

HelioNews



The sun protection news as proposed by

Summary

News within HelioScreen Labs :

HelioScreen Labs and Analytec group together

Patents review within sun business.

It happened under the sun....

News and gossips

File of the month

Sun Protection in textile industry

To be found in next files

- Pragmatic approach of required "meadow" » the main things.
- A unique procedure of spreading it is very reasonable?
- « In Vitro tool, that one in to win at it? »: A manufacturer expresses himself.
- Nanoparticles. In the sun protection.
- Products anti mosquitoes.



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Updated version

Few modifications have been performed (highlighted with *) in order to avoid misleading in comparison with original version in French.

Two laboratories bend over backwards for you

HelioScreen Labs and Analytec group together to propose the new "quality control" pack for sun products.



As it was the case in 2006 with the DERMSCAN group, with the proposal of the first « in vitro » pack to check the SPF and the UVA protection (COLIPA method), last summer, a new partnership was set up by HelioScreen laboratories in a domain of competence different from its present one, to make a new coherent and complete proposal to answer an identified industrial need: that of the quality control of sun protection products.

This partnership was relevant especially as, exactly like HelioScreen laboratory which just offered a really new by its approach method, ANALYTEC laboratory (Cosmepar group),

a long-time specialist of analytical control, proposed at the same time an innovative method allowing to characterize and to quantify through a single process about fifteen different chemical sun filters, widely used in cosmetic. This allows to guarantee as soon as possible and at the best cost, the analytical profile giving the qualitative and quantitative presence of filters contained in products.

In the last Helionews issue, the new approach for the conformity to a standard evaluation of a new batch had been presented in its broad outline (continuation p 2).

Sun protection in textile industry. When the SPF becomes the UPF!

Everybody asserts it, not only cosmetics can and have to assure sun protection, as an effective protection remains the clothing or a parasol or the protection by any other kind of textile material. What are the rules which govern "sun protection" and how do we measure it?

Our laboratory, specialized in protection evaluation by in vitro methods, had last summer the opportunity to step in



non cosmetic areas and it appeared interesting to us to develop this rather underestimated subject (continuation page 3)

HelioScreen develops a new partnership with ANALYTEC and it is for me the opportunity to remind how much it always appeared important to us to direct the strategy of our company on an essential axis: the specialization in our domain by avoiding any waste.

Naturally, it is also necessary to be present in other areas of expertise linked to our activity. We always preferred to develop partnership with laboratories we fully trust, often meaning old and long lasting cooperation, as the one which binds us to DERMSCAN laboratories.

This is not only valuable from a commercial point of view, such as the vivo / vitro packs presented about one year ago with this group, but also in terms of research and knowledge with a continuous exchange of know how and a true cooperation on specific subjects such as the vivo / vitro correlation.

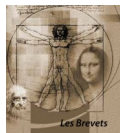
At a time when many laboratories or less developed structures, in order to widen their offer everywhere or by commercial opportunism, propose in their catalog what remains the very heart of our activity, i.e. "sun products evaluation by in vitro methods", we remain coherent in our approach. It is the guarantee of our real specificity.

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Patents ...

B1 - Patent EP1992328

filed on 19/11/08 by SHISEIDO CO LTD [JP] on « **Preparation of water in oil type emulsion sun screen** » This W/O emulsion contains 0.2 to 14 % of a methoxycinnamic ester, from 0.02 to 14 % of octocrylene, from 0.2 to 14 % of a dimethylpolysiloxane, from 0.02 to 14 % of a monoester oil and from 0.02 to 6 % of a branched chain silicon.



