

PLASTICS

E. R. YESCOMBE

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PLASTICS

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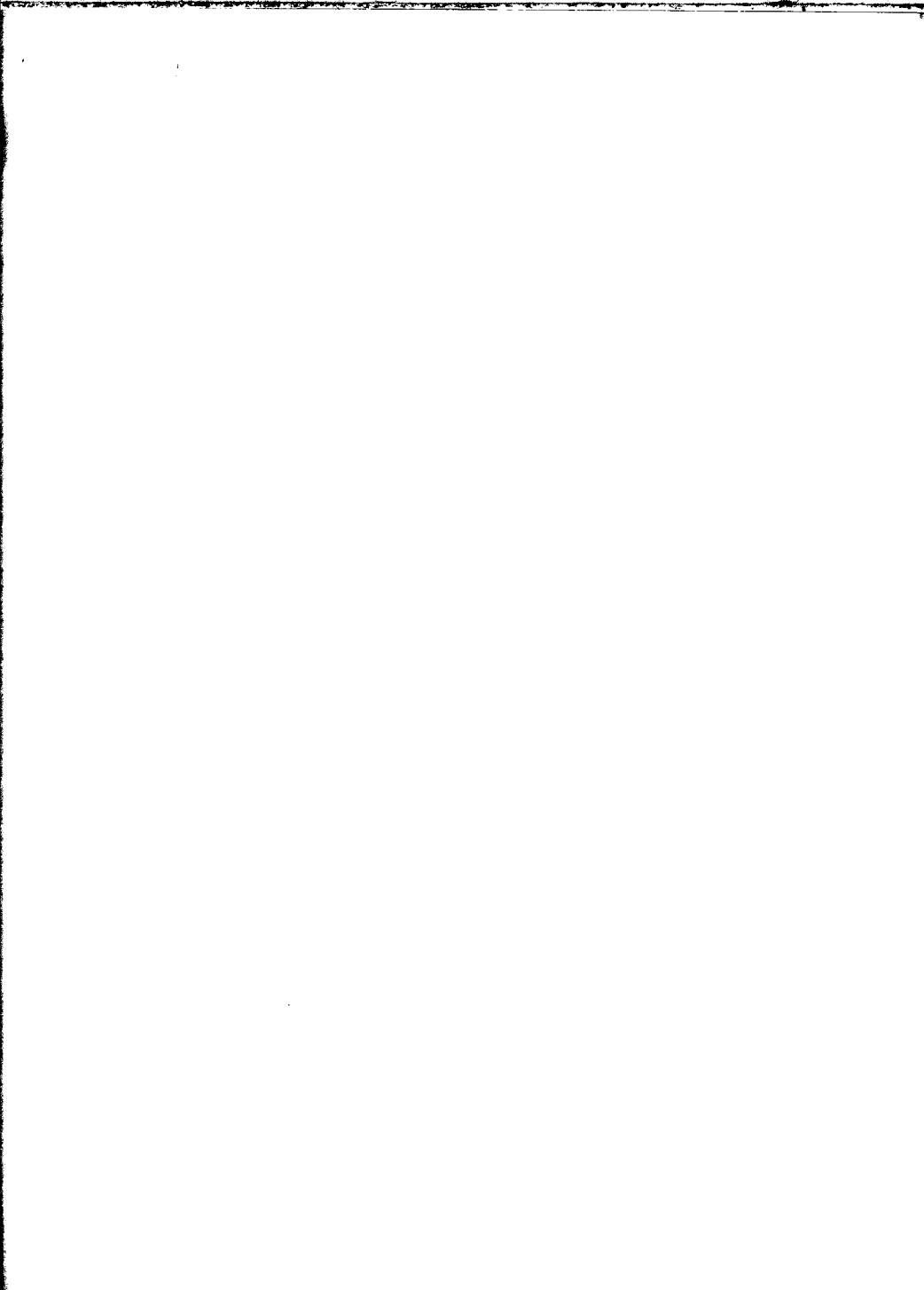
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Preface

THIS is an appropriate moment for the publication of a bibliography of plastics, for this year marks a century of these materials. When on May 1st, 1862, the Great International Exhibition was opened with suitable pomp and circumstance, one of the exhibits was a new material named "Parkesine". It won a medal for its "excellence of quality" and after one or two faltering steps became widely known and used as "Celluloid".

