PLASTICS INDIA
A journal for the growth and development of plastics trade & industry

Owner Indian Plastics Federation, Printer and Publisher Sri Ashok Jajodia, Published from 8B, Royd Street, 1st Floor, Kolkata 700 016 and Printed from **CDC Printers (P) Ltd.**, Plot No. 5,6,16 & 17, Tangra Industrial Estate-II, 45, Radha Nath Chowdhury Road, Kolkata - 700 015.
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Published by :
INDIAN PLASTICS FEDERATION
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Kolkata - 700 016 (INDIA),
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CIN No. : U91110WB1959NPL024140

Editorial

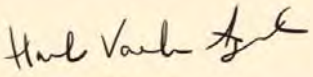
Dear Friends,

I hope you took time out to exercise the franchise granted to you by the constitution of our country. If your constituency hasn't voted yet, then I would urge you to have your voice heard and your finger, painted. By the end of this month, we would have the 17th Lok Sabha in place and hopefully a new Government as well.

Writing this just before the auspicious day of Poila Boisakh when new ventures and associations are explored in earnest, I am as eagerly anticipating a forward looking and salubrious government as you are. I am sure most of you read the IPF President's address last month, where he highlighted the scale and scope of the plastic industry in India and how Eastern India continues to lag the metrics of pan India that in turn lags global metrics in plastic consumption.

Given the largely fragmented nature of the plastic industry and presence in virtually all geographic pockets, it offers tremendous scope for employment generation and productive livelihood. There is no better enabler of a better and nobler lifestyle than gainful employment and our industry has facilitated this in leaps and bounds. Irrespective of the proclivity of the government that is voted in this month, our industry should take pride in its achievements and continue to work hard towards a better and healthier India.

Do write to us at IPF and Plastics India expressing your suggestions for improving the experience and positive feedback if you liked what you saw. If we incorporate your essay in our next publication, you will receive a small token of appreciation. Mails must be addressed to me and mailed to office@ipfindia.org



Harsh V. Agarwala
Co-Editor

Presidential Address

Dear Friends & Colleagues,

Wishing all members a Very Happy Holi 2019. May the colours of Holi bring peace and prosperity to all of you.

In this edition of Plastics India I give a few facts on the plastics industry in India and in Eastern India.

- Per capita usage of plastics in India is around 12 Kgs viz-a-viz global average of 40 kg
- Per capita recycled plastic is around 5.5 Kgs which is one of the top 10 in world
- Total processing industry in India is 50000 in numbers
- Total virgin polymer consumed by India industry is 13.0 mn ton
- Number of processing machines is around 145000
- Investment in plastic machinery in India is around 35000 Crore
- Expected Investment in machines in next 5 years is 20000 Crore

PETRCHEMICAL : The growth indicator of GDP : GDP growth from 1990 to 2019 have been in the range of 5 to 7.5 % where as in the same time Petro chemical growth has always been in double digit except from 2000 to 2004. This shows that Petrochemical growth is one of the back bone of GDP growth.

SOME FACTS ABOUT EASTERN INDIA :

Eastern Region per capita consumption is 6 Kg.

Recycling of polymer in eastern region is around 2kg.

It employs close to 3.5 lakh people directly & indirectly in West Bengal & When we take the entire supply chain system in consideration including raw material suppliers, packaging material suppliers, transporters, machine manufacturers, in total,10 lakh are dependent upon plastics for their livelihood.

MSME investment per annum in West Bengal is around 200 - 250 Crore annually that generates additional direct & indirect employment of around 10000 people every year.

Major producers of raw material in East are : Haldia Petrochemicals Ltd, Indian Oil Corporation Ltd, Brahmaputra Cracker & Polymer Ltd with total installed capacity being 1600 KTA. Incidentally, the 1st petrochemical plant of India was in West Bengal by ICI at RISHRA in 1950's.

Hence there is a big opportunity for West Bengal to attract lots of investment in polymers.

At the recently concluded exhibition INDPLAS 2018 in Kolkata, the Indian plastic industry felt the positive pulse and vibrancy of Bengal. Over 400 exhibitors participated on an exhibition area of 300000 sft. Business and leads worth 200 crore were transacted.

The reverse buyer seller meet with 50 international buyers was a grand success and opened immense export opportunities.

The presence of senior secretaries and the Honble Industry Minister amazed the industry and they were highly encouraged and enthused to make more investments in Bengal.

The total export of plastics from India stands at US 7.0 Billion in 2018-19. The export from east is 612 USD million that is 7.74%.

The East in particular Bengal will see double digit export growth figures.

With warm regards

Alok Tibrewala
President

Secretary Message

Dear PLASTIZENS,

WISHING YOU AND YOUR FAMILY - A VERY HAPPY & PROSPEROUS BENGALI NEW YEAR 1426, SHUBHO POILA BOISHAK.

