#### November 2012 • Vol. XLIV No. 8

## Next Meeting: November 13 Cafe La Cave, Des Plaines, IL

Please RSVP on line at

http://www.midwestscc.org/blog2/registration/ or to Deborah Zopel by November 5th at Reservations@midwestscc.org The meeting is Free. Dinner is \$35 for Members, \$45 for Non-Members, \$20 for Retired Members.

# The Midwest Chapter of the Society of Cosmetic Chemists There will be a \$10 no show fee.

#### This Issue

November 13th Chapter Meeting:

#### LOCAL SCC EVENTS Save the Date:

2012 MWSCC Dinner and Education Meetings

November 13

2013 MWSCC Dinner and Education Meetings

Jan 8 Feb 12 March 12 April 9 May 14 Sept 10 November 12

2013 Additional Events October 8 - Technical Symposium

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# **MWSCC CHAPTER DINNER EDUCATIONAL MEETING**

# Product Development in the Private Label Industry by Sudhakar Puvvada, Vi-Jon

#### Abstract

Product Development is the lifeblood of the Consumer Goods Industry. Year on year the number of new product launches has been accelerating. In 2011, over 100,000 products have been introduced in the beauty and personal care industry. Innovations span across the spectrum of new more efficacious technologies, unique ingredients, trendy fragrances and colors and new package designs.

The Private Label industry has been growing steadily in all categories ranging from sanitizers and epsom salts to body washes, shampoos and anti-aging facial products. This growth has come about because of increased emphasis on product development with a focus on performance, quality and speed. The industry also faces many challenges including (i) matching or exceeding consumer and customer expectations while keeping costs low, (ii) need for speed and performance, (iii) volatility in raw material prices, (iv) increased regulations, and (v) more and more technically challenging formulations.

This talk will touch upon these challenges and some of the strategies adopted by the product developer in developing products for the private label industry.

#### Biography

Sudhakar Puvvada has been active in the home and personal care industry for over 20 years. He received his PhD in Chemical Engineering from MIT where he developed a theoretical model for predicting properties of surfactants from first principles. He then worked at the Naval Research Laboratory in the areas of nanoparticle synthesis, controlled release and artificial blood. He then moved into personal care industry in 1995 with Unilever. This was an exciting period as body washes were just entering the US and growing rapidly. He successfully commercialized many body washes and bar soaps including the first dual chambered bodywash and a SPF 4 bodywash. He worked across many brands including Dove, Caress, Suave and Lever 2000. In 2003, he moved to UK with Unilever to set up a Global technology center for liquid detergents where he led the development of concentrated detergents which have disrupted the category globally. He has also worked in India for ITC in setting up a new business in home care.

Currently he is VP R&D at Vi-Jon. He has over 20 patents.

# November is "Emeritus Month" We will celebrate our Emeritus members and show our appreciation for their mentorship and continuous support.

MWSCC Emeritus members <u>dinner fees will be waived</u> for this meeting. Emeritus members please still register and add "Emeritus" in the

Regular Meeting Start time 5:30 pm

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# Elaine's... News, Notes and More!

To laugh often and much...to win the respect of intelligent people and the affection of children...to leave the world a better place...to know even one life has breathed easier because you have lived. This is to have succeeded.

~ Ralph Waldo Emerson

First, thank you to Tony O'Lenick for conducting the CEP Silicone Chemistry Seminar on October 9th!

It is already November and what a year it has been!

As I prepare my final column, I have the opportunity to reflect on 2012 goals and accomplishments, activities and events and find myself smiling about how lucky I am to be a part of an organization filled with so many talented, forward thinking, professional, passionate, and committed volunteers. The chapter members have shown me personally and the 2012 board such great support and encouragement that we are humbled and without adequate words to express our appreciation. Therefore, we simply and humbly say thank you!

When you think about the past last 11 months, I believe you will agree that it has been an outstanding year. Especially, when you bear in mind that many members, friends, colleagues and acquaintances faced financial hardships, life changing events in their personal and professional lives that they remained committed and passionate volunteers of the MWSCC. This speaks volumes to their commitment and the value members find in the MWSCC.

We had three simple goals for 2012. One: to be fiscally responsible and ensure the financial health of our chapter, two: to bring highly technically and relevant educational programming and training to our membership, and thirdly: to reach out and bring our membership together across our region through new and progressive ways of connectivity.

I am pleased to report that our technical objectives and goals were met through outstanding monthly technical dinner meetings speakers, poster sessions, CEP course, Teamwork's seminars and other technical activities. Whether you were in person or participating via "Skype", technical programming was available to all that wanted to participate. The chapter website received an extensive overhauled to give greater access to content faster and easier.

