PD CEN/TS 17274:2018

BSI Standards Publication

Nanotechnologies - Guidelines for determining protocols for the explosivity and flammability of powders containing nano-objects (for transport, handling and storage)

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National foreword

This Published Document is the UK implementation of CEN/TS 17274:2018.

The UK participation in its preparation was entrusted to Technical Committee NTI/1, Nanotechnologies.

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

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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English Version

Nanotechnologies - Guidelines for determining protocols for the explosivity and flammability of powders containing nano-objects (for transport, handling and storage)

Nanotechnologies - Lignes directrices sur les protocoles permettant de déterminer les caractéristiques d'explosivité et d'inflammabilité des poudres contenant des nano-objets (en vue de leur transport, manipulation et stockage)

Nanotechnologien - Leitfaden für Protokolle zur Bestimmung des Brand- und Explosionsverhaltens von Pulvern, die Nano-Objekte beinhalten (für Transport, Handhabung und Lagerung)

This Technical Specification (CEN/TS) was approved by CEN on 28 September 2018 for provisional application.

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

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European foreword

This document (CEN/TS 17274:2018) has been prepared by Technical Committee CEN/TC 352 "Nanotechnologies", the secretariat of which is held by AFNOR.

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1 Scope

This document provides protocol guidelines for determining explosivity and flammability characteristics of powders containing manufactured nano-objects. These explosivity and flammability characteristics are needed for safety data sheets for safe storage, handling and transport of any powder.

In particular, this document will provide protocol guidelines concerning:

— the determination of flammability characteristics of powders containing nano-objects with regard to sensitivity to ignition sources;

— the ability of a powder containing nano-objects to generate an explosive atmosphere and the assessment of its explosion characteristics.

This document is not suitable for use with recognized explosives, such as gunpowder and dynamite, explosives which do not require oxygen for combustion, or substances or mixtures of substances which may under some circumstances behave in a similar manner. Where any doubt exists about the existence of hazard due to explosive properties, it is best to seek expert advice.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 14034-1:2004+A1:2011, *Determination of explosion characteristics of dust clouds — Part 1: Determination of the maximum explosion pressure p_{max} of dust clouds*

EN 14034-2:2006+A1:2011, *Determination of explosion characteristics of dust clouds — Part 2: Determination of the maximum rate of explosion pressure rise $(dp/dt)_{max}$ of dust clouds*

EN 14034-3:2006+A1:2011, *Determination of explosion characteristics of dust clouds — Part 3: Determination of the lower explosion limit LEL of dust clouds*

EN 14034-4:2004+A1:2011, *Determination of explosion characteristics of dust clouds — Part 4: Determination of the limiting oxygen concentration LOC of dust clouds*

EN ISO/IEC 80079-20-2:2016, *Explosive atmospheres — Part 20-2: Material characteristics — Combustible dusts test methods (ISO/IEC 80079-20-2:2016)*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

3.1
powder
assembly of discrete particles usually less than 1 mm in size

[SOURCE: EN ISO 3252:2000, 1001]