1. A workshop on **BE POSITIVE – BE SUCCESSFUL** was held on Saturday, the 6th April 2019 in the Conference Hall of the Federation. Mr. Naresh Agarwal, an acclaimed business Coach, Certified Man Power Trainer, NLP Trainer, Pranic Healer, Arahtik Yogi, Corporate Motivator was the speaker. He has dedicated his life to helping people to discover their true potential and put into action the tools, strategies and resources that create extraordinary results and amazing levels of personal fulfillment. The programme was well attended & well appreciated . We are running this learning series & I would like to invite all the members to share their view points

2. A Joint Coordination Committee has been formed by PLEXCONCIL to address the trade issues of plastics industry. Plastindia has requested IPF to nominate two members to this committee. Myself and Shri Manoj Kumar Agarwal of Mittal Technopack Pvt. Ltd. have been nominated as members of this committee.

3. We have cancelled our MOU with ICA Edu Skills . They were selected a year back for conducting training courses at IPF KC. We have started discussions with CIPET for use of this infrastructure for conducting innovative training courses run by CIPET.

4. Membership application form has been modified to accept membership . In case anyone is interested to bring more quality members, contact our secretariat for more details

5. It has been decided to delete the membership of those members who have not paid their membership subscription for over three years. Notice is being sent to such members to pay their membership dues, failing which, their names will be struck off the membership register.

6. Shri Pradeep Kumar Kedia of Kusum Management Services Pvt. Ltd. has been appointed as Convenor of 'K' exhibition to be held in Germany in October 2019.

7. Chinaplas 2019 tour is on full swing. All who are interested, please register yourself.

I hope & wish all our members a very happy, prosperous, peaceful, purposeful NEW FINANCIAL YEAR

May this new financial year catches up on all the misses we may have had during the last year

With Warm Wishes

Manish G. Bhaia
Hony. Secretary

IPF HASSYA KAVI SAMMELAN (HOLI MEET) 2019

Shri Om Prakash Agarwalla, Chairman – Cultural Committee, Office Bearers and Members of the Executive Committee of the Federation organised a Hassya Kavi Sammelan (HOLI MEET) at G D Birla Sabhaghar, Kolkata on Tuesday, 19th March, 2019. Six Poet's presents to entertain the audience with the humorous poems were Shri Jagdish Solanki, Shri Aash Karan Atal, Shri Dinesh Bawra, Shri Chirag Jain, Shri Ramesh Muskan and Sm Manisha Shukla. Around 400 members attended the Holi Meet.

IPF Participation in

CAP INDIA 2019
26th-28th March 2019
Hall No.1, Bombay Exhibition Centre
Goregaon, Mumbai

IPF participated in 4th edition of CAPINDIA 2019, which was held at Mumbai from 26-28th March 2019 with a 36 sq mtr booth. It is one of the leading networking and sourcing events for the industry for export promotion. Capindia is a Government of India's initiative to promote Export from India This is being undertaken as part of the Ministry of Commerce's MAI scheme to boost the exports of the participating industries. 400 plus International buyers attended under RBSM scheme of the Government.One to one meeting of the foreign buyers and exhibitors were held in a systematic manner in one large area. Nine IPF members opted for one meter panel and participated in the exhibition. The exhibition was attend by Mr. Ashok Jajodia, Past President and Mr. Nikunj Bhaia of Neptune Plastics





A WORKSHOP ON BE POSITIVE – BE SUCCESSFUL

A workshop on BE POSITIVE – BE SUCCESSFUL was held on Saturday, the 6th April 2019 in the Conference Hall of the Federation under the Charimanship of Mr. Sudarshan Tawri, Chairman – Youth Wing Sub-committee. Mr. Naresh Agarwal, an acclaimed business Coach, Certified Man Power Trainer, NLP Trainer, Pranic Healer, Arahtik Yogi, Corporate Motivator was the speaker. He has dedicated his life to helping people to discover their true potential and put into action the tools, strategies and resources that create extraordinary results and amazing levels of personal fulfilment. The programme was well attended.

CONGRATUATIONS TO SHRI AMAR SETH

Sri Alok Tibrewala, President and Members of the Executive Committee of Indian Plastics Federation congratulate Sri Amar Seth for being elected as President, Indian Plastics Institute for the term 2019-20. Sri Amar Seth is a senior member of the Federation and was the Chairman of Exhibition Organisation Committee of IPF's exhibition Indplas2006 and Indplas2012. He has also been actively involved in all activities of the Federation. We wish him success as President of IPI.

SABIC SHOWCASES AUTOMATED SYSTEM FOR RAPID COMPOSITE MANUFACTURING

Sabic celebrated a major milestone for its ground-breaking Digital Composites Manufacturing line here at JEC World 2019 in France recently. The company, in collaboration with Airborne and powered by Siemens and Kuka technologies, has successfully completed the pilot phase of the world's first automated digital system for rapid, large-scale laminate manufacturing using Sabic's continuous fiber-reinforced thermoplastic composite tape.

Plans for the new system were originally announced at JEC World 2018 and now, Sabic and Airborne are beginning the transition to full-scale production, which is slated for the end of 2019. To preview this unique system, Sabic presented a 360-degree virtual reality experience called "Innovations of Scale" at its JEC World stand.

