

# nutmeg newsletter



SOCIETY OF  
COSMETIC  
CHEMISTS



Connecticut



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C T S C C M o n t h l y C h a p t e r M e e t i n g

## SMART Silicones

**March 19, 2019**

Norwalk Inn & Conference Center  
99 East Avenue  
Norwalk, CT 06851

Registration: 5:30 – 6:00 pm

Dinner: 6:30 pm

Speaker: 7:00 pm



### Registration

Online at [www.ctscc.org](http://www.ctscc.org)

Email Cynthia at

[cvalovich@zotos.com](mailto:cvalovich@zotos.com)

### Chapter Meeting Cost

SCC members: \$45

Non-members: \$50

Students and Unemployed: \$35

### Abstract

Today, more than ever, consumers have a growing awareness of the aggressive, environmental factors that can damage hair and negatively affect the hair's appearance and feel. Repeated exposure to pollution and UV radiation, harsh coloring and shaping treatments, daily wear-and-tear, and aging can all leave the hair looking frayed and dull and feeling rough and brittle. Consumers want to protect and repair their hair to keep it looking and feeling sleek, strong, soft, and healthy. The market is thirsty for hair products that provide superior protection, correct damage from harsh treatments, prevent or reverse the signs of hair aging, and restore the hair to a healthy and youthful state.

Silicones are an incredibly diverse group of molecules with uses that improve almost every facet of daily life. Among some of silicones' most exciting qualities are the unique and various ways that it can benefit hair. Today's newest generation of silicones for Hair Care are truly smart materials that interact with the hair's surface to achieve remarkable performance even at low use levels. This talk will focus on novel silicones that are precisely functionalized to meet the hair-care needs of the modern consumer. Advanced silicones improve the hair by providing film-forming properties that protect the cuticle, conditioners that specifically target damaged hair, and even reactive materials that can crosslink in-situ to provide durable hydrophobicity.



### Speaker:

Dave Clay, Ph.D.

Momentive

*See biography on p. 3*

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Thank you to our March  
meeting Sponsor!!

## 2019 ELECTED OFFICERS:

### Chairperson

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Symrise  
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Henkel

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Elizabeth Mycka  
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### Treasurer | Employment

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Zotos International

### Hospitality

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### Golf Outing

Dan O'Neil  
Charkit

### Newsletter

Yingxia Wang  
Unilever

### Chapter Liaison

Michele Margherita  
Brenntag Specialties

## *Letter from the Chair*

Dear CTSCC Members and Friends

I hope everyone has had a nice winter so far. Although we have been pretty lucky escaping some snow storms, I felt the coldest weather in my life this year -20°F (-50°F wind chill – brrr), I am very appreciative that I live in the Northeast.

First I would like to extend my sincere appreciation to Dr. Paul Lawrence for giving a fantastic talk on Ancient Viruses and their Influence on Humanity. A special thank you also to Biocogent, our January meeting sponsor. This month we return to the Norwalk Inn where we will welcome Dr. David Clay who is speaking about SMART silicones. A special thank you to Momentive Performance Materials, our March meeting Sponsor.

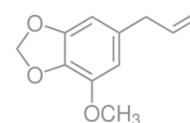
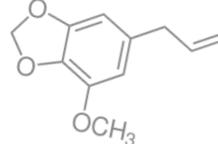
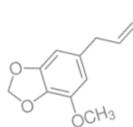
I want to send a BIG thank you to the entire board of the CTSCC. I am very happy to have such a terrific group of dedicated volunteers to help run this chapter. We are always looking for volunteers or suggestions on speakers, venues social events, etc. If you are interested in volunteering for any positions, please speak to me or any of our dedicated board members.

We look forward to seeing you at our next meeting.