Outside of our monthly technical meetings, our first half of the year big activities focused on the bi-annual tradeshow, "Teamwork", at which we experienced higher than expected attendance and participation with many new faces and companies taking part. Thank you to all of our sponsors, suppliers, exhibitors, and attendees for making this event financially and technically successful. Teamwork's technical program received rave reviews and, according to attendees, our speakers were "technically relevant, in tuned to the market, helpful and outstanding". Technology played an enormous part in pulling this program together since our keynote speaker was unable to be present physically and they say, "the show must go on", and so it did via "Skype".

The bi-annual social night and golf outing activities were also a success and great fun, which gave attendees the opportunity to make new friends, network and decompress. What do they say, "All work and no play makes for doldrums".

Technical meetings are not held during the prime summer months. However, planning continued in preparation for the fall monthly technical programming to include: the October Technical Symposium (we had a full house), ACS Chemistry Night, MWSCC Operation Make a Child Smile Toy-For-Tots Fundraiser, annual scholarship awards, annual speaker awards, and the Stanley Allured Lifetime Service Award.

Thank you,

Elaine Harris, Chair



















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# November 13th MWSCC Chapter Meeting

Location: Cafe La Cave 2777 Mannheim Road Des Plaines, IL (847) 827-7818

Schedule: 5:15 p.m. CST: Board Meeting 5:30 p.m. CST: Social Hour (Cash Bar) 6:30 p.m. CST: Speaker & Q&A 7:30 p.m. CST: Dinner

The Meeting is **Free**. Dinner is \$35 for Members, \$45 for Non-Members, \$20 for Retired Members. There will be a **\$10** no show fee. MWSCC Emeritus members <u>dinner</u> fees will be waived for this meeting. Emeritus members please still register and add Emeritus in the comment section of the registration form.

## Menu

Soup: Tomato with Spinach and Pasta Salad: Classic "Caesar ala Cave" Entree: Filet Mignon sautéed with a Madeira Wine Sauce and Shiitake Mushrooms and Chicken sautéed with a White Sherry Cream Sauce, Wild Mushrooms and Shallots Dessert: White Chocolate Mousse Cake

Vegetarian and Vegan alternatives are available. Please notify Lisa Hilson before the event at Lisa@THHilson.com

**Vegetarian:** Marinated Seasonal Vegetables grilled and baked in a Puff Pastry with Tomato Sauce.

Vegan: Steamed Vegetables, Potato and Wild Rice.



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# 2012 Stanley Allured Lifetime Award Winner

Come to the November Education meeting to see who is the 2012 Stanley Allured Lifetime Award Winner.

The Society of Cosmetic Chemists' Midwest Chapter "Stanley Allured Lifetime Service Award" is bestowed by the Midwest SCC Chapter upon the recommendation of the Chapter Lifetime Service Award Committee. It is bestowed on those individuals who have given extraordinary service to the Midwest Chapter over the course of their membership. The recipients will be honored for their concern for the Midwest SCC Chapter — its goals and its membership over the course of many years.

# **Continuing Education Program – Silicone Chemistry**

On Tuesday, October 9<sup>th</sup> the Midwest SCC held a Continuing Education Course on Silicone Chemistry at the Fountain Blue Banquet center. The course was instructed by Tony O'Lenick, who is also our National SCC Treasurer. For those who have not met Tony, you couldn't ask for an instructor with more experience in silicone chemistry. This program was provided to our chapter at no cost from the National SCC. The program was completely full, with great turnout from a variety of Midwest SCC members. It is always a pleasure to host events that energize a new group of people to participate.

The core focus of the program was silicone synthesis, basic silicone chemistry, and some advice on applications and differences not only between types of silicone (fluid, elastomer, etc.) but also on how silicones vary from supplier to supplier. As a development chemist myself, I found the program to be insightful and well thought out. If you enjoyed the course as well, I encourage you to find other ways to become active within the chapter to make sure events like this continue to be successful.

A big reason behind the success of this event was the efforts of both Rita Massinople and Frank Jarzembowski. If you have a moment, please thank both of them for the work they put in to make sure the event was successful.

I am glad so many of us were able to take advantage of the course, and a special thank you to Tony for coming out to Chicago and presenting the course.

Best, Tom Lehman, Chair-Elect







# Chapter News





## "HLB" Pioneer Bill Griffin Passes Away

CHESTERTOWN - The family of William C. Griffin, also known as "Mr. Clock," is saddened to announce that he passed away, September 16, 2012 at Heron Point, his Chestertown home for 21 years. He was born in Mt. Pleasant, Westmoreland County, PA on October 9, 1914, to William R. and Bess Colvin Griffin. He lived in Mt. Pleasant until entering Penn State in 1932. He graduated in 1936 with a Bachelor of Science degree in chemical engineering. He received a Master of Science degree in 1953.

