

# FREEFLOW

## THE DYNAMICS OF A GLOBAL ACRYLICS BUSINESS

### No.7

# LOOKING TO THE FUTURE WITH ALPHA

IT IS ALMOST TWO YEARS NOW SINCE LUCITE INTERNATIONAL (LI) FIRST BEGAN PRODUCING MMA USING ITS PROPRIETARY ALPHA TECHNOLOGY AT THE NEW 'FIRST-IN-CLASS' FACILITY ON JURONG ISLAND, SINGAPORE. IN THIS ISSUE OF FREEFLOW WE CHART ALPHA'S EARLY BEGINNINGS, REFLECT ON THE SUCCESS STORY SO FAR AND REPORT ON THE WIDER RECOGNITION THAT ALPHA HAS ACHIEVED FROM THE GLOBAL CHEMICAL AND ENGINEERING INDUSTRIES. WE ALSO LOOK AT WHY THIS UNIQUE TECHNOLOGY WILL CONTINUE TO PROVIDE THE SUSTAINABLE ROUTE TO MMA IN THE FUTURE.

## BACK TO THE BEGINNING

In 1990 a small team of engineers and chemists identified a number of processes that might be viable replacements for existing MMA production technologies. These were investigated through catalyst development and conceptual process design of separations and variants assessed for economic attractiveness using forecasts for long-term future feedstocks including: ethylene, propylene, methanol, acetone and isobutylene.

## HOW DID THE EARLY PREDICTIONS STACK UP?

Not all of the predictions survived the test of time; isobutene was expected to be priced out of use for MMA by MTBE demand for gasoline, and oil prices were predicted to remain at sub \$30/barrel! However, the ethylene-based technology, which was chosen for the Alpha pilot at LI's Wilton R&D Centre in the UK, stayed the most attractive option throughout the development stages and remains so today.

## PILOT WAS FUNDAMENTAL FOR LONG-TERM SUCCESS

It soon became clear that the proposed new process was radically different to all existing MMA technologies. New chemistry, novel reactive distillations and lack of process design information meant that

mechanisms, models and data for reaction kinetics, vapour-liquid equilibrium and the impurity spectrum had to be developed. The conclusion - a comprehensive pilot plant was needed to replicate all reaction steps, separation operations and impurity recycle streams.

## COLLABORATION PAYS OFF

Davy Process (now part of Johnson Matthey) had significant expertise in the design of micro-pilot plant and came in to help. With an anticipated production capacity of 120kte/annum at LI's first planned site, the pilot was set to run at 0.5kg/hr to give a scale-up factor of >25,000:1. Although not outside the range of scale-up achieved by Davy Process, the MMA flow sheet was significantly more complicated. In particular, the propensity for MMA to polymerise, the reactive nature of the intermediates (formaldehyde adducts and by-products) and the associated impurities made the proposed design and scale-up exercise unique.

## MINIMISING RISK

Right from the outset, the development team established a number of guiding principles to try and safeguard the pilot and ultimately full-scale plant success as follows:

- The process should not try to operate outside established unit operation hardware and processing technology

- The pilot plant should be used to confirm fundamental process technology data to allow process design
- The pilot should reflect the final plant configuration; all main separations included, recycle streams closed and materials of construction should be the same as for the full-scale plant
- Product quality is key, which means product must be tested in end-use applications regardless of the measure of impurities.

## MICRO-PILOT PROVEN TO BE INVALUABLE

In performing the scale-up to 120kte/annum and beyond, knowledge of fundamental properties remains paramount and the flexibility of the micro-pilot has proven to be invaluable. For example, early on it was necessary to include an additional separation step to achieve the required product purity – the change took just one day to install compared to many months on a demonstration plant. Today the pilot plant continues to help LI further develop its knowledge of reaction step kinetics, equilibrium of reactive distillations, catalyst life and performance and more. In turn, this means we can look forward to even better improvements as Alpha technology is rolled out in future plants.



