

Journal

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Information from
Worlée-Chemie GmbH



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Sustainable product development

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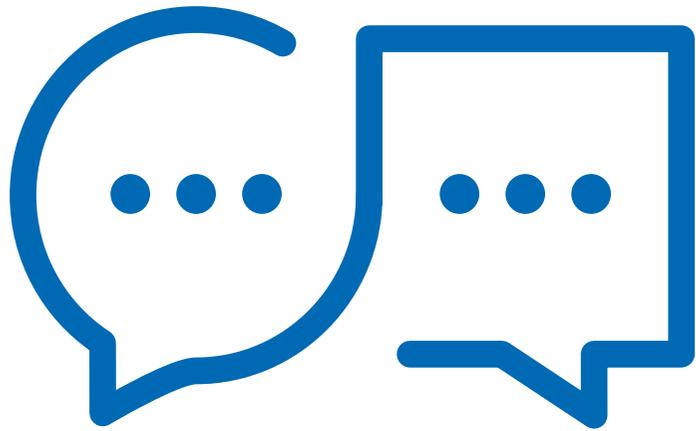
Dear customers,
partners and friends,

We have been aware for some time that sustainability is becoming increasingly important.

This year in particular, a lot is happening in Europe and in our company: the European Green Deal, our innovation workshop on sustainable products, further sustainable product developments in our R&D and much more. We also have news for you regarding some of our locations.

You will find out the details of everything in the 15th issue of our WorléeJournal! Enjoy reading it.

Yours sincerely
Joachim Freude,
General Manager



Tell us about it ... Sustainable product development at Worlée

The path to sustainable products is mapped out and will accompany us every step of the way. Society as well as the legislator demands sustainable products and solutions. We interviewed our General Manager Joachim Freude on this topic to give you insights into sustainable product developments at Worlée-Chemie.

Editor: Please tell us more on how sustainable product development is practised at Worlée-Chemie.

JF: Sustainable product development has been with us for a long time, even without legal or social pressure. Our drive has always been to offer better products and solutions for a wide range of applications. To make this happen, we have seven R&D teams working on different topics and technologies. These experts develop the additives, binders and also technologies of the future. For a targeted development, our five application technology departments test the products for technical suitability in formulations close to the market. These multi-disciplinary teams are complemented by our international sales department, which maintains access to the market and our customers. We are convinced that this development axis ensures that



Use of camelina oil in our R&D department.

suitable and individual products for our customers.

Editor: And how does this topic affect your partnerships and the chemical raw material market?

JF: We maintain partnerships with external raw material suppliers, our trading partners, research partners and institutes. We are also happy to act as a sparring partner for very early developments of innovative raw materials, even if these may still need years before they are launched on the market. In addition to our customer, our product and its quality are in the foreground for us. Even if products become more sustainable, we will not

move away from this. We are firmly convinced that a good and sustainable product will prevail in the end.

Editor: What experiences has Worlée-Chemie already gained with the development of sustainable products?

JF: Over the years, we have gained a lot of experience in developing different products, technologies and testing different raw materials to make products more sustainable from various perspectives. Sustainable product development has to benefit the environment and society while also considering economic aspects.



Tell us about it ... Sustainable product development at Worlée

Already today, we are able to consider many of these different aspects.

Lacquers and paints preserve values by protecting objects or substrates from weathering. We began developing silicone-modified alkyd resins as early as the 1980s. These products achieve a significantly longer durability compared to non-modified systems, which thus significantly reduces the consumption of all resources. Over time, we have created a portfolio of different products that we are constantly developing.

Editor: That sounds interesting. Are there any raw materials that are particularly used in the development of sustainable products?

JF: Yes, another key focus is on the use of renewable raw materials. The more of them you use, the less petrochemical raw materials you need, which in turn reduces the production of carbon dioxide. Alkyd resins are a good basis here, because they are built directly on vegetable oils. On the other hand, some of the necessary oil plants are also suitable for human consumption. The increased use of by-products, for example biomass waste from olives, maize and sunflowers in various alkyd resins, does not conflict with food, but uses existing resources and therefore reduces waste. We can also combine different sustainability issues today, as we have impressively shown in

building a complete value chain for linseed oil. Here we have built up a network: from the farmer, to the processor for the extraction of the oil, to us a binder manufacturer and finally to the paint manufacturer. In addition, we use mixed crop cultivation gaps, which increases biodiversity and the food supply for pollinating insects.

Editor: Is it possible to replace existing raw materials with more sustainable alternatives without compromising the properties of the final product?