From 1936 until his retirement in 1979, he worked for Atlas Powder Co. His division along the way became part of ICI Americas. He was a chemist in product development,

becoming associate director. He held over 36 patents.

Notable in his work was the development of a method for selecting emulsifiers for a wide range of products, known as the HLB system. The concept is still used today by chemists. On HLB's 50th anniversary, Bill was honored by the Society of Cosmetic Chemists and in 2008, Croda Ltd. named a research laboratory building in New Castle, DE "The William C. Griffin Innovation Center".

In his 50s, Bill learned to sail and in the next 30 years, he and his wife, Betty sailed the Chesapeake Bay. Sailing provided their entry to Chestertown, which eventually became their home after having lived in West Chester, PA. for 35 years.

Antique clocks and repairing them was a passion. After retirement, it became his job and hobby. Bill's other interests were woodworking, model trains, flying model planes, music, travel, computer activities and volunteering at Heron Point. He was active in the Presbyterian Church of Chestertown and was an elder. He restored an abandoned electric organ that served the church for several years.

He was the loving and devoted husband of Elizabeth Beard Griffin for almost 56 years. He was the loving father of their children, Bill and wife Maggie, and Maris Vanasse and husband Rick, and grandchildren, George and Willy Griffin and Sara, Carl and Sam Vanasse.

Online condolences may be made to the family at www.fhnfuneralhome.com.









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# HLB – The Easiest Way to Create An Emulsion by Kelly Dobos

As a cosmetic chemist you will undoubtedly be asked to make products that require you to combine materials that aren't easily compatible. Fortunately, there is a system that can help you get started.

#### **Cosmetic Emulsions**

Emulsions are one of the most common forms of cosmetic products. You find them in skin lotions, make-up, and even hair products. By definition an emulsion is a dispersion of two or more immiscible materials, where one phase, also know as the internal phase, is dispersed in the continuous or external phase. Cosmetic emulsions are classified as oil in water (O/W), water in oil (W/O) and water in silicone (W/Si). Multiple emulsions such as oil in water in oil (W/O/W) are also possible. Oil in water emulsions are the most common due to preferable cost and light skin feel.

In order to create an oil in water emulsion (one that remains stable for a long enough time), work must be done to overcome the interfacial tension between the two phases. This can be achieved by mixing; however mixing even at very high rates is not enough to provide long term stability. An emulsifier or combination of emulsifiers is needed to stabilize droplets of the dispersed phase. For example, simple oil in vinegar salad dressings will separate rapidly without the use of an emulsifier like mustard.

#### **Using Surfactants**

In this industry, we use surfactants to create emulsions. Surfactants are molecules that have a hydrophobic (oil soluble) and an effective hydrophilic (water soluble) portion. They act as emulsifiers by significantly lowering the interfacial tension and decreasing the coalescence of dispersed droplets.

#### **HLB Formulating**

Figuring out what surfactant to use for any specific formula will be a challenge you face as a cosmetic chemist. There is a great deal of research on surfactants and their behavior. But studying the thermodynamic equations and phase diagrams associated with surfactants can be a daunting task, not to mention the number of surfactants available to the formulator is vast. Luckily for us, William C. Griffin developed a way to streamline the selection of surfactants by utilizing the ratio of the hydrophobic to the hydrophilic portion of the molecule. This method is referred to as the HLB (Hydrophile Lipophile Balance) method. Griffin first presented this method at meeting of the Chicago Chapter of the Society of Cosmetic Chemists in 1949 and it is still widely used today. He published the method shortly there after.<sup>1</sup> (A bit of trivia for you, the Chicago Chapter was the first chapter formed in Society of Cosmetic Chemists)

The HLB method applies to nonionic (uncharged) surfactants but attempts have been made to broaden the concepts to other surfactant types including silicone surfactants. And using the HLB system to create emulsions is quite simple. All you have to do is calculate the HLB number of your surfactant, then the Required HLB for the oil phase and match the two numbers.

#### Determining the HLB of a surfactant

A typical nonionic emulsifier (e.g. Laureth-4) contains an ethylene oxide groups or polyhydric alcohol hydrophilic portions with a fatty alcohol hydrophobic portion. The HLB for a nonionic surfactant can be calculated as follows:

HLB = Weight % Hydrophile/5 Example 1: HLB calculation for Laureth-4 Molecular weight of ethoxylate portion = 176 Molecular weight of lauryl alcohol = 186 Wt. % Hydrophile = (176/(176+186)) x 100 = 48.6% HLB = 48.6/5 = 9.7

Based on the calculation, surfactants with high HLB values will be more water soluble and those with low HLB values are more oil soluble. Division by 5 just allows for a compact, easy to use scale. The calculation is simple, but you won't usually have to figure it out since most surfactant HLB values are readily available through literature references and surfactant suppliers.



