

PROTECT OIL

BONN RESULTS

The base of the Protect Oil is Ximenia Oil – a unique oil isolated from the seeds of *Ximenia americana*, wild-harvested in Namibia. Present in this oil is a fatty acid called Ximenynic Acid. This fatty acid contains a rare triple bond, which allows it to undergo polymerisation, forming a protective layer on the skin's surface. Ximenynic Acid has also been reported to improve blood flow in the skin. Very long chain fatty acids are also present in significant quantities in Ximenia Oil, mimicking sebum composition.



Effect on Pre-sensitised Skin

Before we considered the efficacy of the Protect Oil, we wanted to ensure that there was absolutely no chance of damage or irritation associated with its use – first, do no harm. This was critical to establish because the product is intended for sensitive skin.

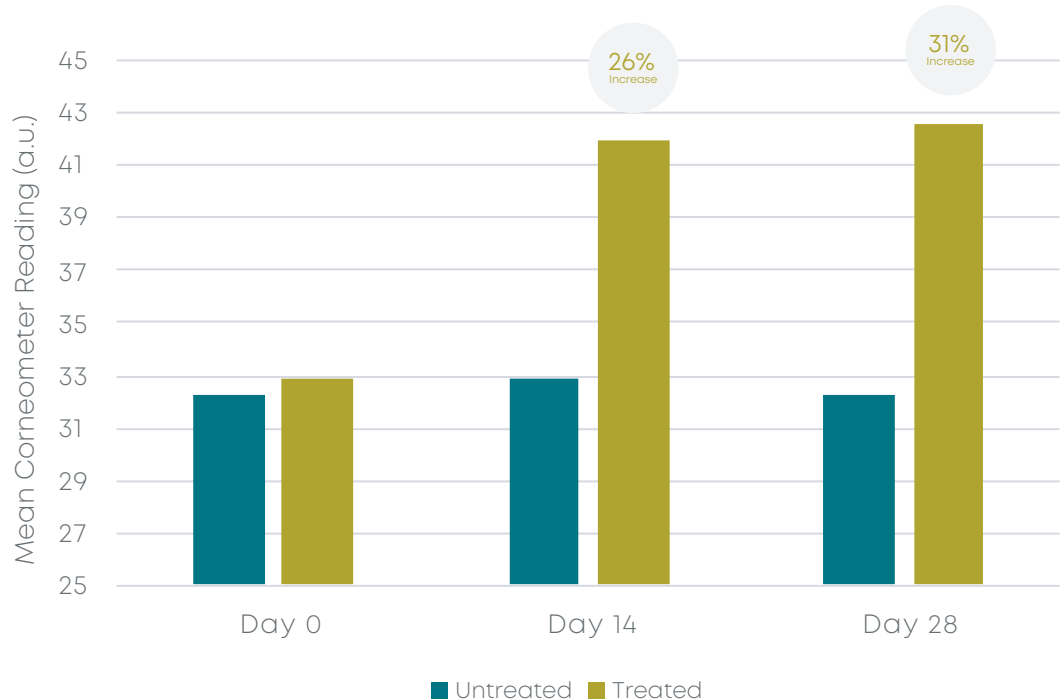
The Protect Oil was tested on pre-sensitised skin to establish its effect. 50 subjects were tape-stripped ten times, and the Protect Oil was applied for 48 hours on the resulting sensitised patch. It was found to be harmless in terms of the possibility of skin irritation after tape stripping.

Hydration, Firmness, Elasticity and Wrinkle Depth

20 women (average age 48.4 years) applied Esse Protect Oil twice daily for 28 days. The effects of this use of the Protect Oil on skin hydration, skin firmness and elasticity, and wrinkle depth were determined.

Skin Hydration

Esse Protect Oil **increases skin hydration by 31%** in 28 days.

