The optic axes lie in (010) and, when viewed normal to (001), have a fairly large interaxial angle which exhibits marked dispersion. Weissenberg photographs gave the axial lengths

$$a = 7{\cdot}38,\ b = 14{\cdot}75,\ c = 56{\cdot}74\ \text{Å}.$$

The observed density is 1·305 g.cm.$^{-3}$, so that the cell contains 16 (15·85) molecules. The only systematic absences lead uniquely to the space group $P2_12_12_1$, but there are marked pseudo glides: b in the $0kl$ and a in the $hk0$ zones. The $0kl$ and $1kl$ layers also approximate closely to B-face centring, but the approximation fades out in the second and higher layers. No further work is to be done on this form as the asymmetric unit comprises 4 molecules.

We wish to thank Dr N. L. McNiven who kindly prepared these specimens and Prof. J. Read who supplied them to us. We also wish to thank Dr A. J. C. Wilson for encouragement and for the use of equipment purchased with a Royal Society grant. One of us (D.R.) is indebted to the University of Wales for an I.C.I. Research Fellowship.

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Notes and News

Announcements and other items of crystallographic interest will be published under this heading at the discretion of the Editorial Board. Copy should be sent direct to the British Co-editor (R. C. Evans, Crystallographic Laboratory, Cavendish Laboratory, Cambridge, England).

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Book Reviews

Works intended for notice in this column should be sent direct to the Editor (P. P. Ewald, Polytechnic Institute of Brooklyn, 99 Livingston Street, Brooklyn 2, N.Y., U.S.A.). As far as practicable books will be reviewed in a country different from that of publication.

Metallurgical Equilibrium Diagrams. By W. HUME-ROTHERY, J. W. CHRISTIAN and W. B. PEARSON. Pp. 311 with 239 figs. London: Institute of Physics, 1952. Price 50*s.*

The title of this monograph is perhaps a little misleading, for it deals mainly with the accurate determination of metallurgical equilibrium diagrams, and not with the diagrams themselves. It is the only comprehensive account of these methods known to the reviewer, and as such it is a valuable contribution to metallurgical literature. The book commences with a section on the principles of binary systems, while later sections describe general experimental methods, the determination of the liquidus, the solidus, and reactions below the solidus. The book concludes with the consideration of the special problems of ternary systems. Throughout the monograph emphasis is laid on the limitations of the methods and on the precautions necessary to achieve maximum accuracy. The chapter on X-ray methods, which is of particular interest to crystallographers, deals only with X-ray powder methods for both normal and elevated temperatures. Much of the chapter is devoted to the methods of preparing a powder sample which is representative of the alloy and free from contamination. There is a comparison of the relative merits of the X-ray and microscopical methods which puts into perspective the value of X-ray techniques in this field. A later chapter contains a valuable discussion of the use of X-ray methods in the establishment of ternary diagrams.

The value of this book to crystallographers is difficult to assess. The chapter on X-ray methods can certainly be recommended, but the major value of the book, in the opinion of the reviewer, is as an invaluable guide to the preparation of metallic materials free from contamination and uniform in composition.

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