**Sue Sperring**

2019 Chair, Connecticut Chapter  
Society of Cosmetic Chemists

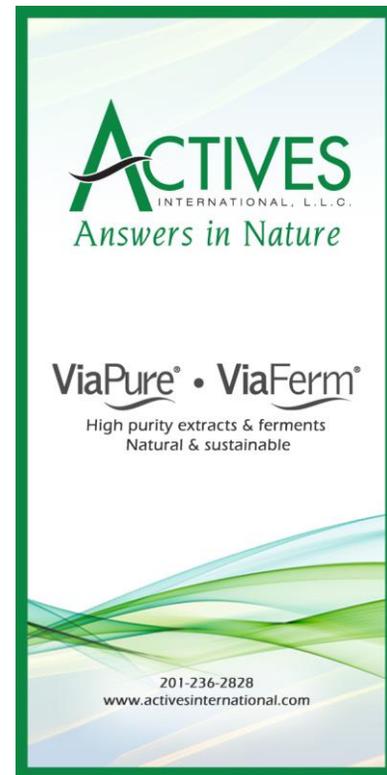


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**Biography**

Dave Clay is an Application Development Scientist - Marketing for Momentive's North American Personal Care Division. Dave's primary focus is to build and strengthen Momentive's relationships with our Cosmetic, Personal Care, and Home Care customers. His main duties are developing new and exciting formulations to inspire formulation chemists, troubleshooting technical challenges that clients might face, supporting R&D in the development and promotion of new products, and serving as a technical liaison to current and future customers across North America. Dave joined Momentive in 2014 in the R&D department as a Product Development Chemist for Personal Care specializing in the synthesis and application of novel materials. Dave has been in his current role since 2017 and has worked on a broad range of projects covering ABA/AB<sub>n</sub> copolymers, gels, functional fluids, resins, and particles. His current accounts are located primarily along the East Coast and throughout California and the Mountain West.

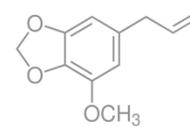
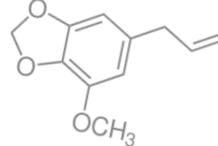
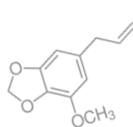
Prior to Momentive, Dave was a research scientist in the medical device industry. Dave hails from Arkansas where he earned a BA in Biology from Hendrix College and a PhD in Chemistry from the University of Arkansas. Dave's graduate work was in Organic Chemistry under the direction of Professor Matt McIntosh, where he focused on the total synthesis of natural molecules with a special interest in the development and application of novel, asymmetric, organic transformations. Dave enjoys cooking, gardening, traveling, reading, yelling at people who blow through the stop sign in front of his house, and spending time with his family.



**BRENNTAG SPECIALTIES**

**Mark your calendars!  
CTSCC 2019 Meeting Dates**

March 19  
April 16  
Golf Outing – TBD  
Summer Event – TBD  
September 17  
October 15  
November 19



## Technical Corner

# Making Green by Going Green

ADVANCEMENTS IN ECO-FRIENDLY PACKAGING AND IMPLICATIONS FOR THE COSMETICS INDUSTRY AND CONSUMER MARKET

Author: Matthew Brooks

Looking back at the elegant and artistic cosmetics containers produced since the time of Ancient Egypt and throughout the ages, it is easy to see that the design of the vessels and the aesthetic of the materials with which they were made, to both the producers and consumers of cosmetics, were just as valued as the formulations held within. This had held true to today, although the technology and materials used to package and protect cosmetics has advanced far beyond ivory jars and gemstones vials, and the consumers positive perception of a products relies not just its package design, but the functioning of the package in protecting the internal environment, and now also the external environment.

