

Moisturise naturally with ERYLITE[®] Erythritol



presented by:

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INTRODUCTION

The trend to natural products and ingredients is present on a global scale. Not only in personal care but also in many other consumer product segments such as food and beverages and even in cleaners and detergents, “natural” claims play an important role. The main driver of this trend is the interest of the consumer in natural ingredients, which are less synthetic or chemical. This interest is motivated by factors such as health consciousness, care for the environment and safety concerns.

Another driver is the consumers' constant search for something new. They are always willing to experiment: buy new products and buy products with innovative new claims. Consequently "Natural" is a trend which is embraced strongly by the different industries as it is a perfect response to the consumers question for more healthy, safe and and less synthetic ingredients on one hand and on the other hand it is a great tool to satisfy the constant need for innovation and novelty.

Today many formulations in personal care applications try to switch from synthetic to natural ingredients. A potential natural ingredient must always prove that it can bring the same performance and efficacy as its synthetic or chemical predecessor. If it meets the expectation on performance and brings along also a touch of novelty it can add great value to the end product and meet today's consumer interest.

Jungbunzlauer`s ERYLITE[®] fulfills both of the above mentioned criteria which makes it an ingredient with a promising future in personal care applications: it is a natural humectant and moisturiser with a high degree of novelty for the personal care industry.

Recent studies of Jungbunzlauer have shown that ERYLITE[®] can bring significant improvement in skin humidity as well as skin feeling is given with the use of ERYLITE[®] vs. glycerin. Furthermore, interesting synergies have been discovered when using both ingredients in moisturisers.

JUNGBUNZLAUER ERYLITE[®]

ERYLITE[®] is a naturally occurring polyalcohol. It is commonly known as a well-tolerable and tooth-friendly zero calorie sweetener in food and beverage applications with a zero glycemic index.

ERYLITE[®] can be considered as natural due to a number of reasons: ERYLITE[®], i.e. erythritol is naturally occurring in natural foods such as grapes, melons and honey and in fermented foods like cheese and wine. Jungbunzlauer ERYLITE[®] is produced with natural carbohydrates. The process used to produce it is a natural yeast fermentation. A non-GMO yeast transforms the carbohydrate into ERYLITE[®]. This process is free from any chemical processing and does not work based on any catalysts or synthetic steps.

According to INCI (International Nomenclature of Cosmetic Ingredients) ERYLITE[®] Erythritol is approved as humectant and moisturizing ingredient.

SKIN CARE APPLICATIONS

Skin care is one area of personal care which follows the trend of naturalness. The main components are cleansing and moisturizing agents. The function of a cleanser is basically to remove impurities and dead skin cells. Cleansers may dry the skin too much and thus causing skin irritations. Moisturisers are complex mixtures of chemical ingredients which are specially designed to keep the skin moist, make the epidermis (upper layers of the skin) softer and more pliable. By increasing the flexibility and pliability of the skin, they are preventing it from cracking. Hence, they are reducing skin irritation which may be caused by dry skin. An adequate moisture content of the stratum corneum (the outermost layer of the epidermis) is essential for a well functioning skin barrier. Consequently, the moisture content is the most important parameter of skin diagnosis.

MOISTURISERS FOR SKIN CARE PRODUCTS ERYLITE[®] vs. GLYCERIN

Literature suggests that Erythritol has moisturizing properties that could be particularly useful for skin care products like creams and lotions. ERYLITE[®] Erythritol was tested on its moisturizing properties and compared to the standard product for moisturizing in skin care products: glycerin.

Research Method

The study included 100 healthy female test persons of different age and different skin type. Prior to the start of the trials, the initial skin moisture of the test persons was measured with the aid of a Corneometer[®]. A Corneometer[®] is a measuring device which detects the skins moisture retention in the superficial layers of the stratum corneum. In order to ensure that the measurement is not influenced by capillary blood vessels, the Corneometer[®] measures as deep as 10-20 µm. The measurement is based on the dielectric constant of the water. Five different emulsions with different glycerin:ERYLITE[®] ratios (3:0; 2:1; 1:1; 1:2; 0:3) have been tested on 10 test persons each.

The test persons applied the emulsions daily on their right forearm during the time frame of two weeks. After two weeks the measure of skin moisture was repeated on the same spots. For statistical reasons four measure points per test person were determined: one measure point where the skin has not been treated with the emulsion and three measure points where the skin has been treated with the emulsion.

