



LOBIASEPT
Premium Disinfectant for Clinics and Hospitals
Virucidal - Bactericidal - Fungicidal



The image is a promotional graphic for LOBIASEPT disinfectant. It features a stylized illustration of two surgeons in an operating room. The surgeons are wearing blue scrubs, white masks, and blue bouffant caps. They are standing with their arms crossed. Behind them are several large, circular surgical lights. The background is a blue grid pattern. At the bottom, the product name 'LOBIASEPT' is written in large, bold, blue letters. Below it, the text 'Premium Disinfectant for Clinics and Hospitals' is written in a smaller, italicized blue font. Underneath that, the text 'Virucidal - Bactericidal - Fungicidal' is written in a smaller, italicized blue font. At the bottom center is the LOBIAL logo, which consists of a red circle above a blue square with a white shape inside, followed by the word 'LOBIAL' in bold blue letters.

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Introduction :

LOBIAL: "*WE MEAN HYGIENE*"

Since its establishment in 1978, LOBIAL has constantly been searching for innovative solutions to improve hygiene and disinfection in hospitals, together with a high regard for safety and environmental concerns.

Our first products were iodine based, but we soon realized the limits of such preparations: their optimum pH of activity is below 6. This is out of the normal hospital pH which is usually between 7 and 9.

Phenolics were not considered, due to their toxicity, their very low biodegradability and their lack of activity on naked viruses.

Two families of biocides were considered: aldehydes and QACs. This gave birth to our first synergistic disinfectant: an association of BKC, Glutaraldehyde, Formaldehyde and Glyoxal.

It performed a then univalled activity covering the whole spectrum microorganisms from Naked Viruses to Bacteria, Fungi and Mycoplasma. Then, out of concern for Formaline's toxicity, we opted for Glutaraldehyde as the only source of aldehyde and developed TH2 (15% Glutaraldehyde, 10% BKC). It performed as well as the former but without Formaline.

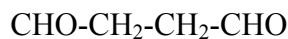
However, there was still room for improvement: recent developments in QACs technology led us to use a more performing blend of 4 Quaternary Ammonium Chlorides rather than the good old BKC. It allowed us to reach higher levels of activity while reducing the level of Glutaraldehyde in the formula, thus improving further the friendly smell of our disinfectants: this is how LOBIASEPT was born, the 3rd generation synergistic disinfectant in 1988.

Today, our R&D team keeps on working on new formulas that will help improve the microbial control in hospitals throughout the world in the future.

A- General properties of LOBIASEPT

1. COMPOSITION : A PATENTED FORMULA

- *Glutaraldehyde* : 6.25%



- *Quaternary ammonium synergistic blend* : 12.50%,

- Didecyl Dimethyl Ammonium Chloride

- Octyldecyl Dimethyl Ammonium Chloride

- Dioctyl Dimethyl Ammonium Chloride

- N Alkyl Dimethyl Benzyl Ammonium Chloride (C₁₂ : 40%, C₁₄ : 50%, C₆ : 10%)

- *Terpine derivatives* : 4%

Pine oil and terpineol

2. APPEARANCE

Pure LOBIASEPT is a transparent green liquid.

3. ODOUR

Characteristic - Pine terpene smell.

4. STABILITY

Shelf life = 24 months (diluted and uncontaminated)

Stable up to 90°C.

5. SOLUBILITY

Total in water or alcohol at all temperatures.

6. SPECIFIC GRAVITY

S.G.:@ 20°C 1.0 kg/litre.

7. pH

- Pure LOBIASEPT : 3.85 (+/- 0.2)

- 1:200 solution : 4.70 (+/- 0.2)

8. CORROSIVITY

Materials tested with no corrosive effect: mild steel, zinc, copper, brass, tin, stainless steel, aluminium, linen, rubber, glass, ceramics.

B - Toxicity

1. ACUTE TOXICITY

Oral LD₅₀ of pure LOBIASEPT in rats is :
-Male : 3000 mg/kg
-Female : 3300 mg/kg

Note : oral LD₅₀ of salt (NaCl) is 1000 mg/kg.

2. LOCAL TOLERANCE

2.1 - Skin tolerance

Skin tolerance has been tested in rabbits according to AFNOR norm NF T03-263. It has resulted that pure LOBIASEPT is rated as "slightly irritating for skin".

2.2 - Eye tolerance

Eye tolerance has been tested in rabbits according to AFNOR NF T03-264 standard. Pure LOBIASEPT is highly irritating for the eye in spite ocular rinsing performed one minute after instillation-

3 – MUTAGENICITY , CARCINOGENICITY , FETOTOXICITY

Standard AMES test not valid due to high antibacterial activity.

All tests on LOBIASEPT's components to date have evidenced absence of mutagenic or carcinogenic or fetotoxic effects.

4. BIODEGRADABILITY

Conforms to EEC directive 73/405 (over 90% degraded over 14 days).
LOBIASEPT contains no phenolic compound.

C - LOBIASEPT Mode of action

1. – GLUTARALDEHYDE : **Hydrophilic De-Activation**

Glutaraldehyde has the property to-bind itself to the proteins through their R-NH₂(amine) groups. It has a very strong virucidal activity obtained by the cross-linking of the proteins of the naked (or hydrophilic) viruses' capsid. It also combines with the nucleic acids contained in viruses (DNA/RNA). Bactericidal and fungicidal activities are due to the combination of glutaraldehyde with the proteic parts of the metabolic enzymes, and with the amino-acids.

Being strictly hydrophilic, glutaraldehyde cannot cross the cell's lipidic membrane nor the coating of lipophilic viruses. Therefore it can only act outside these micro-organisms and has consequently a rather-slow action.