But while the industry has a rather longer history than most people imagine, it has been subject to its most extensive, if not explosive, growth within the last ten or fifteen years and this has inevitably been accompanied by a corresponding development of the literature.

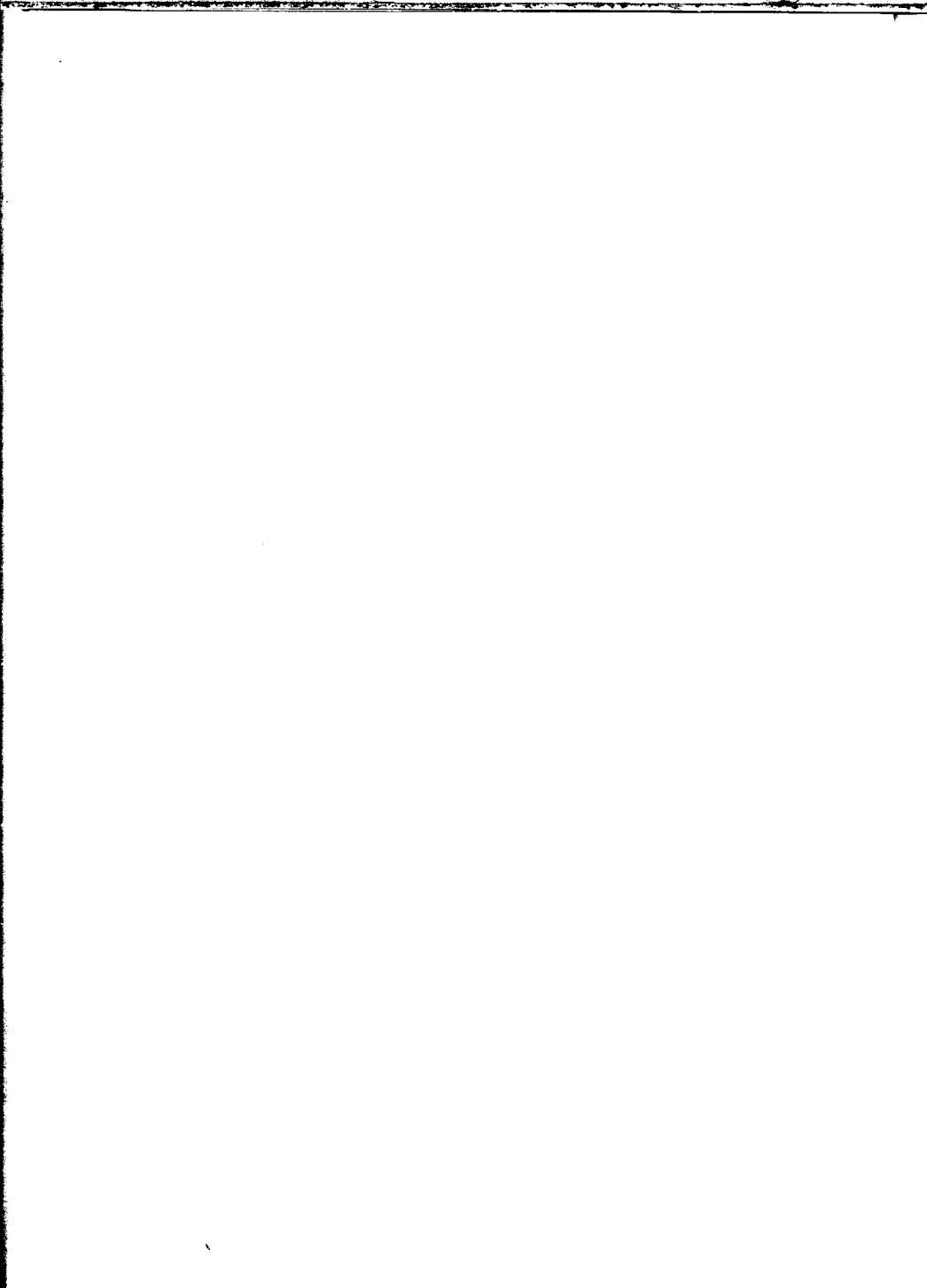
This literature has reflected various aspects of plastics activity and thus we have not only a growing number of contributors but also a proliferation of journals and books which have been, and are, rather uneven in quality. These publications must deal with theoretical, chemical and physical and even biological matters at one extreme, and economic and sales promotion interests at the other. In between comes the vast range of technological subjects.