Over the last century, new materials have been invented that have improved that former function of packaging, which primarily is preventing biological, chemical, and thermal degradation, as well as damage by radiation (such as sunlight), pressure, and human interaction. Much of this is achieved through barrier protection, which is the establishment of a controlled atmosphere within the container to protect the product from oxygen, water vapor, microbes, dust, and other elements in order to ensure it stays clean, fresh, and most importantly safe.<sup>1</sup>

As stated, however, now the function of packaging has expanded even beyond just its effectiveness at barrier protection and the beauty of its design, and the positive impact on environmental health and sustainability by the material out of which they are made and the processes of production are equally as important. This was heralded by a radical change in the consumer, notably the rise of the millennial, who now have an extreme conscientiousness to the environmental friendliness of the packaging.<sup>2</sup>

The cosmetic industry has started producing packaging that is recyclable, using materials that have already been recycled and repurposed for packaging, and even materials that are biodegradable. Recyclables have long been a trend within cosmetics packaging – Burt’s Bees offers a lipstick that can be returned for recycling, and Clean Reserve’s glass perfume bottles are 100% recyclable, while Method’s hand soap bottles are produced with plastic recovered from the ocean.<sup>2</sup> However the most recent development in this regard is biodegradable packaging, which decomposes in the environment and are made from naturally-derived materials. Research groups are now actively developing materials such as a film made from cassava starch, glycerol, and green tea extracts that was presented in *Carbohydrate Polymers*,<sup>3</sup> and patents are being issued for items like Eco Vision’s ‘Eco Jar’, made from waste paper and which features compostable barrier films and coatings that maintain package integrity.<sup>4</sup>

However, raw materials used in such recycled and biodegradable packaging were still produced in environmentally detrimental ways – especially plastics – but ironically, a solution has been found in bacteria. Until today bacteria have been the mortal enemy of cosmetics producers, with them waging a war against microbes to keep them out of their products. But now, an alliance has been struck, as genetically engineered bacteria are being used to produce polymers for packaging in an eco-friendly way that is appealing to conscious consumers. Normally, one would use packaging to prevent the growth of bacteria, but in a poetic twist of fate bacteria are being used to ‘grow’ packaging!

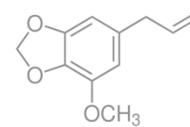
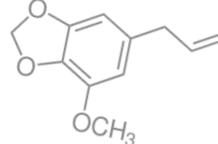
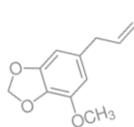
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## Technical Corner

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Researchers working for Genomatica, Inc. in San Diego have genetically engineered *E. Coli* to secrete 1,4-butanediol (BDO), a precursor compound in plastic production, using only sugars and water, a far more sustainable process than the usual methods using petrochemicals.<sup>5</sup> Even better, bioengineering not only can prevent damage to the environment, but can also address pollution that has already occurred. At the Karlsruhe Institute of Technology, microorganisms are being used in similar fashion to produce the polymer polyhydroxybutyric acid (PHB), but using CO<sub>2</sub> as a raw material, reducing the concentration of the greenhouse gas in the atmosphere.<sup>6</sup>

In tandem with these developments, equally tiny though synthetic nanoparticles are also being engineered and incorporated into polymeric materials to improve the functioning of cosmetic packaging, improving the gas barrier as well as mechanical and thermal protections, while leading to a decrease in raw materials necessary for packages, and thus reducing the environmental impact of producing multiple package layers as opposed to the monolayer afforded by this advanced nanotechnology.<sup>7</sup>

Until recently, though, the funding required to develop these novel, advanced technologies as well as the overall cost of their production and incorporation into packaging used by most cosmetic brands was a significant barrier to its mainstream adoption in the industry.

However, in an interview with *Cosmetics Design* just last year, Scott Cassel, founder and CEO of the Product Stewardship Institute, spoke to how there will now be a competitive advantage in marketing for brands that start to value and make use of sustainable and eco-friendly packaging and the processes used to produce it, as they will be in the favor of the increasingly dominant millennial consumer segment.<sup>8</sup> Making use of more efficient waste-reducing technologies for packaging production not only reduces cost for governments and taxpayers, but is also beneficial to cosmetics business, as wasted materials and energy in inefficient production otherwise translates to a loss of money.<sup>8</sup> The process of producing BDO using bacteria requires at least 30% less energy than traditional methods, while the price of production with oil or gas related processes has increased alongside the cost of dwindling fossil fuel-based materials.<sup>5</sup>

In sum, utilizing the sustainable processes and new, eco-friendly technology that were previewed above should not only now save companies money in the long run, but afford taxpayers more money to contribute to the cosmetics industry and market, which they will be more and more willing to do as brands align with their values of sustainable and eco-friendly packaging.