## Calculating HLB of oil phase

Each lipophilic ingredient in the oil phase has its own required HLB. These required HLB values are determined experimentally, however a method utilizing solubility parameters has been proposed by Vaughan and Rice.<sup>2</sup> Required HLB values for some common oil phase ingredients are available to the formulator in literature. The Req'd HLB values are approximate and can vary by about ± 1 unit. It is also important to keep in mind that cosmetic emulsions often have complex oil phases with several components. The required HLB of an oil phase mixture can be calculated by first calculating the percent of the oil phase each ingredient contributes. This percentage is then multiplied by the required HLB for each of those ingredients and the results are summed.

Example 2: Calculation of required HLB for an oil phase mixture

The oil phase is 10% of the total formulation and consists of: 4% Shea butter, 40% of the oil phase. Req'd HLB of 8. 3% Jojoba oil, 30% of the oil phase. Req'd HLB of 6.5. 3% Sunflower seed oil, 30% of the oil phase. Req'd HLB of 7.

Total required HLB: Shea butter contribution  $0.4 \times 8 = 3.20$ Jojoba oil contribution  $0.3 \times 6.5 = 1.95$ Sunflower oil contribution  $0.3 \times 7 = 2.10$ 

Total Req'd HLB = 7.25

You can now select emulsifiers to match the required HLB of the oil phase and create an emulsion. A blend of high and low HLB surfactants is often used to achieve the desired value in part because of demonstrated effectiveness and efficiencies in packing at the interface. The HLB for the surfactant blend is calculated in same manner as the required HLB for a blend.

Example 3: Calculation of HLB for a surfactant mixture

The surfactant mixture is a 70/30 blend of Steareth-2 and Steareth-21.

Total HLB:

Steareth-2 contribution 0.7 x 4.9 = 3.43

Steareth-21 contribution 0.3x 15.5 = 4.65

Total HLB = 8.08

In order to match the HLB of a particular oil phase, it is easiest to set up a spreadsheet with the calculation and vary the percentages of each emulsifier in increments of 5% to find the right ratio.

#### Limitations of HLB

Although a very useful tool, the HLB system does have some limitations. For example additional water phase ingredients are not considered but still may impact the stability. The method also does not provide information as to how much surfactant is needed, but 2 to 4% surfactant is a good starting point to begin further optimization for stability. So it is important to keep in mind that the HLB system is not absolute in prediction of your formulations behavior, but a very good starting point for achieving emulsification.

#### References

1. Griffin WC; Calculation of HLB Values of Non-Ionic Surfactants, Journal of the Society of Cosmetic Chemists; 1954. Vol. 5, pp 249-235

2. Vaughan, C.D. Rice, Dennis A.; Predicting O/W Emulsion Stability by the "Required HLB Equation"; Journal of Dispersion Science and Technology; 1990. Vol. 11 (1), pp 83 - 91.









# How to Find Answers to Common Cosmetic Product Questions by Perry Romanowski

When people find out you are a cosmetic chemist, they instinctively begin asking questions. They assume that you are an expert who will give them the "real" answers to their burning beauty queries. This phenomena was what prompted me and a few of my cosmetic scientist friends to start the Beauty Brains.

I'll write more about the Beauty Brains and the power of science blogging in the future, but in this post I want to discuss how to answer questions that you inevitably get from both consumers and non-scientists in your organization.

#### **Cosmetic Science Experts**

Depending on how long you've been on the job, your expertise will undoubtedly be limited in some areas.

Typically, you'll focus on one formulation area such as skin, hair or color cosmetics and get limited exposure outside your area. Also, you will not know too much about ingredients that you don't personally use. But non-scientists will expect you to know everything and as a cosmetic science "expert" you will also want to at least know more than the people asking the questions. This is why you need to make it a point to learn about areas beyond your area of focus. (The Complete Cosmetic Chemist is a great way to learn the basics of all types of cosmetics). You need to learn the important science, the raw materials, and the general types of formulas that are developed for each area. We cover some of this stuff on Chemists Corner but there are other resources.

#### Learn Cosmetic Science Issues

Consumers are bombarded from many areas with information that is exaggerated, inaccurate, or worse, downright lies. There are a variety of activist groups who want to cause mistrust in authorities and fear to gain power and drive donations. They don't let science get in the way of their beliefs. Additionally, there are cosmetic marketers who benefit from fear and misinformation that dissuades consumers from buying more popular brands created by bigger manufacturers. At one point in history, companies were saying that Proctor and Gamble was run by satanists. And, of course, there are also marketers who trick consumers into buying products by making promises on which they can't deliver. You as a scientists need to be the voice of unbiased reason. Do not fall for your own (or other company's) marketing BS. Keep an open mind and go where the science takes you.

