Final Program

Gateway to North America’s Polyurethanes Industry

September 23-25, 2013
Sheraton Phoenix Downtown Hotel
Phoenix, Arizona
Schedule of Events

**All events will be held at the Sheraton and require a badge for admission.**

Onsite Registration – outside of Phoenix Ballroom D-E, Level 3
- Sunday, September 22, 2013 – 8:30 AM - 6:00 PM
- Monday, September 23, 2013 – 8:00 AM - 6:00 PM
- Tuesday, September 24, 2013 – 8:30 AM - 5:00 PM
- Wednesday, September 25, 2013 – 7:30 - 10:00 AM

Opening Session – Phoenix Ballroom A-C, Level 3
- Monday, September 23, 2013 – 9:30 - 11:00 AM

Industry Reception – Valley of the Sun Ballroom, Level 2
- Monday, September 23, 2013 – 6:00 - 7:30 PM

Poster Session - Phoenix Ballroom D-E, Level 3
- Monday, September 23, 2013 – 11:00 AM - 5:00 PM
- Tuesday, September 24, 2013 – 9:00 AM - 5:00 PM
- Wednesday, September 25, 2013 – 8:00 - 10:30 AM

Table Top Exhibits - Phoenix Ballroom D-E, Level 3
- Monday, September 23, 2013 – 11:00 AM - 5:00 PM
- Tuesday, September 24, 2013 – 9:00 AM - 5:00 PM
- Wednesday, September 25, 2013 – 8:00 - 10:30 AM

Technical Sessions - Level 2 and 3 Meeting Rooms
- Monday, September 23, 2013 – 2:00 - 5:00 PM
- Tuesday, September 24, 2013 – 9:00 AM - 12:00 PM, 2:00 - 5:00 PM
- Wednesday, September 25, 2013 – 8:00 - 11:00 AM

Closing Luncheon/Awards Ceremony - Phoenix Ballroom A-C, Level 3
- Wednesday, September 25, 2013 – 11:30 AM

Professional Development Program (PDP) - Level 2 Meeting Rooms
- Sunday, September 22, 2013 – 9:00 AM - 4:30 PM and 1:00 - 5:00 PM
- Monday, September 23, 2013 – 9:00 AM - 4:30 PM and 1:00 - 5:00 PM
- Tuesday, September 24, 2013 – 9:00 AM - 4:30 PM

Refreshment Breaks - Phoenix Ballroom D-E, Level 3
- Monday, September 23, 2013 – 11:00 AM - 5:00 PM
- Tuesday, September 24, 2013 – 9:00 AM - 5:00 PM
- Wednesday, September 25, 2013 – 8:00 - 10:30 AM

Press Room – Cave Creek, Level 2
- Sunday, September 22, 2013 – 12:00 - 6:00 PM
- Monday, September 23, 2013 – 8:00 AM - 6:00 PM
- Tuesday, September 24, 2013 – 8:30 AM - 5:00 PM
- Wednesday, September 25, 2013 – 7:30 - 10:00 AM
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LEGAL NOTICE GENERAL

This conference and materials are intended to provide producers, users, and applicators of polyurethanes with general information regarding new technical innovations and applications for these important products, as well as technical aspects of safe handling, storage, and production. This conference and materials are not intended to serve as a substitute for in-depth training or specific handling, storage, or production of polyurethanes, nor are they designed or intended to create legal rights or obligations. This conference and materials are not intended to be a “how-to” program or to “recommend” any particular information, conclusion, opinion, product, service, practice, procedure, equipment design, or supplier, but rather are intended to provide a forum for appropriately moderated information exchange and discussion.

Neither the American Chemistry Council, the Center for the Polyurethanes Industry, member companies, nor presenters endorse any information, conclusion, product, service, practice, procedure, equipment design, or supplier described in this conference or contained in these materials.

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All persons involved in handling, storage, production, or application of polyurethanes have an independent obligation to ascertain that their actions are in compliance with current federal, state, and local laws and regulations, and should consult with legal counsel concerning such matters. Information presented in this conference and materials is necessarily general in nature. Note that individual companies may vary their approach with respect to particular practices based on specific factual circumstances, the practicality and effectiveness of particular actions, and economic and technological feasibility.
The American Chemistry Council and its member companies, as well as the Center for the Polyurethanes Industry and its member companies, are committed to adhering strictly to United States antitrust, copyright, trademark, securities and other federal statutes, as well as state common laws covering libel, slander, defamation, false advertising, invasions of privacy and violations of the rights of publicity. For these reasons, we have included the American Chemistry Council’s Antitrust Checklist for American Chemistry Council Meetings in this manual as guidance for all conference sessions and workshops. In addition, we provide the following supplemental guidelines for all conference-hosted discussions of “incident” and “information” exchanges, which, when properly conducted, can provide conference participants with important information regarding the safety and safe handling of particular products:

1. Arrange for the American Chemistry Council’s legal counsel to conduct an antitrust briefing prior to any incident or information exchange, and to attend the incident and/or information exchange.

2. Limit incident exchanges to factual reports which describe the incident and any lessons learned, without making recommendations or drawing collective conclusions; limit information exchanges to factual reports which describe the presenter’s experience with the topic, without specifically identifying or advocating any particular product, process or supplier.

3. Avoid sweeping conclusions. Allow conference participants to draw their own conclusions; consensus is not the goal.

4. Avoid discussions and circumstances that could collectively imply an endorsement or lead to an inadvertent boycott of any product or service. Accordingly, all group discussions of and group presentations regarding particular products should be factual in nature and should be limited to technical specifications, testing or research results, and technical applications of and for products.

5. Consult the Antitrust Checklist for American Chemistry Council Meetings for more specific guidance.

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ANTITRUST CHECKLIST

ANTITRUST CHECKLIST FOR AMERICAN CHEMISTRY COUNCIL MEETINGS

This antitrust checklist is for use by American Chemistry Council staff and member representatives in the conduct of American Chemistry Council-sponsored meetings. Prohibited discussion topics apply equally to social gatherings incidental to American Chemistry Council-sponsored meetings. The Checklist is not exhaustive and does not address antitrust issues relating to activities other than American Chemistry Council meetings. Participants in American Chemistry Council meetings also should be thoroughly familiar with: (1) “Antitrust Guide for American Chemistry Council Committee Members”; and (2) “General Principles Applicable to the Structure and Operations of Committees.” Both of these documents may be found in the American Chemistry Council Directory.

DO

Do ensure strict performance in areas of:

OVERSIGHT/SUPERVISION:

• have an American Chemistry Council staff representative at each American Chemistry Council-sponsored meeting (unless an exception has been authorized by the appropriate American Chemistry Council vice president);

• consult with an attorney from Legal Shared Services on all antitrust questions relating to American Chemistry Council-sponsored meetings;

• limit meeting discussions to agenda topics (unless additional topics have been approved by the appropriate American Chemistry Council staff representative); and

• provide each member company representative and American Chemistry Council staff representative attending an American Chemistry Council-sponsored meeting with a copy of this checklist, and have a copy available for reference at all American Chemistry Council-sponsored meetings.

RECORDKEEPING:

• have an agenda and minutes which accurately reflect the matters which occur;

• provide agendas and minutes to Legal Shared Services for review and approval in advance of distribution; and

• fully describe the purposes and authorities of all task groups, work groups, ad hoc or other standing committee subgroups in the minutes of the appropriate parent committee.