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## FAST FORWARD TO 2006-2008

Neil Sayers, LI's Vice President, The Americas and EAME commented: "From the groundbreaking ceremony on site in Q3 2006 to chemical commissioning in Q3 2008, the story of Alpha has been a tremendous success. The MeP plant achieved 100% flow sheet rate within 3 days, the MMA plant met its 100% acceptance test within 3 weeks! The resultant MMA was rapidly qualified with all our customers against the most demanding applications. Production exceeded year 1 budget and Alpha 1 was recognised as an exceptional first-in-class plant. All fantastic news."

## LOOKING TO THE FUTURE

Production in 2010 at the Alpha 1 plant has consistently hit in excess of 10,000tes/month and plans are well advanced for Alpha 2. This will take advantage of the technology's innate scalability and options for designs in the range of 200-250kte/annum are being examined and optimised. It is likely that step-out technology to improve variable cost and reduce capital costs will be incorporated in Alpha 2, 3 and beyond. With this in mind, economies of scale and freedom from feedstock constraints are likely to drive demand for Alpha technology based production.



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## RECOGNISED BY ACADEMICS, INDUSTRY AND THE MEDIA

- **The Royal Academy of Engineering MacRobert Award 2010 - Finalist** ALPHA technology was one of four top engineering innovations selected from more than 80 entrants as a finalist for the UK's most prestigious engineering prize. The award, first given in 1969, recognises the successful development of innovative ideas in engineering demonstrates the important contribution engineers and scientists make to national prosperity and international progress.
- **Kirkpatrick Award 2009 - Winner** Chemical Engineering magazine's 2009 Kirkpatrick Chemical Engineering Achievement Award went to LI for Alpha technology. This award was first given in the early 1930s and recognises the most noteworthy chemical engineering technology commercialised anywhere in the world during the year.
- **Chemical Industry Association (CIA) 2009 Innovation Award – Winner**
- **ICIS Innovations Awards 2009 - short-listed for Best Product Innovation.**



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Images: [1] Alpha 1 on Jurong Island, Singapore. [2] Neil Sayers, Vice President, The Americas and EAME. [3] Speaking at the CIA Awards ceremony, LI's Dr David Johnson (centre), part of the Alpha team said: "We are delighted to receive this important recognition from the CIA. For most of us, seeing something through from a basic idea to a brand new production facility is a once in a lifetime experience and one that we're all immensely proud to have been a part of."

# TAKING A CLOSER LOOK AT THE MARKETS

IN THE MARCH 2010 ISSUE OF FREEFLOW, I OUTLINED MY OBSERVATIONS OF SOME STRUCTURAL CHANGES TO THE EUROPEAN MMA MARKET AND THE CHALLENGES THAT THESE COULD PRESENT FOR US ALL IN THE INDUSTRY. WHAT I WAS NOT AWARE OF WAS HOW IMMEDIATELY THOSE CHALLENGES WOULD PRESENT THEMSELVES, AND TO WHAT EXTENT. LOOKING BACK, SOME OF THE WRITING WAS ALREADY ON THE WALL; IMPORTS INTO EUROPE HAD FALLEN DRAMATICALLY MAKING THE REGION ALMOST WHOLLY RELIANT ON ITS OWN INDIGENOUS PRODUCTION CAPABILITY AND AT A TIME OF RISING SEASONAL AND UNDERLYING DEMAND.