This brings us to the issues that consumers (and marketers) most frequently ask about.

- A. Cosmetic Ingredient safety
- B. Expensive versus inexpensive products
- C. What products work
- D. Ingredients that work
- E. How products work

In the next section we'll look at each of these areas and give you places to find answers.

Finding reliable answers

#### A. Cosmetic Ingredient Safety.

It seems some of the people most passionate about cosmetics are the ones that are convinced that cosmetic companies are run by evil capitalists and are driven by profits with no concern about poisoning their consumers with toxins and carcinogens. This attitude is best exemplified by people like Annie Leonard and Stacy Malakan (CFSC). Unsurprisingly, you'll also find people who sell natural and organic products expounding this view. The primary targets include parabens, SLS, propylene glycol, fragrances, and any of the other 12 most maligned cosmetic ingredients.

It is important for you to learn about the issues and to be able to answer consumer's or marketer's or government agencies' when they question the safety. See what researchers say bout the safety of these ingredients. Do your own research, but remember you will not likely know more than a toxicologist or a scientist who actually studies this specific subject. You should defer to the consensus of experts with any issue in which you are not an expert.

Common questions include, "Are parabens safe?" "Is SLS causing cancer?" I would encourage you to see what independent sources have to say. These sources would include FDA or EU Scientific Committee on Consumer Products. You should also see what Toxicologists have to say about the subject. The bottom line is that you need to review many sources and be driven by what scientists are saying, not by fear groups, random bloggers, or all-natural marketers.



#### B. Expensive versus inexpensive products

Regular people will see advertisements or read Internet posts or go to their local Sephora and see high priced lotions and potions. They won't be able to help but wonder if these products are better. In fact, most will assume they are. But you, as a cosmetic chemist, will know better. Take a look at ingredient lists and manufacturers. Expensive products are frequently made by smaller companies or by big companies when they buy out small companies. There is limited (read no) evidence that expensive products work better. As an industry expert, you should know what the expensive products are and be able to answer questions about them. Be sure to learn the market and find out what products work best for which applications. Of course, remember that cosmetics are a personal choice and what works for one person won't necessarily be the best product for someone else.

An interesting source for unbiased evaluations is Consumer Reports. Unfortunately, they are not always reliable. When I first started in the cosmetic industry, I read a report they did about shampoos. They said that two formulas that I personally worked on rated differently in their testing. Well, I knew that the only difference between the products was their marketing position, color and fragrance so they should not have scored differently in the testing.

#### C. What products work?

Another frequent question will be about what products work. There are some standard problems that almost all people suffer and they seek real solutions from their cosmetic and personal care products. These include things like hair loss, unmanageable hair, and the other top 10 hair problems, plus wrinkles, cellulite and the other top 10 skin problems.

You should be knowledgeable about the limits of current technologies and how products that make outrageous promises are able to get away with it. Learn what kind of technology they are using. Review their ad copy and see how they word their claims. Don't forget about the power of the placebo effect when someone tells you they spent a lot of money on a product that you know couldn't work as they report.

To discover what works and what doesn't, you'll have to investigate for yourself. Begin with a general source like Wikipedia, then move to more scientific sources like JSCC, IFSCC journal and other journals indexed in PubMed. Remember to be skeptical!

#### D. Ingredients that work

When you learn about products, you'll also discover specific ingredients that work. This is good because consumers frequently want to know what ingredients to look for in their cosmetics. Most often they'll want to know about anti-aging ingredients. But they'll also ask about skin lightening, anti-acne, sunscreens, antiperspirants, and hair ingredients. As a well-rounded cosmetic chemist, you need to have an idea of what these ingredients do and whether they work. To stay informed, keep up with journal articles, supplier literature, and industry magazines.

#### E. How products work

People are naturally curious and often want to know the magic behind their beauty products. You should be able to answer the basic science. This includes knowing about surfactants, sunscreens, antiperspirants, makeup, moisturizing ingredients, colorants, skin lightening ingredients, AHAs, antioxidants and numerous other basic functional cosmetic products. It's difficult to learn about everything in one place but you can find a lot by doing a Google search, reviewing Wikipedia information, or finding information at some of these sources.

Chemists Corner The Beauty Brains Personal Care Truth Cosmetics & Toiletries Happi P&G Science site L'Oreal hair science L'Oreal skin science Innovadex

Perry is currently Vice President at Brains Publishing and is responsible for producing Chemists Corner http://chemistscorner.com/ and other science educational websites & products. Perry: thejoggler@gmail.com

His latest book is Beginning Cosmetic Chemistry 3rd Edition published by Allured.