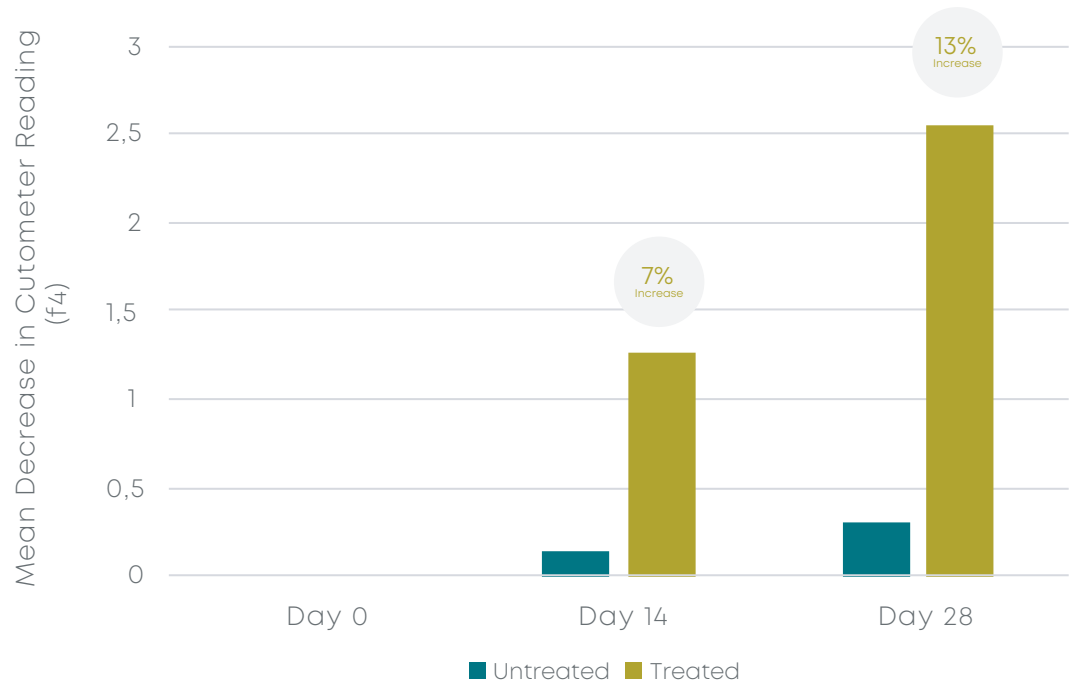


20 women (average age 48.4 years) applied Esse Protect Oil twice daily. After 14 days, skin hydration had increased by an average of 26.4%. After 28 days, skin hydration had increased by an average of 30.5%. An improvement was seen in 100% of the volunteers.

Percentage improvements were calculated relative to both initial skin condition and untreated measurements.

Skin Firmness

Esse Protect Oil **increases skin firmness by 13%** in 28 days.

