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reginal@skinbeautylabs.com

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Stephen@aigtechnologies.net

**Membership/Bylaws Chair:**
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CGerlach@essentialingredients.com

**Area IV Directors:**
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Danielle.wheeler@dsm.com
Dawn Burke-Colvin
dawn.burke-colvin@mkcorp.com

**Newsletter Editor:**
Marisa Bailey
flscnewsletter@gmail.com

**RSVP to Chapter Meetings:**
flsccRSVP@gmail.com

**Website:**
http://www.flsc.org

**SCC National Office**
120 Wall Street
Ste 2400
NY, NY 10005-4088
(212)668-1500
Fax (212) 668-1504
scc@scconline.org
www.scconline.org

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**In This Issue**

Page 2: Upcoming SCC events
Page 8-15: Technical Article
Page 16-19: Employment Opportunities

**FLSCC Upcoming Events**

⇒ **Next Meeting**
February 26th, 2015 - Ft. Lauderdale, Fl
Dave and Busters
3000 Oakwood Boulevard
Fort Lauderdale, FL 33020

⇒ **2015 Sunscreen Symposium**
September 16th-19th - Orlando, FL
Disney Yacht Club
Sept. 16 - Pre registration
Sept. 17—Educational Course and Golf
Sept.18-19 - Symposium and Poster Exhibition
September 18—Banquet

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New FLSCC Website now Live!!!
If you have not renewed your membership please visit www.scconline.org and register.
We want you to continue to be an active part of FLSCC
Upcoming SCC National Chapter Continuing Education Opportunities

- Cosmetic Formulations, February 18 – 19, 2015
  Instructed by Mark Chandler & Arthur Georgalas

- Patents – A Practical Introduction, March 9, 2015
  Instructed by Zsuzsanna Piso Tony O’Lenick

  Instructed by Zsuzsanna Piso

- Cosmetic Chemists Guide To Product Development, April 13, 2015
  Instructed by Perry Romanowski

- GMPs For Cosmetics, April 21, 2015
  Instructed by Joseph Albanese and Susan Freije

- Recent Advancements in Polymers and Macromolecules For Cosmetics and Personal Care, May 7-8, 2015
  Instructed by Robert Lochhead, Ph.D

- Advanced Skin Care, May 22, 2015
  Instructed by Randy Wickett, Ph.D

- Utilizing Omics In Skin Care – Simplifies, June 24, 2015 (Philadelphia, PA)
  Instructed by Dr. Nava Dayan LLC - Organizer and Moderator
  Speakers: Rebecca Gadberry, Matt Kuruc and Tracy Shafizadeh, Ph.D.

- Basic Hair Care, June 24, 2015 (Philadelphia, PA)
  Instructed by Roger L. McMullen, Ph.D

Learn more about each course and get the latest SCC news by visiting www.scconline.org.
INTEREST OF RHEOLOGY AND TEXTURE TECHNOLOGIES IN COSMETIC RESEARCH — Abstract

Investigations of Rheology and Texture analysis contribute to a better understanding and prediction on raw material influences in formulation. These could be the manufacture procedures, prediction of stability, the capacity of a product pouring out of its packaging but also on the sensorial profile.

How is Rheology, the science of flow and the deformation of matter, a real ally for the formulator? Through examples we will review how we can predict the stability of a formulation during aging, how a product behave during application helps to predict its spreading ability or even its sprayability. Also how the rheology profile of two emulsions could modify our sensory perception.

Then, how making texture analysis helps to understand the mechanical properties of a product like its suppleness, consistency or adhesion. Here again though examples we will compare aqueous gels and see the correlation between texture analysis and sensory perception on the consistency of the gel, the stringy effect or even the pickup ability.

Lea Seidenbinder is the Beauty Care Marketing Manager for North America based out of SEPPIC Inc (Fairfield, NJ). She has been with SEPPIC for over ten years. She has served as the Business Area Sales Manager involved in sales, export, marketing, and R&D based in SEPPIC SA (Paris). In the past, she worked in the company's technical center in the cosmetic application lab (Castres, France). Lea’s background is in Organic Chemistry, Physics and Biology from the University of Creteil (France) and a Master IPCA postgraduate degree specializing in Cosmetic from the ISIPCA-Versailles program.
Florida Chapter Society of Cosmetic Chemists
2015 Sunscreen Symposium

CALL FOR PAPERS

The Next Horizon of Sun Care Innovation & Global Regulatory Requirements

September 16th – 19th 2015
Disney Yacht Club, Orlando Florida

Authors are invited to submit titles and abstracts of no more than 150 words for papers to be presented in podium format. Submission deadline January 31, 2015. All topics related to Cosmetic Science will be considered for presentation.

