

nutmeg newsletter



January 2020

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

Preservatives: The Ever-Changing World

January 21, 2020

The Water's Edge at Giovanni's
2748 Boston Post Road
Darien, CT 06820

Registration: 5:30 – 6:00 pm
Dinner: 6:30 pm
Speaker: 7:00 pm



Registration

Online at www.ctscc.org
Email Cynthia at
cvalovich@zotos.com

Chapter Meeting Cost

SCC members: \$45
Non-members: \$50
Students & Unemployed: \$35

Overview

Preservatives are an integral part of cosmetic formulations and consumer safety. They help to prevent microbial contamination, not only to protect the freshness of the product, but to also keep consumers safe from harmful microorganisms. In a world of changing consumer expectations, market trends, individual company policies and updated regulations, formulators need to be increasingly creative by using innovative antimicrobial ingredients and combinations to deliver safe and effective products to the personal care and cosmetic market. Let's review the current regulatory environment and toolbox of noncontroversial preservative and multifunctional ingredients available to industry professionals.



Speaker Susan Pungitore, Symrise

Susan Pungitore has a Master's Degree in Biology and over 18 years of experience in the cosmetics and beauty care industry. As a senior researcher at the wet-wipe manufacturer Nice-Pak, she was responsible for the marketing and clinical studies of FDA-approved topical skin antiseptic products. She also marketed and developed EPA-registered disinfectant and sanitizer products. Prior to that, she worked at chemical company ISP (currently Ashland) and cosmetics manufacturer Avon. At the latter, she coordinated microbiological tests in research and product development, covering an extensive assortment of cosmetic and personal care formulations.

Thank you to our
meeting sponsor!



Inside this issue:

- Letter from the chair
- 2020 Board members
- Technology Corner: Modern Preservation
- Photos from Nov meeting
- Member Spotlight: Jen Macary
- Upcoming events

2020 OFFICERS:

Chairperson

Jennifer Macary
Henkel
ctscchair@gmail.com

Chair-Elect

Faith Corbo
Alzo

Advisor

Susan Sperring
Symrise

Secretary | Website

Nina Miotto
Zotos International/Henkel

Treasurer | Employment

Tiffany Fielder
Henkel

Reservations

Cynthia Valovich
Zotos International

Golf Outing

Dan O'Neil
Charkit

Newsletter

Yingxia Wang
Unilever

Chapter Liaison | Sponsorship

Michele Margherita
Brenntag Specialties

Photographer

Rana Zaki
Henkel

Arrangements

Mansi Parikh
Henkel

Letter from the Chair

Dear CTSCC Members and Friends,

Happy New Year and welcome to 2020! With every new year brings a chance to reflect, anticipate and plan for the year ahead. This year if your resolutions include a greater focus on learning and growth, the CTSCC is an excellent group to become involved in. It is important to stay current on scientific information as well as trends within our industry. We have great speakers lined up this year to help grow your knowledge and competencies.

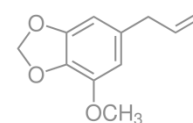
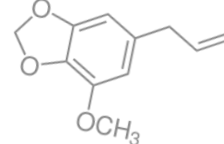
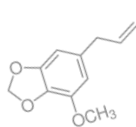
I would like to acknowledge and thank our previous Chair, Sue Sperring, for all of her hard work and dedication to this chapter. Sue, together with an amazing board of volunteers, put together wonderful programs in 2019 with very relevant talks and well attended meetings. Our board has also done a wonderful job of setting up an exciting 2020 to look forward to. Thank you everyone for your hard work and commitment to this chapter.

The first half of this year, we will be learning about preservation, sustainability and formulating green products. As our industry moves towards a more environmentally friendly position, it is essential that chemists continuously educate ourselves on new and innovative technologies. Through these talks at dinner meetings, the 2020 CTSCC Board will provide dynamic and relevant information to our members and facilitate communication throughout the industry here in Connecticut.

I wish you happiness and success in 2020 and hope to see you at our first meeting in January.



Jen Macary
2020 Chair, Connecticut Chapter
Society of Cosmetic Chemists



2020 Board

CTSCC 2020 Executive Board Members



Jennifer Macary

Henkel

Chair

See Jen's member profile on page 12.



Susan Sperring

Symrise

Advisor



Tiffany Fielder

Henkel

Treasurer, Employment



Faith Corbo

Alzo

Chair-Elect

See Faith's member profile in the September 2019 newsletter.



Nina Miotto

Zotos/Henkel

Secretary, Website

See Nina's member profile in the October 2019 newsletter.

