

SEPPIC

j'active

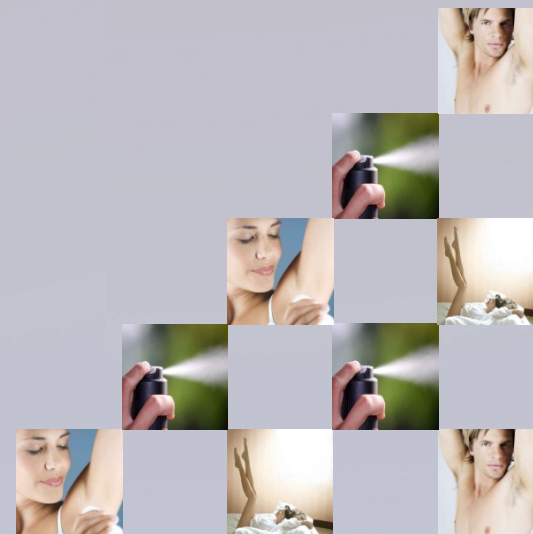
LIPACIDE™ UG

purifier – dermoprotector

new test - new test - new test

New data
in vivo

Deodorant action



LIPACIDE UG: Structure and activities

Undecylenic acid

(lipophilic)

Glycine

(hydrophilic)

grafting

LIPACIDE UG

Undecylenoyl Glycine

(amphiphilic)

Biovector for glycine

Important amino acid for skin cell metabolism

1

**SKIN PURIFIER
DERMOPROTECTOR**

2

**PROTECTOR OF
COSMETICS FORMULAS**
(ideal for sensitive skin)



SEPPIC

active

1

LIPACIDE UG

SKIN PURIFIER - DERMOPROTECTOR

Deodorant:

- Combats proliferation of the germs responsible for body odours

Dermoprotector:

- Restores the skin's 'acid coat'

'Anti-dandruff':

- Limits proliferation of the germs responsible for dandruff

Regulator of oily skin prone to acne:

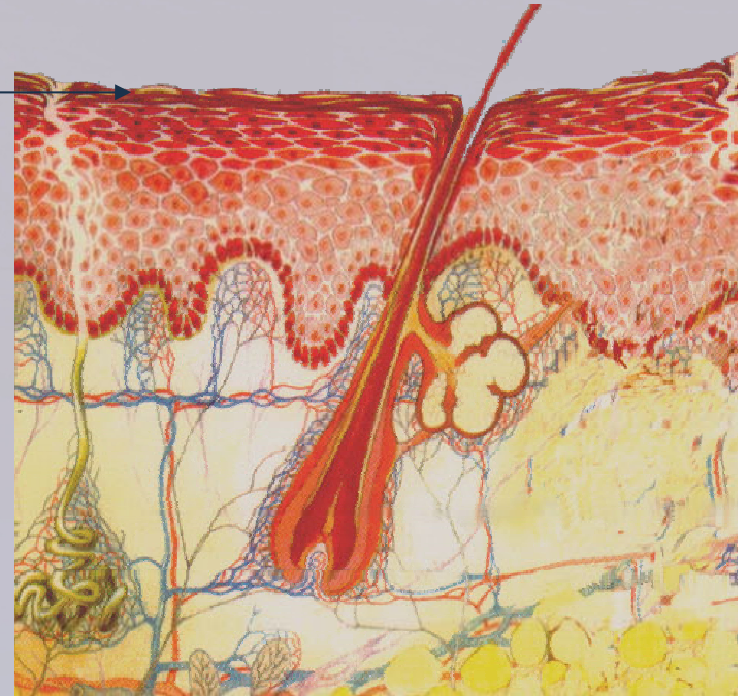
- Inhibits multiplication of the germs responsible for acne
- Limits sebum production (inhibition of 5α -reductase)



Deodorant:

- Combats proliferation of the germs responsible for body odours

new test - new test - new test



Deodorant action of LIPACIDE UG

1. Combats the germs responsible for body odours:

Germs tested	LIPACIDE UG (MIC)
<i>Staphylococcus epidermidis</i> (pH=5)	0.05% a.m.
<i>Staphylococcus haemolyticus</i> (pH=5)	0.025% a.m.
<i>Micrococcus luteus</i> (pH=5)	0.001% a.m.
<i>Corynebacterium xerosis</i> (pH=7)	0.001% a.m.

