



# REGU<sup>®</sup>-AGE PF

Visibly reduces the appearance of dark circles and eye puffiness

# For your eyes only

Eyes are the window to the soul. They don't just allow us to see the world – they convey our thoughts, our mood, our deepest emotions. That is why so many of us want to protect the area around the eyes against the effects of aging, fatigue and exposure to the sun, which lead not only to wrinkles, but also to under-eye dark circles and eye puffiness. This can influence the way we are seen and see ourselves.

REGU®-AGE PF is a unique, high performing, paraben-free complex of specially purified natural rice and soy peptides with a biotechnologically produced superoxide dismutase.

As demonstrated by *in vitro* tests, REGU®-AGE PF protects and strengthens the delicate skin under the eyes.

A consumer study provided conclusive evidence of the most important benefits of using REGU®-AGE PF: it improved skin texture and visibly reduced the appearance of under-eye dark circles and eye puffiness.

## Key facts

### Unique product features

- Complex of carefully-purified natural soy and rice peptides, and biotechnologically-produced superoxide dismutase
- Paraben-free
- Multi-target mechanisms

### Benefits

- Visibly reduces the appearance of under-eye dark circles and eye puffiness
- Improves skin texture by more than 30% in 4 weeks
- Protects and strengthens the delicate skin under the eyes

### Cosmetic application

- For facial care products, especially to combat under-eye dark circles and eye puffiness
- Eye care products

### Suggested concentration

- 2 % to 5% REGU®-AGE PF in cosmetic formulations

### INCI name (Active)

Hydrolyzed Rice Protein, Glycine Soja (Soybean) Protein, Superoxide Dismutase

# Mechanism

Dark circles and bags under the eyes are caused by complex interactions. The skin around the eyes, which is already very thin, becomes even thinner as we age. Fatigue, sun damage and aging weaken the collagen and elastin matrix and cause the skin to lose its elasticity. If blood circulation is sluggish in skin capillaries and they become clogged, the pressure build-up has a damaging effect on the already weakened connective tissue. Insufficient supply of oxygen and ongoing inflammation processes by high levels of reactive oxygen species and increased activity of proteolytic enzymes such as collagenase and elastase contribute to the degradation of the collagen and elastin matrix. The consequences are visible dark circles and eye puffiness.

REGU®-AGE PF has been developed specifically to address these multiple conditions.

## 1 | Protection against oxidative stress

*In vitro* tests show that REGU®-AGE PF inhibits oxygen free radicals with the help of superoxide dismutase to counter higher levels of oxidative stress after UV exposure.

## 2 | Strengthens and protects the collagen and elastin matrix

*In vitro* tests have proven the stimulating effect of REGU®-AGE PF on fibroblast proliferation, which plays a fundamental role in the dermis, to strengthen the collagen and elastin matrix.

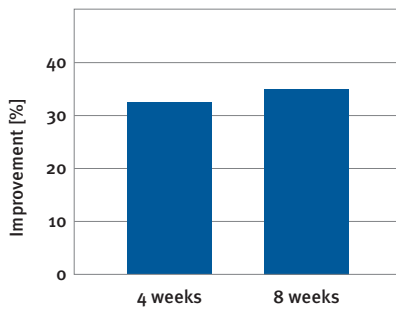
*In vitro* studies confirm that REGU®-AGE PF inhibits collagenases and elastases to protect the collagen and elastin matrix.

# Efficacy

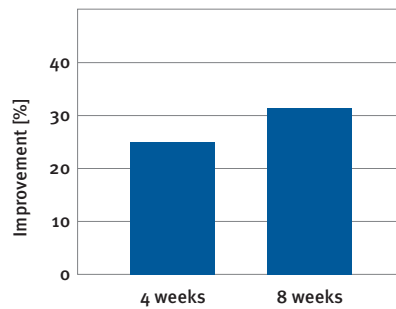
## *In vivo*\*

### Reduction of dark circles and eye puffiness

A double-blind study was performed with twenty subjects. A cream with 5% REGU®-AGE PF was applied to test areas of subjects' faces twice a day after facial cleansing, over a period of 8 weeks. On day 0 and at weeks 4 and 8, evaluations of eye puffiness and dark circles were performed by trained technicians.