CTSCC 2020 Board Members



Michele Margherita

Brenntag Specialties

Sponsorship, Chapter Liaison

Dan O'Neill

Charkit

Golf Outing

Mansi Parikh

Henkel

Arrangements



Cynthia Valovich

Zotos/Henkel

Reservations



Yingxia Wang

Unilever

Newsletter

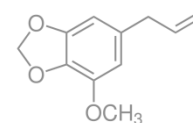
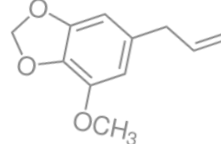
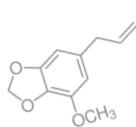


Rana Zaki

Henkel

Photographer

Interested in joining the board? See page 11 for description of open positions. Reach out to any board member to learn more!



Technical Corner

Thank you to Susan Pungitore, speaker of our January meeting and co-author of the following technical article for contributing this work to the CTSCC newsletter.



Modern Preservation Systems for Shampoos

Florian Genrich*, Susan Pungitore**

*Symrise AG, Mühlenfeldstraße 1, 37603 Holzminden, Germany

**Symrise Inc., 300 North Street, Teterboro, New Jersey 07608, USA

ABSTRACT

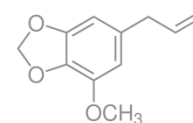
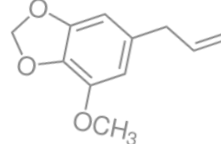
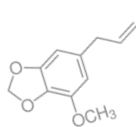
In recent years, consumers, media, and regulatory bodies have paid particular attention to preservatives in cosmetic formulations. What has been standard practice for decades has nowadays become exceedingly unpopular. Use of classic cosmetic preservatives such as isothiazolinones, formaldehyde donors, parabens, and organohalogens is not commonplace anymore. Therefore, pressure exists for cosmetics manufacturers to protect their formulations against microbial contamination with unconventional chemistries. This article highlights modern solutions to preserve shampoo formulations from microbial contamination.

INTRODUCTION

Preservatives are an integral part of cosmetic formulations and consumer safety because they protect products from microbial contamination, especially during repeated use. Safety concerns of some common preservatives, along with their regulatory limitations, have fueled the increased demand for alternate product protection ingredients which are free of negative press.

Phenoxyethanol is a preservative with a long safety history that complies with the cosmetic regulations of most countries. It has good antimicrobial properties, although its weakness against yeast & mold is well documented [1,2]. It is common knowledge that phenoxyethanol used alone, even at its maximum dose does not protect products sufficiently. The current dose of phenoxyethanol allowed in cosmetic products is up to 1%. Recent studies on combinations of phenoxyethanol with other multi-functional cosmetic ingredients such as 1,2-alkanediols and hydroxyacetophenone have shown that the overall preservative efficacy of phenoxyethanol can be enhanced while reducing its concentration in cosmetic products, including shampoos. Synergistic mixtures of phenoxyethanol/hydroxyacetophenone/caprylyl glycol and phenoxyethanol/decylene glycol/1,2-hexanediol have both been proven successful in preserving shampoos as it will be shown for exemplary formulations in this article.

(cont. on next page) 4



Technical Corner

(cont. from previous page)

Additionally, one of today's go-to preservation solutions is the use of organic acids, and shampoos are often formulated using the corresponding water soluble salts sodium benzoate, potassium sorbate, or even sodium dehydroacetate. Organic acids work well with shampoo formulations because of the slightly acidic nature of these formulations. Nevertheless organic acids alone are not sufficient for broad spectrum preservation. The efficacy of organic acids can be enhanced significantly by combining with an anti-oxidant such as hydroxyacetophenone [3].

While thymol is well known in perfumery for its fragrance properties, its isomer *o*-cymen-5-ol (*p*-thymol) is odorless and is incorporated into formulations for its antimicrobial activity as a preservative. Climbazole, one of the most common anti-dandruff actives used in cosmetics, has been shown to have anti-fungal efficacy [4]. Furthermore, the alternative preservative *o*-cymen-5-ol as well as liquid preservative blends featuring the anti-dandruff active climbazole, display promising efficacy in shampoo formulations [5].