JF: We have been working for a very long time on the elimination or replacement of raw materials that endanger the environment or health. For example, we have developed a technology that enables the formulation of fast drying, high-solids and highly resistant paint systems without having to use paint isocyanates. As early as the 1990s, we developed

complete binder systems that dispense with solvents containing aromatics. Around the same time, we took a further step and developed aqueous, internally emulsified and polyurethane-modified alkyd emulsions that are in no way inferior to solvent-based systems. In addition, we also developed cobalt-free siccatives to catalyse the oxidative drying of alkyd resins and oxime-free anti-skinning agents to optimise storage stability.

Editor: Thank you very much for the exciting insights, Mr Freude. How do you look to the future?

JF: At Worlée, we are well equipped for the future with the development of sustainable products for numerous fields of application. Our specialists have the expertise for all upcoming challenges. By the way: If you would like to find out even more about sustainability at Worlée-Chemie,



We use the extracted camelina oil as a base for binding agents. The camelina press cake is sold to the animal feed industry.

I recommend you take a look at the online presentation [“Sustainability First! – a journey through time of sustainable product development at Worlée”](#). And if you have any further questions, please feel free to contact us at any time!



**GREEN
DEAL** 

HEARD OF IT?

Europe's future depends on a healthy planet. However, climate change and environmental degradation pose existential threats and require urgent and ambitious action in all policy areas. Consequently, the EU has committed to achieving climate neutrality by 2050.

Climate neutrality means achieving a balance between carbon emissions and the uptake of carbon from the atmosphere into carbon sinks (a system that takes in more carbon than it releases). Soils, forests and oceans are the most important neutral carbon sinks. Carbon neutral activities can achieve climate neutrality. In other words, the activities do not cause greenhouse gas emissions and therefore do not burden the climate.

Achieving the goal of climate neutrality requires a societal and economic transformation in the EU that is cost-effective, equitable and socially balanced. This is where the European Green Deal comes into play: it serves as a roadmap for a sustainable EU and requires nothing less than a major transformation of the European economy through a new growth strategy that will simultaneously increase competitiveness.



The Green Deal includes an action plan to promote efficient use of resources through the transition to a clean and circular economy, as well as to restore biodiversity and combat pollution. The plan outlines the measures and investments that will be used to achieve this. But, what are the implications of the Green Deal for the chemical industry? For this, we need to look more closely at several building blocks.

Elimination of environmental pollution

In order to protect people and the environment, the EU Commission presented a Chemicals Strategy for Sustainability (CSS) in autumn 2020, which addresses the building block of **eliminating environmental pollution**. The CSS pursues the goal of a safe and sustainable use of chemical raw materials. It foresees a tightening of the current chemicals legislation (REACH) by implementing over 50 individual measures by 2024 and addressing complex issues related to chemical substances.

In addition, the introduction of a more general, hazard-based approach to risk management is planned. Potentially hazardous chemical substances must be replaced by new, less hazardous and environmentally friendly substances.

The path to a sustainable industry

The new circular economy action plan sets out the goal of decoupling the use of resources from economic growth across all sectors while at the same time safeguarding competitiveness in the long term. The German coatings and printing inks industry is called upon to take action in three areas:

Within the **Sustainable Product Policy Framework**, the EU Commission is focusing on the design of sustainable products to be developed for the implementation of an extended Ecodesign Directive. Consumers will be encouraged to make more qualified purchasing decisions through so-called green claims (uniform and transparent environmental claims). In addition, companies from the coatings and printing inks industry can support the development of environmental footprint concepts (e.g. the PEF method) as part of their product development and use existing tools (e.g. environmental product declarations [EPDs]) in a meaningful place.

The **Key product value chains** field of action addresses the plastics, packaging, buildings and construction sectors. Optimised material efficiency is to be achieved through increased use of recycling content and waste avoidance. Particular focus is placed on the reduction of packaging waste, the amendment of the Construction Products Regulation and further measures on microplastics and recycled plastics.

Less waste, more value addresses the promotion of waste prevention and the circular economy through improved waste policies. The aim is to reduce, reuse and recycle the waste hierarchy. To achieve the goal, a secondary raw materials market is to be created in the EU, for which announced initiatives on chemical substances and guidelines on extended producer responsibility for companies from the paint and printing ink industry will be important.

Change for other policy fields

The Green Deal intends to introduce a circular bioeconomy with the strategy **From Farm to Fork**. The strategy focuses on the entire food chain, including food packaging. At this point, manufacturers of coatings and printing inks that supply the packaging industry are affected.

The EU Commission has recognised the great potential of building renovations as an important building block in the energy transition. Considerable investments are planned for the **Renovation Wave** initiative. Manufacturers of architectural paints and plasters are supplying products for the planned work.

Where does Worlée-Chemie come in?

