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Safer process.
Safer profit.



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New grinding oils — even more benefits





Depend on Rhenus Lub for continued high performance in the future

Dear business partners,

It's in our DNA: At Rhenus Lub, we are always on the ball when it comes to new technologies. Yet again, we—along with our customers—have embraced a new trend: gas-to-liquids technology, or GTL. This technology is a future-oriented process for manufacturing high-performance synthetic oils without using mineral oils, which opens up new horizons with regard to environmental issues.

Researching new technologies and developing environmentally friendly compositions also helps to improve our understanding of sustainability. Whether using alternative raw materials, excluding components that are hazardous to health or digitalising production — with the necessary vision and our expertise, we are extremely well positioned both for today and for the future. You can find out more about this topic on pages 4 and 5 of the current issue of *impuls*. Happy reading!

Dr Max Reiners

Safer process. Safer profit.

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Interview

Rhenus Lub Sales Service

A crucial centre of communication for all our customers

If customers have a concern, the Rhenus Lub Sales Service is an important point of contact. But that is not all: Along with regional managers, it provides a crucial interface for all internal departments at Rhenus Lub. We spoke to Armin Geilen, Director of the Sales Service, about this topic.

Mr Geilen, please tell us what your team's activities entail.

Armin Geilen: Our focus is on ensuring that all customer orders are processed smoothly: This includes everything from order processing enquiries to invoicing, as well as business complaint management and master data management. We strive to respond to any concerns that our customers may have in the best possible way — quickly and competently. To this end, every customer has a contact partner with us at the Sales Service and within regional management. This creates trust and provides clear channels

of communication — for the highest level of customer satisfaction. Naturally, a high degree of personal identification with Rhenus Lub and our products and a high level of personal commitment and dedication from every member of the team also helps to ensure customer satisfaction.

What skills and qualifications does your team have?

Armin Geilen: We essentially cover the entire order process. It is really important to have a lot of empathy for all of our

customers' needs in our work. If we can't completely fulfil a customer's requirements, we continue trying to find the best possible solution. Business training in industrial or commercial enterprises and decades of experience have given us the specialist skills we need to offer our customers a first-class service. Of course, our international team also requires language skills and a sound knowledge of export management.

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The Rhenus Lub Sales Service:

Sylva Beek, Sonja Christ, Regina Gilges, Simone Klammer, Manuela Mroos, Birgit Schareina, Andrea Steinhäuser, Patricia Teasani, Armin Geilen

rhenus FU 800 coolant

Optimum performance with the best possible protection for health

Skin irritation is still a tiresome problem for many who work in the production industry, and is often exacerbated by using an unsuitable coolant. If a company does not take action to tackle this problem, or acts too late, the long-term health of employees can be put at risk. If an employee is absent due to illnesses caused by this hazard, the employer will also be confronted with increasing medical expenses. When it comes

to implementing a proactive health and safety policy, finding sustainable yet high-performance fluids is therefore no longer just a side issue for many companies.

Innovation leader Rhenus Lub has the solution for the many customers who are looking for a sustainable coolant — rhenus FU 800: As it is free from amines, boric acid, formaldehyde depots and toxic

substances, the fluid does not have any GHS hazard pictograms. This makes the fluid virtually harmless to health and much easier to handle — as proven by its high level of acceptance among machine operators. Another advantage: rhenus FU 800 is very skin-friendly thanks to its low pH level, making it of particular interest to the numerous companies whose employees suffer from work-related skin problems. rhenus FU 800 also offers excellent flushing properties and corrosion protection, as well as good long-term stability and minimal foaming, for optimum process reliability and maximum performance. This means that the sustainable fluid also impresses when it comes to costs: Replenishment concentrations and suspending agents are reduced, meaning long change intervals and less cleaning effort.

This universal all-rounder is suitable for use in a variety of industries and can be used in complex machining processes for many different materials.

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Slideway oils

Positioning accuracy under pressure is key

The most important factor for slideways and guide rails in machine tools is positioning accuracy, even when subject to high levels of pressure. High surface quality and the smallest tool tolerances possible must also be guaranteed. With rhenus SLO 68 and rhenus SLO 220 slideway oils, Rhenus Lub has created the perfect special products for these demands.

