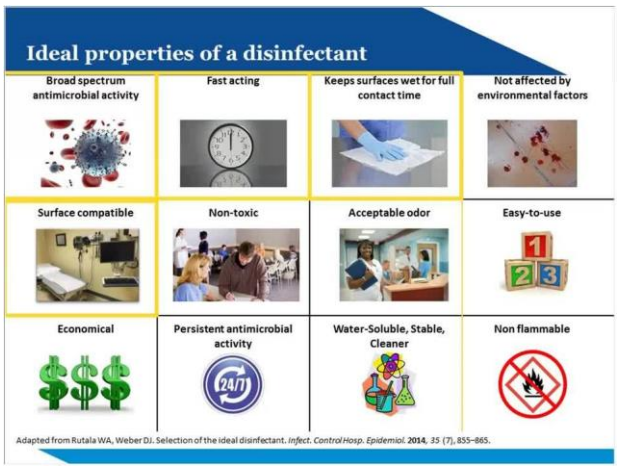
ANTIMICROBIAL SPECTRA OF SOME OF THE DISINFECTANTS AVAILABLE ON THE MAURITIAN MARKET



Ministry of Health and Wellness
MAURITIUS

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Approval Form

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ANTIMICROBIAL SPECTRA OF SOME OF THE DISINFECTANTS AVAILABLE ON THE MAURITIAN MARKET			
	NAME	**SIGNATURE**	**DATE**
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AUTHOR

Dr. D. Nuckchady. This document was vetted by the IPC Writing Committee.

PEER REVIEW

Dr. F. Shaikh (WHO Technical Officer)

This document was reviewed by the IPC teams in October 2023 and no changes were recommended – this version is being extended to 2026.

Date of next review: Jan 2026

Updates

June 2022

- Several additional products were added to table 1
- Supplementary text was appended for clarification

Version history

Version	Date
Version 1.0: Created	4 July 2021
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Version 2.0: Revised	30 June 2022
Version 2.0: Approved	25 July 2022

Antimicrobial Spectra of Some of the Disinfectants Available on the Mauritian Market

Progress since the last version

While most facilities are now aware which disinfectants can be used against SARS-CoV-2, it is noted that some healthcare workers still incorrectly believe that quaternary ammonium compounds have a greater spectrum of activity than hypochlorite or alcohol.

Purpose

This document allows healthcare workers to choose the appropriate disinfectant depending on the prevalent microbe in the area being cleaned and depending on the available product in the local store.

Standard operating procedure

Trade name	Active ingredient	Spectrum of activity						
		GPB	GNB	E virus	NE virus	Myco	Fungi	Spores
Chemlog Eau de Javel Concentré	Sodium hypochlorite 4%	+++	+++	++	++	++	++	++
Kim Javel Concentré 12°	Sodium hypochlorite 3.8%							
La Croix Eau de Javel	Sodium hypochlorite 3.6%							
La Croix Eau de Javel Plus	Sodium hypochlorite 3.6%							
Cernol Javel Power 12°	Sodium hypochlorite 3.25%							
Versan	Sodium hypochlorite 2.7%							
Cernol Javel Formule Concentrée	Sodium hypochlorite 2.6%							
Ora Eau de Javel	Sodium hypochlorite 2.6%							
C Bon Eau de Javel 9°	Sodium hypochlorite 2.6%							
Apta Javel	Sodium hypochlorite 2.6%							
Apta Javel Cible Gel	Sodium hypochlorite 2.6%							
EcoMax Eau de Javel	Sodium hypochlorite 2.6%							
Dettol Floor and All-Purpose Cleaner	BAC 1.75%	++	+	+	-	-	-	-
Mr. Muscle Tile Cleaner	BAC 1%							

Harpic Active	BAC 0.32%							
Dettol Multi Surface Cream Cleaner	BAC 0.24%							
Dettol Power Kitchen Cleaner	BAC 0.11%							
Mr. Sheen Daily Surface	BAC 0.1%							
Lysol Disinfectant	DDAC 1.44% + BAC 0.96%							
Surfanios	DDAC 100% (for dilution)							
Alcohol Bleu or Blanc	Ethanol 88%	+++	+++	+++	++	++	+++	-
Abro Disinfectant Spray	Ethanol 75%							
Anios Aniosgel 85 NPC	Ethanol 70%							
Hibitane Plus	Chlorhexidine 5%	+++	++	++	+	+	+	-
Betasept	Chlorhexidine 4%							
Hibiclens	Chlorhexidine 4%							
Dettol Disinfectant Liquid	Chloroxylenol 4.85% (a phenol)	+++	+	+	-	+	+	-
Nocolyse One Shot	Hydrogen peroxide 12%	++	++	++	++	++	+	+
Sanytol Multipurpose Disinfectant	Hydrogen peroxide 1.5%							
Cidex	Glutaraldehyde 2.4%	+++	+++	+++	+++	+++	+++	+++
Betadine	Povidone-iodine 10%	+++	+++	++	+	+	++	+
Apta Gel Vinegar	Ethanoic acid 12%	+	+	+	-	-	-	-
Dettol Bathroom Cleaner*	Sulphamic acid 3% + formic acid 1.5%	-	+	+	-	-	-	-
Sanytol Désinfectant Chaussures*	Ethanol 30.6% + biphenyl-2-ol 0.4% (a phenol)	+++	++	++	+	+	++	-
Bacoban*	2,2'-Oxydiethanol 25% + BAC 25%	++	++	++	+	+	+	-
PURIFOG*	Isopropanol 7% + ethanol 1% + BAC 0.5%							
GOJO Antiseptic Wash*	Chlorhexidine 0.9% + DDAC 0.65%	++	+	+	-	-	-	-
Savlon Antiseptic Disinfectant	Chlorhexidine 3% + cetrimide 3%							

