

Business Unit Pharma

THE WORLD OF ANTISEPTICS

A FOCUS ON OCTENIDINE



AGENDA

1. ANTISEPTICS
2. THE DIFFERENT OPTIONS
3. WHY OCTENIDINE?

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ANTISEPTICS

CONTEXT

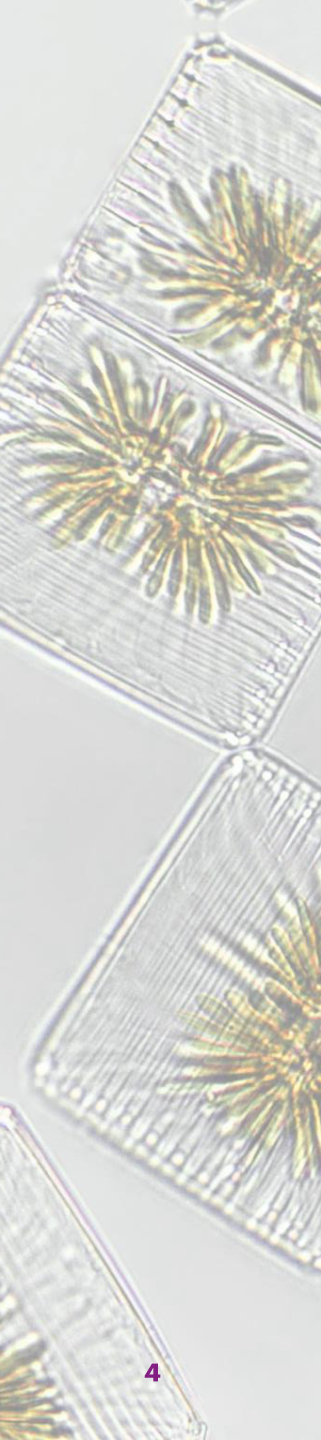
DEFINITION AND CLASSIFICATION

Definition of antiseptics

Antiseptics are **chemicals** applied to the **skin or other living tissues** with the aim of **inhibiting microbial growth** and, thus, to **reduce the load** of pathogens, **reduce the risk** of infection and to **treat infections** (Hübner, 2010; Babalska, 2021).

Classification of antiseptics

According to their chemical structure, antiseptics can be classified as: alcohols, quaternary ammonium compounds, diguanides, antibacterial dyes, peroxides, inorganic iodine compounds, phenol derivatives or quinoline derivatives (Kutscher, 2024).



ANTISEPTICS

APPLICATIONS AND IDEAL FEATURES

Applications of antiseptics

Antiseptics can be applied to the **surfaces of the body** (skin, mucous membranes or surface wounds), be used in **hospitals and healthcare facilities** (to control the risk of infection or prevent nosocomial infections), by **medical staff** (for hands decontamination, pre-operative clean of the skin of surgical site, cleanse chronic and acute wounds, or treat open wounds and skin infections), or by the **general public** (when applied in homes and workspaces to reduce the spread of infections) (Babalska, 2021).

Ideal features of antiseptics

The ideal antiseptic should possess a myriad range of features, including a **broad and good antimicrobial activity** against bacterial biofilm and anti-microbial resistance, **low cytotoxicity**, not showing **teratogenic, carcinogenic or mutagenic** features, possess **low anaphylaxis and sensitizing risk** and should **not cause pain**. It should demonstrate a **strong and fast-acting activity** for prophylaxis purposes and demonstrate a **slow-acting activity** for therapeutic purposes, feature appropriate **chemical and physical properties** (such as color, smell, consistency and taste), and have the capacity to be **used alone or in combination** (Kramer, 2018; Babalska, 2021; Mrozikiewicz-Rakowska, 2023).

MODE OF ACTION

PHARMACOLOGICAL VS MEDICAL DEVICES

Antiseptics are broadly classified as **pharmacological drugs** or **medical devices**, depending on their primary mode of action. Their mode of action depends on the type of antiseptic agent, the type of application and the targeted pathogen (Kramer, 2018; Mrozikiewicz-Rakowska, 2023).

Pharmacological antiseptics act **pharmacologically, metabolically** and/or **immunologically**. For example, these antiseptics may bind to adhesion proteins, or their biochemical or immunological destruction can inhibit attachment of bacteria (e.g.: iodine products).

On the other hand, antiseptics that are classified as medical devices act primarily through **physical interactions**. For example, rinsing, absorption and moisture regulation (e.g.: silver compounds) (Babalska, 2021; Mrozikiewicz-Rakowska, 2023).



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