B2 - Patent WO2008122517

filed on 16/10/08 by CIBA company CPSC [HP] on COMPOSITION OF SUN SCREENS AND CARE PRODUCTS CONTAINING A RANDOM TERPOLYMER. The invention concerns cosmetic or dermatological compositions resisting to water and applied by topical way, aforementioned compositions being well adapted to the anti-UV photoprotection of the skin and/or the human hair and including an effective quantity, from the point of view of the anti-UV photoprotection of the following ingredients: (a) at least an anti-UV filter ; (b) at least a random terpolymer; and, possibly, (c) other acceptable ingredients from a cosmetological point of view.

.. It happened under the sun

In this period of world economic crisis, it was interesting to compare the results of some big companies . At **l'Oréal**, the annual turnover would increase by 2.7 % on a 4,27 billion € base for the 3rd quarter. Sales over the first 9 months increased by 2.2 % at 12,91 billions €. More detailed analyses are available. (Source: cosmeticnews.com - 31/10/08). At **Unilever**, the growth over the first 9 months of the year is 7.4 % and a 8.3 % growth on the 3rd quarter. Profit before taxes is 1,579 millions \$ on the first 9 months compared to 52 millions \$ for the same period in 2007. (Source: GCI - 31/10/08) . At **Alberto Culver**, the 4th quarter would increase by 7.3 % at 386 millions \$ with regard to the same 2007 period . The profit before taxes is 47 millions \$ at a 21 % increase with regard to the same 2007 period (38,9 millions \$). (Source: GCI - 27/10/08).



It happened under the sun....

continued

Newspaper of Cosmetic Dermatology Vol ., Stemming 4, 267. A study to determine the efficacy of a novel handheld light-emitting diode device in the treatment of photoaged skin Neil S Sadick, MD. A study on 22 volunteers irradiated by a red and a near infrared light showed as an effective method to improve the cutaneous state (wrinkles) of mature skins. This study was made under dermatological control and the rate of satisfaction of testers was 74 %.

Experimental Dermatology Vol.17, Exit 12, Pages-1036 Ultraviolet A induces transport of compatible organic osmolytes in human dermal fibroblasts. Ulrich Warskulat, Stefanie Brookmann, Ingo Felsner, Heidi Brenden, Susanne Grether-Beck and Dieter Häussinger. Organic osmolytes such as betaine, myo-inositol or taurin are involved in the cellular protection. The article shows that the accumulation of taurin is due to the answer of fibroblasts to the UVA radiotherapy and that taurin inhibits by 40 % the expression of Interleukine-6 induced by UVA

.. Some accessible books on the Web

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- Melanoma: Critical Debates

Published: 8 Oct on 2007 - 286 pages

Publishers: Julia A. Newton Bishop, Martin Gore
Print ISBN : 9780632057726 Online ISBN: 9780470987346



- Pocket Guide to Malignant Melanoma

Published: 30 Jan 2008 - 55 pages
Authors: John Buchan, Dafydd Lloyd Roberts
Print ISBN: 9780632054213 Online ISBN: 9780470760123

- The 2009 cosmetics prize list :

How to choose ones cosmetics? What are the most effective, the most pleasant, the safest, the cheapest? How to avoid irritations, allergies, intolerances? What to think about market trends, ingredients which are said dangerous for health, labels promises ? For this 2009 edition, more than 3300 products representing more than 250 brands were studied under all their aspects with a magnifying glass.

Available from now on in bookshops and on Internet: by Laurence Wittner and Hélène Le Héno, Published Leduc.s, 544 p., 23 €.

Two Laboratories bend over backwards for you... (Continuation of the article)

It is based on a statement:

V The control is to be **physico chemical** and cannot rely on the reproducibility of indexes (SPF, UVA.).

V the method can only be **comparative**: a comparison to a standard, itself being always measured at the same time.

The method suggests a two step validation including a "comparability" evaluation and then an effective comparison with an **appropriate statistical tool**.

The global method thus allows:

1. A global check of the properties of UV absorption to qualify the product in terms of claims.
2. An analytical check of the presence in quality and quantity of filters in the formulation.

A relevant validation.