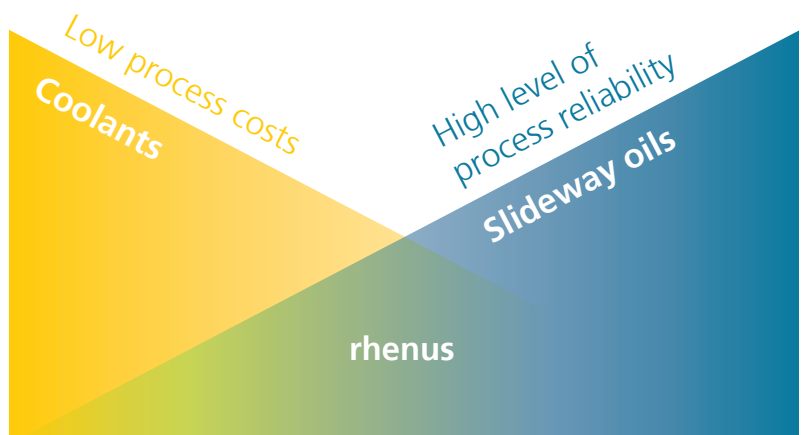
corrosion protection, and the high demands concerning pressure load pose no problem.

Perfect interaction between slideway oils and coolants is also a key factor here: "Because our slideway oils have good demulsifying behaviour, they are not just flushed away by the circulating emulsion.

What's more, very little oil is taken up by the circulating emulsion. It remains stable for longer and ensures that the process is reliable in the long term", explains Daniele Kleinmann, Director of Product Management at Rhenus Lub.

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The specialised lubricating oils from the lubricant experts in Mönchengladbach include all of the benefits that a high-performance slideway oil needs to have. In particular, rhenus SLO 68 and rhenus SLO 220 boast excellent stiction levels to prevent any unwanted stick-slip. This allows the slideway to move more easily and significantly reduces signs of wear. The oils also provide a high level of



The rhenus principle — designed with sustainability in mind

Our time is characterised by new technologies and ever-increasing performance levels. At the same time, the issue of sustainability is becoming ever more important for many companies. Sustainability also plays a key role for us at Rhenus Lub. As part of our corporate identity, it forms the basis of all that we do and is what drives our business — and has done for a long time.

For us, sustainability means that...

- ... we assume responsibility for health and safety.
- ... we use innovative and therefore sustainable raw materials.
- ... social engagement and personal responsibility are also key elements of a stable company.
- ... we invest in modern infrastructure and digital technology in order to do more than just "meet" the demands of tomorrow.

These aspects all have one thing in common: Even if framework conditions or demands change or if requirements increase — the Rhenus Lub sustainability principle works in the long term and is securing the future. Our products, our company, our customers.

A proactive approach for people and health

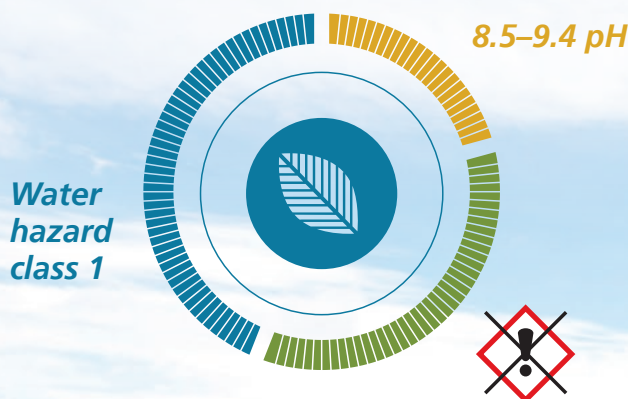
For us, people and their health take centre stage. In many industries, it is no longer just about process reliability and maximum stability: Proactive health and safety protection is just as important when it comes to successful production. It therefore goes without saying that we should also provide products that are free from labelling requirements and are skin-compatible. We did not just start doing this yesterday: Back in 1991, Rhenus Lub launched amine and boric acid-free coolants on the market with a view to delivering active employee protection — and was one of the very first companies in the lubricant industry to do so.