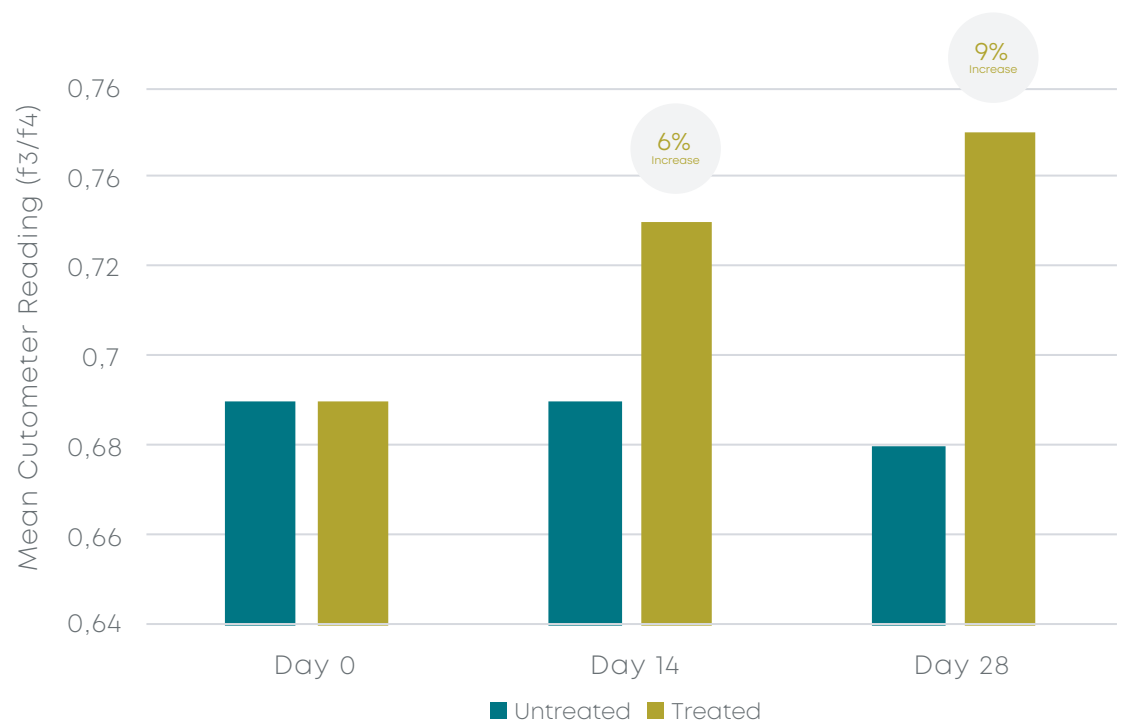


20 women (average age 48.4 years) applied Esse Protect Oil twice daily. After 14 days, skin firmness had increased by an average of 6.5%. After 28 days, skin firmness had increased by an average of 12.6%. An improvement was seen in 95% of the volunteers.

A decrease in cutometer reading corresponds to an increase in skin firmness. Again, the percentages were calculated relative to both initial condition and the untreated group.

Skin Elasticity

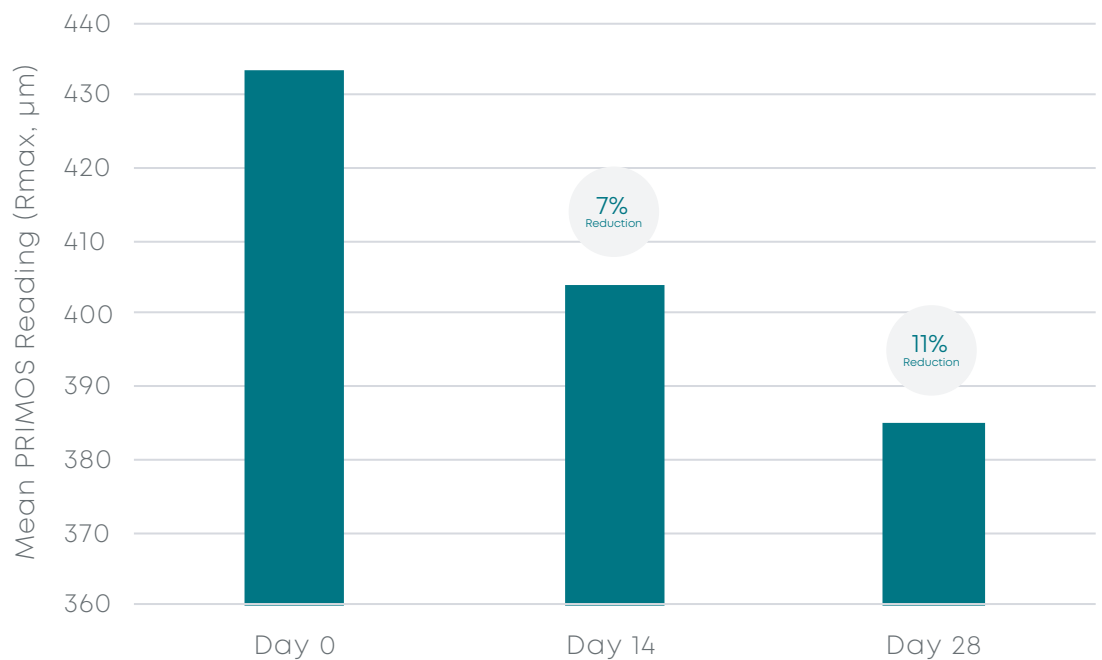
Esse Protect Oil **increases skin elasticity by 9%** in 28 days.



20 women (average age 48.4 years) applied Esse Protect Oil twice daily. After 14 days, skin elasticity had increased by an average of 6.2%. After 28 days, skin elasticity had increased by an average of 9.4%. An improvement was seen in 80% of the volunteers.

Wrinkle Depth

Esse Protect Oil **reduces wrinkle depth by 11%** in 28 days.



20 women (average age 48.4 years) applied Esse Protect Oil twice daily. After 14 days, wrinkle depth had decreased by an average of 6.6%. After 28 days, wrinkle depth had decreased by an average of 10.6%. An improvement was seen in 95% of the volunteers.

Repair & Protection Study

This study was conducted to determine the ability of Esse Protect Oil to repair skin from, and protect it against, the damages induced by the surfactant sodium dodecyl sulphate (SDS).

The study was carried out in three phases, over the course of 21 days. In phase I, which went from day 0 to day 7, skin irritation was induced by twice-daily washing of the skin with SDS.