The new automated digital manufacturing system was built at Airborne's facility in The Netherlands and is capable of producing four thermoplastic composite laminates every 60 seconds, totalling up to 1.5 million parts annually. Potential applications include cases and covers for consumer electronics, aircraft inserts, automotive components and sports goods.

"Composites offer amazing properties found in no other materials such as extreme strength and ultra-low weight for diverse applications, ranging from wind turbine blades to sporting goods," said Gino Francato, Global Business Leader, Advanced Composites, Sabic. "Until now, however, their adoption has been restricted because of time-consuming, inefficient and expensive processes. By focusing on new materials and manufacturing automation to overcome these hurdles, the industry will make tremendous strides; and it is precisely efforts such as our collaboration with Airborne that are helping to make the industrialization of composites a reality."

"The good thing about this collaboration is that we work closely together with Sabic, so the material development, automation technology development and the product development go hand in hand", said Arno van Mourik, Chief Executive Officer of Airborne. "With such a holistic approach we can create real breakthroughs in cost efficiency for mass volume applications."

Industrialization of laminate production using the new Digital Composite Manufacturing line will enable customers in diverse industries to mass-produce high performance thermoplastic composite parts, gaining advantages of faster speed, higher efficiency and lower costs.

The Digital Composites Manufacturing line uses cutting-edge digital technologies, including robotics, to enable mass customization of flat laminates while reducing cycle times and cost. The highly sophisticated, fully digital system can run multiple laminate sizes simultaneously. Adaptive process controls allow settings to be modified almost immediately. Machine learning and artificial intelligence will be used to achieve continuous yield improvements over time, maximize quality and repurpose irregular parts to minimize scrap

To support and enhance these capabilities, Sabic will offer customers a range of services including simulation-based part and laminate design assistance and guidance on hybrid molding processes in order to streamline the switch to composites. The company can customize its composite tapes and laminate products to meet customer requirements. Importantly, Sabic can leverage its wealth of experience in injection molding to help customers mitigate warpage, a common issue, by making modifications to part design, materials selection, and processing.

Source : Stephen Moore

EU RULES ON SINGLE-USE PLASTICS LACK HARMONIZED APPROACH, CAUTIONS PACKAGING ASSOCIATION

On March 27, 2019, the European Parliament adopted the European Commission's new rules on single-use plastics. The Single-Use Plastics (SUP) Directive is designed to reduce marine litter through a mix of outright bans, incentives to reduce consumption, the establishment of ambitious plastic-bottle collection goals and extended producer responsibility schemes. The measures are a step toward a larger vision that will require all plastic packaging placed on the EU market to be reusable or recyclable by 2030. The European Organization for Packaging and the Environment (EUROPEN; Brussels) notes in a press release that it supports the overarching objectives but has concerns about consistent implementation of the directive across the European Union. It also urges policymakers to be mindful of existing and forthcoming EU laws involving packaging and packaging waste that may overlap.

EUROPEN notes in its press release the absence of a harmonized approach in the SUP Directive, which, it says, presents a serious risk for the internal market. "For instance, it will allow member states to adopt unilateral bans on specific packaging applications to reduce consumption of certain items that remain poorly defined in legislation," writes EUROPEN. The organization calls on EU policymakers to develop evidence-based guidance on the unclear terms without delay. It also

calls on the European Commission and member states to ensure that all national, regional and local measures to implement the SUP are notified to the Commission in accordance with the directive.

While it has been a supporter of extended producer responsibility (EPR) schemes as an essential component of waste management in Europe, EUROPEN points out that EPR is dealt with in two legislative texts, the single-use plastics directive and the revised Waste Framework Directive. This has resulted in a "lack of policy coherence," writes EUROPEN. "It is now essential that the Commission develops EU-wide guidance for clarifying and delineating the allocation of litter clean-up costs in order to ensure a harmonized, proportionate and transparent implementation of the measure in member

Calling the SUP Directive process "unprecedentedly rushed," Hans van Bochove of Coca-Cola European Partners and EUROPEN Chairman stressed that the "packaging value chain is committed to innovating for sustainability. This will require investments at scale. For this to happen, business needs clarity on the applicable rules and a coherent, long-term and stable EU policy framework. One single EU Circular Economy is preferable to 28 or 27 different ones," said Van Bochove.

Source : Norbert Sparrow

INEOS STYROLUTION ANNOUNCES BREAKTHROUGH IN CHEMICAL RECYCLING OF POLYSTYRENE

Yet another polymer materials producer has proclaimed success in producing "virgin" polymer from depolymerized plastic waste. Ineos Styrolution (Frankfurt, Germany), a global leader in styrenics, completed the first successful test runs producing virgin polystyrene from previously depolymerized material. These experiments, completed at the company's site in Antwerp, Belgium, can be seen as practical proof of the recyclability of polystyrene, said the company.

A lab-scale quantity of general-purpose polystyrene produced from 100% recycled styrene monomer signals a game changer in polystyrene production, the company said in its announcement. The material is the result of experimental polystyrene production runs with styrene monomer feedstock produced from depolymerization of styrenic plastic. The tests, done in cooperation with commercial partners and universities, resulted in the production of virgin material with the same product properties as polystyrene produced from new styrene monomers.