MATERIALS AND METHODS

1,2-alkanediols, such as 1,2-hexanediol, caprylyl glycol, and decylene glycol are incorporated in cosmetic formulations to function as humectants, solubilisers and deodorants [6,7]. Hydroxyacetophenone is a nature-identical ingredient found in fruits like cloudberry, cranberry and mango. It has both anti-oxidant and anti-inflammatory properties [8]. Organic acids are classic preservatives used in formulations with lower pH values. *o*-Cymen-5-ol is a thymol analogue while climbazole is a well-known anti-dandruff active ingredient. Standard Preservative Challenge Tests were performed according to a combined method incorporating both the United States Pharmacopoeia and the European Pharmacopoeia, with measurements of microbial Colony Forming Units (CFU/g) at days 0, 2, 7, 14 and 28 [9,10].

(cont. on next page)

Innovation
Comes
Naturally

K

kinetik™

AN OXYA BRAND

ConnectingChemistry

GAIN
ACCESS TO
SUSTAINABLE
INGREDIENTS

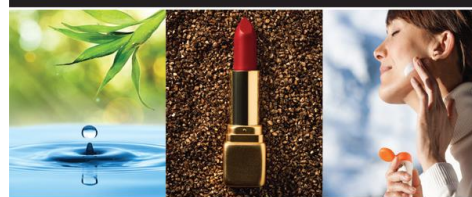
Natural and organic ingredients,
colors, surface treatments,
proteins, powders, and more.

Innovating beauty – clean and simple

brenntagpersonalcare.com
contactus@brenntag.com | (800) 687-3982

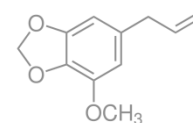
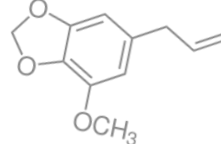
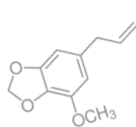
MORE THAN JUST THE
WAX EXPERTS

KOSTER KEUNEN



WAXES
ESTERS
EMULSIFIERS
SPECIALTIES

1021 Echo Lake Road, Watertown CT 06795
 +1-860-945-3333 • Info@kosterkeunen.com
www.kosterkeunen.com



Technical Corner

(cont. from previous page)

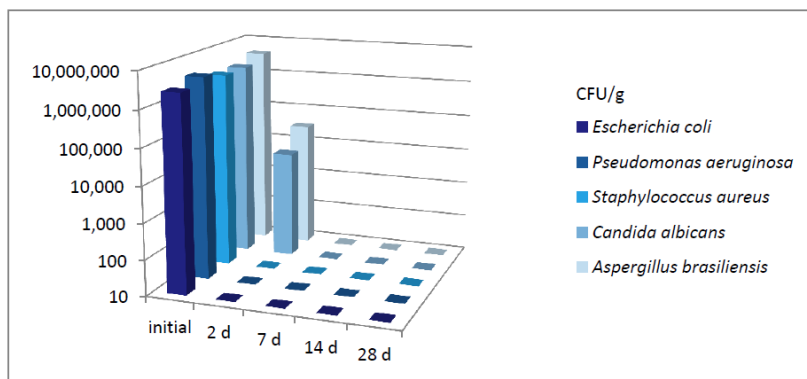


Figure 1: Challenge Test Data of 1.0% blend of phenoxyethanol, hydroxyacetophenone, and caprylyl glycol (7/2/1, w/w/w) in a shampoo.

Preservative Efficacy Test results on the shampoo confirmed that the blend of phenoxyethanol, hydroxyacetophenone, and caprylyl glycol is able to reduce all microorganisms in seven (7) days.

RESULTS AND DISCUSSION

Study 1: Shampoo formulations are typically produced by a cold process. Therefore, some manufacturers have difficulty working with solid ingredients that may require heating to solubilize the raw materials. In such cases easy-to-use liquid blends can be advantageous. A liquid blend consisting of phenoxyethanol, hydroxyacetophenone, and caprylyl glycol (7/2/1,w/w/w) was tested.

(cont. on next page)

PEG-free emulsifiers
 Extended wear resins
 D5 alternatives
 Pigment dispersants
 Gloss additives



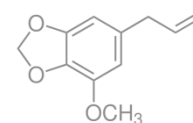
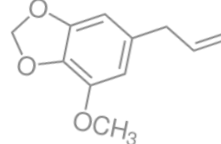
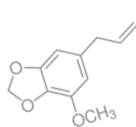
PERFORMANCE INSPIRED INGENUITY

Siltech Corporation
 Toronto, Canada
 +1 416.424.4567
 www.siltech.com
 sales@siltech.com



201-236-2828
 www.activesinternational.com

Alzo International Inc
 1650 Jernee Mill Road
 Sayreville, New Jersey 08872 USA
 Phone: (732) 254-1901 ■ Fax: (732) 254-4423
 Web: www.alzointernational.com



