

**New Edition
of a Bestseller!**

A Revision More Than Ten Years in the Making

Food Properties Handbook

SECOND EDITION

Edited by **Shafiur Rahman** • Sultan Qaboos University, Muscat, Oman

Food Properties Handbook
Second Edition



Edited by
M. Shafiur Rahman

New Approaches for Solving Problems in Food Preservation

Dramatically restructured, more than double in size, the second edition of the **Food Properties Handbook** has been expanded from seven to 24 chapters. In the more than ten years since the publication of the internationally acclaimed and bestselling first edition, many changes have taken place in the approaches used to solve problems in food preservation, processing, storage, marketing, consumption, and even after consumption. Incorporating changes too numerous to list, this updated edition provides new measurement techniques, basic data compiled for diversified food groups, worked-out examples, and detailed graphs and illustrations.

Explores Empirical and Theoretical Prediction Models

The book clearly defines the terminology and elucidates the theory behind the measurement techniques, including applications and limitations of each method. It includes data on sources of error in measurement techniques and experimental data from the literature in graphical or tabular form. The volume also elucidates empirical and theoretical prediction models for different foods with processing conditions, descriptions of the applications of the properties, and coverage of where and how to use the data and models in food processing.

User-Friendly Format Puts the Latest Information within Easy Reach

Still under the aegis of Shafir Rahman, the new edition is now an edited volume, benefitting from the input and expertise of numerous contributors spanning both the globe and the many disciplines that influence the field. Presented in a user-friendly format, the second edition remains the definitive, and arguably the only, source for data on physical, thermal, thermodynamic, structural, and acoustic properties of foods.

FEATURES

- Provides an overview of food properties including definitions, classifications, and predictions
- Presents water activity and sorption isotherm including terminology, measurements techniques, data for different foods, and prediction models
- Discusses thermodynamic and structural characteristics including freezing point, glass transition, gelatinization, crystallization, collapse, stickiness, ice content and state diagram
- Includes coverage of the density, porosity, shrinkage, size, and shape of foods
- Delineates thermophysical properties such as specific heat, enthalpy, thermal conductivity, thermal diffusivity, and heat transfer coefficient

CONTENTS

- Food Properties: An Overview, *M.S. Rahman*
- Water Activity Measurement Methods of Foods, *M.S. Rahman and S.S. Sablani*
- Data and Models of Water Activity. I: Solutions and Liquid Foods, *P.P. Lewicki*
- Data and Models of Water Activity. II: Solid Foods, *P.P. Lewicki*
- Freezing Point: Measurement, Data, and Prediction, *M.S. Rahman, M. Machado-Velasco, M.E. Sosa-Morales, and J.F. Velez-Ruiz*
- Prediction of Ice Content in Frozen Foods, *M.S. Rahman*
- Glass Transitions in Foodstuffs and Biomaterials: Theory and Measurements, *S. Kasapis*
- Glass Transition Data and Models of Foods, *M.S. Rahman*
- Gelatinization of Starch, *S.S. Sablani*
- Crystallization: Measurements, Data, and Prediction, *K. Jouppila and Y.H. Roos*
- Sticky and Collapse Temperature: Measurements, Data, and Predictions, *B.P. Adhikari and B.R. Bhandari*

See reverse side for Other Titles of Interest and ordering information



CRC Press
Taylor & Francis Group

Catalog no. 005X
January 2009, c. 950 pp.
ISBN: 0-8493-5005-0
\$169.95 / £94.00

ORDER ONLINE AT **WWW.CRCPRESS.COM**

CONTENTS continued...

State Diagrams of Foods, *D.Z. Icoz and J.L. Kokini*
 Measurement of Density, Shrinkage, and Porosity, *P.A. Michailidis, M.K. Krokida, G.I. Bisharat, D. Marinos-Kouris, and M.S. Rahman*
 Data and Models of Density, Shrinkage, and Porosity, *P.A. Michailidis, M.K. Krokida, and M.S. Rahman*
 Shape, Volume, and Surface Area, *M.S. Rahman*
 Specific Heat and Enthalpy of Foods, *R.P. Singh, F. Erdogan, and M.S. Rahman*

Thermal Conductivity Measurement of Foods, *J. Ahmed and M.S. Rahman*
 Thermal Conductivity Data of Foods, *J. Ahmed and M.S. Rahman*
 Thermal Conductivity Prediction of Foods, *M.S. Rahman and G. Said Al-Saidi*
 Thermal Diffusivity of Foods: Measurement, Data, and Prediction, *M.S. Rahman and G. Said Al-Saidi*
 Measurement of Surface Heat Transfer Coefficient, *S.S. Sablani*

Surface Heat Transfer Coefficients With and Without Phase Change, *L. Zheng, A. Delgado, and D.-W. Sun*
 Surface Heat Transfer Coefficient in Food Processing, *P.A. Michailidis, M.K. Krokida, and M.S. Rahman*
 Acoustic Properties of Foods, *P.P. Lewicki, A. Marzec, and Z. Ranachowski*
 Appendices
 Index