➔ LIPACIDE UG effectively **eliminates the undesirable flora** associated with unpleasant odours: ideal for deodorant action.

Deodorant action of LIPACIDE UG

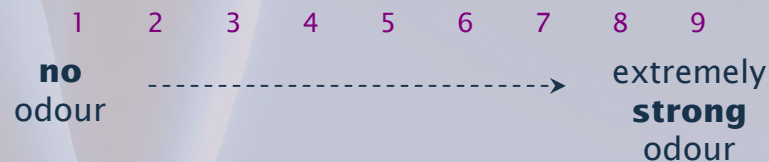
new test - new test - new test

2. *In vivo* study protocol

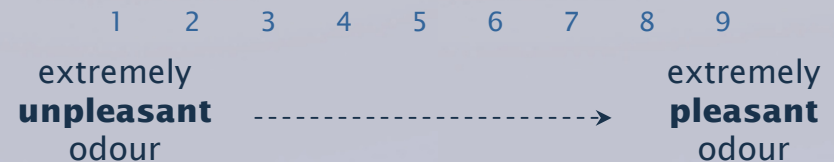
- Assessment method: sniff test
- Selection of 23 subjects giving off a strong odour of perspiration
- 10 women/13 men
- Average age: 45 years (min.: 19 years; max.: 74 years)
- In vivo* test comparing a formula containing 1% LIPACIDE UG with placebo and a formula containing 0.3% Triclosan (positive control)
- Each subject tests the three products in one armpit randomly with a one-week interval between each application. Double-blind test
- The subjects must not use any deodorant or perfumed product in the armpits throughout the study
- 24 h after the application of each formula, the panel conducts a sensory assessment of the intensity of the perspiration odour and its hedonic value



Odour intensity measurement



Odour hedonic value measurement



Deodorant action of LIPACIDE UG

new test - new test - new test

3. Formulas assessed in the *in vivo* study

	Formula with LIPACIDE UG	Formula PLACEBO	Formula with TRICLOSAN (positive control)
A <ul style="list-style-type: none"> •Aqua/Water •LIPACIDE™ UG (Undecylenoyl Glycine – Seppic) •TRICLOSAN (positive control) •Triethanolamine 	Qsp 100% 1.00% - 0.30%	Qsp 100% - - 0.30%	Qsp 100% - 0.30% 0.30%
B <ul style="list-style-type: none"> •MICROPEARL™ M305 (Methyl Methacrylate Crosspolymer – Seppic) 	1.00%	1.00%	1.00%
C <ul style="list-style-type: none"> •MONTANOV™ L (C14-22 Alcohol and C12-20 AlkylGlucoside – Seppic) 	2.00%	2.00%	2.00%
D <ul style="list-style-type: none"> •SEPI NOV™ EMT 10 (Hydroxyethyl Acrylate/Sodium Acryloyldimethyl Taurate Copolymer – Seppic) •Isopropyl Myristate •Cyclopentasiloxane and Cyclohexasiloxane •EUXYL™ K 320 (Propylene Glycol and Phenoxyethanol and Methylparaben and Ethylparaben – Schülke) 	1.50% 1.00% 1.00% 1.00%	1.50% 1.00% 1.00% 1.00%	1.50% 1.00% 1.00% 1.00%

