

magazine

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Reduced emissions in automotive interiors
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Sustainable release agents on aqueous basis

Interview with Dr. Holger Klyszcz-Nasko, Head of R&D, Acmos Chemie KG

Acmos Chemie KG is a worldwide operating family-owned company with headquarters in Bremen and has been operating successfully in the field of release agents and process aids for more than 100 years. PU Magazine spoke with Dr. Holger Klyszcz-Nasko, Head of R&D, about the history of the company and how Acmos is positioned in the field of sustainability and circular economy.

PU Magazine:

Could you please start with a short introduction of your professional background and your current responsibilities and tell us also a bit about your company.

Holger Klyszcz-Nasko:

I am a chemist with a PhD in biochemistry. After my initial job eliminating halogenated solvents from our products, I focused on the development of release agents. I have been researching and developing release agents and lubricants for 30 years and for the last 20 years I have been responsible for the chemistry used at Acmos as the head of R&D. During this time we have developed aqueous alternatives for each product area, which today replace more than half of the original solvent-based products. Our laboratory team of 25 employees checks products, raw materials and processes every day and develops innovative solutions for our customers.

Acmos Chemie KG is a medium-sized company headquartered in Germany, with more than 40 subsidiaries and partners around the world. The company roots go back to the 1920s with the trade of mineral oil and various other products. In the 1950s, Acmos began with the formulation of metalworking fluids, cleaners and release agents for wood glues. The introduction of polyurethane in the plastics processing industry opened up numerous new areas of application for this versatile material. In the meantime, the polyurethane industry has developed into an important business segment, in which we offer our customers individual solutions. In addition to a broad portfolio for the plastics industry, we offer release agents, lubricants, cleaners, and related products for the glass,

wood, metalworking, foundry industries, rubber, and composites industries.

PU Magazine:

Does your company integrate a recycling or environmental management system into its business?



"The change-over from solvent-based release agents to 100 % aqueous solutions is a demanding task, depending on the production process, and we support our customers with technical service on site." stated Dr. Holger Klyszcz-Nasko, Head of R&D, Acmos Chemie

Holger Klyszcz-Nasko:

Acmos works in accordance with an integrated management system in accordance with ISO 9001:2015, in which all process- and quality-relevant procedures are represented. Of course this also includes important environmental topics. Quality, continuous improvement, safety at work and environmental protection are central topics of our company policy. We strive to minimise the use of environmentally harmful and hazardous materials (e.g. SVHC-materials) in our products and to replace them with environmentally friendly, low-risk alternatives. Current and future leg-

islation is taken into account in new developments in order to offer our customers future-proof solutions. For example, we already do not use dangerous goods such as DBTL in our developments.

The company's owners and management take their responsibility for people and the environment very seriously and invest in efficient, modern production technology.

High-energy manufacturing processes are reviewed with the aim of producing more efficiently. For instance, as part of a project sponsored by the German Federal Environmental Foundation entitled "Innovative ideas for saving energy in the melt emulsification of release agents", we systematically reviewed our processes and developed energy-saving methods as a result.

PU Magazine:

Which sustainable products does your company develop?

Holger Klyszcz-Nasko:

One of our development focuses is on waterborne products. These already represent over 60 % of our production volume. Meeting the high quality and performance requirements of our customers with environmentally-friendly products is a challenge that we successfully meet. With our broad portfolio of high-solids, low-solvent and aqueous products, we offer process-safe release agents with outstanding performance properties.

Our customers have been using water-based Acmos products in the production of steering wheels, seat cushions and for carpet back foaming for many years. Last year, we developed a purely aqueous release agent

for universal use in polyether and polyester systems for customers in the shoe industry. This “all-rounder” is suitable for single and double density soles, for direct soling or bonding. Taking into account environmental and occupational safety aspects, this 100 % water-based product is free of hazardous substances and VOCs. At the same time, it offers our customers a matte and dry surface, which is ideally suited for further processing, so that expensive post-treatment can be avoided.

In addition, we produce aqueous semi-permanent release agents for thermoplastic PVC and TPU components. The Acmoscoat range is suitable both for the “powder-slush” process and for related processes such as rotational moulding. With Acmoscoat, excellent surface qualities from soft-touch to gloss are achieved. At the same time our customers benefit from a reduction in consumption and cleaning effort.

The change-over from solvent-based release agents to 100 % aqueous solutions is a demanding task, depending on the production process, and we support our customers with technical service on site. Under certain circumstances, an intermediate step for a complete conversion to water is necessary and reasonable. Our Acmos hybrid range was developed for this case. It combines the advantages of solvent-based and water-based products, both in terms of easy handling, strong release properties, dry and bondable surfaces, and the reduction of VOC emissions. Our products from the hybrid series are versatile and are mainly used in the automotive industry, e.g. in the production of seats, armrests or headrests.

Apart from the significant reduction in VOC emissions during processing, the lower output rate when using these Acmos product ranges leads to a reduction in consumption and consequently to a reduction in the quantities transported and stored.

Customers from various industries appreciate the advantages that the use of our environmentally friendly solutions have on their process as well as for the environment, and this encourages us in our efforts.

PU Magazine:

How do you assess the PU industry's progress in terms of sustainability compared to other industries?

Holger Klyszcz-Nasko:

Due to the versatility of its applications, polyurethane has become an indispensable part of our everyday life. We welcome the polyurethane industry's efforts to replace other materials over which polyurethane has advantages in terms of durability, product properties and recycling possibilities.

PU Magazine:

How do you select the right raw materials/additives to ensure recyclability and do customers contact you already have special requirements?

Holger Klyszcz-Nasko:

Acmos manufactures products that are used in the manufacturing process but have a negligible share in the finished part, so that we are usually not confronted with this question. For safety reasons we refrain from using SVHC substances in our products.

PU Magazine:

How important is product design to facilitate recycling?

Holger Klyszcz-Nasko:

From my point of view, design nowadays is mainly based on the attractiveness and functionality of the product for the target group. It would make sense if the issue of recyclability would be also taken into account, for example, if a product could only use materials which can be recycled in the same way. Even if this is theoretically feasible, the production costs are decisive for implementation. I won-

der to what extent consumers are prepared to accept higher prices.

Acmos, as a manufacturer of consumables for the manufacturing process, is not involved in this early stage of product design.

PU Magazine:

How important is education of people on how to reduce waste?

Holger Klyszcz-Nasko:

This is an important aspect. Almost every day we are confronted with the growing volumes of waste and pollution of the seas by the media.

However, we cannot leave waste prevention to politics or the plastics processing industry alone; we as consumers must also rethink and consume more consciously. To that extent, yes, we must demand and promote end-users' own responsibility.

Education is the key for developing manufacturing processes for environmentally friendly products. We see our contribution in showing the manufacturers of PU mouldings the advantages of hybrids and water-based products and offering them more environmentally-friendly alternatives in order to produce high-quality components with the lowest possible consumption of processing aids.

Waste avoidance, resource-saving manufacturing processes and the development of more environmentally-friendly products have been an integral part of our corporate goals for decades and as a technology leader in this area our commitment to sustainability will remain a priority.

PU Magazine:

Thank you very much Dr. Klyszcz-Nasko for this interesting interview.

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