"We are very excited having achieved this breakthrough," said Michiel Verswyvel, Global R&D expert. "Due to its relatively clean decomposition into its building blocks, polystyrene is almost designed to be recycled. Within our global project team we are working to make this a stable process on a commercial level by learning, for example, more about purity requirements of the feedstock material."

Together with collaboration partners worldwide, Ineos creates and invests in recycling concepts for a wide range of styrenic products, taking advantage of the unique properties of the polymer, said Ineos.

"I am convinced that we have achieved a significant milestone in proving that polystyrene is recyclable and contributes to reducing post-consumer waste," said Rob Buntinx, President for Europe, Middle East and Africa. "We are now looking forward to scaling the process to an industrial level and saving valuable resources."

Source : Clare Goldberry

THERMOPLASTIC COMPOSITE TAPE FEATURES IN REVOLUTIONARY CHANGE IN VEHICLE PANEL PRODUCTION

Sabic announced a new, cutting-edge technology for producing lightweight, cost-effective and recyclable vehicle panels using its Udmax tape, a unidirectional, fiber-reinforced thermoplastic composite at the recent JEC World 2019 event. This innovative technology, which is designed to replace traditional panels made of metal and thermoset materials for interior and exterior automotive applications, will soon be commercialized in the bulkhead of a light commercial vehicle (LCV) produced in large scale for the global automotive market.

The bulkhead was developed through international collaboration among Sabic; RLE International, an engineering services provider headquartered in the United Kingdom; AMA Composites, an Italian toolmaker; and Setex Textil GmbH, a weaver based in Germany.

Vehicle panels made with Udmax tape are said to combine strength and impact resistance with lightweight, which can result in mass reduction of interior panels of up to 35 percent in comparison to metal parts. In the case of exterior panels, the composite material can help reduce mass up to 50 percent. They are produced using a highly efficient, one-shot process of lamination and low-pressure molding.

"Our Udmax tapes offer the automotive industry a powerful solution to the ongoing challenges of reducing weight, lowering costs and improving sustainability," said Hans Warmerdam, CEO and Chief Sales & Marketing Officer, Sabic FRT – a Sabic affiliate. "We're confident that the light commercial vehicle's bulkhead is the first

of many structural applications where our innovative materials, combined with this novel processing approach, can help solve our customers' challenges of achieving lighter weight without compromising safety, durability, and fuel or energy use. Through continued collaboration among this unique team of engineers, designers and technical experts in materials and in conversion processes, we intend to explore more ways to expand the adoption of our thermoplastic composite technology."

The use of thermoplastic composites can lead to a significant reduction in mass in applications. In the case of the bulkhead, replacing a traditional metal component with the Udmax tape lamination within the part reduced mass by 35 percent in the application. Lower weight can also make the large bulkhead easier to handle, which could help to accelerate vehicle assembly.

This mass saving can be achieved without sacrificing the impact performance of the part, which is essential to protect occupants against injuries caused by shifting cargo. According to RLE International, the bulkhead complies with ISO 27956, the standard for securing cargo in delivery LCVs. The build-up of the process and the tensile strength of the Udmax are the main factors in optimizing the impact resistance of the bulkhead.

Compared to metallic or injection molded part of a conventional, multi-piece bulkhead, the new method – designed, developed and engineered by RLE International – can reduce tool costs by up to 80 percent compared to injection molding tools. This saving is due to the ability to replace an expensive, high-pressure tool with a lower-cost, low-pressure tool. Overall, the supplied cost of the LCV's bulkhead can be 10 percent lower than the conventional metallic bulkhead that it replaces.

This technology also represents a revolutionary change in vehicle panel production by increasing efficiency and reducing complexity. With molding cycle times under two minutes, this streamlined process avoids sourcing and assembling multiple components, traditionally at different supplier locations, as well as secondary painting and trim operations.

A proprietary lamination featuring a core of extra-wide Udmax tape woven by Setex incorporates aesthetic finish a one-shot compression step. The process also allows varying the thickness of the panel in order to improve noise, vibration, and harshness (NHV) levels, helping to reduce noise in the vehicle. AMA Composites created the tool and molded the concept parts.

"Our new technology for producing panels using Udmax thermoplastic composite tape offers tremendous opportunities to the automotive industry," said Mark Grix, head of Interior & Exterior Engineering for RLE International. "One example is the electric vehicle sector, where lower panel weight can extend driving range and lower-cost tooling can reduce capital investments for start-up companies. RLE International stands ready to assist automotive tiers in mastering this new process so they can leverage its advantages on behalf of their OEM customers."

Source : Stephen Moore

LANDFILL REDUCTION EFFORTS DRIVE GROWTH FOR BIODEGRADABLE BAGS

Keen interest in diversion of materials from landfills is pointing attention to and investments in alternative options including biodegradable plastic films where demand is projected to climb 5.4% yearly to $122 million in 2023. Food packaging will remain the dominant market for biodegradable films and is expected to account for 62% of demand in 2023. Biodegradable films will increasingly be employed in the production of salad, produce, and other food bags, as well as in labels. Additionally, biodegradable plastics usage in overwrap and other films – including those used as twist wrap, cut and wrap, twist film overwrap, and candy wrappers – will continue to make inroads vis-à-vis conventional films.