All abstracts including photo and bio must be submitted to FLSCCSUN@gmail.com

- Jan. 31, 2015 - Deadline for Abstract Submission – Include Photo and Bio
- March 1, 2015 - Presenters/Author Notified
- May 1, 2015 - Presentation Agenda Finalized
- June 1, 2015 - Preprints, Author Bios & Abstract (min 200 word, max 2 pages including figures)
- August 1, 2015 - Final Presentation Received by FL SCC Chapter
- Sept 16-19th 2015 - Sunscreen Symposium Podium Presentation
2015 Sunscreen Symposium

Call for Poster Presentations

The Next Horizon of Sun Care Innovation & Global Regulatory Requirements

September 16th – 19th 2015
Disney Yacht Club, Orlando Florida
2015 Sunscreen Symposium Golf Outing

Thursday, September 17th, 2015
Time: 9:00am (Shotgun Start)
Course: Disney Palm
Format: 4 person scramble
Cost: 4-some: $260, Individual: $70

Hole Sponsorship Available: $200 per hole.

Prizes:
2 Longest Drives (Men)
2 Longest Drives (Women)
1 Most Accurate Drive, 3 Closest to the Pin (Men/Women)

Contact Stephen Dawes at stephen@aigtechnologies.net for more information.
FLSCC Website Sponsorship

If your Company would like to sponsor the FLSCC website please email floridascc@gmail.com.

Rates for sponsorship and for your company logo to appear on the website is $800.00 annually.

You Be The Chemist is a program available to students in grades K-8 designed to encourage interest in the sciences. Created by the Chemical Educational Foundation and sponsored by the National Association of Chemical Distributors, this program, offered at no cost to elementary and middle schools in the US, needs volunteers and sponsors to expand into new schools in Florida. Consider sponsoring and/or offering to contact your local schools to introduce this program. For elementary schools, a flash drive costing $10 contains content for fun and easy chemistry experiments using common household ingredients age appropriate for grades K-4 and 5-8. Students in grades 5-8 are eligible to participate in the You Be The Chemist Challenge, a fun quiz-type event held at county, state and national levels now celebrating its 10th year with over 30 states participating in 2014.

For more information visit the CEF website: www.chemed.org/ybtc/

Contact: Ken Moyer kmoyer@brenntag.com Florida State organizer
Michele Margherita mmargherita@brenntag.com SCC contact and NJ State organizer
The Greening of Emulsions
by Joseph Albanese

This article originally appeared in the October 2014 issue of Cosmetiscope: J. Albanese, Cosmetiscope, 20(8), 1-8 (2014).

Let’s Start with a Joke

Vegetarian: “I’m not a vegetarian because I think eating meat is unhealthy for me. It’s because raising cattle is bad for the planet. Cow flatulence adds to the ozone layer and the clearing of land for the raising of cattle means fewer green plants producing oxygen through photosynthesis. What are you doing to help the environment?”

Ron White: “Personally, I’m eating the cows as fast as I can. BUT I’M ONLY ONE MAN!”

Now Let’s Get Serious!

As a cosmetic chemist developing a new emulsion is there anything that you can do to help save the environment? Might I suggest that in your daily work you keep in mind the Twelve Principles of Green Chemistry?1 See Figure 1. For this brief article, let’s limit the discussion by focusing on Principle No. 6, which calls us to “Design for Energy Efficiency – Minimize the energy requirements of chemical processes and conduct synthetic methods at ambient temperature and pressure if possible.” An early pioneer in this area is Dr. T. Joseph Lin who published his initial work on Low Energy Emulsification (LEE) in 1978,2 long before the EPA came out with their Twelve Principles (see Figure 2). Dr. Lin’s research taught that stable emulsions could be prepared successfully even if all of the external phase is not at elevated temperature. In the case of an oil-in-water (O/W) emulsion, the LEE procedure calls for only a portion of the external water phase (β phase) to be heated before combining it with the hot internal oil phase. This emulsion concentrate is then diluted with the remaining ambient temperature water (α phase) to cool down the emulsion. The rate of cooling has a profound effect on particle size of the internal phase and overall acceptability of the final emulsion.

