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Dispersibility of solid particles into a liquid

Dispersibilité de particules solides dans un liquide

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Foreword

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This document was prepared by Technical Committee ISO/TC 24, *Particle characterization including sieving*, Subcommittee SC 4, *Particle characterization*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

Dispersing particles is crucial for many end-use product properties such as colour, sensorial quality, polishing, film homogeneity, conductivity, therapeutic efficacy, opacity of paints and inks, as well as UV protection in cosmetics. Dispersions are evaluated over the life-cycle of a product, beginning in the design stage, through production and for the end product. Additionally, some type of dispersion process is a prerequisite for many routine particle characterization methods. Finally, the state of dispersion is an important issue for risk evaluation of fine particles and for classification of nano-enabled products[37].

However, the ease with which a particulate material is dispersed in a liquid phase to meet established or desired criteria, commonly referred to as dispersibility, is not well defined; and its common usage varies widely across different fields and applications. Most existing definitions are application or product specific. Therefore, the need exists for a document that summarizes the common practice, and which also clearly defines dispersibility in a generic manner that is not application dependent. This document addresses that stated need.

The definition for dispersibility is established based on a survey of existing standards of national and international organisations as well as standardized procedures of industry in different application fields. With respect to the final product in different applications, the state of dispersion can be characterized according to the uniformity of the dispersed phase over the entire volume and according to the mean particle size or size distribution with respect to application specific criteria.

This document does not address intermediate- or long-term alterations including aging of a suspension following processing, nor does it address secondary destabilization phenomena. Stability and shelf life are considered in specific standards such as ISO/TR 13097 and ISO/TR 18811.