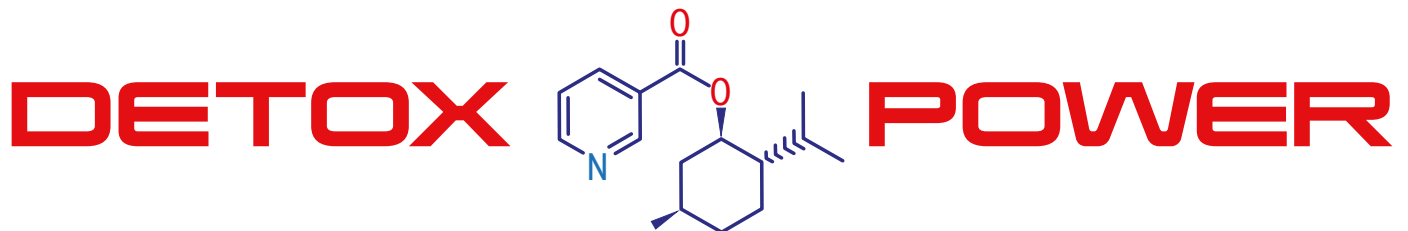


nicomenthyl[®]20

mennthyl nicotinate



NICOMENTHYL20 (pure Menthyl Nicotinate) is a new cosmetic active, obtained through a proprietary process technology. It is produced from the chemical reaction between two natural components:

- **Natural MENTHOL:** widely used in personal care refreshing and soothing preparations.
- **NIACIN (Vitamin B3):** optimizing skin microcirculation and enhancing skin barrier integrity.

NICOMENTHYL20 activates cutaneous microcirculation without causing any irritation or sensitization.

Its exceptional **HIGH DEGREE OF PENETRATION** through the skin barrier and **HIGH TRANSDERMAL DELIVERY OF NIACIN**, make NICOMENTHYL20

THE MOST POWERFUL AND SAFE SKIN DETOX AGENT so far known

Recent scientific studies have confirmed that Menthyl nicotinate is the ideal active ingredient for all those cosmetic applications aiming at a **SAFE, RAPID AND EFFECTIVE SKIN DETOX** and **ANTIPOLLUTION PROTECTION**.

NICOMENTHYL20, already known as a powerful microcirculation enhancer and a pleasant beneficial sensate, has demonstrated to be as well