All this makes guidance through the jungle of available information very necessary. There is yet another factor which makes life difficult in this respect, and that is the extreme haziness of the boundaries between plastics and other technologies. This is inevitable. But where does one draw the line, say, between rubber and plastics, or plastics and man-made fibres, or plastics and surface coatings?

Clearly this publication will perform a most useful function in helping librarians to help the ever-growing numbers of people trying to find their way about plastics literature.

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May 1962.



Guides to the Literature

1. American Chemical Society: Division of Chemical Literature.
Literature resources for chemical process industries. A collection of papers comprising five symposia and thirteen general papers. Washington, American Chemical Society, 1954, 582 p. (Advances in Chemistry Series 10).
Consult index under Plastics.
2. American Chemical Society: Rubber Division Library.
Union List No. 3 of books relating to the fields of rubber, resins, plastics and textiles held by the technical libraries of Columbia Southern Chemical Corporation, Dupont Laboratories of Jackson, Firestone Tire and Rubber Company, General Tire and Rubber Company, B. F. Goodrich Company, Goodyear Tire and Rubber Company, Glenn L. Martin Company and University of Akron. Akron, Ohio, University of Akron, Rubber Division Library, 1959, 30 p.
Alphabetical author list with over 1,100 titles.
3. American Chemical Society: Rubber Division Library.
Union list No. 4 of serials relating to the fields of rubber, resins, plastics and textiles held by the technical libraries . . . Akron, Ohio, University of Akron, Rubber Division Library, 1959, 50 p.
480 entries.
4. British Plastics Federation.
Journals covered by the Federation Abstracts. British Plastics Federation, 1961, 7 p.
271 titles.
5. British Plastics Federation.
List of books on plastics in the Library. British Plastics Federation, 1958, 23 p. *Supplements*—No. 1 (1959), 4 p.; No. 2 (1960), 4 p.; No. 3 (June 1961), 2 p.
Main list 500 references in accession order.
6. Deutsche Kunststoffe, 4th ed. Wiesbaden, Karusschhof Vlg., 1959, 465 p. Bibliography p. 71-84.
7. Houben-Weyl.
Methoden der Organischen Chemie. 4th ed., vol. XIV/I. Makromolekulare Stoffe, Pt. 1. Stuttgart, G. Thieme, 1962, 1,360 p.

Monumental work on the preparation of a wide range of high polymers—rubbers and plastics. Over 1,000 journals listed with extensive book bibliography (p. 1182-1201) classified under headings. Commences with notes on nomenclature.

Part 2 will include polycondensation, polyaddition, polymerization by heterocyclics, reactions of polymers, and methods for the elucidation of polymer structure.

8. Imperial Chemical Industries Ltd., Paints Division.
Books on paint technology and cognate subjects: a select list compiled from Division Library stock. Slough, Imperial Chemical Industries, Paints Division, 1960, 31 p.
273 references.
9. Imperial Chemical Industries Ltd., Plastics Division.
Periodicals held in the Library. Welwyn Garden City, Imperial Chemical Industries, Plastics Division, 1960, 18 p.
Nearly 400 titles. New ed. in preparation.
10. National College of Rubber Technology.
List of books appropriate to the Plastics Institute Examination. National College of Rubber Technology, 1961, 5 p.
11. Plastics Institute.
List of books appropriate to the Institute Examination. Plastics Institute, 1961, 5 p.
12. United States. Department of Commerce, Office of Technical Services.
Plastics-polymer research (1955-9). Washington, Office of Technical Services, 1959, 27 p. (OTS Selective Bibliography 400.) 504 references arranged in groupings of PB reports AEC reports, and translations under subject headings.
See also 196.

Abstracts and Indices

13. *British Plastics Federation Abstracts* (M). 1945-.
Over 8,000 short abstracts each year under 24 headings.
Printed indices only for vols. 1-3 and Subject Index for 1949 and 1950.
Card index maintained at British Plastics Federation Library.
Coverage now includes synthetic rubbers. Includes additions to the Library.
Translations of titles of papers from Russian, Japanese and Chinese journals.

