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GUIDANCE FOR INFECTION PREVENTION & CONTROL

SoChlor (hypochlorous acid) vs peracetic acid generating products

An evidence-based review of real-world performance and safety, to understand potential impact on clinical settings.

REVIEWED

SoChlor / NaDCC

Generates hypochlorous acid. Simpler preparation, no HSE / ECHA hazard classification for hypochlorous acid, 5-year shelf life, resistance to interference by dirt.

REVIEWED

Peracetic acid products

Carries escalating HSE / ECHA hazard classifications, variable dosing from sachet formats, and more complex preparation requirements.

1. Real-world performance

SoChlor more effective against biofilm pathogens

SoChlor / NaDCC

Releases hypochlorous acid gradually, maintaining potency even when organic matter (blood, dirt, biofilm) is present. Found to be more effective than peracetic acid against Pseudomonas aeruginosa in biofilm — one of the toughest microbial challenges in clinical environments.

Peracetic acid products

Performance is more vulnerable to environmental conditions. In sachet formats, poor solubility and inconsistent fill weights can reduce the amount of active ingredient delivered. Some manufacturers overfill sachets to compensate, increasing chemical waste and cost.

Pseudomonas aeruginosa biofilm - log reduction data -

Hospital-acquired infections represent a significant and costly patient safety challenge, with biofilms in sink drains contributing to the transmission of multi-drug resistance organisms (MDROs) such as CPE. Martin et al. evaluated the efficacy of three hospital-grade disinfectants against Pseudomonas aeruginosa biofilms to identify a reliable solution for drain disinfection in clinical settings.

Martin et al., Infection Prevention in Practice, 2025

Link to study: https://www.sciencedirect.com/science/article/pii/S2590088925000101

Antimicrobial	Log reduction	Real reduction factor
Hypochlorous acid from NaDCC	**≥8.7**	**501,187,234**
Peracetic acid	3.82	6,607
Sodium hypochlorite	3.78	6,026

75,000×

Based on this academic study, NaDCC is over 75,000 times more effective than peracetic acid at eradicating Pseudomonas aeruginosa biofilm pathogens. A log reduction difference of 4.88 represents a real reduction factor difference of 75,858. Peracetic acid demonstrated similar performance to sodium hypochlorite (the active in liquid bleach).

Key difference: SoChlor provides consistent, controlled dosing. Peracetic acid products may deliver variable performance and unnecessary waste.

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2. Surface residues

SoChlor leaves surfaces cleaner

SoChlor / NaDCC

When used correctly, leaves minimal residue, supporting cleaner surfaces and reducing the risk of microbial regrowth.

Peracetic acid products

Undissolved chemicals means less biocide delivered in solution, compromising antimicrobial performance and creating waste. Water-soluble sachet paper introduces cellulose fibres, a potential nutrient source for microorganisms after cleaning.

Key difference: Residual cellulose from sachet packaging can support microbial regrowth — a risk absent with NaDCC tablet formats.

3. Safety and hazard classification

SoChlor contains no oxidising agents in neat form. Peracetic acid generating products contain sodium percarbonate, a strong oxidiser. There's an even more concerning difference in hazards between the active biocides...

Hypochlorous acid

Hypochlorous acid currently carries no hazard classification under HSE / ECHA.

Peracetic acid

Peracetic acid has several hazards, which have recently been updated (mandated from 1st May 2026), to include 2 new fatal hazards for inhalation and skin contact.

New HSE / ECHA classifications around Peracetic acid effective 1 May 2026

Before 1st May 2026		From 1st May 2026
H242 - Heating may cause a fire		**H242 -** Heating may cause a fire
H332 - Harmful if inhaled	NEW	**H330 - Fatal if inhaled**
H312 - Harmful in contact with skin	NEW	**H310 - Fatal in contact with skin**
H302 - Harmful if swallowed	NEW	**H301 - Toxic if swallowed**
H314 - Causes severe skin burns and eye damage		**H314 -** Causes severe skin burns and eye damage
H400 - Very toxic to aquatic life		**H400 -** Very toxic to aquatic life
H226 - Flammable liquid and vapour	NEW	**H410 - Very toxic to aquatic life with long-lasting effects**

Research

Research by B. Hawley et. al. (Ann Work Expo Health 2018, Am J Ind Med. 2024) reported peracetic acid products used for disinfection in hospitals creating acute nasal and eye irritation and respiratory issues (shortness of breath, wheezing, chest tightness)

Respiratory Symptoms in Hospital Cleaning Staff Exposed to a Product Containing Hydrogen Peroxide, Peracetic Acid, and Acetic Acid (Link: https://pmc.ncbi.nlm.nih.gov/articles/PMC5757516/)

Eye and airway symptoms in hospital staff exposed to a product containing hydrogen peroxide, peracetic acid, and acetic acid (Link: https://pmc.ncbi.nlm.nih.gov/articles/PMC10431326/)

Key difference: Hypochlorous acid carries no HSE / ECHA hazard classification. Peracetic acid now includes fatal inhalation and skin contact designations.