Technical Corner

(cont. from previous page)

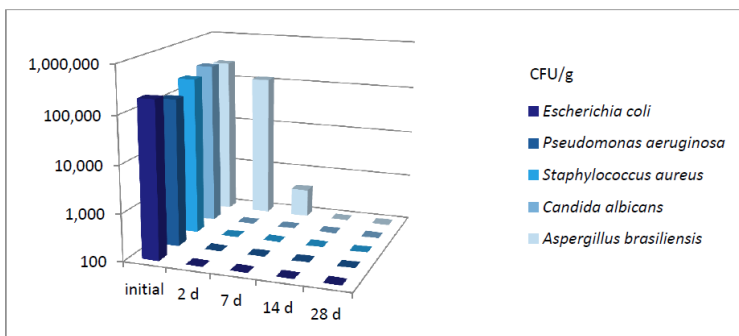


Figure 2: Challenge test data of a blend of phenoxyethanol, decylene glycol and 1,2-hexanediol (7/2/1, w/w/w) used at 1.0% in a shampoo.

Preservative Challenge Tests results on the shampoo confirmed that the blend of phenoxyethanol, decylene glycol and 1,2-hexanediol (7/2/1, w/w/w) is successful in reducing all microbes in fourteen (14) days.

Study 2: Decylene glycol is a cosmetic ingredient that functions as a viscosity and foam booster in shampoos and as a deodorant active. It is also able to support product protection due to its multi-functional properties. A blend of phenoxyethanol, decylene glycol, 1,2-hexanediol (7/2/1, w/w/w) was investigated for preservative efficacy at a concentration of 1.0% in a shampoo. 1,2-Hexanediol is used in the blend to increase the solubility of decylene glycol in phenoxyethanol.

(cont. on next page)

High Performance Ingredients for Skin and Hair Care

Smooth, mild, natural and stable

From product development to launch, our technical and marketing experts are here to help you meet the demands of consumers worldwide.

www.charkit.com | 203-299-3220

Charkit Chemical Company
an LBB Specialties Company

A leading supplier of unique specialty cosmetic ingredients to the cosmetic and personal care industry

BARNET

Where Science Meets Fashion

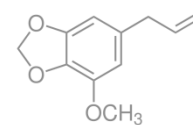
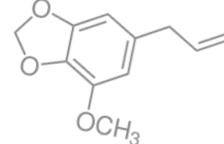
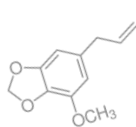
Barnet Products | 201-346-4620
www.barnetproducts.com



Naturally Grown, Ethically Sourced, Sustainably Produced
Cosmetic Ingredients from Around the Globe



www.caribnaturalproducts.com
16 Passaic Avenue, Unit 1, Fairfield, NJ 07004 USA



Technical Corner

(cont. from previous page)

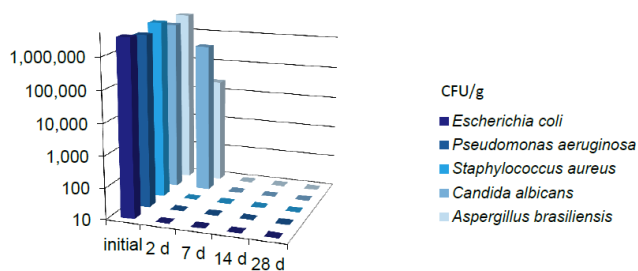


Figure 3: Challenge Test Data of 0.5% sodium benzoate and 0.3% hydroxyacetophenone in a shampoo. Preservative Efficacy Test results on the shampoo confirmed that the cost efficient combination of the benzoic acid salt with hydroxyacetophenone reduces all microorganisms in only seven (7) days.

	SymOcide® C	Phenoxyethanol
<i>Staphylococcus aureus</i>	250 ppm	5000 ppm
<i>Escherichia coli</i>	250 ppm	5000 ppm
<i>Pseudomonas aeruginosa</i>	1000 ppm	2500 ppm
<i>Candida albicans</i>	250 ppm	10 000 ppm
<i>Aspergillus brasiliensis</i>	250 ppm	2000 ppm

