

MidAtlantic Rubber & Plastic Group

Spring 2009 Newsletter



MidAtlantic Rubber & Plastics Group

www.marubber.org

CHAIR'S MESSAGE



May you live in interesting times...

This year has been very interesting so far and we are just getting started.

There has been a significant adjustment of the workforce of our member companies. Many talented and capable rubber and plastic technology workers were reluctantly let go due to the current and predicted slow economy. Hopefully, this is temporary and the next Chair's Message will be all positive.

What can we do?

Every Board member donates his or her time and realizes that the effort is for the improvement of rubber and plastic technology and the future value of the supporting companies in the MidAtlantic area. After careful considerations of different themes for a spring technical meeting, a decision was made that we will try a different approach. This Spring we will not have a technical meeting but instead will include technical articles in the spring Newsletter that our members can read and circulate rather than take a half day away from their workplace.

On behalf of the MARPG membership, I want to thank Donna Kling for her outstanding contribution over the last several years in the development and maintenance of the MARPG Website from its birth under the Philadelphia Rubber Group. Donna's forward thinking, expertise, and insight have brought the organization to a level of excellence in the web design. Donna is now stepping down from that position. Brett Robb, Development Chemist at Sartomer Company has graciously accepted to take on the responsibility of Webmaster for the MARPG. We look forward to Robb's insight and contribution in the critical area.

Thanks to contributions from Dave Brinkman of Smithers we are including an article on implementing REACH which will affect companies supplying product to Europe. We also have included an article contributed by our Vice Chair, Bob Ohm of Lion Copolymer on Bloom & Frosting. We hope you enjoy the articles and we welcome your input and possible future article contributions.

This is the Centennial of the Rubber Division of the American Chemical Society. A Celebration will be held on May 4th in the Akron area to celebrate this event.

We plan an outstanding Fall Technical meeting to be held in King of Prussia on Sept 24 at the Park Ridge Hotel. Mark your calendars now. The fish tech trip will be held on June 25th and will be again be with Captain Bogan from Brielle, New Jersey.

The annual golf outing will be organized by Robert Carroll and Wally Mack and will be at Yardley Country Club on Aug 4th. Please mark your calendar now.

Stay focused and have fun doing it.

Remember the politically updated quote for Theodore Roosevelt:
Every man (and woman) owes some of his (or her) time to the up-
building of the profession to which he (or she) belongs.

Ron Campbell
2009 MARPG Chair

Area Director Report



Rubber Division Holds **175th Technical Meeting**

Registration and Housing Open Now!

May 4-6, 2009

Hilton Akron/Fairlawn

3180 W Market St, Akron, Ohio 44333

330-867-5000 or 800-525-2419

***Celebrate our 100th Anniversary with us!
Centennial Celebration***

John S. Knight Center - Monday, May 4, 2009 @ 5:30 PM

Don't miss this black-tie-optional gala dinner that will prove to be the rubber industry event of the century! The evening will begin with cocktails and displays of historical photos of the Rubber Division's 100-year history. The dinner and evening entertainment will be a combined celebration for The University of Akron's 100th anniversary of their first rubber course.

Cost is \$125/person with reservations required by April 6, 2009.

Our Honorary Chairman and Keynote Speaker for this event will be John D. Ong. Mr. Ong was appointed by President George W. Bush Ambassador Extraordinary and Plenipotentiary of the United States to the Kingdom of Norway in 2001. He served in this capacity until November 30, 2005. [Click here for more information about this Centennial Celebration.](#)
5K Walk/Run - Sponsored by H. M. Royal, Inc.

**Akron/Fairlawn Hilton Lobby - Tuesday, May 5, 2009 @
6:30 AM**

Runners and walkers are invited to participate. Spouses and guests are welcome. FREE registration is required for planning purposes.

Science & Technology Awards Luncheon

Tuesday, May 5, 2009 @ 11:30 AM-1:45 PM

Cost of the luncheon is included in the 175th Technical Meeting registration fee. Emeritus, Student, Press and Guest tickets may be purchased for \$50 each.

