

# Elestab™ HP100

Anti-dandruff and anti-desquamation  
efficacy on hair scalp

**Beauty Creations**  
*The Passion for Beauty*

 **BASF**

The Chemical Company

# What is dandruff?

Dandruff (Pityriasis capitis) is a sub-clinical inflammatory scalp disorder resulting in a disruption of cohesion between the corneocytes. This leads to an excessive flaking of dead skin cells on the scalp.

In a normal state, epidermal cells are renewed every 28 days and the scalp sheds died cells in an invisible way.

In contrary, in the case of people suffering from dandruff, the epidermal cell turn over is unusually fast, about 2 weeks, only. Dead skin cells are shed in large clumps. Dandruff scales are dry, white or grayish, appearing as unsightly patches, especially at the top of the head.

The etiology of dandruff is multifactorial, but it is generally accepted that the most common cause is probably the fungus *Malassezia furfur* (previously known as *Pityrosporum ovale*). This fungus is found naturally on the skin surface but it is more present on skin areas with many sebaceous glands, such as the scalp.

Other factors can influence the state of dandruff such as: hormonal imbalances, season (most severe during the winter), use of alkaline soaps, infrequent shampoo of hair or inadequate rinsing, excessive perspiration, stress, anxiety and tension.

The use of appropriate hygienic and care products can greatly improve dandruff states.

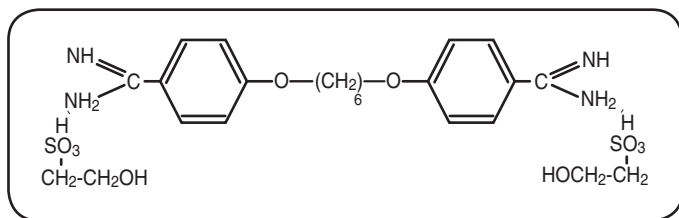
# Aseptizer of the scalp

## Focus on the product

Elestab™ HP 100 is a hydrosoluble antimicrobial cationic substance with a wide spectrum of activity against bacteria, fungi and yeasts. It contains neither free nor combined formaldehyde, has a good cutaneous/mucous local tolerance and has an excellent coefficient of security compared to other antiseptics. It resists to inactivation by sebum, and is a substantive and an indirect anti-irritant for the skin.

Elestab™ HP 100 is recommended for specific hair care focusing an activity on dandruff prone scalps.

Due to its cationic behaviour, Elestab™ HP 100 is particularly suitable for «rinse-off» treatments.

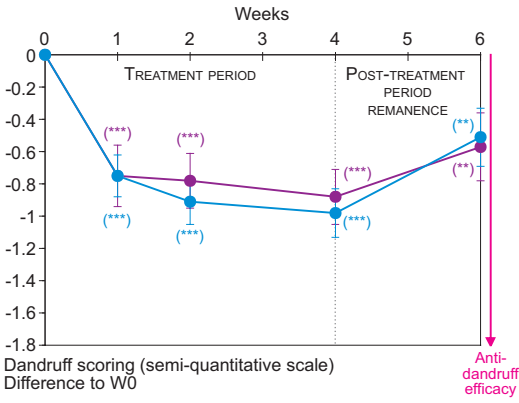


Chemical structure of Elestab™ HP 100.

Thanks to its specific activity on *Malassezia furfur*, a fungus directly associated to dandruff state, we expected that Elestab™ HP 100 could provide a good and significant improvement of dandruff states and an anti-desquamation effect, easily perceived by the end-user

Elestab™ HP 100 has been the subject of a clinical study to demonstrate the anti-dandruff and anti-desquamation effect of a shampoo containing 0.1% Elestab™ HP 100 in comparison to a shampoo with 1% zinc pyrithione.

# Anti-dandruff effect – scales in hair



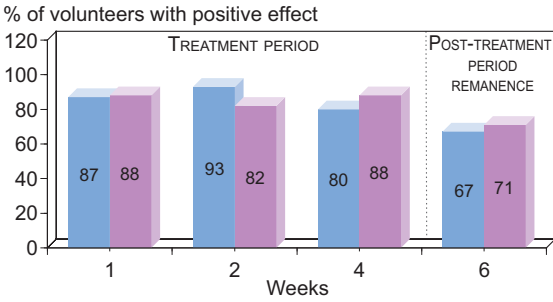
**Anti-dandruff effect** since 1 week treatment, equivalent to the benchmark.

