Gmelin handbook of inorganic chemistry, 8th edition, *S — Sulfur–Nitrogen Compounds, Part 3: Compounds with Sulfur of Oxidation Number IV*, Springer-Verlag, Berlin, Heidelberg, New York, Tokyo, 1987, xvii + 325 pages, DM 1363. ISBN 3-540-93544-4.

In 1985, the second volume of the Gmelin Handbook on sulfur (System No. 9) to be devoted to sulfur–nitrogen compounds was published: it was restricted to sulfur-nitrogen ring compounds $\{S_xN_y\}$ in which at least one sulfur atom can be regarded, in a limiting structure, as being in the +4 oxidation state. The current volume (Part 3) extends that coverage, to include ring systems which contain one or two other types of atom in addition to sulfur and nitrogen. The ring systems containing sulfur, nitrogen and one other element are summarized in Table 1: in addition, SNCO, SNC_2O and SN_2CO ring systems are also described. As can be seen from Table 1, only four- and five-membered SNC (i.e. $x + y + z = 4$ or 5) ring systems are included in this volume; larger SNC ring systems will be described in Part 4, to be published later this year.

Table 1
Sulphur–Nitrogen–Element Ring Systems, $S_xN_yE_z$ (E = O, Se, Si, P, As, Sn, Pb or C), detailed in Part 3

x, y, z							
0	Se	Si	P	As	Sn	Pb	C
2,1,1	1,2,2	1,2,2	1,2,1	2,2,1	2,2,1	2,2,1	1,2,1
	3,3,1	1,3,2	2,3,1	2,4,2	1,3,2		2,2,1
		2,4,2	1,3,2				1,3,1
		3,6,2	2,4,2				1,2,2
			3,5,1				
			1,6,4				
			2,6,4				

By far the largest part of this volume (264 pages) is concerned with ring systems containing sulfur, nitrogen and carbon, thus giving this book a specially broad appeal: to organic, inorganic and physical chemists. However, as this is a handbook of inorganic chemistry, the compounds of this category have been restricted by excluding compounds containing a S^{IV}–C bond in the ring. The principal compound types discussed, then, are the 1,2,5-thiadiazoles (196 pages) and their derivatives, including benzothiadiazoles.

The authors (N. Baumann, H.-J. Fachmann, B. Heibel, S. Jäger and A. Kubny) have performed a splendid task in compiling this volume. It is well written, and the great debt owed by the sulfur-nitrogen chemists to the crystallographers is very apparent. The current volume lacks an index, but Part 4 will contain both a ring index and formula index to both Parts 3 and 4. This index will greatly enhance the value of this volume, and any purchaser of Part 3 will clearly require Part 4. This is a book describing a wide range of quite fascinating chemistry, and is recommended to all practising inorganic (and organic) chemists. It is unlikely that any inorganic chemist could pick up this volume and not find something to interest and inspire.

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