In his more recent publication,3 a delightful and educational treatise, Dr. Lin explains, in story-telling fashion, that by carefully controlling processing variables (pV) and component variables (cV also known as ingredients) LEE optimizes the desired properties (Zp) of your emulsion. In short, LEE requires less energy input to create stable emulsions, thus it saves money, reduces processing time, increases plant capacity, and reduces the carbon footprint of your plant without having to reformulate or invest in new equipment. Dr. Lin also stresses the “less is more” philosophy. Namely, too much of a good thing can be detrimental to achieving your goals.

Later, we will advance this pioneering research of Dr. Lin’s to show how you can include specific types of polymers into your formula that will enable you to create emulsions quickly, with little to no surfactant emulsifiers and requiring less energy input, but first, let’s take a step back in time.

The History of Emulsions

Reportedly, Galen developed the first emulsion in ancient Greece back in 131–201 AD and the Egyptians combined beeswax and borax to make emulsions. Why does this early love affair with emulsions continue to this day? Simply because emulsions are an elegant and cost effective way to easily and elegantly deliver a wide range of active ingredients because water is less expensive than cosmetic oils. Emulsions are also a wonderful vehicle to deliver oil soluble actives with a non-greasy skin feel. Emulsions can dilute pharmaceutical and OTC actives down to safe, yet still effective, levels.

(Continued on page 9)
An emulsion is a mixture of two or more immiscible liquids. When oil is the internal or dispersed phase it is known as an oil-in-water, or O/W, emulsion. When oil is the external or continuous phase, then it is a water-in-oil, or W/O, emulsion. Without going into details, there are several techniques for determining the kind of emulsion at hand. They are the dilution test, conductivity test, dye solution test, RI Test, and filter paper test. Multiple phase emulsions are also possible.

The particle or droplet size of the internal phase is one way of knowing whether or not you have an emulsion or something else. If the particle is very large, then it is more likely a dispersion or suspension. If the particle is very small, then it is likely an emulsion or possibly even a solution. The smaller the particle size the more stable the formula.

The most stable emulsions are microemulsions. In fact, when the dispersed phase is 0.01–0.2 µm in size the emulsion is thermodynamically stable. Microemulsions are characterized by their transparency since the droplet size is <25% of the wavelength of visible light. They normally require very high surfactant levels, which ultimately results in very low O/W interfacial tension. Because of the high surfactant levels they require lower energy input.

The focus of this article will be on the more commonly found macroemulsions. The range of the particles in the dispersed phase is 0.2–50 µm. These formulas are inherently kinetically stable but ultimately unstable due to the Second Law of Thermodynamics. They are opaque in appearance and require relatively high-energy input to create. Figure 3 shows the common ingredients and their approximate use-levels often found in a typical macroemulsion.

Twelve Principles of Green Chemistry

1. Prevention – It’s better to prevent waste than to treat or clean up waste afterwards.
2. Atom Economy – Design synthetic methods to maximize the incorporation of all materials used in the process into the final product.
3. Less Hazardous Chemical Syntheses – Design synthetic methods to use and generate substances that minimize toxicity to human health and the environment.
4. Designing Safer Chemicals – Design chemical products to affect their desired function while minimizing their toxicity.
5. Safer Solvents and Auxiliaries – Minimize the use of auxiliary substances wherever possible; make them innocuous when used.
6. Design for Energy Efficiency – Minimize the energy requirements of chemical processes and conduct synthetic methods at ambient temperature and pressure if possible.
7. Use of Renewable Feedstocks – Use renewable raw material or feedstock whenever practicable.
8. Reduce Derivatives – Minimize or avoid unnecessary derivatization if possible, which requires additional reagents and generates waste.
9. Catalysis – Catalytic reagents are superior to stoichiometric reagents.
10. Design for Degradation – Design chemical products so they break down into innocuous products that do not persist in the environment.
11. Real-time Analysis for Pollution Prevention – Develop analytical methodologies needed to allow for real-time, in-process monitoring and control prior to the formation of hazardous substances.
12. Inherently Safer Chemistry for Accident Prevention – Choose substances and the form of a substance used in a chemical process to minimize the potential for chemical accidents, including releases, explosions, and fires.


