FEICA The European voice of the **adhesive** and **sealant industry**

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CONNECT

FEICA NEWS

The FEICA 2023 Conference and EXPO

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FEICA 2023: Speakers announced

The 2023 FEICA Adhesive & Sealant Conference and EXPO will take place at the PortAventura Convention Centre in Tarragona, Spain, from 13 to 15 September 2023.

The FEICA Conference and EXPO is the most important event for the adhesive and sealant industry in Europe. Join the 500 already registered leaders of our industry to discuss today's most pressing issues such as sustainable growth and building opportunities for long-term growth.

The theme for this year's Business Forum is 'Industry Innovation for Sustainable Development'.

We have an exciting lineup of speakers both at this year's Business Forum as well as throughout the BreakOut sessions. The Table Top Exhibition will feature the latest developments for the adhesive and sealant industry.

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THE CONFERENCE KEYNOTE SPEAKERS - FEICA 2023

FEICA has secured outstanding speakers for the 2023 Business Forum, which takes place on Thursday, 14 September from 08:40 - 09:30

The 2023 theme is 'Industry Innovation for Sustainable Development'.

The 2023 Business Forum Keynote Speakers:

- 'Chemical Strategy for Sustainability – State of Play' by Otto Linher, Deputy Head of Unit, Senior Expert REACH, DG GROW, EU Commission
- 'Can Europe still be a leader in green industries?' by Georg Riekeles, Associate Director, Head of Europe's Political Economy Programme, European Policy Centre
- 'Transformation to #NetZero2050 – Sticking to our targets' by Dr Lars Kissau, President Net Zero Accelerator, BASF SE
- 'Science advocacy and the need for diversity in STEM' by Jayshree Seth, Chief Science Advocate & Corporate Scientist, 3M

The complete Speakers Overview is available via www.feica-conferences.com

Mr Otto Linher

Deputy Head of Unit, Senior Expert REACH, DG GROW
EU Commission

Chemical Strategy for Sustainability – State of Play

Mr Georg Riekeles

Associate Director, Head of Europe's Political Economy Programme
European Policy Centre

Can Europe still be a leader in green industries?

Dr Lars Kissau

President Net Zero Accelerator
BASF SE

Transformation to #NetZero2050 – Sticking to our targets

Dr Jayshree Seth

Chief Science Advocate & Corporate Scientist
3M

Science advocacy and the need for diversity in STEM

THE CONFERENCE BREAKOUT SESSIONS

The FEICA 2023 Conference Breakout Sessions will provide an ideal environment for industry leaders to find out about global challenges facing the world today.

The speakers get the opportunity to show how our industry's innovations can support the societal shift to a better future.

Breakout Session Programme Thursday 14 September 2023:

Breakout I - Business & Market Updates
Smithers - Emerging Motif - Argus Media

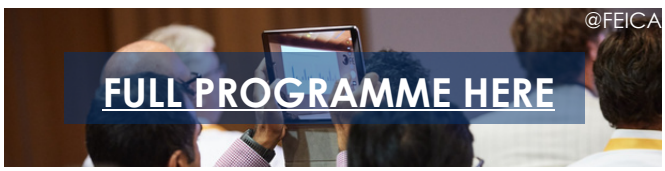
Breakout II - Advanced Sustainable PU Adhesives
LANXESS Corporation - H.B. Fuller - PCC Rokita

Breakout III - Performance & Sustainability of Adhesives through Additives
Momentive Performance Materials Inc. - Kraton - Sasol

Breakout IV - Contributions of A&S to Circular Economy
Dow Chemical - RESCOLL - IOBAC UK Ltd

Breakout V - Novel PU Adhesives for Industrial Applications
Samyang Corporation - INESCOP - Cardolite Corporation

Breakout VI - Sealants Closing Gaps in Building & Construction
Sopro Bauchemie - Arkema Coating Solutions - Imerys



Breakout Session Programme Friday 15 September 2023:

Breakout VII - Carbon Footprint Reduction
Omya International AG/Bostik - TotalEnergies Fluids SAS - Robatech - Arkema France

Breakout VIII - New Building Blocks for Hotmelts I
Ingevity - Synthomer Adhesives Technologies - Dynasol Group - Dow

Breakout IX - Epoxy Adhesives for Structural Bonding Challenges
GLOO - Arkema France - GEMAT-GLOO - SI Group

Breakout X - Biobased Approaches for Adhesives
BASF SE - Braskem SA - VITO

Breakout XI - Novel water-based Adhesives
Synthomer - nolax AG - BASF SE

Breakout XII - New Building Blocks for Hotmelts II
H.B. Fuller - Rain Carbon Germany GmbH - LyondellBasell

Breakout XIII - Advances in Manufacturing of A&S
IPCO - UTH GmbH - Fitech AG

THE 2023 MASTER CLASS

'Transitioning to sustainable raw materials: the mass balance approach'

The FEICA 2023 Master Class aims to explain why this particular chain-of-custody model is so important for our industry to participate in the shift to more sustainable feedstocks.

