

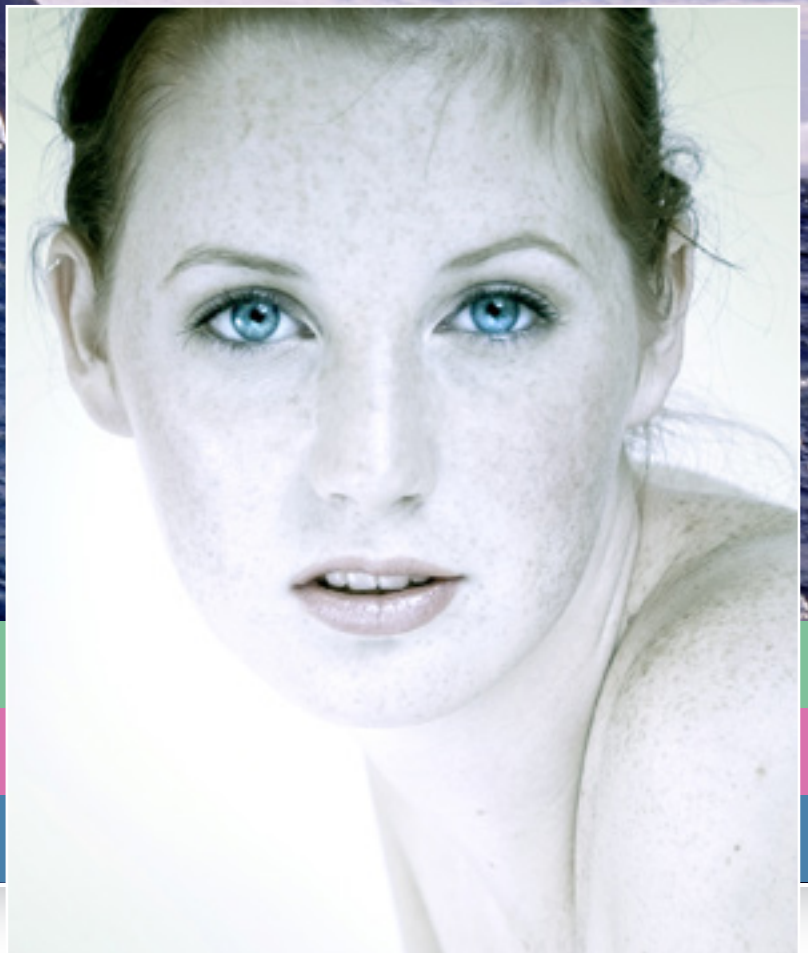


*pure
source*

food supplement

personal care

wound healing



ChitoClear[®]

the purest chitosan

primex – your natural partner for chitosan



*extraordinary
ability*

food supplement

Effective Weight Management Tool

Overweight and obesity are becoming a worldwide epidemic that can have serious effect on public health, and are major risk factors for a number of chronic diseases, including diabetes, cardiovascular diseases and cancer. There are no short cuts, healthy diet and regular exercise are still the foundation of a healthy and a happy life. However not every individual can maintain the necessary therapeutic disciplines and is therefore in need of support of some kind.

ChitoClear® has an extraordinary ability to block or bind fats. Chitosan has been suggested to make a complex in the stomach with the fat from the food consumed and interfere with its subsequent metabolism in such a way that the body does not absorb the fat and thus by effectively reduce the calorie content of the food consumed it has a great potential in weight management and obesity treatment. ChitoClear® is noted as a natural, safe and effective weight loss supplement when used in conjunction with a healthy life style.

Not all chitosan products deliver equally effective results. The efficacy in weight management varies depending on many factors such as the origin of the raw material, the basic properties and characteristics of the chitosan.

Cholesterol lowering

Many studies have shown that chitosan has the very unique ability to lower bad cholesterol (LDL) while boosting the good

cholesterol (HDL) and that chitosan depresses serum and liver cholesterol levels with no apparent side effects. Recently the Scientific Panel on Dietetic Products, Nutrition and Allergies (NDA) of the European Food Safety Authority (EFSA), after a thorough evaluation of the scientific substantiation of health claims in relation to chitosan and maintenance of normal blood LDL-cholesterol concentrations has concluded that cause and effect relationship has been established between the consumption and maintenance of normal blood LDL-cholesterol concentration.