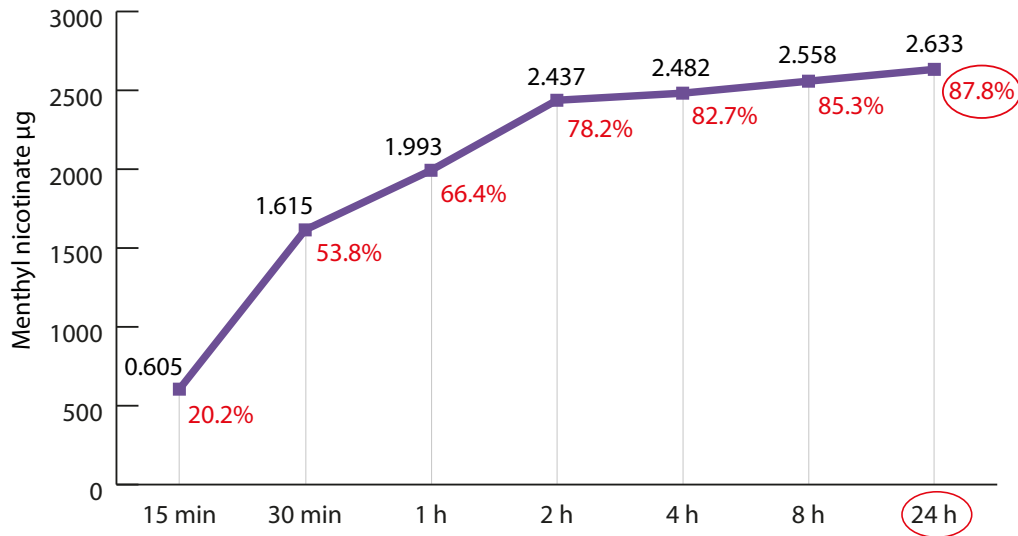
HIGHLY PROTECTIVE, ANTIOXIDANT, ANTIPOLLUTANT, DETOXIFYING, REPAIRING



multi
chemRD &

SKIN ABSORPTION IN VITRO STUDY

SKIN ABSORPTION OF MENTHYL NICOTINATE

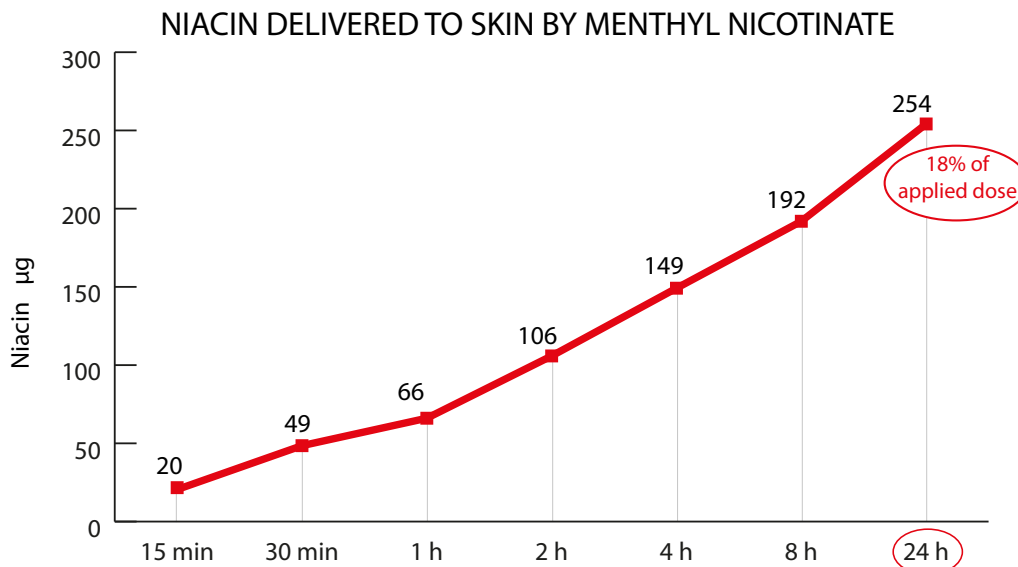


A quantity of 3000 µg of Menthyl nicotinate was applied to a sample of RHE (in vitro Reconstructed Human Epidermis). A very high rate of penetration through the stratum corneum was observed, reaching an amount of nearly 54% of the applied dose in only 30 minutes. The whole process of absorption and hydrolysis into its two components, menthol and niacin, gets **practically completed (nearly 90%) in a period of 24 hours after application.**

The Niacin so released gets immediately distributed both in the epidermis and under the epidermis.

HPLC analysis revealed **a total amount of 254 µg of released Niacin having penetrated through the skin barrier** (from the initial 1413 µg contained in the 3000 µg applied dose of Menthyl nicotinate), i.e. **a Niacin absorption rate of approx. 18% of the applied dose in 24 hours.** These results are very significant, especially if compared to the absorption rate of the commonly used *Niacinamide*, which is only 2.2% in 24 hours; or to the absorption rate of pure *Niacin* itself, which is less than 0.2% in 24 hours.*

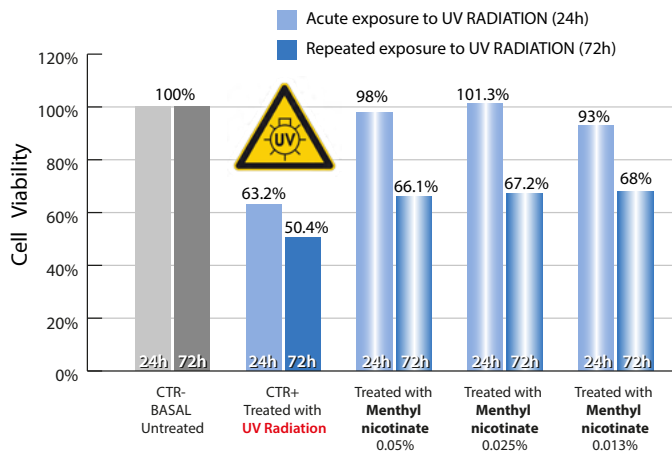
YOUR SKIN NEEDS NIACIN – NICOMENTHYL20 PROVIDES IT !



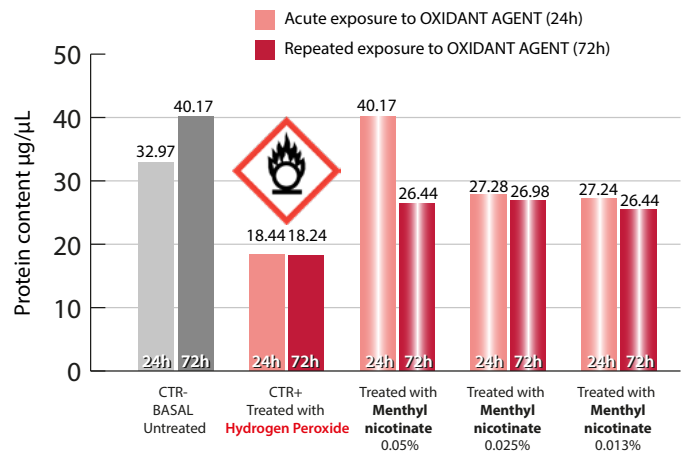
*Cfr.: ABSORPTION OF SOME ORGANIC COMPOUNDS THROUGH THE SKIN IN MAN - Robert J. Feldmann, Howard J. Maibach. *The Journal of Investigative Dermatology* – © 1970 The Williams & Wilkins Co.