This method - for the « spectral control » part - was validated in real conditions with an industrial partner and on 3 different products manufactured as different batches within an about two years period of time. A broad outline was given in the previous Helionews issue.

The analytical method was developed and validated according to the key points of the standard ISO / IEC 17025:2005, elements also to be found in references XP T 90-210 or ICH Q2 (R1).

A presentation to AFSSAPS and to FEBEA

This method was presented to AFSSAPS and some comments from the industry were collected after the presentation to FEBEA.

If the method was recognized as very interesting, it was mentioned that it had not been validated yet by various laboratories and that it remains a specific method "perfectly" controlled by HelioScreen laboratories, which gives this laboratory a monopoly situation. The principle to compare with a standard reference « the batch on which the manufacturer has validated his claims », was also criticized as a possibility of drift. HelioScreen however reminded that on one hand, product standard must be guaranteed in its stability and on the other hand, that the standard can be replaced from time to time through a product to product validation.

For the above reasons, manufacturers asked that this method should not be imposed to them, but that the free choice of its use is left to their own decision.

Our ambition: to innovate and to propose new tools without restraints.

HelioScreen can do nothing but accept these remarks however pointing out that within this partnership, his only ambition remains to be able to propose a global, innovative and really suited approach by offering a tool useful to the manufacturer and especially to those in charge of quality.

This additional approach offers a new viewpoint for a fast, coherent and effective control of the equivalence between two products in terms of their sun protection.

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# Sun protection in textile industry. When the SPF becomes the UPF!

(...continuationsuite of the page 1)

The external clothing or secondary elements capable of protecting from sun beams are conceived from fabrics or similar materials capable of protecting from UV, what allows them to assure both the comfort and a certain protection towards the sun.

## • What are the types of structures concerned, based on fabric and allowing to protect by creating zones of shadow?

If the trend is to immediately think at clothing, one should not forget more static structures such as fabric roofs put on posts. These structures can shade large areas and protect a lot of people at the same time. Others are small enough to be portable, they tend to protect few people at the same time. Parasols, patio umbrellas, beach tents, baby sling covers, car windows screens and similar devices are as many concerned materials.

## • Do these different products assure the same quantity of protection?

No. It will mostly depend of the fabric they are made of. Many fabrics block some sun ultra-violet radiation (UV) but they do not block enough UV to be classified as barrier against the sun. Besides, the type or the design of the product largely affects these properties, such as colours and shades.

## What main factors favor the level of brought protection?

The two main factors which affect the sun protection properties of fabrics used in shadow products are the meshing and the colour. Fabrics with a tight meshing block more sun energy than loosely woven fabrics. A smaller quantity of small holes between the threads allows less UV to pass through and thus to reach the skin. Lighter colours of fabrics allow some cooling because they reflect infrared light, but darker colours absorb more UV and assure more protection against the sun.

## • Should based on fabric products claiming a sun protection be estimated with a SPF?

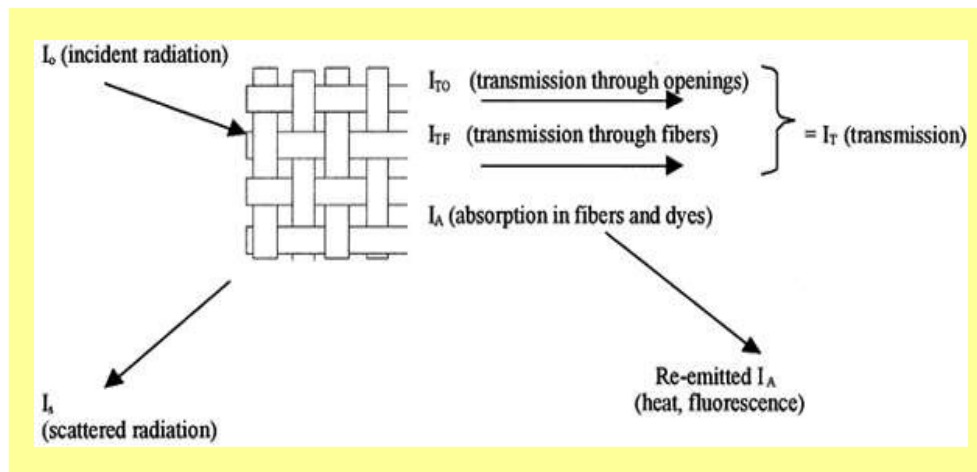
No. According to recent standards in the United States, only the manufacturers who claim that the fabric in their product protects against UV beams have to demonstrate the risk reduction of damages to the skin due to UV exposure. Then, they do not use the SPF but a system of estimation which measures the quantity of UV