Deodorant action of LIPACIDE UG

new test - new test - new test

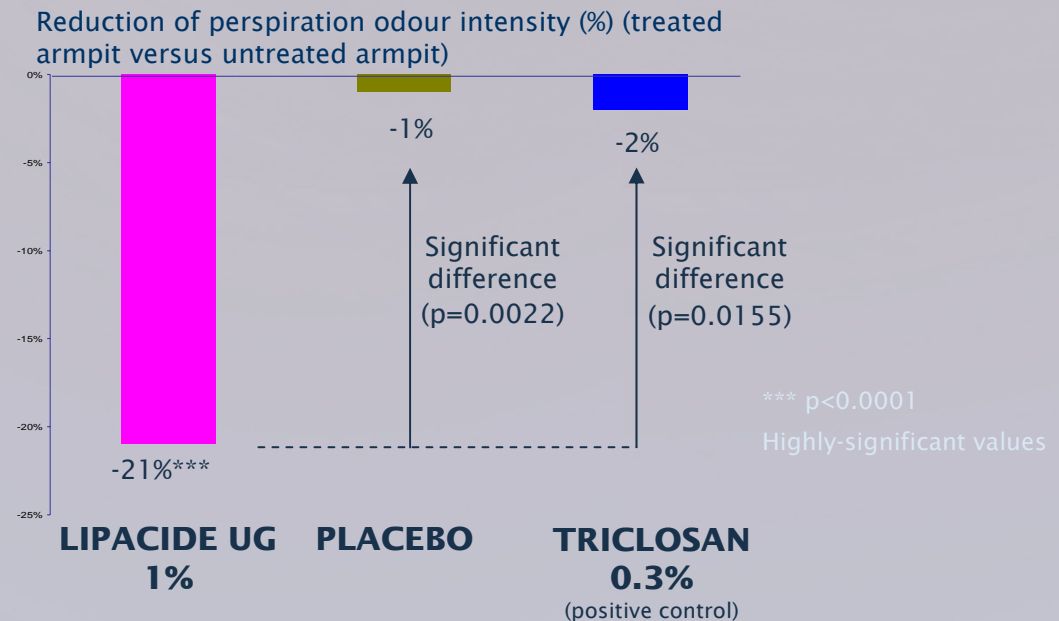
4. Intensity of the perspiration odour

4a. 24-hour deodorant efficacy of LIPACIDE UG (1%) compared with that of placebo and triclosan (0.3%) by measurement of the reduction of perspiration odour intensity between the untreated armpit and the treated armpit

Odour intensity measurement

1 2 3 4 5 6 7 8 9

no odour -----> extremely strong odour



➔ Only the formula containing **1% LIPACIDE UG significantly reduces the intensity of the perspiration odour** (intensity - 21% between the untreated armpit and the treated armpit).

Its **action** against the intensity of the odour is **significantly greater** than that of placebo and triclosan (positive control), which were statistically ineffective.

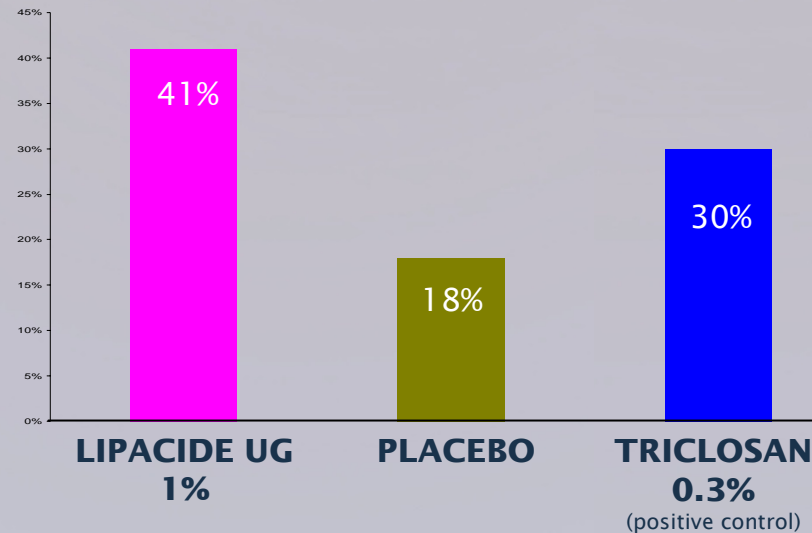
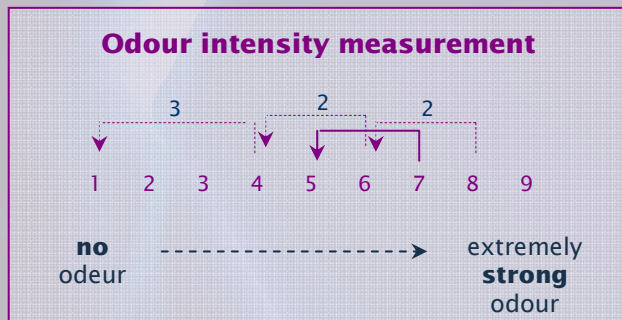
Deodorant action of LIPACIDE UG

new test - new test - new test

4. Intensity of the perspiration odour

4b. Number of volunteers (%) showing a reduction ≥ 2 points between the untreated armpit and the treated armpit on the odour intensity assessment scale:

