Polymeric Foams: Fundamentals and Types of Foams (Volume 1)

ACS SYMPOSIUM SERIES 1439

Polymeric Foams: Fundamentals and Types of Foams (Volume 1)

Ram K. Gupta, Editor

Department of Chemistry, Kansas Polymer Research Center, Pittsburg State University Pittsburg, Kansas, United States



The paper used in this publication meets the minimum requirements of American National Standard for Information Sciences—Permanence of Paper for Printed Library Materials, ANSI Z39.48n1984. | ISBN 9781713888451 (pod)

Copyright © 2023 American Chemical Society

All Rights Reserved. Reprographic copying beyond that permitted by Sections 107 or 108 of the U.S. Copyright Act is allowed for internal use only, provided that a per-chapter fee of \$40.25 plus \$0.75 per page is paid to the Copyright Clearance Center, Inc., 222 Rosewood Drive, Danvers, MA 01923, USA. Republication or reproduction for sale of pages in this book is permitted only under license from ACS. Direct these and other permission requests to ACS Copyright Office, Publications Division, 1155 16th Street, N.W., Washington, DC 20036.

The citation of trade names and/or names of manufacturers in this publication is not to be construed as an endorsement or as approval by ACS of the commercial products or services referenced herein; nor should the mere reference herein to any drawing, specification, chemical process, or other data be regarded as a license or as a conveyance of any right or permission to the holder, reader, or any other person or corporation, to manufacture, reproduce, use, or sell any patented invention or copyrighted work that may in any way be related thereto. Registered names, trademarks, etc., used in this publication, even without specific indication thereof, are not to be considered unprotected by law.

PRINTED IN THE UNITED STATES OF AMERICA

Foreword

The ACS Symposium Series is an established program that publishes high-quality volumes of thematic manuscripts. For over 40 years, the ACS Symposium Series has been delivering essential research from world leading scientists, including 36 Chemistry Nobel Laureates, to audiences spanning disciplines and applications.

Books are developed from successful symposia sponsored by the ACS or other organizations. Topics span the entirety of chemistry, including applications, basic research, and interdisciplinary reviews.

Before agreeing to publish a book, prospective editors submit a proposal, including a table of contents. The proposal is reviewed for originality, coverage, and interest to the audience. Some manuscripts may be excluded to better focus the book; others may be added to aid comprehensiveness. All chapters are peer reviewed prior to final acceptance or rejection.

As a rule, only original research papers and original review papers are included in the volumes. Verbatim reproductions of previous published papers are not accepted.

ACS Books

Contents

Pre	face	ix
1.	Introduction to Polymeric Foams	1
2.	Types of Polymeric Foams Shashank Mhaske, Karan Chugh, and Umesh Mahajan	25
3.	Polymeric Foams: Mechanisms and Properties	43
4.	Foaming Technology	
5.	Thermoplastic Elastomeric Foams: Challenges, Opportunities and New Approaches. Pratiksha Awasthi, Aiswarya S, and Shib Shankar Banerjee	91
6.	Polystyrene Foams: Materials, Technology, and Applications	121
7.	Polyurethane Foams Abbas Mohammadi, Amirhossein Doctorsafaei, Mohammadreza Ghodsieh, and Saeed Be Boroujeni	
8.	Epoxy Foams	161
9.	Polyethylene Foam	183
10.	Ethylene-Vinyl Acetate Foam	205
11.	K. Sabina, K. Bradeeba, S. Gayathridevi, and M. Sukumar	223
12.	Polyvinyl Chloride Foam	237
13.	Polyimide Foam: Material Synthesis and Applications	257

14. Flame-Retardant Polymeric Foams and Materials of Trains	279
Editor's Biography	299
Indexes	
Author Index	303
Subject Index	305