Goodyear Medalist Presentation

Tuesday, May 5, 2009 @ 2:00-3:00 PM

Dr. James L. White (The University of Akron) has won this award, sponsored by the Rubber Division, ACS, which perpetuates the memory of Charles Goodyear, the discoverer of the vulcanization of rubber. Individuals are honored with this award for outstanding invention, innovation or development which has resulted in a significant change or contribution to the nature of the rubber industry.

Business & Awards Meeting

Wednesday, May 6, 2009 @ 11:00 AM-12:00 PM

Please join us at the semi-annual Business & Awards Meeting of the Rubber Division ACS. The meeting will include general business, plus the presentation of the Arnold Smith Special Service Award to Patricia Butler, the Certificate of Special Appreciation to Larry Evans, and announcements of the winners of the Best Paper Award and Best Symposium Award from the Fall 174th Technical Meeting held in Louisville, Kentucky.

25-Year Club Luncheon

Wednesday, May 6, 2009 @ 12:30-2:00 PM

Ralph Graff will speak during this event. Ralph is a past Chair of the 25-Year Club Committee and of the Rubber Division ACS. Any member or affiliate member of the Rubber Division who has been active in the industry for 25 years or more may attend this luncheon. Reservations are required, seating is limited, and tickets cost \$50 each.

Chair's Classic Golf Outing

Firestone Country Club - North Course, Wednesday, May 6, 2009 @ 1:30 PM (shotgun start)

Registration is limited to the first 128 golfers and includes 18 holes of play-your-own-ball format and a cart. Each golfer will receive a boxed lunch with beverage, personalized Firestone Country Club bag tag, use of the practice facility and locker room privileges. Immediately following the outing is a closing reception with prizes and a cash bar. Advance registration by March 6, 2009, is required and the cost is \$225/golfer or \$900/foursome. (Entry fees are non-refundable. In the event of a cancellation or interruption by Firestone Country Club due to inclement weather, a partial refund or event rescheduling may occur.)

Future Rubber Division Meetings are as follows:
October 13-15, 2009 Pittsburgh

Robert E. Carroll III
MARPG Area Director

Bloom and Frosting

Presented by Robert Ohm, Lion Copolymer

The surface appearance of a rubber article can change after vulcanization due to bloom, frosting or both causes. Typically, the high gloss surface becomes dull and eventually a discoloration appears on the surface.

The cause of bloom can be readily identified by an infrared trace of the material removed from the surface of the bloomed article. The surface deposit is often white but can be yellow or other colors. The compounder can prevent blooming by lowering the dose of the blooming ingredient to keep it within its solubility limit in the particular recipe.

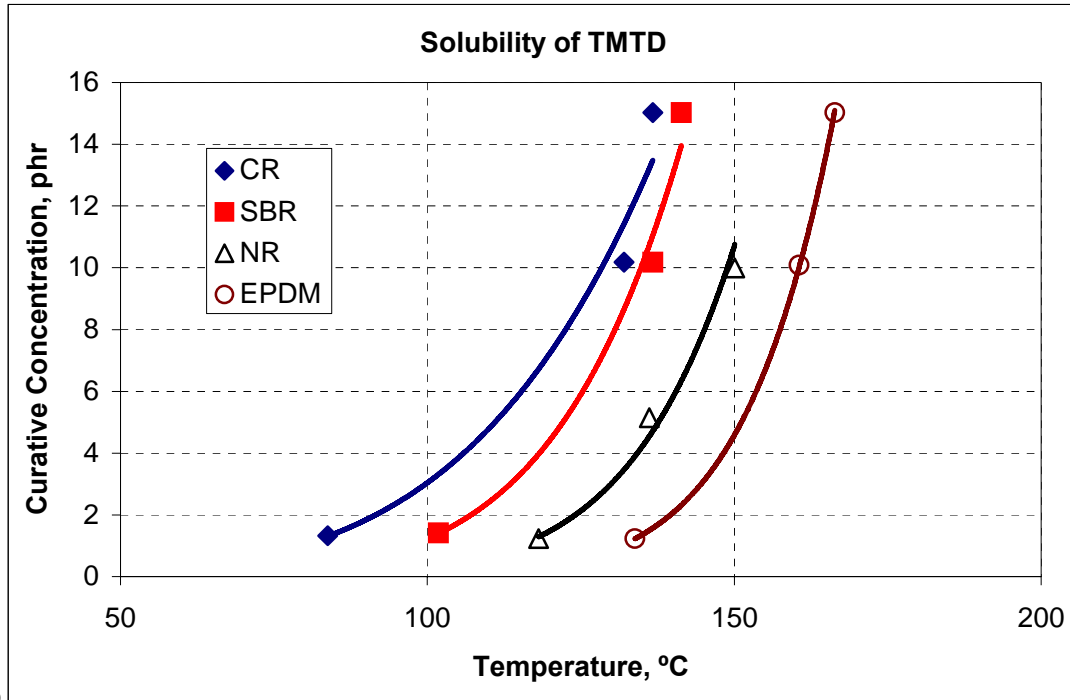
The cause of frosting is ozone attack at the surface of the article. Like the name implies, frosting is a grayish white discoloration of the surface. Frosting is typically distinguished from bloom by heating the rubber sample in a warm oven. Bloom will disappear (due to the material dissolving in the warm rubber) and the gloss surface will be restored. In contrast, frosting will not disappear during gentle warming.

