

New Natural Bio-based Cosmetic Ingredients that are Substantive to Skin and Hair

SpecialChem | Nick Morante - Jun 18, 2014



Introduction

I know there are possibly some SpecialChem Community Members who did not have the opportunity to attend the New York Chapter of the Society of Cosmetic Chemists Suppliers' Day show this year. It was a very large annual event held on May 13th and 14th in Edison, New Jersey and featured almost every cosmetic ingredient supplier, manufacturer, instrument and testing laboratory, and equipment company for the entire cosmetics and personal care industry. Close to 7000 cosmetics industry people attended this year's two day show. I attended Suppliers' Day as I do every year to see what is new and exciting that I can use in new product development. It is a must see event for all cosmetic formulators and even marketing professionals. The next generation of cosmetic products may be developed as a result of this show.

For those of you who missed this event, which is the largest cosmetic ingredient trade show in the United States, I will list a cross section of some of the bio-based and natural ingredients which I came across that may be of interest to cosmetic formulators. Some of these ingredients are what I personally consider new and novel but there were literally hundreds of new ingredients presented at the show and far too many to list here. Although some of these ingredients may not sound new, they have been presented to the cosmetics and personal care industry in entirely new and different applications. While at Suppliers' Day I was specifically searching out natural, renewable and bio-based ingredients. That is what cosmetics formulators are looking for today. There is even a United States Department of Agriculture (USDA) Certified Bio-Based Product label that can be used on products that qualify and meet the standards set by the government. Many of these ingredients carry over from the food and beverage industry.



Fig. 1: USDA Certified Bio-Based Product Label

One new ingredient that I saw which I was excited about was **Nisarg™ Soapnut Extract** (INCI Name: Sapindus mukorossi Peel Extract) from Vivimed Laboratories USA. This is a high foaming natural surfactant that can be used in skin cleansers and [hair care](#) products. It contains high levels of natural [saponins](#) which have detergent properties. The actual extract itself is in powder form but it is very mild and is available as a solution in [water](#). The solution foams when rubbed on the skin or [hair](#) and can be used as an alternative to synthetic surfactants such as SLES, ALS or other ethoxylated surfactants for these or similar applications. It is highly multifunctional with the capability of creating a natural [shampoo](#) or other types of phytopharmaceutical products.

Another new ingredient from Vivimed Laboratories USA that I found which had some interesting characteristics was **Vintox** (INCI Name: Nordihydroguaiaretic Acid) which is considered an antioxidant. According to Vivimed, Vintox is a natural ingredient with polyphenol properties which makes it an excellent antioxidant as well as an excellent anti-inflammatory agent. It can also be used in sun care cosmetics products to prevent UV-B skin damage by significantly inhibiting UV-B radiation. Vintox has a double action in reducing the appearance of fine lines and wrinkles via cell lipid retardation, an effective active for [anti-wrinkle](#) skin treatment creams. Vintox also possesses [anti-acne](#) and anti-cellulite properties. These multiple properties are ideal in skin care formulations and can be used as a true multi-

purpose active ingredient. You will find that many plant based ingredients provide a variety of functions, and not just only one property.

Another regular exhibitor at Suppliers' Day, DuPont Tate and Lyle Bioproducts, once again presented their [Zemea® propanediol](#) (INCI Name: 1, 3 [Propanediol](#)). Although this is not really a new material, the company has been continually testing and finding new applications for this synthetic polyol and [glycol](#) replacement. Zemea® is positioned as all natural and is a 100% bio-based ingredient made through the fermentation of corn sugar (mainly [glucose](#)) and developed for use in the cosmetics and personal care industry. It is approved as a natural ingredient by Ecocert and the Natural Products Association (NPA). It is also certified as a 100% bio-based material by the United States Department of Agriculture and has both Kosher and Halal certifications. I am mentioning this material only because having used this ingredient I can say that I have found that it has both anti-microbial properties and excellent solubilization properties that rival all the synthetic polyols such as propylene and [butylene glycol](#) which are currently available to cosmetic formulators. Product testing verified that Zemea® can be used as a one to one drop-in in place of other commonly used glycols.

Coast Southwest from California highlighted their [Olivatis, a complete line of high-performance, non-ionic emulsifiers derived from natural Olive Oil](#). The supplier indicated that these new ingredients impart a luxurious feel on the skin and [hair](#) and an elegant texture while providing stability to a finished beauty product. The company's Olivatis line of emulsifiers are all natural, sustainable, PEG-free and ideal for non-ionic emulsion systems. It is well known that Olive Oil has long been an ingredient for herbalist and cosmetic preparations due to its lubricating, restructuring and skin-protecting properties. Many ingredient replacements are based on Olive Oil (such as [Squalane](#)) and this new generation of emulsifiers are said to work very well in natural and green chemistry formulations. The supplier's technical literature states that they are stable, easy to use, and also provide a light, smooth silky feel to the skin.