Table 4: Minimum Inhibitory Concentrations

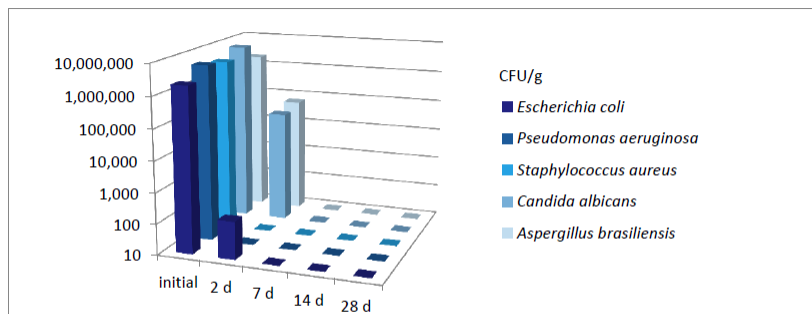


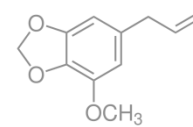
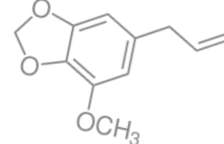
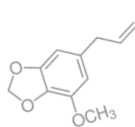
Figure 4: Challenge test data of 0.1% *o*-cymen-5-ol combined with 0.4% dehydroacetic acid in a shampoo @ pH 6.

Preservative Challenge Test results on the shampoo confirmed that 0.1% *o*-cymen-5-ol combined with 0.4% dehydroacetic acid is successful at reducing all microbes in seven (7) days.

Study 3: Sodium benzoate is frequently used in shampoos because the use of many other preservatives has become unpopular. Organic acids or their salts are therefore one of a few classical solutions for manufacturers, because shampoos are typically acidic. Knowing that sodium benzoate alone does not protect the product sufficiently, the preservative efficacy of 0.5% sodium benzoate at pH 5 can be enhanced by the combination with 0.3% hydroxyacetophenone.

Study 4: *o*-Cymen-5-ol has been used as a cosmetic preservative for many years. Nevertheless its use has not been well established because in past history there were numerous other preservative options. Today, lesser options are available for manufacturers in terms of preservation, therefore the focus on unconventional systems is becoming increasingly important. *o*-Cymen-5-ol is most efficacious in combination with other antimicrobial ingredients or multifunctionals. Compared to phenoxyethanol it is typically used at 10 times lower dosage. Its MIC (minimum inhibitory concentration) values against the typical microorganisms relevant for product protection are significantly lower than those of phenoxyethanol (Table 4).

(cont. on next page) 8



Technical Corner

(cont. from previous page)

Study 5: Climbazole is a well-established anti-dandruff agent with a long history of cosmetic use. Due to its crystalline structure, additional effort, such as heating, may be required while formulating cold processed anti-dandruff shampoos. Recently a 2-in-1 solution of the active in a liquid preservative blend has been developed allowing formulators to save the additional heating/solubilizing step [5]. A 1:2 blend of climbazole with phenoxyethanol, decylene glycol and 1,2-hexanediol (7/2/1, w/w/w) was investigated for its preservative efficacy at a concentration of 1.5% in a shampoo. This composition contributes to 0.5% of anti-dandruff active and 1.0% of product protection blend.

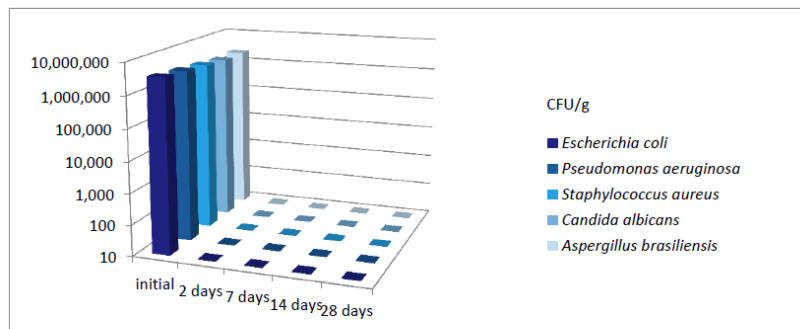


Figure 5: Challenge test data of a 1:2 blend of climbazole in phenoxyethanol, decylene glycol and 1,2-hexanediol (7/2/1, w/w/w) used at 1.5% in a shampoo.

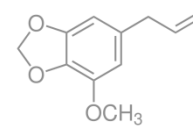
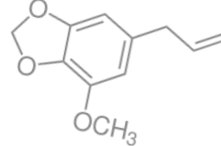
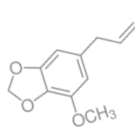
Preservative Challenge Test results on the shampoo confirmed that the 2-in-1 anti-dandruff-preservative solution is successful at reducing all microbes in two (2) days.