● Shampoo with 1% zinc pyrithione (15 volunteers)

● Shampoo with 0.1% ELESTAB® HP 100 (17 volunteers)

Scale:  
 0: absence  
 1: a few dispersed  
 2: present in moderate quantity

Statistics:  
 Mean on 3 areas of the scalp ± SEM  
 Student's paired t test  
 (\*\*\*) p<0.01  
 (\*\*) p<0.001

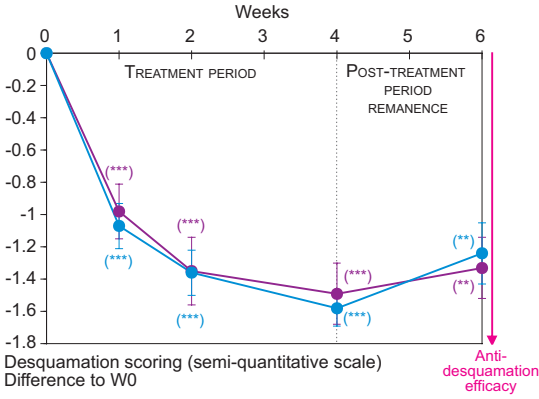


**Better remanent effect** compared to the shampoo with 1% ZnPt.

■ Shampoo with 1% zinc pyrithione

■ Shampoo with 0.1% ELESTAB® HP 100

# Anti-desquamation effect – scales on scalp

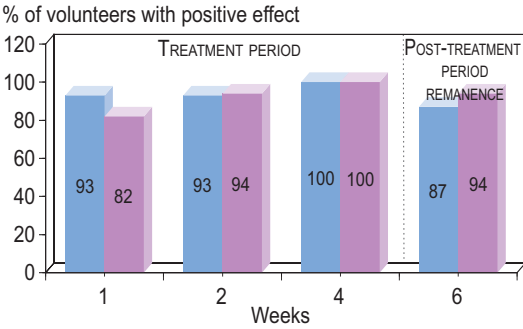


- Shampoo with 1% zinc pyrithione (15 volunteers)
- Shampoo with 0.1% ELESTAB® HP 100 (17 volunteers)

Scale:  
0: absence  
1: a few dispersed  
2: present in moderate quantity

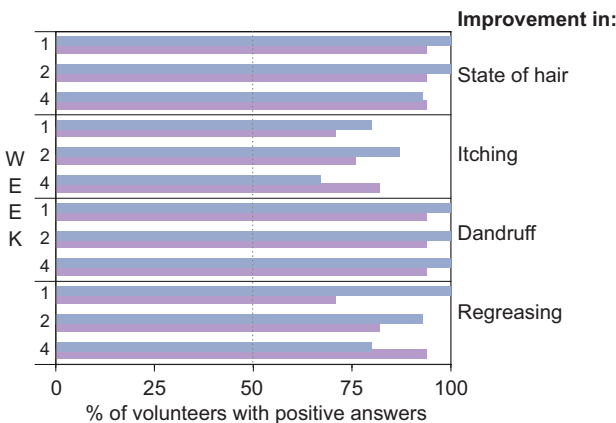
Statistics:  
Mean on 3 areas of the scalp ± SEM  
Student's paired t test  
(\*\*) p<0.01  
(\*\*\*) p<0.001

**Anti-desquamation effect** after 1 week of treatment, equivalent to the benchmark.



- Shampoo with 1% zinc pyrithione
- Shampoo with 0.1% ELESTAB® HP 100

## Subjective evaluation



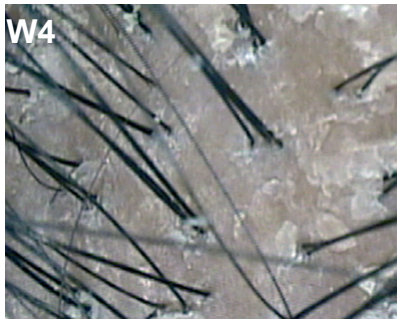
- Shampoo with 1% zinc pyrithione
- Shampoo with 0.1% ELESTAB® HP 100

