

*Gmelin handbook of inorganic chemistry*. 8th edition, Sc, Y, La–Lu Rare Earth Elements. Part C10: Compounds with Te, Po, Springer-Verlag, Berlin, Heidelberg, New York, Tokyo, 1987, xix + 362 pages. DM 1493. ISBN 3-540-93547-9.

This is the thirtieth volume which the Gmelin Institute has published concerning scandium, yttrium and the rare earth elements (System No. 39) to appear since the main volume was published in 1938, and the tenth to appear in the series related to their simple compounds. This volume (C10) is devoted to their compounds with tellurium and polonium.

The first section (288 pages) describes principally the binary tellurides,  $MTe$  and  $M_2Te_3$ , as well as related ternary phases. The following sections describe the hydride tellurides,  $MH_xTe$  (9 lines), the oxide tellurides,  $M_2O_2Te$  (11 pages), the tellurates (21 pages), the telluride and tellurate halides (5 pages), the selenide tellurides (27 pages), and the Group 1 lanthanide tellurates (3 pages). In contrast to the total of 354 pages describing the compounds with tellurium, there are only six pages devoted to the compounds with polonium; these are principally described as being of stoichiometry  $MPo$ , although a few polonates are discussed. The polonium derivatives are very poorly characterized: even their reported stoichiometry is uncertain.

Although there is a wide range of compounds described, the solid binary tellurides  $SmTe$ ,  $EuTe$  and  $TmTe$  attract the most attention, principally because of their electronic structure. For example,  $SmTe$  shows a pressure-induced valence transition from samarium(II) towards an intermediate valence state, whereas  $EuTe$  exhibits antiferromagnetic ordering at low temperature. Thus, this is a volume of interest principally to the solid state chemist: there is little here to excite the imagination of even the most adventurous organometallic chemist (who should refer to the excellent up-to-date coverage in Parts D1–D6, all published between 1980 and 1986). The volume is, however, professionally produced, making full use of tabulated material and containing first rate illustrations. The authors (I. Hinz, P. Kuhn, U. Vetter and E. Warkentin) have performed an admirable feat in compiling the data for this volume, and have presented it in a very clear manner. Thus, this is a book meeting the expected high standards of the series, which will be a valuable addition to any chemistry or physics library.

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