14. *British Technology Index* (M). 1962-. A current subject-guide to articles in British technical journals. Library Association.
15. *Chemical Abstracts* (F). American Chemical Society.
 Section 23. Cellulose, Lignin, paper and other wood products.
 Section 26. Paints, varnishes, lacquers and inks.
 Section 30. Rubber and other elastomers.
 Section 31. Synthetic resins and plastics (approximately 2,000 abstracts per year).
 Annual and decennial indexes.
16. *Distillers Plastics Group Abstracts* (M). 1959-. British Geon Ltd. Issued in six parts A-F with four sub-divisions.
 Journal abbreviations—names and addresses of publishers. British Geon Ltd. 1961, 12 p. Lists 89 titles abstracted in Distillers Group Abstracts.
17. *Plastics Abstracts* (W). 1959-. Plastics Investigations.
 Over 9,000 abstracts each year.
 Part I: British Patents under 16 headings.
 Part II: British periodical articles (300 journals abstracted) under 13 headings.
 Part III: Foreign periodical articles from 30 journals published outside U.K.
 Annual indexes.
18. *Resins—Rubbers—Plastics* (F). 1954-. Interscience.
 Loose-leaf with title list of world polymer literature (M), and also annual yearbook form.
 1960 approx. 540 abstracts. 1961—1,200. Abstracts in detailed form including data, graphs and some illustrations.
19. *Rubber Abstracts* (M). Rubber and Plastics Research Association of Great Britain.
 Not now available to non-members in U.K. and Commonwealth. 6,995 abstracts (1961) mainly on rubber, but in recent years with increasing emphasis on plastics. (Sections 3S. Synthetics; 7. Works' processes and materials; 8. Machinery and appliances.)
 Annual indexes. Classification now under revision.

Surveys and Reviews

20. American Chemical Society.
 Bibliography of chemical reviews, 1 and 2. Compiled from Chemical Abstracts 52 and 53, 1958-9; 3 and 4 cover, 1960-1.

Section 31—collection of abstracts of review papers on plastics.

21. American Chemical Society: Division of Organic Coatings and Plastics Chemistry. Proceedings.
22. *British Plastics*. January nos.—annual review, trends, statistics.
23. *Fortschritte der Hochpolymeren Forschung* (Advances in Polymer Science). Berlin, Springer. (Irreg.) 1 (4 pts.) 1959-60; 2 (3 pts.) 1960-1.
Monograph reports (mainly in English) on recent developments and topics.
24. Institution of the Rubber Industry. Annual report on the progress of rubber technology. Cambridge, Heffer.
25. Organisation for European Economic Co-operation.
The Chemical industry in Europe 1959-60. Paris, O.E.E.C., 1961, 221 p. (Trends in Economic Sectors 7.)
26. *Plastics*. January nos.—annual review, trends, statistics.
27. *Plastics Progress*. 1961 papers and discussions at the International Plastics Convention, INTERPLAS, 1961, London. Edited by P. Morgan. Iliffe, 1962, 181 p. (also 1951, 1953, 1955, 1957 and 1959).
28. Robb, J. C., and Peaker, F. W. Progress in high polymers, vol. I. Heywood, 1961, 340 p.
29. Society of Chemical Industry.
Reports on the progress of applied chemistry. Society of Chemical Industry. 1916- (annual).
Chapter on plastics and bibliography by members of the Plastics and Polymer Group, 1938-.
30. U.S. Department of Commerce.
World survey of plastics 1954-7. Washington, U.S. Govt. Printing Office, 1959, 168 p.
Statistics, tables, reviews. Excludes Soviet Bloc. Glossary p. 163-8.

Introductory—Elementary

31. Alcott, A.
Plastics today. Oxford, O.U.P., 1960, 115 p.
32. British Celanese Ltd.
Introduction to plastics. 2nd ed. British Celanese, 1948, 69 p.
33. Couzens, E. G., and Yarsley, V. E.
Plastics in the service of man. Penguin, 1956, 315 p.
34. Melville, Sir H.
Big molecules. G. Bell, 1958, 186 p.

35. **Plastics Institute.**
 Careers in plastics. 3rd ed. Plastics Institute, 1958, 20 p.
36. **Rubber and Plastics Age.**
 An Introduction to plastics. Rubber and Technical Press,
 1959, 61 p.
 29 articles from *Rubber and Plastics Age*, June 1959.