label and a classification of their products with a UPF value.

## The UPF protection index

UPF is an indication referring only to the protection against ultraviolet beams. THE UPF is a measure of the UV protection supplied by a textile material or a fabric. THE UPF measures the capacity of a fabric to block UV radiation and thus to avoid it reaches the surface of the skin. For example, a fabric with an UPF 50 allows only 1/50 of the UV radiation to go through,

The new international D6544 standard and ASTM D6603 combined with the AATCC 183 standard to form the standard of anti UV protection for fabrics is the most stringent in the world. The only ASTM D6544 standard, which is not yet demanded by ASPA, is unique among the various anti UV rules in the world for textile materials. It thus assures that the UV protection claimed by the product or the garment is at the lowest level of what it will be after its whole life rather than the initial level of protec-



which means 2 % of the radiation being able to reach the skin. Protection fabrics used in sun protection devices have to demonstrate an UPF from 15 to 50 +. However fabrics used for large structures intended to offer shadow can have an UPF between 10 and 50 +.

## • What are the classification categories ?

Still in the United States, according to the new directive, there are 3 categories of classification for protective fabrics against sun radiation:

- Good UV protection (for UPF 15 - 24),
- Very good UV protection (for UPF 25 - 39)
- Excellent UV protection (for UPF 40 - 50 +).

## • How is measured an UPF?

The fabric is examined thanks to a special equipment allowing to measure the reflection (for example, a spectrophotometer), and not on human subjects as for sun protection.

## • How to choose an UPF level ?

For protection against the sun, devices or materials need to be made of fabrics with an UPF of 15 or more. An UPF 15 blocks 93 % of UVA / UVB. An UPF 50 + blocks at least 98 % of UVA / UVB. A product made with fabrics with an UPF of 10 blocks 90 % of UVA / UVB.

## • How long lasts the UPF ?

When a fabric is examined according to the ASTM D6544 standard, an estimation of UPF should indicate the minimum UPF during the typical life of the product. However, very old, used or faded fabrics can have a lower estimation of UPF.

## • What are the United States standards for the manufacture, the UV test and the classification of sun protective fabrics ?

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The D6544 standard requires that any textile product claiming a level of sun protection can guarantee it after at least 40 washes and also has undergone about 100 exposures to simulated sun radiation.

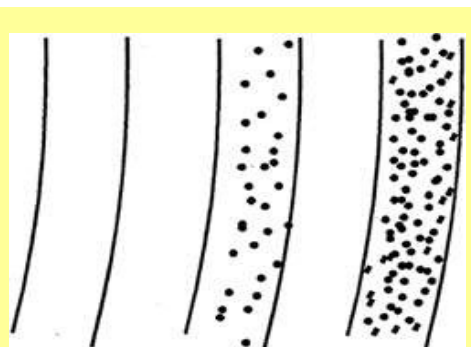
Furthermore, if the fabric is used for the manufacture of swimsuits, it also has to be submitted to repeated baths in chlorinated water before the measurement of UV transmission - measured according to the AATCC 183 standard. This AATCC 183 standard is, at least within United States, a standard to determine the UPF and the percentage of the UVA / UVB blocked by a fabric. The D6603 standard requires tissues to be estimated with a value of UPF included between 15 and 50 + and a category of classification similar to those used in Australia and in New Zealand. See also [http://www.astm.org/SNEWS/JANUARY/insight\\_jan01.html](http://www.astm.org/SNEWS/JANUARY/insight_jan01.html) for an international article of ASTM on the directives concerning the protection properties against sun radiation of textile materials.