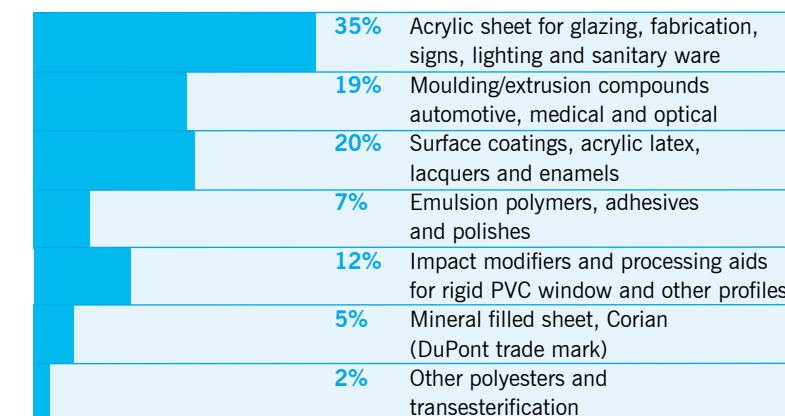


Image: Malcolm Kidd is LI's Commercial Director for Monomers in the EAME region. To access his regular review of the MMA market, please visit: [www.luciteinternational.com/freeflowmarket](http://www.luciteinternational.com/freeflowmarket)

THE REDUCTION IN IMPORTS WAS DUE TO A COMBINATION OF THE TIGHT SUPPLY/DEMAND SITUATION IN ASIA AND THE AMERICAS AND THE EUROPEAN PRICE LEVEL RELATIVE TO OTHER REGIONS, EXACERBATED BY THE RECENT SIGNIFICANT WEAKENING IN THE EURO AGAINST THE US DOLLAR. THESE SAME FACTORS WERE RESPONSIBLE FOR THE SIMULTANEOUS DROP-OFF IN PMMA (POLYMER AND SHEET) IMPORTS, WHICH IN TURN CONTRIBUTED TO THE INCREASE IN DEMAND FOR MMA IN EUROPE.

IN MID Q2 THE SUPPLY SIDE SUFFERED UNPLANNED PRODUCTION OUTAGES ON TOP OF SOME PLANNED MAINTENANCE EVENTS. THE FACT THAT THESE OUTAGES BECAME PROLONGED AND OCCURRED JUST AT THE TIME THAT DEMAND IN EUROPE WAS REALLY STARTING TO PICK UP, RESULTED IN ONE OF THE TIGHTEST MMA SUPPLY/DEMAND SCENARIOS EVER

## DOWNSTREAM MMA USE IN A MATURE MARKET



### CURRENT

Demand continued to strengthen through the second half of Q2 and through Q3, although there is a recognised element of seasonality driving this. Unfortunately the unplanned outages on the supply side have continued, and with the additional planned maintenance events that were already scheduled for Q3, it means the same difficult market dynamics have now been in place for five months and will continue for a few months more. Imports are still at minimal levels, inventories have been depleted and supply chains are being stretched considerably.

Manufacturers and sellers of MMA in Europe have been unable to make and source sufficient product to satisfy demand. Very tight market balances in Asia and the Americas have severely restricted the amount of product available for export to Europe and pricing in Europe, despite having stepped forward significantly in the last six months, still does not present a sufficient incentive to an Asian or US producer compared to selling in his own region.

Fortunately Lucite International (LI) has been able to operate its assets at record-breaking production levels during this period. However, this has not been sufficient to cover the shortfall in supply to the market and there has been continuous dialogue and effort through the supply chain to ensure that our core customer base has received continuity of supply to the best of LI's ability. So to all of our customers, I would like to say a sincere 'thank you' for your help and understanding during this period.

### OUTLOOK

Supply in European should be in better health by mid Q4. By this time production should be more stable and stock replenished to more manageable levels. However, the demand outlook in Europe and around the world is still very positive. And it is still worth noting that a large percentage of the MMA customer base has not yet returned to anything like pre-recession demand levels. This, plus the continuing strong growth in demand for pMMA for the manufacture of LCD/LED screens and monitors will maintain a tension on supply.

All of this means that supply/demand in Europe will remain tight for the remainder of 2010 and will become more balanced through 2011 as new capacity is brought on line. Europe will require an ongoing level of imports to satisfy its growing demand as those segments most closely connected to the construction industry continue their recovery from the recession.

### MRC/LI – STRONGER TOGETHER

The MRC group had already recognised the MMA global market situation and has been taking steps to improve its supply capability.