Polylactic acid (PLA) is currently the leading product in the packaging film market and is expected to offer some of the best opportunities for growth through 2023, benefiting from favorable properties such as high clarity, twist retention, printability, strength, and flavor and aroma barriers. These and other trends are presented in Specialty Films, a new study from The Freedonia Group (Cleveland).

Demand for biodegradable bags is also expected to rise rapidly through 2023. Advances will be driven by an expanding composting infrastructure and governmental efforts to reduce landfilling, which will boost demand for compostable bags used in the collection of food scraps and other organic materials for waste diversion programs. Overall advances will be restrained to some degree by the inability to substantially widen the national scope of composting networks, as well as competition from kraft paper bags.

Demand for all types of specialty films—barrier, microporous, safety and security, conductive and insulative, light control, water soluble, biodegradable and other—is forecast to advance 4.0% annually to $9.0 billion in 2023. The fastest gains will be in biodegradable and water-soluble films, the result of rapid growth in markets such as degradable packaging for food and nonfood items such as laundry detergent pods and oral drug delivery strips. Other smaller volume functions, which include tapes and release films, will also see above average gains in demand through 2023.

Source : Plastics Today Staff

ALDI TARGETS PACKAGING IN SUSTAINABILITY PLEDGE

A deep-discount grocery store chain that mostly sells private label goods is pledging that all its plastics packaging will be "reusable, recyclable or compostable" in just a matter of years.

Aldi, which originated in Germany, now has more than 1,600 stores in the United States.

The chain, Aldi Einkauf GmbH & Compagnie, with U.S. operations based in Batavia, Ill., near Chicago, also is pledging a packaging material reduction of at least 15 percent.

Aldi's new pledges include all packaging materials, not just plastics, the company said.

Because more than 90 percent of the company's merchandise is store branded, Aldi "has the ability to influence how its products are sourced, produced and brought to shelves," the firm said is a statement.

Aldi, by 2020, also is committing to use the How2Recycle label on all Aldi-exclusive consumable packaging and to "implement an initiative to make private-label product packaging easier for consumers to reuse."

In 2018, Aldi began using the How2Recycle labeling system created by the Sustainable Packaging Coalition. The standardized black-and-while label provides concise recycling instructions for all types of packaging for consumers.

"Aldi has never offered single-use plastic grocery bags. And while we're pleased that we've helped keep billions of plastic grocery bags out of landfills and oceans, we want to continue to do more," Aldi U.S. CEO Jason Hart said in a statement. "The commitments we're making to reduce plastic packaging waste are an investment in our collective future that we are proud to make."

Aldi offers both heavier-gauge plastic and kraft paper shopping bags. The chain, known for its low prices, sells those bags to customers at checkout lines. Many customers bring those bags back for reuse and others bring their own sturdier, reusable shopping bags that have become common these days. Aldi also sells those heavier bags.

Some customers eschew bags altogether and take the time to load their individual items into their vehicles, while others habitually forget their bags and must buy new ones. Some consumers also use cardboard boxes used to display Aldi goods to carry their groceries home.

Aldi, which has been operating in the United States for decades, estimates its business approach "has kept approximately 15 billion single-use plastic bags out of landfills and oceans."

Environmental group Greenpeace credited the company for "taking steps in the right direction by acknowledging its role in the plastic pollution crisis, and beginning to embrace reduction and reuse."

"While the company might intend to make packaging recyclable or compostable, it does not mean that packaging will actually be recycled or composted," Greenpeace Senior Oceans Campaigner David Pinsky said in a statement. Greenpeace called for the company to increase efforts to reduce single-use plastics that are typically thrown away and to build reuse systems.

Source : JIM Johnson

ECOVERA RANGE OF FABRICS TO REDEEM 1 MILLION PET BOTTLES FROM LANDFILLS – 9.4.19

Raymond Group, India's leading fashion and textile manufacturer and retailer, has unveiled the eco-friendly Ecovera – a range of fabrics manufactured by using R|Elan™, the latest technology from Reliance Industries Ltd (RIL). The Ecovera range will soon hit 1500 stores across 700 cities. It is made from R I Elan™ Green Gold, the greenest fibre in the world. R Elan™ Green Gold is made by recycling post- consumer waste PET bottles, using bio-fuels and energy-efficient processes. Raymond's Ecovera, powered by RIL's R Elan™, will redeem almost 1 million PET bottles from landfills. It's a testimony to both RIL and Raymond's commitment to saving the Earth.

Speaking on the joint development of the sustainable range, Mr Sudhanshu Pokhriyal, President, Textiles, Raymond Ltd. said, "We as an organisation are known for innovations in manufacturing top quality fabrics using both natural and man-made fibres. In our endeavour to create eco-friendly, sustainable fabrics, R|Elan™ GreenGold is a perfect choice to produce fabrics that have multiple qualities with superior handle and lustre. The use of R|Elan™ Green Gold is also a step towards achieving our goal of making our organisation sustainable and environment-friendly."

