



ocean actives

# Lamowell 'S

The Enhanced Brown Algae Extract



# Lamowell 'S – the Enhanced Brown Algae Extract.

**Lamowell 'S is an extract derived from brown algae *Laminaria saccharina* (sugar kelp) and enhanced by yeast fermentation. The soothing algae fermentation extract is a product of oceanBASIS' marine natural products research and development. Specifically for optimal extraction of cosmetic active ingredients from macroalgae the MAEE method (Macroalgae Actives Excelling Extraction) has been developed. The fermentation is a biological process that takes several weeks. During the process released active ingredients are derived from both the algae and the yeast.**

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## Active Ingredients

Various ingredients of algae extracts protect the skin or have a positive effect on certain properties of the skin:

- UV protection by phenols (phlorotannins), Carotinoids, the enzyme photolyase
- basic antioxidative protection by radical scavengers like polyphenols, tocopherols, -carotene (vitamin A) and other carotenoids
- hydration and moisturizing by sulphated polysaccharids and mucopolysaccharids (glycosaminglycans)
- Skin smoothing and regeneration by essential and non-proteinogenic amino acids and highly unsaturated fatty acids
- whitening effects by phlorotannins, phloroglucinols and its oligomers
- stimulation of collagen synthesis by low molecular weight fucoidans

The combination of algae ingredients with the metabolic products of fermentation yeasts is unique and synergistically enhances the overall effect of the extract.

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## Active Trace Elements

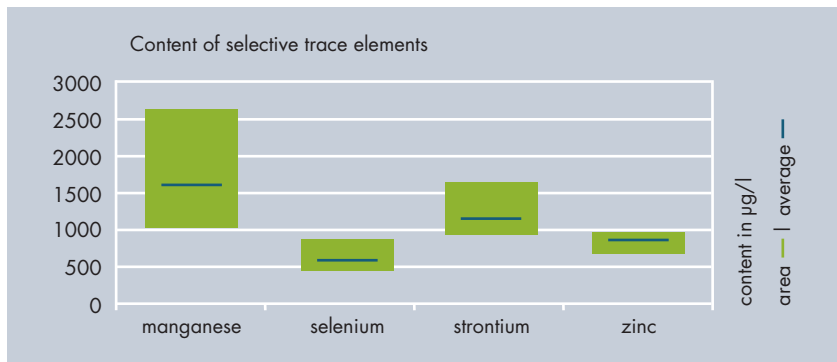
Laminaria algae concentrate the trace elements from sea water during its growth phase. Our special finishing process excavates these elements in a gentle way and retains its bioavailability to the skin cells. The positive effects of the elements strontium, selenium, zinc and manganese to sensitive and damaged skin have been reported by balneotherapy studies.

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## Certification

Lamowell 'S is certified according to NATRUE guidelines for natural cosmetics. The unique fermentation process enables a product without added preservatives. It is suitable for use in natural cosmetic products.





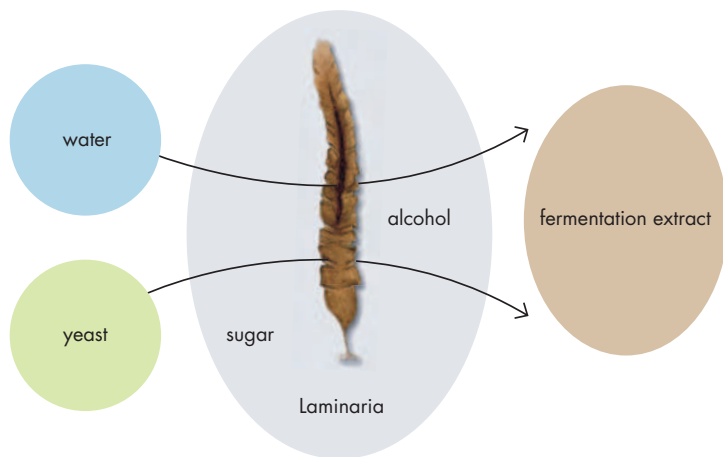
## Enhancement of the Algae

The Macro Algae Excelling Extraction method (MAEE) was developed by oceanBASIS specifically for refinement of the Laminaria algae extract. During several weeks of fermentation, the secondary solvent alcohol is formed, which excavates additional valuable ingredients from the seaweed in a gentle way without affecting the biological activity.