Start-up of the Thai MMA 2 plant, where MRC is a JV partner, has been delayed by over nine months now, but it is hoped that the plant will commence operation by early 2011.

LI is also planning to re-start its mothballed MMA plant in Beaumont, USA.

With this additional firepower, and through good management of the supply chains, the combined MRC/LI group will be better able to maintain supply and support the growth of our customers.

### METHACRYLIC ACID

The global MAA supply/demand situation changed significantly when LI closed its asset in Belle, USA in Q1 this year and, although regional balances have changed, capacity is now more aligned to total demand.

MAA demand in all three regions has remained strong, in particular for use in concrete additives, latexes and water treatment chemicals. The European region is about balanced on MAA but, as for MMA, it is learning to live with fewer assets.

Again, unplanned outages have disrupted supply through Q2 and Q3 this year, but not to the same extent as with MMA. The European market remains balanced but with an increasing proportion of available product being consumed internally by integrated producers and no major new capacity due until the later part of 2011, the supply/demand balance in all three regions is forecast to remain quite tight.



# DEDICATED TO SUCCESS

ORGANIK KIMYA IS A THRIVING BUSINESS BASED IN ISTANBUL, TURKEY, WHICH SUPPLIES POLYMER EMULSIONS, SPECIALITY CHEMICALS AND TEXTILE AUXILIARIES TO ITS CUSTOMERS ALL OVER THE WESTERN HEMISPHERE. WITH A RICH HERITAGE THAT DATES BACK TO THE FAMILY BUSINESS CREATED IN 1924, TODAY ORGANIK KIMYA REMAINS TOTALLY INDEPENDENT AND ABSOLUTELY PASSIONATE ABOUT ITS FUTURE GROWTH AND SUCCESS. THE COMPANY HAS BEEN A VALUED CUSTOMER OF LUCITE INTERNATIONAL (LI) FOR AROUND 10 YEARS. FREEFLOW TALKS TO PURCHASING CHIEF, BERNA GÜL ÖZTÜRK TO LEARN MORE ABOUT THIS EXCITING BUSINESS.

Images: [1] Berna Gul Ozturk, Purchasing Chief. [2] CEO, Simone Kaslowski. [3] Organik Kimya's site in Istanbul. [4&6] R&D is the lifeblood of Organik Kimya; views inside and out of its brand new facility. [5] Organik Kimya Netherlands BV, strategically placed for excellent transportation options.



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**FF: Please tell us briefly about Organik Kimya and how you use LI's products?**

**BG:** We manufacture polymers for paints, coatings, adhesives, textiles, non-wovens, carpets, leather, paper, rubber, detergents and cosmetics, and for the construction, automotive, wood and plastics industries. The raw materials we buy from LI are used exclusively in our production of emulsion polymers, which are used in all of these product categories and associated industries.

**FF: You have been working with LI for some time now, how do you view the relationship?**

**BG:** We have been working with LI for more than 10 years and have been buying regular, substantial volumes of monomer from them for the past three years. We very much appreciate the fact that LI recognises our relationship as one that has strategic importance. It is our hope that this relationship will continue to grow and deepen because this will give us the best possible chance of achieving mutual benefits in the coming years.

**FF: Businesses that create strong partnerships with customers and suppliers have the best chance of success – how would you describe your partnership with LI?**

**BG:** Our vision is to be 'A leading chemical company in specialty markets by creating sustainable advantage to the whole value chain through a partnership approach with our suppliers and customers.' We have no conflicting interests with LI and are very happy and satisfied with the way our partnership works. Organik Kimya has grown rapidly in an organic, sustainable manner and we expect our strategic suppliers to invest so that we can support one others' growth. LI's strategic approach to partnerships and its reliable technology and manufacturing network has been key for what our business has achieved.

**FF: How would you say Organik Kimya differentiates itself from its competitors?**

**BG:** Organik Kimya is very committed to creating value for its clients. All of our 300 plus employees are very much dedicated to achieving the clear aim of our business. We invest continuously in both R&D and capacity, in order to fulfil the precise requirements of our customers. Our size and capabilities allows us to offer this dedicated, tailor-made approach efficiently and I believe that this is what enables us to stand out from our competitors.