CONCLUSION

Modern product protection includes the use of traditional preservatives in combination with multi-functional ingredients. Incorporating this strategy, the concentration of preservatives can either be reduced and/or their efficacy can be enhanced. The combination of organic acids with hydroxyacetophenone has been proven to be efficacious under acidic conditions. Easy to use combinations of phenoxyethanol, hydroxyacetophenone, and caprylyl glycol as well as phenoxyethanol, decylene glycol, and 1,2-hexanediol have proven successful in preserving shampoo formulations. Anti-oxidants like hydroxyacetophenone are excellent at enhancing the efficacy of phenoxyethanol along with boosting the effect of organic acids to provide broad spectrum preservative efficacy even in formulations that are difficult to protect. Additionally, the classic preservative *o*-cymen-5-ol is successful at preserving shampoos when used in combination with dehydroacetic acid. A blend of climbazole with phenoxyethanol, decylene glycol and 1,2-hexanediol (7/2/1, w/w/w) is a modern easy-to-use 2-in-1 anti-dandruff preservative option for cold processed hair care formulations.

REFERENCES

- Boehm, E. E.; Synergism in vitro of certain microbial agents, *J. Soc. Cosmetic Chemists* 19, 531-549 (1968)
- Owen, S. C.; 2-Phenoxyethanol Monograph in: Rowe RC., Sheskey PJ., Weller PJ. (Eds.), *Handbook of Pharmaceutical Excipients*, 5th Edition, 517-518 (2006)
- Pesaro, M.; Hölscher, B.; Schmaus, G.; Koehler, A.; *Antimicrobial Compositions*; WO 2014/135650; PCT/EP2014/054378.
- Johncock, W.; *Dandruff control*, SCC, Queensland, Australia (2001)
- Romeu, X.; Genrich, F.; Pillai, R.; López, M. ; *Mixtures with Climbazole*; PCT/EP2015/079537
- Schmaus, G., Lange, L., Joppe, H., Pillai, R., Röding, J.; *New alkane-1,2-diol based antimicrobial combinations with enhanced activity against *Aspergillus niger**, IFSCC Congress, Osaka, Japan (2006)
- Schmaus, G., Lange, S., Pfeiffer, A., Joppe, H., Pillai, R.; *1,2-Decanediol – A new cosmetic active for multiple applications*, IFSCC Congress, Barcelona, Spain (2008)
- Alvarez, M. E., Rotelli, A. E., Pelzer, L. E., Saad, J. R., Giordano, O.; *Phytochemical study and anti-inflammatory properties of *Lampaya hieronymi* Schum. ex Moldenke*, *Farmaco*. 55(6-7):502-5 (2000)
- European Pharmacopeia* (EP) 5.1.3 Efficacy of Antimicrobial Preservation
- United States Pharmacopeia* (USP) <51> Antimicrobial Effectiveness Testing



Snapshots from November Meeting

Talk: Color Trends by Alison Griffin of Sudarshan

Photographer: Rana Zaki



We look forward to seeing you at our January meeting!

MMP

Vegetal Alternatives

Purified Extracts

Natural Moisturizers

Formulating Aids

Anti-Oxidants

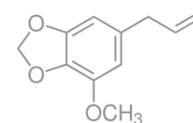
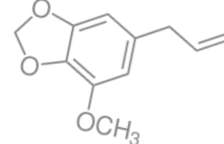
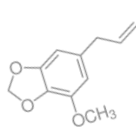
sales.us@mmpinc.com • www.mmpinc.com

Exclusive Distributor
ACTI chem
 Grape Vine extracts
SISTERNA
 Sucrose esters
Cobicsa
 Exotic extracts
 IN USA & Canada

Your ad could be here!

Gain exposure to CTSCC members by becoming a newsletter sponsor for 2020.

See
ctssc.org/advertising
 or email Michele
 (MMargherita@Brenntag.com)
 for details.



Volunteer Opportunities with the CTSCC

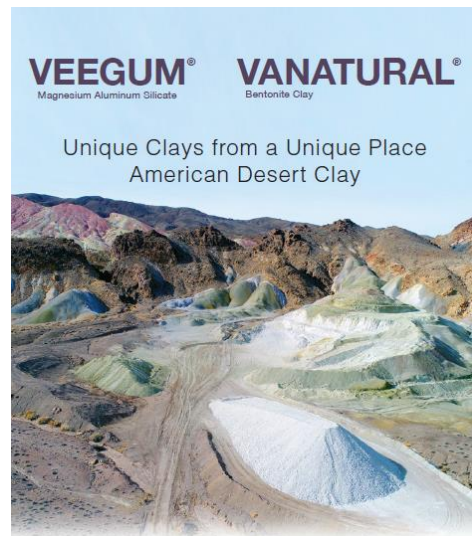
Become more involved with our chapter by volunteering!

