SOURCING AND
REGULATORY
ISSUES DRIVE
R&D EFFORTS
IN 2011

By Cynthia Challenier
CoatingsTrends Contributing Writer

In an industry that relies heavily on innovation for success, paint and coating manufacturers realize the importance of investing in new product development efforts. Those efforts have been frustrated for both coating and resin producers as high raw material prices and shortages of key ingredients have companies focused on finding alternative materials. With few exceptions, most manufacturers are focusing their technical efforts on trying to make marginal improvements in existing formulations and processes to make products less expensive, and as a consequence, minimal development of new technology has been occurring this year," remarks George R. Pitcher, a vice president with The ChemQuest Group. He goes on to add that when they are not optimizing products or processes, they are working to improve alternative sources for raw materials or to identify substitutes for some ingredients in order to get around allocations. "In my opinion," Pitcher asserts, "2010/2011 probably has been the period that has seen more approvals of alternative materials than at any other time." Coating prices are definitely up compared to where they were five years ago, but paint companies have not been able to pass on all of the increased costs, so profitability is down somewhat," notes Steven Neff, a principle consultant with Kis samt, Neff & Grawe (KNG). However, since the industry is still operating from a position of historic high prices for paints and coatings, manufacturers are still doing fairly well, according to Michael D. Brown, a managing partner with TZ Chemicals. The higher prices and tightness for certain raw materials have continued late into the third quarter despite a softening of the market for resin, pigment, and additives suppliers have risen dramatically, and these suppliers have been passing those increases on to the paint manufacturers. Coatings companies have been able to pass some of these higher costs on to their customers. "Coating prices are definitely up compared to where they were five years ago, but paint companies have not been able to pass on all of the increased costs, so profitability is down somewhat," notes Steven Neff, a principle consultant with Kissamur, Neff & Grawe (KNG).

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CENSUS DATA TO DISAPPEAR

An important decision was made by the government this year that will impact the paint and coatings industry even though it was not a regulatory-related action. The Current Industrial Report (CIR) program of the U.S. Census Bureau has been providing monthly, quarterly, and annual measures of industrial activity for many years. The primary objective of the CIR program was to produce timely, accurate data on production and shipments of selected products. The data are used to satisfy economic policy needs and for market analysis, forecasting, and decision-making in the private sector. Two of those reports—the quarterly Paint, Varnish and Lacquer report and the annual Paints and Allied Products report—specifically covered U.S. sales of paints and coatings.

In its 2012 budget submission, the Census Bureau made the decision to terminate the collection of data for the CIR program. According to the Bureau, in order to secure funding for new products, cuts in existing programs had to be made. It was found that the “availability of manufacturing data from the Annual Survey of Manufacturers and the 5-Yr U.S.-Economic Census help mitigate the loss of the CIR data products.”

The last reports were issued earlier this year. Further data may be collected only if Industry will fund the program.

“The decision to stop producing the Current Industrial Reports is an important issue for the paint and coatings industry” states Allen Irish, director of Industry Affairs and counsel at the American Coatings Association. “Many in the coatings industry may not fully understand how much they rely on the information generated in these reports until they are no longer available. It will become increasingly difficult to gather meaningful data on the industry, and the market will become less transparent.”

Basic chemical, resin, additive, and pigment suppliers may be affected the most. Paint manufacturers are closer to their customers and have a greater ability to track demand trends. Raw material suppliers, however, are further removed from the end users and are likely to find it more difficult to identify and respond to end-use demand shifts quickly, according to Irish.
REGULATORY CONSIDERATIONS

While raw material availability and pricing have had a huge impact on R&D activities, in some areas the potential for new regulations is also driving develop-
ment efforts. Bisphenol A (BPA) in can coatings, Texanol in waterfront coat-
gings, physiologically based pharmacokinetic models, and primates in general may all need to be replaced at some point in the future if anticipated regulations come to pass.

BPA is an issue in can coatings. Even though the European Food Safety Au-
thority (EFSA) determined that there was not convincing evidence to support the ban on further restrict its use, leading producers of can coatings---Vespar, PPG and AkzoNobel---continue to actively seek a coating solution that does not contain BPA. "BPA is present because can coatings contain epoxy (a form of BPA), therefore, means removing the epoxy resin, and that is no easy task," Plicher comments. Acrylics will likely continue to be used, but there definitely will be opportunities for other raw materials not traditionally found in can coatings. Possible candidates according to Plicher include nonvarnish ester or polycarbonate plastics that would function as a co-
alescent for acrylate-based coatings.

Many architectural coatings are likely to show some restrictions in the near future. One of the most important is the current use of Texanol for coatings. Once the ASTM finalizes its new test for VOC determination (ASTM D6866), the EPA is expected to qualify Texanol (2,2,4-tetrinmethy1-1,3-pentanediol-2-methylene (propionate) as a VOC. The substance is widely used in latex paints because its low viscosity and current non-VOC status. With the latter soon to be no longer the case, nonvol-
atile alternatives will be sought. He again, according to Plicher, ester and polymeric plasticsmakers will work.