**FF: The market has been particularly tough recently, what are your main challenges and what do you need from LI as a key supplier?**

**BG:** Our partnership approach with suppliers and customers pays off more than ever in tough times. During recent months we have especially appreciated our choice of customers and suppliers. In particular, LI offers us predictability and reliability of supply, which has allowed us to continue to run our business and keep our customers happy without interruption.

**FF: What are your thoughts about Organik Kimya's future?**

**BG:** Our brand new plant in Rotterdam came on stream in 2007, which means that both our Turkish and Dutch facilities are operating in an identical way using a state-of-the-art DCS control system. This gives us fantastic efficiencies, optimum quality assurance and a great base to grow from. As the global economy returns to a more stable base, Organik will continue its R&D investments and will do all it can to support customers as they take advantage of opportunities that arise through the recovery.

**For more information about Organik Kimya visit: <http://www.organikkimya.com>**



AK-TAS IS LUCITE INTERNATIONAL'S (LI) LONG-STANDING MMA DISTRIBUTOR IN TURKEY. BASED ON THE ANATOLIAN SIDE OF ISTANBUL, THE BUSINESS WAS ESTABLISHED IN 1989 AND IS NOW ONE OF THE LEADING CHEMICAL DISTRIBUTORS IN THE COUNTRY. FREEFLOW INTERVIEWS AYSEGÜL DENKEL, WHO IS A PARTNER ON THE MAIN BOARD AND LOOKS AFTER DAILY COMMUNICATIONS, SALES AND LOGISTICS AT AK-TAS. SHE TELLS US ABOUT THIS VERY SUCCESSFUL PARTNERSHIP.

# A GROWING PARTNERSHIP



## ABOUT ISTANBUL

**Origins:** Istanbul, known previously as Byzantium and Constantinople

**Population:** 12.8 million

**Size:** Largest city in Turkey, second largest metropolitan area in Europe by population

**Status:** Megacity, and cultural, economic, and financial centre of Turkey.

**Location:** On the Bosphorus Strait in the northwest of the country it is the only city in the world that is in both Europe (Thrace side) and Asia (Anatolia side)

**Shopping:** Grand Bazaar is the biggest old covered bazaar in the world with over 3000 shops

**Literary fame:** Agatha Christie wrote her famous novel 'Murder on the Orient Express' at Pera Palas Hotel in Istanbul.



**FF: Please can you tell us a little bit more about Ak-tas?**

AD: Ak-tas was established in 1989 and now, together with its sister company, Ekin Kimya, it is one of the leading chemical distributors in Turkey. We have 105 employees and our headquarters, warehouse, which is 7500m<sup>2</sup>, and tank terminal (capacity 40,000m<sup>3</sup>) are based on the Anatolian side of Istanbul.

**FF: What about your customer base?**

AD: Since the company was founded by Muharram Ak-tas in 1989, the business has grown consistently and now supplies around 1400 customers with approximately 1600 different products. Our customers are located in Turkey and in almost all of our neighbouring countries.

**FF: How long has Ak-tas been working with LI and which members of your company work with the distribution of their products?**

AD: Ak-tas became LI's distributor back in 1993, so we have held our official role since then. However, both Orhan Tokcan, responsible for sales, purchasing and planning policy for LI products, and myself worked originally for ICI so our involvement with ICI heritage acrylics dates back to the mid 1970s.

**FF: LI's brand promise is captured in the words 'going further', would you say that Ak-tas shares similar values and is similar in its approach to business?**

AD: Well, there are definite similarities in our two companies, because at the end of the day we both have ex-ICI people, who were part of a very strong and enduring culture. Ak-tas is very proud to be a distributor for LI. We believe that dedicated, hard work brings benefits for both our businesses, which will ensure that we continue to go further together.

