

'Currents' from the Mid-Atlantic Society of Cosmetic Chemists



MID-ATLANTIC SOCIETY OF COSMETIC CHEMISTS

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The Loss of a Friend...

National released the following statement in January:

With deep regrets and sadness, Terry Cesario, the executive director of the Society, passed away Jan 16th at her home. For the past three decades, Mrs. Cesario worked with the Society of Cosmetic Chemists. We have lost a good friend as well as an outstanding leader that fought relentlessly for the benefit of the SCC and all its members. Terry was a true professional and her service went well beyond the call of duty.

Terry was an outstanding leader, friend, and above all a wonderful woman. Her presence and influence will be sorely missed by all.

Mark Your Calendar!

March 10, 2011

The Science of Beer
Milton, Delaware

June 15, 2011

Charity Event / Richmond Flying Squirrels
Richmond, Virginia

September 27, 2011

Anti-Wrinkle & Hyperpigmentation
Joint Event with Carolina Chapter
High Point, North Carolina

November 2011

President's Night

First Quarter 2011



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Letter from the Chair: Welcome!

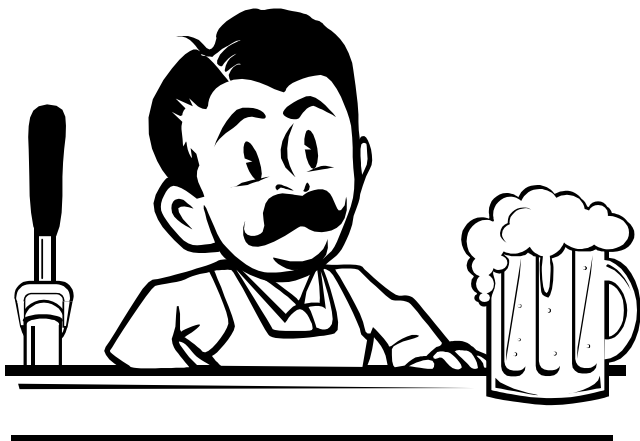
By: Maria Soldato, 2011 Mid-Atlantic Chapter Chair

Hi MASCC members! I hope 2011 is treating everyone well so far and everyone had a chance to enjoy some time off during the Holidays. Let's hope the Mid-Atlantic doesn't see anymore snow!

MASCC had a great year in 2010 with some exciting events and speakers. We plan on keeping up the trend for 2011 and we've got some exciting events planned for 2011 so far. Our first MASCC event will take place on [March 10](#) in Delaware. MASCC will be touring the [Dog Fish Head Brewery in Milton, Delaware](#). The tour will take place at 3:30PM and we were lucky enough to get some face time following the tour with Assistant Brewmaster Jon Carpenter. Make sure to come prepared with all of the questions you ever had about beer. In keeping with the beer theme of the day, MASCC will be having dinner at Irish Eyes Pub, (Milton, Delaware), following the tour. This event is limited to 35 people so make sure to sign up early. Due to the nature of the tour [closed toe shoes](#) are required to attend, so let's make this a casual jeans and sneakers kind of event and enjoy a relaxing day with fellow members. Check out some of our other upcoming events in the "Upcoming Events" section of the newsletter.

Mid-Atlantic is in charge of submitting [speaker topics for the for 2012 seminar](#) so please submit your interests to any MASCC board member and we'll be sure to pass it along to National.

I'm looking forward to seeing everyone at the March 10th event!



The Science of Beer

3:30pm March 10, 2011

**Dog Fish Head Brewery
6 Village Center Blvd.
Milton, DE 19968**

The Mid-Atlantic Chapter SCC joins forces with Dog Fish Head Brewery to bring you 'The Science of Beer'. Come join your industry friends for a stirring discussion about the chemical interaction between hops, yeast, grain, and water that results in the foaming liquid gold we call beer. Following a tour of the Dog Fish Head Brewery, we will delight in a dinner at the Irish Eyes Pub.