Other health benefits

Other beneficial effects have been reported in different studies such as anti-bacterial and anti-candida action that could be beneficial for the intestinal micro flora and the body defences. Clinical studies have found that chitosan may work as an anti-hypertensive agent and lower blood pressure. Studies have also shown that chitosan may act as an antacid and may treat and prevent irritable bowel syndrome and several studies have reported chitosan to have anti-tumour properties. Being an indigestible polysaccharide, ChitoClear® is in fact a natural dietary fibre. Taking ChitoClear® prior to eating a meal can help to meet dietary goals for fibre intake. As a dietary fibre, ChitoClear® also helps to prevent constipation.

a natural and functional ingredient for

personal care products

Chitoclear® is a unique multifunctional natural ingredient that has a lot of potential for use in personal care products of different kinds, such as hair and skin care products. Due to its multifunctionality and nature, it is a good alternative to replace synthetic chemical ingredients that are used today.

Primex is a producer of different kinds of cosmetic grade chitosan under the brand ChitoClear® cg. The basic functionality of Chitoclear® chitosan, such as film forming/ moisturizing, emulsifying, stabilizing, thickening and antistatic properties as well as antibacterial and antifungal preservative activity makes it possible to use this natural ingredient for multiple purposes in personal care products of different kinds. Chitoclear® chitosan efficacy in healing wounds and skin gives the Chitoclear® an additional benefit. ChitoClear® cg is certified to not irritate skin.

Skin Care

ChitoClear® is used in skin care products due to its ability to form protective moisturizing films, to enhance skin smoothness and to improve the overall performance of the product. ChitoClear® improves the skin's ability to bind and hold moisture and increases its torsional strength as well as it binds other active ingredients. ChitoClear® chitosan is furthermore proven to be non-sensitizing, to reduce skin irritation and provide preservative activity. ChitoClear® can therefore be used in formulating moisturizing agents, such as lotions, sunscreens and organic acids. ChitoClear® has proven to be effective in after sun products due to its ability to maintain skin moisture, relieve itching, heal sunburn, cool and relieve pain from burns.

Hair Care

ChitoClear® is a beneficial ingredient due to its ability to form a film on the surface of the hair keratin that retains moisture in low humidity and is also stable at high humidity. ChitoClear® treated hair becomes softer, manageable and shines with good health. It helps to renew hair, repair split ends, fight dandruff and protect hair from thermal treatments and UV rays. The strong film-forming capabilities contribute to its excellent performance in styling products. The opposite charge of ChitoClear® reduces static charge, therefore rendering the hair easier to brush and comb. ChitoClear® is a good alternative to synthetic polymers and does not require any use of organic solvents. These properties enable its usage in a wide variety of shampoos, conditioners, sprays, hair moisturizing lotions, hair colorants, styling lotions and hair tonics.



Oral Care – Toothpaste

ChitoClear® chitosan represents a breakthrough in the science of oral hygiene. ChitoClear® kills the offending bacteria and dangerous oral germs on the teeth. ChitoClear® can also mask the unpleasant taste of silicon oxide and bind powders so that they maintain granular shapes. Furthermore its antimicrobial efficacy improves the shelf life.

Other cosmetic and toiletries applications

Deodorants: ChitoClear® can help to relieve itching and provide antibacterial and antifungal activity. Chitosan is a powerful binder of many compounds including volatiles of different kinds and can therefore contribute to reducing unpleasant human odor.

Men's Toiletries: Due to the excellent hemostatic properties, ChitoClear® is used in products such as aftershave lotions, shaving foams and gels. The skin care properties of the chitosan are also beneficial for the product.

