Effective Sun Care from CLR
The Sun plays a major role for life on Earth. Without sunlight no life would be possible. Sunlight enables the body to produce Vitamin D, which is necessary for skeletal development, immune functions, and blood cell formation. The light and warmth makes people feel better. The sun can also cause great damage if people do not protect themselves properly from UV radiation. UV light affects the biological processes in the skin and may lead to accelerated aging. Intense and prolonged UV exposure irreversibly damages cells, which can lead to skin cancer as a worst-case scenario.

### Pre-Treatment Cream, Type O/W

**Phase** | **Trade Name** | **INCI Name** | **w/w %** | **Supplier**
---|---|---|---|---
A | Water | Aqua | ad 100 | BASF
 | Edeta B | Tetrasodium EDTA | 0.05 | BASF
 | Zemea | Propanediol | 2.00 | DuPont Tate & Lyle
B | Cetiol CC | Dicapryl Carbonate | 5.00 | BASF
 | SepiMax ZEN | Polyacrylate Crosspolymer-6 | 0.80 | Seppic
 | Montanov L | C14-22 Alcohols, C12-20 Alkyl Glucoside | 2.00 | Seppic
 | Cetiol J 600 | Oleyl Erucate | 4.00 | BASF
 | Euxyl PE 9010* | Phenoxethanol, Ethylhexyglycerin | 0.80 | Schuelke
 | Lipex Shea W | Shea Butter Cetyl Esters | 1.00 | AAK
 | Keltrol CGF-F | Xanthan Gum | 0.05 | CP Kelco
 | Copherol F 1300 C | Tocopherol | 0.01 | BASF
 | Eutanol G | Octyldodecanol | 3.00 | BASF
C | Phytosan™ K | Aqua, Glycerin, Glycine Soja (Soybean) Seed Extract | 5.00 | CLR
 | DayMoist CLR™ | Aqua, Hydrolyzed Corn Starch, Beta Vulgaris (Bean) Root Extract | 3.00 | CLR
D | NaOH (10%) | Sodium Hydroxide | q.s. |

### Anti-Redness Gel (sprayable)

**Phase** | **Trade Name** | **INCI Name** | **w/w %** | **Supplier**
---|---|---|---|---
A | Water | Aqua | 91.00 | BASF
 | Euxyl PE 9010* | Phenoxethanol, Ethylhexyglycerin | 0.80 | Schuelke
 | Zemea | Propanediol | 2.00 | DuPont Tate & Lyle
 | Pemulen TR-2 Polymer | Acrylates/C10-30 Alkyl Acrylate Crosspolymer | 0.20 | Lubrizol
B | Lactokine™ Fluid PF | Milk Protein | 5.00 | CLR
 | DayMoist CLR™ | Aqua, Hydrolyzed Corn Starch, Beta Vulgaris (Bean) Root Extract | 3.00 | CLR
C | NaOH (10%) | Sodium Hydroxide | q.s. |

### Repair & Care Après Body Cream (O/W)

**Phase** | **Trade Name** | **INCI Name** | **w/w %** | **Supplier**
---|---|---|---|---
A | Water | Aqua | ad 100 | BASF
 | Keltrol CG-SFT | Xanthan Gum | 0.20 | CP Kelco
 | Zemea | Propanediol | 2.00 | DuPont Tate & Lyle
B | Cetiol CC | Dicapryl Carbonate | 10.00 | BASF
 | Axol C 62 Pellets | Glyceryl Stearate Citrate | 1.50 | Evonik
 | Tegosoft MM | Myristyl Myristate | 1.50 | Evonik
 | Copherol F 1300 C | Tocopherol | 0.02 | BASF
 | Tego Alkanol 18 | Stearyl Alcohol | 1.50 | Evonik
 | Euxyl PE 9010* | Phenoxethanol, Ethylhexyglycerin | 0.80 | Schuelke
 | Schercol SHS Ester | Isostearyl Hydroxystearetate | 3.00 | Lubrizol
 | Cetiol LC | Coco-Caprylate/Caprate | 4.00 | BASF
 | Vitamin F forte | Linoleic Acid, Linolenic Acid | 1.00 | CLR
C | SyriCalm™ CLR (PC) | Water, Piragmites Communis Extract, Poria Cocos Extract | 3.00 | CLR
 | NaOH (10%) | Sodium Hydroxide | q.s. |

*) This formula has been manufactured and stability-tested using a special preservative, but has not been subjected to microbiological challenge tests.

The recommendations and formulations given are based on our knowledge and experience in the field of technical application. They are, to the best of our belief, correct, but are offered without obligation. Those who use our recommendations and formulations as well as those who process CLR Active Agents are themselves responsible for the adherence to prevailing statutory regulations and the observance of patent rights as well as other protective rights for other companies.
CLR has developed a range of highly technological natural active ingredients which improve the skin’s and skin cells’ ability to deal with sunlight and sunlight-induced downstream consequences. These active ingredients have been used in three different cosmetic formulations, which we have especially developed in order to illustrate their relevance.