Other Titles of Interest

HANDBOOK OF FOOD ANALYSIS

SECOND EDITION, THREE VOLUME SET

Leo M.L. Nollet

UNIVERSITY COLLEGE GHENT,
 APPLIED ENGINEERING SCIENCES, BELGIUM

Catalog no. DK2311, 2005, 2,296 pp.
 ISBN: 978-0-8247-5039-8, \$799.00 / £444.00

ENGINEERING PROPERTIES OF FOODS

THIRD EDITION

Edited by

M. A. Rao, Syed S.H. Rizvi, and Ashim K. Datta

CORNELL UNIVERSITY, ITHACA, NEW YORK, USA

Catalog no. DK2185, 2005, 768 pp.
 ISBN: 978-0-8247-5328-3, \$229.95 / £128.00

CHEMICAL AND FUNCTIONAL PROPERTIES OF FOOD SACCHARIDES

Piotr Tomasiak

AGRICULTURAL UNIVERSITY OF CRACOW, POLAND

Catalog no. 1486, 2004, 440 pp.
 ISBN: 978-0-8493-1486-5, \$209.95 / £117.00

FREE SHIPPING ON ALL ORDERS when you ORDER ONLINE at WWW.CRCPRESS.COM

Please indicate quantities next to the title(s) ordered below:

FOOD PROPERTIES HANDBOOK, SECOND EDITION

.....Catalog no. 005X, ISBN: 0-8493-5005-0 at \$169.95 / £94.00 each.

Other titles of interest:

HANDBOOK OF FOOD ANALYSIS, SECOND EDITION, THREE VOLUME SET

.....Catalog no. DK2311, ISBN: 978-0-8247-5039-8 at \$799.00 / £444.00 each.

ENGINEERING PROPERTIES OF FOODS, THIRD EDITION

.....Catalog no. DK2185, ISBN: 978-0-8247-5328-3 at \$229.95 / £128.00 each.

CHEMICAL AND FUNCTIONAL PROPERTIES OF FOOD SACCHARIDES

.....Catalog no. 1486, ISBN: 978-0-8493-1486-5 at \$209.95 / £117.00 each.

Ordering Information: Orders must be prepaid or accompanied by a purchase order. Checks should be made payable to CRC Press. Please add the appropriate shipping and handling charge for each book ordered. All prices are subject to change without notice. If purchasing by credit card please be sure to include the 3 digit security code that appears on the back of your card in the "sec code" field provided below.
U.S./Canada: All orders must be paid in U.S. dollars. TAX: As required by law, please add applicable state and local taxes on all merchandise delivered to AZ, CA, CO, CT, FL, GA, IL, KY, MA, MD, MO, NJ, NY, PA, TN, TX, VA, and Canada. For Canadian orders, please add GST and HST. We will add tax on all credit card orders.
European Orders: All orders must be paid in U.K. £. VAT will be added at the rate applicable. **Textbooks:** Special prices for course adopted textbooks may be available for certain titles. To review a book for class adoption, contact our Academic Sales Department, or submit your textbook evaluation request online at www.crcpress.com/eval.htm **Satisfaction Guaranteed:** If the book supplied does not meet your expectations, it may be returned to us in a saleable condition within 30 days of receipt for a full refund.

SHIPPING AND HANDLING

Region	Delivery Time	First Title	Additional Title	For expedited shipping, call your nearest CRC PRESS office
USA (continental)	3-5 days	\$4.99	\$1.99	
Alaska, Hawaii, Puerto Rico	4-5 days	\$14.99	\$2.99	
Canada	3-7 days	\$7.99	\$1.99	
Latin America	varies by region	\$9.99	\$2.99	
Rest of the World	varies by region	call for pricing		

Visa MasterCard American Express Check Enclosed \$

Sec. Code: _____ Exp. Date: _____
 _____ Month Year

Signature and Telephone Number required on all orders

Signature PO#

Telephone

If you would like to receive information from us by e-mail, please provide your e-mail address below.

E-Mail Address

ORDERING LOCATIONS

**In the Americas:
 CRC PRESS**

PO Box 409267
 Atlanta, GA 30384-9267
 Tel: 1-800-634-7064
 Fax: 1-800-248-4724
From Outside the Continental U.S.
 Tel: 1-561-994-0555
 Fax: 1-561-361-6018
 e-mail: orders@taylorandfrancis.com

**Rest of the World:
 CRC PRESS / BOOKPOINT**

130 Milton Park
 Abingdon, Oxon, OX14 4SB, UK
 Tel: +44 (0) 1235 400 524
 Fax: +44 (0) 1235 400 525
 e-mail:
 (UK): uk.trade@tandf.co.uk
 (Int'l): international@tandf.co.uk

CORPORATE OFFICES

CRC PRESS

6000 Broken Sound Parkway, NW, Suite 300
 Boca Raton, FL 33487, USA
 Tel: 1-800-272-7737
 Fax: 1-800-374-3401
From Outside the Continental U.S.
 Tel: 1-561-994-0555
 Fax: 1-561-361-6018
 e-mail: orders@taylorandfrancis.com

CRC PRESS UK

Albert House, 4th floor
 1 - 4 Singer Street
 London EC2A 4BQ
 UK
 Tel: 44 (0) 20 7017 6000
 Fax: 44 (0) 20 7017 6747
 e-mail: enquiries@crcpress.com