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nance coatings will be required to reformulate their products to be in compliance with California's South Coast Air Quality Management District's (SCAQMD) rule which takes effect in 2014. The rule requires that all VOLS from colorants be counted in determining the VOCs of the paint formulation. Most colorants, according to Plicher, contain volatile gly-
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The American Coatings Association bases its success on how well it serves its members, increasing networking opportunities, engaging in government advocacy, promoting educational opportunities, and communicating about the value of the coatings indus-
try—all such activities help ACA member companies improve their bottom line. Considering the programs, services, and accomplishments so far in 2011, this year was a successful one, according to ACA president and CEO J. Andrew Doyle. He expects 2012 to be strong as well.

ACA was very active in 2011, offering several conferences and webinars, working to expand the PaintCare pro-
gram, lobbying to limit regulatory expa-
tions, and publishing important member tools including our Global Market Analysis, to name just a few activities. Throughout the year, we have received consistent, positive member feedback regarding these and many other areas. The challenges are daunting, but the as-
sociation and its members have been up to the task. We continue to focus our re-
sources and efforts on meeting the greatest concern to the industry," Doyle says.

In 2011, the PaintCare program was implemented in Oregon with well over 300,000 gallons of paint collected. California will be implementing the program in 2012, with Connecticut set to implement it in 2013. It is likely that several other states will adopt PaintCare within the next couple of years.

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ipants who discussed aspects of new developments in coating science and Specialized conferences on marine, wood, and polyurethane coatings also attracted a growing number of attend-
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casts, covering topics of importance to the coatings industry including regu-
atory updates. "All of these events were very well supported by our members and met or exceeded our projections," adds Doyle. "That gives a clear indica-
tion that ACA is providing real value to its members; we are hitting the right 
shorts in terms of the topics."

Publications from the association provide additional educational resources for members. "The Journal of Coatings Technology and Research" is the leading science and technology jour-
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not the world," Doyle notes. The journal continues to grow in stature, with the number of paper submissions increasing at a very rapid rate. "We couldn't be more pleased with its performance. It is a real testament to the strength and innovative nature of the industry," The association's other magazine---JCT CoatingsTech---has also seen significant growth in 2011. Not only is it ACA's flagship publication, it also serves as an important source of information on coatings science and technology, accord-
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tinue to expand in 2012 as well. JCT CoatingsTech is unique in terms of the information it offers, which includes a combination of association news, high level science and technical information, business news and market develop-
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In May 2012, the industry's premier science and technology conference, the American Coatings Conference, will take place alongside the American Coatings Show in Indianapolis, IN. ACA expects to receive a 30-40% increase in the number of exhibitors and attendees this year, as sources for members. "The Journal of Coatings Technology and Research" is the leading science and technology jour-
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distant future. While benzocates are often suitable replacements, there is concern that these compounds will not be the only alternative to be targeted. As a result, many coat-
ings and inks producers have focused on next generation alternatives that can serve as substitutes for both phthalates and benzocates, according to Plicher.

Several possibilities include terpolyph-
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tion arose from a board level review of the ACA activities to identify key issues for the association going forward.

Sustainability was also identified as an issue, and a working group in 2011 focused on developing materials for communicating to consumers, mem-
ber customers, policy makers, and the general public about how the paint and coatings industry contributes to sustain-
bility. An informative brochure and interactive website were created that provided numerous examples of how coatings technologies contribute to re-
duced resource consumption, fuel use, and carbon dioxide emissions. The Directors also recognized the value that the International Paint and Printing Ink Council (IPPC) to which the ACA serves as the secretariat, has provided to the industry. High priority has been placed on providing continued support of the group, which serves as a forum for the industry to engage in dis-
sussions about international regulations on the UN level. The Board also recom-
mented formation of a new government affairs committee and working group, and those recommendations will be implemented before the end of 2011.

Finally, in 2011 ACA published its updated global standards. This year, he had The ChemQuest Group to prepare the latest U.S. Paint & Coatings Industry Market Analysis, which is to be issued in early 2012.

"Our goals as an association are to advance the interests of the coatings indus-
try; serve as an advocate; offer programs and services that support the in-
dustry's commitment to environmental protection, product stewardship, health and safety, and the advancement of science and technology; and provide a forum for the exchange of ideas and information. Given the overwhelming positive feedback from members to our various activities and accomplishments in 2011 and the excitement being generated by our ongoing efforts, we believe that we are meeting those goals. I feel very proud to be a part of ACA and the paint and coatings indu-
sy," Doyle concludes.

purchase of Elicochem, and Arkema's acquisition of Total's resins businesses (Synthocoll, Flexiglass) and its own in an expansion of these assets to the UCAR business which it purchased from Dow Chemical in 2010, Arkema has become a big player in the resins market, according to Nerfi. Meanwhile, Momentive sold offHexion's resin business (pluracol, Solutia's Flexiglass) to European investment group LCR. Lubrizol's purchase does not really affect the market as no consolidation occurred. The same can be said for the Clariant/Sud Chemie deal, as it is a complementary acquisi-
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In another example, the court of public opinion and vocal non-governmental organizations are getting their say in the discussion about phthalates, and many companies anticipate that these materials will come under regulatory scrutiny at some time in the not-too-distant future. While benzotriates are often acceptable replacements, there is concern that their replacements will also properly be targeted. As a result, many coats and links producers have focused on next generation alternatives that can serve as substitutes for both phthalates and benzotriates, according to Picher. Several possibilities include tertaphthalate and diPF from Eastman (conventional phthalate products are ortho-dihydrates); Hexamoll\® DINCH from BASF (1,2-Cyclohexane dicarboxylic acid, di-tert-butyl ester); Hexamoll\® from LANXESS (oligoC10-D11-sulfuric acid phenyl ester); and a large number of esters from various organic plasticizers from the specialty producer Halsar, among others.