### About the Author



**Matthew Brooks**, Boston University, B.A. Chemistry 2019. A student of chemistry at Boston University and fragrance consultant at Sephora, Matthew plans to enter the cosmetic industry upon graduation, where he hopes to work in product development and formulation. His recent areas of interest and study include natural products and organic chemistry, polymers and raw materials, 'green' chemistry, sustainability, and environmental protection.

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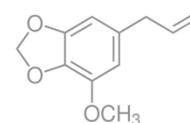
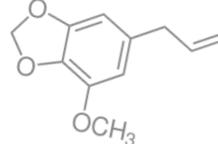
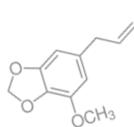
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## Technical Corner

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2. Matusow, J. (2016, April 28). Simply 'Green' Packaging. Retrieved January 10<sup>th</sup>, 2018, from [https://www.beautypackaging.com/issues/2016-04-01/view\\_features/simply-green-packaging/](https://www.beautypackaging.com/issues/2016-04-01/view_features/simply-green-packaging/)
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## Supplier's Day 2019

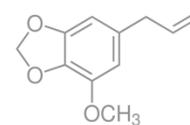
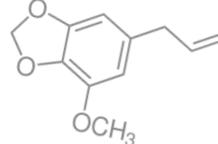
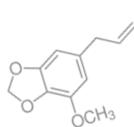
May 7-8, 2019

Jacob K. Javits Convention Center, New York, NY

### A Few Highlights:

- Co-Sponsored NYSCC & ASP: Fragrance: "The Invisible Art"
- Supplier's Award: Ingredients and Formulation
- Digital Age of Beauty! Consumer Engagement Driving Brand Development
- HAPPI-sponsored Microbiome: "Inside Out Beauty"

Early Bird Registration for courses and programs end April 6!  
Visit [www.nyscc.org/suppliers-day](http://www.nyscc.org/suppliers-day) for more information



## Upcoming Events

### March

- 13 – NYSCC – Cosmetic Science in Academia (Totowa, NJ)
- 19 – CTSCC Monthly Meeting – Silicones with Dave Clay, Momentive (Norwalk, CT)
- 21 – New England Meeting – Fragrance Forecast for 2021 (Northborough, MA 01532)

### April

- 16 – CTSCC Monthly Meeting – (Trumbull, CT)

### May

- 7-8 – NYSCC – Supplier's Day

### June

- 20 – New England 6<sup>th</sup> Annual Golf Outing (Sutton, MA)



## Volunteer with the CTSCC!

Consider volunteering for a committee position with the CTSCC, or recommending someone you know who may be interested.

Benefits include:

- Exposure to the national SCC organization
- Experience in a trade organization, suitable for adding to a resume
- Excellent networking opportunities
- A voice in future speakers and helping to decide the direction of the chapter

**Please contact any board or committee member with questions or for additional details!**

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## ATTENTION! ATTENTION!

# In-House CEP Courses Available

In-House Courses are highly-personalized courses brought to companies to address challenges or areas of need. These courses, taught by knowledge experts, provide professionals with an up-to-date cosmetic science education. Recent In-House Courses have been organized for **Benefit Cosmetics**, **Mary Kay**, **Bayer**, the **FDA** and others.

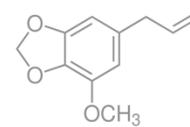
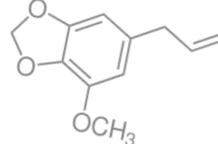
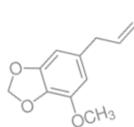
Companies interested in providing in-depth technical information to their employees can contract an education day in a location of their choosing.

