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Ophthalmic optics — Contact lens care products — Method for evaluating *Acanthamoeba* encystment by contact lens care products

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National foreword

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The UK participation in its preparation was entrusted to Technical Committee CH/172/9, Contact lenses and contact lens care products.

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

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT), see the following URL: [Foreword — Supplementary Information](#).

The committee responsible for this document is ISO/TC 172, *Optics and photonics*, Subcommittee SC 7, *Ophthalmic optics and instruments*.

Introduction

Acanthamoeba is a genus of small free-living amoeba common to most soil and aquatic habitats.[1],[2] The organism is characterized by a life cycle of a feeding and dividing trophozoite which, in response to adversity, can transform into a resistant cyst stage.[1],[2] *Acanthamoeba* cysts have been shown to resist extremes of temperature, pH, desiccation, and most chemical disinfectants at normal concentration for use.[1],[2],[3],[4]

Recently, it has been observed that a contact lens disinfecting solution associated with a significant number of *Acanthamoeba* keratitis cases was able to induce trophozoite encystment.[5],[6],[7] Such a phenomenon is of important concern as *Acanthamoeba* cysts can be resistant to contact lens disinfection systems and this can increase the risk of acquiring *Acanthamoeba* keratitis.[3],[4],[7],[8],[9]

This International Standard provides a methodology for assessing the capability of a contact lens disinfecting solution to induce *Acanthamoeba* trophozoite encystment. This method does not describe methodology to assess the efficacy of a contact lens disinfecting product against *Acanthamoeba* spp.