% of volunteers showing a reduction ≥ 2 points in perspiration odour intensity between the untreated armpit and the treated armpit



Reduction ≥ 2 points between an untreated armpit and a treated armpit
= **STRONG DEODORANT ACTION**

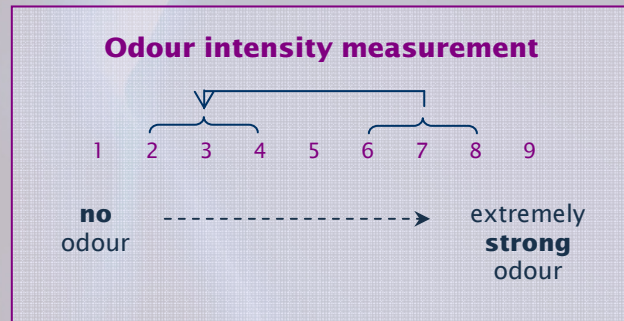
24 h after application of **LIPACIDE UG**, **41% of the volunteers** show **a difference ≥ 2 on the odour intensity scale** between the untreated armpit and the treated armpit

Deodorant action of LIPACIDE UG

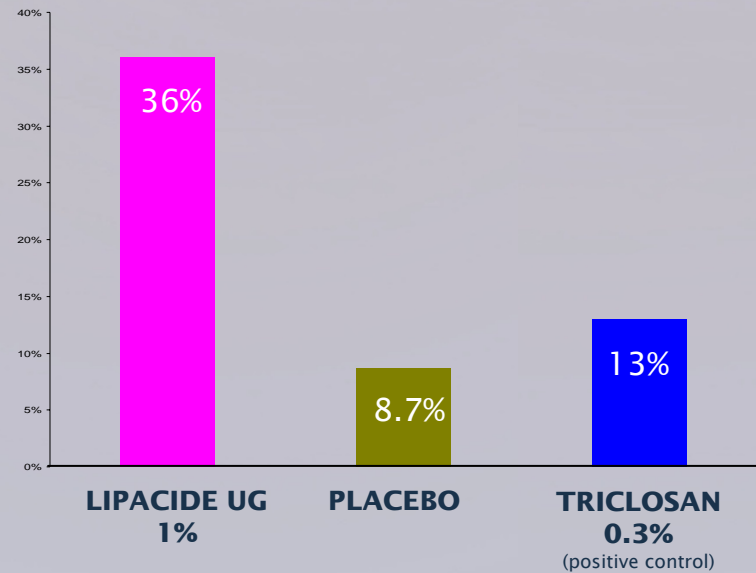
new test - new test - new test

4. Intensity of the perspiration odour

4c. Number of volunteers (%) showing a reduction from intense (6) - strong (8) perspiration odour to moderate (4) - weak (2) perspiration odour:



volunteers showing a reduction from strong odour to weak odour (%) (treated armpit versus untreated armpit)