**FF: What kind of customers do you supply with MMA from LI?**

AD: LI's products are sold predominantly to acrylic sheet manufacturers. We also supply MMA for the manufacture of acrylic paint and impact modifiers for various different end uses. Ak-tas is a leading supplier of MMA in Turkey and has built the position through its reputation and customer confidence.

**FF: What would you say is key to the success of your working relationship with LI?**

AD: That's an easy one; openness, trust and good working relations with the whole group at LI.

**FF: It is easy to think of MMA as a commodity product, which means people can pretty much buy from whoever they like - how important is price to your customers?**

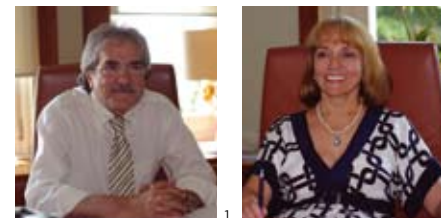
AD: There's no doubt, every buyer's main concern is price. However, thanks to the great relationships that we've built with our customers over a very long period of time, we seem always to be able to achieve a good price. And where all else is equal, we seem to be the preferred supplier. This comes down to consistency, reliability and the fact that we offer a broad, complementary portfolio of products.

**FF: What are your views on how 2010 might turn out in terms of growth for MMA in your territory?**

AD: Whatever happens to Turkey's growth potential is also likely to be reflected in the acrylics sector. If there is greater availability of product then we think that 2010 might turn out to be a brilliant year!

**FF: What about the future - are there any plans for further partnership developments with LI that we can share?**

AD: With our fantastic geographic location, great trade relations with neighbouring countries, logistics and storage advantages, and our secure financial standing we are sure that the partnership with LI will continue to grow and deliver great benefits to both sides.



Main Image: Istanbul - busy, multi-cultural capital with strategic connections to both the West and East is home to LI's partners, Ak-tas and Organik Kimya.  
Images: [1] Orhan Tokan, responsible for sales, purchasing and planning policy for LI products. [2] Aysegül Denkел, who looks after daily communications, sales and logistics. [3] Ak-tas' tank terminal at night.



# SOCIAL SUSTAINABILITY

IN OUR LAST ISSUE OF FREEFLOW WE TALKED TO LUCITE INTERNATIONAL'S (LI) SUSTAINABILITY MANAGER, ANDY BRAGG ABOUT HOW THE COMPANY IS EMBRACING THE CHALLENGES INVOLVED WITH CREATING A MORE SUSTAINABLE FUTURE FOR THE BUSINESS. HERE WE CONSIDER THE SUBJECT OF 'SOCIAL SUSTAINABILITY' AND SHARE WITH YOU LI'S THINKING ON THIS IMPORTANT PILLAR, WHICH HAS A STRONG AND VERY DIRECT LINK TO THE COMPANY'S VALUES.

## SO, WHAT DOES LI MEAN BY 'SOCIAL SUSTAINABILITY'?

When we think of social sustainability, we focus first on a set of core responsibilities, which are to: protect the mental and physical health and wellbeing of our employees, encourage the development of our communities, treat stakeholders fairly and provide them with essential services. We are also passionate about fostering a sense of personal and collective responsibility for doing all we can to support the advancement of society.

## AND HOW DOES THIS FIT WITH LI'S CORPORATE VALUES?

LI's number one value is having a passion for Safety, Health and the Environment (SHE). We are also committed to treat each other with integrity and respect, encourage creativity and innovation and promise to release personal potential and reward performance. All of these values combine with our passion for delivering exceptional value for our customers and stakeholders. And, just as our values guide our thinking and behaviours, they also fully support our approach to social sustainability.

## WHAT DOES YOUR PASSION FOR SHE LOOK LIKE IN PRACTICE AND HOW DOES IT CONTRIBUTE TO SOCIAL SUSTAINABILITY?

We have a single-minded target of achieving zero SHE incidents. Our track record is world class with fewer than 0.1 injuries requiring medical attention per 100,000 working hours. One great example of the Company's excellent SHE performance was achieved during the construction phase of our Alpha 1 plant in Singapore where more than 4 million man hours were worked without an incident. LI also provides medical support for employees' mental wellbeing and physical health and actively promotes healthy living.