Figure 1

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(Continued on page 10)
Traditional Ways to Make an Emulsion

As a highly educated professional and experienced formulator you know that oil and water do not mix. They exemplify the very definition of immiscible. Significant energy input is required to create a homogeneous dispersion of these two immiscible liquids. High-shear homogenization, impingement with a Gaulin homogenizer, or ultrasonic vibration combined with propeller and/or sweep-blade agitation are several ways to reduce the droplet size of the dispersed phase. By disrupting the cohesive forces of the droplet during this process a homogeneous, uniform size distribution is achieved. However, once the agitation stops syneresis, flocculation, coalescence, agglomeration, Ostwald ripening, creaming, etc. can all happen quickly. In conventional emulsion preparations heat energy is added to reduce viscosity and decrease interfacial tension. As mentioned earlier, the LEE procedure significantly reduces the amount of heat required.

Despite the amount of mechanical and heat energy applied, an emulsion will still fall apart too quickly without the addition of surface-active agents to further reduce the interfacial tension between the dispersed and the continuous phases. Anionic surfactants will arrange themselves with their hydrocarbon tail in the oil droplet and their negatively charged carboxylated ionic heads in the continuous water phase. The steric hindrance and electrical double layer repulsion provided by this mono-molecular layer of surfactants surrounding oil droplets prevents their contact and coalescence.

Deciding what surfactants to use is a challenge. In 1947, Griffin developed a method known as the Hydrophilic-Lipophilic Balance (HLB) System to help formulators. The HLB of a surfactant equals the mole % of the hydrophilic group divided by five. The maximum HLB of a surfactant is 20. One must also know the required HLB of the cosmetic oils in the formula in order to emulsify them. From the known HLB values given in tables, an equation must be calculated to determine the use-levels that strike the right balance between the two. This system really works only for nonionic surfactants that are either ethylene oxide-propylene oxide copolymers (Pluronics, Poloxymers), sorbitan esters with low HLB values (Spans), or ethoxylated derivatives of sorbitan esters with high HLB values (Tweens). Another way, which works with almost any type of surfactant, is the oil solubility method, which comes again from Dr. T.J. Lin. It involves titrating water into the hot oil phase (containing an emulsifier) with mixing until it no longer turns clear. The best emulsifier is the one that incorporates the highest amount of water before

(Continued on page 11)
Problems may arise from using surfactants as emulsifiers. Excessive levels may lead to the formation of clear microemulsions. Some surfactants cause dryness and skin irritation. Nonionic surfactants may render preservative systems ineffective to control microbial proliferation. Surfactants may tend to emulsify and wash away sunscreen actives upon immersion in water leaving skin unprotected. Because of concerns like these it is sometimes wise to consider alternative emulsifiers. Emulsifiers may also come in the form of hydrophilic colloids, amphipathic polymers (to be discussed later), or two-faced Janus particles to form Pickering Emulsions.

Although there are many exceptions, Bancroft’s Rule states that the phase in which the emulsifier is the most soluble becomes the external phase by lowering the interfacial tension on that side of the film. With careful observation during the preparation of emulsions one will discover that the viscosity of an emulsion will change dramatically at a certain temperature. The point at which this occurs is known as the Phase Inversion Temperature, or PIT. Sometimes it is referred to as the Phase Transition Temperature, or PTT. It depends upon the concentration of surfactants and other emulsifiers present. Viscosity goes up and electrical conductivity drops at the PIT. If the PIT is not above the storage temperature the emulsion will be unstable.

One less commonly employed technique for hot process water-in-oil emulsification is to create an inverse emulsion by adding the external water phase slowly to the oil phase. The initial water-in-oil emulsion inverts as the remaining water is added. A Lamellar Gel Network (LGN) formed by combining both high and low HLB surfactants, which raises yield value and promotes emulsion stability. Low HLB surfactants like fatty alcohols create structure and thicken. Glceryl monostearate and sorbitan monostearate are easier to swell than fatty acids and reduce the amount of high HLB surfactant needed. More polar high HLB surfactants, such as cetearyl glucoside, hydrogenated lecithin, sodium stearoyl glutamate, sodium stearoyl methyl taurate, sodium stearyl lactylate, or behenyl trimethylammonium chloride tend to swell the low HLB surfactant to promote lamellar bilayer formation. Ethoxylated surfactants are not very soluble at, or above, their cloud point. So creating stable emulsions under those processing conditions is not possible. Purposely raising the carbon chain length of either the low HLB or the high HLB surfactant, or the oil phase, will raise the PTT.

