



SMALL MOLECULE TECHNOLOGIES, INC.

MOLECULES & HEALTH

HEALING THROUGH MODERN SCIENCE • A PUBLICATION BY SMALL MOLECULE TECHNOLOGIES, INC.

Protecting Skin During Rigorous Exercise

As the outermost barrier against injury, infection, and dehydration, skin serves an incredibly crucial function for the body and it is critically important that it is well maintained. Heightened physical activity and exposure to the elements makes skin more vulnerable to damage associated with dehydration, chapping and chafing, as well as excess moisture due to increased sweating (perspiration).

Small Molecule Technologies skin and wound care products were designed to nourish and strengthen skin, help repair damaged skin and help protect skin from dehydration and chapping. Small Molecule Technologies Renewal Moisturizer can help keep skin hydrated and well nourished. Each ingredient in Renewal Moisturizer is perfectly balanced to achieve

maximum skin restoration. Small Molecule Technologies Silicone Barrier provides an advanced silicone barrier that nourishes skin and protects skin from irritants. Silicone Barrier also provides a silky yet durable and “breathable” barrier that helps protect skin against damage associated with friction (chafing) and chapping.

Protecting Skin Against Excess Moisture

Sweating can be a nuisance, but we all know it plays an important role in keeping the body cool. There are two main types of sweat glands: apocrine sweat glands found in the sensitive areas including the armpits, the genital area and in the eyelids, and eccrine sweat glands distributed throughout the body (that total between 2 to 5 million glands).

Even in moderate climates, humans excrete up to 700 milliliters of sweat per day so it's important to keep the body hydrated by drinking enough water that will also help keep skin hydrated.

Sweat mixes with the



sebum released from sebaceous glands that includes triglycerides, wax esters and squalene, forming a protective layer over the skin that helps prevent water evaporation through the skin. Sweat also moisturizes the skin and contains antimicrobial peptides to help prevent infections. Sweat is composed mostly of water, salt (NaCl), potassium and bicarbonate, as well as lactate and urea that enhance the slight acidity of skin inhibiting microbial contaminations. Sweat from apocrine glands is a little more complex and thicker, and its degradation by bacteria results in body odor.

Helping Repair Damage

Moisture increases the skin's per-



meability and decreases the skin's barrier function. When the skin is moist, the effects of friction can be more damaging. Moisture-associated skin dam-

age (MASD) is defined as inflammation and erosion of the skin caused by prolonged exposure to moisture such as perspiration. Lesions caused by moisture are characterized by epidermal erosion and a macerated (wrinkled, white and soft) appearance of the skin. Most perspiration is evaporated rapidly, but MASD can occur over time in areas where perspiration can't readily evaporate.

Small Molecule Technologies SkinMineralZ is ideal for treating macerated or inflamed skin. SkinMineralZ combines amazing skin health components including mineral clay, zinc oxide and carboxy-methylcellulose. These three highly effective and beneficial components included in SkinMineralZ promote skin health and healing with an advanced approach that is unique to skin and wound care.

Protecting and Remineralizing Skin

Mineral clays (also known as medicinal clays) have been used traditionally for centuries to enhance skin health due to their adsorption and absorption qualities and the extremely fine particle size of the clays, which allows them to remove oils, secretions, toxins, and contaminants from skin. Medicinal clays also have antibacterial properties that may be due to their ability to transfer cations. Metallic cations such as silver, copper, zinc and iron, which



have strong bactericidal effects on a broad spectrum of bacteria are believed to be released from medicinal clays producing damaging effects against bacteria. Many of the minerals found in medicinal clays also benefit skin health by participating in important cellular, physiological and enzymatic processes. In fact, approximately one-third of all enzymes require metal ions in order to be active.

Metallic oxides also benefit skin health including zinc oxide, which has a long history of safe and effective use in sunscreens and in the treatment of skin rashes such as diaper rash. Zinc oxide is also known to have antibacterial activity, with demonstrated effectiveness against *E. coli* and *S. aureus*, as well as anti-fungal activity. Zinc oxide accelerates wound healing and has been shown to protect and soothe inflamed skin.

Moreover, Small Molecule Technologies skincare products include many ingredients with anti-inflammatory activities including oleuropein, resveratrol, and epigallocatechin-3-gallate (EGCG) from olives, grapes, and green tea, respectively, as well as the important small molecules, melatonin, and L-glutathione.

In addition, dipotassium glycyrrhizinate has also been shown to possess anti-inflammatory activities.

It's good to know that Small Molecule Technologies Renewal Moisturizer, Silicone Barrier, and SkinMineralZ can help nourish and strengthen skin, as well as repair damaged skin. These amazingly beneficial products will also help protect skin from the damage associated with increased physical activity and excess perspiration.

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