

# SCC

SOCIETY OF COSMETIC CHEMISTS

## THE SOUTHEAST CHAPTER



Volume XXXIII, Number 2

April 2015

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### **Southeast Chapter April Scientific Meeting**

**Speaker: Tom Meyer – Bayer Consumer Care**

**“Sun Mediate Oxidative Stress, Free Radicals and Antioxidents”**

**Wednesday, April 22, 2015**

**Location: Flight Restaurant**

**39 S. Main St. at Monroe Ave.**

**Downtown Memphis, TN**

**(Main St. is a walking pedestrian street)**

**valet parking available on Monroe Ave.**

**5:30 pm to 6:30 pm - Registration / Cocktails**

**6:30 pm to 8:00 pm - Dinner**

**8:00 pm Speaker presentation**

**\$45 SCC Chapter member**

**\$55 non-SCC member**

**RSVP by noon, April 20th to Paul Allen**

**(901) 320-2252 or e-mail: paul.allen1@bayer.com**



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## Message from the Southeast Chair

Welcome and greetings from the Southeast Chapter Chair. We started 2015 with the first chapter meeting held at the Chattanooga Hotel in Chattanooga, TN. Tony O'Lenick of SilTech provided an interesting presentation on "Silicone Chemistry" and its use in the personal care industry. Tony gave many insights especially to formulators as to why silicone use in cosmetics is important. Silicone brings exceptional product benefits especially to aesthetics. Each attendee of the meeting received an autographed copy of Tony book on Silicone Chemistry.

Tony.... thank you for your generosity and for finding the time to speak at our chapter meeting.

Also a giant THANK YOU once again to Colonial Chemical for sponsoring the cocktail hour and wine at dinner. And a special thank you to Dennis Abbeduto for organizing the meeting at the Chattanooga Hotel. The food and company were great.

The upcoming April 22nd meeting will be on antioxidants with a presentation by Tom Meyer on the topic:

**"Sun Mediated Oxidative Stress, Free Radicals and Antioxidants"**

Sun exposure exacts a toll on skin's health and appearance over the course of our lives. The meeting will be held at Flight Restaurant, 39 S. Main St. at Monroe Ave. downtown Memphis.

The Southeast Chapter is a great chapter. We could not do it without all of your support: in attending the meetings, partaking in the fun, to being presenters and financial sponsors for our activities. Thank you so much for all you do.

I look forward to seeing you at our scientific dinner meeting on April 22nd and remember to RSVP to Paul Allen, our chapter secretary.

Sincerely,  
Jayesh Patel  
SCC Southeast Chapter Chair



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# How Do Cosmetic Raw Materials Get Their Names?

by Perry Romanowski

I must confess. One of my favorite things about being a chemist is getting to say long words and knowing what they mean. I loved learning the IUPAC system for naming chemicals.

That's why I found ingredient lists on shampoos & conditioners baffling. I didn't know what most of the chemicals were. They were similar to IUPAC terms, but not quite. It turns out that the cosmetic industry doesn't use the IUPAC naming system. Instead, they follow their own system as laid out in the International Nomenclature of Cosmetic Ingredients (INCI) dictionary. This volume is produced by the main cosmetic industry trade group called the Personal Care Products Council (PCPC, formerly the CTFA but we'll save that for another time). inci naming

## List of Ingredients

The first thing to know about cosmetic ingredients is the ingredient list. In the United States, every personal care and cosmetic product is supposed to have their ingredients listed. In the business, we called it the LOI (list of ingredients). Any ingredient above 1% is required to be listed in order of concentration (by weight). At 1% or below, the ingredients can be listed in any order. Typically, preservatives and dyes are listed at the end. In a future post, we'll show how this labeling requirement can help you formulate new products.

Any ingredient above 1% is required to be listed in order of concentration (by weight).

To be proper, companies are supposed to follow the naming conventions as laid out in the INCI.