General—More Advanced

37. **British Plastics.**
 Yearbook, 1962. A classified guide to the plastics industry
 and its products. 32nd ed. Iliffe, 1962, 648 p.
38. **Davies, B. L.**
 Technology of plastics. Pitman, 1949, 421 p.
39. **Leclerc, E., and others.**
 Matières plastiques: cours post-universitaire donné à L'Uni-
 versité de Liège. Liège, Editions Cebedoc, H. Goldstein,
 1961, 296 p. (Monographie Matières plastiques).
40. **Golding, B.**
 Polymers and resins: their chemistry and chemical engineer-
 ing. N.Y., Van Nostrand, 1959, 744 p.
41. **Houwink, R., ed.**
 Elastomers and plastomers, their chemistry, physics and tech-
 nology. 3 vols. Elsevier, 1948-50. (Elsevier Polymer Series 3.)
 Vol. 1: General theory. 1950, 495 p.
 Vol. 2: Manufacture, properties and applications. 1949,
 515 p.
 Vol. 3: Testing and analysis; tabulation of properties.
 1948, 174 p.
42. **Imperial Chemical Industries Ltd., Plastics Division.**
 Collected papers, vol. 1. Welwyn Garden City, Imperial
 Chemical Industries Ltd., Plastics Division, 1962, 114 p.
 A representative cross-section of reprints of lectures and
 papers.
43. **Kirk, R. E., and Othmer, D. F., eds.** Encyclopedia of chemical
 technology. 15 vols. Interscience, 1947-56, + 2 supplements,
 1957 and 1960.
44. **Lever, A. E., ed.**
 The Plastics manual. Scientific Press. 1961, 411 p. (annual).
 New ed. in preparation.
45. **Modern Plastics.** Encyclopedia issue. 39 1A, 1962. N.Y.,
 Modern Plastics, 1961, 1,211 p. (annual).
 Data, charts, reviews.

46. Plastics International. Temple Press, 1961, 478 p.
Includes book bibliography, p. 450-2 (134 references).
47. Simonds, H. R., ed.
Source book of the new plastics.
Vol. 1: Reinhold, 1959, 354 p.
Vol. 2: Reinhold, 1961, 310 p.

Nomenclature

48. American Society for Testing Materials.
Glossary of terms relating to rubber and rubber-like materials.
Philadelphia, A.S.T.M., 1956, 121 p. (ASTM STP 184).
49. British Standards Institution.
Glossary of terms used in plastics industries. British Standards Institution, 1951, 60 p. (B.S. 1755: 1951.)
Amendment PD 1954 (March 1953). 460 terms.
50. Delorme, J.
Dictionnaire des matières plastiques et de leur applications.
Paris, Editions Amphora, 1958, 354 p.
French text.
51. Elsevier Publishing Co.
Rubber dictionary in ten languages: English/American; French; Spanish; Italian; Portuguese; German; Dutch; Swedish; Indonesian and Japanese. Compiled and arranged on an English alphabetical base by Rubber Stichting (Rubber Foundation), Delft. Amsterdam, Elsevier; Van Nostrand, 1959, 1,537 p.
52. Handbuch der Internationalen Kunststoffindustrie (International plastics directory).
Zurich, Vlg. fur Internationale Wirtschaftsliteratur, 1958, 1,054 p.
German/English, French; English/German, French and French/German, English vocabularies, p. 873-936.
53. International Union of Pure and Applied Chemistry. Report on nomenclature of Macromolecules. *J. Polymer Science*, 1952, 8, p. 257-77.
54. Kerry, D.
Writing reports on polymers. National College of Rubber Technology, 1960, 24 p.
Tentative draft.
55. Wittfoht, A. M.
Plastics technical dictionary: nomenclature use in processing,

fabricating and using plastics in testing and mould construction. 2 vols. 2nd ed. Munich, Carl Hanser, 1956-9.

Vol. 1: English-German. 1956, 389 p.

Vol. 2: German-English. 1959, 573 p.

Vol. 6: German-Spanish. By A. M. Wittfoht and M. A.

Ahon. 1962, 544 p.

See also 7, 74, 115, 124, 275.

Trade Names

56. Davey, A. B.

Trade names of rubbers, resins and plastics, vol. 3. Shawbury, Rubber and Plastics Research Association of G.B., 1961, 242 p. (Information Circular 452.)

World wide coverage 1955-9. Description of the material with name and location of manufacturer.

Vol. 1: Annotated comprehensive list of trade names of synthetics. R.A.B.R.M., 1949, 230 p. (IBC₃₇₂). *O.P.*

Vol. 2: Annotated comprehensive list of trade names of synthetics. R.A.B.R.M., 1955, 111 p. (IBC₄₂₆). Coverage 1949-54.

Annual supplements.

57. Riley, C.

Trade names of rubbers, resins and plastics, 1960. Shawbury, Rubber and Plastics Research Association of G.B., 1961, 64 p.