High shear mixing or homogenization for prolonged periods at elevated temperatures will decrease the size of oil phase droplets too much. If oil droplets become too small, and their numbers too many, their increased surface area becomes too much for the surfactant to cover and therefore unable to form LGNs. This is a prime example of what Dr. Lin calls the “less-is-more” principle. In this example, less homogenization creates more stability. LGNs are viscoelastic and shear-thinning for easy dispersal and application to the skin. Most O/W skin care emulsions sold globally are based on LGNs stabilized with polymers.

Enter Polymeric Emulsifiers
An early article by Dr. R. Lochhead covered the utility of including polymers in emulsions. Synthetic polymeric thickeners may be homopolymers, copolymers, or crosspolymers. Polymers of acrylic acid, or PAAs, are especially useful in most any kind

(Continued on page 12)
of formulation, which contains some water. Perhaps the most widely used example of this type of polymer is the frequently used homopolymer, carbomer. Such non-associative polymers like carbomer and acrylates copolymer work to stabilize emulsions by thickening the water phase. Introduced more than a decade ago, hydrophobically modified copolymers and crosspolymers of acrylic acid added various lipophilic side chains to the hydrophilic backbone. All PAAs thicken by intra- and intermolecular chain entanglement, but added hydrophobic moieties have an aversion to water and a greater affinity to one another thereby creating polymer-polymer non-covalent cross-links. This forms a matrix that can profoundly influence rheological properties. These hydrophobes shield the polymer from anionic-cationic polymer interactions that precipitate neutral polyelectrolyte complexes.\(^9\) 

Associative PAAs also provide: greater tolerance to electrolytes, emulsification properties, a more conditioned skin-feel, rapid release of oil phase upon contact with the salts present on skin and other improved performance attributes.

Two exceptional examples of this newer type of PAA rheology modifier with strong emulsification properties are acrylates/vinyl isodecanoate crosspolymer (powder)\(^{10,11}\) and acrylates/palmeth-25 acrylate copolymer (liquid).\(^{12,13}\) Like others in this class they are multifunctional hydrophobically modified (see Figure 4) alkali swellable associative rheology modifiers with an affinity for both oil and water, and provide finished products with the desirable shear-thinning rheology for easy dispensing from packaging and topical application onto hair and skin. Alky side chains provide association with oil droplets and the potential for increased polymer interactions. The 25 moles of ethoxylation on acrylates/palmeth-25 acrylate copolymer includes sites where hydrogen bonding to adjacent polymer chains and water also become possible. Unlike carbomer, these “Alkylated Carbomers” not only swell to form hydrogels that pack into the water phase to thicken it but also surround the dispersed phase and prevent coalescence by stearic hindrance. High molecular weight polymeric emulsifiers bring attributes that low-molecular-weight surfactants cannot (see Figure 5).

Normally, when a traditional emulsifier is added to an emulsion system, it breaks up the oil

(Continued on page 13)
phase, increasing the number of droplets and reducing them in size. The photomicrographs in Figure 6, taken within minutes after completing a simple cold process emulsion, shows how increasing the level of the polymeric emulsifier, acrylates/palmeth-25 acrylates copolymer, has similar effects. These polymers also help regulate viscosity drift on storage under various temperatures. One predictor of longer-term emulsion stability is to compare the viscosity at 25 ºC and again at elevated temperature. A viscosity decrease of 20% for every 10 ºC above 25 ºC is usually acceptable. A cause of concern might be if the measured viscosity at 45 ºC is >50% lower than the value at 25 ºC.

Acrylates/palmeth-25 acrylates copolymer can also emulsify oils with a wide range of required HLB values. Just as in traditional hot process emulsions, increasing the concentration of the oil phase increases viscosity. Furthermore, the hydrophobic modification to the acrylate backbone and the associative nature of the polymer significantly increases yield value over non-associative carbomer homopolymers. It should be noted that there is not a direct correlation between viscosity and yield value.

A shear-thinning rheology is typical of cosmetic emulsions. They may be time-independent pseudoplastic in nature, which may be obtained using polymers of acrylic acid. Or, time-dependent thixotropic emulsions characterized by the extra time required for viscosity to recover following the cessation of shear. Shear-thinning viscosity permits products to flow easily from packaging and distribute evenly on the substrate. Various gums, clays, organoclays, silicas, cellulosics, and polyethylenes, can achieve one or the other type of rheological profile.

Making cold process emulsions with either of these polymers is a simple three-step procedure: 1) disperse the polymer, 2) homogenize the oil and water phases and 3) neutralize the polymer with a suitable base. The potential for developing a heated or cold process one-pot making procedure for emulsions is possible using either of these two examples of hydrophobically modified polymers. Acrylates/vinyl isodecanoate crosspolymer may be added to water or oil phases in either a side kettle or directly into the main mix tank. Acrylates/palmeth-25 acrylates copolymer goes into water virtually immediately after which each subsequent ingredient can be added on top with adequate agitation.