Pre-Treatment
A combination of Phytosan™ K and DayMoist CLR™ is ideal for preparing the skin for sunlight and boosting the skin’s resistance to UV damage. Phytosan™ K is an aqueous soy-based product which CLR has extensively investigated for its effects on the cellular and the nuclear level in skin cells. Phytosan™ K supports skin cells and even stem cells in inducing DNA repair. Accumulation of DNA damage, which is an especially relevant problem for epidermal stem cells, is at the basis of photocaging of skin. Phytosan™ K will therefore help in slowing down photocaging of the skin. DayMoist CLR™ is a 24-hour moisturizer which elevates the Natural Moisturizing Factor (NMF) concentrations in the stratum corneum. This was proven by way of Confocal Raman Microspectroscopy.

Anti-Redness
A second formulation with Lactokine™ Fluid PF was developed to support the skin in coping with the inflammatory processes induced by sunlight by accelerating the reduction of the redness of skin. Lactokine™ Fluid PF is an ingredient which contains proteins and peptides originating from cow’s milk and strengthening the skin’s immune system. It enables the skin cells to deal with the inflammatory processes in skin more effectively. DayMoist CLR™ was also added to this formulation as it significantly helps in restoring the skin’s hydration level.

Repair
A third formulation was made with SyriCalm™ CLR (PC) and Vitamin F forte. Vitamin F forte is a product which contains 70–80% linoleic acid. Linoleic acid is an essential molecule for maintaining and restoring the barrier function of the skin.
SyriCalm™ CLR (PC) is based on high-end extracts of Phragmites communis and Poria cocos. In extensive studies, performed in the laboratories of CLR, it was shown that SyriCalm™ has a multifaceted approach towards maintaining and repairing the skin’s properties as a physical barrier by influencing the keratinocytes in the epidermis, strengthening their ability to deal with hyperosmotic stress (another negative impact of sunlight on skin) and protecting the intercellular anchoring systems between the keratinocytes. Clinical studies demonstrated that, like Vitamin F forte, SyriCalm™ supports the skin in accelerating the recovery of its function as a physical barrier.

The Sun
Both a Blessing and a Curse
The United Nations’ World Health Organization (WHO) has summarized the essence of too much sunlight and its dangers in its publication “SUN PROTECTION – A Primary Teaching Resource.” They did this for a reason, because exposure to sunlight does more harm than good. The need for public awareness concerning the dangers of sunlight is evident, as we are exposed to it every day, even through clouds.

Skin, being the first frontier of our body, is constantly challenged by sunlight. Erythema, for instance, is a typical feature of sunlight-induced inflammation in the skin. Getting a tan, something which is especially desirable in the Western world, in essence, is a consequence of the self-defense system of our skin. Skin pigmentation is caused by sunlight-induced inflammatory processes. In the long term, the effects of sunlight will lead to an alteration of the functioning of skin cells. This lies at the basis of sunlight-induced skin aging, or photoaging. About 80% of all visible signs of skin aging is caused by photoaging.

Going back to basics, the purpose of our skin is to constitute a physical and immunological barrier between our body and the outside world. It can be seen as the first line of defense of our body. The fact that it forms a barrier to sunlight is something we see and feel when our skin turns red or becomes tanned after UV radiation. As a physical barrier, our skin is also designed to keep water inside our body and keep “foreign” entities, such as chemicals and microbes, outside. Sunlight also has a strong negative impact on the skin’s properties as a physical barrier. One consequence of sunlight, for instance, is the fact that skin becomes dry.

The efficient treatment of skin in order to support it in optimally handling sunlight should be multifaceted. The use of UV filters is a prerequisite, but what about supporting the skin and skin cells on the biological level?
CLR welcomes you at In-Cosmetics 2012

CLR – Chemisches Laboratorium Dr. Kurt Richter – is an independent German company based in Berlin, which develops innovative and efficient cosmetic concepts for high-quality actives for skin and hair care.

CLR’s main activity is developing biologically active cosmetic ingredients with superior levels of in-vitro and in-vivo claim substantiation. Our strength lies in producing products to help Personal Care marketers and formulators address the latest trends with confidence in the effectiveness of their brands.

CLR’s highly active cosmetic ingredients fill the diverse requirements of skin and hair, such as: protection, stimulation, toning, regeneration, soothing, moisturization and nutrition.

CLR has introduced an integrated management system that combines both quality and environmental aspects in accordance with ISO 9001 and 14001 standards.

Please visit us at our stand Q50 to meet our team and learn more about our products.

CLR is participating in the Solar Trail. We will be happy to demonstrate the benefits of our sun care concepts to you.