Microgen®
Redefining Hygiene...

Feel the spirit of Green with D-125 EcoPro

Non - Carcinogenic
Non - Hazardous
Eco - Friendly
Non - Corrosive
Biodegradable
Aldehyde Free

National Accreditation Board
For Hospital & Healthcare Providers

Guidelines for Operation Theatres (2018)*

An operation theater is the heart of any hospital. The efforts should be directed to prevent infections, promote healing with safety, comfort and economy. The OT complex should be absolutely clean at all times. Dust should not accumulate on any part of the OT. Operating rooms (OR's) should be cleaned daily and the entire OT complex cleaned thoroughly once a week. OT need to be cleaned and disinfected at least one hour before the start of first surgery, in between the cases and after the last case.

NABH Categorizes Operation Theatres Into Two Types

Super Specialty OT (Type A)	General OT (Type B)
• Neuroscience • Orthopedics (joint replacement) • Cardiothoracic • Transplant Surgery (Renal, Liver, Heart etc.)	• General Surgeries • Ophthalmology • Gynecological surgeries • All other discipline surgeries etc.
Air quality recommendations for super specialty OT (Type A)- class-100/ ISO class 5 is a cubic foot of air should not have particles measuring more than 0.5 micron or larger (HEPA efficiency 99.97%)	**Air quality recommendations for general OT- class-1000/ ISO class 6** is a cubic foot of air should not have particles measuring more than 0.5 micron or larger (HEPA efficiency 99.97%)

Positive Pressure to be maintained 2.5 Pascal, airflow needs to be unidirectional and downwards on the OT table. The air face velocity of 25 - 35 FPM (feet per minute) from non-aspirating unidirectional laminar flow diffuser/ceiling array is recommended.

Air Changes Per Hour-min 20

Fresh air component is required to be minimum 4 air changes out of total minimum 20 air changes.

Temperature and Relative Humidity

It should be maintained at 21°C ± 3°C (Except joint replacement where it should be 18°C ± 2°C) and corresponding relative humidity between 20 to 60%.

Window and spilt A/c should not be used in any type of OT because they are pure air re-circulating units and have pockets for microbial growth which can not be sealed. Fogging is done for air disinfection as and when required.

*** Adopted from NABH guidelines for operation theatres (2018)**

D-125® EcoPro

Eco-Friendly & **Pro**ficient Surface Disinfectant

5th Generation Advance Formulation

Active Ingredients

Didecyl dimethyl ammonium chloride	7.5% w/v
Alkyl benzyl dimethyl ammonium chloride	5% w/v
Polyhexamethylene biguanide hydrochloride	1% w/v

Bactericidal | Fungicidal

Virucidal | Mildewstat | Sporicidal

Tuberculocidal | Deodorizer

About : D-125 EcoPro

D-125 EcoPro is a synergistic blend of 5th generation QAC (Quaternary ammonium compound) & PHMB (Polyhexamethylene biguanide hydrochloride).

When used as directed, D-125 EcoPro will deliver effective biocidal action against bacteria, fungi and viruses on hard surfaces. It delivers superior cleaning performance and free rinsing characteristics on a wide variety of hard non-porous surfaces. It is used for environments and on surfaces, where removal of soil and control of microorganisms is important while preventing transmission of diseases.

It has broad spectrum activity on multiple surfaces in non ideal conditions. It adepts disinfection for hospitals, food handling units, manufacturing units and meets the criteria of an ideal antimicrobial agent on hard, non-porous surfaces & environment.

Eco-Friendly Disinfection

- D-125 EcoPro formulation is free from heavy metals and phenol compounds, the ingredients are non corrosive and non toxic to human health and environment.
- D-125 EcoPro formulation has core ingredients including PHMB which has been reviewed by US Environmental Protection Agency (EPA) for having very low aggregate risk of adverse health effects to public or environment [EPA 2005].

British Journal of Environmental Sciences Vo 04, No 01, pp 49-55, February 2016

Proficient Disinfection

5th Generation advance formulation Proficiently disinfect surface and environment in just 10 min at 1350 ppm concentration (1% dilution).