## • Is there a strict legal statutory constraint?

No. Neither the finished protection products nor the fabrics they are made are of are regulated by the FDA ( See <http://www.fda.gov/cdrh/devadvice/21a.html>) or any other governmental body. However, the FTC watches the complaints relative to the claims concerning the protective properties of fabrics in the sun and the ASPA encourages the industry to respect the United States proposed standards

## • How concerned fabrics are guaranteed protective ?

At present, the AMC guarantees fabrics which respect or even exceed the requirements of the



Relative quantity of TiO<sub>2</sub> pigment inside fibers (from left to right) : bright, semi matt, and matt

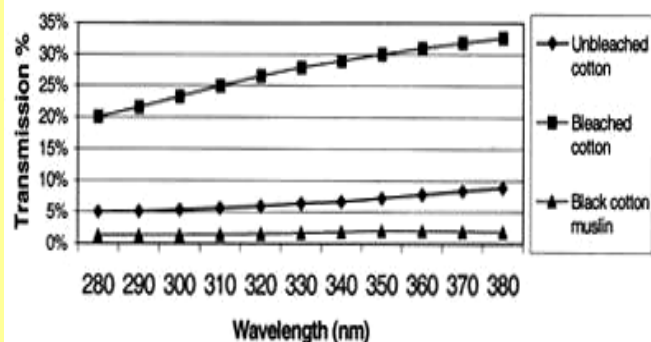
protection brought by the fabric to obtain a



AATCC 183 standards, AS / NZS 4399. Other international standards can be accepted. Guaranteed fabrics used in portable shadow devices such as umbrellas, tents and baby sling covers have to supply the assurance of an adapted protection and have an UPF from 15 to 50 +.

It reminds us something ...

- Can AMC also guarantee products which were not made from certified fabrics?



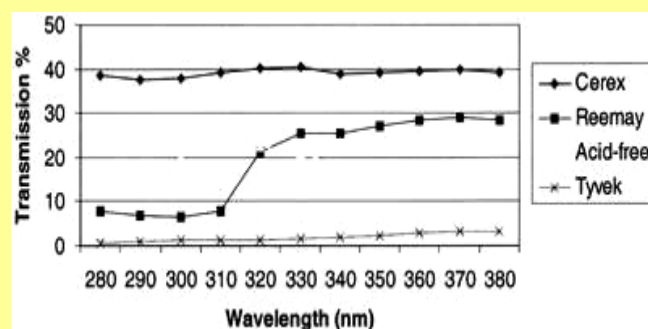
% of UV transmission through unbleached cotton, bleached cotton, black cotton muslin.

With the proof that ad'hoc tests have been performed and/or with the

approval of the FDA as medical device, AMC can guarantee devices which are not made from textile material or fabrics. The examples include: coloured films for windows, certain plastics and thin metallic domes, etc.....

#### • How to obtain copies of the standards?

Visit [www.astm.org](http://www.astm.org) to order authorized copies of D6603 and of D6544. For an authorized copy of AATCC 183, visit [www.aatcc.org](http://www.aatcc.org). Authorized-



% of UV transmission through Cerex nylon, Reemay polyester, Tyvek polypropylene, and fabric without acid

copies of Australia/New Zeland standards are supplied by standards Australia at [www.standards.com.au](http://www.standards.com.au).