IN VITRO EVALUATION OF THE ANTIOXIDANT, ANTI POLLUTION, DETOX, PROTECTIVE EFFICACY OF MENTHYL NICOTINATE ON HUMAN KERATINOCYTE CELLS vs 4 DAMAGING AGENTS (UV Radiation, Oxidizing Agent, Synthetic Smoke, Urban Dust)

MENTHYL NICOTINATE – Keratinocytes Viability Study
Acute (24h) & Repeated Exposure (72h) to UV Radiation



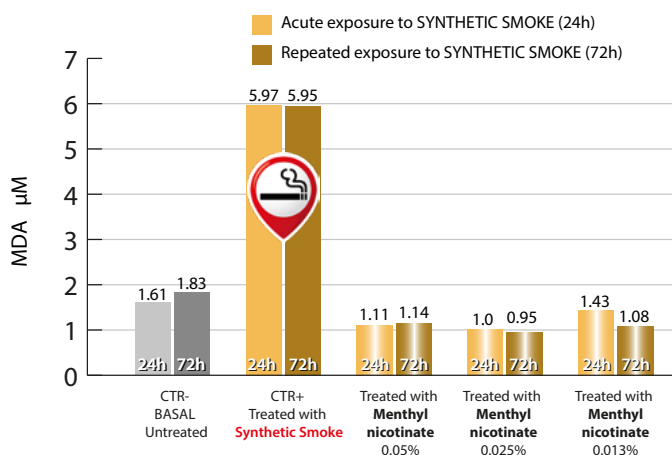
MENTHYL NICOTINATE – Keratinocyte Cells Metabolism Study
Acute (24h) & Repeated Exposure (72h) to Hydrogen Peroxide



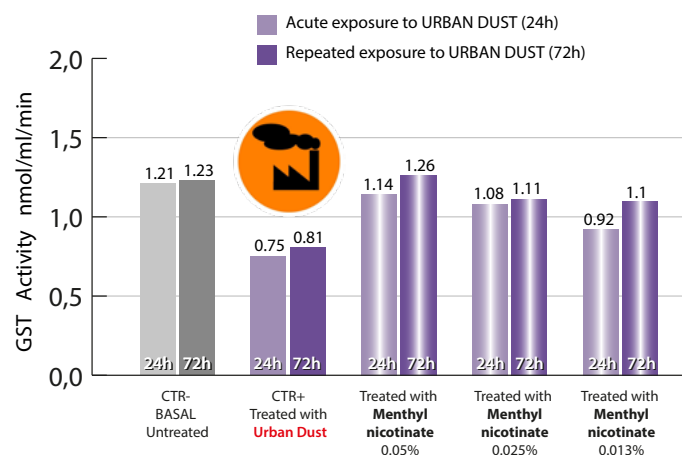
The cell viability test demonstrated that Menthyl nicotinate provides a complete protection against damages caused by UV radiation. Menthyl nicotinate treated keratinocytes had a 100% recovery of cell viability for acute exposure and approx. 70% recovery for repeated exposure vs CTR- (basal condition).

Menthyl nicotinate treated keratinocytes showed a complete protection against the oxidant agent (hydrogen peroxide). An extraordinary recovery of protein metabolism up to nearly 120% for acute exposure and 50% for repeated exposure was observed vs positive control CTR+

MENTHYL NICOTINATE – Lipid Damage Study
Acute (24h) & Repeated Exposure (72h) to Synthetic Smoke



MENTHYL NICOTINATE – Detoxifying Activity Study
Acute (24h) & Repeated Exposure (72h) to Urban Dust



Menthyl nicotinate treated keratinocytes showed a complete protection against synthetic smoke and a reduction of MDA (*Malondialdehyde*, one of the main damaging products of lipid peroxidation) down to levels even lower than basal ones. Recovery of more than 80% vs positive control CTR+ was observed for both acute and repeated exposures.

Menthyl nicotinate treated keratinocytes showed a very significant detoxifying protection expressed by the increased GST (*Glutathione S-transferase*) enzymatic activity, with a recovery of the original basal levels. A more than 50% of GST activity increase was observed for both acute and repeated exposures vs positive control CTR+

nicomenthyl[®]20

menⁿthyl nicotinate

These new discoveries place NICOMENTHYL20 at the cutting edge of the Science of Cosmetics and open new horizons over a broad scenario of innovative and powerful applications, aiming at the achievement of the most basic and important cosmetic claim:

SKIN BARRIER INTEGRITY RECOVERY & ENHANCEMENT

Recommended dosage in **Face Products: 0.5 – 1%**
in **Body Products: 0.5 – 3%**
in **Special Products: 5%**

Particularly indicated for:

- Anti-age and anti-pollutant, skin detox formulations
- Sun care products
- Hair loss prevention treatment
- Cellulitis treatment
- Sport products
- Spa treatment products
- Refreshing products for feet and legs
- Intimate hygiene products
- Cosmetic lip plumping treatments
- Deodorant/antiperspirants
- Body lotions

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