Book Review

Studies in Inorganic Chemistry 8 Graphite Fluorides

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This is a useful timely and well produced book on a topic of current research and an immensely useful and informative account of applied chemistry with implications in applied electrochemistry, surface science and materials research alike The eight chapters discuss in great detail, supported by well chosen graphics photographs and tables, and the following topics

The anode effect in electrolysis involving molten fluorites, which resulted in focussing initial attention on the fluorides of graphite

The synthesis and stoichiometry of graphite fluorides, their structure and synthesis on an industrial scale are discussed in the 2nd chapter

The next two chapters deal with the surface properties, and chemical aspects of graphite fluorides, in particular decomposition studies under a variety of conditions kinetic analyses and structural analyses of the residue compounds are dealt with in detail

Chapters 5 to 7 deal with the three principal areas of application lithium-graphite fluoride batteries, graphite fluoride films coated on aluminum and lubricative properties of these compounds In particular the chapter on CF-Li batteries is very detailed and represents an excellent account of the development of this field and the construction of these devices

The final chapter, as a change of pace deals with the related topic of graphite intercalation compounds of fluorine

The major merits of this book are, in the opinion of this reviewer its practical and applied orientation and the summary of research it provides, which had previously been published to a large extent in a variety of journals which are not all generally available in most libraries The detailed account of practical methods makes this volume an indispensible source of information for the researcher and the engineer alike

Graphite fluorides, published on the occasion of the retirement of Professor Nobuaku Watanabe from the Faculty of Engineering Kyoto University represents a fitting tribute to a lifetime career in Applied Fluorine Chemistry and a thorough account of his accomplishments and his influence in the field

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