Bloom

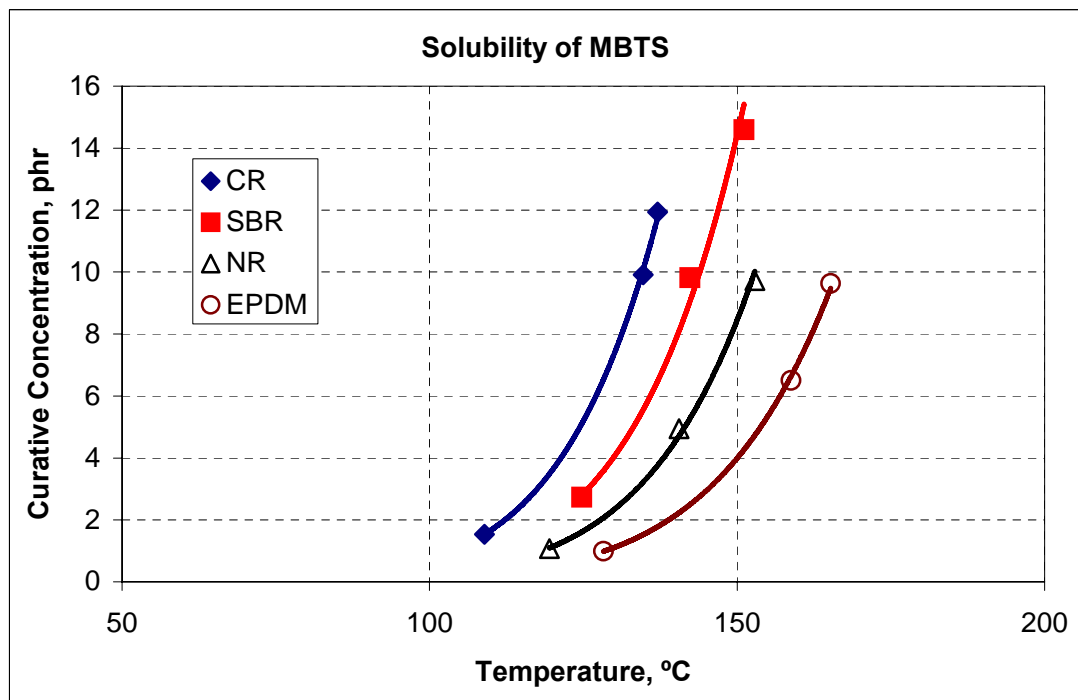
Most rubber chemicals dissolve in rubber when warm. Two examples are shown in Figure 1. TMTD is tetramethyl thiuram disulfide; MBTS is mercaptobenzothiazyl disulfide. When the rubber vulcanizate cools, the dose level of an ingredient may be sufficiently high to exceed its solubility limit in the rubber compound at room temperature. Over time, the ingredient precipitates from the rubber solution and crystals of the ingredient form on the rubber surface, which becomes evident as bloom.

