

When and how to choose a sporicidal product for surface disinfection

Effective surface disinfection is a key component of infection prevention in healthcare settings, but not all situations require the same level of antimicrobial activity. This document provides a practical overview to help healthcare professionals understand when sporicidal products are appropriate, how they differ from other disinfectant types, and how to align product choice with clinical risk, regulatory expectations, and intended use.

WHEN a three-fold, risk-based approach

In healthcare environments, surface disinfection strategies should be adapted based on risk. The decision to use a sporicidal product depends on the patient risk, surface risk, and pathogen risk, as well as whether disinfection is being performed as part of routine practice or in response to an outbreak.



The level of disinfectant efficacy required depends on the assessed risk. In routine situations and low- to moderate-risk areas, surface disinfection is performed as part of standard precautions and typically requires bactericidal, yeasticidal, and activity against enveloped viruses to control risks.

In outbreak situations or higher-risk areas, additional efficacy may be required to prevent persistence and transmission of spores on surfaces – including bactericidal, yeasticidal, activity against non-enveloped viruses with a limited spectrum (eg norovirus) and, where relevant, activity against bacterial spores such as *Clostridioides difficile*. Aligning disinfectant selection with the required efficacy spectrum helps ensure appropriate infection prevention without unnecessary escalation.

HOW matching risk assessments to product efficacy

As the risk profile increases, so does the level of antimicrobial activity required. While routine disinfection may be sufficient for controlling vegetative microorganisms, higher-risk clinical scenarios may necessitate disinfectants with broader efficacy, including sporicidal activity, to effectively interrupt transmission and protect patients.

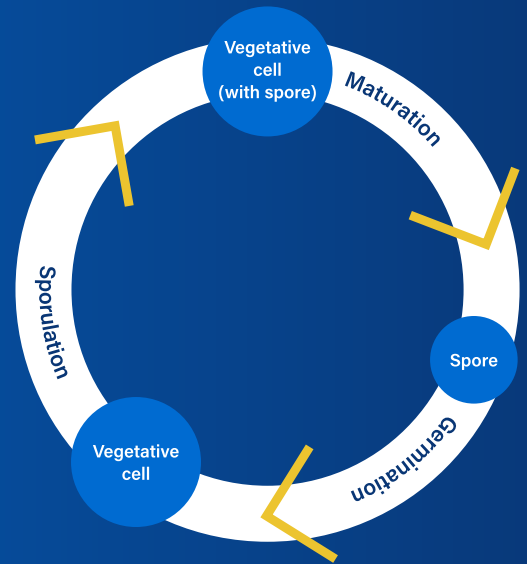
	Example pathogens	Active substance required
HIGH RISK	<ul style="list-style-type: none">× Prions× Bacterial spores	<ul style="list-style-type: none">▪ Peracetic acid▪ Chlorine dioxide (ClO₂)▪ Hydrogen peroxide▪ Aldehydes▪ Sodium hypochlorite
MODERATE RISK	<ul style="list-style-type: none">× Mycobacteria× Filamentous fungi× Non-enveloped viruses	<ul style="list-style-type: none">▪ Povidone-iodine (PVP-I)▪ Phenolics▪ Complex quaternary ammonium (QAC) compound formulations▪ Biguanides-based formulations
LOW RISK	<ul style="list-style-type: none">× Yeasts× Enveloped bacteria× Vegetative Gram-positive bacteria× Vegetative Gram-negative bacteria	<ul style="list-style-type: none">▪ 70% IPA/ethanol▪ Simple QAC solutions▪ Simple biguanide solutions

Please note: grouping is indicative; efficacy depends on formulation, concentration, and conditions of use.

Understanding different types of antimicrobial activity

Sporicidal products are not the only option available for surface disinfection in healthcare settings. Different disinfectant types provide different levels of antimicrobial activity, targeting distinct stages of the bacterial lifecycle.

Bactericidal products act on actively growing (vegetative) bacterial cells, while sporostatic products inhibit spore germination or subsequent growth, and sporicidal products act directly on bacterial spores. These stages differ in their ability to persist in the environment and contribute to risk transmission, making it important that product activity aligns with the level of control required.



At-a-glance product comparison

	Bactericidal	Sporostatic	Sporicidal
Overview	Kills vegetative bacterial cells; does not act on spores	Inhibits spore germination or growth without destroying spores	Destroys vegetative cells with bacterial spores, where growth is limited, interrupting transmission
Application	Routine disinfection under standard precautions in low-risk areas	Situations where spore transmission risk is low	Outbreak situations, terminal disinfection, and high-risk areas
EN standards used to support claims	Bactericidal efficacy demonstrated using relevant EN standards, including EN 13727 and EN 16615	No dedicated EN standard exists to substantiate sporostatic claims	Sporicidal efficacy demonstrated using EN 17126 and, for surfaces with mechanical action, EN 17846
Active substances (indicative)	Alcohols, simple QACs, and simple biguanides	Certain phenolics or QAC formulas	Peracetic acid, hydrogen peroxide, chlorine-based compounds, and aldehydes
Test reports	Laboratory reports demonstrating bactericidal efficacy	No exist	Accredited laboratory test reports (ISO 17025 recommended)