In this edition we talk about continuing involvement in the Single Use Plastics debates, the 2020 awards, the launch of the Diploma in Rubber Technology, successful events for PPE19 in Bradford and IRC 2019 in London, upcoming events including the UKPCN Breakfast meeting in Middlesbrough and the RIEG ATDM in London and an impending vacancy for Chair of the Polymer Society Board.

✓ The Continuing Debate about the Future for Single Use Plastics and Waste/Litter Disposal – A member contributes to the discussion

“Those that did Chemistry at school will be familiar with the IUPAC (International Union of Pure and Applied Chemistry) nomenclature system for all chemicals, so here is their contribution - Generic term used in the case of polymeric material that may contain other substances to improve performance or reduce costs.

Note 1: The use of this term instead of polymer is a source of confusion and thus is not recommended and Note 2: This term is used in polymer engineering for materials often compounded that can be processed by flow.

Wikipedia goes into greater detail (and is quite good) and dictionaries offer other alternative definitions.

I would like to see some new definitions, agreed between green campaigners and industry, for both IUPAC and Wikipedia. Assuming that popular demand grows there will be new legislation and criminal prosecutions, so everybody needs clear definitions. As a starting point I will put my head above the parapet with this:

Plastic: historically a generic term for both polymer-based materials and products, now used (derogatory) to describe single use short shelf-life polymer-based products.

Note 1: historical use of this term generically instead of more detailed nomenclature caused much confusion and Note 2: this term is used in polymer engineering to describe materials processed by flow under heat/pressure.

I assume, based upon TV/Press stories, that most campaigners are against a number of single use disposable items, rather than all polymeric products - cue pictures of discarded poly bags/bottles etc. So perhaps we should ask all those activists,

How about some clear statements for what you want to ban (the sort of clarity that will stand up in court, once law enacted)? Do you really want to ban all polymers, or just certain products - regardless of polymer type?
You had better also be clear about what you consider acceptable alternatives, considering the costs for the Food Industry in changing packing lines etc. The currently used materials were chosen for a specific application based on marketing, cost, weight, efficiency and replacing them will affect that balance.

How much data is available comparing life cycle of discarded paper, card, glass, metals, waxes with current polymeric packs when irresponsibly discarded in different environments? There is already too much broken glass on our foreshores, before a huge switch to ‘recyclable or reusable’ glass jars and bottles, and how quickly do they degrade in a sandy beach?

Will you ban polymer coated card (like fruit juice cartons) or paraffin-waxed paper bags and straws? They are difficult to recycle. How about all those syringes and needles, or tampon applicators? The medical industry has heavily embraced single use moulded or extruded thermoplastic items, sterile packed in specialised polymer film laminated bags Go back to multi-use glass/metals and steam sterilisation would be controversial (prions can survive some steam cycles) and expensive.

To be clear, my immediate thought is that British people will continue to litter just the same, so instead of discarded crisp bags you will have crisp tin cans or glass jars, plastic bottles replaced by metal ring-pull cans or glass bottles to be broken on the beach. Deposit scheme? How much to make a real difference, if people are willing to pay over £1 for something fizzy rather than carry a flask/bottle. I doubt that a 20p deposit will make a huge difference to littering, it probably needs to be at least £1. With a £1 deposit I think current crisp bags, mineral water bottles etc would get recycled as well as any plastic-free alternative and with a fraction of the inflationary effect PLUS could be put into law very quickly”

Other member views would also be welcome, contact me with your thoughts.

✓ IOM3 2020 Awards in the Polymer and Elastomer Disciplines

The Institute makes a number of awards for people in the rubber and plastics industries and nominations are always encouraged. The awards to be made in 2020 are:

a) Swinburne Medal and Prize

To recognise the achievement of a person who has made an outstanding contribution to the advancement and knowledge of any field related to the science, engineering or technology of plastics. Awarded not more than once every two years, not less than once every five years. It is a requirement of acceptance that the recipient shall prepare and deliver the Swinburne Lecture on an occasion selected by the Institute. Award consists of a gold medal and £250 honorarium.

First awarded 1960, the Swinburne Medal and Prize commemorates the work carried out by Sir James Swinburne (1858-1958), often called the "Father of British Plastics", who revolutionised the plastics industry throughout Europe with his introduction to the phenol-formaldehyde reaction and subsequent involvement in the Bakelite process.
b) Hancock Medal

First awarded in 1951, to an individual for outstanding service to the rubber industry. Open only to members of the Institute of Materials, Minerals and Mining.

This award is in recognition of the pioneering work of Thomas Hancock (1786-1865) in introducing the vulcanised rubber manufacturing process into Europe in 1857.

c) James S Walker Award.

For a student project, already examined, on the subject of polymers.

Details of the awards, past winners and nomination details can be found at http://iom3.org/iom3-awards. Closing date is Friday 31st January 2020

✓ New Diploma in Rubber Technology announced

Over the first few months of 2019 IOM3 has put the finishing touches to its proposed rubber technology course at NVQ level 5, leading to an IOM3 Diploma in Rubber Technology, and launched it in September. The course is closely based on a course run on a private basis in the last couple of years by Mr Charanjit Chodha, and he will be tutoring the first course in this new guise. The course, which is the only one of its kind held in the UK, will be run out of the IOM3 Training Academy in Grantham and starts in January 2020 with six modules over six months.