Integrating renewable raw materials in products, including biobased and recycled materials, is a top of mind issue for European industry.

Recycled content targets in upcoming regulation, likely starting with packaging, will further accelerate this shift away from fossil materials.

The 2023 Master Class on the mass balance approach' is scheduled on Friday, 15 September from 8:30 - 10:30

- The Introduction to the Master Class will be given by Dr Dennis Bankmann (Independent scientific consultant, Emerging Motif), who will also lead the Q&A session.
- Dr Mathias Matner (Head of Sustainability and Advocacy, Coatings and Adhesives, Covestro) will explain mass balancing from the perspective of the raw material producers.
- Dr Annett Linemann (Director Technology Outlook & Sustainability - Engineering Adhesives, H.B. Fuller) will explain interest from the point of view of downstream users.
- Dr Jan M. Henke (Director, ISCC System) will elaborate on certification and licensing, including where mass balancing is already applied, specifically for adhesives and sealants.

REGISTER NOW www.feica-conferences.com

FEICA CONFERENCE AND EXPO SPONSORSHIP

FEICA is offering sponsors the opportunity to be a part of the continued success of its annual Conference and EXPO. In order to suit the needs of each potential partner, we offer the flexibility of different sponsorship options, at different budget levels. Some opportunities offer great benefits to promote your company brand and product innovations; others are reserved for a single sponsor, ensuring the exclusivity and unique value of the sponsorship.

FEICA 2023 sponsors will be acknowledged before, during and after the event. For more details, please see:
www.feica-conferences.com

THE TABLE TOP EXHIBITION

The Table Top Exhibition (EXPO) provides an excellent opportunity for all producers, distributors, suppliers and service providers linked to the adhesive and sealant industry to showcase their latest product innovations and technologies.

The 3-day EXPO opens in the afternoon of Wednesday 13 September, with no parallel conference sessions scheduled, and runs until Friday 15 September at 14:00.

For more on this year's EXPO, see: www.feica-conferences.com/exhibition-sponsoring/expo-table-top-exhibition/

- Agrana Starch
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- Cargill
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- Eastman
- Eastsun New Materials. Corp. Ltd.
- Elementis
- Henghe Materials
- Hywax GmbH
- IMCD
- Imerys
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- JPB Industry
- Keyser & Mackay KG
- King Honor International Ltd.
- Luresa Resinas - Grupo RB
- Nitto Kasei Co., Ltd.
- Nynas AB
- Omya International
- PCC Rokita SA
- Risun Polymer International Co.,Ltd
- Shandong QL New Materials Co.,Ltd
- SI Group
- TotalEnergies Fluids
- UPM

THE FEICA SEMINAR

Pre-meetings for members only

The 2023 FEICA Members' Seminar, 'A Business Perspective on Regulatory Challenges', focusses on the EU Green Deal and REACH.

If you are a member of FEICA, and work in management, business development, R&D, or even regulatory affairs, this is the yearly seminar to attend.

The FEICA Seminar provides a concise summary of some of the activities undertaken by the Technical Working Groups and Task Forces to support members & the whole industry in general.

The Seminar is open to FEICA Members and company members of the National Associations only.

It provides an excellent understanding of how the experts in the FEICA Technical Working Groups (TWGs) and Technical Task Forces (TTFs) help your business.