At Worlée-Chemie, we have set ourselves the goal to achieve climate neutrality at our plants by 2030. We are currently involved in the collabo-

orative project "Ways to a climate-neutral company" run by the association Klimaschutz-Unternehmen and the University of Kassel. In the two-year project, a roadmap with strategies and measures is being developed to realise the goal of climate neutrality. In addition, we have already firmly integrated the certified management systems ISO 14001 (environmental management system) and ISO 50001 (energy management systems) as part of our corporate policy.

For a long time, we have also been aware that sustainable products are becoming increasingly important. For this reason, we have developed more and more binders based on renewable raw materials, which we procure from sustainable cultivation. For example, we develop products based on linseed oil, which are characterised by a particularly high proportion of renewable raw materials. Our colleagues are working diligently to expand our product portfolio with products based on renewable raw materials. Therefore, sustainability was the focus of our innovation workshop this year, in which numerous product and project ideas were generated.

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The first innovation workshop of Worlée-Chemie last year was a full success. Therefore, it was no questions that the event should be repeated this year. On 23 and 24 February, some colleagues came together online in interdisciplinary teams to jointly develop innovative ideas for new products, applications and projects around the topic of sustainability.

To ensure every participant was well informed and able to

participate in a committed manner, numerous presentations on different sustainability topics were given by several Worléeans over a period of three weeks. The topics varied – regulatory aspects, the state of production or in Worlée’s product portfolio in general, as well as the R&D and application engineering perspective were presented. Some market specifics relevant to the workshop were also highlighted. This year, the innovation workshop was very successful

again. More than 200 ideas from the areas product development, application, new technologies and marketing as well as general environmental topics were generated, from which 30 project ideas could be derived. The subsequent follow-up as well as setting up the projects is still in progress and will take some time. Currently, interdisciplinary teams and selected “influencers” are further developing the project ideas with the intention that they

will become part of Worlée-Chemie’s product and project portfolio in the future.

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Gold Award

On 24 March 2021, our partner company Synthomer hosted a virtual Functional Solution Distribution Award Conference 2020 with over 50 attendees from the EMEA distribution network. Presentations by Rob Tupker, President Functional Solutions, and Jason Davies, Vice President & General Manager EMEA Functional Solutions, informed distributors about the current market situation and Synthomer’s future growth path.

A lively and stimulating discussion also took place online. The highlight of the event was the award ceremony – Synthomer honours particularly successful distribution partners each year. As one of six companies, we received a Gold Award for our outstanding work in the past year.



We would like to take this opportunity to thank Synthomer once again for the award and look forward to continuing our close and good cooperation with them.

Highly visible, intensely colourful and dazzlingly bright – Daylight fluorescent pigments from Sinloihi

Sinloihi and Worlée already have a long history of working together. For more than 50 years, the Worlée product portfolio has been supplemented by the daylight fluorescent pigments of the Japanese company Sinloihi.

Daylight fluorescent pigments are characterized by brilliant, luminous colours that cannot be produced with typical pigments. They make an exceptionally bright and intensive colour impression on the eyes, and it is no longer possible to imagine our day-to-day life without their glowing radiance.

In forestry, in sporting goods, in spray paints, as warning or signal colours, in safety applications, in advertising or for attention-getting fashion looks, a wide variety of different application areas make use of their incomparable colour effect to draw attention and for maximal safety.



Daylight pigments are fluorescent colouring agents that display their radiant hues even in normal daylight. The invisible short-wave spectral components of daylight (blue, violet and ultraviolet) are transformed by fluorescence into brighter, visible light with longer wavelengths (yellow and green). As a result of this process, fluorescent colour pigments glow intensely in daylight and have a considerably more colourful appearance, which is a distinct contrast to the properties of typical colour pigments. At dusk, when the light features a higher proportion of blue, these colours are thus very effective. The presence of UV light yields an extremely strong fluorescence for special effects.

As opposed to conventional pigments, fluorescent pigments are embedded in a synthetic re-

sin as a solid solution of a fluorescent colouring agent. It is generally unproblematic to work with them in very different kinds of binder systems such as alkyd, acrylic or PU systems. Grinding of the pigments is not necessary. Daylight fluorescent pigments based on melamine-toluol-sulfanamide comprise some of the most currently widespread versions. Pigment powder is obtained in this case by grinding clumps of resin, which is a very time-consuming production process.

Sinloihi offers a wide range of lightfast daylight pigments for a variety of applications. Its available pigment series and colour shades are based on different carrier resins and may be purchased in pigment powder or pigment dispersion form. The carrier resin of choice has a significant influence on the properties of the pigment in question. Along with the well-known **FZ Series**, the standard powder pigment with heat resistance up to 140 °C, Sinloihi offers additional series as well. The **FX Series**, for example, features a particularly high solvent and heat resistance of up to 260 °C. The **F Series**, on the other hand, is distinguished by high colour brilliance and lightfastness.