## Cosmetic Ingredient Naming Conventions

While many chemical names in the INCI seem arbitrary, there are some standard rules. The following will help you make heads or tails out of the ingredients on most LOIs. We can't list all the conventions here, but we'll point out the major ones and give examples.

## Common Names

When they first came up with the INCI (originally called the CTFA Cosmetic Ingredient Dictionary) in 1973, many cosmetic ingredients already had names. These common names were incorporated into the

dictionary even though they didn't follow any specific naming rules. Therefore, we use Glycerin instead of the more accurate Glycerol and Menthol instead of (1R, 2S, 5R)-2-isopropyl-5-methylcyclohexanol. Common names are also used for various natural ingredients like Lanolin and Beeswax.

## Stem Names

Probably the most important thing to learn about naming cosmetic ingredients is to memorize this list of hydrocarbon stem names. It's a bit different than the IUPAC.

So, if you have a 16-carbon alcohol, you call it Cetyl Alcohol instead of Hexadecanol. For an 18-carbon acid, you would use Stearic Acid instead of Octadecanoic acid.

## Mixtures

You'll run into names like Cocamidopropyl Betaine that don't match any of the stem names. This is because the raw material uses coconut oil as a starting raw material. In these cases, you use an abbreviation of that starting material. Other ones you might see include Palm Kernel oil, Soybean oil and Sunflower oil. In a future post, we'll show the fatty acid distribution of these materials.

## Derivatives

The INCI tries to follow established conventions from other systems. For example, when you want to name an ether, you take the stem names from both fatty acids and add the term ether. Thus, a molecule made with a 14-carbon and 16-carbon chains connected by an oxygen would be called Cetyl Myristyl Ether. An ester of the same molecules would be Cetyl Myristate.

## Nitrogen Containing

Hydrocarbons that contain nitrogen are amides and have the phrase included in their name. Therefore, Lauramide is used to describe a 12-Carbon molecule (Lauryl) that has a NH<sub>2</sub> group on its end. If the Nitrogen has other hydrocarbons attached, those are also named. So, Lauramide DEA would be that same 12-Carbon molecule attached to a Nitrogen which also has Ethyl groups attached to it. When these Nitrogen containing compounds are turned into salts, the suffix "onium" is added. So, a 16-Carbon attached to a



## How Do Cosmetic Raw Materials Get Their Names?, cont.

Nitrogen with three methyl groups is Cetrimonium Chloride.

### Polymers

A variety of conventions are used to name polymers. For Nitrogen containing polymers, the term "Polyquaternium" is used. There is also a number associated with the ingredient but it doesn't refer to anything chemically. It just happens to be the order in which the material was registered.

Other polymers use common abbreviations. PEG is Polyethylene Glycol. PPG is Polypropylene Glycol, etc. Then a number is included to refer to the moles of ethoxylation in the polymer.

### Silicones

For silicone containing materials, terms like Dimethicone, Cyclomethicone and amodimethicone are used. Whenever you see some form of these words in a chemical name, you know there is some silicone in it.

### Colorants

Ten years ago, you used to see the abbreviation FD&C in front of many chemical colorants. Today, however, the INCI has adopted a simplified method for naming colors. They just list the color followed by a number (e.g. Yellow 5). This doesn't tell you anything about the chemical composition but you can get the structure by looking it up in the INCI. An alternative naming system is the EU one in which each colorant is assigned a 5-digit chemical index (CI) number. Yellow 5 in the EU is called CI 19140.

### Miscellaneous Rules

There are many other rules that you'll have to learn over time. To give you a flavor here are a few more.

Water is just called Water. (Not deionized or purified or anything else. Just water)

Fragrance is called Fragrance no matter what compounds are used to make it. This is changing but for now, it's correct.

Botanicals use the Latin name of the plant or part plus the term Extract. So, if you use an ingredient taken from the leaf of a lemon, the ingredient is called Citrus Medica Limonum (Lemon) Leaf Extract.