Of course, the possibility of cold process emulsification hinges upon the melting point of any waxes that may be in the formula. All, or at least a sufficient portion, of the oil phase might have to be heated to incorporate these materials. In that case one may use the LEE procedure in combination with amphipathic polymers as primary or secondary emulsifiers.
**Technical Presentation**

**Things to Keep in Mind**

Macroemulsions are thermodynamically unstable. The key to creating the most stable O/W emulsions is retarding the interaction of dispersed oil droplets. To start, the proper amount of mechanical or heat energy required for your formula must be determined. Increasing the viscosity and yield value of the formula will improve the stability. Selecting the best emulsifier(s) is critical to success. The addition of polymers will increase the viscosity of the water phase. Oil phase thickeners are less readily available and can require very high temperatures to incorporate. Reducing the droplet size and/or the concentration of the dispersed phase can significantly increase viscosity leading to a more stable emulsion. Not mentioned earlier is that low levels of electrolytes may actually help stabilize an emulsion. Perfumes can have a large effect on viscosity. Also, be cautioned to avoid aeration during the process. Entrained air bubbles adds a third gaseous phase creating a multiple emulsion and a less stable situation.

**Polymers that Help Emulsions “Go Green”**

In conclusion, with hydrophobically modified alkali swellable amphipathic polymers one may develop an emulsion with even greater energy efficiency than what may be realized following Dr. Lin’s LEE process. Cold process emulsification with polymeric emulsifiers provides even greater savings and increased manufacturing capacity. In keeping with Principle No. 6, let’s all try to develop robust formulas that minimize the environmental impact of our manufacturing processes. I’d rather do that than drive a Prius to make my contribution to saving Mother Earth for future generations. A tip of the ol’ cap to all the Prius owners reading this article. You are better persons than me.

**Bibliography**


(Continued on page 15)
BIOGRAPHY

Joseph Albanese is currently the Technical Marketing Manager Personal Care at 3V Inc. During his career in the personal care industry Joe worked for Avon, Shulton, and Colgate-Palmolive in both process and product development groups. His employment on the supply side of the industry included more than 12 years at GAF/ISP (now Ashland) where he went from formulation chemist to Manager of the Hair Care Applications/Tech Service lab. He is a graduate of the F.D.U. Cosmetic Science M.A. Program. He has been a member of the SCC since 1984, former Chair of the New York Chapter and Area I Director for 2012 to 2014.

Feature Technical Article Submissions

The Florida Chapter Society of Cosmetic Chemists invite all interested parties to submit technical articles for publication in our newsletters. commentaries or short articles are also welcome. Please send correspondence to flsccnewsletter@gmail.com.

What Hydration Can Do
by Morganna

Now that winter weather is upon us, it’s important to stay moisturized! We rarely think of our skin as the largest organ, and its role to protect all of the other organs we have. Therefore, we should give it top priority by at least moisturizing every day.

As far as skin itself is concerned, hydration reduces the indications of age and keeps skin soft and elastic. The water content in skin helps it perform its protective functions. With proper hydration, skin looks firm and supple and is able to heal faster when injured. If dermal cells are not hydrated properly, they lose suppleness and hair follicles can get blocked, causing bacterial accumulation. When skin is not adequately hydrated, it loses thickness, and offers less body protection. Skin tone becomes dry and dull, and extra sensitive. Wrinkles are formed easily.

Hydration makes your skin look plumper, healthier and smoother. Skin that is properly hydrated has been known to age slower than moisture-deprived skin and is better protected against environmental influences. Also, as we age, our skin becomes less effective at regulating the skin’s water balance, so it becomes even more important to include moisturization in our daily routine.

So how do we get this much needed hydration to our aging-skin?

(Continued on page 16)
What Hydration Can Do Cont.

Dry skin: your best bet is a balanced diet

Nutritional variety allows sufficient fat intake to maintain hydration. But sometimes that is not enough, especially in winter, where the skin is severely tested. And, often during dieting because women reduce their fat intake: the result is that, they often have dry skin.

Yet, you have to eat fat: a little butter on toast for breakfast and two tablespoons of oil with every meal (nuts and rapeseed for omega-3, olive and grape seed for other fatty acids). These two sources of lipids provide essential fatty acids and vitamin E which promotes hydration of the upper layers of the epidermis and plays a role in fighting antioxidant against free radicals.