# What's in a lip balm, and why? by Gary Neudahl

As the days get shorter and colder and the air gets drier, we direct our attention to the composition of lip balms. Why use lip balms? If package claims tell the story<sup>(1)</sup>, they are used primarily for their moisturizing and hydrating effects and (when sunscreen active ingredients are incorporated) for their sunscreening effects. Common product positionings revolve around botanical / herbal content and vitamin and/or mineral content. More about that later.

As with lipsticks, relatively few ingredient types are required to prepare a stable and superior-performing product, although proper selection and processing are critical for optimal effect. Here are the typical components of a lip balm:

Emollient Carriers	40-85%	Flavor	0–0.5%
Waxes	10-20%	"Label Copy" Ingredients	0-0.5%
Active Ingredients	0–50%	Preservatives	0–0.3%
Photostabilizers	0- 6%	Antioxidants	0-0.1%



Emollient carriers (which, when solid sunscreen active ingredients are incorporated, are also sunscreen solvents) are the largest component by weight. Their proper selection contributes the product's unique feel and delivery characteristics and also affects the physical and photochemical stability of the product. The most commonly utilized emollient carriers are Ricinus Communis (Castor) Seed Oil, Butyrospermum Parkii (Shea) Butter, Petrolatum, Octyldodecanol, Mineral Oil (Paraffinum Liquidum), Simmondsia Chinensis (Jojoba) Seed Oil and Lanolin. It is obvious from this list that lip balms aren't greening as rapidly or extensively as some other personal care product segments. There are several reasons for this: the superior moisturization and occlusivity of certain petroleum- (and animal-) derived ingredients, the tastelessness of many petroleum-derived products, and the greater oxidation resistance of the saturated hydrocarbon products.

Waxes are used to provide structure. A range of waxes is necessary so the lip balm provides the desired pay-off and feel while also maintaining stick integrity at high (melting makes a mess!), moderate (syneresis is a turn off!) and low (cracking makes for difficult use!) temperatures. The more commonly utilized waxes include a lower melting point, softer wax, Beeswax (Cera Alba), a hard and higher melting point wax, Euphorbia Cerifera (Candelilla) Wax (Candelilla Cera), and a high melting point, brittle wax, Copernicia Cerifera (Carnauba) Wax (Copernicia Cerifera Cera). Their proper proportioning is what helps the formulating chemist earn his lofty reputation and pay!

Active ingredients for lip care, in the USA, fall into one of two main Over-the-Counter (OTC) drug monograph categories: skin protectants<sup>(2)</sup> and sunscreens<sup>(3)</sup>. The monographs define the ingredients, their specifications and use levels, and the combinations of ingredients allowed to make claims. The top monographed skin protectant ingredients in lip balms include Petrolatum, Mineral Oil, Lanolin, Dimethicone, Theobroma Cacao (Cocoa) Seed Butter and Allantoin. You've seen some of these mentioned earlier among the emollient carriers, so they are multifunctional ingredients. How much skin protectant ingredient is needed in a lip balm to make a skin protectant claim? Only 0.5% for Allantoin and 1% for Dimethicone, but 50% for Cocoa Butter and for Mineral Oil! The most commonly used sunscreen active ingredients (UV filters) used in lip balms are Ethylhexyl Methoxycinnamate (Octinoxate), Titanium Dioxide, Butyl Methoxydibenzoylmethane (Avobenzone), and Benzophenone-3 (Oxybenzone). These represent the best balance between high and broad spectrum UV absorbance (or scattering) and low bitterness among authorized UV filters.

When photolabile UVA-absorbing Avobenzone is included in a lip balm to impart broad spectrum UV protection, incorporation of Ethylhexyl Methoxycrylene and/or Polyester-25 (if Octinoxate is also present), Undecylcrylene Dimethicone and/or Polyester-8 is recommended to photostabilize the Avobenzone and so retain the lip balm's broad spectrum UV protection through prolonged sun exposure.

Because some fraction of the lip balm is inevitably going to be ingested, it is important to select a flavor / fragrance that is toxicologically benign, both topically and orally, and that conforms to regulatory requirements for lip care products. An increasing number of geopolitical zones are requiring the declaration of flavor / fragrance ingredients that are known sensitizers. Commonly listed ones in lip balms include Linalool, Benzyl Benzoate, Citral, Geraniol and Citronellol. As mentioned earlier, some lip balm ingredients have a taste (in addition to any odor) and, unfortunately, that taste is often perceived as bitter. So a masking agent may be included towards reducing the lip balm's bitterness. Most frequently used is Saccharin or Sodium Saccharin.

We've covered "label copy" ingredients in earlier articles. These are ingredients, often added at incredibly low levels, which are included not because they are functional but because they garner consumer interest and initial product trial. As noted earlier, for lip balms, botanical / herbal and vitamin and/or mineral content have been the primary hooks from a marketing perspective.