### Conclusion

The naming of raw materials in cosmetics share some characteristics with the IUPAC system you learned in Organic Chemistry. However, there are many differences and for some things it is impossible to determine the chemical structure from just the name. For more information, your best bet is to go to your company's library (or your city's) and take a look at the latest version of the INCI.

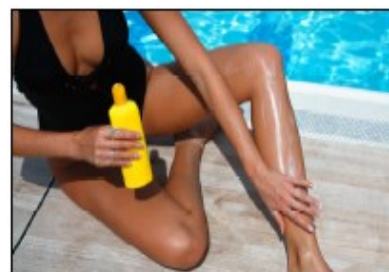


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# What's that

# Smell...

It's our 2015 CEP Course!



THE SOCIETY OF COSMETIC CHEMISTS

CAROLINA CHAPTER

We would like to invite you to tickle your senses with us on **Thursday, April 23, 2015** at the Harbourview Inn in Charleston SC.



Run on over to our website to register for the CEP course presented by Steve Herman. This course will cover the anatomy of a fragrance formula, the sense of smell, the history of perfume, fragrance creation and duplication, aroma chemicals and reactions, fragrance applications in personal care and household products, fragrance regulations, aromatherapy, natural fragrances and DfE, aromatherapy and aroma science. At the conclusion the fragrance formula will be analyzed for IFRA compliance and allergen labeling.



2 Vendue Range  
Charleston SC, 29401

Our second meeting of the year will be held in Charleston SC at the Harbourview Inn. The CEP course will be on April 23 from 9AM to 5PM. Hope to see you all there!

## COST:

Members: Free

Non-Members: \$75.00

Students: \$40.00

After the meeting, please join the Carolina Chapter as the Charleston Riverdogs take on the Savannah Sand Gnats. If you would like to join, tickets are \$15 and include a food voucher. Please RSVP for the game to Leslie Webb at [scccarolinas@gmail.com](mailto:scccarolinas@gmail.com)



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To register for the meeting please visit [www.carolinascc.org](http://www.carolinascc.org)

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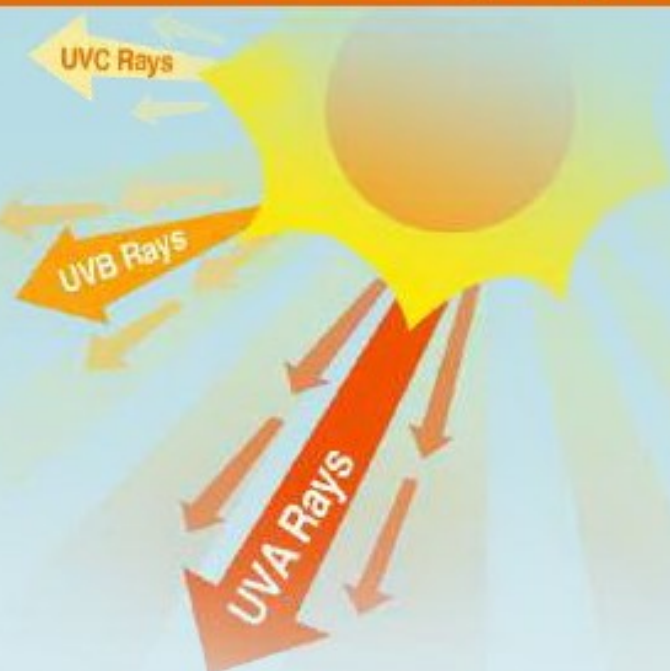
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# Florida Chapter Society of Cosmetic Chemist 2015 Sunscreen Symposium



## **CALL FOR PAPERS**

### **The Next Horizon of Sun Care Innovation & Global Regulatory Requirements**

**September 16<sup>th</sup> – 18<sup>th</sup> 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](mailto: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 -18<sup>th</sup>-2015 - Sunscreen Symposium Podium Presentation



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