Here are some General Body-Care Tips:

1. Take a short, warm (not hot) shower or bath only once a day, for not more than five minutes.
2. Use mild soaps that do not contain fragrance or other irritants (Avoid bubble baths and high foaming cleansers!).
3. Apply moisturizer to damp skin within three minutes of showering or bathing to lock in moisture.
4. During the winter, dress children in layers and choose soft fabrics like cotton, and avoid rough fabrics directly on the skin (e.g. wool).
5. Use a humidifier to counter dry indoor heat.

For more skin and beauty tips visit Morganna’s Blog at [http://www.morgannasalchemy.com/blog](http://www.morgannasalchemy.com/blog)

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**Employment Opportunities**

**Stability Laboratory Technician**  
Ft. Lauderdale, Fl

**Summary:**  
Laboratory technician to work under the direction of the Chemical Engineer Manager. Primarily responsible for the physical, chemical, and instrumental stability testing of cosmetic products to assure conformity to established specifications.

**Essential Duties and Responsibilities** include the following, but not limited to:

- Performs physical, chemical and instrumental stability testing (to define specifications and to evaluate formula's) of cosmetic products as instructed and to assure conformity to established specifications.
- Performs analytical and quality tests using appropriate methods.
- Able to interpret results and communicate discrepancies directly to facilitate timely corrections.
- Maintains clear and accurate records of all procedures, results and actions.
- Contributes to routine laboratory housekeeping and miscellaneous day-to-day operations of the laboratory, including equipment calibration.
- Applies procedures accurately based on company standards and completes work in a timely manner.
- Able to work with and contribute positively to the assigned team.
- Attends meetings and seminars as requested.

**Education/Experience:**  
Bachelor’s degree (B.S.) in Chemistry preferred. One (1) to 2 (two) years of related experience and/or training, or equivalent combination of education and experience.

**Language Ability:**  
Ability to read, analyze and interpret general business correspondence. Ability to effectively present information and respond to questions. Must be bilingual English and Spanish.
Product Quest Mfg. is seeking a Senior Chemist with the opportunity to manage to join our Product Development Team. The successful candidate must work well in the development and evaluation of personal care and over-the-counter drug formulations. Have thorough working knowledge of raw materials to evaluate and formulate a wide variety of products. Must be detail oriented and organized, interpret data, conduct research and manage numerous projects while maintaining focus on priorities. Excellent problem solving skills. Works well within team environment and independently.

**Essential Duties and Responsibilities**
* Develop new formulas for cosmetics, skincare, and Over-The-Counter products
* Responsible for development of formulations from concept to manufacture
* Give input to marketing and sales team regarding new product development
* Work with manufacturing in transferring new or modified formulas from laboratory to production
* Write and review manufacturing procedures and product specifications
* Create ingredient lists according to FDA and PCP guidelines
* Responsible for the transfer of all formulation documents from R&D to QA
* Review Test Reports, Review product artwork, Analyze data and write reports as needed
* Communicate and coordinate product safety testing and other third party testing as necessary
* Keep detailed laboratory notebooks
* Other duties as assigned

**Qualifications**
* Minimum of BA or BS in chemistry, chemical engineering or equivalent scientific discipline
* Minimum 5+ years of experience in cosmetic/Over-The-Counter Drug formulation
* Must be familiar with OTC Active Ingredients and formulation guidelines
* Must be a self-starter with a high level of initiative
* Must be flexible, able to handle multiple projects simultaneously
* Ability to use sound judgment in making decisions and handling unanticipated situations
* Ability to read, analyze and interpret common scientific and technical documents
* Ability to interpret an extensive variety of technical instructions
* Must have working knowledge of SOPs, GMPs
* Highly Proficient in the use of Microsoft Office (Word, Excel, PowerPoint)
* Must have great attention to detail
* Must be highly organized and excellent record keeping skills

_Please email resume to Regina Lim at Reginal@pqmfg.com_
Regulatory and Compliance Coordinator
Location: Boca Raton, Fl
Position: Full Time

If you want to be engaged, make a difference and move the needle, read on! If you are organized, can take initiative and have a passion for skin care, this is your opportunity to join the regulatory and compliance team of an award-winning company. You’ll be a key player in building, supporting and maintaining longstanding business relationships with the health and beauty industry’s leading brands.