VIGILANCE:

• protest against any discussion or meeting activities, which appear to violate this checklist; dissociate yourself from any such discussion or activities and leave any meeting in which they continue.
DON’T

Don’t, in fact or appearance, discuss or exchange information on:

PRICES, INCLUDING:
- individual company prices, price changes, price differentials, markups, discounts, allowances, credit terms, etc.
- individual company data on costs, production, capacity, inventories, sales, etc.; and industry pricing policies, price levels, price changes, differentials, etc.

PRODUCTION, INCLUDING:
- plans of individual companies concerning the design, production, distribution or marketing of particular products, including proposed territories or customers; and changes in industry production, capacity or inventories.

TRANSPORTATION RATES:
- rates or rate policies for individual shipments, including basing point systems, zone prices, freight equalization, etc.

MARKET PROCEDURES, INCLUDING:
- company bids on contracts for particular products; company procedures for responding to bid invitations; and matters relating to actual or potential individual suppliers or customers that might have the effect of excluding them from any market or influencing the business conduct of firms toward them.
Cast your vote for the 2013 Polyurethane Innovation Award Winner!

The Center for the Polyurethanes Industry (CPI) is proud of our industry’s continued leadership in innovative solutions and advances in technology. The Polyurethane Innovation Award aims to recognize the role that innovation plays in the polyurethane industry by acknowledging the efforts and foresight of companies and/or individuals whose visions and perseverance bring new products and technologies to the marketplace.

The 2013 finalists will showcase their innovative solutions and advances in technology during a short presentation during the Opening Session on Monday morning, September 23rd. Conference attendees will have the opportunity to vote on what they feel represents the most significant innovation.

An award will be presented for the most innovative application in the polyurethanes industry. Entries may pertain to any of the following areas:

- Polyurethane Chemicals
- Proceeding Equipment
- Finished Products
- Innovative Initiatives
- Training/Education Programs

Ballots will be available for you to cast your vote! Be sure you return your completed ballot to an ACC staff member or drop your ballot in the voting box located outside the Opening Session ballroom.

Here are the finalists:

Romeo RIM, Inc. for “Class A, In-mold Decorated Long Fiber Injection System”

TSE Industries, Inc. for “High Performance Polyurethane Thermoset Resin for Filament Winding of Fiberglass Reinforced Pipes and Pressure Vessels”

INVISTA Terate® Polyols for “New Aromatic Polyester Polyols”

The 2013 Innovation Award Winner will be announced on Wednesday morning, September 25th during the Closing Session.

Sponsored by
NEW! Pre-Conference Workshop:
Introduction to Environmental, Health and Safety (EHS) Issues Relative to Diisocyanates
Presented by CPI Product Stewardship Committee

Sunday, September 22, 2013
1:00 - 5:00 PM
Encanto A, Level 2

To be successful in today’s polyurethanes industry, professionals must understand the fundamentals of regulations related to environment, health and safety (EHS) topics relevant to diisocyanates. This workshop, which is free to all conference attendees, will help professionals understand the fundamental concepts of EHS regulations, industrial hygiene, toxicology, medical surveillance and exposure controls. This workshop will help polyurethane professionals better educate those who work with diisocyanates on safe handling use and help safeguard the environment.
PROFESSIONAL DEVELOPMENT PROGRAM

Sunday, September 22 – Tuesday, September 24

In its 10th year, the Polyurethane Professional Development Program (PDP) provides education and training for the global polyurethanes industry. Participants choose from a variety of seminars that run concurrently with the 2013 Polyurethanes Technical Conference. Participants must register for each seminar of interest to receive the training materials and admission to the 2013 Polyurethanes Technical Conference.

Sunday, September 22, 2013

9:00 am - 4:30 pm, Room: Ahwatukee, Level 2
PU 101: Introduction to Polyurethane Chemistry
Instructor: Brian Fogg, Brian Fogg Polyurethanes Consulting

9:00 am - 4:30 pm, Room: Camelback B, Level 2
PU 104A: Polyurethane Adhesives & Sealants
Instructor: Jim O’Connor, SynUthane International, Inc.

1:00 pm – 5:00 pm, Room: Camelback A, Level 2
PU 204: Physical Testing of Polyurethane Foams
Instructor: Roy Pask, Consultant

Monday, September 23, 2013

9:00 am - 4:30 pm, Room: Ahwatukee, Level 2
PU 102: Introduction to Polyurethane Technology
Instructor: Paul Farkas, Consultant

9:00 am - 4:30 pm, Room: Camelback A, Level 2
PU 104B: Polyurethane Coatings & Elastomers
Instructor: Jim O’Connor, SynUthane International, Inc.

9:00 am - 4:30 pm, Room: Camelback B, Level 2
PU 105: Polyurethane Processing Equipment
Instructors: Richard Werner, Cannon USA
Lutz Heidrich, Hennecke Inc.
Christian Decker, DESMA GmbH

Tuesday, September 24, 2013

9:00 am - 4:30 pm, Room: Camelback A, Level 2
PU 103: Polyurethane Markets and Applications
Instructor: Brian Fogg, Polyurethanes Consulting

9:00 am – 12:30 pm, Room: Camelback B, Level 2
Instructors: David Mullen, Rubicon LLC
Randy Myrabo, BASF Corporation
Joe Otruba, Bayer MaterialScience, LLC
NETWORKING OPPORTUNITIES

2013 Polyurethanes Technical Conference offers a multitude of networking opportunities to meet your peers, professional associates and industry leaders. This year’s event is sure to help you maximize your conference experience.

Industry Reception

The Industry Reception, a premiere networking opportunity, has become a much-anticipated event. The reception is an ideal place to network with peers and build new relationships. Hors d’oeuvres and beverages will be served.

Please Note: All attendees MUST be registered for the 2013 Technical Conference to attend the Industry Reception. NO exceptions will be made. Badges must be worn at all times while attending the Reception.

Monday, September 23, 2013

6:00 – 7:30 PM
Valley of the Sun Ballroom, Level 2

The Industry Reception is sponsored by
POSTER SESSION
Phoenix Ballroom D-E, Level 3
Join your colleagues from around the globe; make contacts and exchange ideas and thoughts as presenters address new, cutting-edge technologies in market and product areas.

See page 35 for a list of posters

TABLE TOP EXHIBITION
Phoenix Ballroom D-E, Level 3
Monday, September 23: 11:00 AM – 5:00 PM
Tuesday, September 24: 9:00 AM – 5:00 PM
Wednesday, September 25: 8:00 – 10:30 AM
The 2013 Polyurethanes Table Top Exhibition is a perfect opportunity to peruse a myriad of products and services offered by companies and industry professionals from a wide range of disciplines.

See page 30 for a list of exhibiting companies.

Charge Up – Get Connected
Phoenix Ballroom D-E, Level 3
Complimentary Wi-Fi and Cell Phone charging available in the Table Top Exhibition Hall.
Cell Phone Charging Stations
Sponsored by

Refreshment Breaks
Phoenix Ballroom D-E, Level 3
Complimentary refreshment service is provided during the conference in the Table Top Exhibit Hall.