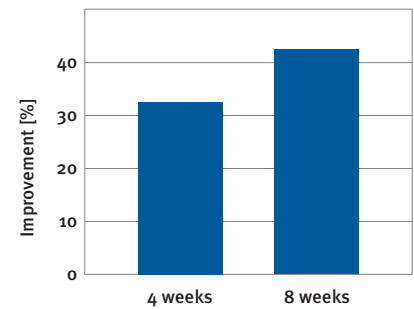
After only 4 weeks of treatment with 5% REGU®-AGE PF a reduction of dark circles of around 32% could be observed.



After only 4 weeks of treatment with 5% REGU®-AGE PF, a reduction of eye puffiness of around 25% could already be observed.

### Improvement of skin texture

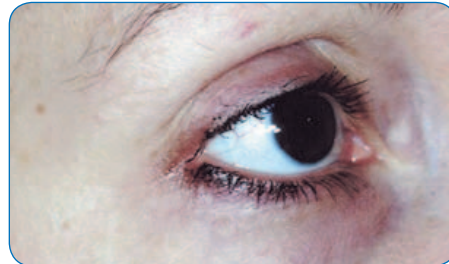
Silicone replicas of the skin texture of the eye area were taken and analyzed via digital image analysis for lines and wrinkles, as well as overall skin texture.



After only 4 weeks of treatment with 5% REGU®-AGE PF, an improvement of skin texture of more than 30% could be observed.



Before treatment



After 8 weeks of treatment

\*DSM data on file

The Personal Care division of DSM Nutritional Products is a leading supplier of vitamins, bio-active ingredients and UV filters to the cosmetics industry.

The brand **Pentapharm** forms our innovative portfolio of active ingredients for skin care. Every product comes with claim substantiation and an extensive product dossier, including safety aspects and *in vivo* as well *in vitro* studies.

We offer innovative ingredients produced by means of peptide synthesis, extraction of Natural substances and biotechnology. Our **ALPAFLOR®** product line extends our portfolio in the broad field of natural substances; following strict organic rules, the developed high-quality extracts are certified by **Ecocert®** and Natrue as raw materials for natural and organic cosmetics.

Our knowledge and years of experience in marketing and claim substantiation, our comprehensive support in formulation and application, and our regulatory expertise, together with a global distribution network, enable us to best meet our customers' needs.

For more information, please visit us online at **[www.dsmnutritionalproducts.com](http://www.dsmnutritionalproducts.com)**

## Europe

DSM Nutritional Products Europe Ltd.  
P.O. Box 2676, 4002 Basel  
Switzerland  
Phone: +41 61 815 7777  
Fax: +41 61 815 7860  
Email: [marketing.dnpe@dsm.com](mailto:marketing.dnpe@dsm.com)

## Asia Pacific

DSM Nutritional Products Asia Pacific  
2 Havelock Road #04-01  
Singapore 059763  
Phone: +65 6632 6617  
Fax: +65 6632 6600  
Email: [Unlimited.PersonalCare@dsm.com](mailto:Unlimited.PersonalCare@dsm.com)

## North America

DSM Nutritional Products, LLC  
45 Waterview Boulevard, Parsippany, NJ 07054  
United States of America  
Phone: +1 800 526 0189  
Fax: +1 973 257 8580  
Email: [webshop.dnpna@dsm.com](mailto:webshop.dnpna@dsm.com)

## Latin America

DSM Productos Nutricionais Brasil Ltda.  
Av. Engº Billings, 1729 Prédio 31  
Jaguará – São Paulo – SP – Brasil 05321-010  
Phone: + 55 11 3760 6409  
Fax: + 55 11 3760 6492  
Email: [america-latina.dnp@dsm.com](mailto:america-latina.dnp@dsm.com)

© 2011 DSM Nutritional Products AG, 4002 Basel, Switzerland

All rights reserved. No part of this brochure may be reproduced, distributed or translated in any form or by any means, or stored in a database or retrieval system, without the prior written permission of DSM Nutritional Products AG ("DSM"). While making reasonable efforts to ensure that all information in this brochure is accurate and up to date, DSM makes no representation or warranty of the accuracy, reliability, or completeness of the information. Use of this information shall be at your discretion and risk. Nothing herein relieves you from carrying out your own suitability determinations and tests and from your obligation to comply with all applicable laws and regulations and to observe all third party rights. The uses and claims for DSM's products recommended in the brochure should be adapted to the current local regulatory environment. We disclaim any and all liability in connection with your product or its use.