This is a prime opportunity to become a key member of the world’s leader in the development and manufacturing of scientifically proven, innovative personal care products, leaving your own indelible mark on an organization teeming with excitement and energy about its’ position in the marketplace.

Your core competencies and characteristics should include:
• High energy, enthusiasm and a positive can-do! attitude in the face of challenges.
• Consistency of positive behavior and productive output.
• Desire to accept responsibility regardless of the outcome.
• Polished interpersonal skills and the ability to work with all levels of the organization.
• Exceptional writing, presentation, organizational and communication skills.
• Flexibility and the ability to thrive in a changing/evolving environment.
• The ability to project professionalism and understanding in all customer-facing situations.

Requirements
• A bachelor’s degree, preferably in chemistry or a related focus, or the equivalent experience.
• 3-5 years of professional working experience
• Extremely computer savvy. Advanced knowledge of Microsoft Office as well as experience with NetSuite or a similar large scale ERP system
• Excellent written and oral communication skills and the ability to interact over the phone and in person with clients.
• The ability to communicate and coordinate effectively between departments of the company.
• Excellent organizational and time management skills.
• A Strong eye for detail.
• A sense of urgency and the ability to work under tight deadlines.

The Role
As Regulatory and Compliance Coordinator you will report to the Chief Scientific Officer and be responsible for both internal and external regulatory and compliance efforts. Specifically you will be responsible for:
• Product and facility registration and compliance
• Assist in determining the cause of product defects and developing methods for reducing re-occurrence
• Inspecting and testing products at various stages in the production and development process
• Inspecting and performing tests on raw materials and finished products to measure product performance
• Documentation and evaluation of test results
• Work closely with other departments to ensure adherence to established quality standards & procedures
• Follow safety and standard guidelines according to SOP’s, cGMP, ISO, GLP and FDA Regulation
• Approval of raw materials, finished products, labels or components
• Takes corrective actions to guarantee the production of safe, high quality products
• Research of raw materials
• Assist in the research and development of new and existing products
• Assist sales and marketing in all aspects required
• Provide internal and external technical assistance
• Maintain raw material and bulk product inventory, ensuring optimal storage conditions
• Order raw material samples and supplies
Employment Opportunities

- Maintain, update, train on SOPs relating to lab and production procedures
- Active involvement in the improvement of lab and production processes
- Maintain lab retention samples
- 5S of all Laboratory, Storage and Compounding areas
- Provide customers with certificates and necessary documents for registration of products
- Ensure product registration/regulatory compliance with DOH
- Maintain all documentation and quality control with regards to Drug Wholesale Prescription License
- Perform other duties or tasks as assigned
- Promote and demonstrates behavior consistent with the company’s core values and policies
- Manage Product Stability Studies
- Manage OTC Validation Studies.
- Manage Micro Challenge Testing

Keys to Success
• High Initiative - You need to be a person who can take initiative and does not need to be hand-held, nudged or micro managed.
• 100% Execution - You need to be able to complete all initiatives from a 360 perspective and get it done 100%. 95% completion will not work, move the needle, or be successful.
• Cultural Fit Our culture is based on high energy, a sense of urgency, collaboration, innovation and fun. Success feeds success. It won't be unusual to find yourself interacting with the graphics team, production staff and the CEO -- all before lunch time. Positive attitude and affect is key. Whining, excuses or “victim mentality” is on our banned list!
• Be a Fast Learner The ideal candidate will complement the Account Management team’s fast paced, hands-on, collaborative style and varied skill-set. There is a tremendous amount to learn when you come onboard so you’ll need to be inquisitive and a fast learner.
• Be Open to The Challenge: Have the bandwidth to tackle both those tasks with which you’re familiar and have a positive attitude toward those that require a bit of risk-taking and/or push you out of your comfort level. As a group, we enjoy continually challenging one another to be inventive, expand our talents and be best-in-class. Whether a leader or individual contributor, we all seek to grow professionally.
• Flexible: Our culture is dynamic and days do not always proceed as planned. You should be able to multitask, flow easily with the changes and calmly adapt and solve problems.

Please email Resume and Cover Letter stating explicitly why you are the best person for this job. Please use examples from your past experiences and advise how they will relate to this position.
Annual Compensation: Based on Experience, plus Benefits

If your company would like to post an employment ad in our upcoming Newsletters please send employment opportunity ad inclusive of Company logo to flsccnewsletter@gmail.com or inquire for more information.

*Please note the company logo should be a jpg file