Sulfur is often the ingredient in blooms. Normal sulfur cures require sulfur in excess of its solubility limit at room temperature, but the reaction of sulfur during curing greatly diminishes the amount of sulfur available to bloom in the vulcanizate. Insoluble, polymeric sulfur can be used to prevent bloom in uncured compounds but heating above 100°C will convert the amorphous polymeric sulfur to the conventional rhombohedral or soluble, blooming form.

Figure 1, Solubility vs. Temperature for 2 Accelerators in 4 Polymers from J. Brooke Gardiner, Rubber Chem. Technol., Vol. 41, p1312-1328



(1968)

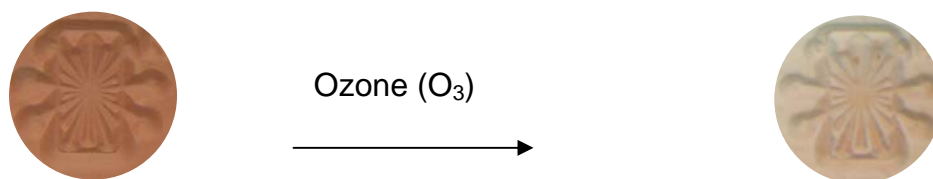


In general, antioxidants do not bloom when used in the recommended doses that are given in antioxidant selector guides.

Accelerators are difficult to give exact limits for blooming because they react during vulcanization to form new chemicals. For example, thiurams form the corresponding zinc dithiocarbamate during vulcanization. Thus, it is possible to identify a dithiocarbamate such as ZDMC in the bloom, even though the only accelerator added was a thiuram (e.g. TMTD or TMTD). Also, some of the accelerator becomes bound to the polymer network, so the effective dose available to bloom is less than originally added. The exact amount of free accelerator depends on the vulcanization conditions.

Frosting

Frosting typically begins with the onset of the summer months, when ozone concentrations increase dramatically. Frosting is most common with NR and IR but can occur in other ozone-susceptible (highly unsaturated) polymers as well. An example of the discoloration caused by ozone is shown below.



The compounder can prevent frosting by protecting the surface from ozone attack. Possibilities are the use of antiozonants, halogenation of the surface, or the use of an ozone protective wax along with a powerful antioxidant. For black articles where discoloration and staining are permissible, para-phenylenediamine antiozonants such as 6PPD can be used. If staining is objectionable, such as the article above, either surface halogenation or adding ½ part microcrystalline wax with 1 phr of a highly active antioxidant such as hindered bisphenol can be effective.

REACH – General Overview

Submitted by J. David Brinkman, Smithers REACH Services

In June 2008, implementation of what is known as REACH, (**R**egistration, **E**valuation, **A**uthorization and Restriction of **C**hemicals) went into effect for all companies conducting business within the European Union and European Economic Area. The general spirit of this regulation is to reduce Humans and Environment exposure to harmful chemicals by reversing burden of proof from user to manufacturer and importer.

This shift means all producers of monomers and polymers, as well as polymer formulations, if they want to sell into the EU/EEA market, must register the monomers and relevant additives by providing basic physical, chemical and toxicity data. The higher the tonnage sold into Europe, the more data is required to prove the monomer or additive is safe for environmental exposure and human exposure. This applies even if the monomer is only present in a product in a reacted bound form, where the polymer is the only material traded in Europe. Information on

each substance is provided through registration dossiers, Chemical Safety Assessments (health, environmental and exposure assessments) and relevant Safety Data Sheets. Registration deadlines are set by metric tonne produced or imported in the EU/EEA area and are the responsibility of the manufacturer if produced within the EU/EEA and importer if made outside the area, but shipped in. As a first step, it is necessary to pre-register the monomer and relevant additives. This should have already been done before 1 December 2008, unless the product is being produced or imported above one tonne per year for the first time after that date.

Non-EU companies that manufacture or formulate a product can only register the chemicals in their products through an ONLY REPRESENTATIVE. There are different considerations if you are a distributor.

