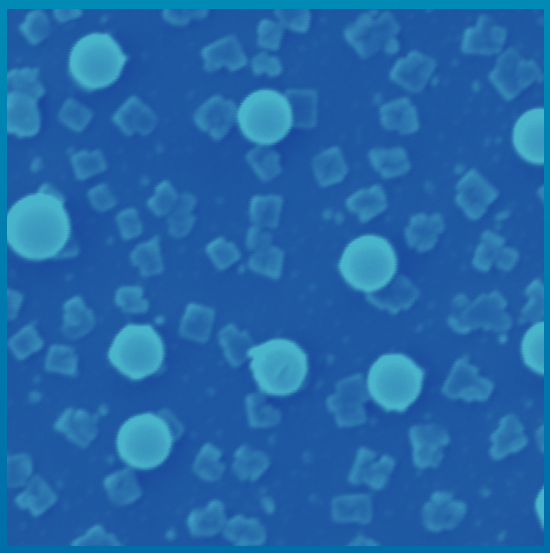
practice guide

NIST recommended

Particle Size Characterization



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960-1

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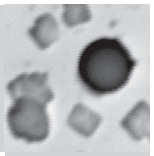

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Materials Science and
Engineering Laboratory

January 2001

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National Institute of Standards and Technology
Special Publication 960-1
Natl. Inst. Stand. Technol.
Spec. Publ. 960-1
164 pages (January 2001)
CODEN: NSPUE2

U.S. GOVERNMENT PRINTING OFFICE
WASHINGTON: 2001

For sale by the Superintendent of Documents
U.S. Government Printing Office
Internet: bookstore.gpo.gov Phone: (202) 512–1800 Fax: (202) 512–2250
Mail: Stop SSOP, Washington, DC 20402-0001

PREFACE

Determination of particle size distribution of powders is a critical step in almost all ceramic processing techniques. The consequences of improper size analyses are reflected in poor product quality, high rejection rates and economic losses. Yet, particle size analysis techniques are often applied inappropriately, primarily due to a lack of understanding of the underlying principles of size analysis, or due to confusion arising from claims and counter-claims of the analytical ability of size determination techniques and instruments.

This guide has been written to address some of these issues and concerns in this regard. The guide is by no means an exhaustive and comprehensive text on particle size analysis, but attempts to convey the practical issues that need to be considered when attempting analysis by some of the more commonly used techniques in the ceramics manufacturing community. The document is written to guide persons who are not experts in the field, but have some fundamental knowledge and familiarity of the issues involved. References to pertinent international standards and other comprehensive sources of information have been included. Data and information from studies conducted at the National Institute of Standards and Technology, and experience gained over years of participation in international round robin tests and standards development, have been used in developing the information presented in this text.

The authors would like to thank and acknowledge the considerable help and contributions from Steve Freiman, Said Jahanmir, James Kelly, Patrick Pei and Dennis Minor and of the Ceramics Division at NIST, for providing critical reviews and suggestions. Thanks are also due to Ed Anderson, Tim Bullard and Roger Weber (Reynolds Metals Co.), Mohsen Khalili (DuPont Central Research and Development), Robert Condrate (Alfred University) and Robert Gettings (Standard Reference Materials Program, NIST) for their role as reviewers of the document. Leslie Smith, Director of the Materials Science and Engineering Laboratory at NIST, is thanked for his support in the production of this guide.

It is our hope that this guide will be added to and revised over the years to come. Please direct your comments and suggestions for future additions and about this text to:

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