The Original Producers of Meadowfoam Seed Oitm Natural Plant Products

DAIKON SEED EXTRACT

INCI NAME (PCPC): Raphanus Sativus (Radish) Seed Extract INCI NAME (EU): Raphanus Sativus Seed Extract CAS NUMBER: 84775-94-0 EC NUMBER: 283-918-6 JCLD: 561590 GROWN IN USA

An Assessment of Daikon Seed Extract's Ability to Improve Skin Barrier Function

Background:

Daikon Seed Extract (DSE) is a fully-refined triglyceride derived from the seeds of Raphanus sativus grown in the Willamette Valley of Oregon. DSE imparts a delicate skin feel and emolliency, and its aesthetics differ qualitatively from other botanicals.

Objective:

To evaluate the ability of DSE to improve skin barrier function in comparison to three well-known emollients used in skin care.

Number of Subjects:

Twenty-seven

Test Area:

Volar forearm

Test Products:

Daikon Seed Extract, Meadowfoam Seed Oil, 100 cps dimethicone, and isopropyl palmitate (IPP).

Endpoint:

Trans-Epidermal Water Loss (TEWL)

A reduction in trans-epidermal water loss indicates measured increase in skin barrier function.



Daikon Seed Extract



Instrument:

DermaLab Evaporimeter (Cortex Technology, Hadsund, Denmark)

Methodology:

After a three day washout on forearms with neutral soap bar and no usage of personal care products on the test sites, subjects reported to the testing facility. The testing facility was maintained at 20-22° C and 30-50% relative humidity. Four test sites measuring 4x4 cm were demarcated on the volar forearms at least 2 cm from the wrist and elbow, with at least 2 cm between adjacent test sites.

After test site demarcation, subjects remained in the testing facility with the test sites uncovered and exposed for 15 minutes. After this equilibration period, a baseline measurement was taken at each test site. Trained clinical staff then applied 1 mg/cm² of a test product to the test sites using a finger cot. Products were assigned to test sites using a randomized design with each subject having all four products applied.

Subjects remained in the test area with the test sites uncovered and exposed for 30 minutes at which point the first TEWL measurement was taken. Participants were sequestered in the testing facility for the balance of the study, and TEWL measurements were taken at 1 hour, 2 hours, and 4 hours post-application after allowing participants to equilibrate for 15 minutes in the measurement room.

Mean Tewameter Score				
	Meadowfoam Seed Oil	Daikon Seed Extract	Isopropyl Palmitate	Dimethicone
30 Minutes Post-Treatment	-1.07	-1.18	-0.68	-1.1
1 Hour Post-Treatment	-1.1	-1.12	-0.67	-1.17
2 Hours Post-Treatment	-0.77	-0.65	-0.11	-0.97
4 Hours Post-Treatment	-0.44	-0.38	-0.06	-0.43



Statistical Analysis:

Mean reduction in TEWL from baseline was calculated for each treatment. The data were subjected to a two-tailed paired t-test with significance set at a p-value of 0.05. Treatments were compared to the untreated baseline and against other treatments.

TEWL (Barrier Function) Results:

DSE, MSO, and 100 cps dimethicone

significantly reduced TEWL at 30 minutes, 1 hour, 2 hours, and 4 hours post-application compared to the baseline. IPP significantly reduced TEWL at 1 hour and 2 hours post-application. The performance of DSE was significantly different from the performance of IPP at the 30 minute, 1 hour and 2 hour marks.

Conclusions:

DSE decreased TEWL and significantly increased barrier function compared to isopropyl palmitate at all measurement points during the study demonstrating the enhanced utility of DSE that can be achieved while maintaining the light skin feel associated with IPP.

There was no statistical difference in performance between DSE, MSO, and 100 cps dimethicone demonstrating that DSE performs comparably to well-known cosmetic emollients.



This data is presented in good faith and is based on information believed to be reliable, which is offered solely for evaluation, investigation, and verification of the numerous factors that may affect results. Natural Plant Products, Inc. produces and sells Daikon Seed Extract with the understanding that purchasers will perform their own tests to determine the suitability of this product for their own particular use. Warranty as to accuracy or result is neither given nor implied. Natural Plant Products, Inc. assumes no liability or responsibility for any damage to person or property resulting from or incident to the use of this product. Statements concerning the use of Natural Plant Products' Daikon Seed Extract are not to be construed as re-commendations, suggestions, or inducements to use it in the infringement of any patient or in violation of any applicable laws or regulations. No liability arising out of such a use is assumed.

Phone: (503) 363-6402 Fax: (503) 587-8717 Email: sales@meadowfoam.com

P.O. Box 4306 Salem, OR 97302 USA

www.meadowfoam.com