If you produce the monomer, polymer or a chemical mixture outside the EU/EEA, then an Only Representative must be used to register the relevant substances and provide the European Chemicals Agency (ECHA) with all data, tonnage imported yearly and final registration dossiers. The Only Representative must keep track of the yearly tonnage for each European client 'importer'. So this may need careful communication across a supply chain and various methods exist to retain customer confidentiality.

Tonnage	Approximate # substances	Tests	Deadline
1 – 10	18000	Annexes VI-VII	31 May 2018
10 – 100	5000	Annexes VI-VIII	31 May 2018
100 - 1,000	2600	Annexes VI-IX	31 May 2013
≥ 1,000	2700		
known CMR ≥1	900	Annexes VI-X	30 Nov 2010
known PBT ≥100	130		

CMR = carcinogenic, mutagenic, reprotoxic categories 1 & 2
PBT = persistent, bio accumulative and toxic with Risk
Phrase R50/53

Selling a finished product, or in REACH terms, an "article" within the EU/EAA doesn't mean you have no responsibility. REACH regulations require communication throughout the supply chain about raw materials which fall under the new listing of Substances of Very High Concern (SVHC). These SVHC's are required to be communicated when present at over 0.1% w/w.

Provisions within the regulation allow for late pre-registration if required, but create more stringent deadlines to provide all data and strict penalties are set for shipment of non-registered substances and, mixtures containing non-registered substances. Penalties include jail time for intentional import or use of non-compliant products.

As the legislation continues to evolve through consortia groups and legal interpretations, the process and strategy for cost effective registration will continue to be a challenge. If you are

interested in further conversations to understand your responsibility and testing requirements, please contact for David Brinkman for consulting and testing assistance.

J David Brinkman
Director, REACH Services
O - (330) 762-7441 ext-1158
M - (330) 690-9743
www.smithersreach.com
www.springbornsmithers.com
www.rapra.net

Solicitations Committee Report

The MidAtlantic Rubber Group formally the New York Rubber Group and the Philadelphia Rubber Group has for many years supported academic scholarships through corporate contributions of \$ 250.00.

These scholarships were established to encourage the continued growth of the rubber industry. Corporate support has for many years financed these scholarships which have been awarded to deserving students from area universities.

The MAR&PG acknowledges once again thanks the corporate membership for their continued generosity and support of this noble scholarship. The 2008 corporate contributors and their continued years of service are the following:

<u>Corporate Contributors</u>	<u>No. of continuous years</u>
Burgess Pigment Co.	17
Carlisle SynTec Corp.	25
Carlisle Tire & Wheel	30
Geo Specialty	5
HM Royal	18
Pelmor Labs	15
R.E. Carroll Inc	17
Sartomer	8
Solvay Solexis	8
Sunoco Inc	29

Contributors of mention
RT Vanderbilt Co.

The MARPG's 2008 total was: \$ 2,600.00

Respectfully,

Joe Martin, 2008 Solicitations Committee

Scholarship Report

The Scholarship Committee announced that the 2008 Scholarship Recipient is Griffin Kidd, sponsored by his father and MARPG member Bob Kidd. He will be awarded a check of \$ 4,000.00. This will be used towards his tuition at Temple University.

Thank you to all the applicants for this year's scholarship.

Robert E. Carroll III
Scholarship Committee

Membership Report

The MidAtlantic Rubber and Plastics Group (MARPG) were formed in 2007 by the merger of the Philadelphia and New York Rubber Groups. Now it is time for us to renew our membership to the MARPG for 2008 and recruit new members to join us.

The renewal process only takes you a few minutes. Please fill out the attached MARPG membership form (.pdf format). This form can be also downloaded from our website (www.marubber.org) under "Join Now". Your form together with fee payment can be mailed at the address on the form, or emailed at membership@marubber.org, or faxed at (215) 256-0925 back to me.