Results & Discussion

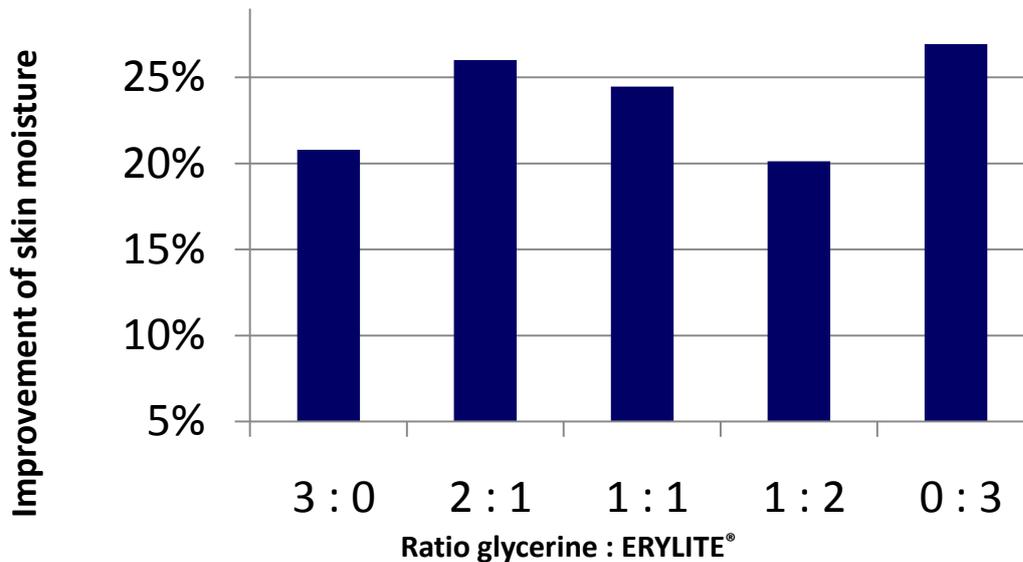
As expected, the skin area which has not been treated with any emulsion showed no significant change in moisture level.

On the areas where the emulsions have been applied, all 100 test persons had an increased level of skin moisture. The skin area which has been treated with an ERYLITE[®] emulsion showed about 29% higher skin moisture improvement compared to those areas which have been treated with the pure glycerin emulsion. The average increase in moisture with the ERYLITE[®] emulsion treatment is 27% (Figure 1). This is significantly higher than the increase in skin moisture obtained with the glycerin emulsion treatment (21 %).

Furthermore, qualitative as well as quantitative synergies were observed when both ingredients were present in the moisturizing formula: at glycerin: with ERYLITE[®] concentration ratios of 2:1 and 1:1, the improvement in skin moisture level was found to be 26% and 24%, respectively. Both blends performed better than the standard formula using glycerin only (21%).

Moreover, the skin feeling improved significantly when substituting part of the glycerin by ERYLITE[®]. While the emulsion with glycerin alone led to a skin feeling which was described as “unpleasant” and “sticky”, the treatment with the emulsions containing both humectants or with the emulsion with ERYLITE[®] alone did not result in negative skin feeling/sensation.

Fig. 1:
Improvement of skin moisture with different moisturizing agents and their blends



An additional finding was that ERYLITE[®] has proven to have a very good skin compatibility. People who are sensitive or allergic to certain chemical components can have skin irritation, rashes or other allergic reactions when getting in contact with certain substances. None of the 80 test persons having ERYLITE[®] on their skin reported any side effect, even those with dry or sensitive skin had no skin irritations during or after the testing period.

SUMMARY

The demand on natural ingredients in numerous industrial segments and applications such as personal care products is rising as consumers are becoming more and more environmentally conscious and ask for natural products which are safe as well as efficient. Jungbunzlauer's ERYLITE[®] fulfills the key aspects of a successful active ingredient in personal care products: It is a natural ingredient which is safe. It is approved as humectant and moisturizing ingredient by INCI (International Nomenclature of Cosmetic Ingredients). According to studies ERYLITE[®] improves skin humidity significantly by 27% and performs better than the widely used standard humectant glycerin. In addition, qualitative and quantitative synergies have been revealed: Glycerin's performance can be improved upon addition of ERYLITE[®]. There are further positive effects on the skin feeling when ERYLITE[®] was in the formulation alone or in conjunction with glycerin. The studies also showed that ERYLITE[®] has no adverse effects on skin health or skin feeling. None of the test persons showed allergic reactions nor expressed the sensation of a negative skin feeling after treating their skin with an ERYLITE[®] emulsion.

Jungbunzlauer's ERYLITE[®] is a safe ingredient which benefits skin care products by adding a natural character to the product and by increasing the skin moisture significantly without any side-effects such as unpleasant odor development or skin feel.

Other interesting properties of ERYLITE® for the Personal Care segment

ERYLITE® is a powerful taste enhancement agent for Oral Care products such as mouthwash, tooth paste and chewing gums. It adds a pleasant sweetness and actively covers bitter notes of other compounds such as high intensity sweeteners. An additional benefit for oral care applications is that ERYLITE® does not promote tooth decay as it cannot be metabolized by the bacteria of the mouth. Due to its endothermic properties, crystalline ERYLITE® provides a refreshing cooling sensation when it dissolves in the mouth.

ERYLITE® is part of the HealthyChoices@Jungbunzlauer platform.

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