Guest: John Carpenter, Assistant Brewmaster

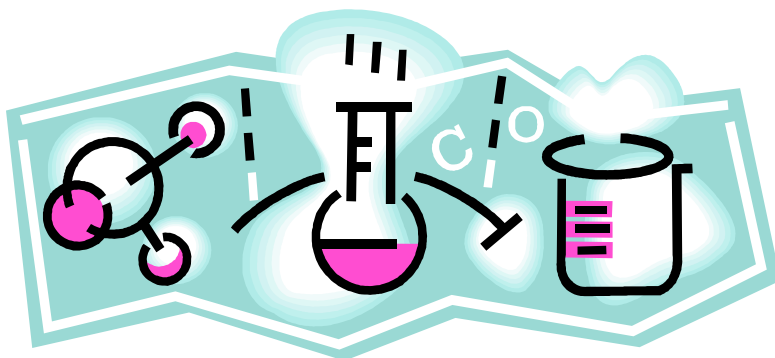
**Tour Begins: Promptly at 3:30pm at Dogfish Head Brewery
Dinner to follow at Irish Eyes Pub**

Dress Code: Casual Jeans & Sneakers (closed toed shoes required)

Cost: \$25 (Paypal Available)

Registration: Submit to maria.soldato@evonik.com

***Note: registration limited to first 35 people**



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Announcements

Call for Newsletter Articles

Hello everyone, we wanted to add a column to the newsletter to go over some of the basics of formulations. Maybe it's old hat to you, maybe you learn something, in any case, we would like to highlight some of the things formulators have to deal with every day when formulating. If you have suggestions or would like to contribute an article, please let us know. It doesn't have to be on formulating, it can be anything that highlights what we as an industry do very well. It's your newsletter!

-Mike Mollman, Chapter Chair-Elect



International Federation of Societies
of Cosmetic Chemists Website

New IFSCC Award Announcement: Henry Maso Award for Young Cosmetic Scientists

The IFSCC is pleased to announce the opening of the competition for the new Henry Maso Award for Young Cosmetic Scientists.

The Award is given at IFSCC Conferences to the best scientific paper given by an author, normally under the age of 40, who has submitted a full paper for consideration for the Award. The winner will be awarded a trip to the next IFSCC Congress with the cost of travel, accommodation, and registration fees up to, but not exceeding, 6000 Swiss Francs, being paid by the IFSCC. Applications must be submitted to lorna.weston@ifsc.org by no later than 1 JUNE 2011.

The applicant must:

- Be a member of an IFSCC affiliated Society
- Normally be under the age of 40
- Not have submitted a paper for the IFSCC Conference
- Not enter the Maison G de Navarre Award in the same year

<http://www.ifsc.org/awards.htm#henrymasso>

Upcoming Events

March 10, 2011 (MASCC)

The Science of Beer

Dog Fish Head Brewery tour with Assistant Brewmaster Jon Carpenter

Milton, Delaware

Time: 3:30PM

Limited Attendance: 35 people

Dinner: Irish Eyes Pub, (Milton, Delaware) 5:30PM

March 29-31 In-Cosmetics (Milan, Italy)

May 10-11 NY Supplier's Day (Edison, NJ)

June 2-3 National SCC Seminar (Las Vegas, NV)

June 15, 2011 (MASCC)

Charity Event at Richmond Flying Squirrels ('AA' Affiliate of the San Francisco Giants) Richmond, VA

Game Time: 7:05PM

The MASCC board is asking members attending that night to bring personal care items for donation to the Ronald McDonald House.

Sep 15-17 Sunscreen Symposium (Orlando, FL)

September 27, 2011 (MASCC)

Joint Event with Carolina Chapter

Time: 8AM-5PM

Topic: Anti-wrinkle and Hyperpigmentation

Speaker: Dr. Zoe Draelos (tour of facilities to follow)

Dinner to follow tour

Limited Attendance: 40 max

Registration will be through the Carolina Chapters website, we will let members know when they can begin registering.