#### Strange allusion

- One can find on some sites devoted to "natural" or "bio praises about *natural* sun products. it is completely wrong to say that sun products containing titanium (or zinc) oxide are natural products because these components, even if they are identical to minerals which can be found in the ground, are synthetized to avoid that they contain toxical materials, particularly heavy metals. Moreover, the term «natural » implies that all other components are natural, is it really the case? Other remarks could be again made but there will be opportunities in another moody word.

#### Companies information

- According to an information appeared in on-line GCI (20/11/08), the present Allured Publishing company changes its name to Allured Business Media.
- Appeared in on-line GCI (19/11/08): the BASF company takes measures to avoid an overcapacity due to a massive decline of the demand. It temporarily closes 80 factories in the world and 20,000 people are concerned among which 5,000 in Ludwigshafen.

#### Scientific articles

- British Journal of Dermatology - Vol.159, Issue 6, - Guidelines for topical photodynamic therapy: update - C.A. Morton, K.E. McKenna and L.E. Rhodes. The photodynamic topical therapy ( TPT) is of a proven efficiency on actinic keratose and superficial basocellular carcinoma but not on spinocellular carcinoma . The TPT can reduce the number of new lesions for high risk patients and thus have a preventive role. Long-term studies show that the treatment is safe.
- Experimental Dermatology Vol.17, Issue12, Pages1037-1044 UV-induced DNA damage initiates release of MMP-1 in human skin Kelly K. Dong, Niussha Damaghi, Stephanie D. Picart, Nelli G. Markova, Kei Obayashi, Yuri Okano, Hitoshi Masaki, Susanne Grether-Beck, Jean Krutmann, Kenneth A. Smiles and Daniel B. Yarosh. Collagen destruction is a mark of photoageing, the main enzyme which is responsible for the destruction is the metalloproteinase

-1 ( MMP-1) matrix. UV radiotherapy of keratinocytes plays an important role in the destruction of collagen because it generates soluble intermediates who provoke the release of MMP-1 by fibroblasts. This induction of MMP-1 can be reduced if keratinocytes are treated by DNA repairing enzymes (T4 endonuclease V or UV endonuclease).

- Journal of Cosmetic Dermatology Vol ., Issue 4, 297. Protective effects of a topical antioxidant mixture containing vitamin C, ferulic acid, and phloretin against ultraviolet induced photodamage in human skin. Christian Oresajo, PhD (Oréal), Thomas Stephen, PhD, Peter D Hino, MD, Robert M Law, MD, Margarita Yatskayer, MS, Peter Foltis, MS, Sreekumar Pillai, PhD, and Sheldon R Pinnell, MD. A study was made on ten subjects on which a mixture of vitamin C, ferulic acid and phloretin was applied: a meaningful protective role was highlighted. It is suggested to combine this antioxidant mixture with sun filters for an optimal photoprotection of the skin.
- Clinical and Experimental Dermatology - Volume 34, Issue 1, 15. Sensitivity to ultraviolet B is a risk factor for cutaneous melanoma in a Mediterranean population: results from an Italian case- control study- A. Chiarugi, Mr Ceroti, D. Palli, G. Cevenini †, Mr Guarrera and P. Carli . Among risk factors of melanoma are present the sensibility to the sun, the eyes and skin colour and the number of beauty specks. A study on 143 patients affected by melanomas and 102 patients used as control group showed that the measure of the colour as well as the MED are significant factors of risk for melanoma.
- Journal of the European Academy of Dermatology and Venerology - Volume 23, Issue 1 - Photodynamic therapy with 5-aminolaevulinic acid, dimethylsulfoxide and curettage in basal cell carcinoma: a 6-year clinical and histological follow-up - E Christensen, E Skogvoll, T Viset, T Warloe, S Sundström. The study led here aims at appreciating the long-term treatment by dynamic phototherapy of patients affected by basocellular carcinomas. Out of 44 patients having undergone the treatment, 39 were cured after 3 months, 2 died. After 6 years, the treatment was evaluated as good or excellent in 90 % of cases.

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