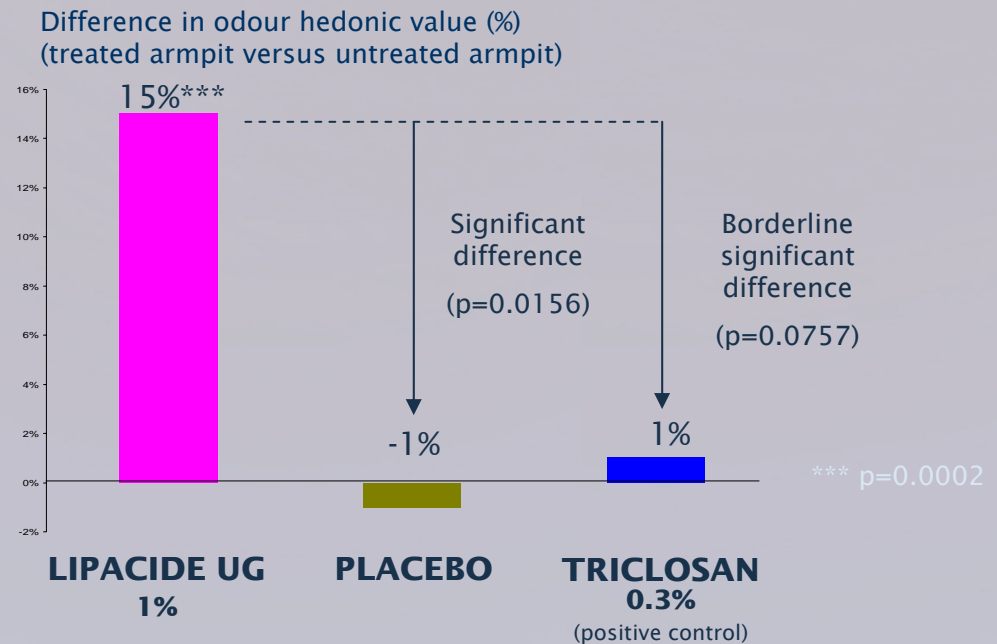
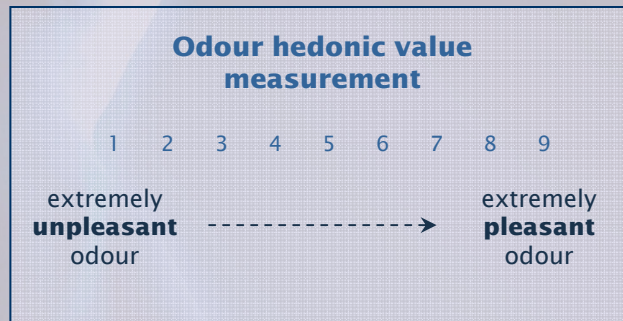
➔ **24 h after application, LIPACIDE UG shifts 36% of the volunteers** from the intense (6) – strong (8) odour range to the moderate (4) – weak (2) odour range

Deodorant action of LIPACIDE UG

new test - new test - new test

5. Assessment of the hedonic value of the odour

24 h deodorant efficacy of LIPACIDE UG (1%) compared with that of placebo and triclosan (0.3%) by measurement of the increase in hedonic value of the odour



➔ Only the formula containing **1% LIPACIDE UG** significantly increases the **hedonic value of the perspiration odour** (+ 15%). This result is very positive, given that the tested formula is **fragrance-free**.

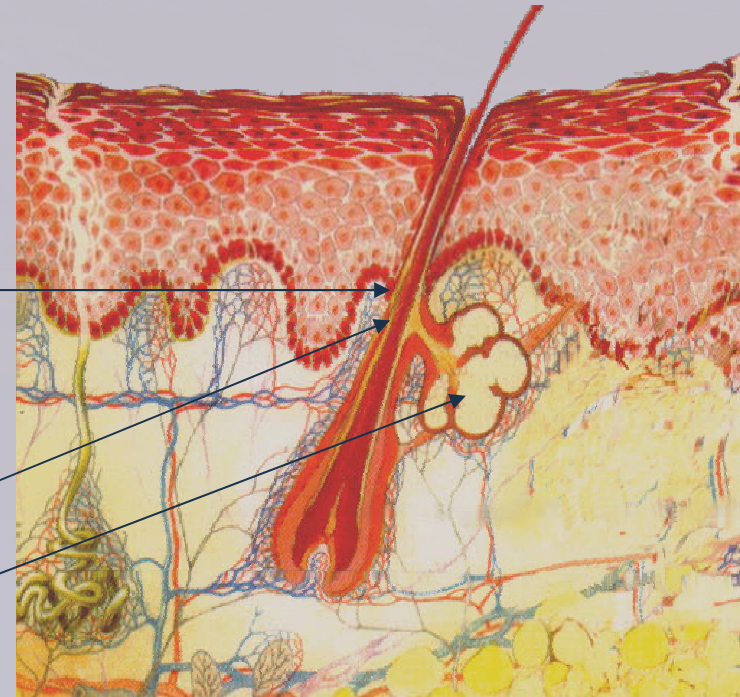
Its **action** is **significantly greater** than that of placebo and triclosan (positive control), which were statistically ineffective.