Refreshment Breaks sponsored by
Opening Session
Monday, September 23, 9:30 AM
Phoenix Ballroom A-C, Level 3

Sponsored by

9:30 AM Welcome
Lee Salamone, Senior Director
Center for the Polyurethanes Industry

9:40 AM 2013 Polyurethanes Technical Conference
Tony Lanchak
Momentive Performance Materials, Inc.
2013 CPI Conference Committee Chair

10:00 AM CPI Chairman’s Remarks
Gerry Podesta
BASF
CPI Steering Committee Chair

10:30 AM Presentation of Innovation Award Finalists

10:45 AM Keynote Presentation
Frank Sesno, Anchor and Washington Bureau Chief, CNN (1984-2009) and Director, George Washington University’s School of Media & Public Affairs
Closing Session/Awards Luncheon:
Wednesday, September 25, 11:30 AM
Phoenix Ballroom A-C, Level 3
Sponsored by

11:30 AM Luncheon

11:45 AM Conference Highlights and Presentation of Awards
Tony Lanchak
Momentive Performance Materials, Inc.
2013 CPI Conference Committee Chair

12:15 PM Presentation of the 2012 CPI End Use Market Survey on the Polyurethanes Industry in the U.S., Canada, and Mexico
Hanne Hirsimaki
IAL Consultants

12:45 PM 2014 Polyurethanes Technical Conference
Paul Duffy
Icynene, Inc.
2014 Conference Committee Chair

1:00 PM Conference Adjourns

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AFTERNOON TECHNICAL SESSIONS
Monday, September 23, 2013
2:00 PM – 5:00 PM
Phoenix Ballroom A, Level 3
Appliances/Energy Critical Foams
Sponsored by

Session Organizers: Edward Ball, Bayer MaterialScience, LLC
Mike Krupa, BASF Corporation
Jeff King, Dow
John Muto, Hennecke Inc.,
David Williams, Honeywell

Moderator: Mike Krupa, BASF Corporation
Vice Moderator: Ken Davis, GE

The Energy Critical Foam session focuses on the next generation of low Global Warming Potential (GWP) blowing agents. As the picture of availability of these new blowing agents becomes clearer, the next year will be a critical time as manufacturers focus on these new offerings. This session concentrates on the new ultra low GWP blowing agents used in combination with current blowing agents. This gives additional formulation flexibility while obtaining a more optimum performance. Process improvements are included to help optimize both process and physical properties. New raw materials are also discussed with the next generation blowing agents to make more robust formulations. Papers will be given by raw material suppliers, an additive supplier, a blowing agent supplier, and original equipment manufacturers on formulation flexibility and performance; process improvements to help optimize both process and physical properties; and new raw materials.

2:00 PM  Moderator Opening Remarks

2:05 PM  Effect of Blowing Agent Blends on the Thermal Properties of Rigid PUR Foam Insulation
David Bower, BASF Corporation

2:30 PM  Formacel®1100 (FEA-1100), a Zero ODP and Low GWP Foam Expansion Agent for the Appliance Industry
Geraldo Thomaz, Whirlpool Corporation
Jose Guizioni, Whirlpool Corporation
Paulo Altoe, Dow Brazil Sudeste Industrial
Gary Loh, DuPont Company
Ana Torio, DuPont Argentina SA

3:00 PM  Optimizing Surfactant Technology for Blends of Blowing Agents in Next Generation Appliance Formulations
Robert Tauchen, Evonik Goldschmidt Corporation
Christian Eilbracht, Evonik Industries
Carsten Schiller, Evonik Industries

3:30 PM  BREAK

4:00 PM  Enhanced Dow PASCAL™ Foam Technology: A More Sustainable and Energy Efficient Future for the Domestic Appliance Industry
Vanni Parenti, Dow Italia S.r.l.
Hans Kramer, Dow Europe GmbH
Rossella Riccio, Dow Italia S.r.l.
Melissa Rose, Dow

4:30 PM  AFA-L1, a Low Global Warming Potential Blowing Agent for Cold Chain Applications
Joseph Costa, Arkema, Inc.
Ben Chen, Arkema, Inc.
Laurent Abbas, Arkema, Inc.
Sri Seshadri, Arkema, Inc.
Monday, September 23, 2013
2:00 PM – 5:00 PM
Encanto A, Level 2

Chemistry and Fundamentals


Moderator: Hamdy Khalil, Woodbridge Foam Corporation
Vice Moderator: Robert Grigsby, Huntsman International, LLC

In this session, we will include three different rigid foam developments: the development of a simulation method for mathematically modeling the polyurethane foam reaction; the use of a model rigid foam system to study structure property correlations; and the development of new soy-based polyols for rigid spray foams. The final presentation will cover a comparison of the differences between batch production and continuous dosing in PU systems as related to quality.

2:00 PM Moderator Opening Remarks

2:05 PM Simulation of Urethane Reaction for Both Analytical Methods and Formulation Development
Galen Suppes, University of Missouri
Fu-Hung Hsieh, University of Missouri
Ali Tikeei, University of Missouri
Rima Ghoreishi, University of Missouri
Yusheng Zhao, University of Missouri
Lu Shen, University of Missouri

2:30 PM Compressive Property Screening Method for Polyurethane Rigid Foam Development
Ruth Pinto, Huntsman International LLC
Nyall Tavernier, Huntsman International LLC
Lifeng Wu, Huntsman International LLC
Rafael Camargo, Huntsman International LLC

3:00 PM Formulation Methods for Polylol System
Ralf Schwegmann, Purplan Inc.

3:30 PM BREAK

4:00 PM Rigid Polyurethane Foams Derived from Soymeal Polyols
Elodie Hablot, Michigan State University
Siva R.K. Chalasani, Michigan State University
Vahid Sendijarevic, Troy Polymers, Inc.
Daniel Graiver, Michigan State University
Ramani Narayan, Michigan State University

REGULATORY UPDATE SESSION

Labeling HCFC Products Starting in 2015: What you Need to Know

Phoenix Ballroom A, Level 3
5:00 PM Elizabeth Whiteley, US EPA, Office of Atmospheric Programs
Do you import foam products that may have been produced with HCFC blowing agents? Or, do you import spray foams kits, systems or foam sealants? As of January 1, 2015, any product containing or manufactured with hydrochlorofluorocarbons (HCFCs) must be labeled before it is introduced into interstate commerce. This presentation will cover the 2015 labeling requirements mandated by the Clean Air Act. The Clean Air Act and EPA regulations restrict the use of HCFCs domestically; however, certain HCFC foam products blown in other countries can still be imported. Starting in 2015, these products must be labeled before they clear U.S. Customs. The goal of this presentation is to help you and your company understand what the requirements are and whether they apply to you.
Monday, September 23, 2013
2:00 PM – 5:00 PM
Encanto B, Level 2

Environment, Health and Safety (General)

Session Organizers: William Robert, BASF Corporation
Cynthia Graham, Huntsman International

Moderator: William Robert, BASF Corporation
Vice Moderator: Cynthia Graham, Huntsman International

This EH&S session will highlight a number of topics. First, our industry’s research on developing ASTM standards for spray polyurethane foam (SPF) test specimen preparation and measuring emissions of VOCs (typical indoor air chemicals) and semi VOCs (such as MDI or flame retardants) will be presented. Next, CPI’s ongoing and updated Regulatory Compliance Assistance Program (RCAP) will be highlighted. The next presentation will describe a case study of sports track applications. Lastly, the research on an alternative decontamination solution for diisocyanate drums which is readily available and acceptable for publicly-owned treatment works (POTWs) will be presented.