Raymond is one of the largest vertically and horizontally integrated manufacturers of worsted suiting fabrics in the world. It commands a dominant market share of over 60 per cent in the worsted suiting fabrics space in India. Throughout its history, Raymond's motto has been: 'Dressing the modern man right'. Drawing from Reliance's extensive R&D and vast expertise in fibres, R | Elan™ is a portfolio of innovative fabrics that does more. R Elan™ Green Gold is a new-age technology from RIL with globally supreme eco-credentials and specially engineered to fulfil consumer requirement for sustainable fashion. Green Gold is one of the eco-friendliest raw materials for the fashion industry and is supporting major brands

achieve their environmental commitments. According to Mr Gunjan Sharma, CMO – Polyester Business, RIL, "We are proud to be associated with Raymond. It provides us with an opportunity to do our bit for the environment. R|Elan™ Green Gold enables and equips Raymond to create an innovative and fashionable fabric with an added dose of sustainability."

RIL's petrochemicals business is committed to adhering to the concept of circular economy, recycling and waste reduction. Its aim is to make Indian textile and fashion industry a leader in practising these concepts. Thus, R|Elan™ products will provide consumers next generation fabrics that are in line with the latest fashion trends while also fulfilling their lifestyle needs. RIL's efforts will give consumers the assurance that if there is R|Elan™ on the outside, there is something special on the inside.

Source : Plastemart.com

EXPANDED RANGE OF SPECIALTY CHEMICALS FOR COATINGS

UWith a stand designed to give customers a personalized experience reflecting their needs, SONGWON Industrial Co., Ltd. is present again at the European Coatings Show 2019 (ECS) following its successful debut at the last show. The company is exhibiting a number of products for the first time, including two new stabilizers, an antioxidant and two ranges of functional monomers.

Demonstrating its commitment to improving sustainability throughout the coatings value chain, SONGWON is launching its new WB product range, a group of water-miscible products that have been developed to meet the increased demand for environmentally acceptable additives. "The new light stabilizers and antioxidant combine the efficiency of conventional products with the benefits not only of water miscibility and low-to-zero VOC generation, but also of easy dosing and handling," explained Rosanna Telesca, Leader of the Market Center Coatings.

The range consists of a benzotriazole-based UV absorber – SONGSORB® CS 326 WB ? for waterborne industrial, architectural, decorative and wood coating applications, a waterborne triazine-based UV absorber ? SONGSORB® CS 400 WB ? which is also suitable for more demanding applications such as automotive coatings, and a water-compatible phenolic antioxidant ? SONGNOX® CS 2450 WB – for polyurethane-based coatings. Together with the water-compatible hindered amine light stabilizer (HALS) SONGSORB® CS AQ01, which was introduced at the last ECS, these products provide a synergistic stabilization package for water-based coating systems.

SONGWON's team of specialty chemicals experts is currently working to expand the newly introduced WB range still further, with the addition of new WB blends of light stabilizers, which are currently being tested. These, together with the products that are being exhibited at the ECS, will make up a comprehensive portfolio of water-compatible solutions for the coating industry.

Launch of functional monomers

The first two ranges of functional monomers are now available and a third line is under development. "Functional monomers are specialty molecules that can provide a standard polymer with additional, enhanced performance effects and/or significantly improve processing performance," said Heinrich Schulte, Leader of the Market Center Functional Monomers. "Resin manufacturers can benefit from the high performance as well as the cost efficiency of our new functional monomers," he emphasized.

ERM-6100 is the latest addition to SONGWON's range of dicyclopentadiene (DCPD) phenol resins. These monomers are mainly used during the manufacture of epoxy composites as epoxy resin modifiers (ERMs) in epoxy chain-extending reactions and as hardeners. The new monomer, which combines high functionality with low viscosity, has been developed especially for electronic applications and high-performance resins such as polybenzoxazine (PBO). With their different softening points, functionality and viscosity, the five products in the range cover a wide variety of requirements.

SONGWON has also added two bisphenol (BP) monomers to its portfolio. BP-TMC is used to modify epoxy resins as well as non-optical polycarbonate and polyester polymers. It is distinguished by its cost efficiency and good chemical purity. TMBP, which is suitable for both epoxy and phenolic resins, is designed to ensure the highest purity and excellent color, and it gives the resin a high glass transition temperature. More BP grades are currently being scaled up and available in pilot quantities.

Source : Plastemart.com

INDIA AMENDS HAZARDOUS WASTE (MANAGEMENT & TRANS-BOUNDARY MOVEMENT) RULES, BANS IMPORT OF SOLID PLASTIC WASTE

With effect from March 1, 2019, India has completely prohibited the import of solid plastic waste/scrap by amending the Hazardous Waste (Management & Trans-boundary Movement) Rules. This updates a 2015 ban, which was amended to allow plastic waste imports to continue

in Special Economic Zones (SEZs), as well as by export oriented units (EOUs). After a ban was imposed by China a few years ago, India had emerged as one of the world's largest importers of plastic waste.