Given a nonaqueous (no water) base for the typical lip balm, one might think that preservatives are unnecessary, and that's generally true, particularly if buyers aren't sharing their lip balms with one other (teenagers!). However, there is a secondary effect from certain preservatives that may be of benefit in lip balms. Specifically, the most commonly utilized preservatives for lip balms are parabens, and parabens (at sufficient concentration) have a numbing effect on the tongue. So including parabens in a lip balm may help mitigate the bitterness of the formulation.

Our last ingredient category is that of antioxidants. Antioxidants are particularly valuable in lip care products since the tongue and nose are very sensitive to peroxidation products. It is therefore important, with respect to both product esthetics and shelf life, to include antioxidants in lip care products when unsaturated materials (whether from botanical sources or synthetic flavor or fragrance compounds) are present. The most commonly utilized antioxidants in lip balms are Tocopheryl Acetate and Tocopherol, with lesser use of BHT and Ascorbyl Palmitate.

(1) Information on claims and frequency of use in this article are based on a Mintel GNPD full search on the word "balm" within the category "lip care" on 8 October 2012. (2) http://www.fda.gov/Drugs/DevelopmentApprovalProcess/DevelopmentResources/Over-the-CounterOTCDrugs/StatusofOTCRulemakings/ucm070833.htm (accessed 9 October 2012).

(3) http://www.fda.gov/Drugs/DevelopmentApprovalProcess/DevelopmentResources/Over-the-CounterOTCDrugs/StatusofOTCRulemakings/ucm072134.htm (accessed 9 October 2012).

And that's it for this year! Thank you for reading! If you have additional questions on lip balms, or you'd like to see a different personal care product deconstructed and explained, contact the author at gneudahl@hallstar.com. Your interest is appreciated. Gary Neudahl is currently Product Application Manager, Personal Care Ingredients, for the HallStar Company and is based at the HallStar Manufacturing and Technical Center in Bedford Park, IL USA.

# Chapter News





# Toys for Tots Drive at the MWSCC November 13<sup>th</sup> Chapter Meeting

MWSCC "Make a child smile drive for the holidays" Once again, our Chapter is participating in the "Toys for Tots" Drive at our November 13<sup>th</sup> Educational Dinner Meeting. The mission of the Marines for Tots Foundation is to help less fortunate children throughout the United States experience the joy of Christmas; to play an active role in the development of one of our Nation's most valuable resources – our children and to unite all members of local communities in a common cause. We would like to continue helping this cause, which several other Chapters have contributed to in past years.

If you would like to contribute, please bring one or more unwrapped toys to the November 13<sup>th</sup> meeting. If you would like to contribute a toy but don't have a lot of time, there is a shopping center with a Target store on Mannheim road right by the restaurant. If you would like to make a monetary donation, please go to http://www.toysfortots.org/ to arrange to make a donation.

#### "Advice to the Lab Lorn"

"Advice to the Lab Lorn" is intended to offer advice, pertinent information or maybe just solace, for confusing, challenging or downright murderous issues facing SCC members in their labs. Send us your questions at lablorn@caliscc.org and we'll track down an authority or two and get back to you in the next offering of the Lab Lorn. We won't publish your name for all to see. Your secrets are safe with us.

#### John Garruto - President, Free Radical Technology - Editor

**Q.** Do you need to include the preservative in the INCI name of a plant extract if it is not already part of the name of the plant extract mixture or if it is a blend?

**A.** The preservative would not need to be listed in the US if it is not part of the assigned INCI name for the extract. However, if your product is launching in other countries, you should check the rules on traces of substances for that country. For instance, the E.U. Cosmetics Directive does address traces of substances. With the future recast of the Cosmetics Directive there has been different wording proposed in regard to traces. The tentative date that the recast could be accepted would be after May 2009 - but no one is sure if the wording will remain the same or if the recast will go through. Additionally, if you are claiming paraben-fee and your extracts have incidental parabens, although not required to list in the US, you are technically not paraben-free.

Q. Can you add any parenthetical embellishments which explain the source of the plant or a common name?

**A.** The general rule per the Personal Care Products Council (formerly CTFA) is to not list the common name or any additional information in the ingredient declaration, such as "certified organic", "derived from coconut", etc. You can however describe in your package copy that you are using various organic extracts. The only time the common name is included is if the extract has been known to cause allergic reactions in some portion of the population such as nut allergies, gluten, etc. It is best to consult the 2008 12th Edition International Cosmetic Ingredient Dictionary and Handbook, and list your extract in your ingredient declaration accordingly. As mentioned above, one is free to use the common name in your label copy whilst speaking romantically about your wonderful product. Another consideration would be if your product will be sold in various countries and the common name is listed in the ingredient declaration. In this case the Latin name is universal but the common name could be required to be listed in several languages thus making your label more cumbersome and certainly more expensive to produce.