Register here for FEICA 2023

Topics of the FEICA 2023 Business Seminar

- **Opening of the FEICA Seminar**

Dr Eva Grießbach, outgoing Chair of the FEICA European Technical Board (ETB), Member of the FEICA European Executive Board (EEB), Dow Silicones Belgium

- **Challenges and opportunities for packaging adhesives**

Ms Elisabeth Staab, Chair of the FEICA Sustainability & Recycling of Adhesives in Paper & Packaging Applications TTF, H.B. Fuller

- **Prepare your portfolio for upcoming substance restrictions**

Ms Kim Suetens, Chair of the FEICA Mixture Assessment TTF and Vice Chair of the Polymers TTF, Soudal

- **Market changes through Circular Economy**

Ms Flor Peña Herron, Chair of the FEICA Sustainable Development Committee, Avery Dennison

- **Status report on FEICA advocacy**

Mr Peter Boris Schmitt, Chair of the FEICA European Advocacy Group, Henkel

- **Close of the FEICA Seminar**

The incoming Chair of the FEICA European Technical Board

This Seminar is open to FEICA members and company members of the National Associations only and will take place on Wednesday 13 September, from 13:30 - 16:30

ADHESIVES IN THE CONTEXT OF PAPER AND BOARD RECYCLING – state of play

Fibre-based products, in particular paper and board, play an important part in packaging and printing industries. In addition, their biobased origin and high recycling rates provide tangible sustainability benefits.

Many fibre-based product designs, in particular in the area of packaging, would not be possible without adhesives, which are used in, for example, corrugation, bag and box making and labelling.

In this FEICA paper, the place of adhesives in paper recycling is outlined. Existing design guidelines for fibre-based products are viewed with regards to adhesives and the treatment of adhesives in test methods and assessment schemes is considered. Finally, FEICA's recommendations on the way to approach adhesives in paper and fibre-based recycling are presented.

Adhesives in paper recycling

Adhesives are generally required to be compatible with the recycling process for the target material, rather than being the target material of the recycling. The two possible pathways that adhesives can take during paper recycling are removal or incorporation into the recycled paper.

If adhesive applications are not (fully) removed before or during papermaking, adhesive fragments may become part of the recycled paper.

The key criteria for the acceptability of their presence in the formed paper are the optical appearance of the paper and its potential stickiness. If the formed paper exhibits stickiness, defects in the paper reel, or processing issues such as reel breaks, may occur.

The impact of adhesive particles in both cases may depend in part on the size of the adhesive application within the packaging item.

Adhesives in design-for-recycling guidelines for paper

Over recent years, several guidelines have been published which aim to describe design-for-recycling principles for fibre-based products.

Different guidelines stress various aspects of recycling involving adhesives. For example, several guidelines recommend the minimisation of applied adhesive.

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Other guidelines prefer solubility of the adhesive in water. Some design guidelines address the 'softness' of adhesives, ultimately with a view to the presence or absence of tack of the adhesive application or adhesive fragments during recycling processes.

The recommendations in these guidelines are often made without consideration of the adhesive technology and application in detail, as, for example, removability is most relevant for hotmelt adhesive applications of a sufficient size, whereas solubility is more relevant for smaller or thinner adhesive applications, such as water-based adhesives. All the approaches may be of use where packaging design and recycling technology match.

Adhesives and test methods

Test methods for assessing the recyclability of fibre-based products typically seek to reflect the process steps in an actual paper mill. In particular, test methods typically seek to determine four aspects: (1) successful disintegration of the test material under pulping conditions; (2) deinkability of the product; (3) screenability of adhesive applications and other additive materials; and (4) quality of the formed paper from the pulp obtained from the previous steps.

Several methods have been established to test the recyclability of fibre-based products.

To assess recyclability, in addition to the test method, which provides the procedure and defines the numerical results, an assessment scheme is required, which provides threshold values (pass or fail criteria).

When the four aspects that recyclability assessments seek to investigate are regarded, adhesives are typically found to influence only two. In the step of pulping, adhesives themselves typically do not substantially affect pulpability.

Deinkability testing is usually focused on colour rather than adhesive properties.

When recyclability testing methods are considered for fibre-based products in the context of adhesives, the focus should, therefore, be on screenability testing and the testing of hand sheets produced from the pulp after screening.

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FEICA Recommendations

To develop design guidelines further in terms of clarity, applicability and benefit to the quality of paper recycling, while recognising the importance of adhesives in fibre-based product manufacture, the following aspects should be addressed.