November 2011 (MASCC)

Mid-Atlantic Chapter President's Night

Dec 8-9 National SCC Meeting (New York, NY)

Formulation Basics: Thickeners



..EVEN THOUGH SALT IS THE EASIEST AND CHEAPEST SOLUTION, ITS NOT PRACTICAL TO USE BY ITSELF.

By: Mike Mollman, 2011 Chapter Chair– Elect Evonik Goldschmidt

I would like to review some basic concerns when trying to thicken a surfactant system. Perhaps the most basic system to thicken would be one with sodium lauryl sulfate and cocamidopropylbetaine. The addition of sodium chloride will easily thicken this system. Unfortunately, the viscosity will increase very quickly as the electrolyte concentration increases. It would be very easy to overshoot your target and end up with something which would need to be sliced with a knife. So even though salt is the easiest and cheapest solution, it's not practical to use by itself.

The good news is that there are a lot of choices to choose from. The bad news is there are a lot of choices to choose from. It is probably best to try to group them and look at the attributes of each group. For the purpose of these articles, I've separated the compounds into four types:

- Electrolytes
- Hydrophilic thickeners
- Hydrophobic thickeners
- Large polymers/gums/clays.

In this article, I'm going to focus on the hydrophilic and hydrophobic thickeners. These two classes are widely used and they thicken by different mechanisms. They also give different sensorial profiles.

An advertisement for CrystalPet™ Petrolatums. It features a black and white photograph of a woman's legs in a white, textured garment. The text includes 'CrystalPet™ Petrolatums', 'PUTTING SCIENCE INTO THE ART OF PETROLATUM FORMULATION', and the Crystal Personal Care Products logo. Contact information for the PMCGroup is provided at the bottom.

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Formulation Basics: Thickeners Cont.

By: Mike Mollman, 2011 Chapter Chair– Elect

Hydrophobic thickeners tend to be monomeric or oligomeric types with low molecular weight and usually non-ionic. Some examples are:

Cocamide DEA

Polyglyceryl-3 Caprate

Isostearamide MIPA

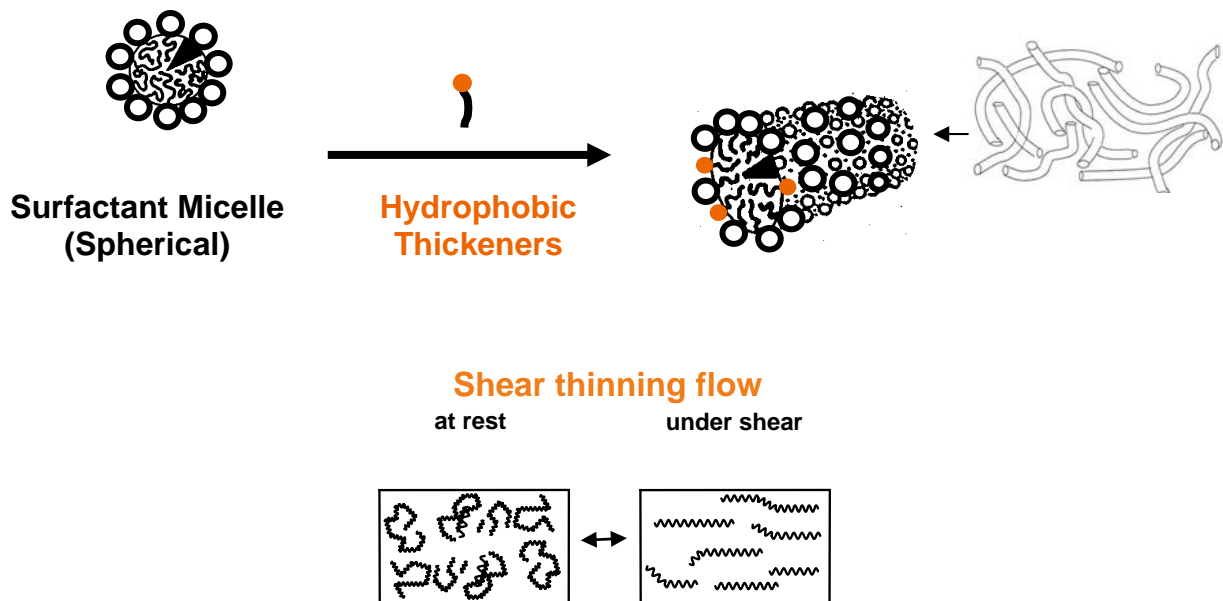
Laureth-4

Sorbitan Sesquicaprylate

PPG-3 Myristyl Ether

Hydrophobic thickeners are able to thicken surfactant formulations by increasing the size and shape of the micelles. The relatively small polar heads change the micelle form spherical to rod-like (think spaghetti noodles). At rest the micelles are arranged randomly, which leads to a higher resistance to motion (aka increased viscosity). When the system is subjected to heat, the energy introduced into the system is not in one direction, therefore the molecules remain in a random state and the viscosity is not reduced due to temperature. When energy is introduced by increasing the stirring (shear), the micelles will orient parallel to the shearing force, and the viscosity will be reduced. This reduction of viscosity over time due to shear, is known as shear thinning flow. This is a reversible procedure, if the system is allowed to recover, the rod-like micelles will become randomly distributed again and the viscosity will be restored.

Shear thinning flow has a great application in liquid soap dispensers because they can reduce or eliminate the stringiness of the soap. The system is subjected to shear when the dispenser is depressed, therefore the soap thins and comes out easily. Once the shear is removed, the viscosity recovers and no soap should leak. The negative aspect of hydrophobic thickeners is that just like a dispenser, when you rub your hands together, shear is applied and the soap thins out. And many consumers equate thin, watery soaps with low quality.



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Formulation Basics: Thickeners Cont.

By: Mike Mollman, 2011 Chapter Chair– Elect

Hydrophilic thickeners tend to be non-ionic, highly ethoxylated oleochemical derivatives. Some examples are:

PEG-120 Methyl Glucose Dioleate

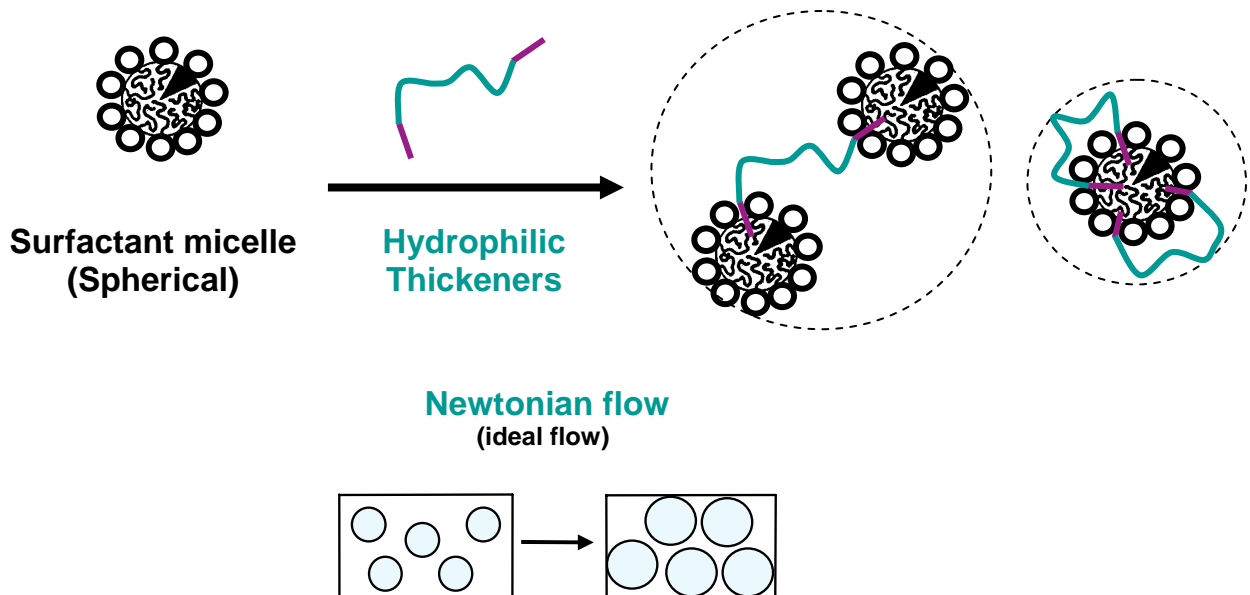
PEG-150 Distearate

PEG-18 Glyceryl Oleate/Cocoate

PEG-55 Propylene Glycol Oleate

Hydrophilic thickeners work by increasing the size of the spherical micelle. The non-polar ends of the thickener join the micelle and leave the repeating PEG units outside. The PEG units will attract and hold water molecules, thereby effectively increasing the size of the micelle. The larger micelles lead to an increasing resistance to motion which, again, is essentially what viscosity is. The size of the micelle remains unaffected by shear, therefore the viscosity doesn't drop. This makes thick formulations (which consumers feel are luxurious) pretty easy to make. However, at

higher temperatures, the PEG is unable to hold on to the water molecules; causing the micelle size to be reduced, which means the viscosity is decreased. This makes filling shampoo bottles easy. With a little heat, the formula flows easily. Once it cools in the bottle, it is thick and luxurious again. If you tried to use this in a dispenser, you would have to limit the use of the hydrophilic thickeners or else the formula would be too thick to dispense. Unfortunately, a formula that thin would tend to leak and give you a stringy product, and no one thinks stringy is luxurious.



Formulation Basics: Thickeners

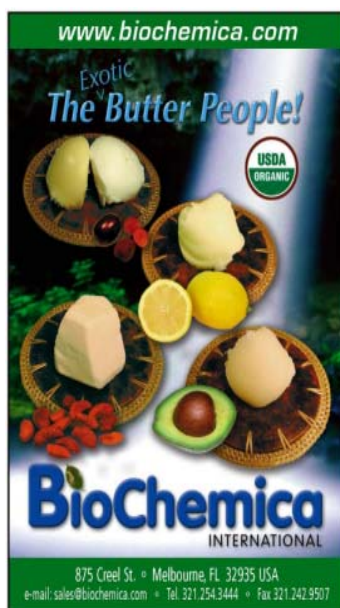
By: Mike Mollman, 2011 Chapter Chair– Elect

Just to recap, hydrophobic and hydrophilic thickeners are two of several types of thickeners for surfactant systems. The hydrophobic thickeners are typically small molecules which increase viscosity by converting spherical micelles into rod-like structures. The viscosity is resistant to heat but not shear. This makes them great for dispenser applications. Hydrophilic thickeners are typically fatty chains with multiple PEG ether units attached. They tend to increase the size of the spherical micelles which holds up well to shear but not to heat. This is useful for hot-filling bottles and letting the system thicken in the bottle as it cools down. They give you thick systems which consumers tend to think of as luxurious.

Next time we'll look at the other types of thickeners. After that, we see the other benefits of these molecules and their use in some difficult systems. I am not the expert on thickeners; fortunately, there are many published papers to help anyone who wants to learn. I drew my information from internal resources and the following two published articles:

References

1. "Introduction to Shampoo Thickening" **Beginning Cosmetic Chemistry 3rd Edition**, Yang, Y.; Howe, A.; and Flowers, A. E.
2. "Thickening Agents for Surfactant Systems" **SOFW Journal English Edition** March, 2010, Korte-meier U., Venzmer, J., Howe A., Gruening B., and Herrwerth S.



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Contact our advertising chair, Stan Milstein at Stanley.milstein@fda.hhs.gov or (301) 436-1343 for more information or to purchase advertising.

Thanks again for those who advertised in 2010 and have chosen to continue with us for 2011!

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Chapter Members are invited to
Submit topic and speaker suggestions

to be considered for inclusion in the
2012 National SCC Scientific Seminar.

Deadline for submission is April 15, 2011.

Suggestions may be submitted via email to
Shontell Wright, Mid-Atlantic SCC Chapter Secretary
(Shontell.Wright@fda.hhs.gov)



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