# **Employment Information**







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#### **"ASK ROPELLA - THE HEADHUNTER"**

# **Ensure Successful Employment Negotiations**

**Q.** How do I sharpen my employee negotiation skills?

**A.** A negotiation is a series of give-and-take agreements that benefit both parties. It must remain win-win to be an energizing experience and create the best deal for all involved. These tips will help you get prepared, anticipate demands, and act firmly:

 Put all compensation options on the table to maximize the pie. Include salary, incentives, benefits, prerequisites, and opportunities for career advancement.

- Keep your ears and mind open. Listen and recognize what the candidate values.
- Think outside of the paycheck. Be prepared to offer incentives such as flextime, childcare, or telecommuting.

Speak First. A positive opening statement from you builds trust and goodwill with the potential new hire.
Sit on it. Avoid being perceived as a pushover by working a concession into the deal at a later point, not the moment that you recognize you can compromise.

Q. How do I negotiate the smartest deal with a prospective employer?

**A.** Chances are, you've already been through screening, interviewing, assessment testing, and referencing by the time a negotiation begins. Know what you want out of the deal before sitting down at the table and stick to your values and requirements:

• Prepare and rehearse how "high" you are willing to go and what compromises you are willing to make to determine your "walk-away" point.

- Consider taking incentives such as flextime, childcare, or telecommuting to sweeten the overall offer.
- Ask the employer to put agreements in writing to avoid backtracking later in the process.
- Be leery of a recruiter who gets emotional and starts to play hardball. If negotiations take a negative turn, irreparable damage to your morale may occur before the job begins.
- After you've reached an acceptable agreement, allow time to reflect and review all the terms of the deal. There may still be ways to improve the final agreement for both parties.

Patrick B. Ropella is President & CEO of Ropella & Associates, an international executive search and consulting firm based in Milton, FL that specializes in working with the world's largest corporations. For more information on taking charge of your career, visit www.ropella.com or call Patrick Ropella at (850) 983-4777.

## 2013 Membership and Dues Renewal

We hope we are as important to you as you are to us. With the time to renew your SCC membership right around the corner, I wanted to let you know how much we're looking forward to having you as a member again next year.

You can pay your dues online at http://www.scconline.org/website/index.shtml

To note: Dues Payments received after December 31, 2012 will be charged a \$25 late fee.

The last day to make a payment for 2013 Dues online is January 4, 2013.



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# **Employment Information**

# **Senior Validation Specialist**

Concept Laboratories, Inc. develops and manufactures personal care and household products for retail, mail order, Web site, and wholesale markets in the United States and internationally. It produces over the counter (OTC) Drugs, personal care, household care, and pet care products, as well as spa/bath gift sets. Concept Laboratories, Inc. was founded in 1995 and is based in Chicago, Illinois.

#### **Responsibilities:**

Reports to the Manager Quality Systems & Regulatory. Write, schedule, plan, manage and execute validation protocols, such as Installation, Operational, and Performance Qualifications (IOPQs), Process Validations (PVs), Maintenance Validations (MVs), and Cleaning Validations (CVs). Authors related plans, protocols and summary reports. Support and troubleshooting to manufacturing operations as well as identify process improvements and capacity constraints and design and execute projects to support corporate goals. Projects and duties will be completed in compliance with applicable cGMP, FDA, and all other regulatory agencies standards. Other duties as assigned.

A competitive compensation program will be offered based on the candidate's experience, including base salary, paid vacation and medical care benefits.

Qualified candidates should send their resume with a cover letter to Cinda Carlson, Manager Quality Systems and Regulatory at cinda@conceptlabs.us.

# Do you have any employment opportunities in your company?

Don't forget to post them in the Midwest SCC Chapter's newsletter and website. It is easy, there is no fee, and all of our chapter members throughout the industry can view them.

Contact chair-elect@midwestscc.org to submit your listing.

Looking for a new position? Employment Opportunities can be found online at http://www.midwestscc.org/blog2/jobs/ Check it out today!

## Address Changes??

Throughout the year many of our members change jobs or relocate and forget to notify the National Office. Without notification, these members may not receive Important mailings and eventually are made inactive. We have created a form that is now available on the SCC website which allows members to make changes to their information and it is sent to the National office.

Please visit the following website to make your changes; http://www.scconline.org or e-mail scc@scconline.org.







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Cinda Carlson, Newsletter Editor Midwest SCC Chapter 4740 N. Cumberland Ave. #364 Chicago, IL 60656



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Contacts: Jane Pinda, jpinda@bellff.com Kara Engel, kengel@bellff.com Ted Heinz, theinz@bellff.com