2:00 PM  Moderator Opening Remarks

2:05 PM  Developing ASTM Standards for Test Specimen Preparation and Measuring Emissions of Volatile and Semi-Volatile Organic Compounds (VOCs and SVOCs) from Spray Polyurethane Foam (SPF) Insulation Products
John Sebroski, Bayer MaterialScience, LLC

2:30 PM  CPI Product Stewardship Regulatory Compliance Assistance Program (RCAP)
William Robert, BASF Corporation

3:00 PM  Evaluation of Airborne Concentrations of TDI, MDI, and Organic Solvent Vapors during Installation of a Polyurethane Sports Track Surface
Scott Ecoff, representing the CPI Product Stewardship Committee

3:30 PM  BREAK

4:00 PM  Refined Solution for Neutralization of Residues in Emptied Diisocyanate Drums
Elizabeth Hugel, BASF Corporation
Robert West, Dow

4:30 PM  Update on EPA Chemical Action Plans on MDI and TDI
Katherine Sleasman, US EPA
Monday, September 23, 2013
2:00 PM – 5:00 PM
Phoenix Ballroom B, Level 3

Flame Retardants and Combustibility

Session Organizers: Michael Nagridge, ICL-IP America, Inc.
Mitesh Shah, BASF Corporation

Moderator: Michael Nagridge, ICL-IP America, Inc.
Vice Moderator: Mitesh Shah, BASF Corporation

This session will focus on new developments in improving flame retardant properties of flexible and rigid polyurethane foam, status of the flame retardant TCPP, as well as an update on flame retardant industry issues. In our first paper, we will examine the development of a new polymer polyol for combustion-modified high resiliency foams. The versatility of the new polyol over a variety of foam grades, physical properties, and flammability performance will be discussed. The next paper will cover new developmental products in flame retardant technologies for polyurethane foam applications. This presentation will focus on the activities to create, evaluate, and commercialize new products to meet today’s challenges in the polyurethane foam industry. A paper showing the effect of adding a polymeric flame retardant to polyurethane foam, specifically polyisocyanurate and polyurethane rigid foams, and the sustainability of this new developmental product in terms of energy conservation will be discussed. Next will be a paper that will review the regulatory status and health, safety, and environmental profile of TCPP, a well-known flame retardant used in the rigid foam industry. This will be followed by a presentation of industry issues with regard to flammability and regulations including the latest update on regulations, challenges, and opportunities with regard to fire safety in the polyurethane market.

2:00 PM  Moderator Opening Remarks
2:05 PM  New Polymer Polyol for Combustion Modified High Resiliency Foams
Paul Cookson, Dow
Ricco Borella, Dow

2:30 PM  Flame Retardant Developments for the Polyurethane Foam Market
Michael Nagridge, ICL-IP America, Inc
Manny Pinzoni, ICL-IP America, Inc
Andrew Piotrowski, ICL-IP America, Inc
Jeffrey Stowell, ICL-IP America, Inc
Kali Suryadevara, ICL-IP America, Inc
Barbara Williams, ICL-IP America, Inc
Joop Wuestenenk, ICL-IP Europe B.V.
Jens Leopold, ICL-IP Bitterfeld GmbH
Mark Gelmont, IMI TAMI Institute

3:00 PM  New Class of Brominated Polymeric Flame Retardant for Use in Rigid Polyurethanes Foams
Steven Crain, Dow
Ted Morgan, Dow
William Stobby, Dow
Dan Youmans, Dow

3:30 PM  BREAK

4:00 PM  Safety Assessment for TCPP
Thomas Osimitz, Science Strategies, LLC
Wiebke Droege, Science Strategies, LLC
A. Wallace Hayes, Harvard School of Public Health

4:30 PM  North American Flame Retardant Alliance Update
Steve Risotto, American Chemistry Council

americanchemistry.com/polyurethane
Session Organizers: Richard Werner, Cannon USA
Rich Rossio, Chem-Trend LC
Allan James, Dow,
Hamdy Khalil, Woodbridge Foam Corporation

Moderator: Robert Dawe, Lear
Vice Moderator: John Frey, Air Products and Chemicals, Inc.

Papers in this session will present information on advancements in load floor composite structures, Noise Vibration Harshness (NVH) low density technologies with renewable content, and methods of providing lower VOCs for High Resilience (HR) flexible molded foams via silicone surfactants with reduced siloxane emissions and mold release selection in order to meet VDA 278 requirements.

9:00 AM Moderator Opening Remarks

9:05 AM Newly-Developed High Performance Polyols with High Primary Hydroxyl Groups for Flexible Molded Foams
Kenji Nishiyama, Sanyo Chemical Industries, Ltd.
Kouichi Murata, Sanyo Chemical Industries, Ltd.
Toru Miyajima, Sanyo Chemical Industries, Ltd.
Izumi Arai, Sanyo Chemical Industries, Ltd.
Yuuji Yoshida, Sanyo Chemical Industries, Ltd.

9:30 AM Polyurethane Systems for Structural Composites
Dan Heberer, Huntsman International LLC
Michael Connolly, Huntsman International LLC
David Bareis, Huntsman International LLC

10:00 AM Ultra Low VOC HR Surfactants for Molded Foams
Bright Dai, Momentive Performance Materials
Chris Clark, Momentive Performance Materials

10:30 AM BREAK

11:00 AM Foam Additives and Release Agents for the Production of Low VOC Molded Foams Fulfilling VDA 278 Requirements and Reducing Stack Emissions
Eva Emmrich-Smolczyk, Evonik Industries AG
Annegret Terheiden, Evonik Industries AG
Mladen Vidakovic, Evonik Industries AG

11:30 AM BETAFOMETM Renue – A Sustainable, Lower Density, Cavity Seating Technology for Automotive NVH
Matt Asher, Dow Automotive Systems
Allan James, Dow Automotive Systems
Ali El-Khatib, Dow Automotive Systems
Saeed Siavoshani, Dow Automotive Systems
Tuesday, September 24, 2013
9:00 AM – 12:00 PM
Phoenix Ballroom A, Level 3

Construction 1: Advancing the Science of PUR / PIR Construction Foam

Sponsored by

Session Organizers: James Tobias, Air Products and Chemicals, Inc.
Edward Ball, Bayer MaterialScience, LLC
Jeff King, Dow
John Tolley, Hennecke Inc.

Moderator: Bob Gardner, Hunter Panels
Vice Moderator: William Nicola, Bayer MaterialScience, LLC

9:00 AM Moderator Opening Remarks

9:05 AM Development of Low 245fa/High Water Blends for Discontinuous Panels Applications
Abhijit Borgohain, Honeywell India Tech Centre, Gurgaon, UOP India Pvt Ltd (Honeywell Company)
Pranav Mehta, Honeywell India Tech Centre, Gurgaon, UOP India Pvt Ltd (Honeywell Company)
Jim Ling, Honeywell International

9:30 AM Production of PIR Laminate Boardstock Insulation with Ecomate® Blowing Agent
George Combs, Bayer MaterialScience, LLC
William Nicola, Bayer MaterialScience, LLC
Sue Pigott, Bayer MaterialScience, LLC
John Murphy, Foam Supplies Inc.
David Modray, Foam Supplies Inc.
Raul Dacomb, Foam Supplies Inc.

10:00 AM Enhanced Polyurethane Solutions for Discontinuous Sandwich Panels
Giuseppe Vairo, Dow Italia S.r.l
Paolo Golini, Dow Italia S.r.l.
David Snider, Dow
Alberto Mercati, Dow Italia S.r.l.

10:30 AM BREAK

11:00 AM Wall Cavity Spray Foams: Effect of Additive Selection on Polyol Choice
Kiran Ravoori, Momentive AP Holding
Kenneth Willoughby, Momentive Performance Materials

11:30 AM New Generation of Low Pressure Froth Foams for Wall Cavity Filling
Tom Fishback, Fomo Products
Anthony Taylor, Fomo Products
Mojee Cline, Fomo Products
Julie Shoemaker, Fomo Products
Sandra Gump, Fomo Products
Tuesday, September 24, 2013

9:00 AM – 12:00 PM
Encanto B, Level 2

Environment, Health and Safety (SPF)

Sponsored by

Session Organizers: William Robert, BASF Corporation
Cynthia Graham, Huntsman International

Moderator: William Robert, BASF Corporation
Vice Moderator: Cynthia Graham, Huntsman International

This EH&S session will highlight key industry research on spray polyurethane foam (SPF). First, CPI’s ongoing research about the effect of ventilation rates on concentrations of SPF chemical vapor and particulates emitted during application of low pressure, half pound and two pound high pressure SPF will be presented. Second, a study on the re-entry time and ventilation of a crawl space after application of low-pressure SPF will be discussed. This will be followed by Industrial Hygiene air monitoring for MDI during application of half-pound or open cell SPF and then an evaluation of the surface curing time that demonstrates the lack of available isocyanate groups on the surface of the foam from the three generic SPF formulas (low pressure, half and two pound high pressure foam). Lastly, SPFA’s Professional Certification Program (PCP) developed to meet an ANSI/ISO Standard will be described. This program features individual certification at four different levels in two categories (insulation and roofing) and will reach across the value chain including installers, contractors, distributors and manufacturing firms.