The amendment was driven by the huge gap between waste generation and recycling capacity in the country and India's commitment to completely phase out single-use plastic by 2022. As per a study conducted by the Central Pollution Control Board (CPCB), of the 25,940 tons of plastic waste generated in India day, over 40% (10,376 tons) remains uncollected in the country. 56% of plastic waste produced in India is recycled largely an informal sector activity that involves collection and separation of plastic waste. Large inadequacy in capacity of recycling of plastic waste leads to a chunk of such the waste remaining uncollected, causing substantial damage to soil and water bodies.

Source : Plastics News

NOVOLEX BAG-2-BAG SYSTEM CLOSES LOOP FOR PLASTIC BAGS

There really are better ways to handle the plastic bag problem besides outright bans. Just ask Troy Cook, Operations Manager of Novolex's recycling plant in North Vernon, IN. Located next door to Novolex's plastic bag manufacturing facility, the recycling facility offers a closed-loop system—Bag-2-Bag—that meets consumer demands for "green" initiatives while maintaining the benefits of plastics that many consumers love.

Cook told PlasticsToday that Novolex's recycling plant works with bag manufacturing plants throughout the region to reprocess plastic scrap from their production lines. "We get the scrap plastic from different streams of materials, reprocess it and return it to them to make new bags," explained Cook. "We have both post-industrial scrap brought in from third-party buyers, and post-consumer from various vendors and customers who bring us their waste stream."

Like many in the retail bag manufacturing industry, Cook is against bag bans. "I think [bag bans] are bad decisions made with bad information," he said. "We push the recycling aspects of bags because customers have asked for plastic bags; it's their preference. Polyethylene is 100% recyclable. We partner with various stores and other sources to put up recycling bins."

Cook believes that making it easy for consumers to recycle is key. "The more we can promote recycling and give people the opportunity to recycle, the more they will do that," he said. "If there are no recycling receptacles or barrels to put their bags into at the store level, their inclination is to put it in the trash. The easier we can make it for them, the more they will participate in recycling."

Through the Bag-2-Bag system, Novolex's recycling facility brings in materials either through post-industrial or post-consumer reclamation; the company also looks for opportunities to purchase materials. Currently Novolex's bags can contain up to 60% of recycled material, and the company is looking to increase its post-consumer input into the bags.

"Our customers, retail bag manufacturers, are looking to increase post-consumer material in their end-use bags," said Cook. "The amount of recycled content in our bags is really dependent on supply inventory and the availability of different materials," Cook explained. "We partner with our customers to determine how much recycled content they're looking to achieve, run various tests to ensure quality standards are met and certify the various percentages of recycled material."

The bags show some variation in color, given that reclaimed materials might be colored or printed with various colors of inks. For example, what would be a white bag might be off-white or eggshell, depending on additives and inks used in the reclaimed materials. The darker gray bags have more of the colored materials and darker inks.

"It's customer preference as to what colors they want, and we work with them to increase the amount of recyclable materials they have to determine the difference in clarity and color they have available," said Cook.

The company encourages consumer participation with recycle bag bins at all retail locations to make it easy. With each trip to the store, consumers can support sustainable plastic production and participate in the Bag-2-Bag program, which the company said is the nation's first closed-loop recycling program.

Initiatives like the Novolex Bag-2-Bag program appear to be an excellent way to capture plastic bags at the retail store level and keep these lightweight bags from flying around in the environment, where they can be seen as evidence of plastic pollution. And it's a better alternative than putting them in the curbside recycling container, where, in many cases, these bags are not wanted.

For example, officials in Indian River

County, Florida, recently launched a public outreach campaign to discourage residents from placing plastic bags and wraps in curbside recycling bins, and to expand drop-off recycling locations for these plastics.

"Please, do not put plastic bags and wraps in your curbside recycling bins," implored Sue Flak, Recycling Education and Marketing Coordinator. "They do not get recycled at curbside. They harm recycling equipment and cost taxpayers more money. Instead, plastic bags and wraps should be taken to retail stores that offer drop-off programs, such as Publix, or one of six county locations for recycling."

While recycling of plastic bags and wraps has been available at many leading retail stores for years, Indian River County recently added new Rack'nPak Recycle Bagging System collection bins, manufactured by PolyWrap Recycling LLC, at convenience centers to make it easier for residents to recycle properly. The Rack'nPak Recycle Bagging System bins were made available thanks to a donation provided by America's Plastic Makers, which sponsor a nationwide recycling initiative called WRAP (Wrap Recycling Action Program).

Besides retail bags, the drop-off points collect bags for newspapers, produce, bread, dry cleaning and more, as well as plastic wraps from cases of water bottles, bathroom tissue, paper towels and similar products. They get recycled into products such as new grocery bags, park benches, shopping carts and decking.

In spite of various ongoing efforts by bag manufacturers, recyclers and the retailers themselves, some retailers continue to ban plastic bags, which many consumers prefer because of their reusability and recyclability. For example, at the end of 2018, grocery store chain Trader Joe's announced that it would be making moves to cut out one million pounds of single-use plastics in its more than 500 stores as soon as possible. Besides getting rid of all plastic bags, the company set out a list of the things it was going to take action on in this pursuit, including reducing plastic packaging, looking into renewable and recyclable packaging, and helping to educate its customers on how to best recycle the packaging being purchased at a Trader Joe's store.