- Acknowledge the minimisation approach for adhesive applications but ensure the approach is followed uniformly for all non-target material
- When guidelines are established, describe adhesive characteristics and possible options for adhesive application behaviour during paper recycling, rather than describe or favour certain adhesive technologies
- Allow for testing as an additional way to demonstrate compliance as an alternative to guidelines and recyclability criteria
- Be aware that the technical data sheet or safety data sheet of an adhesive should not be used as the source of information on the solubility, dispersibility or any other property of the adhesive application that enters the recycling processes
- Avoid certain imprecise or not fully predictive terminology when specifying requirements on adhesive applications in design guidelines

Additionally, to further develop test methods and assessment schemes in terms of clarity, applicability and benefit to the quality of paper recycling, while recognising the importance of adhesives in fibre-based product manufacture, the following aspects should be addressed by the supply chain:

- Improve on reproducibility and quantifiability of the sheet adhesion test
- Conjunctively, investigate the thresholds for hand sheet adhesion testing by correlating test results with practical experience of recyclability in paper mills
- Examine current test procedures for determining ‘macrostickies’ and their assessment

Presentation and recording available for the FEICA webinar 'Adhesives in the context of paper and board recycling - state of play', held on 30 March 2023.

Elizabeth Staab - Global Packaging Sustainability Manager, HB Fuller, Arne Jost - Senior Manager Circularity Assessment & Validation, Henkel, and Jana Cohrs, Executive Director Regulatory Affairs at FEICA, discussed, among others, adhesive technologies, their chemistry and the steps adhesives take through the paper mill and repulping process.

www.feica.eu/our-projects/food-contact

The Guidance paper is available via www.feica.eu

HOT-MELT PRODUCERS INSPIRED TO PRIORITISE SUSTAINABILITY IN PACKAGING, NONWOVENS, AND CONSTRUCTION - by John Nelson, Editor, Smithers

Recent analysis of the hot melt sector from Smithers – the leading consultancy for the paper, print, and packaging industries – reveals new challenges for a global market worth $8.21 billion in 2022.

Many of these involve reacting to economic and geopolitical issues, including Covid-19, the rise of e-commerce shipping, and the war in Ukraine; as well as aligning to the wider trend towards sustainability in consumer goods.

Exclusive data from Smithers' study The Future of Hot Melt Adhesives to 2027 show that in 2022 Europe consumed a projected 565,000 tonnes of hot malt adhesives. This places the region second in the world, behind Asia. Total consumption worldwide is projected at 2.36 million tonnes of hot melts in 2022, this is forecast to reach 2.77 million tonnes in 2027.

Its analysis also sub-divides the market by core end-use sectors. The three most important for hot melt consumption are:

- Packaging (29.4% market share in 2021)
- Construction/wood (17.5%)
- Nonwoven/hygiene goods (16.8%)

These segments were each impacted differently by the economic turmoil of the past three years.

Packaging

In packaging, hot melts are the standard technology for constructing corrugated boxes, folding cartons, and other formats. It is also a segment where calls for greater sustainability are loudest, especially in Europe.

Corrugated has seen some positive effect from Covid, with a surge in demand online shopping and e-commerce delivery helping to compensate for lost volumes of corrugated used in international shipping. Corrugated formats are over 80% of the world e-commerce market and continues to grow strongly (+10.5% year-on-year, Smithers, 2022). In 2023 a total of 30.3 million tonnes of board material will need to be converted into e-commerce boxes.

Recyclability is a key consideration. Many brand owners are trialling replacing existing plastic packaging formats with paperboard alternatives bonded with hot melts. This is not suitable for all segments, but it is a noticeable trend for ambient and less sensitive foods, such as confectionary or savoury snacks.

The wider focus on sustainability is placing a premium on bio-based materials in hot melts, and within fossil-based raw materials on using more solvent-free formulations, where feasible. Biodegradable and mono-component adhesives are increasingly popular as a means to optimise the rate of recovery for paper fibres at end-of-life.

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There are also other benefits hot melts can have in packaging, including for low temperature formulations – which are also economically advantageous given recent energy price rises.

Better performing hot melts which use a smaller volume of adhesive to form an efficient bond can also aid converters looking to cut their carbon footprint. This can be enhanced with more precise adhesive application equipment, such as hot melt stitching platforms.

