

Book Reviews

Gmelin Handbook of Inorganic and Organometallic Compounds, 8th edn., S, Sulfur-Nitrogen Compounds, Part 9

Gmelin Institute, Berlin, 1993, xxiv + 336 pages. DM 1998

ISBN 3-540-93664-5

The series on Sulfur-Nitrogen Compounds began in 1977. This 9th volume in the series is concerned with cyclic sulfur-nitrogen compounds in which sulfur has the oxidation number II. In the first chapter the compounds are considered in order of increasing ring size, and a total of only 4 pages is needed to deal with three- to five-atom ring systems (*viz.* \overline{RNSNR} , \overline{RNSS} , $\overline{RNSN(R)S}$, $\overline{RNSN(R)SS}$). Subsequently, 7 pages are taken up by six-atom ring systems, 140 pages by eight-atom ring systems, and 5 pages by twelve- and thirteen-atom systems. The second chapter, taking up approximately half of the volume, deals with cyclic sulfur(II)-nitrogen-(other) element ring species based on S-N-E (E = Se, Te, P, S, B), S-N-B-Se, S-N-B-Si, Si-N-C, Si-N-C-O, and Si-N-C-P systems. The Si-N-C species, which range from five- to sixteen-atom rings, take up 115 pages.

The usual information is very efficiently given, namely methods of preparation, chemical reactions, and physical properties, including results of X-ray diffraction studies presented in structural formulae. The literature was surveyed up to the end of 1990.

As usual the presentation is of very high standard.

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Siloxane Polymers

S.J. Clarson and J.A. Semlyem (eds.), Ellis-Horwood-Prentice Hall, Englewood Cliffs, 1993, xxii + 673 pages, £52.50

ISBN 0-13-816315-4

This volume appears in the Ellis-Horwood-PTR Prentice Hall Polymer Science and Technology Series, and an impressive group of contributors has been as-

sembled to provide a timely and near-comprehensive coverage of the properties of siloxanes. It starts with a scholarly account of polymerization of siloxanes by J. Chojnowski (71 pages; 207 refs), and the subsequent thirteen chapters are as follows: siloxane copolymers, by J.J. Kennan (63 pages; 156 refs.); cyclic siloxane polymers, by J.A. Semlyem (57 pages; 126 refs); organofunctional siloxanes, by J.W. White and R.C. Treadgold (23 pages; 91 refs); depolymerization, degradation, and thermal properties of siloxane polymers, by S.J. Clarson (28 pages; 91 refs); liquid-crystal siloxanes, by M.S. White (62 pages; 470 refs); surface chemistry and applications, by M.J. Owen (63 pages; 154 refs); theoretical aspects of conformation-dependent properties, by R.F.T. Stepto (42 pages; 66 refs); dielectric properties of siloxanes, by M.S. Beevers (62 pages; 214 refs); viscoelastic and ultrasonic studies of linear and cyclic polydimethyldiloxanes by R.A. Pethrick (33 pages; 81 refs); NMR approach to siloxane properties: melts, gels, silica mixtures, by J.P. Cohen-Addad (55 pages; 44 refs); cross-linking of polydimethylsiloxanes, by D.R. Thomas (49 pages; 118 refs); siloxane elastomers, by S.J. Clarson and J.E. Mark (32 pages; 144 refs); interpenetrating networks of polymethylsiloxane, by H.C. Frisch and M.W. Huang (19 pages; 36 refs). The general standard is high, and there is less unnecessary overlap in coverage than might have been expected.

There is an appropriate and very interesting preface by E.G. Rochow, the person who more than anyone else must be credited with the initiation of polysiloxane chemistry (and thereby with the explosive development of organosilicon chemistry that it prompted).

The book is well-produced, and there are many helpful figures and diagrams and some relevant photographs. There is also a reasonable index, though most topics can be located by looking at the detailed list of contents. It is excellent value at today's prices and can be firmly recommended.

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