

WE NEED GOOD NEWS AND BETTER RESEARCH!

IT HAS been more than 15 years now since the first three Time and Extent Application (TEA) ingredients were filed with the US Food and Drug Administration (FDA), yet to date, no final decision has been reached. The Sunscreen Innovation Act (SIA) was enacted and signed by President Barack Obama in November 2014 to address the lack of adequate UVA filters in the US. That bill has been mostly ignored, and both Congress and FDA are forging ahead to pass cosmetic reform legislation.¹

The House and the Senate are currently debating over-the-counter (OTC) legislation and cosmetic reform that may or may not affect the outcome for superior UVA filters to those that are currently approved in the Category I FDA listing. The bottom line is that this 40-year saga in attempting to finalize a Final Sunscreen Monograph continues, despite the skin cancer epidemic. This epidemic is partly due to the lack of adequate protection in sun care products produced in the US. As I approach my 35th year in the sunscreen industry, I marvel at the current

state-of-affairs and shake my head in disbelief at the bureaucracy that prevents our industry from securing adequate sun protection for our populace.

As scientists and cosmetic industry personnel gather in New York City this month for the 71st Annual Meeting of the Society of Cosmetic Chemists, a Sunscreen Review Roundtable will be held that will feature Dr. Ed Sargent from Rutgers University². Dr. Sargent has written the Public Access to Safe Sunscreens (PASS) Coalition response to the FDA regarding the additional testing required by the FDA to approve additional UV filters in the US. Perhaps a lively discussion will result in more cohesive recommendations that would be put forth to the FDA and ultimately lead to a Final Sunscreen Monograph. In the meantime, a few articles and news reports have been written on sunscreens that are worthy of review in this column.

New Ideas Come to Light

A recent study at the Ohio State University reported that tomatoes protect against the development of UV-induced keratinocyte carcinoma via metabolic alterations and concluded that "prolonged tomato consumption can mitigate UV induced sunburn."³

Dr. Guy German, a biomedical engineer at Binghamton University in New York, noted that DNA molecules get damaged when exposed to sunlight. He has tested films made from the DNA of male salmon sperm cells and found that these films absorbed much of the UVA and UVB light. Dr. German stated that the film blocked up to 90% of the UVB rays and up to 20% of the UVA rays. He also noted that the longer the UV light shines on the films, the more UV rays were blocked.⁴

Another study at Case Western University, funded by the National Eye



You say tomato, I say sunburn relief!

Institute (NEI), revealed how UV light may contribute to cataracts/cataract development. The study showed that UV light can damage lens proteins in a distinct way, called glycation, typically seen in cataracts and in cells damaged by oxidative cells.⁵

In an article written by Dr. James Gruber and his colleagues at Botaneco Inc., they reported on a reliable spectrophotometric screening method for oil body-based SPF formulations. The results demonstrated a high level of reproducibility and reliability compared to the FDA's recommended in-vivo SPF testing method. The authors also examined the influence of an oleosome-based SPF product on UVB-induced inflammation markers in reconstructed tissue. This work will be published soon in the *Journal of Photobiology*.⁶

Scientists at Penn State University studied the atmosphere of the planet Kepler 13Ab and discovered that the planet's atmosphere "snows" titanium dioxide.⁷ Before you move to Kepler 13Ab for TiO₂ protection, it should be noted that the planet is much larger and hotter than our sun!

A hand-held device that detects skin cancer was invented by four engineering students from Ontario's McMaster University.⁸ The device was designed on



Nadim Shaath
*Alpha Research
& Development Ltd*
Email: alphamd@aol.com

Dr. Nadim Shaath is the president of Alpha Research & Development, Ltd. in White Plains, NY. He has over 30 years of experience as chairman of the chemistry department at SUNY-Purchase and the CEO of Kato Worldwide. Recently he formed a consulting company serving the cosmetic industry called ShaathMeadows Corporation (SMC) with laboratories in New York, New Jersey, Texas, Florida and Egypt.

the premise that cancerous cells have a higher metabolic rate than normal tissue cells. Cancerous tissue remains warm at a faster rate than non-cancerous tissue when the skin is cooled. And finally, La Roche-Posay has developed "My UV Patch," a high-tech device that tracks sun exposure and reports back to its wearer via a smart phone app. The flexible device contains photosensitive dyes and can be worn in the water.⁹

Blunder Down Under

In other sun care developments, a report has revealed that 55% of Australians are still confused about the safety of sunscreens.¹⁰ This blunder from Down Under revealed another startling fact: two of every three Australians will be diagnosed with skin cancer in their lifetime! In a recent article in *Sports Illustrated*, the former head coach of the Pittsburgh Steelers, Bill Cowher, preaches prevention, detection and treatment of melanoma after his wife's death from the disease.¹¹ A mole on his wife's skin had changed colors, and after a biopsy, they learned that not only was it melanoma, but that it also had gotten into her bloodstream. Just five months later, she passed away at the age of 54.

In Hawaii, the Maui County Council's Infrastructure and Environmental

Management Committee will review presentations from two toxicologists about the effects of oxybenzone and octinoxate on Maui's coral reefs and marine life. The committee is considering proposed legislation that would ban the use and sale of sunscreens and personal care products containing those two UV filters.¹²

Finally, in a recent court decision in Iowa District court for Polk County, Attorney General Tom Miller won a victory over Osmosis LLC and Harmonized Water LLC of Evergreen and company owner, Benjamin Taylor Johnson, a Colorado seller of bottled water products that include "drinkable sunscreen" and mosquito repellent mouth sprays. The court agreement bars them from making product claims that are not supported by scientific evidence.¹³

Scouring the literature today for credible scientific studies concerning new ultraviolet filters, photo stability issues, and other matters relating to protection from the harmful rays of the sun produces very little information worthy of reporting. A lack of incentives to provide new sunscreens and other innovations in the US sun care market has dampened our scientific efforts to study and publish breakthroughs in the field. ●

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