## Combination of two Organisms

In the final stages of refinement the yeast releases its skin conditioning ingredients. Thus, the extract Lamowell'S contains both the bio-active algal ingredients as well as the nourishing substances of yeast.

### MAEE enhancement process



## Advantage/Effect:

- conditioning algae ingredients
- moisturizing factors from algae and yeast
- soothing trace elements
- regenerates sustainably

## Characteristics:

INCI Description	SACCHAROMYCES/ LAMINARIA SACCHARINA FERMENT
INCI-Function	skin conditioning
USP	<ul style="list-style-type: none"> <li>- unique fermentation extract without preservatives</li> <li>- NATRUE certified</li> </ul>
Kernaussagen	<ul style="list-style-type: none"> <li>- enhanced by fermentation</li> <li>- soothing properties</li> <li>- gentle MAEE extraction</li> <li>- algae from sustainable sources</li> </ul>
CAS No	-
EINECS No	-
Organism	<i>Laminaria saccharina</i> (alga)
Condition	liquid
Color	yellowish, clear
Odor	characteristic, alcoholic
pH Value	3,2 – 4,3
Iodide	< 100 mg/l
CFU	< 100 cfu/g
Recommended Concentration	1–3 %
Preservation	ethyl alcohol (12–14,9 Vol.%, from fermentation)
Solubility	unlimited soluble in water
Storage Information	12 months at max. +20°C (+68°F)

Lamowell 'S – the enhanced brown algae extract with soothing factors from algae and yeast.



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#### Position:

**sea.** The sea is source of our inspiration and our products. It keeps immense treasures of substances that we want to make accessible to people without damaging this sensitive habitat.

**science.** The research and development of marine resources for health and well-being is our priority. We do research on natural and environmentally friendly products.

**solutions.** Solutions to the problems of our time, return to the values of nature and protection of ocean habitats are central to our efforts.

#### Business Segments:

**ocean actives:** NATRUE-certified extracts from marine organisms for cosmetics and hair care products, cultivation of brown algae *Laminaria saccharina* in the first certified organic offshore seaweed farm in Germany

**ocean biotech:** Research and development of marine drugs for medical applications

**ocean cosmetics:** Certified natural cosmetics, toiletries and algae based drinks



#### Literature

Croci D.O., Cumashi A., Ushakova N.A., Preobrazhenskaya M.E., Piccoli A., Totani L., Ustyuzhanina N.E., Bilan M.I., Usov A.I., Grachev A.A., Morozov G.E., Berman A.E., Sanderson C.J., Kelly M., Di Gregorio P., Rossi C., Tinari N., Iacobelli S., Rabinovich G.A., Nifantiev N.E. (2011) **Fucans, but Not Fucomannoglucuronans, Determine the Biological Activities of Sulfated Polysaccharides from *Laminaria saccharina* Brown Seaweed.** *PLoS One.* 6(2):e17283. | Liu M., Hansen P.E., Lin X., (2011) **Bromophenols in marine algae and their bioactivities.** *Mar Drugs.* 2011;9(7):1273-92 | Senni K., Gueniche F., Foucault-Bertaud A., Igondjo-Tchen S., Fioretti F., Collic-Jouault S., Durand P., Guezennec J., Godeau G., Letourneur D. (2006) **Fuoidan a sulfated polysaccharide from brown algae is a potent modulator of connective tissue proteolysis.** *Arch Biochem Biophys.* 2006 Jan 1;445(1):56-64.