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4. Ease of preparation

SoChlor faster and simpler to use

SoChlor / NaDCC

Dissolves in cold water. No temperature control required. Fast and consistent activation — reducing preparation steps and the risk of user error during busy clinical workflows.

Peracetic acid products

Typically requires water at 35–40°C to activate and slower to dissolve. Requirements for temperature monitoring in combination with long preparation time increases likelihood of mistakes, particularly under time pressure.

Key difference: SoChlor dissolves faster, requires no temperature monitoring, further reducing preparation time and lowering the risk of user error.

5. Shelf life, storage and sustainability

SoChlor lasts 2.5x longer

5 years	2 years
SoChlor shelf life	Peracetic acid products shelf life

SoChlor / NaDCC

Five-year shelf life. Requires up to three times less chemical by weight, reducing storage footprint and waste. Better suited to bulk procurement and emergency stockpiling.

Peracetic acid

Two-year shelf life. More reactive chemistry means less stability in storage. Higher chemical usage increases packaging, disposal, and procurement burden.

Key difference: SoChlor lasts more than twice as long and requires significantly less chemical — reducing procurement frequency, waste, and environmental impact.

6. Operational and workflow impact

SoChlor lower training burden

SoChlor / NaDCC

Simple preparation, straightforward storage, lower hazard classification. Ideal for routine high-volume use. Lower training overhead and reduced risk of error during preparation and use.

Peracetic acid products

More complex preparation and higher hazard profile. Escalating HSE / ECHA classifications for the active biocide.

Key difference: Peracetic acid products are more hazardous, complex, and time consuming during preparation and use than SoChlor, increasing safety risks, likelihood of errors and staff time.

SoChlor advantages at a glance

Hypochlorous acid has no HSE / ECHA hazard classification	Lower risk
Superior biofilm performance	Outperforms Peracetic acid against P. aeruginosa**
Minimal surface residue	No residue or chemicals from undissolved sachets
Cold water activation	No need for exact temperature monitoring, lower error risk, faster - saving staff time
5-year shelf life	More than 2.5x longer than peracetic acid
Less chemical by weight	Up to 3x less chemical usage

SoChlor is simpler, faster, safer, more sustainable and more effective.

References:

ECHA CHEM — Peracetic Acid (EC 201-186-8): Substance Overview
Link: https://chem.echa.europa.eu/100.001.079/overview?searchText=peracetic%20acid

ECHA CHEM — Hypochlorous Acid (EC 231-959-5): Substance Overview
Link: https://chem.echa.europa.eu/100.029.302/overview?searchText=hypochlorous%20acid

ECHA — Table of Harmonised Entries in Annex VI to the CLP Regulation
Link: https://echa.europa.eu/information-on-chemicals/annex-vi-to-clp

HSE — The GB Mandatory Classification and Labelling List (GB MCL List)
Link: https://www.hse.gov.uk/chemical-classification/classification/mcl-list.htm

HSE — Publications Supporting Ministerial Decisions on New or Revised GB Mandatory Classification and Labelling
Link: https://www.hse.gov.uk/chemical-classification/classification/publication-template.htm

HSE — Agency Opinion on the Classification and Labelling of Peracetic Acid (February 2024)
Link: https://www.hse.gov.uk/chemical-classification/assets/docs/cwbsd-aaqf-0424.pdf

Article: Sodium Dichloroisocyanurate: A Promising Candidate for the Disinfection of Resilient Drain Biofilm" — Open Forum Infectious Diseases, Vol. 12, Supplement 1 (February 2025)
Link: https://www.sciencedirect.com/science/article/pii/S2590088925000101

Article: Respiratory Symptoms in Hospital Cleaning Staff Exposed to a Product Containing Hydrogen Peroxide, Peracetic Acid, and Acetic Acid
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