

Determination of particle size distribution — Single-particle light interaction methods —

Part 1: Light interaction considerations

ICS 19.120

National foreword

This British Standard reproduces verbatim ISO 13323-1:2000 and implements it as the UK national standard. Together with BS ISO 13323-2 and BS ISO 13323-3 (to be published), it supersedes BS 3406-7:1988 which will be withdrawn on publication of BS ISO 13323-2 and BS ISO 13323-3.

The UK participation in its preparation was entrusted by Technical Committee LBI/37, Sieves, screens and particle sizing, to Subcommittee LBI/37/4, Sizing by methods other than sieving, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

Attention is drawn to the following errors in the text of the ISO standard.

1. The definition of Stokes number should be amended as follows:
 - delete “**3.1.5 Stoke’s number**” and substitute “**3.1.15 Stokes number**”;
 - delete “time for a particle to accommodate a fluid velocity change” and substitute “time required for a particle to adjust its velocity to a new condition of forces”;
 - after equation (2), insert the following Note: “Note. Strictly, this equation applies only under laminar flow conditions”.
2. The definition of extinction coefficient should be amended as follows:
 - delete “**3.1.6**” and substitute “**3.1.16**”.
3. With reference to equation (A.3), it may be noted that the Mie scattering equation is a rigorous solution for all sizes of particle. For very small particles the Mie solution and the Rayleigh approximation agree.
4. With reference to equation (B.1), the Lambert-Beer law should read as follows:
$$I = I_0 \exp(-Ac_n l)$$

Cross-references

The British Standards which implement international publications referred to in this document may be found in the *BSI Catalogue* under the section entitled “International Standards Correspondence Index”, or by using the “Search” facility of the *BSI Electronic Catalogue* or of British Standards Online.

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Summary of pages

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Amendments issued since publication

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