

SILVER-BASED API's

## OPHTHALMOLOGY OTOLARYNGOLOGY ANTIMICROBIAL ACTIVE

Silver colloids are used as active ingredients in the preparation of eyes, ears and nose drops. The antimicrobial properties of these ingredients make these products particularly indicated in the treatment of bacterial origin diseases.



### FINAL PRODUCTS

- Eyes, ear and nose drops.
- Creams.
- Nasal sprays.



### BENEFITS & CLAIMS

- 1 Prevent bacterial eye and ear infections.
- 2 Antiseptic and nasal decongestant.
- 3 Newborns eye pain prevention and treatment.
- 4 Silver ions reduce the growth of microorganisms.

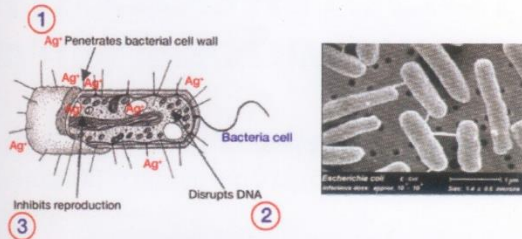
## SILVER ACTIVITY

Antimicrobial mechanism:

- Inhibition of bacterial respiratory chain enzymes.
- Alteration of membrane function.
- Inhibition of cell replication.

Strengthening immune system.

No resistances founded.

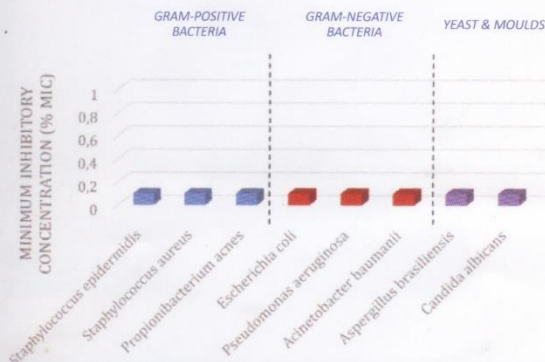


## ARGENOL PRODUCTS

NAME	INCI	% Ag	DOSAGE RANGE
COLLOIDAL SILVER	Colloidal Silver	70%	0,02 - 0,06%
SILVER VITELLINATE	Silver Vitellinate	19 - 23%	0,1 - 0,5%
SILVER PROTEINATE	Silver Proteinate	7,5 - 8,5%	0,25 - 1,2%
COLLOIDAL SILVER SOLUTION	Colloidal Silver	0,25%	0,75 - 1%

## ANTIMICROBIAL EFFICACY

### MIC TEST

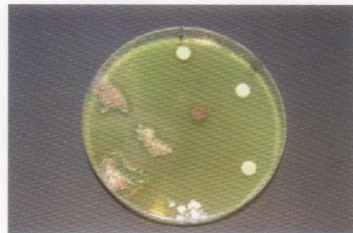


Study was performed using the Clinical Laboratory Standard Institute (CLSI) by microdilution method (M07-A8).

### DISC-PLATE ASSAY



Antimicrobial activity vs *S. aureus*



Antimicrobial activity vs *P. aeruginosa*

### CHALLENGE TEST

Silver-based actives prevent the development of microorganism in finished products. Challenge test confirms that our products work quite well as stand-alone preservatives and antimicrobial; moreover they can be combined with other preservatives if needed.

**CLAIMS: PARABEN FREE, PRESERVATIVE FREE.**

### PATCH TEST

According to Patch Tests carried out with our products, it can be concluded that the skin compatibility of SILVER-based actives may be considered as very good.

### QUALITY

Laboratorios ARGENOL is GMP certified by Spanish Agency of Medicines and Medical Devices (AEMPS).

Quality of silver colloids according to European and local Pharmacopoeias.

**Chemie Trade Corporation**