NOTABLE DEALS

While raw material producers were raising prices, they were also making quite a few deals. In fact, the largest acquisitions taking place in the raw materials space and not in paints and coatings. Some of the most noteworthy deals of 2011 include the acquisition of BASF's acquisition of Cognis, Ashland's purchase of ISP, Solvay's deal to buy Rhodia, Lonza's acquisition of Arch Chemicals, Clariant's purchase of Sud Chemie, Berkshire Hathaway's buying of Lubrizol, Omnova's finalization of its purchase of Elionex, and Arkema's acquisition of Total's resins businesses (Crystic Resins), which gives the group the addition of three of the assets to the UCAR business which it purchased from Dow Chemical in 2010. Arkema has become a big player in the resins market, according to Nerfil, Meanwhile, Momentive sold off Hexion's resin business (purchased from Schering-Plough in 2001) to European investment group LCPI. Lubrizol's purchase does not really affect the market as no consolidation occurred. The same can be said for the Clariant/Sud Chemie deal, as it is a complementary acquisition, according to Nerfil. As for paint and manufacturing activites, activity seems to be largely focused in emerging markets. Valspar made two deals in Brazil, purchasing Tocato Tintas

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The American Coatings Association bases its success on how well it serves its members, increasing networking opportunities, engaging in government advocacy, and supporting the paint industry, according to CEO Andrew Doyle. "We are a true association," he says. The Chatsworth, Calif., based association in 2011, 2012, and 2013.

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ACA is working to improve the industries' grassroots efforts and will be developing tools and guidance materials that will enable members to become more involved. In 2012, the ACA will be allocating more funding to state advocacy efforts in response to recommendations from the Board of Directors. The recommendation arose from a board level review of the ACA's activities to identify key issues for the association going forward. Sustainability was also identified as an issue, and a working group in 2011 focused on developing materials for communicating to members, member customers, policy makers, and the general public about how the paint and coatings industry contributes to sustainability. An informative brochure and interactive website were created that provided numerous examples of how coatings technologies contribute to reduced resource consumption, fuel use, and carbon dioxide emissions. The Board of Directors also recognized the value that the International Paint and Printing Ink Council (IPPC) has, to which the ACA serves as the secretariat, to have provided industry. High priority has been placed on providing continued support of the group, which serves as a forum for the industry to engage in discussions about international regulations on the UN. The Board also recommended formation of a new government affairs committee and working group, and those recommendations will be implemented before the end of 2011. Finally, in 2011 ACA published its updated global strategy, which has received the endorsement of the PSA and the GIC, which resulted in the development of the new vision statement, which includes a strategic plan for the future of the association. This plan was adopted by the Board of Directors. The plan includes a focus on globalization, sustainability, and innovation. The plan was adopted by the Board of Directors. The plan includes a focus on globalization, sustainability, and innovation. The plan was adopted by the Board of Directors. The plan includes a focus on globalization, sustainability, and innovation. The plan was adopted by the Board of Directors.
with Asian paints to a 50/50 arrangement in China. PPG expanded its JV venture with Tekno SA. Akzo opened a formed the previously mentioned joint fire protection coatings company. Many new powder coating plant in Mexico and open 50-60 new stores by the end of the year, according to Nerlfi. Small companies located in emerging markets might experience very long order cycles, which could explain their continued growth at this point, and it is possible that some time a day before the slowdown will hit them too.

On the bright side, the present slowdown in paint and coatings demand in the U.S. has not hit all sectors. The capital equipment, durable items, and automobile markets continue to grow at the same pace as earlier in the year. The capital equipment and durable items sectors (marine, aerospace, etc.) do experience very long order cycles, which could explain their continued growth at this point, and it is possible that some time a day before the slowdown will hit them too. The anomaly, according to Brown, is automobiles, which normally would slow down along with non-durable consumer goods. One explanation points to the fact that for the past three years only 20% of the number of cars have been sold annually in the U.S., as well as sold before the global recession. Consumers, therefore, have been postponing the purchase of new vehicles to the point where a usually discretionary purchase has become a necessity. However, Brown believes that if continued softening in demand occurs throughout other sectors of the economy, it will eventually reach the automotive market as well.

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Air Products & Chemicals, Inc. Toll-Free: (800) 345-3148 Voice: (610) 478-4789 E-Mail: cheminfo@airproducts.com www.airproducts.com ...