# Anti-desquamation effect – scales on scalp

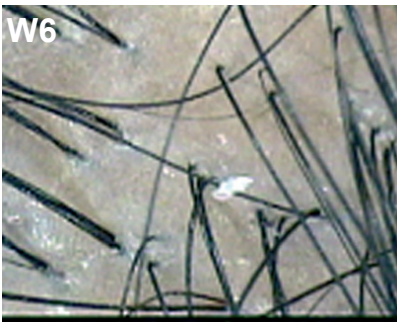
## Macrophotographs



Before treatment



After 4 week treatment



2 weeks after the end of the treatment

### *In vitro study*

on 2 groups of 15 and 17 healthy volunteers, with dandruff and oily scalp.  
Daily application of a shampoo with active ingredient after a wash-out period and before a remanence period.  
Scoring of dandruff and desquamation by a technician, subjective evaluation questionnaire by the volunteers, macrophotography.

**Elestab™ HP 100 provides a significant anti-dandruff efficacy during the treatment and a noticeable remanent effect.**

# Summary datasheet

**REFERENCE** Elestab™ HP 100

**DESCRIPTION** Antimicrobial belonging to the class of aromatic diamidines.

**DOSE OF USE** 0.1%

## REGULATORY DATA

**INCI (US)** Hexamidine diisethionate

**CAS** 659-40-5

**EINECS** 211-533-5

**Preservative** none

## PRELIMINARY SPECIFICATIONS

**Organoleptic characteristics** White powder with weak odor

**Density (g/ml)** 1.003 – 1.011

**Refractive index (20°C)** 1.437 – 1.443

**Solubility [at 2 % in water]** Soluble at 25°C

**Solubility [at 1 % in ethanol]** Soluble at 80°C

**Infra-red spectrum [ATR]** Conform

**Ultra-violet spectrum** 0.510 - 0.550

**T.L.C. [Hexamidine type]** Conform

**Total nitrogen (SW:0.1g)** 8.80 - 9.50%

**Basicity (SW:0.1g)** 3.15 - 3.50 meq/g

**Acid value (SW:2g)** max. 1.0

**Purity / Titrimetry** 98.5 - 101.5%

**Loss on drying at 105°C max.** 0.5%

## FORMULATION

**Solubility** Soluble in water (80°C) and propylene glycol (60°C), soluble in ethanol and insoluble in oils and fats.

**Mode of incorporation** Elestab™ HP 100 must be dissolved under stirring into the formula's water previously heated to 80°C. It can also be introduced as a mother solution in propylene glycol. This way is recommended in the case of anionic emulsions and nonionic emulsions with alkyl-glucosides and sucrose esters.

## CUSTOMS CODE

**STORAGE** Store in a cool place in original sealed container.  
Temperature between +15°C and +25°C.

**SHELF LIFE** 36 months

## MANUFACTURER

BASF Beauty Care Solutions France SAS

3 rue de Seichamps - 54425 Pulnoy (France)

## **EUROPE & SOUTH AMERICA**

**BASF Beauty Creations**

49, avenue Georges Pompidou  
92593 Levallois-Perret Cedex  
France

Tel: +33 (0) 1.49.64.53.97

Fax: +33 (0) 1.49.64.53.85

bcs-europe@basf.com

## **NORTH AMERICA**

**Beauty Creations**

**BASF Corporation**

50 Health Sciences Drive  
Stony Brook, NY 11790  
USA

Tel: +1 (631) 380 2300

Fax: +1 (631) 689 2904

bcs-nafta@basf.com

## **JAPAN & ASIA-PACIFIC**

**BASF Japan Ltd.**

21F Roppongi Hills Mori Tower,  
6-10-1 Roppongi, Minato-ku,  
Tokyo, 106-6121

JAPAN

Tel: +81 (0) 3-3796-9214

Fax: +81 (0) 3-3796-9299

bcs-asia@basf.com



The Chemical Company

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