

LIPOGARD - *the most efficient manner
to protect the skin from lipid peroxidation.*

LIPOGARD contains high level
of Ubiquinone (Coenzyme Q10)
and vitamin E in a squalane base.

LIPOGARD for a soft
and well toned skin.



Unlimited. **DSM**

pentapharm

benefiting society through science



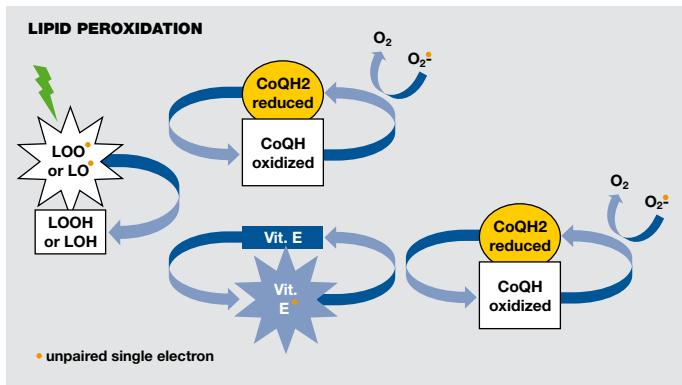
Exclusive N.A. Distributor
CENTERCHEM, INC. NORWALK, CT
Ph: 203-822-9800 Fax: 203-822-9820
www.centerchem.com

LIPOGARD

The lipids found on the surface of the skin (sebum) are the natural shield that protects it from exogenous insults. Vitamin E and Coenzyme Q10 (Ubiquinone) are the only natural lipophilic antioxidants. They act synergistically to protect sebum lipids, and the barrier lipids to increase their resistance to oxidative stress. The concentration of intrinsic vitamin E and Q10 is reduced with increasing age while an even more dramatic depletion is observed after UV irradiation of the skin. All of these factors lead to a marked decrease in the natural skin protection shield. **LIPOGARD** was developed to provide the optimal synergistic mixture of vitamin E and Q10 to fill the gap of natural skin protection.

Properties:

- Vitamin E and Q10 are both powerful antioxidants
- Q10 regenerates vitamin E radicals
- Q10 also directly protects membrane lipids
- Q10 is depleted by superoxide and inactivates superoxide
- Q10 and vitamin E act synergistically as antioxidant defence system
- Q10 is a part of the inner mitochondrial membrane, where it supports cellular energy production



Flow chart of the antioxidant network of the skin surface

Function:

- **LIPOGARD** restores the lipid barrier and guarantees full cell membrane functionality
- **LIPOGARD** makes the skin look and feel firmer, softer and well toned.
- **LIPOGARD** strengthens the cell viability by increasing cellular ATP production
- **LIPOGARD** prevents Collagen degradation by inhibiting MMP-1 expression.

Cosmetic application:

- Anti ageing treatment and **age protecting**
- Anti wrinkle products
- Products to increase cell viability
- After sun products
- Support of natural protection system of the skin

Formulation:

LIPOGARD contains a blend of most important anti-oxidants in a stable ready to use squalane-based formula. **LIPOGARD** can be processed either warm or cold and is incorporated into the oily phase of a formulation. **LIPOGARD** does not contain any preservative.

Suggested concentration:

1-3%

INCI name:

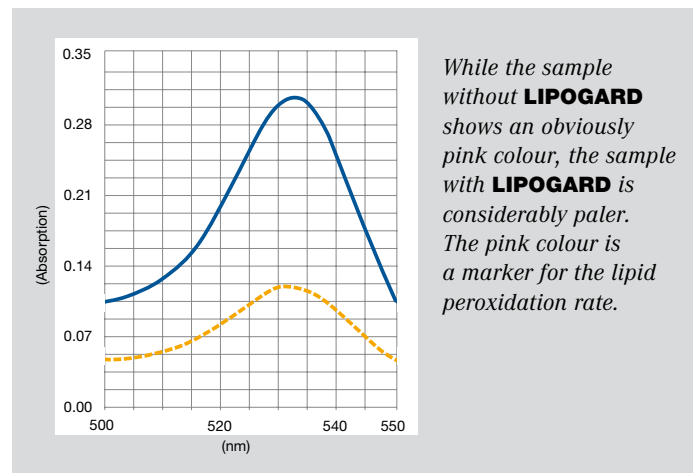
Squalane, Ubiquinone

Efficacy tests:

In vitro test:

The effect of Ubiquinone and vitamin E has been investigated widely.

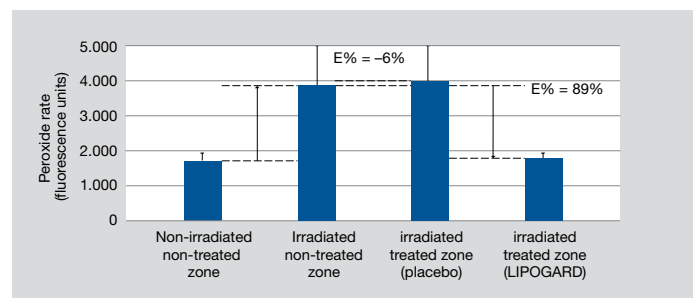
LIPOGARD protects liposomes from peroxidation by radicals.



In vivo test:

The efficacy of **LIPOGARD** (3%) has been investigated in a new method for assessing the basal or UV-induced peroxidation of the stratum corneum (Elsner P., et al., 1998).

LIPOGARD inhibits the formation of lipoperoxides on human skin.



LIPOGARD showed a significant scavenging efficacy of 89%, whereas the placebo had an insignificant effect of -6%.