According to Trader Joe's announcement, the company replaced produce bags with biodegradable and compostable produce bags for the convenience of carrying loose or "by-the-each" fruits and vegetables.

What Trader Joe's apparently does not know is that those biodegradable and compostable produce bags can put a monkey wrench into the recycling stream if consumers mistakenly put them into the recycle bin.

According to a number of recent studies, including a recent end-of-life fate of biodegradable plastic bags conducted by a team led by Jesse Harrison of the University of Edinburgh in Scotland, many of these alternatives that are touted as better for the environment because they are biodegradable and/or compostable are often made from a heavier-grade plastic.

A recent commentary in Cosmos magazine, an online scientific publication, on this study noted, "Harrison and colleagues found that many studies used only laboratory tests to predict how particular plastics would behave in the open ocean. There was no agreement across the board on standards to define biodegradability, nor on consistent testing methods."

Another problem with biodegradable plastic bags and wraps is that, according to the Harrison research, "existing biodegradability standards and test methods for aquatic environments do not involve toxicity testing or account for the potentially adverse ecological impacts of carrier bags, plastic additives, polymer degradation products or small (microscopic) plastic particles that can arise via fragmentation."

Andrew Masterson, editor of Cosmos, noted at the end of his report that "plugging these gaps in research, and doing so as soon as possible, should be a priority . . . to avoid the nightmare scenario in which trying to remove one environmental pollutant results in the creation of a worse one."

As I've often said, the law of unintended consequences is always in play, and while it's difficult to predict all outcomes via computer modeling, just being aware of the potential negative impact may be helpful.

In spite of Novolex's Bag-2-Bag recycling program and promotion, Cook admits that the company wins some battles and loses others. "But we try to say we have a better solution than outright bans," he said.

"The message we want to send is that plastics are 100% recyclable, and the more we can encourage and promote and make it easier to recycle, the better," added Cook. "With decisions being made to increase the amount of recycled content, our intent is to help increase those percentages. We'll step up to meet those challenges as far as overall recycled content is concerned."

Source : Clare Goldsberry

BOTOX FOR THE WANING MOON

Dr. Devdutt Pattanaik

Imagine if the moon never waned. I guess, we would not celebrate Kojagiri or Kartik Poornima or Sharad Poornima on full moon nights. And lovers would not sing songs equating the moon's phases with the mood swings of their beloved. We would not have 'Id ka Chaand' or 'Chaudhvin ka Chaand' or 'Ganesh Chaturthi'.

I wonder why our ancestors insisted on having a calendar based on the moon. Is there a message there? All things that wax eventually wane. All things that wane eventually wax. In Jain mythology, there is the concept of the world going through phases like the moon, Sushama Sushama representing boom times, the full moon, and Dushama Dushama representing bust times, the new moon. Not surprising since the Jain community have been traders for centuries and have understood, unlike modern management and business consultants, that market forces shift over time and are never permanent.

The story goes that Brahma in the form of Daksha had twenty-seven daughters, the Nakshatras. He gave them in marriage to Chandra, the moon-god. Chandra loved only one of the wives and so spent all his time with her annoying the other wives who complained to Daksha. Daksha insisted the Chandra treat all his wives equally. "I can't," said Chandra, "The heart cannot be controlled by rules." Angry, Daksha cursed Chandra with the wasting disease, causing him to wane. Just when he was about to disappear, Chandra was advised to pray to Shiva, the hermit-god, who had given Sanjivani Vidya, or the science of regeneration to the Asuras because of which the Asuras could always be resurrected after being killed by Devas. Chandra prayed to Shiva and Shiva offered him a place on his forehead. Contact with Shiva's forehead enabled Chandra to wax once again.

From that day on, Shiva came to be known as Chandrashekhar, one whose head is adorned by the crescent waning moon. Chandra is called Soma, which means the elixir of regeneration. Shiva is therefore also known as Somnath. As a reminder of the god who helped the moon wax and so can help regenerate life and bring back fortune once again into our lives, Shiva is worshipped on the 13th or 14th day of every waxing half. This is the Shiva-ratri, the most important of which is the Maha-Shiva-ratri that falls at the start of spring.

Chandra, they say, moves from one wife to another every night. He waxes when he comes closer to his favorite, Rohini. He wanes when he moves away from her. On full moon nights, he is with her. On new moon nights he is away from every wife. Thus the waxing and waning moon is a metaphor for romantic mood as well as virility.

If youth is the waxing phase and old age the waning phase, then when will we wax again. Next life? That's a myth, isn't it? We don't believe in rebirth, soul or God, even if we clutch the Gita every night (just in case). We want to resist the waning process in this life. We want yoga and facelifts and hair weaving to perk us up. Unfortunately, gravity will always pull us down. We fight back. We get touchy when we are called 'old'. We snap, "YOUR father is old." Well, fathers usually are. Especially when sons grow up and have children of their own. It feels good to imagine grandchildren playing with wrinkles, rather than botox-drenched tissues. In some societies, it is noble to wane with grace.

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