Construction

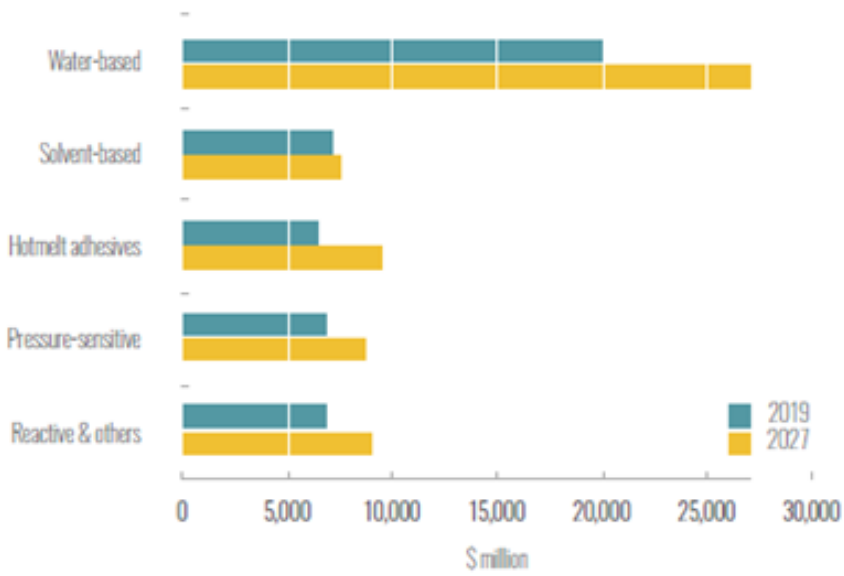
Construction includes both the bonding of buildings themselves, as well internal fixtures, and furniture. Recent economic uncertainty and residual Covid lockdowns, especially in China has slowed demand for hot melts in this application; although there have been some rises in DIY, home improvement, and furniture sales. Some countries are also benefitting from government-led Covid-recovery stimulus spending. Still the global economic outlook remains fragile, slowing private investment in construction and impacting demand for hot melts.

Nonwovens

In theory, many different adhesives systems can be used for disposable nonwoven hygiene products, such as solvent-based or waterborne PSAs, but regulatory requirements and extremely fast production lines make hot melts the best fit for this application. The principal hygiene/nonwoven goods are diapers/nappies, female hygiene, and adult incontinence products. The disposable diaper market is the largest product group for hot melts (65-70% of demand by weight of adhesive).

A value growth of about +2% year-on-year is forecast through to 2027, driven mainly by increasing use of hot melts in construction, even though the overall market is expected to stagnate due to higher costs and interest rates. There will also be greater demand for quick-bonding hot melt sets in large surface laminations.

FIGURE E.1 Adhesive technologies, 2019 and 2027 ($ million)



Source: Smithers

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Profitability in this segment has been impacted by increased commoditisation with the main influence to push adhesive prices downwards. As hygiene products often seek to portray themselves as lifestyle brands, there is also a strong increase in demand for green material choice in this segment. There is now new interest in greener hot melts. Major diaper brands are looking to prioritise sustainably sourced ingredients, as well as investigating the plausibility of recycling diapers.

Some manufacturers are also experimenting with ultrasonic bonding as an alternative to adhesives in smaller niche hygiene segments, such as medical fabrics or puppy training mats. There was an increase in demand for these in 2020 as consumers loaded up on essential supplies prior to the implementation of full lockdown orders.

Otherwise in developed markets there has been little deflection in demand for hygiene goods. There has been a slowing of their penetration into some developing markets, in line with a decline in the growth rate for local consumer purchasing power.

The Future of Hot Melt Adhesives to 2027 is available to purchase now from Smithers.

Smithers will also be publishing its latest exclusive data on the complete European adhesives industry later this year and presenting it at the 2023 FEICA Exhibition and Expo (13-15 September 2023) in Tarragona, Spain.

FEICA 2023

MEMBER PORTRAIT

In every issue of CONNECT, we give a member of FEICA the opportunity to share, in its own words, interesting insights into their company in 'five fascinating facts'. In this issue, we present Imerys.

Content by: IMERYS

Five interesting facts:

1. We are the world leader in mineral-based specialties, offering high value-added solutions to many different industries, ranging from process manufacturing to consumer goods. We operate in more than 40 countries and have a commercial presence in 133. Imerys delivers solutions that are formulated to meet the technical specifications of each customer. These contribute to the performance of a multitude of products in three categories: - Functional additives: added to the mineral formulation of customers' products; - Mineral components: essential constituents in the formulation of customers' products; - Process enablers: used in customers' manufacturing processes, but not present in the end product. These serve many industries such as construction materials, mobile energy, steelmaking, agri-food, automotive and cosmetics.

2. We lead the field in the development of minerals for the adhesives, sealants, and plastisols markets, serving a wide range of activities such as construction, transportation, packaging and industrial assembly.