Open board positions include:

- **Hospitality** (multiple) – Welcome members to meetings, create name badges for attendees
- **Sponsorship** – Solicit sponsors for chapter meetings, seminars, and social events
- **Website** – Update chapter site with monthly meeting information, events, newsletter, and employment

As a member of the board, you can gain exposure to the national SCC organization, experience in a trade organization (suitable for adding to a resume), excellent networking opportunities, and a voice in future speakers.

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

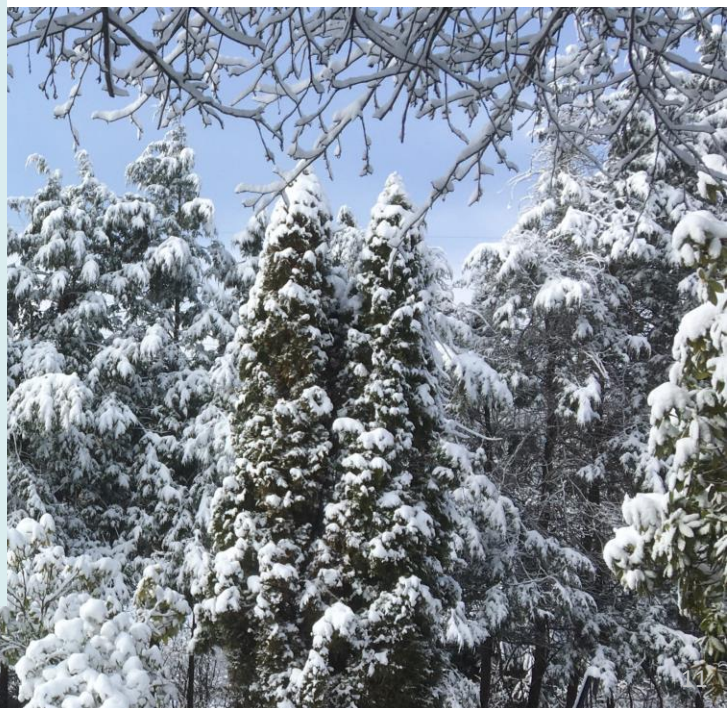


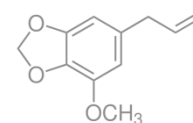
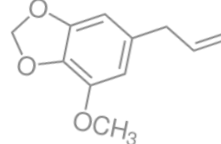
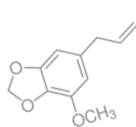
Vanderbilt Minerals, LLC
A Wholly Owned Subsidiary of SCL Vanderbilt Holding Company, Inc.
 33 Winfield St., Norwalk, CT 06855 • 800-562-2476
www.vanderbiltminerals.com
mineralsales@vanderbiltminerals.com
VEEGUM and VANATURAL are registered trademarks of Vanderbilt Minerals, LLC.

Mark Your Calendars

CTSCC 2020 Meetings

January 21
 March 17
 April 21
 (Golf Outing)
 September 22
 October 20 – Educational Seminar
 November 17





Member Spotlight



Jennifer Macary

Senior Scientist, Henkel
CTSCC 2020 Chair

Membership with CTSCC: I joined the Connecticut chapter around 2014

Previous CTSCC board positions: Website, Secretary

Member of SCC since: I joined the SCC as a student member in 2010, and have been a member ever since.

How did you get into the industry? Since my high school chemistry course, being a cosmetic chemist was all I wanted to do. I have been passionate about beauty care since my mom let me play with her makeup and make her homemade “perfume” with plants and kitchen

supplies. This industry provided an avenue to explore both chemistry and beauty care. I began my career with Momentive, which was an excellent opportunity to learn about the industry and raw materials.

What’s the best part about your job? I love that my job allows me to explore my passions. Although I am a scientist, it is a very creative job and allows me to learn and explore everyday.

What’s your favorite event that CTSCC hosts? What are you most excited about for CTSCC as Chair in 2020?

The CTSCC dinner meetings are a great casual way to get to know local members. I am especially excited to learn about Sustainable Formulation in March because I think it is such an important topic chemists need to be considering when creating new formulations.