One of the many BASF ingredients exhibited was [Z-Cote® LSA-UC](#). This is an uncoated naturally derived white [TOP](#) powder (INCI Name: [Zinc Oxide](#)) which is used as a broad-spectrum UV absorber. Z-Cote®'s physical characteristics enable gentle product development, making it the filter of choice for baby care, sensitive skin or naturally derived [sun protection](#) formulations. [Zinc oxide](#) is the UV filter of choice (along with [titanium dioxide](#)) when broad-spectrum [SPF](#) claims are to be made using only non-chemical or natural sunscreens. I have also found that from my own experience that zinc oxide has some antimicrobial properties and can be used in some preservative-free systems. Again, not a new ingredient but very important for natural product positioning. I only mentioned this particular grade of Z-Cote® as it is uncoated and has a particle size ≥ 100 nm. Other grades of Z-Cote® (as well as various grades of zinc oxide from other [sunscreen](#) ingredient suppliers) are coated with a synthetic silicone or [triethoxycaprylylsilane](#) and can be in the nano-particle size range. BASF keeps this grade of Z-Cote® LSA-UC in the natural ingredient category and is not considered a nano-particle pigment due to its size. Z-Cote® LSA-UC is also approved by the Natural Products Association (NPA).

BioChemica International (a division of HallStar) has always been known for its exotic oils and butters many of which are bio-based such as [BioVera](#) (INCI Name: [Aloe Barbadosis Leaf Juice](#)), a certified organic aloe vera. Every time you see this company they have more and more natural and hard to find exotic butters, oils and other bio-based ingredients. Listing just a few are:

- [Borage Oil](#)
- [Camelina Oil](#)
- [Hemp Seed Oil](#)
- Neem Wax
- [Illipe Butter](#)
- and [Kokum Butter](#)

The list goes on and on with some funky ingredient names that many of us never heard of or even knew existed. But their selection of all natural ingredients is remarkable. If you are are looking for a unique and different type of emollient and natural or certified organic ingredient that will add elegance to any type of cosmetic product, this is one ingredient supplier you should consider looking at.

Essential Ingredients (representing Elementis Specialties) is promoting their [Meadowestolide](#) (INCI Name: [TOP Meadowfoam Estolide](#)) for many cosmetic applications. It is an important derivative of Meadowfoam Seed Oil and is very substantive to skin and hair. In [hair care](#) it improves moisture retention and provides protection against thermal damage, for example from curling irons and high heat hair dryers, while improving elasticity by reducing the coefficient of friction in the hair cuticle. This also can reduce static charge. In skin care systems, it helps to adjust the hydration levels

of the intercellular spaces and provides significant moisturization benefits due to its emolliency characteristics. Once again this is an all-natural ingredient derived from plant sources.

More and more cosmetic ingredient suppliers are offering new bio-based ingredients in their raw material portfolios. Another example is PhytoCellTec™ the award winning stem cells derived from various rare plant sources for skin and hair care cosmetics created by Mibelle Biochemistry in Switzerland. You can go on and on with these new innovations. The PhytoCellTec™ range includes:

- [PhytoCellTec™ Alp Rose](#)
- [PhytoCellTec™ Malus Domestica](#)
- [PhytoCellTec™ Symphytum](#)
- [PhytoCellTec™ Solar Vitis](#)
- [PhytoCellTec™ Argan](#)

These are just a small sampling of ingredients that the attendees (especially the cosmetic formulators) were shown during Suppliers' Day this year. There had to have been hundreds if not thousands of natural ingredients on display and in product samples, and not just [Hyaluronic Acid](#) which everyone uses. As I mentioned, it is impossible to list them all. Suppliers need to create or source these ingredients to remain competitive and because the cosmetics and personal care industry is demanding them. If you know of a natural ingredient supplier (and there are so many of them), you can contact them or look on their website to see what new ingredients, natural and bio-based, they presented at this year's Suppliers' Day show. But give yourself some time as there will be a lot of information to gather up. That is probably why this trade show was increased to two days in length. There is just so much to see and not that much time to see it.

For those SpecialChem Community Members based in Europe, there is the upcoming Bio-Based Global Summit which will be held in Brussels, Belgium on September 9th and 10th, 2014. I am sure that many of the U.S. suppliers that were at this year's NYSCC Suppliers' Day will be at this event that will be held this September. I think that some U.S. based formulators and marketers may even be attending this important conference. In addition, many suppliers will be launching new and innovative bio-based ingredients throughout the year. There is really no end to the diversity which exists in these natural ingredients. Native peoples have been using them before the beginning of recorded history because they really did work and they were readily available. All you had to do was go into the forest and harvest them and use them.