3. Sustainability goals: We are embedding responsible and sustainable thinking in everything that we do, and raising our sustainable ambitions for 2025 with three pillars: - Empowering our People, by reinforcing the maturity of our core values; - Growing with our Customers, by ensuring ethical business and accelerating the development of sustainable solutions; - Caring for our Planet, by strengthening our commitments to preserve the environment.

4. Innovation: Imerys offers solutions aligned with changing markets as a result of new lifestyles, new economic models, technological progress and changing expectations from stakeholders. We have always put innovation at the heart of our growth strategy - it's a key growth driver, and the ability of the Group to develop new solutions in response to the needs of its customers is the driving force behind it. The Imerys commitment to developing tomorrow's innovations also involves forming close long-term partnerships, to build tomorrow's world, and to translate ideas into innovative solutions, products and applications.

5. Advantage of being a FEICA member: we appreciate and value our partnership with FEICA, a must to keep updated on the latest industry trends, innovations and players, besides collaborating to amplifying our communication about our solutions and developments with the community - digitally and during conferences

MARVIN KAUFMANN WINS AIA 2023!

The third FEICA/EURADH Adhesion Innovation Award (AIA) has been won by Mr Marvin Kaufmann for his publication 'How adhesives flow during joining'. Marvin's work is very innovative, with the new method clearly demonstrating how adhesives flow during joining.

This novel and more comprehensive approach will surely save costs, but also improve sustainability through, for instance, the reduction of experiments required to work out the ideal application pattern, and through the complete avoidance of overfilling, therefore reducing waste and cleaning.

The joint FEICA (Association of the European Adhesive and Sealant Industry) and EURADH (European adhesion societies) Award for Innovative Adhesion Science aspires to stimulate the interactions between industry and science. It is also a great opportunity for both FEICA and EURADH to raise awareness of the outstanding innovations in our sector, which contribute significantly towards sustainability and the European economy.

The aim of the AIA is to attract young researchers and scientists working in adhesion science across Europe.

One of the criteria is that they have already published outstanding work. The third edition of the Award focussed on sustainability, durability, and industrial applications, among all other aspects of adhesive bonding and adhesion.

For AIA 2023, 7 excellent candidates submitted outstanding papers in innovative adhesion science. The EURADH jury examined each submission for practical application, sustainability and scientific impact.

The EURADH Jury agreed that Mr Marvin Kaufmann's paper was the clear winner of the third edition of the Adhesion Innovation Award due to its combination of great experimental work and modelling which involved process development and systematic analysis to address a significant problem in adhesion.

Mr Kaufman is currently finishing his doctoral thesis at Fraunhofer IFAM in Bremen, Germany. See AIA Press Release.

Look out for the next issue of CONNECT, out in October 2023, which will feature all the AIA 2023 candidates and their excellent work and research!

ADHESION INNOVATION AWARD 2023

PU Training deadline is 24 August 2023

Safe use of diisocyanates: deadline approaching fast!

As of 24 August 2023, training will be required for all professional and industrial users of products with a total monomeric diisocyanate concentration of > 0.1%. Please see the FEICA website for more information.

Training is available online via www.safeusediisocyanates.eu in many EU languages.

To facilitate companies to comply with the information provision obligation, FEICA launched a dedicated information webpage 'www.feica.eu/PUinfo'.

To help FEICA members and members of the FEICA NAMs, the association published a 'Guidance for FEICA members and members of FEICA NAMs' and created a dedicated Group titled 'PU Training Materials' on the FEICA Extranet. Members can request access by clicking here. The side holds pertinent training materials in several European languages, as well as informative and educational videos.

More information is available via: www.feica.eu/our-projects/safe-use-diisocyanates

INTERNATIONAL ADHESIVE & SEALANT DAY

The purpose of International Adhesive & Sealant Day is to promote adhesives and sealants globally as enablers of a sustainable future and to improve the general public's knowledge of our products. It will be held, every year, on 29 September!

This is an ideal and opportune moment for our industry to showcase our end products, without which the world would literally 'fall apart'. It is also the ideal moment to showcase adhesives and sealants as enablers of a sustainable future! At FEICA, we will promote the day through the 2023 FEICA Conference & EXPO, and on 29 September 2023 we will launch a social media campaign via LinkedIn.

Join us in celebrating adhesives and sealants on 29 September!

FEICA CONNECT is the quarterly newsletter of the Association of the European Adhesives and Sealants industry.

FEICA®

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