Phase II then began, with Esse Protect Oil being applied for the first time on day 7, then twice daily from day 8 to day 13, before being applied on the morning of day 14. The rate of regeneration for the subjects applying the Protect Oil was compared to the rate of regeneration of an untreated control group.

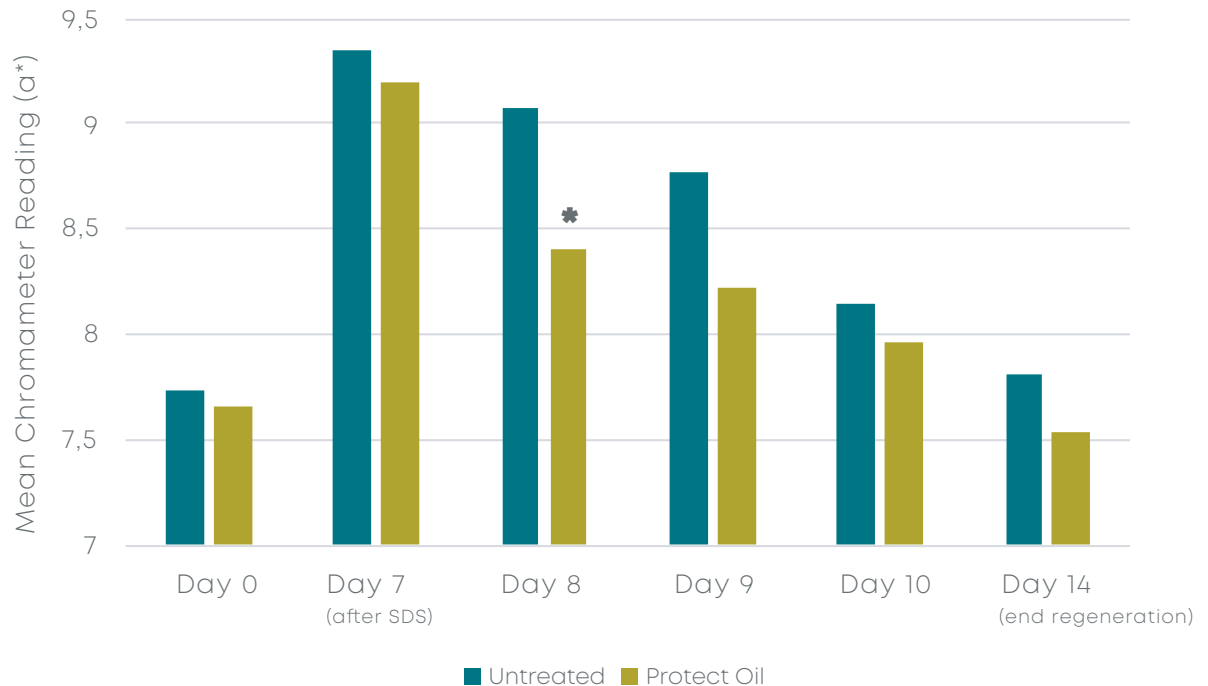
Day 14 marked the end of the regeneration phase and the beginning of phase III, in which the protection ability of the product was tested. During phase III, subjects applied the Protect Oil and washed with SDS one hour afterwards. This was carried out on the evening of day 14, then twice daily from day 15 to day 20, and finally on the morning of day 21. The level of skin irritation measured for the group applying the product was compared to that for an untreated control group (in which subjects only washed with SDS, applying no Protect Oil).

Throughout this study, skin irritation was determined by measuring skin redness (using a Chromameter) and trans-epidermal water loss (TEWL, measured with a Tewameter).

Regeneration

Esse Protect Oil **improves** the regeneration of irritated skin.

Graph for Skin Redness (Erythema)

