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Workplace atmospheres — Characterization of ultrafine aerosols/ nanoaerosols — Determination of the size distribution and number concentration using differential electrical mobility analysing systems

Air des lieux de travail — Caractérisation des aérosols ultrafins/ nanoaérosols — Détermination de la distribution granulométrique et de la concentration en nombre à l'aide de systèmes d'analyse différentielle de mobilité électrique

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Foreword

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The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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Introduction

Within occupational hygiene, aerosol concentrations have been traditionally measured in terms of mass concentrations. For some ultrafine aerosols and nanoaerosols, other exposure metrics such as the number and surface area concentration are likely to become important for predicting health effects, depending on chemical and physical properties. This International Standard provides a method for determining the number concentration and size distribution of ultrafine aerosols and nanoaerosols at workplaces by using differential mobility analysing systems (DMASs). This can be used by occupational hygienists and researchers to measure the concentration at some workplaces. The system is generally not suitable for personal exposure measurements.