9:00 AM  Moderator Opening Remarks

9:05 AM  CPI Ventilation Research Project Update
Rick Wood, Air Products and Chemicals, Inc.

9:30 AM  Residential Home Re-Occupancy and Ventilation After Crawl Space Sprayed with Low Pressure Polyurethane Foam
Lisa Massaro, Dow
Greg Stewart, Dow
John Cikalo, Dow

10:00 AM  Industrial Hygiene Monitoring of Spray Foam Insulation
Chris Brennan, Huntsman International LLC

10:30  BREAK

11:00 AM  Quantitative Evaluation of Unreacted Isocyanates on Surfaces of Spray Polyurethane Foams
Charles Jones, BASF Corporation
Elizabeth Hugel, BASF Corporation

11:30 AM  SPFA Certification – Expansion in Coverage and Geography
Kurt Riesenber, Spray Polyurethane Foam Alliance
Kelly Marcavage, Spray Polyurethane Foam Alliance
Bonnie Strickler, PUFF, Inc./SPFA QAP Chair
Laverne Dalgleish, Building Professionals Inc.
Tuesday, September 24, 2013
9:00 AM – 12:00 PM
Encanto A, Level 2

Renewable Content Polyols

Sponsored by

Session Organizers: Todd Bates, Huntsman International
Ladislau Heisler, Momentive Performance Materials, Inc.

Moderator: Jack Dai, Cargill, Inc.
Vice Moderator: Ladislau Heisler, Momentive Performance Materials, Inc.

The renewable content polyols session will start with three papers that look at the preparation, applications, and physical properties of polyester polyols derived from succinic acid. The fourth paper will look at the continued development of renewable and non-food grade biopolylols containing lignin for rigid PU foams.

9:00 AM  Moderator Opening Remarks

9:05 AM  Renewable Polyurethanes from Bio-Succinic Acid
Michael Mang, Myriant Corporation

9:30 AM  Evaluating the Properties and Performance of Biosuccinium™ Sustainable Succinic Acid based copolyester polyols in TPU Applications
Lawrence Theunissen, Reverdia
Richard Janssen, Reverdia

10:00 AM Properties of Bio Succinic Acid Polyester Polyols: Performance for an Expanded Range of Polyurethane Applications
Tara Mullen, BioAmber, Inc.
Bruce Spivey, Urethane Consulting Labs, LLC
John McNeill, Urethane Consulting Labs, LLC

10:30 AM  BREAK

11:00 AM  Non-food Grade Biopolylols Containing High Lignin Content for Rigid PU Biofoams
Minh Tan Ton-That, NRC Canada
Tri Dung Ngo, NRC Canada
Nathalie Legros, NRC Canada
Phalguni Mukhopadhyaya, NRC Canada
This session will highlight recent technical developments in coatings technology, and microcellular elastomers for footwear. New backbones, water-soluble catalysts, and novel applications in the coatings space will be described. In particular, polyols incorporating hydrophobic ethers of low viscosity and their benefits will be presented. Likewise, polyols incorporating ether and carbonate bonds will be introduced, as well as new applications for o-TDA polyols are on the agenda. Catalysts with applicability in polyurethane dispersions due to their water stable characteristics are also included. The session concludes by describing work on polyurethane microcellular elastomers that can meet new performance requirements in footwear applications.
Tuesday, September 24, 2013
2:00 PM – 5:00 PM
Phoenix Ballroom A, Level 3

Construction 2: Advancing the Science of Spray Polyurethane Foam for the Construction Industry

Sponsored by

Session Organizers: James Tobias, Air Products and Chemicals, Inc.
Edward Ball, Bayer MaterialScience, LLC
Jeff King, Dow
John Tolley, Hennecke Inc.

Moderator: David Williams, Honeywell
Vice Moderator: James Tobias, Air Products and Chemicals, Inc.

Spray polyurethane foam (SPF) insulation of commercial and residential structures can significantly contribute to achieving goals of raising energy efficiency while lowering environmental impact by creating an air barrier. This session highlights industry advances in formulations designed to reduce environmental impact by discussing ways to gain energy efficiency. Presentations on the latest work in optimizing low-Global Warming Potential (GWP) blowing agents, additives for improved SPF properties, product application and foam performance over time will be featured.

2:00 PM Moderator Opening Remarks

2:05 PM Discussion of Solstice™ Liquid Blowing Agent Spray Foam Field Evaluations
Mary Bogdan, Honeywell International
Ronald Grossman, Honeywell International
Xuaco Pascual, Honeywell International
Bin Yu, Honeywell International

2:30 PM Formacel® 1100: A Zero ODP and Low GWP Foam Expansion Agent for Spray Applications
Ernest Wysong, DuPont Company

3:00 PM The Optimization of Spray Polyurethane Foam with Isocyanate-Compatible Silicone Surfactants
Christian Eilbracht, Evonik Industries
Carsten Schiller, Evonik
Ray Geiling, Evonik

3:30 PM BREAK

4:00 PM Spray Polyurethane Foam Design Guidance: Applying the Insulation and Air Barrier Requirements of the 2012 I-Codes
Richard Duncan, Spray Foam Coalition of the Center for the Polyurethanes Industry

4:30 PM Troubleshooting and Repairing Problem SPF Applications
Mason Knowles, Mason Knowles Consulting
Tuesday, September 24, 2013
2:00 PM – 5:00 PM
Phoenix Ballroom B, Level 3

Flexible Foams

Session Organizers: Susan McVey, Bayer MaterialScience, LLC
Dale Hunter, Dow
Don Ridgway, Huntsman International
Ladislau Heisler, Momentive Performance Materials, Inc.

Moderator: Mark Ragsdale, Milliken Chemical
Vice Moderator: Dale Hunter, DOW

The session begins with a paper covering heat storage and heat transfer agents for mattress foams. Second, we will showcase a paper discussing the use of polycarbonate polyols to enhance foam physical properties. The theme of improved physical properties is continued in the third paper that investigates the synergy between tin catalysts and flame retardants in high resiliency foam. The current issues facing the flexible foam slabstock industry, including flammability, worker safety considerations and environmental sustainability, will be presented.

