

food poisoning, stroke, and Guillain-Barré syndrome. The chapter on traditional procedures used by arctic natives for 'preserving' foods makes fascinating (dare one say 'chilling') reading—many outbreaks of botulism have occurred but, because many of the procedures are dangerous, one is left wondering how *any* natives have survived!

The book has a business-like, rather than a sparkling style. It is well-bound and efficiently though by no means lavishly produced. The index is of limited value. Each chapter has an extensive list of references (20 pages in one case). I recommend the book as a useful addition to libraries of food companies and of relevant higher education establishments, regulatory agencies and research institutes.

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Ullmann's Encyclopedia of Industrial Chemistry, Fifth Completely Revised Edition. Volume A20: Photography to Processing of Plastics (1992, 758 pp. 393 figures, 144 tables); Volume A21: Plastics to Polyvinyl Compounds (1992, 758 pp. 388 figures, 1991 tables). Both VCH Weinheim. Price: £219.00.

It will come as no surprise that since these two new volumes of this excellent encyclopedia proceed from 'PHO to POL', there is very substantial coverage of photography, pigments, plastics and polymers. As with the previous 19 volumes, it is the authority and comprehensive nature of the articles that is most impressive. Volume A20 commences with a 159 page article on photography and describes all of the chemistry associated with the various types of film, the capture and developments of the image, together with the mechanics and physics of film production and development. There is an abundance of chemical structures, diagrams (some in colour) and tables, and a mass of information ranging from the historical to the highly technical.

Much of the rest of this volume is taken up by articles on inorganic pigments (125 pp.), organic pigments (43 pp.), and plastics (300 pp. in volume A20 and a further 73 pp. in volume A21). A comprehensive discussion of the chemistry and the methods of industrial production is included in each instance. The articles on plastics range from the chemistry of additives through analysis, a massive section on general aspects, processing, properties, to a timely article on recycling of plastics—a growing problem given that the world production is now in excess of 100 million tonnes per annum.

Sandwiched between the pigments and the plastics is a short article on plant growth regulators, both natural and synthetic, and this concentrates on subtle control with an article on herbicides promised for a future volume under the heading 'weed control'.

Volume A21 is almost entirely given over to polymers and polymerisation, but there is room for a fascinating article on the platinum group metals: isolation, purification, chemistry and uses—though I was surprised to see no mention of the use of *cis*-platin as an effective anti-cancer drug in this last section. There is also a highly technical article on plutonium, but the real business of the volume concerns all aspects of polymers from polyacrylamides to polyvinyl compounds. This massive 615 page compilation of facts and figures includes all types of polymers and polymerisation processes. The short article (20 pp.) on electrically conducting polymers is especially timely and this includes a brief mention of buckminsterfullerene—surely destined to have a whole article to itself in the next edition of *Ullmann*.

This encyclopedia is an essential purchase for any library where chemists (and other scientists) need information about the industrial applications of their science(s). The volumes are well-produced, a mine of information, and at around 30 pence per page, an absolute bargain.

John Mann