- ▶ **SOCIETY** covers the costs of booking the instructor and all of the instructor's traveling expenses (including hotel, flight, car, etc.)
- ▶ **COURSES** can be scheduled for 1 or 2 days on any topic of particular interest to the company
- ▶ **COMPANIES** can choose the instructor if they seek a specific knowledge expert

### Current courses available include:

Scale Up & Processing	Botanicals & Naturals for The Naturals Market	Preservatives
Regulatory	Chemistry & Regulations of Cosmetic Colorants	Cosmetic Rheology
Color	Molecular Biology & Gene Expression	Color & Make-Up
GMPS For Cosmetics	Phytochemistry 101 For Cosmetic Chemists	Surfactants
Cosmetic Formulations	cGMPS For Cosmetics and Otc's	Cosmetic Raw Materials
Regulatory Update	Practical Basic & Theory in Emulsion Technology	Fragrance as A Science
Beginning Cosmetic Chemistry	Cosmetic Chemists Guide to Product Development	Silicone Chemistry
Basic Hair Science	Sustainable Cosmetic Product Development	<i>and more!</i>

To reserve a course for your team,  
contact Sam Neely at [sneely@scconline.org](mailto:sneely@scconline.org)



## Employment Opportunity

### Bradford Soap Works, Inc.

**Job Title:** Senior Process Engineer

**Job Function:** Provide Engineering Assistance to Aid and Improve Production while Maintaining Compliance with Regulations.

### Essential Duties and Responsibilities:

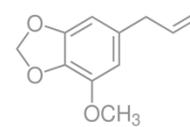
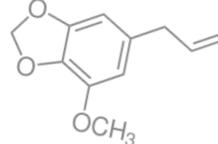
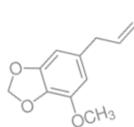
Support production via troubleshooting process and/or equipment while implementing efficiency improvements. Oversee process improvement projects and new product trials. Provide new formulation and bill of material and stipulate chemical corrections for process control conditions. Maintain current documentation and sampling of specific plant processes including waste water, noncontact cooling water, confined space, by-product manifest, etc. Provide backup function for plant management to include payroll, forecasting and scheduling of raw material, machinery, and personnel. Daily inventory control and creation of Oracle batches. Work closely with the maintenance department and specify/order parts and equipment as needed. Produce mechanical, facility, or electrical work orders. Specify and present Capital Appropriation Requests. Create and maintain records associated with production, equipment and processes as needed. Generate standard operating procedures. Specify, size and supervise installation of process equipment and controls. Interact with vendors, suppliers and customers as needed. Maintain engineering manuals, files, integrated process control software, etc. Provide reports and updates as needed. Manage and coordinate special projects as assigned. Duties relevant to the basic function.

### Minimum Knowledge, Skills and Abilities:

College level education with Bachelors degree completed in Chemical Engineering. Five (5) to ten (10) years' experience preferably in a unionized, process-oriented manufacturing environment to include monitoring and improving chemical processes. Knowledge and/or experience in soap manufacturing processes. Capable of functioning with minimal supervision and directed by broad guidelines. Capable of exercising considerable judgment on complex situations related to manufacturing machinery and chemical process situations. Capable of utilizing process related laboratory type equipment as well as normal office equipment and personal computers. Able to communicate effectively. General knowledge of Good Manufacturing Practices. Knowledge of OSHA regulations and safe practices. Capable of moderate physical effort. Will frequently spend significant number of hours in shop floor environment. General knowledge of company policies and procedures as they relate to a union shop. Capable of extended hour commitment and on-call at all times.

### Working Conditions:

1. Constant exposure to manufacturing environment.



## High Ridge Brands Manager, R&D

## Employment Opportunity

### Description

High Ridge Brands is one of the largest independent branded personal care companies in North America. We hold leading market positions in hair care, skin cleansing, and oral care categories in the U.S. As an entrepreneurial company, HRB is committed to leveraging innovation to drive growth.