2:00 PM Moderator Opening Remarks

2:05 PM Flexible Polyurethane Foam Containing GEL and Heat Storage & Transfer Agents
Amanda Kelmer, BASF Corporation
Theodore Smiecinski, BASF Corporation
Steven Wujcik, BASF Corporation

2:30 PM CO2-based Polycarbonate Polyols as Strength Enhancers in Flexible Foams
Scott Allen, Novomer, Inc.
Jason Anderson, Novomer, Inc.
Chris Simoneau, Novomer, Inc.
Irma Campara, Troy Polymers
Aisa Sendijarevic, Troy Polymers
Vahid Sendijarevic, Troy Polymers

3:00 PM A Study of the Effect of the Chemical Synergy of Tin-Based Catalysts and Halogenated and Non-Halogenated Flame Retardants on the Physical Properties of High Resilience Polyurethane Foam
JoAnn Lanza, BASF Corporation
Steven Wujcik, BASF Corporation
Michael Yang, BASF Corporation
Robert Mutch, BASF Corporation

3:30 PM BREAK

4:00 PM Key Issues For Today’s Flexible Polyurethane Foam Industry
Robert Luedeka, Polyurethane Foam Association
Tuesday, September 24, 2013
2:00 PM – 5:00 PM
Encanto B, Level 2

Processing Innovations

Sponsored by

**Session Organizers:** Richard Werner, *Cannon USA*
Barry Metzler, *Graco Ohio, Inc.*
John Muto, *Hennecke Inc.*
John Tolley, *Hennecke Inc.*

**Moderator:** Barry Metzler, *Graco Ohio, Inc.*
**Vice Moderator:** John Tolley, *Hennecke Inc.*

The 2013 Processing Innovations session will be very informative on a wide range of subjects from automotive issues to the bulk storage of materials. The session will start with updates on the clear coat technology that is used in decorative trim manufacturing for automobile interiors. This will be followed by new technologies in NDI PU production systems. Also being discussed are the design and installation considerations for underground storage systems for cyclopentane. The automotive industry is revisited with new advancements in the LMDI processing for NVH foam implementation. The session will be concluded with updates on PU industry processing.

2:00 PM  Moderator Opening Remarks

2:05 PM  Cannon Solution for Clear Coating Molding: Providing a Technological Plus!
Marrco Rigobello, *Cannon USA*
Max Taverna, *Cannon SpA*

2:30 PM  High Pressure Meets Light Weight
Tobias Jansen, *Hennecke Inc.*
Lutz Heidrich, *Hennecke Inc.*

3:00 PM  Storage Systems for Pentane
Ralf Schwegmann, *Purplan Inc.*

3:30 PM  BREAK

4:00 PM  New Advancements in the Implementation of Low Methylene Diphenyl Diisocyanate (LMDI) foams for Automotive NVH Application
Stephen Neuman, *Graco Inc.*
John Philip, *Graco Inc.*

4:30 PM  New Concepts and Technologies for High Quality Footwear
Bjoern Dormann, *DESMA GmbH*
Christian Decker, *DESMA GmbH*
MORNING TECHNICAL SESSIONS
Wednesday, September 25, 2013
8:00 AM – 11:00 AM
Encanto A, Level 2

Construction 3: Advancing the Science of PUR / PIR Construction Foam

Sponsored by

Session Organizers: James Tobias, Air Products and Chemicals, Inc., Edward Ball, Bayer MaterialScience, LLC, Jeff King, Dow, John Tolley, Hennecke Inc.

Moderator: Jeff King, Dow
Vice Moderator: William Nicola, Bayer MaterialScience, LLC

This session continues the focus on the many ways the versatility of polyurethane chemistry helps the construction industry meet today’s energy conservation challenges. Here you will learn about some of the latest construction foam developments using low GWP 4th generation blowing agents. The need to improve the energy consumption of existing structures is also addressed by talks on advances in the development of insulation foams for retrofit applications.

8:00 AM Moderator Opening Remarks

8:05 AM Shelf Life Evaluation of Polyurethane Rigid Foams Blown with Ecomate®
David Modray, Foam Supplies, Inc.

8:30 AM Novel Catalyst System for Hydrohaloolefin Blown Rigid Polyurethane Foams
Katsumi Tokumoto, Tosoh Corporation
Hiroyuki Kiso, Tosoh Corporation

9:00 AM Catalysts for Improved Spray Foam System Stability and Reactivity with Low GWP Blowing Agents
Jean Vincent, Air Products and Chemicals, Inc.
Juan Burdeniuc, Air Products and Chemicals, Inc.
Tadao Yasue, Air Products and Chemicals, Inc.
Renee Keller, Air Products and Chemicals, Inc.
Timothy Miller, Air Products and Chemicals, Inc.
Bulent Ozbas, Air Products and Chemicals, Inc.

9:30 AM BREAK

10:00 AM Field Trial Evaluations of Solstice™ LBA in Pour-In-place and Panel Applications
Jim Ling, Honeywell International
Ryan Qin, Honeywell Technical Solutions
Ben Lu, Honeywell Technical Solutions
Wednesday, September 25, 2013
8:00 AM – 11:00 AM
Encanto B, Level 2

Elastomers

Sponsored by

Session Organizers: Juan Carlos Medina, Dow
Daniel Rosenvasser, Huntsman International

Moderator: Daniel Rosenvasser, Huntsman International

Vice Moderator: Amber Stephenson, Dow

This session will highlight recent technical developments in PU elastomer technology, especially different components that can be used to improve the processing and performance of the final urethane products. Components described in this presentation will include TDI prepolymers that, through blending, enable the users to obtain elastomers of different hardnesses; aliphatic and MDI-based prepolymers are also described. Different families of polyols, the use of butanediol and 1,3-propane diol as chain extenders, and non-mercury catalysts with delayed action will be presented. The use of nanoparticles, such as halloysite clay nanotubes (HNT) and graphene nanoplatelets, in model PU systems will be described.

8:00 AM  Moderator Opening Remarks

8:05 AM  Dial-a-Durometer (DAD): A Versatile Approach for Polyurethane Elastomer Production
Stephen Seneker, Anderson Development Company
Jordan Duckett, Anderson Development Company
Robert Czeiszperger, Anderson Development Company
Jessica Lampkowski, Anderson Development Company
Timothy O’Brien, Anderson Development Company

8:30 AM  Properties and Characterization of Polyurethane Nanocomposites
Qiang Lan, Huntsman International LLC
Rafael Camargo, Huntsman International LLC
Conny Nijs, Huntsman International LLC

9:00 AM  Manipulating Polycarbonate Macrodiol Composition to Tailor Properties of Thermoplastic Polyurethanes
David Gutierrez, University of Valencia
Paula Felix, University of Valencia
Clara Gomez, University of Valencia
Andres Nohales, UBE Chem Eur
Victor Costa, UBE Chem Eur

9:30 AM  BREAK

10:00 AM  Expanding the Structure-Property Relationship of Susterra® 1,3-Propanediol in Elastomers
Robert Miller, DuPont Tate & Lyle Bio Products

10:30 AM  Catalysts With Delayed Activity for Polyurethane Applications
Indulis Gruzins, Monument Chemical Kentucky, LLC
Robert Hire, Monument Chemical Kentucky, LLC
Brian Cooper, Monument Chemical Kentucky, LLC
Wednesday, September 25, 2013
8:00 AM – 11:00 AM
Ahwatukee, Level 2

Sustainability: Keeping Polyurethanes Positioned for the Future

Sponsored by

Session Organizer: Edward Ball, Bayer MaterialScience, LLC
Moderator: James Tobias, Air Products and Chemicals, Inc.
Vice Moderator: Edward Ball, Bayer MaterialScience, LLC

Sustainability of products is a mainstream topic for society. Retailers, NGOs, ratings agencies and even consumers are requiring more and more information about the sustainability of the products that are a part of our everyday lives. This informative session takes a look at aspects of sustainability as related to polyurethanes. Here, sustainability is examined through the lens of Life Cycle Analysis (LCA), residential energy management and complexities surrounding the use of naturally sourced raw materials.

