



BSI Standards Publication

Characterization of bulk materials — Determination of a size-weighted fine fraction and crystalline silica content

Part 1: General information and choice of test methods

National foreword

This British Standard is the UK implementation of EN 17289-1:2020.

The UK participation in its preparation was entrusted to Technical Committee EH/2/2, Work place atmospheres.

A list of organizations represented on this committee can be obtained on request to its committee manager.

BSI, as a member of CEN, is obliged to publish EN 17289-1:2020 as a British Standard. However, attention is drawn to the fact that during the development of this European Standard, the UK committee voted against its approval.

The UK committee submitted a negative vote because of concerns about the standards for measuring a size-weighted fine fraction (SWFF) and the size-weighted fine fraction of crystalline silica (SWFFCS) in bulk material that were not adequately addressed in the final versions. These concerns relate to important technical issues, such as: the particle size of the bulk material to which these standards are applied; how an accurate particle density is determined for complex situations; the use of two different probability functions; and the magnitude of biases and uncertainties for real samples.

Although the method may be useful for industry to compare materials, some members of the UK committee expressed concern about the proposal for self-classification and labelling of mineral substances and mixtures to be based on the application of SWFFCS (<https://safesilica.eu/reach-classification-and-labelling/>). Regulatory concerns and the importance of measuring and reporting the total amount of crystalline silica of the whole material to users are described in Foster R (2014) (*Ann. Occup. Hyg.* 58, 6, 787–790 doi:10.1093/annhyg/meu041).

The absence of any upper particle size limit for bulk materials (or a detailed normative method for assessing coarser powders and products) could lead to underestimation due to the cubic relationship of particle mass with the radius.

There is also potential for comminution of a bulk material during its handling and processing, increasing the fine fraction of particles. Directive (EU) 2017/2398 of the European Parliament and of the Council states that there is sufficient evidence of the carcinogenicity of respirable crystalline silica (RCS) dust generated from work processes and emphasizes the importance of following good practice (<https://eur-lex.europa.eu/eli/dir/2017/2398/oj>). Guidance to support the effective implementation of exposure limit values is available from www.nepsi.eu. In the UK, RCS is regulated under the Control of Substances Hazardous to Health Regulations (2002). The regulations and guidance are available at www.hse.gov.uk/coshh.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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