Table 1: Adapted from "World Health Organization. WHO guidelines on hand hygiene in health care. Geneva: World Health Organization; 2009", "Masri, Niveen M., et al. The Immunomodulatory, Antimicrobial and Bactericidal Efficacy of Commonly Used Commercial Household Disinfectants, Sterilizers and Antiseptics in Vitro: Putative Anti-Inflammatory Infection Control Mechanisms and Comparative Biochemical Analysis of the Microbial Growth of Gram-Positive Bacteria. American Journal of Medical and Biological Research 1.4 (2013): 103-133", "Stanford University.

*Environmental Health and Safety – 11.2 Decontamination. Figure 4", "Iowa State University. The Antimicrobial Spectrum of Disinfectants. 2011" and "Hodges A. Acidifiers Acidifiers, such as organic acids or their salts, are used to prevent microbial degradation of raw materials or finished feeds, especially under. https://slideplayer.com/slide/15486227/.". GPB = gram positive bacteria; GNB = gram negative bacteria; E virus = enveloped virus; NE virus = non-enveloped virus; Myco = mycobacteria; BAC = benzalkonium chloride (a quaternary ammonium compound = QAC); DDAC = N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine, didecyldimethylammonium chloride (a QAC); +++ = high activity high level disinfection); ++ = moderate activity (intermediate level disinfection); + = mild activity (low level disinfection); - = no or variable activity. The spectrum of activity is based on the typical concentration that is used for intermediate to high level disinfection – some of these products should be diluted prior to use (please check the manufacturer's label). SARS-Cov-2 is an enveloped virus i.e., one may use any product that is active against this class of microbes to clean isolation wards or quarantine centers harboring such patients. * - data on combinations of antimicrobials are limited: it is assumed that the overall activity is the mean activity of individual components. 1 degree of hypochlorite = 3.17g of free chlorine per liter = 0.317% of solution.*

- The following products were not included: hand sanitizers, caustic chemicals (e.g., toilet or drain clog removers), antimicrobial soaps, cleaning agents (including dish washing liquids) which contain mostly anionic or non-ionic surfactants as active ingredients or disinfectants that give vague or no concentration regarding their active ingredients. Examples of the latter include Ajax, Crest Javel, Miv, Jewel, Vif, Mr. Propre, Vigor, Impec, Cif, Handy Andy, Winners Eau de Javel, Evershine Javel, Mopirove Javel, Mum Bleach Javel, EcoFresh Eau de Javel, Le Chic Eau de Javel, Mr. Sheen Kitchen (containing < 0.1% of glutaraldehyde), Omnicide (containing glutaraldehyde and coco dimethyl benzyl ammonium chloride), ClearSurf (containing quaternary ammonium compounds), Mr. Crest WC, Cernol Pet Home (BAC) and Be-Well Cleaner (phosphoric acid).
- Disinfectants whose concentrations are unknown cannot be used in the healthcare setting since their efficacy cannot be ascertained.
- To ensure the efficacy of the disinfectant, after looking through table 1, note the following:
    - The contact time should be respected. Ensure that the right concentration is used; dilution should be performed using the correct method whenever necessary. Check the "Standard operating procedure for the routine environmental cleaning of healthcare facilities" for details.
    - Check the expiry date of the product.
    - Some compounds like sodium hypochlorite degrade themselves in the sunlight. Keep them in a dark place.
    - Indicate the opening date of the product.
    - Respect the shelf life of the compound.
    - Do not contaminate the disinfectant with soiled items (e.g., by dipping objects inside the containers).
    - The efficacy diminishes when organic matter, hard water, soap or detergents are present.
    - Do not leave disinfectants open to the air.
- Many of the products are dangerous and toxic. Do not ingest, inhale, put in fire or place in contact with the mucous membranes.
- If the concentration of hypochlorite is unknown, the disinfectant can be sent to the Government Analyst Division for assessment. Please contact the IPC Team Leader of the region for more details.