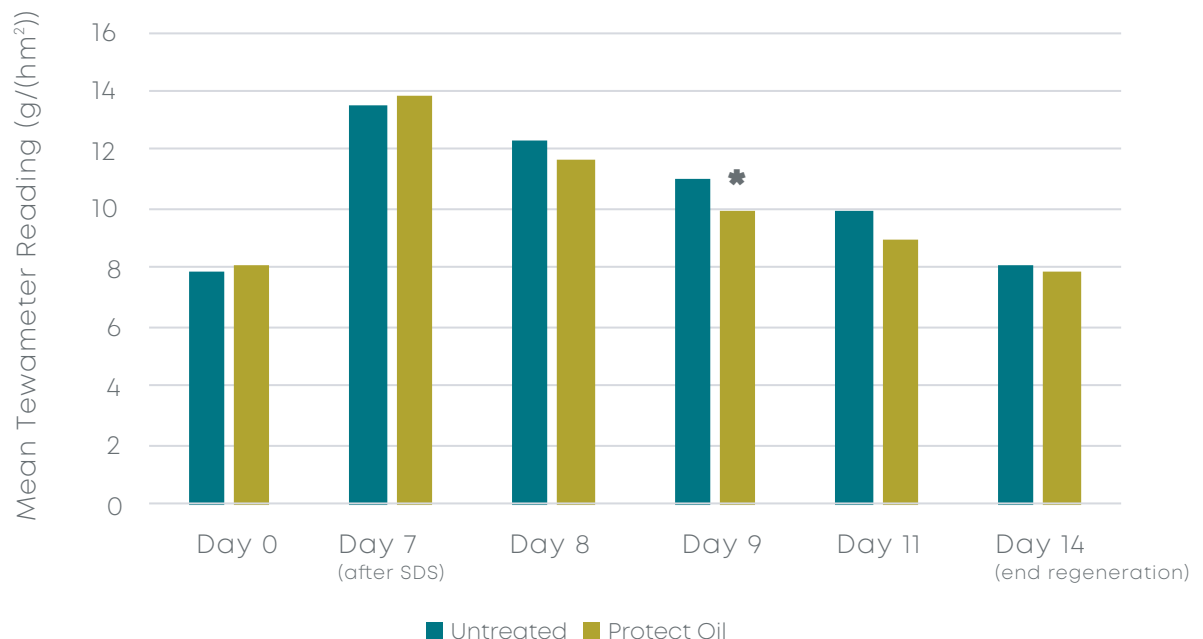


20 test subjects (13 female, 7 male; average age 44.4 years) washed twice daily with SDS for a week, resulting in irritated skin, as indicated by an increase in skin redness and trans-epidermal water loss (TEWL). They then applied Esse Protect Oil twice daily for one week. The test group showed improved regeneration when compared to an untreated control group.

Notes on the above graph: The asterisk (*) marks a statistically significant difference to the untreated group.

So, we can see that the Protect Oil has a statistically significant effect on day 8 (one day after the end of SDS-induced irritation). In statistical terms, the Protect Oil group returned to a non-irritated state on day 11, while the untreated group returned to this state on day 14 (parameters were only tested on the days shown, so it's possible that the untreated group returned to a non-irritated state on day 12 or 13).

Graph for TEWL



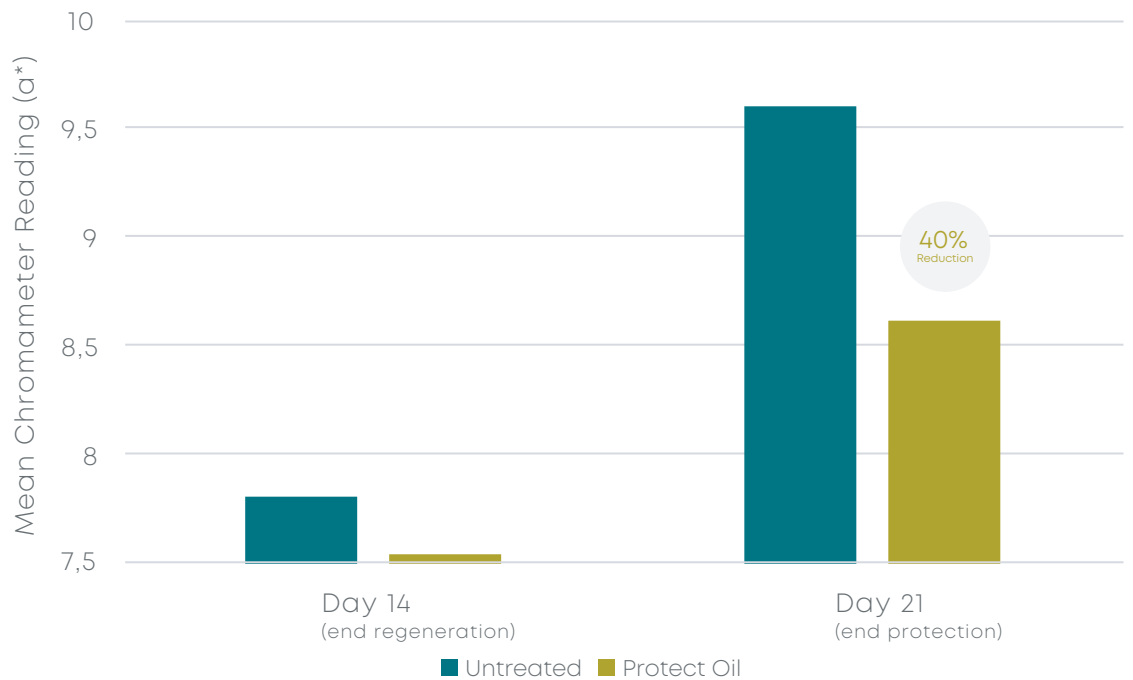
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Notes on the above graph: As with the skin redness graph, an asterisk marks a statistically significant difference from the untreated group, so we see a significant improvement for day 9 – after 2 days of treatment. In statistical terms, both test groups had returned to a non-irritated state on day 14.

