

# NORDIC BEAUTY PEAT



**PRESENTATION**

**NORDIC BEAUTY PEAT** is remedy from pure Finnish wetlands in Karvia made by nature thousands of years ago. Known already by our ancestors as a traditional beauty treatment.

With their total area of some 89 000 km<sup>2</sup>, the Finnish peatlands are some of the most important in Europe and indeed globally. Finland has the highest proportion of wetlands of any nation in the world. **PEAT** deposits are found throughout Finland, with a greater density to the west and north of the country.

It has been reported that there is in place 850 million tonnes of **PEAT**, of which 420 million tonnes is regarded as proved recoverable reserves. This large deposit dates from the Ice Age. **PEAT** at the bottom, resting on the sand or clay or rock of what have been a lake formed by a receding glacier, is typically less than 10,000 years old.

The formation of **PEAT** is a biochemical process carried on under the influence of aerobic micro-organisms in the surface layers of the deposits during periods of low subsoil water. As the **PEAT**, which is formed in the peat-producing layer, becomes subjected to anaerobic conditions in the deeper layers of the deposit, it is preserved and shows comparatively little change with time.

**PEAT** is rich in biologically active substances, with high quantities of humic and fulvic acids. It also contains bio-minerals, trace elements, Vitamins, amino acids, phyto hormones and fatty acids, which are bio-available to the human body.

Due to minerals and anti-oxidants, **PEAT** is a powerful anti-aging ingredient. It is able to prevent and preserve signs of aging as it can shield the skin from free radicals and boost collagen production. **PEAT** helps to improve cell turnover, increases elasticity and tightens pores. **PEAT** also has anti-inflammatory properties and has been experienced beneficial to those with psoriasis, eczema and dry and sensitive skin. **NORDIC BEAUTY PEAT** is suitable for masks and other treatment products.

**NORDIC BEAUTY PEAT EXTRACT**, which is a refined form of **PEAT**, as it isolates and extracts specific organic compounds from complete peat. **NORDIC BEAUTY PEAT EXTRACT** is suitable for serums and creams.

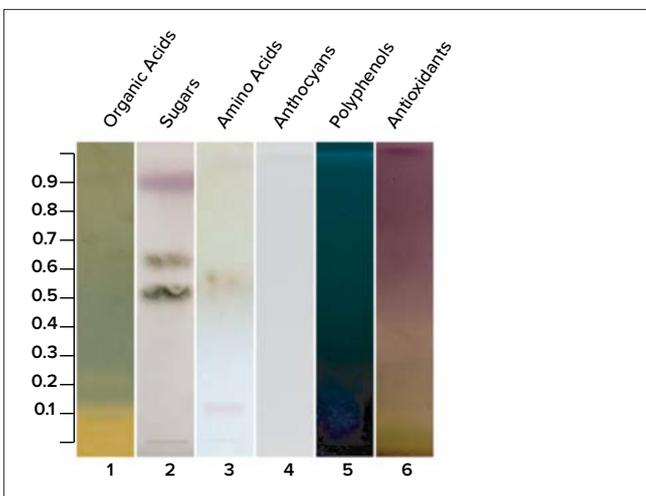
*Karvia in North Satakunta Finland is part of UNESCO Global Geopark network to advance businesses with sustainable development. Nordic Beauty Peat is excavated at our own peat land and hence it is totally traceable.*

**CHEMICAL CHARACTERISATION**

| Trade Name                 | INCI Name                             | Appearance                       |
|----------------------------|---------------------------------------|----------------------------------|
| Nordic Beauty Peat         | Peat (and) Preservative System*       | Gelatinous colloid<br>Dark brown |
| Nordic Beauty Peat Extract | Peat water (and) Preservative System* | Translucid                       |

\* Can be preserved with a preservation system of customer's choice as:

Phenoxyethanol    Phenoxyethanol (and) Chlorphenesin    Phenoxyethanol (and) Ethylhexylglycerin    Sodium Benzoate    Potassium Sorbate

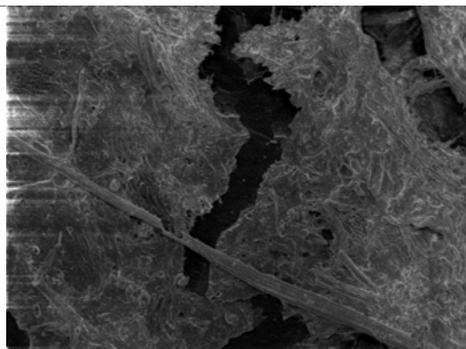
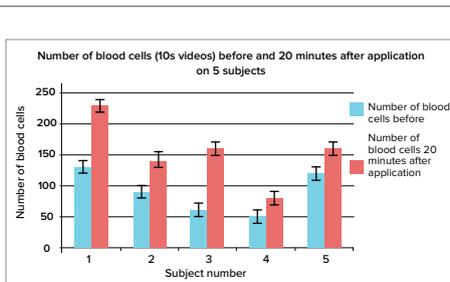
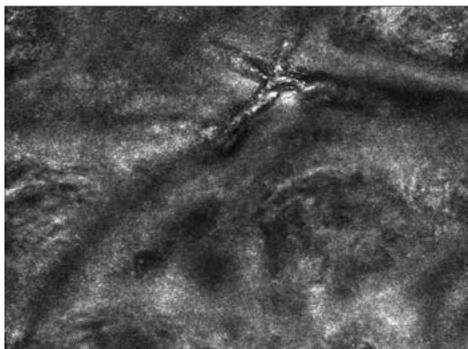