The daylight pigment dispersion series **SF, SW and SP** consist of fluorescent colourants that are dissolved in acrylic resin and thus formaldehyde-free; these water-based pigment dispersions have a distinctly finer particle size and are used in flexographic and gravure inks, coating paper and textiles. The finer grind of the pigments yields a higher fluorescence and colour brilliance in applications.

The **SF Series**, noteworthy for its pigment dispersion with superfine particles, may be readily used in thin-film printing processes. The **SW and SP Series** are characterized by outstanding lightfastness as well as excellent resistance to chemicals, water, and heat, among other features.

Sinlohi daylight pigments are suitable for many different areas of application. They are used not just for paints, coatings and printing inks, but also for colouring synthetic materials such as PVC, PE and PP.

Important application criteria include, along with lightfastness and colour intensity, heat and solvent resistance, brilliance, opacity and migration tendency. The pigment type to be used should be chosen carefully according to the end application and its relevant requirements.



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Greetings from India!

1. How long have you been working for Worlée?

I have completed 7 years at Worlée India since January 2021. In 2014, I joined Worlée in the middle of a chaotic situation. I worked on restructuring the operations – from being a trading company to a compact, efficiently managed and profit making marketing support to Worlée Germany. I must acknowledge the wonderful help, mentoring and support I got from Mr. Klaus Köhler and the entire Germany team during in this whole journey.

2. Are there any special features for the Indian market?

Indian markets are extremely price sensitive. The coating and paint industry is no exception to this. Our customers have diversified interests. They like to experiment with one product that can be used in different applications. The unorganised market has many small players that outnumber the organised market. Some of the small organisations are in fact technology based and work for hi-end projects. Construction and infrastructure activities are significantly increasing as the Indian economy has been doing very well in the past few years.

3. What are your tasks in your position?

Initially, my most important task was to take charge of the company and improve its image and position in the market, which

had taken a huge beating. It involved cleaning of the books, improving customer relations, and re-establishing business. We have come a long way from a very precarious position around 5–6 years ago and have regained our image and now enjoy a good reputation in the market. Currently, as a resident Director my role is to manage the entire operations of Worlée India – including commercial, operational, financials and administrative areas. On the commercial and operational side, I deal with customers and distributors and coordinate with Worlée Germany to ensure business generation, supply of products and overall customer relations. I also handle customer visits and manage all outsourced partners. Bank management, statutory reporting, compliances, banking and financial decision making also fall within my scope.

4. What have you done so far or what training have you completed?

I have a Master's degree in Commerce with a major in Business Management. I also have a bachelor's degree in Law with a major in criminal psychology. In addition, I have a diploma in journalism. Before joining Worlée, I was working in a PR and customer service/grievances department in the chemical industry. I speak and understand 3 Indian languages in addition to English.



Aparna Rajee,
Resident Director
at Worlée-Chemie
India

The diverse work experience and my educational background have helped me to deal with challenges and adapt to any given situation. This helps me understand customers better even though I am not a chemist. I have been constantly learning, experimenting and evolving with the help of the technical team at Worlée Germany. Working at Worlée gave me an opportunity to fully utilise all my knowledge and experience.

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More room for innovation: New cosmetics production building in Lauenburg

At the beginning of this year, Worlée Cosmetics started expanding its production facilities in Lauenburg. The first innovative cosmetic raw materials are to be produced there in autumn. The new production facility offers a modern working environment and space for the latest technologies. The Research & Development department will also get more space in the course of this project. Increased application technology laboratory capacities will make it possible to explore new applications and ideas from September onwards.

The raw materials of Worlée Cosmetics are in demand worldwide and are used in numerous branded products. Special emphasis is put on good biodegradability and the use of renewable natural raw materials. Among them are modern masterbatch, peeling bodies and active ingredient carriers. With the expansion of the Lauenburg production site for the business unit Cosmetic Raw Materials, Worlée is making a sustainable investment in the future.

The Sales Area West has moved!

With the turn of the year 2020 / 2021, the face of the sales area West has changed noticeably, although much of what has been tried and tested has remained at its core. After eight years at the Pönt in Ratingen, three of our Worléeans relocated for strategic reasons to Europaplatz 14 in Castrop-Rauxel on 28 April 2021.

Responsibility for the sales office has been handed over to Stefan Mieberg and Sascha Itter, who are now the main contact persons for Worlée customers in the sales region of North Rhine-Westphalia, Rhineland-Palatinate and Saarland. As usual, Silke Itter complements the team in technical areas and takes care of all back-office matters.

The changes in commercial processing, on the other hand, were more comprehensive. Katharina Heß from the Lauenburg sales team as well as the colleagues from the Hamburg order centre directly support the sales area West colleagues in order processing.

We are wishing them a successful start at the new location! You can reach them under the following numbers:

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Sascha Itter, Silke Itter, and Stefan Mieberg

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