## TREATING EACH OTHER WITH RESPECT AND INTEGRITY SEEMS OBVIOUS; IS LI PROACTIVE AT SEEING THIS UNDERPIN BEHAVIOURS?

Everyone is encouraged to contribute towards the success of LI, which means being mindful of all our interactions with stakeholders – customers, suppliers, the local community etc. It means we listen and respect people's points of view and aim always to go further. If there is ever an occasion where we under-perform, we investigate, manage the complaint, and seek to identify opportunities for improvement. And above all, we always comply with local laws and never knowingly support unethical practices.

## DEVELOPING PEOPLE, HELPING THE COMMUNITY, BENEFITING SOCIETY

At LI, we are dedicated to looking after our people in the widest sense because it is their individual energies and talents that enable us to have a point of difference. They make it possible for us to stand out. They make it possible for us to offer something unique to our customers and partners. So, we operate a rigorous appraisal system supported by individually tailored training and development opportunities. We also promote understanding and acceptance and encourage our people to play an active role in the local community. We work with local charities, give our time to volunteer organisations and continue to forge strong links with neighbouring educational establishments so that we can promote the exciting qualities of our industry and the benefits it brings to society.

## OVER THE PAST YEAR, LI'S CASSEL SITE HAS FOCUSED ON:

- Supporting the wellbeing and development of its people
- Making a positive contribution to the local community
- Promoting and supporting the chemical industry, and in particular, science and engineering as a positive place to choose a career.



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Images: [1] Andy Bragg works as part of the global SHE team as LI's Sustainability Manager. He is based at Cassel in the UK. [2] Ian Bowran, Head Teacher at special needs school, Ash Trees in Billingham pictured with LI's Amanda Buck. The school received £500 for their sensory garden as part of the SHE Reward and Acknowledgement Scheme. [3] Cassel employees complete a triathlon for charity. [4] Race for Life team raises £300 for Cancer Research. [5] LI's Coast-to-Coast cyclists cover 151 miles and raise over £2000 for Breakthrough Breast Cancer this summer. [6] Cassel volunteers who took part in the team challenge to clean up Fairy Dell, were awarded Business in the Community's 'North East Team of the Year'. [7] Helping a primary school in Middlesbrough with groundworks was picked up by a new team of volunteers. Despite the rain, the team filled 70 sacks full of garden rubbish and discovered gardening skills they never knew they had.

## AND SPECIFICALLY, THE LI CASSEL WORKS:

- 1 Provides almost all employees with work-related and safety training (in 2008 Cassel won a regional Training Award for its Competence Project and a CIA Skills Award in 2009).
- 2 Gives everyone access to health assessments, promotes health related topics and is now working towards the NHS Bronze Award for health at work.
- 3 Supports employees through NVQ3, HND, degree and MBA studies.
- 4 Makes quarterly donations of £500 to local charities if there are zero injuries or environmental incidents as part of the SHE Reward and Acknowledgement Scheme.
- 5 Runs the 'Adult Development Scheme' whereby employees undertake short courses, such as languages or coaching to support children's football groups etc.
- 6 Works with Business in the Community (BITC) and has created the Cassel Employee Volunteering Scheme, which helps make a positive impact in deprived local areas (see pictures opposite).
- 7 Offers around 8 plant and office based apprentice schemes per year. It also has an excellent track record at providing post A Level students one year's work experience before they go to university as part of its Year in Industry Scheme.
- 8 Actively encourages young people into the chemical industry through hosting school visits, work experience placements and through participation in Children Challenging Industry (CCI), which focuses on classroom based projects with primary school children.
- 9 Won two NEPIC awards for Innovation and Sustainability in 2009 – the prize money was donated to the CCI project (£2000) and to a local secondary school who had excelled in some science related work (£2000).
- 10 Is very community minded and employees give up their free time to undertake leadership roles and sporting challenges for local charitable organisations.



