

cleadew

FOR **soft**

ADVANCED CARE SYSTEM

FOR ALL SOFT CONTACT LENSES
INCLUDING SILICONE HYDROGEL LENSES

Lens care system for disinfecting, cleaning,
rinsing and storing for all soft contact lenses



positive
impact

OphTECS

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FEATURE 1
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Disinfect

Strong disinfectant efficacy due to Povidone iodine

The component povidone iodine is a broad spectrum antibacterial disinfectant, and it exhibits strong disinfectant efficacy not only against the stand-alone standard strain as defined by ISO 14729 but even against clinical isolates and Acanthamoeba that are resistant to disinfectants. Microorganisms adhering to the contact lenses are also effectively destroyed by cleansing. Disinfection mechanism of Povidone iodine H_2OI^+ that is generated by oxidation of water by free iodine shows the bactericidal action by reacting with the membranous protein (-SH group, tyrosine, histidine) of bacterial and viral surface.

Povidone Iodine has a strong effect not only against standalone test (ISO 14729) bacteria but also against clinical isolates (planktonic bacteria/adhering bacteria)

Standalone test bacteria (standard strain)

	<i>P. aeruginosa</i>	<i>S. aureus</i>	<i>S. marcescens</i>	<i>C. albicans</i>	<i>F. solani</i>
Log reduction value (log/mL)	4,3	4,0	4,6	2,5	4,5

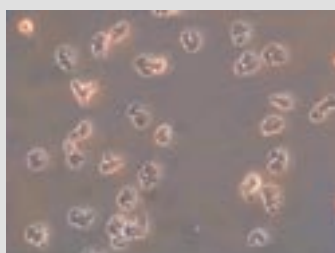
Testing method: $1.0 \times 10^5 \sim 10^6$ cfu/mL Test bacteria are added to the disinfectant on the basis of the standalone test and made to stand for the period as directed. The viable bacterial count after that is measured.

Povidone Iodine is highly effective even against resilient Acanthamoeba. Microorganisms are destroyed instantaneously.

Ninety-nine percent or more of Acanthamoeba, the cause of Acanthamoeba keratitis, can be effectively destroyed. Povidone iodine swiftly targets and eliminates the cytoplasmic membrane of microorganisms, instantly rendering them inactive. This action extends to microorganisms such as Acanthamoeba, which can be efficiently eradicated through cleansing before they enter cyst formation.

Injecting povidone iodine disinfectant into Acanthamoeba trophozoites instantly destroys their cytoplasmic membrane, effectively killing them.

(Ophtecs company data)



Before disinfection



After disinfection

FEATURE 2

Clean

Excellent cleaning efficacy due to proteolytic enzyme

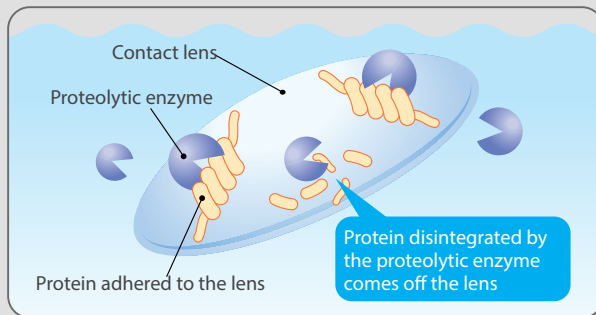
The sensation of dryness and discomfort experienced while wearing contact lenses is often attributed to the presence of protein material, particularly lipocalin, in the lacrimal fluid^{*1}. Deposits on the lenses can lead to ocular lesions. **cleadew** efficiently breaks down and removes these protein deposits by utilising proteolytic enzymes.

^{*1} Negar Babaei Omali, Zhenjun Zhao, Hua Zhu, Daniel Tilia, Mark D.P. Willcox. Quantification of individual proteins in silicone hydrogel contact lens deposits. *Molecular Vision* 2013; 19 : 390-399

cleadew's method of removing protein

Mechanism of removal by proteolytic enzymes

General soft contact lens care supplies remove the protein contamination by ionic movement. On the other hand, proteolytic enzymes incorporated in two-layered tablets of **cleadew** can disintegrate the protein material and can remove it from the lenses.

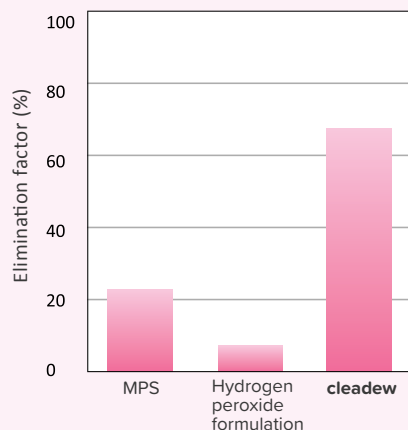


(Image drawing)

Effect of cleaning complex deposits of protein material/lipid and lipocalin

By removing complex deposits of protein material/lipid adhering to the lenses and lipocalin, wearer's comfort can be improved.