We are currently a driving force in terms of health and safety in particular, and have been going beyond existing regulations for a long time: We are developing lubricants in our research department that go above and beyond the legal requirements, meaning that they can be used in the long term and are future-proof. Take our rhenus FU 800 coolant as an example: The fluid actively protects the health of employees thanks to its innovative composition and the fact that it does not include ingredients that are harmful to health. After all, the health of employees is an important success factor for sustainable production.

Protecting the environment & preserving resources

In industries such as agriculture and forestry, railways, construction, port technology, open-cast mining and tunnel construction, the lubricating greases that are used can quickly enter the ground or bodies of water. To ensure that the natural world is engaged with in a responsible and sustainable manner, Rhenus Lub offers a number of environmentally friendly products that can be easily and completely degraded in soil or water through biochemical processes. In this way, we are able to actively help our customers to conduct their business even in ecologically sensitive areas.

Protecting the environment also means using resources responsibly — a mission that is at the very heart of our research mentality. We identify the trends in the market early: Which raw materials are scarce? Which components will soon be prohibited by law? We develop alternatives at an early stage so that you will continue to be able to obtain products of the same quality in the future. Completely reliable — no shortages, no drop in performance.



Personal responsibility & social engagement

We are a typical medium-sized family business, which has one great advantage: It not only allows us to have flexibility and respond quickly to changes, but also enables us to define a long-term and sustainable direction for our business. We are not affected by short-term changes of course such as those that may be instigated by investors — a fundamental element that customers and employees notice.

As a company that operates internationally, we also assume worldwide responsibility. In line with the UN "Global Compact" initiative,

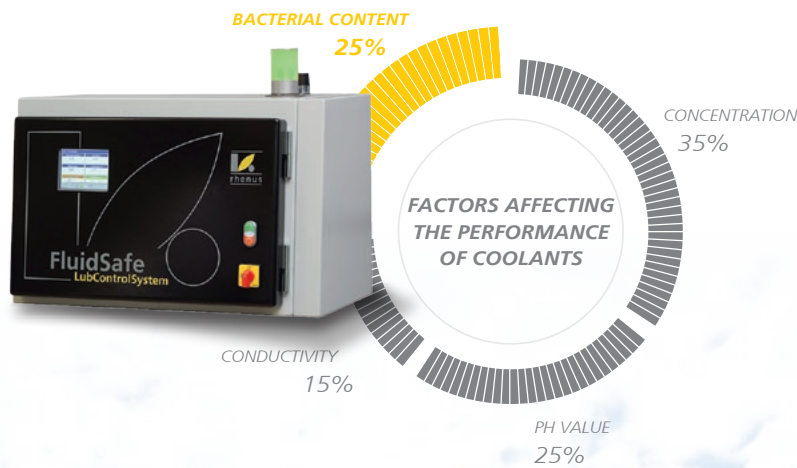
we advocate the assumption of greater corporate responsibility within our sphere of influence, including across international boundaries — with the ultimate aim of making the economy fairer and more sustainable. Rhenus Lub also assumes responsibility at a local level: In our role as a major employer, we are strengthening the business location of Mönchengladbach. We are also always engaging with social projects in the area around our headquarters, seeking to achieve greater social justice and the sustainable development of the region.



Our industry: Networked & digital

As an innovation leader, our qualified employees develop and produce under state-of-the-art conditions: With manufacturing technologies that are constantly being updated in line with the latest developments, we are able to manufacture lubricants that offer the best possible performance for our customers. Our grease factory—one of the most modern in Europe—plays an important role in this. And, by taking the first steps towards the "smart factory", in 2015 we completed an important stage as we move towards optimised production: The intelligent use of data and analysis of individual algorithms means that we can truly master the interactions that take place in complex production processes, allowing us to control production more precisely and control it down to the last detail — an optimisation that has a direct and positive effect on the development and manufacturing of our products.

Industry 4.0-oriented processes are also becoming increasingly important to our customers. We have developed a device, FluidSafe LubControlSystem, that monitors coolants online. It provides data that is retrievable in real time, making a significant contribution to the digital networking of the process. After all, anything that is applicable to our production plants is also applicable to the businesses of our customers: Using the latest technology and digitally networked production, together we are shaping the future of our industry.