8:00 AM  Moderator Opening Remarks
8:05 AM  Formacel®-1100®: Life Cycle Assessment for use in a Household Appliance
Shaibal Roy, DuPont
Todd Krieger, DuPont
Helen Walter Terrinoni, DuPont
Geraldo Thomaz, Whirlpool Corporation
Spencer Souza, Whirlpool Corporation
Nagapooja Seeba, Whirlpool Corporation
Paulo Altoe, Dow Brazil Sudeste Industrial

8:30 AM  LCA Lessons Learned: ACC Participation in Canadian Product Category Rules (PCR) for Auto Parts
Mike Levy, American Chemistry Council, Plastics Division

9:00 AM  Avoiding Regulatory and Marketing Pitfalls When Moving to Naturally Sourced Raw Materials
Paul Ashford, Caleb Management Services Ltd.
Jennifer Reed, Caleb Management Services Ltd.

9:30 AM  BREAK

10:00 AM  Determination of CEC-Approved Computer Models Used to Predict Title-24 Savings with Unvented Attic
Rob Hammon, BirAenergy
Ian Hogan, BirAenergy
Bulk Trucking Optimization Through Collaboration

Wednesday, September 25, 2013
8:00 – 11:00 AM
Camelback A, Level 2

Co-Presenters:
Bill Wehrle, Director, Supply Chain (BASF)
David Bazzetta - Business Advisor, Supply Chain (BASF/RGP)

Facilitators:
Joe Dawson, Supply Chain Manager (BASF)
Sandra Conrad, Sr. Supply Chain Planner (BASF)

Panel Discussion Participants:
Jim Brown, Executive Vice President (Service Transport)
Rick Cole, Vice President of Sales (Transport Service, Kenan Advantage Group)
Minh Le, Vice President of Sales & Marketing (Service Transport)
David Perry, General Manager (Trimac)
John Rakoczy, President (DiaTech, Kenan Advantage Group)

The BASF Polyurethanes Supply Chain team has developed and implemented a sustainable collaborative process optimization methodology with its bulk trucking partners. Known as the "Isocyanates Bulk Trucking Symposium", this annual event is now entering its 4th year, and is attended by 40 – 50 individuals from BASF as well as representatives from each trucking company. Symposium attendees participate throughout the ensuing year to identify opportunities and develop process optimization solutions. These cross-functional project teams are aligned with the four key processes within the value chain:

- Trailer Inspection, Cleaning & Preparation
- Loading Process Optimization
- Unloading and Order Management Optimization
- Customer Satisfaction

As a result of this process improvement methodology, a number of accomplishments have been realized, including a 35% reduction in customer non-conformances, optimized trailer utilization, and a more favorable environmental footprint due to a significant reduction in trailer washes and subsequent solvent disposal.

Planned is a review of several successful process optimization projects, as well as discussions related to the current initiatives designed to meet trucking industry challenges such as capacity and driver retention, while maximizing efficiency and customer satisfaction.

OSHA Enforcement Update

Camelback B, Level 2
8:00 - 9:00 AM

OSHA National Emphasis Program – Occupational Exposure to Isocyanates

This important presentation by OSHA will describe policies and procedures for implementing a National Emphasis Program (NEP) for Isocyanates that was announced on June 25. OSHA develops NEPs to focus outreach efforts and inspections on specific hazards in an industry for a three-year period. Through this NEP, OSHA will focus on workplaces in general, construction, and maritime industries that use isocyanate compounds in an effort to reduce occupational exposure.

Presentation by: Sven Rundman, OSHA Directorate of Enforcement Programs; Washington, DC
The Center for the Polyurethanes Industry (CPI) of the American Chemistry Council serves as the voice of the polyurethanes industry in North America, promoting its responsible development and coordinating with polyurethane trade associations across the globe. CPI members are companies that produce and sell the raw materials and additives that are used to make polyurethane products, equipment used in the manufacture of polyurethanes, and companies engaged in end-use applications and the manufacture of polyurethane products.

Booth# 105
Acme-Hardesty
450 Sentry Parkway
Blue Bell, PA  19422
John Hamilton, 215-591-3610 jhamilton@acme-hardesty.com
www.acme-hardesty.com
Acme-Hardesty markets and sells castor oil products and oleochemicals to the Polyurethane Industry. We are committed to product quality and security of supply.

Booth# 108
Addvant
195 Benson Road
Middlebury, CT 06749
Hayder Zahalka, 304-284-4404 Hayder.zahalka@addvant.com
www.addvant.com
Addvant™ is a leading global supplier of NAUGARD®, ANOX®, LOWINOX® and WESTON® antioxidants and LOWILITE® light stabilizer (HALS/UVA) solutions for the polyurethane industry.

Booth# 318
Air Products and Chemicals, Inc.
7201 Hamilton Boulevard
Allentown, PA 18105-1501
Keith Welp, 800-345-3148 (USA) / (Outside USA) +1 610-481-6799 info@airproducts.com
www.airproducts.com/puradditives
Air Products is a global leader in polyurethane additives, offering a broad range of catalysts and surfactants for all types of flexible, rigid, and microcellular foams.

Booth# 109
Arkema Inc.
900 First Avenue,
King of Prussia, PA 19406
Joseph Lynch, 610-205-7078 joseph.lynch@arkema.com
www.forane.com
A global chemical company based in Colombes, France, Arkema produces specialty chemicals with annual revenue of $6.3 billion, and has operations in more than 40 countries, including 10 research centers.

Booth# 111
Chem-Trend
1445 W. McPherson Park Drive
Howell, MI 48843
517-545-7980
www.chemtrend.com
Chem-Trend is the world’s leading release agent company, with over 50 years of experience making high-performance release agents, die lubricants, tire paints and purge compounds.

Booth# 112
Chromaflo Technologies Corp.
2600 Michigan Avenue
P.O. Box 816
Ashatabula, OH 44004
Ben Arnold, 419-610-3446 barnold@chromaflo.com
www.chromaflo.com
Chromaflo Technologies is the largest independent global colorant supplier to Thermoset Plastics and Paint & Coatings markets, providing solutions to meet the most complex color requirements.

Booth# 317
Con-Tek Machine, Inc.
3575 Hoffman Road East
St. Paul, MN 55110
Ross Willoughby, 651-779-6058 rwiloughby@con-tek.com
www.con-tek.com
Now celebrating 30 years of designing & manufacturing polyurethane equipment including RIM clamps, mold carriers, and foaming fixtures for the production of insulated panels, refrigerated cabinets, truck bodies, doors, display cases and more.
Booth 210
Oerlikon Barmag
Oerlikon Barmag delivers GEAR METERING PUMPS for processing of polyurethanes, chemicals, plastics, and liquid colors ranging in size from 0.05 up to 200 cc/rev.

Booth 102
Perstorp
Perstorp is a world leader in various sectors of the specialty chemicals market. We supply a wide range of polypropolactones to meet your urethane needs.

Booth 124
Piedmont Chemical Inc, LLC
Piedmont Chemical Inc, LLC is a specialty Chemical company that manufactures and supplies Antimicrobials, BuN Lubricants, Dispersants, and filling agents to the foam industry.

Booth 110
Polymer Specialties, Inc.
Polymer-Specialties identifies and provides key individuals for polyurethanes and related industries. We assist businesses in searching for company executives, middle managers, sales engineers, chemists, etc.

Booth 320
Polyurethane Process Industries, LLC
Polymer-Specialties, Inc.
Polymer-Specialties identifies and provides key individuals for polyurethanes and related industries. We assist businesses in searching for company executives, middle managers, sales engineers, chemists, etc.

Booth 218
PU Magazine, Dr Gupta Verlag
PU2PU.com is a global internet resource fully dedicated to the polyurethane industry, opened to every PU professionals: from raw materials suppliers to system houses, equipment manufacturers, molders and end-users.