Protection

Esse Protect Oil protects skin from irritants, **reducing induced erythema by 40%** and **reducing barrier damage by 31%**.

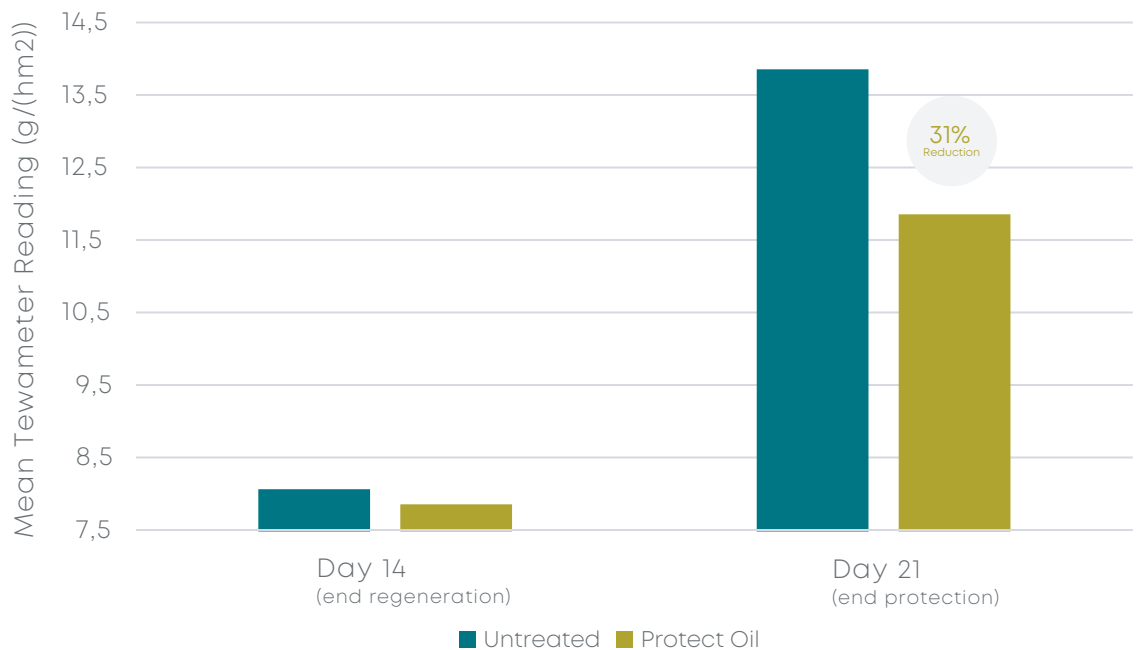
Graph for Erythema



20 test subjects (13 female, 7 male; average age 44.4 years) applied Esse Protect Oil, followed an hour later by washing with SDS, twice daily for a week. The group applying Protect Oil showed reduced erythema (39.7% less skin redness) compared to an untreated control group.

The "40%" data label indicates that the erythema resulting from a week of SDS washing was 40% reduced in the Protect Oil group compared to the untreated group.

Graph for TEWL



20 test subjects (13 female, 7 male; average age 44.4 years) applied Esse Protect Oil, followed an hour later by washing with SDS, twice daily for a week. The group applying Protect Oil showed reduced barrier damage (31.3% smaller increase in TEWL) compared to an untreated control group.

The "31%" data label indicates that the TEWL increase resulting from a week of SDS washing was 31% less in the Protect Oil group compared to the untreated group.