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Part 41: Assessment and classification

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Foreword

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This document was prepared by Technical Committee ISO/TC 146, *Air quality*, Subcommittee SC 6, *Indoor air*.

A list of all parts in the ISO 16000 series can be found on the ISO website.

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

In our society, privately and professionally, people stay indoors most of the day. Therefore, the quality of the indoor air is very decisive for the quality of life and health. This especially applies to small children, sick people and other vulnerable groups of persons.

Numerous scientific studies verify the positive effects of good indoor air on the overall performance during learning (e.g. in kindergartens and schools) and working. A consequence of improved indoor air quality can be, for example, reduced sickness rates and absenteeism.

The entitlement to high-quality indoor air does not contradict economical aspects of energy- and cost-efficiency. Improvements in the quality of indoor air are achievable with simple measures, for example, change of behaviour patterns.

This document describes a procedure to classify the air quality of indoor spaces using quality classes. These quality classes enable the allocation of the room air to a high, medium or low quality. The quality classes are based on criteria for physical, chemical and biological parameters according to the state of science and research. These criteria can be both concentration values in the room air (e.g. with formaldehyde) as well as sensory and other findings in the room itself (e.g. with mould). The basis for classifying a measured value of a parameter in a quality class is the definition of class boundaries for quality classes A to C by national institutions, using guide values from national guidelines, European and international publications and trade literature.

The most frequent pollutant sources indoors are human activities (e.g. domestic-, hobby- and cleaning activities, tobacco smoke), combustion processes as well as building materials, furnishings and interior design materials. The exception is the radioactive inert gas radon, which mostly originates from the geological subsoil and enters the interior spaces via leaks in the building envelope.

A variety of substances can emit into the indoor air from the most diverse pollution sources. For this reason, the single analysis of a source or pollutant cannot be used as a substitute for an overall assessment of the indoor air. A meaningful assessment of the indoor air is only achievable by an overall assessment of all pollutant sources and substances.

This document is intended for specialists who deal with the assessment of indoor air in the course of planning, construction, operation and use of buildings (e.g. indoor-experts, architects, specialist planners of trades, building owners, building developers and contracting authorities, maintenance engineers, lessors). Also included are producers and distributors of products, that are installed and/or operated indoors (e.g. building products), and possible users.