Available to non-members. (1961 in preparation.)

See also 37, 45.

Classification

58. British Standards Institution.

Universal Decimal Classification. Complete English edition. 678 Macromolecular materials (Rubbers and plastics). 679 Industries based on stone and other processable materials. British Standards Institution, 1954, 35 p.

(B.S. 1000 [678/679]: 1954.)

59. Centre D'Étude des Matières Plastiques. (21, rue Pinel, Paris XIII^e.)

[Classification of elastomers, textile fibres and plastics] Définitions. *Industries des Plastiques Modernes*, 1960, 12 (5), p. 79-81, 85, 87, 89, 91, 93, 95; (6) p. 56-7, 59, 61, 63.

60. International Union and Applied Chemistry.

Classifications of high polymers: a review prepared by
R. Houwink and H. Bouman. Butterworths, 1960, 54 p.
Compares 27 systems.

High Polymer Chemistry

61. Alfrey, T., Jr., *and others*.
Copolymerisation. Interscience, 1952, 269 p. (High Polymers 8.)
62. Allen, P. W., *ed*.
Technique of polymer characterization. Butterworths, 1959, 256 p.
63. Bamford, C. H., *and others*.
The Kinetics of vinyl polymerisation by radical mechanisms. Butterworths, 1958, 318 p.
64. Battista, O. A.
Fundamentals of high polymers. N.Y., Reinhold: Chapman and Hall, 1958, 140 p.
65. Bawn, C. E. H.
The Chemistry of high polymers. Butterworths, 1948, 250 p.
66. Bevington, J. C.
Radical polymerization. Academic Press, 1961, 188 p.
67. Billmeyer, F. W.
Textbook of polymer chemistry. Interscience, 1957, 518 p.
68. Blout, E. R., *and Mark, H., eds*.
Monomers. A collection of data and procedures on the basic materials for the synthesis of fibers, plastics and rubbers. Interscience, 1950.
Loose-leaf.
69. Bovey, F. A.
The Effects of ionizing radiation on natural and synthetic high polymers. Interscience, 1958, 287 p. (Polymer Reviews 1.)
70. Bovey, F. A., *and others*.
Emulsion polymerization. Interscience, 1955, 455 p. (High Polymers 9.)
71. Burk, R. E., *and Grummitt, O., eds*.
The Chemistry of large molecules. Interscience, 1943, 313 p.
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Block and graft polymers, N.Y. Reinhold, 1960, 166 p.
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Mechanism of polymer reactions. Interscience, 1954, 493 p. (High Polymers 3.)

74. Ceresa, R. J.
Block and graft co-polymers. Butterworth, 1962, 300 p.
1,400 syntheses of block co-polymers. Introduces new nomenclature to cover new developments.
75. Charlesby, A.
Atomic radiation and polymers. Pergamon, 1960, 556 p.
76. D'Alelio, G. F.
Experimental plastics and synthetic resins. N.Y., Wiley; Chapman & Hall, 1946, 185 p.
77. D'Alelio, G. F.
Fundamental principles of polymerization: rubbers, plastics and fibers. N.Y., Wiley; Chapman & Hall, 1952, 517 p.
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Advanced paint chemistry. L. Hill, 1961, 164 p.
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Principles of polymer chemistry. N.Y., Cornell Press, 1953, 672 p.
80. Freidlina, R. Kh., and Karapetyan, Sh. A.
Telemerization and new synthetic materials. Translated from the Russian by Margaret F. Mullins. Ed. by B. P. Mullins. Pergamon, 1961, 102 p.
81. Gaylord, N. G., and Mark, H. F.
Linear and stereoregular addition polymers; polymerization with controlled propagation. Interscience, 1959, 571 p. (Polymer Reviews 2.)
82. Gefter, Ye L.
Organophosphorus monomers and polymers. Translated from the Russian by J. Burdon. Pergamon, 1962, 312 p.
83. Grassie, N.
Chemistry of high polymer degradation processes. Butterworths, 1956, 335 p.
84. Hamann, K.
Die Chemie der Kunststoffe. Berlin, W. de Gruyter, 1960, 143 p.
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Physical chemistry of high polymers. N.Y., Wiley; Chapman and Hall, 1958, 175 p.
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Degradation of vinyl polymers. Academic Press, 1955, 329 p.
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Natural organic macromolecules. Pergamon, 1961, 464 p.