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For more further information about LI's Social Sustainability activities, please contact: Andy Bragg at E: andrew.bragg@lucite.com

# REACH

## PROGRESSION TOWARDS REGISTRATION



Fiona Smith, Regulatory and Registrations Manager

REACH REQUIRES THE REGISTRATION, EVALUATION, AUTHORISATION AND RESTRICTION OF CHEMICALS. AS THE DEADLINE FOR THE FIRST WAVE OF REGISTRATIONS FAST APPROACHES WE SHARE AN UPDATE OF OUR STATUS HERE AT LUCITE INTERNATIONAL (LI).

### REGISTRATION

All phase-in substances manufactured or imported in a quantity of 1000tpa or more or substances of high concern are due for registration before 1 December 2010. For LI this covers the methacrylate monomers we manufacture, and certain intermediates that are isolated from our production process.

Registration requires an assessment of available toxicology data by co-registrants prior to the development of a chemical safety report and registration dossier. LI has been working closely with the lead registrant to compile the dossiers for our methacrylate monomers. These are going through final checks prior to submission by the lead and LI will follow without delay. Our other registrations are progressing to plan with some of the intermediate substances already completed.

### INFORMATION IN THE SUPPLY CHAIN

Registration requires that the safety of all identified downstream uses is evaluated and any necessary risk management measures are communicated through the supply chain. As detailed in our April edition of FreeFlow, we have developed a set of 12 Generic Exposure Scenarios through our work within the methacrylates REACH task force. It is now confirmed that these include the relevant use descriptors highlighted by the downstream industry groups (CEPE, FEICA, SRM). Details have been made available to our co-registrants and are being published on our blog at [www.reach-and-you.info/](http://www.reach-and-you.info/).

### NEXT STEPS

LI will submit the registrations for our methacrylate monomers in the next two months. Safety datasheets will be updated to incorporate the new annex with the generic exposure scenarios. Customers will receive this information from LI plus similar safe use guidance material from other raw material suppliers. REACH includes an obligation to implement the guidance included within the safety datasheet. As a reminder, the steps to identifying your use and the appropriate risk management measures to ensure safe handling are:

- 1 Define how the chemical will be used in terms of:
  - a. its concentration
  - b. the duration of the activity(ies).
- 2 Identify the appropriate codes that describe use (see ECHA guidance: [http://guidance.echa.europa.eu/docs/guidance\\_document/information\\_requirements\\_r12\\_en.pdf](http://guidance.echa.europa.eu/docs/guidance_document/information_requirements_r12_en.pdf)).
- 3 Decide if you are classed as Industry, Professional (skilled trade) or Consumer and if you are using the chemical outdoors or indoors, with or without engineered ventilation or in a closed system.
- 4 Determine the level of personal protective equipment currently being used.
- 5 Select the appropriate exposure scenario based on steps 2 and 3, and determine if the duration of the task is covered for the uses you identified in steps 1 and 2, and that the environmental controls are adequate.
- 6 If the intended duration of your task is not covered either:
  - a. reduce the concentration
  - b. reduce the duration or frequency
  - c. increase the level of engineering control (indoor/outdoor/LEV/containment), or
  - d. monitor the actual level of exposure to determine if the specific use may fit with a different GES.

The next activity will be to compile the annex to the safety datasheet for a formulation containing a number of materials. At LI we are working with downstream industry groups to develop some examples that we can share in the near future. For more information in the interim please visit our blog or contact Fiona Smith at [reach.info@lucite.com](mailto:reach.info@lucite.com)

## WE VALUE YOUR OPINION

We would very much like to know what you think of FREEFLOW. If you have a particular area of interest or would like to see a particular issue covered next time, please do let us know by emailing comments to: [peter.snodgrass@lucite.com](mailto:peter.snodgrass@lucite.com)

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