Booth 119
Reaxis Inc.
Reaxis manufactures and supplies a broad and extensive selection of inorganic, organometallic, metal and acid catalyst products that are used in formulating polyurethane, melamine, polyester, and silicone-based chemistries for coatings, adhesives, sealants and elastomers.

Booth 312
REPI, LLC
New production facility in Dallas NC, since September 2012, REPI LLC is growing fast in the North American market with its Color Pastes for Polyurethanes applications.

Booth 319
Reverdia
Reverdia - a JV between DSM and Roquette – produces and sells Biosuccinium™ sustainable succinic acid. Biosuccinium™ enables the manufacturing of polyurethane products with an improved environmental footprint.

Booth 118
Solvay Fluorides, LLC
Solvay Fluorides delivers Solkane® brand refrigerants, insulation, solvents and specialties products. Solkane® 365/227 foaming agents are EPA SNAP approved and now available in the United States.
The Spray Foam Coalition of the Center for the Polyurethanes Industry represents companies that produce and sell polyurethane spray foam insulation systems and the chemicals and equipment used in the systems for use in the building and construction industry.

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POSTER SESSION
Phoenix Ballroom D-E, Level 3

CATALYSIS

Development of New Water Soluble Organometallic Catalysts for CASE Applications
Lanny Venham, Reaxis Inc.

Modeling Impact of Catalyst Loading on Polyurethane Foam Polymerization
Yusheng Zhao, University of Missouri
Rima Ghoreishi, University of Missouri
Galen Suppes, University of Missouri

New Developments in Metal Catalysis for Flexible Slabstock Foam
Jane Kniss, Air Products
Allen Arnold, Air Products
Susan Kilpatrick, Air Products

NIAX® Catalyst D-25, 2-EHA Free Tin Catalyst for Flexible Foam Applications
Ladislau Heisler, Momentive Performance Materials
Gabriel Kiss, Momentive Performance Materials
Gregory Pickrell, Momentive Performance Materials

ENVIRONMENTAL, HEALTH & SAFETY

Assessment of Exposures to TCPP Flame Retardant From Closed Cell PUR and PIR Insulation
G. Gorder, Technology Sciences Group Inc.
J. Tenney, ICL-IP America Inc.

Developing Methods for Characterizing Emissions & Sources of Exposure from PU Products
Mark Mason, USEPA
Ken Krebs, USEPA
Mark Barnes, USEPA
Charles Bevington, USEPA
Carol Hetfield, USEPA
Katherine Sleasman, USEPA

Isocyanate-related Online Resources from U.S. Federal Government Organizations on Toxicology, Exposure Science, Risk Assessment, and Risk Management
Pertti (Bert) Hakkinen, National Library of Medicine, NIH
Carol Hetfield, Environmental Protection Agency
Janet Carter, Occupational Safety & Health Administration, DOL
Melanie Biggs, Consumer Product Safety Commission
Kathleen Ernst, National Institute for Occupational Safety and Health, CDC
Lynn Wilder, Agency for Toxic Substances and Disease Registry, CDC

Labeling HCFC Products Starting in 2015: What you Need to Know
Elizabeth Whiteley, U.S. Environmental Protection Agency

Katherine Sleasman, EPA

EQUIPMENT & PROCESSING

Cannon Solution for Clear Coating: Providing a Technological Plus!
Max Taverna, Cannon Group
Marco Rigobello, Cannon USA

(Continued)
Demonstration of the Ease of Use and Low Detection Limits of a New Dry Sampler for Determination of Vapor Phase and Particulate Isocyanate Derivatives
Jamie Brown, Sigma-Aldrich/Supelco
Mike Halpenny, Sigma-Aldrich/Supelco
Emily Barrey, Sigma-Aldrich/Supelco
Olga Shimelis, Sigma-Aldrich/Supelco
Kristen Schultz, Sigma-Aldrich/Supelco

Expansion Measurement of One Component Foam
Erland Hofmann, Format Messtechnik GmbH
Frank Bertuzzi, Eurotech Distributors, Inc.

PURe Skin Technology
Lee Hodson, FRIMO

FLEXIBLE FOAM & CASE

Advances In Polyurethane Rotomolding Systems
Dubravko Primer, T.A. Davies Co.

Bio-based Light Stable Aliphatic Topcoat
Lyle Caillouette, BASF Corporation
Mike Praw, BASF Corporation
Jeff Janos, BASF Corporation
Stacy Haynes, BASF Corporation

Flexible Polyurethane Foam Containing GEL and Heat Storage & Transfer Agents
Theodore Smiecinski, BASF Corporation
Amanda Kelmer, BASF Corporation
Steven Wujcik, BASF Corporation

Manipulating Polycarbonate Macrodiol Composition to Tailor Properties of Thermoplastic Polyurethanes
David Gutierrez, University of Valencia, ICMUV
Paula Felix, University of Valencia, ICMUV
Clara Gomez, University of Valencia, ICMUV
Andres Nohales, UBE Chem Eur
Victor Costa, UBE Chem Eur

Novel Reactive Hotmelt Adhesives with Wide Temperature Range Utility
Dahlia Campbell, BASF Corporation
Rifat Tabakovic, BASF Corporation
Heinz Plaumann, BASF Corporation
Rajesh Kumar, BASF Corporation
Nikolay Lebedinski, BASF Corporation
Herbert Harmon, BASF Corporation

VORASIL™ Silane Modified Polymers
Kamesh Vyakaranam, Dow
Patrick Fontanella, Dow
Amber Stephenson, Dow
Nathan Wilmot, Dow
Robert Frye, Dow
Juan Carlos Medina, Dow

RAW MATERIALS & BLOWING AGENTS

Eco-Friendly Polyls Platform: Emerox Renewable and InfiGreen Recycled Polyls
Ibrahim Sendjarevic, Troy Polymers/Consultant
Steve Turner, Emery Oleochemicals
Jeff Barnhorst, Emery Oleochemicals
Michael Brooks, Emery Oleochemicals
From Orange Peel to Polyurethanes
Mihail Ionescu, Pittsburg State University
Ram-Krisna Gupta, Pittsburg State University
Dragana Radojcic, Pittsburg State University
Xianmei Wan, Pittsburg State University
Zoran Petrovic, Pittsburg State University

New Developments in Class A Spray Polyurethane Foam Applications with Great Lakes PHT4-Diol™ LV Flame Retardant
Carl Powell, Great Lakes Solutions, a Chemtura business

Polyurethane (PUR) and Polyurethane Isocyanurates (PUIR) Spray Foam with 3rd or 4th Generation Blowing Agents
David Shieh, Huntsman Polyurethanes
Matthew Nguyen, Huntsman Polyurethanes

Properties of Rigid Polyurethane Foams Prepared from Recycled Polyols and Polymeric MDI Filled with Graphene Nanoplates
Se-Ra Shin, Chonbuk National University
Hanna Kim, Chonbuk National University
Dai-Soo Lee, Chonbuk National University
Yoo-Seok Kim, Jungwoo Fine Corporation
Hyung-Joo Kim, Jungwoo Fine Corporation
Wonbae Pak, Jungwoo Fine Corporation

Reaction Modeling of Urethane Polyols Using Fraction Primary, Secondary, and Tertiary Hydroxyl Content
Rima Ghoreishi, University of Missouri, Columbia
Yusheng Zhao, University of Missouri, Columbia
Galen Suppes, University of Missouri, Columbia

Solstice™ Liquid Blowing Agent (LBA) in Action In SPF Roofing
Mary Bogdan, Honeywell
Clifford Gittere, Honeywell
Xuaco Pascual, Honeywell
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