Bactericidal Test EN 13727 : 2012

Test organisms	ATCC	Contact time	Used Dilution Concentration (1%)	Reduction in Viability (Log R)
Staphylococcus aureus	ATCC 6538	10 minutes	1350 ppm	>5.15
Escherichia coli	ATCC 10538	10 minutes	1350 ppm	>5.19
Klebsiella pneumoniae	ATCC 4532	10 minutes	1350 ppm	>5.21
Salmonella typhi	ATCC 14901	10 minutes	1350 ppm	>5.17
Pseudomonas aeruginosa	ATCC 15442	10 minutes	1350 ppm	>5.21
Enterobacter aerogenes	MTCC 6804	10 minutes	1350 ppm	>5.23
Streptococcus faecalis	ATCC 9790	10 minutes	1350 ppm	>5.17
Methicillin Resistant Staphylococcus aureus (MRSA)	ATCC 43300	10 minutes	1350 ppm	>5.19
Vancomycin Resistant Enterococcus (VRE)	ATCC 51299	10 minutes	1350 ppm	>5.17
Clostridium perfringens	ATCC 13124	10 minutes	1350 ppm	>5.20
Shigella flexeneri	ATCC 29508	10 minutes	1350 ppm	>5.19

Criteria:
R value - $< 10^5$ – Does not conform, R value - $> 10^5$ – Conform

Fungicidal and Yeasticidal Test EN 13624 : 2013

Test organisms	ATCC	Contact time	Used Dilution Concentration (1%)	Reduction in Viability (Log R)
Candida albicans	ATCC 10231	10 minutes	1350 ppm	>5.03
Aspergillus niger	ATCC 6275	10 minutes	1350 ppm	>5.04

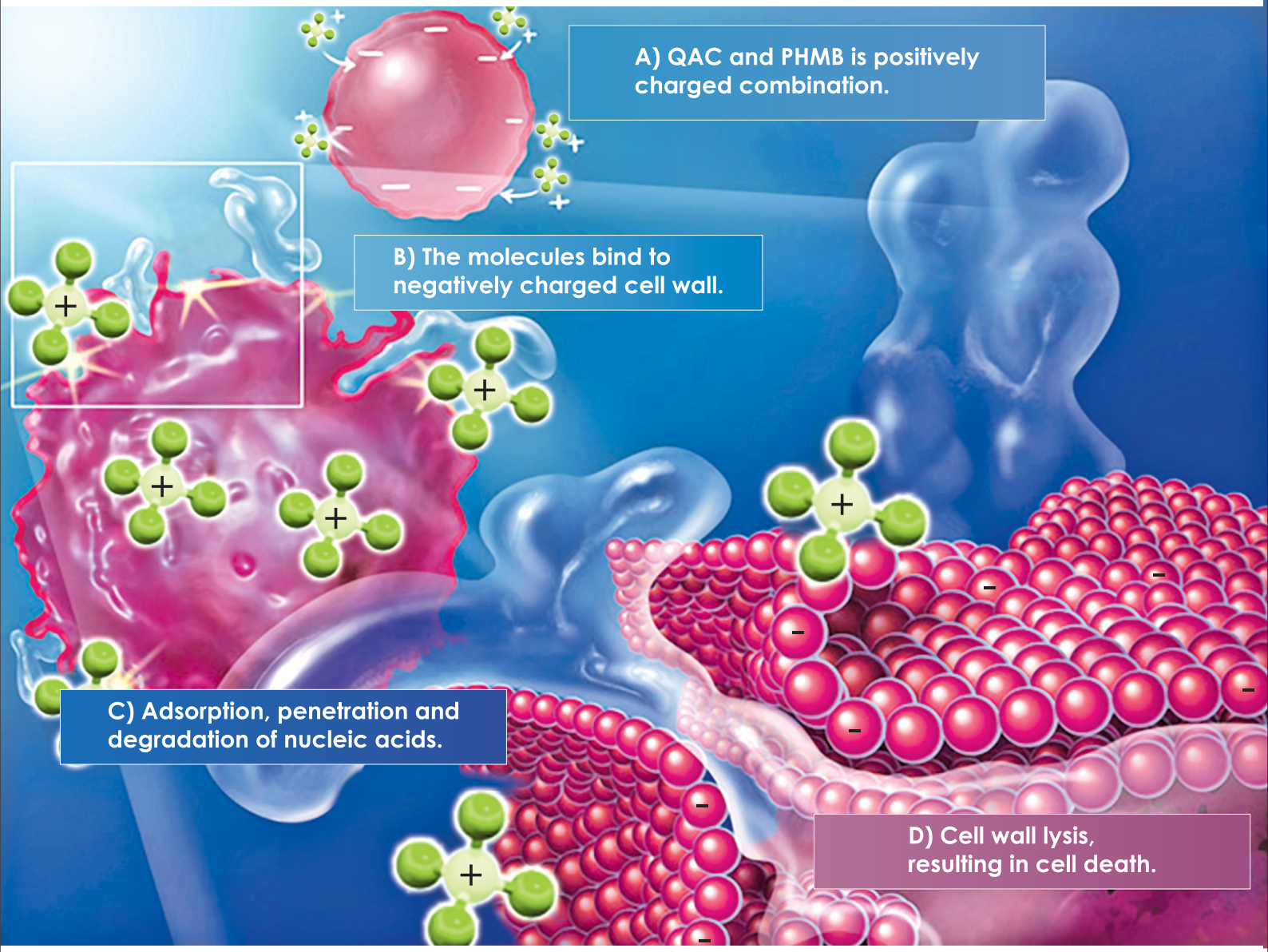
Criteria:
R Value - $<10^5$ - Does Not Conform , R Value - $>10^5$ - Conform