The **Manager, R&D** is a part of the high-profile innovation organization at HRB and will support the organization in building out new products for several brands. In partnership with the Director of Innovation, the Manager is responsible for leading product development activities from preliminary concept to launch. This role interfaces with cross-functional and key departments such as marketing, operations, sales and finance to ensure timelines, quality standards, and COG targets are met. This position is based in Stamford, CT.

### Responsibilities

Lead formula development for new product development initiatives from preliminary concept to launch across several categories (hair care and styling, bath & body).

Actively manage formulators, fragrance houses and contract manufacturer network to facilitate on-time formula approvals, while maintaining COG targets.

Partner with packaging to deliver superior consumer experience with best-in-class product and packaging innovation. Support all tech-transfer initiatives.

Assess contract manufacturer equipment; tooling and procedures utilizing pre-planned methods to ensure effective cost control and maximum productivity are achieved for all existing products.

Generate monthly trend reports to highlight new product innovations and trending ingredients. Continue to work closely with leading ingredient forms to identify best in class new ingredients and technologies to support HRB's innovation objectives.

Provide timely updates to facilitate timely decision making.

Manage external testing for safety and claims substantiation.

Define and identify product specifications with Quality and Packaging.

Ability to work in a fast-paced environment; must be self-motivated and self-directed.

Must be willing to travel.

### Experience/Skill Requirements:

Bachelor's Degree required; Master's preferred in STEM.

Prior experience in Private Equity, asset-light/independent organizations is a plus.

Strong Project management skills.

5+ years product development and formulation experience.

Entrepreneurial & creative spirit with a sense of urgency.

Formulation and Tech-Transfer experience.

Trouble shooting during scale-up.

Established network across the industry.

Up to 10% travel within the US and international.

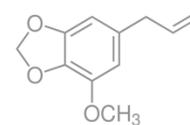
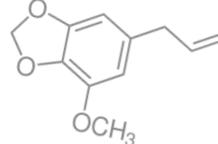
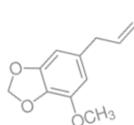
High Ridge Brands, headquartered in Stamford, Connecticut, is focused on providing high-quality personal care products at a compelling value. Today, High Ridge Brands has a portfolio of trusted, iconic brands serving skin cleansing, hair care, and oral care markets primarily across North America and Europe. Its brand portfolio includes Alberto VO5®, Binaca®, Coast®, Dr. Fresh®, Firefly®, LA Looks®, Rave®, REACH®, Salon Grafix®, Thicker Fuller Hair®, White Rain®, Zero Frizz®, Zest®, as well as several licenses such as Barbie, Hello Kitty, Spiderman, Star Wars and Transformers. With offices in Stamford, CT, Buena Park, CA, Slough, UK and Shenzhen, China, High Ridge Brands has a global presence. The company operates an asset-light business model, outsourcing most of its manufacturing needs, and currently has approximately 160 employees worldwide.

High Ridge Brands is a portfolio company of Clayton, Dubilier & Rice. Founded in 1978, CD&R is a private investment firm with an investment strategy predicated on producing financial returns through building stronger, more profitable businesses. Since inception, CD&R has managed the investment of \$22B in 72 companies, representing a broad range of industries with an aggregate transaction value of over \$100 billion.

Additional information can be found at [www.highridgebrands.com](http://www.highridgebrands.com) and [www.cdr-inc.com](http://www.cdr-inc.com)

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Interested candidates should forward resume, cover letter and salary requirements to [careers@highridgebrands.com](mailto:careers@highridgebrands.com).



## Connect with area professionals through the newsletter!

Do you have an **employment opportunity** in the Connecticut area or beyond?

Do you have a **technical article**, raw material insights, relevant writing, or other piece you'd like to share with the community?

Have you captured **photos** at CTSCC events?

Please contact Yingxia Wang to be featured in the newsletter ([yingxia.wang@unilever.com](mailto:yingxia.wang@unilever.com)).

Are you interested in supporting CTSCC with a newsletter **sponsorship**? Please contact Ariel Vered for more information ([avered@brenntag.com](mailto:avered@brenntag.com)).



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