'Anti-dandruff':

- Limits proliferation of the germs responsible for dandruff

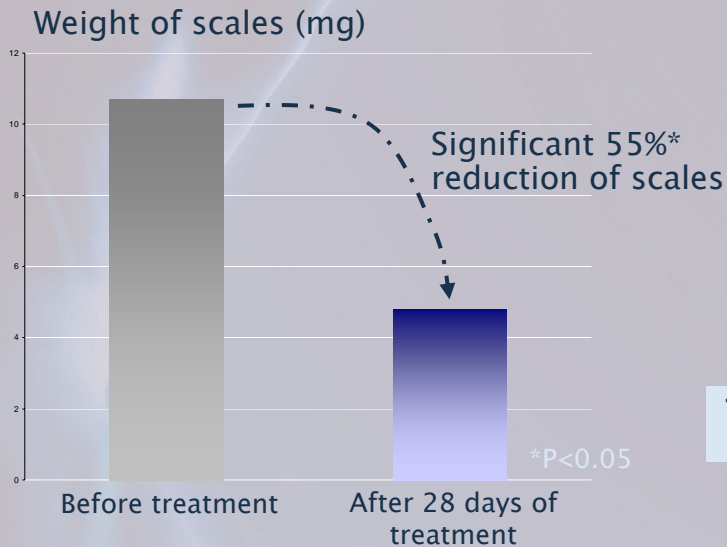
Regulator of oily scalp:

- Inhibits multiplication of the germs responsible for acne
- Limits sebum production (inhibition of 5α -reductase)



Purification of hair and scalp

1. Helps to improve dandruff conditions



Germ tested:	MIC
<i>Pytyrosporium ovale</i> (pH=5)	
LIPACIDE UG	0.01% am*

* am: active matter

Test on volunteers:
hair lotion - formula 6723A - 2% LIPACIDE UG - 10 subjects

➔ LIPACIDE UG **limits proliferation of the germs responsible for dandruff**. It **soothes and normalizes the scalp**. From the first month of treatment the scales disappear.

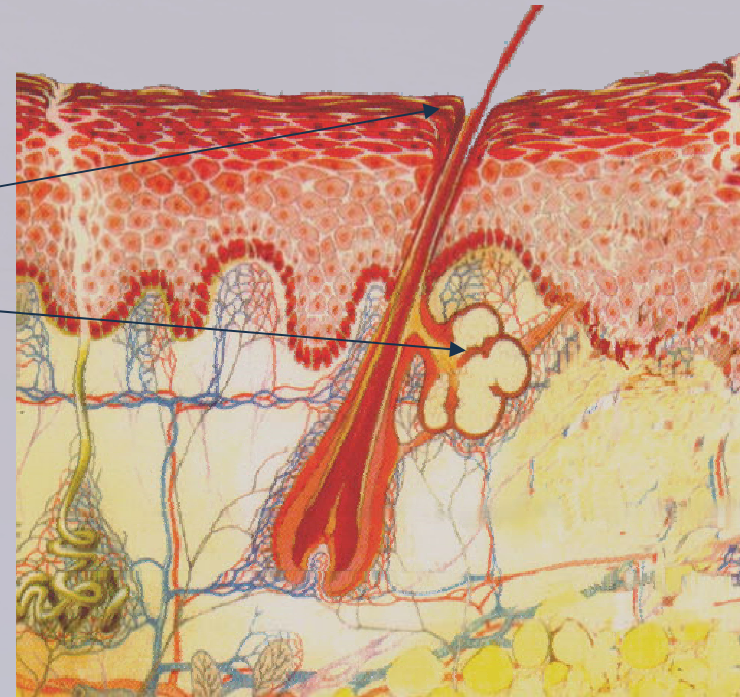
2. Limits production of sebum, responsible for oily hair