LOBIASEPT's exclusive formula allows glutaraldehyde to kill germs from the inside thanks to the association with a synergistic blend of highly tension-active QAC's.

2. - QAC's¹: **Lipophilic De-Activation**

QACs are cationic tension-active agents. At low concentrations they have cidal properties on a wide spectrum of micro-organisms (Gram+ & Gram- bacteria, fungi, viruses).

Their major site of action is the cell membrane, where they create a dissolution of phospholipiodes (cholesterol membranes) and cause changes in permeability that allow the escape of cell constituents and cause cell disorientation.

These changes in permeability also allow glutaraldehyde to penetrate inside the microorganisms.

3. - TERPINE DERIVATIVES

These components have a light disinfecting property. Moreover :

- Terpeneol is an effective insect repellent (insects are potential vectors of microorganisms).
- Pine oil, thanks to its "stickiness" allows the final solution of LOBIASEPT to stay longer on vertical surfaces. It also evaporates very slowly and increases the remanence of LOBIASEPT.

LOBIASEPT : A truly synergistic mode of action.

¹: *Quaternary Ammonium chlorides*

D-Fields of application of LOBIASEPT

Thanks to its exceptional cidal properties, to its low toxicity and absence of corrosiveness, LOBIASEPT can be used in the following areas:

1. FLOORS AND SURFACES DISINFECTION

In routine and high-risk areas (ie : operating theaters, reanimation services, premature babies)

a) METHOD

Use LOBIASEPT in the course of the "3 buckets method :

- Bucket 1 : Detergent
- Bucket 2 : Clear water for rinsing
- Bucket 3 : LOBIASEPT

Do not rinse after the application of LOBIASEPT. The use of gloves is highly recommended.

b) FREQUENCY:

At least once a day. More often in high risk areas. After each operation in surgical theatres.

c)-RECOMMENDED DOSAGES

20ml / 8 liters : on clean surfaces, when only bactericidal effect is desired.

20 ml /4 liters : routine disinfection.

20 ml /2 liters : routine disinfection in high risk areas.

20 ml /1 liters : in case of highest challenge : Multiresistant staphylococcus, high soilage, etc...

2. -CLEANING AND DISINFECTION OF HEAT-RESISTANT INSTRUMENTS

Immediately after use, rinse the soiled instruments in clear water and then dip them in a solution of LOBIASEPT 1%. The solution will be changed at least daily, or more often in case of high soilage.

After dipping for 30minutes at least, rinse the instruments and sterilize them in an autoclave.

3 -AIR DECONTAMINATION WITH THERMOFOGGER

Surgical theaters, ventilation conducts : Use 5ml of a solution of LOBIASEPT 50% per cubic meter to disinfect. Avoid direct inhalation of vapours produced by the thermofogger. Fogging gives best results when applied overnight or with a minimal contact time of 4 hours.

E- LOBIASEPT Virucidal activity chart

Virusses families	Nucleic acid	Envelope	Examples	Dilution
Adenovirus	DNA	Naked	-AdenoV type5	1:100
Coronavirus	RNA	Enveloped	-SARS	1:2000
Hepadnavirus	DNA	Enveloped	-Hepatitis B	1:100* or 1:200**
Herpetovirus	DNA	Enveloped		1:5000
Iridovirus	DNA	Naked		1:200
Orthomyxovirus	RNA	Enveloped		1:200
Papovavirus	DNA	Naked		1:200
Paramyxovirus	RNA	Enveloped		1:1000
Parvovirus	DNA	Naked		1:50
Picornavirus	RNA	Naked	Poliovirus type1, strain SABIN	1:100
Poxvirus	DNA	Enveloped	Vaccine virus	1:100
Reovirus	RNA	Naked		1:1000
Retrovirus	RNA	Enveloped	HIV	1:100* or 1:200**
Rhabdovirus	RNA	Enveloped		1:200
Togavirus	RNA	Enveloped		1:2000

* : Contact time : 15 min

** : Contact time : 30 min

F- LOBIASEPT Bacterial activity chart

Gram+ve Bacteria	Dilution
Bacillus anthracis (sporulated)	1:200
Clostridium spp (sporulated)	1:200
Corynebacterium spp	1:200
Erysipelotrix	1:200
Listeria monocytogenes	1:400
Staphylococcus spp	1:400
Streptococcus spp	1:200

Gram-ve Bacteria	Dilution
Bordetella Brochoseptica	1:200
E. Coli	1:200
Haemophilus spp	1:200
Klebsiella spp	1:200
Pasteurella spp	1:200
Proteus spp	1:200
Pseudomonas aeruginosa	1:200
Salmonella spp	1:200

Other Bacteria	Dilution
Leptospira spp	1:100,000
Mycoplasma spp	1:500
Rickettsia spp	1:200
Chlamydia spp	1:200

G- LOBIASEPT Fungicidal activity chart

Name Fungus	Dilution
Absidia corymbifera	1:200
Alternaria spp	1:200
Aspergillus fumigatus	1:200
Botrytis spp	1:200
Byssochlyamys	1:100
Candida albicans	1:67
Chrysosporium spp	1:400
Cladosporium	1:200
Fusarium	1:200
Geotrichum	1:200
Helicostylum	1:200
Humicola	1:200
Mucor	1:200
Penicillium	1:200
Phoma	1:100
Rhizoctonia	1:100
Rhizomucor	1:200
Rhizopus	1:200
Sacchoromyces	1:200
Sclerotinia	1:200
Scopulariopsis	1:200
Thielavia	1:400
Thielaviopsis	1:200
Trichoderma	1:200
Trichotecium	1:200
Walemia	1:200