols. published after v. 1 of group I have imprint: Berlin, New York, Springer-Verlag

Includes bibliographies.

I. Physics--Tables. 2. Chemistry--Tables. 3. Engineering--Tables.

I. Börnstein, R. (Richard), 1852-1913. II. Landolt, H. (Hans), 1831-1910.

III. Physikalisch-chemische Tabellen. IV. Title: Numerical data and functional relationships in science and technology.

QC61.23 502.12 62-53136

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Springer-Verlag Berlin Heidelberg New York

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Printed in Germany

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Cover layout: Erich Kirchner, Heidelberg

Typesetting: Authors and Redaktion Landolt-Börnstein, Darmstadt

Printing and binding: WB-Druck, Rieden/Allgäu

SPIN: 10838073 63/3020 - 5 4 3 2 1 0 – Printed on acid-free paper

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Preface

The Landolt-Börnstein Volume 27 deals with the magnetic properties of non-metallic inorganic compounds based on transition elements, such as there are pnictides, chalcogenides, oxides, halides, borates, silicates and phosphates. A preliminary survey of the contents of all subvolumes that have already appeared or have been planned to appear is printed on the inside of the front cover.

In order to cover the large amount of magnetic and magnetically related properties of the lanthanide and actinide pnictides and chalcogenides that appeared in literature in recent years, the subvolume 27B had to be split into subvolumes B1...B8. Subvolumes 27B1, 27B2 and 27B3, 27B4 (published in 1998, 2000 and 2003) deal with lanthanide monopnictides, monochalcogenides, binary lanthanide polypnictides and polychalcogenides, and ternary lanthanide pnictides (containing at least one transition element), respectively. In subvolume 27B5 the magnetic properties of ternary lanthanide chalcogenides containing at least one d-electron element are reported as well as lanthanide pnictides and chalcogenides containing at least one s-, p- or f-electron element. Data on oxypnictides and layer-structured misfit compounds are also included in 27B5. For the magnetic properties of pnictides and chalcogenides based on 3d transition elements as a main component is referred to subvolume 27A (published in 1988).

The three subvolumes 27B6, 27B7 and 27B8 cover the properties of actinide pnictides and chalcogenides. The present subvolume 27B8 deals with ternary actinide pnictides and chalcogenides.

Pnictides are defined as compounds containing at least one of the elements P, As, Sb or Bi (V-th group of the periodic system) and chalcogenides are defined as compounds containing one of the elements S, Se or Te (VI-th group of the periodic system).

Ternary actinide pnictides and chalcogenides form a large family of phases which exhibit a great variety of different stoichiometries, crystal structures and non-trivial physical properties. Their magnetism is quite complex due to a similar order of magnitude of Coulomb, spin-orbit, crystal field and exchange energies.

Many thanks are due to the authors for the agreeable cooperation, the Landolt-Börnstein editorial office in Darmstadt, especially Dr. W. Polzin, for the great help with the editorial work, and to Springer Verlag for their thoughtful help in the final preparation of this volume.

Aachen, August 2003

The Editor

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