The course will provide those currently employed in the various sectors of the rubber and allied industries, as well as students wishing to join those industries, with an in-depth knowledge of general purpose and speciality elastomers, chemical additives and processing (mixing, processing, fabrication and vulcanisation) from compounding through to manufacture of final rubber products. The course will include various rubber testing, quality and investigation procedures.

The course is suitable for staff in a wide range of functions in companies, including but not exclusive to, technical engineers, technical apprentices, design engineers, production managers, R&D managers, plant chemists, trainee chemists, laboratory technicians, quality control and technical sales staff.

There are no requirements for formal prior qualifications.

Further details

✓ Successful Events at PPE 19 and IRC 2019

University of Bradford 9th/10th July

With participation from 10 countries, 46 papers were presented with over from industry colleagues, and two thirds from academic colleagues.

Prof Phil Coates commented that it was good to have such a healthy proportion of industry presenters! All the papers were enjoyed and the many posters, all of which represented an excellent standard of research through to application. The Exhibition (7 organisations) added much value and wider aspects of interest. Thermo Scientific were the principal sponsors. A Polymer IRC laboratory tour on day 1 added great interest
value to delegates with the Conference Banquet having a focus on the 30th Anniversary of the Polymer Polymer Interdisciplinary Research Centre.

The overall technical emphasis in PPE19 was on precision processing of polymers (which implies knowing what is required and controlling it in manufacture), with green processing and upcycling also being included. Major sessions were- Towards a Circular Economy for Plastics, and Precision Science and Technology – the latter including Precision 3-d printing, Precision Solid Phase Processing, Advanced Materials, Precision Moulding and Med Tech. Early career researchers from around the world (including China, Italy, Israel) involved in Research Exchanges under our Polymer Engineering International scheme (see www.polyenginternational.com), participated in PPE19. Polymer Engineering International was launched in September 2018 to build on the success of the RCUK Science Bridges China platform.

As part of the meeting, the 30th anniversary of the Polymer Interdisciplinary Research Centre was celebrated, bringing together founder members and others involved in the success of the Polymer IRC. Also marked was the 150th anniversary of IoM3. The Polymer Society was closely involved in this event, with several of our Board members contributing excellent presentations and chairing sessions.

IOM3 hosted the International Rubber Conference (IRC) in London on behalf of the International Rubber Conference Organisation. The event was held across three days with a packed programme of more than 150 oral presentations, 60+ poster presentations, 50 exhibitors and 600 registered delegates from 37 countries.

Of particular note was the calibre of the large number of 60 students who presented their work during the event and the high technical content of the papers.

The number one hot topic this year centred around making rubber products more sustainable by exploiting environmentally friendly materials or making elastomer products such as tyres consume less energy. Big breakthroughs were reported in making rubber materials that are smart and/or responsive, rubbers that can be additive manufactured or rubbers that can exhibit self-healing behaviour.

The conference proved a massive success with the delegates, speakers and sponsors, with Ed Miller, Executive Director, Rubber Division American Chemical Society stating ‘This is one of the best conferences I have ever been to.’ Congratulations to Prof James Busfield and the RIEG for all their hard work in making the conference such a success with the result that the UK was successful in its bid for the IRC to return to the UK at the earliest possible opportunity in 2029!

Event report
A Reminder about upcoming events in Middlesbrough and London

10 Dec 2019, Middlesbrough, UK
Business Breakfast - What can your business do to reduce plastic waste? – challenges and solutions

Full details

13th December 2019, London, UK
Elastomers used in the Oil & Gas Industry
Starting at 1.30 pm and finishing at 4.30 pm with Tea and Coffee

Registration Free thanks to sponsorship from ARTIS

- Elastomer Composites Development for Oil and Gas Drilling Applications - Julien Ramier (Schlumberger)
- Therban HNBR and extrusion resistance in packer applications - Marjan Hemstedevan Urk (Arlanxeo Netherlands BV)
- Use of elastomers in an oil-filled drilling tool - Dan Minett-Smith (Rockatek)
- Vamac® Ethylene Acrylic Elastomer (AEM) – Possibilities for Oil and Gas Applications - Patricia Panne (Du Pont)
- Kalrez® 0090 perfluoroelastomers parts for oil and gas downhole equipment with the need for RGD and extrusion resistance - William Braule (Du Pont)

More details

✓ Upcoming vacancy for IOM3 Polymer Society Board Chair

Watch out for upcoming announcements to members about nominations for chairing this Board as I come to the end of my period in this role. I will not be seeking re-election so time for fresh blood to move into my seat.

The role includes the following requirements

- To uphold the standards and practices of the Institute
- To manage and organise the Board in developing an appropriate strategy in such a way as to deliver its remit and objectives by chairing physical and virtual meetings and business
- To communicate within and outside the Board as necessary to deliver this remit.
To participate in the IOM3 Advisory Council meetings/discussions and resulting actions
To liaise with the TCB/SA’s and other elements of the Institute as necessary
To allocate tasks to members of the Board in order to progress its work ie Board administration, Microwebsitemaster, Materials World contact and submission of content, Membership of, and participation in relevant IOM3 Multidisciplinary Group meetings and actions e.g. Sustainable Development Group
To oversee the promotion and judging of the Annual Awards relevant to the Polymer and Elastomer disciplines
To draft, submit and publish the Annual Report.
To collate the content of the Newsletter and arrange publication.

Contact me if you have any questions or would be interested in applying

Please also remember that you can contact us about any issues that you wish to bring to our attention, for whatever reason.

Many thanks for your attention.

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