

## **Book Review**

**The NPIRI Raw Materials Data Handbook, Volume 4. Pigments.** Published by the National Association of Printing Ink Manufacturers, New York, USA 1984. 372 pp. Price: \$175 (\$100 to educational institutions and other non-profit organizations.)

This volume is the fourth in a series which provides useful information to all involved in aspects of surface coatings, inks, paints and printing processes. Volumes 1, 2 and 3 deal with organic solvents, plasticisers and proprietary solvents. Volume 4, dealing with pigments, is reviewed here as an independent text. However, much of the contents of volumes 1–3 will be of relevance to those having an interest in Volume 4.

The bulk of the information given in this volume can be summarised under four main headings:

- (i) safety and health considerations (24 pp.);
- (ii) tables of data relating to commercial products (16 pp.);
- (iii) colour and constitution data (32 pp.);
- (iv) information sheets for various pigment types and individual pigments (253 pp.).

These sections are supported by a concise preface which provides an explanation of the Handbook's organisation and layout. This ensures easy access to the information it contains. An appendix gives sources of pigment supply in the USA whilst an index provides a guide to pigment nomenclature and to corresponding Colour Index Constitution numbers.

The volume covers the properties of over 250 pigment types. The data which have been compiled should prove useful for both formulatory and regulatory purposes. Each of the sections (i) to (iv) will now be considered in outline.

The chapter on safety and health considerations deals with various points in a general way but the various subsections are amply supported by information related to specific pigments. Safety considerations include hazards associated with exposure to excessive heat, with dust explosions and with chemical reactivity. Health considerations include short- and long-term exposure, covering acute lethal dosages, primary irritation and nuisance dust. Also considered are dermal effects, internal effects, carcinogenic testing and short-term mutagenicity testing. This section is supported by a comprehensive bibliography (228 refs).

The section on commercial product data provides information on organic and inorganic pigments under three broad headings, each of which contains several sub-divisions. These broad headings are physical data, colour permanency and fastness data. Over 540 pigments are covered in this glossary.

The reviewer was particularly impressed with the chapter dealing with the colour and chemical constitution of various organic and inorganic pigments. Typical spectral curves, molecular structures and chemical names are organised according to pigment class arranged alphabetically by the Colour Index generic name. Each data sheet contains identity data for the principal component of the pigment, regulatory data, typical spectral curves, physical data, fastness data, colour permanency, applications information, available physical forms and particular specific information.

At the quoted price, this volume represents excellent value for money. This together with the undoubted comprehensiveness of the contents will ensure that it will become a vital part of the reading undertaken by all who are interested in non-textile coloration.

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