We welcome the following new members to the MidAtlantic Rubber & Plastic Group

Archambault	Andre	General Manager	Soucy Techno I+L188nc.
Carollo	Michael		Itran-Tompkins Rubber Co.
Deiley	Britton C.	Manufact. Engineer	Greene Tweed & Co.
Drake	Kerry	R&D Polymer Chem	Greene Tweed & Co.
Fickert	Ted		Crystal, Inc-PMC
Glasgow	Paul		Stemaco USA
Guion	Mike		Carlisle Tire & Wheel
Gurevich	Eugene	Process Engineer	Greene Tweed & Co.
Johnson	Jess	Lab Manager	The VMC Group
Joynt	Tom		Plasto-Sac Ltd
Lewis	Jill	Account Manager	Dyneon LLC
Mc Carron	Mary Ann	Sales Manager	Soucy Techno Inc.
Messa	Anthony	Account Manager	Dyneon LLC
Paeglis	Arnis		Dow Chemical

Reichl	Gary		Greene Tweed & Co.
Rey	Robert		Greene Tweed & Co.
Silo	Evan		McGee Inds, McLube div.
Vanderhoof	Wayne	Global Business Mgr.	R.T. Vanderbilt Company
Wilson	John	C.E.O.	The VMC Group

Individual membership fee is \$20. Your payments in the form of a check or credit cards (Visa, Master Card, Discover and American Express) are acceptable. This year we also continue to offer a corporate membership at a rate of \$150 for 10 members per year. Please have each

Member fill out a separate membership form.

An alternative option is to renew or join MARPG by selecting "MidAtlantic" as your local group when you renew or join your ACS Rubber Division membership through online (www.rubber.org) or mail/ facsimile. The membership form of Rubber Division is also attached. Please return this form with payment to Rubber Division directly.

Marty Sheridan, Membership Chair

MARPG Golf Outing

The MARPG has announced that the 2009 Golf Outing was held on Tuesday August 4th at the Yardley Country Club, Yardley, PA. The event will start at 11:30AM with lunch. Tee-off time will be 1PM. With dinner to follow the golf outing.

Registration forms with more details will be sent out soon.

The event is a great time to interact with others in the industry to learn about new developments, to have some good fellowship and food, and to have some fun while doing all this.

Wally Mack
Robert E. Carroll
Golf Committee

Fishing Trip

FISHING TRIP

June 25th, 2009

Technical Presentation

Bogan's Deep Sea Fishing Center

Brielle, NJ. 08730

732-528-6620; www.njcharterboat.com

ATLANTIS - 110 ft. - Capt. Francis Bogan

Bottom fishing for fluke, sea bass, blackfish, skates, etc.

30 passengers - on a first come basis

Rod rentals and tackle @ \$5.00 available

6:45 a.m. - Check in; 7:30 a.m. - Depart; 4:00 p.m. --Return



Cost: Adults - \$50.00; Children (18 yrs or younger) - \$25.00

Lunch: Sandwiches will be provided. Bring your own beverages

No Hard Liquor Allowed on the Boat; Beer in Cans only!

Mid-Atlantic Rubber Group Fishing Trip - June 25th, 2009

Registration:

Name: _____

Address _____

Company _____

Phone: _____ E-Mail _____

Number of tickets: Adult _____ (\$50 per) Children _____ (\$25 per)

Total Amount: _____ Mail payment by June 12, 2009 - no later!

Credit card detail: _____

Don Slowicki, Home Rubber Co., BOX 878, Trenton, NJ 08605

Information and reservations: don@homerubber.com

Day: 609-394-1176; Night: 215 321 2293

Don Slowicki, Fisherperson

2009 Upcoming MARPG Dates to Remember:

- **ACS Rubber Division Spring Technical Meeting**
May 4-6, 2009
Hilton Akron/Fairlawn
Celebrate our 100th Anniversary with us!
Register at <http://walcom.com/rd/>
- **MARPG Fishing Trip**
June 25, 2009
Bogan's Deep Sea Fishing Center, Brielle, NJ
- **MARPG Fall 2009 Technical Meeting**
September 24th, 2009
Park Ridge Hotel, King of Prussia, PA
- **MARPG 2009 Golf Outing**
August 4th, 2009
Yardley Country Club, Yardley, PA
- **ACS Rubber Division Fall Technical Meeting & Expo**
October 13-15, 2009
Pittsburgh, PA
Register at www.rubber.org