	LIPACIDE UG 0.01% am*	FINASTERIDE 3ng/ml am* (positive control)
% 5 α -reductase inhibitory activity	-33%	-64%

➔ LIPACIDE UG **modulates the activity of 5 α -reductase**, enzyme responsible for sebum production

Regulator of oily skin prone to acne:

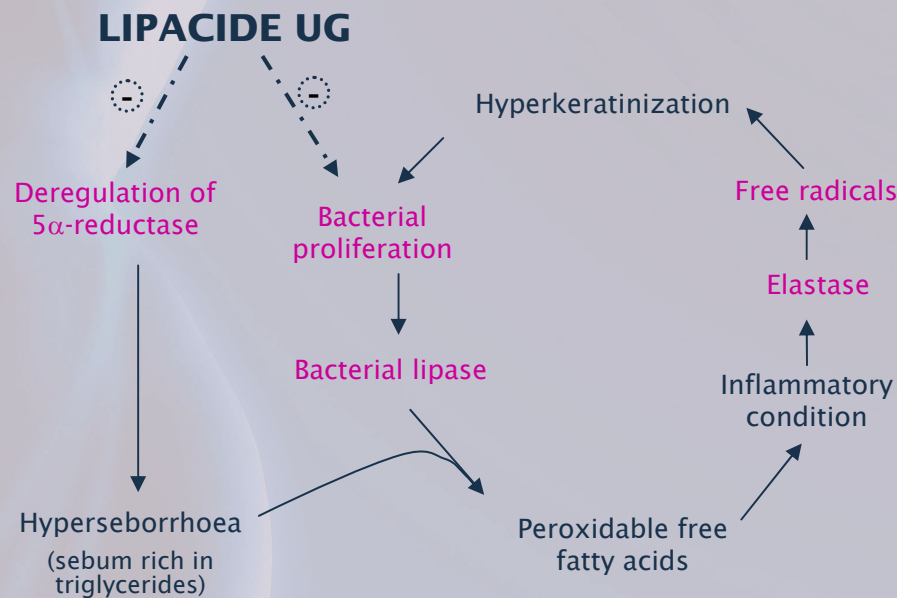
- Inhibits multiplication of the germs responsible for acne
- Limits sebum production (inhibition of 5 α -reductase)



Purification of oily skin prone to acne

Targets of LIPACIDE UG for combating oily skin

Diagram of dysfunctions of oily skin prone to acne



Inhibitory action of LIPACIDE UG		MIC (%)
Germs responsible for oily skin prone to acne	<i>S. aureus</i> (pH=5)	0.01
	<i>S. epidermidis</i> (pH=5)	0.05
	<i>Propionibacterium acnes</i> (pH=7)	0.05

5 α -reductase inhibitory action of LIPACIDE UG
0.01% am*
+33%

* am: active matter

➔ LIPACIDE UG acts **against two of the five major causes of the imbalance of oily skin** prone to acne (*in vitro* studies).



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2

LIPACIDE UG
PROTECTOR OF COSMETICS
FORMULAS

LIPACIDE UG: Protector of cosmetics formulas

Minimum inhibitory concentration (MIC)	LIPACIDE UG	LIPACIDE C8G	LIPACIDE UG + LIPACIDE C8G
Fungi	++	+	+++
Bacteria	+	++	+++

➔ LIPACIDE UG increases the **microbial stability of formulas** by limiting the proliferation of microorganisms (including fungi).
A combination of LIPACIDE UG and LIPACIDE C8G shows a real synergistic action in combating the proliferation of microorganisms. SEPPIC PATENT

MIC (%) pH 7	LIPACIDE UG	SEPICIDE LD	LIPACIDE UG/ SEPICIDE LD	Reduction of the SEPICIDE LD content
<i>Staphylococcus aureus</i>	0.25	0.5	0.125/0.0625	8-fold
<i>Enterococcus faecium</i>	0.125	1	0.0625/0.5	2-fold
<i>Lactobacillus plantarum</i>	0.25	1	0.078/0.0625	16-fold
<i>Pseudomonas aeruginosa</i>	4	0.5	0.5/0.0625	8-fold
<i>Candida albicans</i>	0.25	0.5	0.125/0.125	4-fold
<i>Aspergillus niger</i>	0.125	0.25	0.0625/0.125	2-fold

➔ LIPACIDE UG enables formulation without preservative or with low preservative concentrations, as shown by the **synergistic action** verified with phenoxyethanol (SEPICIDE LD).

