

Code Number:	20570
INCI Nomenclature:	Algae Extract
INCI Status:	Conforms
Suggested Use Levels:	1.0 - 5.0%
Suggested Applications:	Moisturizing, Conditioning

Make a Splash! By incorporating marine-inspired materials made from algae extracts into cosmetic and personal care products, formulations can capitalize on the benefits attributed to such ingredients. With an abundant supply of natural materials, all boasting high levels of vitamins, minerals and other skin nourishing properties, the sea and its surrounding environment, prove to be an excellent source of ingredients ideal for skin and hair care applications.



Prior to the high level consumer recognition of prion diseases such as BSE (Mad Cow Disease) high molecular weight proteins such as soluble collagen (~ 300 kD) were building blocks of quality cosmetics. However, the threat of BSE combined with the ever-broadening support for animal rights has all but eliminated incorporation of animal proteins in new cosmetic formulations. Soluble collagen serves as an excellent film former. The relatively high hydroxyproline content of mammalian collagen allows for the formation of H-bonded water bridges tying moisture to the peptide backbone. A luxurious-feeling film, binding moisture to the skin was the principle reason for collagen's popularity. The problem remains, how do you duplicate the aesthetics and efficacy of mammalian collagen without encountering the problems now associated with animal products?

Much like the mammalian extracellular matrix, algae contains a variety of high molecular weight proteins, which contain hydroxyproline-rich regions. Unlike mammalian tissue these marine-derived proteins exist conjugated with carbohydrates, in the form of glycoproteins. Typically the ratio of carbohydrate to protein is 3:1. Due to the presence of sugar groupings with their excess of hydroxyl groups, there is significantly more water bound to the molecules than with mammalian collagen.

By lysing algae cells, and isolating the hydroxyproline-rich glycoproteins through the use of molecular sieves, we produce a product called **AC Phytocoll Marine**.

AC Phytocoll Marine duplicates the aesthetics of mammalian collagen while delivering enhanced levels of moisture to the skin or hair without the associated issues of using an animal base product. This enhanced level of moisture binding ability can be attributed to the presence of the carbohydrates, which are typically absent from mammalian collagens. **AC Phytocoll Marine** may be formulated as a direct 1:1 replacement for animal derived collagen products.

