



Patent N° WO 2008/015639

# VOLUFILINE™



**Sarsasapogenin**

### Function:

Promotes body volume by a cosmetic lipofilling-like effect.

### Definition:

Sarsasapogenin extracted from the roots of Asian botanical *Anemarrhena asphodelioides*, in an oil-soluble excipient.

PRESERVATIVE FREE

### Properties:

Volufiline™ stimulates adipocyte differentiation and proliferation, and promotes lipid storage leading to an increase of adipocyte volume in the fatty tissue.

### Characteristics:

The mechanism of action of sarsasapogenin is elucidated by DNA-array technique. Sarsasapogenin activates the differentiation pathway (PPAR $\gamma$ , COPS3, COPS5), stimulates lipid incorporation through the glucose/fructose pathway (adipophilin, SLC2A5, GLUT5) and promotes fatty tissue setting among the extra cellular matrix (LOX, ECM2).

### Point of interest:

Sarsasapogenin is a phytosterol with no hormonal activity.

### INCI name:

(Check CTFA on-line dictionary for latest INCI name)

Hydrogenated Polyisobutene  
– Anemarrhena Asphodeloides (Root)  
extract.

### Applications:

Bodycare emulsions for breasts, buttocks, hands or cheeks.

### Formulation:

For formulation restrictions ask  
Sederma.

### Recommended use level:

5%

**Harmonious curves  
for a gorgeous body**

up to **8.4%**  
improvement  
in volume

T0 T56 days



Member of Croda International Plc

Copyright© 2006-2010 Sederma. All rights reserved.

[www.sederma.fr](http://www.sederma.fr)

E-mail: [sederma@sederma.fr](mailto:sederma@sederma.fr)

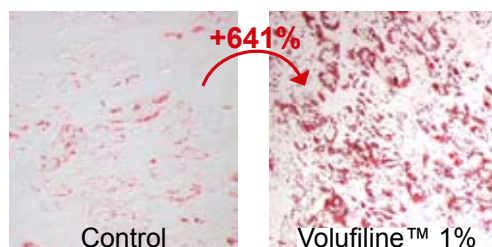
**In vitro tests**

The activity of Volufiline™ (concentration 1% eq to sarsasapogenin 10µM) is evaluated on cultures of pre-adipocytes and adipocytes (3T3-L1).

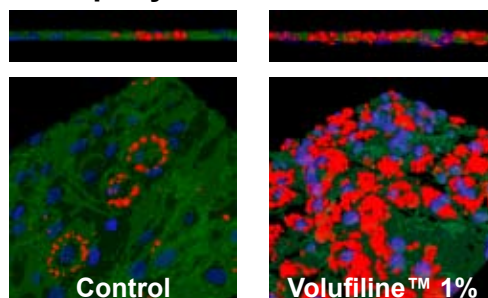
- **Pre-adipocyte differentiation** ..... **+201%**  
Measurement of the differentiation marker G3PDH activity
- **Adipocyte proliferation** ..... **+32%**

- **Lipid storage**

Red oil coloured lipids in human adipocytes.



- **Adipocyte volume**



3D visualization of adipocytes

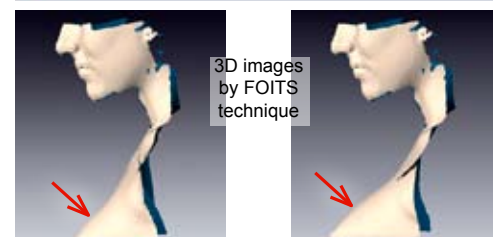
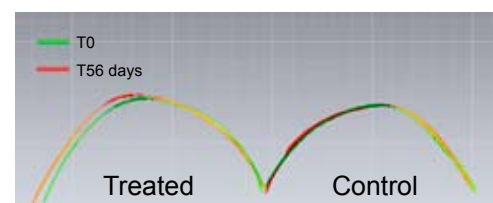
Red = lipid vesicle  
Blue = nucleus  
Green = cytosol

**Cell volume increases  
X 22 times  
with Volufiline™ 1%**

**In vivo tests**

30 women (bra cup size 30-30A or 34AA) aged 18 to 35 years applied twice daily on one breast a gel cream containing 5% of Volufiline™ for 56 days. Breast plumping was evaluated by FOITS.

| <b>Volufiline™ 5%</b>        | <b>treated side</b>               | <b>non-treated side</b> |
|------------------------------|-----------------------------------|-------------------------|
| mean variation after 28 days | <b>+1.4%</b> <small>p=0.3</small> | <b>-0.1%</b>            |
| 1st quartile                 | <b>+6.6%</b>                      | <b>-6.4%</b>            |
| mean variation after 56 days | <b>+2.2%</b> <small>p=0.1</small> | <b>+0.9%</b>            |
| 1st quartile                 | <b>+8.4%</b>                      | <b>-2.0%</b>            |



3D images  
by FOITS  
technique

**Formulation**

### Décolleté Plumping Emulsion with VOLUFILINE™

Indicative formula ref.: SED0512550H

| <b>Part A</b>   | <b>%</b> | <b>Part E</b>  | <b>%</b> |
|---|----------|--|----------|
| Dionised water  | qsp 100  | Potassium sorbate  | 0.10     |
| Ultrez 10 (Carbomer, Noveon)                                    | 0.40     | <b>Part F</b>  | <b>%</b> |
| <b>Part B</b>   | <b>%</b> | Sodium hydroxyde 30%   | 0.40     |
| Glycerin  | 3.00     | Deionised water  | 4.00     |
| Preservative  | 0.30     | <b>Part G</b>  | <b>%</b> |
| <b>Part C</b>   | <b>%</b> | Parfum   | 0.10     |
| Crill 3 (Sorbitan Stearate, Croda)                              | 2.00     | <b>Protocol:</b> Weigh Part A and let swell Ultrez for 30 minutes. Then heat in water-bath 75°C. Weigh Part B, and heat until dissolution. Add Part B in Part A, and homogenize. Weigh Part C and heat in water-bath 75°C. Weigh Part D and add in Part C, homogenize well. Pour Part C+D in Part A+B under stirring v=300rpm, homogenize well. Add Part E, homogenize well. Neutralize with Part F at about 55°C, homogenize well. Add Part G at about 35°C, homogenize well, check pH. |          |
| Crodaderm S (Sucrose Polysoyate, Croda)                         | 2.00     |  |          |
| Marcol 82 (Mineral Oil)   | 2.00     |  |          |
| Cithrol GMS AS/NA (Glyceryl stearate & PEG 100 stearate, Croda) | 3.00     |  |          |
| <b>Part D</b>   | <b>%</b> |  |          |
| <b>VOLUFILINE™</b> (Sederma)                                    | 5.00     |  |          |

**Non-guarantee:**

This formulation has been subjected to limited stability tests and has been shown to perform well. However formulators adopting this approach should ensure to their own satisfaction long term stability and functionality. It is good practice to conduct safety tests on all final formulations prior to marketing. Suggested uses should not be taken as an inducement to infringe any existing patents.

**Non-guarantee:** The information in this publication is given in good faith by Sederma by way of general guidance and for reference purposes only. The information should not be construed as granting a license to practice any methods or compositions of matter covered by patents. Sederma assumes no liability in relation to the information and gives no warranty regarding the suitability of the product and/or ingredients described for a particular use. The use made of the product and/or ingredients described by the recipient and any claims or representations made by the recipient in respect of such product and/or ingredients are the responsibility of the recipient. The recipient is solely responsible for ensuring that products marketed to consumers comply with all relevant laws and regulations.