IDEAL FOR SENSITIVE SKIN!

LIPACIDE UG: Formulation

Concentrations:

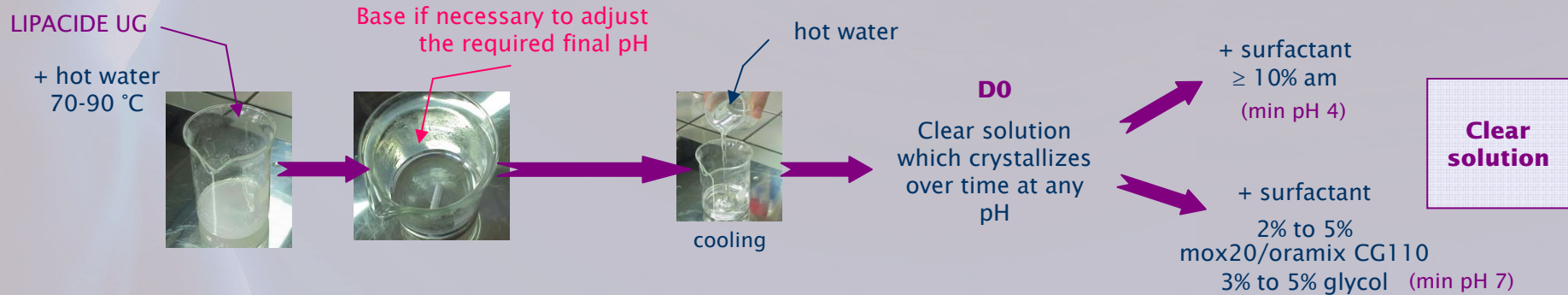
0.5% to 1% For pH = 5

1% to 2% For pH = 6

2% For pH = 7

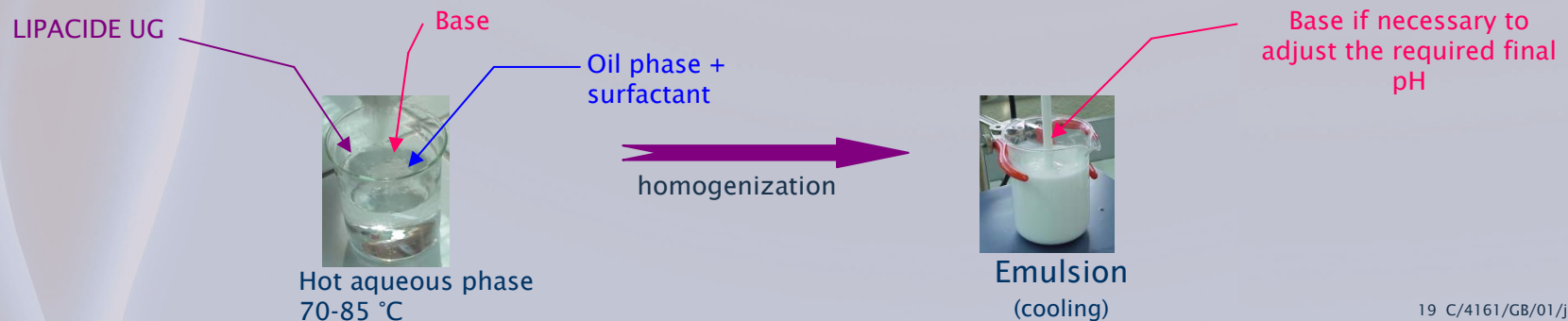
Formulation of a hygiene product

Acidic pH with a large quantity of surfactants:



Formulation of an emulsion

pH \geq 5 to preserve a smooth texture over time:



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Nota

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