Soaps: ChitoClear® is an excellent viscosifier and stabilizer in acid environments. Chitosan is compatible with organic compounds such as nonionic and cationic polymers. ChitoClear® contributes to improve sterilizing effect of the soap. In addition, it helps to protect the skin as described above.

Furthermore ChitoClear® may also be utilized in various other cosmetic and personal care formulations such as for:

- Nail enamel
- Foundation
- Eye shadow
- Lipstick
- Cleansing materials
- Bath agents



*pure
source*

wound healing

Characteristics of ChitoClear® in wound healing products

Chitosan has been researched extensively since the 1980s, and a wide spectrum of applications already exists. In medicine we exploit its good biocompatibility as well as barrier-forming and blood-clotting properties to promote wound healing in the form of wound dressings, wound gels or artificial skin. The promotion of wound healing is further enhanced, according to many studies, by its highly beneficial antibacterial, antiviral and antimycotic properties. ChitoClear® chitosan is used in different kinds of wound healing products. Among those are hemostatic products of different kind where its functionality is to stop bleeding quickly, create a seal over the wound and promote the healing process.

Primex offers its customers ready made ChitoClear® in soluble form as a wound gel or sprayable liquid in bulks, ready for private labels. These ChitoClear® products are shown to be a unique hemostatic and antibacterial barrier and effective in treating chronic wounds, external ulcers and skin burns. ChitoClear® is used in both human and veterinarian wound care products.

Effect:

- Promotes rapid healing
- Relieves pain
- Relieves itching
- Reduces bleeding (Hemostatic)
- Protects wounds by forming a film
- Antibacterial
- Antifungal
- Reduces redness

Medical application:

- Fresh wounds
- Infected, therapy-resistant wounds
- Post surgery
- Grazing
- Burning
- Fungal disease
- Allergic eczema (relieves itching, decongestant)



ICELANDIC
INNOVATION AWARD

**Primex won the
Icelandic Innovation award 2012**

The award is given to a company that has surpassed all others in new development and been successful in the marketplace.

Primex ehf is an Icelandic marine biotech company and global leader in sustainable production of a high quality chitosan based ingredients from shrimp shell under the brand name ChitoClear®. The products are certified as natural.

Primex offers a wide spectrum of different kind of ChitoClear® chitosan as a powder or in liquid form and can also provide tailor-made solutions for the customers. Primex has office and warehousing in Europe and USA.

Primex is dedicated to innovate and market scientifically sound and novel ingredients from nature's resource. Primex natural ingredients are used in numerous markets for example food supplements, cosmetic, food and nutritional as well as biomedical including wound healing.

Primex is located in Iceland in the middle of the North Atlantic Ocean. Pristine waters of the North Atlantic surround the island. Primex produces its natural ingredient from unpolluted coldwater shrimp shell (*Pandalus borealis*) that is wild caught in the pure North Atlantic Ocean. ChitoClear® chitosan is proven to be the purest chitosan possible, it is odourless, colourless and tasteless, is free of allergens, viruses and other contaminants such as heavy metals. The processing of the fresh shrimp shell contributes to complete utilization of the natural resources. The utilization of the marine stocks around Iceland is regulated by the government on bases of scientific evaluation of the Icelandic Marine Research Institute to ensure self-sustaining utilization of the natural resources.

Primex products:

- **ChitoClear®** is a high premium standard chitosan that is used worldwide in food supplements, nutritional, cosmetic and biomedical products including wound healing products. ChitoClear® chitosan is available in a wide spectrum of different grades, characteristics and properties such as viscosity, molecular weight and degree of deacetylation.
- **ChitoClear®** wound gel or as a sprayable solution is a product for animals.
- **LipoSan Ultra®** is a unique, patented product that is a safe and effective weight-loss supplement based on ChitoClear that also contains Succinic acid, a GRAS food additive. It is backed by solid laboratory and human double blind, placebo-controlled study studies. In the digestive system, LipoSan Ultra®, complexes and traps fats and oils you consume and reduces the digestion of dietary fat.
- **ChitoClear®** chitin is a high premium standard chitin with very low amount of contaminants such as heavy metals.



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