|                    |                       |
|--------------------|-----------------------|
| <b>Sugars</b>      | <b>Organic acids</b>  |
| Pectin             | Humic acid            |
| Cellulose          | Fulvic acid           |
| <b>Amino acids</b> | <b>Mineral traces</b> |
| Glutamic acid      | Na: 0,1-0,5%          |
| Glutamine          | Si: 0,6-1%            |
| Valine             | Cl: 0,4-0,6%          |
| Citrulline         | Ca: 0,4-1%            |
|                    | Fe: 0,4-1,4%          |
|                    | Mo: 0,7-1,5%          |
| <b>Other</b>       |                       |
| Vitamins           |                       |
| Amino acids        |                       |
| Fatty acids        |                       |



High-Performance Thin-Layer Chromatography (HPTLC) Camag is a technique to separate, identify, and quantify each component in a mixture. It is a flexible, reliable and cost efficient separation technique ideally suited for the analysis of botanicals.

EFFICACY TESTING



Benefits of Nordic Beauty Peat on microcirculation after 20 minutes of application

In vivo method - VivaScope® 1500 - Dermal-Epidermal Junction - 5 subjects

After 20 minutes of application microcirculation has been increased by 78 % (average on 5 subjects).

Microscopic appearance:

Picture taken by Scanning Electron Microscope Hitachi TM 3030 plus.

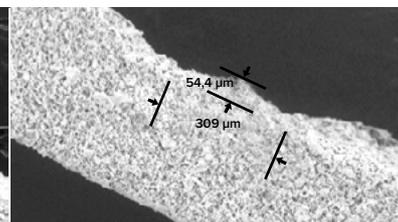
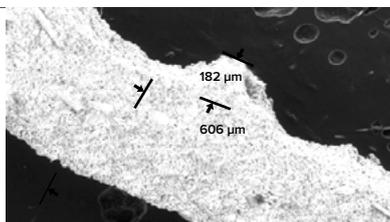
Before: A crow's-feet wrinkle on the right side of the face before treatment.

After: The same crow's-feet wrinkle after a single 5 minute treatment with Nordic Beauty Peat mask.

Impact of Nordic Beauty Peat on Wrinkle measurement after 5 minutes compare to before application.

Scanning Electron Microscope Hitachi TM 3030 plus

The eye crow's-feet wrinkle has been visibly reduced, by 70% in depth and by 49% in width.



TECHNICAL INFORMATION

| Product                    | Appearance                | Odour          | Solubility           | pH (20°C) | Zeta Potential, pH=5,3 (mV) | Radiactivity, Geiger counter (Bq) |
|----------------------------|---------------------------|----------------|----------------------|-----------|-----------------------------|-----------------------------------|
| Nordic Beauty Peat         | Gelatinous Colloid        | Characteristic | Dispersible in water | 3,50-6,50 | -34,3                       | 0,42                              |
| Nordic Beauty Peat Extract | Yellow to brownish liquid | Characteristic | Soluble in water     | 1,00-5,00 | -33,9                       | NA                                |

APPROVALS, CERTIFICATIONS AND REGISTRATION

|                                     | Nordic Beauty Peat   | Nordic Beauty Peat Extract |
|-------------------------------------|--|----------------------------|
| ISO 16128 - Natural Content         | >95%   | >95%                       |
| ISO 16128 - Organic Content         | >95%   | >95%                       |
| Responsible use                     | Peat land regenerates about 750 mt per year which allows about 500 mt per annum harvest. |                            |
| Listed in the following inventories | IECIC  | EINECS/ELINCS              |
|                                     | FDA and Personal Care Product Council  | ENCS                       |
|                                     |  | AICS                       |
|                                     |  | DSL                        |

|                  |   |
|------------------|---|
| Toxicology       | Acute Toxicity: Oral LD50 (rat): >2000 mg/kg (1980)   |
| Chronic Toxicity | Not vary in the particular investigated groups and were within the normal limits. Non Chronic toxicity.       |
| Dermal Toxicity  | The skin appearance was unchanged, similar as after application of the negative control. Non dermal Toxicity. |

| APPLICATION AREAS          | Typical use level |  |
|----------------------------|-------------------|--|
| Nordic Beauty Peat Extract | 5-50%             | Nordic Beauty Peat is commonly used in masks and body care wraps. During the formulation process, peat should not be heated to above 60°C as many of the bioactive compounds in the peat will be destroyed. Peat should never dry, as it is very difficult to re-hydrate once irreversible coagulation of humic acid substances has taken place and peat will loose a lot of its activity. |
| Nordic Beauty Peat         | 1-40%             |  |

|                         |                            |  |  |  |
|-------------------------|----------------------------|--|--|--|
| Properties and benefits | Combat free radical damage | Increases collagen production and rejuvenates the skin | Re-establishes skin's natural pH balance | Bind skin tissues together for a smoother look |
|-------------------------|----------------------------|--|--|--|