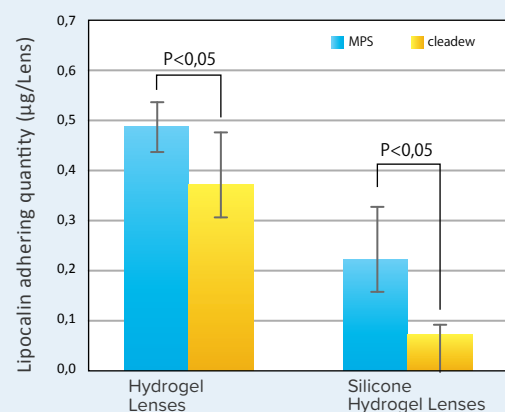
Cleaning efficacy with respect to complex deposits



Testing method: Lenses to which complex deposits of protein material and lipids has adhered were processed as directed by various care supplies and the elimination factor was calculated.

(Ophtecs company data)

Cleaning efficacy with respect to lipocalin



Testing method: After using for 2 weeks by combining each ionic lens with disinfectant, the lipocalin quantity adhering to each lens was metered by HPLC.

(Ophtecs company data)

FEATURE 3

Safety

Highly safe for the eyes

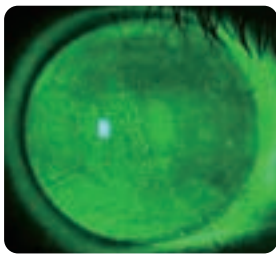
The concentration of povidone iodine in **cleadew** is carefully chosen to ensure safety for both the cornea and conjunctiva. Additionally, after neutralisation, the accompanying rinsing solution ensures minimal risk of the disinfectant coming into contact with the eyes before wearing the lenses. It boasts excellent compatibility with Silicone Hydrogel Lenses, ensuring comfortable wear.

Reduction in the risk of occurrence of corneal staining

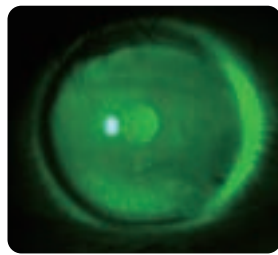
In terms of corneal and conjunctival safety, **cleadew** stands out compared to other multipurpose disinfecting solutions (MPDS). The incidence of solution-induced corneal staining (SICS) is notably lower ($p \leq 0.011$) than with other solutions, including hydrogen peroxide formulations. This underscores the exceptionally high level of safety for the cornea and conjunctiva when using **cleadew**.

cleadew is suitable even for Silicone Hydrogel Lenses

Due to the high biological compatibility of povidone iodine and its automatic neutralisation, the disinfecting component does not directly enter the eyes. Consequently, it has been verified that the impact on corneal epithelial cells is minimal, effectively controlling the pathogenesis of superficial punctate keratitis (SPK).



PHMB based MPDS



cleadew

Testing method:

The balafilcon A lenses were treated with **cleadew** and MPDS respectively. After 16 hours, the lenses were worn, and observations were made 2 hours later.

(Ophtecs company data)

cleadew is easy to use:

Tablet and liquid formulations are placed in the lens case, left to stand for 4 hours, and the lenses can be worn after a light rinse. With automatic disinfection, cleaning, and neutralisation processes, the risk of forgetting neutralisation is eliminated. The liquid turns orange during disinfection, allowing visual confirmation of care progress.

CONTENTS



Structure of tablet



Outer layer :

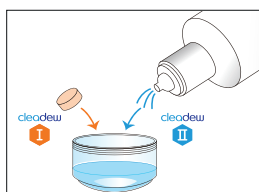
Povidone iodine

Inner core :

Neutraliser and protease

※Surface coating dissolves gradually.

HOW TO USE

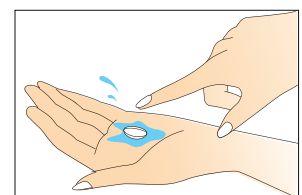


1 Place a **cleadew** **I** tablet in the center of the bottom of the lens case. Fill the case with **cleadew** **II** up to the indicated line and tightly close the cap. Do not use a discoloured or broken tablet.

4 hours or longer



2 Let the lenses soak for at least 4 hours. The cleaning process begins when the solution changes colour.



3 Rinse the lenses with **cleadew** **II** in your palm before wearing them.