What advice would you give to someone just starting out in the industry? My best advice is to learn as much as you possibly can. The better you understand raw materials, the better formulator you will be. The SCC provides great events throughout the year to help you expand your knowledge, and the connections you make with others in the industry at these events is invaluable.

Favorite restaurant in Connecticut? Mezon in Danbury, it’s a Tapas restaurant that has delicious Spanish inspired dishes.

Open your eyes.

Suga®Nate 160NC

Sodium Laurylglucosides Hydroxypropylsulfonate

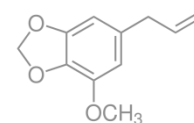
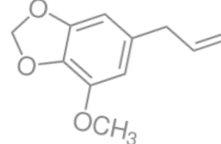
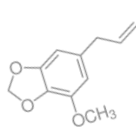
- **Lowest**** eye irritation score
- 100% naturally-derived
- EO-free, palm-free, biodegradable
- High-foaming
- Ships without preservatives



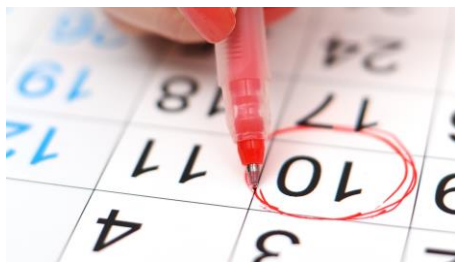
Visit www.colonialchem.com

**Results for both HET-CAM and MatTek EpiOcular™ are Zero, indicating no ocular irritation potential in vivo. Complete testing information available upon request. Suga® is a registered trademark of Colonial Chemical Inc. EpiOcular™ is a trademark of MatTek Corporation. ©2020 Colonial Chemical Inc.





Upcoming Events



January

16 – NESCC: Bioactives (Northborough, MA)

★ 21 – CTSCC Monthly Meeting (Darien, CT)

29 – NYSCC: New FDA Proposed Sunscreen Regulation (Woodbridge, NJ)


February

7-9 – NYSCC: Ski weekend (VT)

March


6 – NYSCC: Skin Microbiome

★ 17 – CTSCC Monthly Meeting



Essential
INGREDIENTS.

Distributing ingredients from the
finest manufacturers



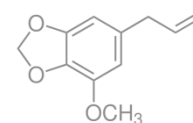
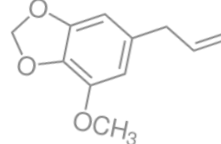
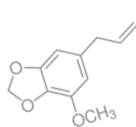
770.831.9010
www.essentialingredients.com

November meeting photos cont.



*Dinner at
Dinosaur BBQ
in Stamford*





Connect with area professionals through the newsletter!

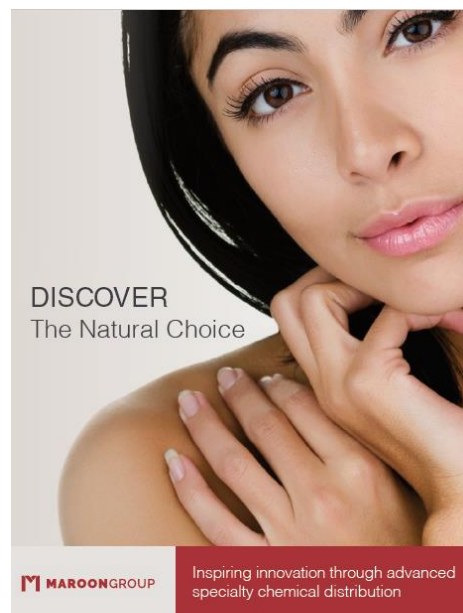
Do you have an **employment opportunity** in the Connecticut area or beyond?

Is there a **technical article**, raw material insight, 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).

Are you interested in supporting CTSCC with a newsletter **sponsorship**? Please contact Michele Margherita for more information (mmargherita@brenntag.com) or visit ctsc.org/advertising.



DISCOVER
The Natural Choice

M MAROONGROUP Inspiring innovation through advanced specialty chemical distribution

MAROON GROUP LLC
50 INDUSTRIAL CIRCLE, LINCOLN, R.I., 02865 USA
MAROONGROUPLLC.COM | 800.296.4942



SOCIETY OF
COSMETIC
CHEMISTS



Photo of Hartford by Ilirjan rrumbullaku (Flickr)

We are a chapter of the National Society of Cosmetic Chemists. The National Organization is dedicated to the advancement of cosmetic science. The Society strives to increase and disseminate scientific information through meetings, continuing education courses and publications. For more information please make sure to visit our website: www.ctsc.org