

Book review

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"Gmelin Handbook of Inorganic Chemistry", 8th Edition, Main Series, "Tellurium" (System No. 11), Supplement Volume, Part B, Section 1, "Compounds with Hydrogen, Oxygen and Nitrogen", G. Hantke, volume editor, Gmelin Institut für Anorganische Chemie und Grenzgebiete der Max-Planck-Gesellschaft zur Förderung der Wissenschaften, Springer-Verlag, Berlin/Heidelberg/New York, 1976, xii + 153 pages, DM 337, \$ 138.20 (in German).

This new Gmelin volume on tellurium compounds, the first of two, picks up the compounds of tellurium with hydrogen, oxygen and nitrogen from the 1940 Gmelin survey of this subject. Included in its contents is coverage of the TeH radical; the molecular hydrides  $H_2Te$ , HDTe and  $H_2Te_2$ ; the ion  $H_2Te^+$ ; the alkali tellurides; the tellurium oxides TeO,  $TeO_2$ ,  $Te_4O_9$ ,  $Te_2O_5$  and  $TeO_3$ ; tellurium(IV) and (VI) acids and their alkali and ammonium salts; the tellurium nitrides, TeN,  $Te_4N_4$  and  $Te_3N_4$ ; tellurium amide and imide; and tellurium nitrates.

Hydrogen telluride has done much better at the hands of the physical chemists than at those of the inorganic chemists, as the distribution of references between physical and spectroscopic measurements (68) and chemical reactivity (29) attests. It does have some organometallic chemistry, decomposing to the elements on treatment with aluminum alkyls, forming PbTe on reaction with tetraphenyllead and  $Pt(PPh_3)_2 \cdot H_2Te$  on reaction with  $Pt(PPh_3)_2$ . The potential user of  $H_2Te$  had better look at some other sources as well, since in this supplement volume nothing is said about its offensive odor and its toxicity. The alkali metal tellurides, we learn, are of interest since they show semiconductivity and photoconductivity in some cases.

Most of the book, however, is taken up by tellurium oxides and oxyacids and their salts: data and references relating to their preparation, physical properties and chemical reactivity are provided with the usual Gmelin thoroughness. The section on tellurium-nitrogen compounds, on the other hand, is only a few pages long. Small wonder! The binary nitrides are distressingly explosive, the amide and the imide are unstable, and the salt  $K_2Te(NH)_3$  explodes on contact with water.

The literature in this volume is covered through 1973, but later references can be found. As in all Gmelin volumes, Eng-

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lish translations of the preface, the table of contents and the chapter and section headings are provided. Indexes are not included in this volume.

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