Sporicidal Test EN 13704 : 2008

Test organisms	ATCC	Contact time	Used Dilution Concentration (1%)	Reduction in Viability (Log R)
B. subtilis	ATCC 6633	10 minutes	1350 ppm	>4.47
Cl. perfringens	ATCC 7939	10 minutes	1350 ppm	>4.69

Criteria:
R value - < 3 –Does not conform, R value - > 3 –Conform
Test Conditions - Dirty (3.0gm/litre bovine serum albumin)
Diluent - Hard water (275 ppm water hardness)

Mode of Action



1. It acts by **adsorption** to and penetration of the cell wall.
2. Reaction with the cytoplasmic membrane (lipid or protein), followed by **membrane disorganization.**
3. Leakage of **intracellular lower - weight material.**
4. **Degradation** of proteins and nucleic acids.
5. Leading to **cell wall lysis** caused by autolytic enzymes.

Disinfection at Excellence

Composition	Nature	Concentrated liquid used to make 1 litre diluted solution	1 litre concentrated liquid will make RTU	Advantage or Disadvantage
(D-125 EcoPro) DDAC 7.5% w/v ADBAC 5% w/v PHMB 1% w/v	Unique formulation, introduced 1st time in India	10 ml	100 Litre	Eco-Proficient, Eco-Friendly
Brand A BKC 13.6% w/v DDAC 13.0% w/v PHMB 5.0% w/v	Higher concentration of DDAC	Upto 50 ml	20 Litre	Highly irritant formula
Brand B ADBAC 2.37% ADEBAC 2.37%	Copy of flagship brand of **Microgen Hygiene** pvt. ltd.	15 ml	66 Litre	User need to check for quality manufacturing & microbicidal efficacy

*DDAC : Didecyl Dimethyl Ammonium Chloride

*ADBAC : Alkyl Dimethyl Benzyl Ammonium Chloride

*BKC : Benzalkonium Chloride

*PHMB : Polyhexamethylene Biguanide hydrochloride

*ADEBAC : Alkyl Dimethyl Ethylbenzyl Ammonium Chloride

*RTU : Ready to use

Areas of Application

Direction for Use

- **For Use as a One-Step Disinfectant**

1. Pre-clean heavily soiled areas.
2. Apply ready-to-use solution on hard and non porous surfaces.
3. For best results; let surfaces remain wet for 10 minutes.
4. Let air dry the surface.

- **Fogging:**

Use 1 % solution i.e. 10 ml of D-125 EcoPro concentrate with 1 litre of water for every 1000 cu.ft. in high risk areas like OT, ICU, ICCU, NICU, Cath Lab, AKD, etc. This product is not to be used as a terminal sterilant / high-level disinfectant on any instrument that (1) is introduced directly into the human body, either into or in contact with the bloodstream or normally sterile areas of the body, or (2) contacts intact mucous membranes but which does not ordinarily penetrate the blood barrier or otherwise enter normally sterile areas of the body.
(Treated surfaces must remain wet for 10 minutes)

- **Mopping:**

1. Operation Theatres and Critical Areas like ICU, ICCU, NICU, SICU, CCU, Cath Lab, AKD, etc. Use 1 % solution i.e. 10 ml in 1 litre water.
2. Mop floors & other tiled surfaces taking care to cover .

Product Specification

Description	:	Colorless Liquid
pH	:	> 8.5
Fragrance	:	Lemon
Shelf Life	:	3 Years
Pack Size	:	1 Litre

WHO-GMP Certified Plant
Kala-Amb, Himachal Pradesh, India.

Microgen Hygiene Private Limited is a name that has come to be reckoned with in delivering solutions for maintenance of professional hygiene in healthcare institutions within a short span of time.

Microgen is a leading manufacturer of disinfectants and antiseptics. Microgen believes in marketing green disinfectants and cleaning solutions aiming at reducing harmful effect to people and environment. Our products are used by hospitals, private clinics, dental surgeries, medical surgeries and public institutions etc. We manufacture disinfectants and antiseptics range of products matching International quality standards.

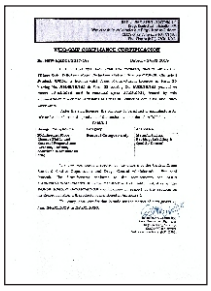
Our Certifications

CE Certificate

EN Certificate

ISO13485:2016

WHO GMP Certificate


WHO-GMP Compliance

ISO 9001:2015 Certificate

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