GTL technology

New grinding oils bring even more benefits for users

The focus of the grinding oils in the new GTL line from Rhenus Lub is on safety, reliability and sustainability. Users benefit from an excellent price/performance ratio, greater fire safety, improved health and safety and a very high level of process stability.

Forward-looking: Free from mineral oil

Behind the acronym GTL lies the chemical gas-to-liquids process, in which natural gas is transformed into an extremely pure oil. This synthetic base oil forms the basis of a new range of products from Rhenus Lub: Unlike conventional fluids, because these colourless and virtually odourless oils do not contain mineral oils, they are free from aromatics, nitrogen, heavy metals and sulphur. This makes GTL products a particularly good option even when considering environmental aspects.

Exceptional lubricating properties

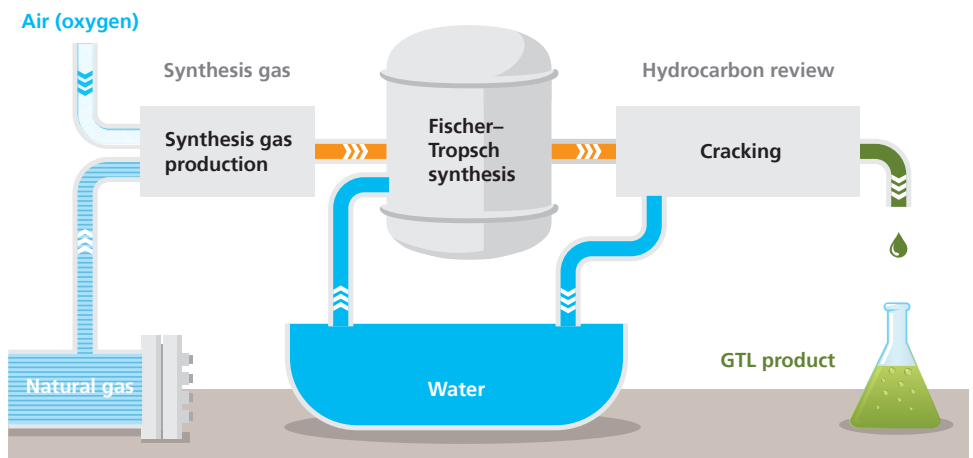
In comparison to common hydrocracked oils, the GTL oils from Rhenus Lub offer numerous advantages: With a higher flash

point, low volatility and reduced evaporation loss, the GTL oils not only help to deliver the best fire safety and health and safety, they are also economical to use. The clever rhenus composition also gives the products good foaming behaviour and excellent lubricating properties. This prevents wear, increases tool life and makes the process

altogether safer — resulting in significant cost reductions. Use the new technology and benefit from our expertise in lubricants.

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The GTL process



Rhenus Lub currently offers two grinding oil variants based on innovative GTL technology: rhenus EHM 12 and rhenus EU 12 grinding oils. Other high-performance GTL oils are currently in development.

rhenus EHM 12	rhenus EU 12
Suitable for grinding steel and hard metals	Suitable for the full-form grinding of low and high-alloy steels and milling operations
Advantages	
Low oil mist and evaporation	Low oil mist and evaporation
Low foaming (good air separation)	Low foaming (good air separation)
Oxidation stability	Oxidation stability
Excellent flushing properties	Excellent flushing properties
High flash point	High flash point
Good filterability	High surface quality

Rhenus Lub knowledge: Considering process costs



To remain competitive as a company, it is not only the products that have to be of the highest quality. Visit our website to find out why costs also need to be optimally adapted to the production process:

<http://bit.ly/2gVZctt>

Siane trade fair

Huge strength in innovation at the Rhenus Lub stand in France

 *A successful exhibition: At the Siane trade fair in Toulouse, France from 18 to 20 October, Rhenus Lub showcased its innovative products and considerable expertise. Collaboration between France and Germany was also a focal point here, so the event provided owner Dr Max Reiners with the opportunity to speak to Fabrice Himpan, Managing Director of the French subsidiary, and the entire sales team.*



Mutual collaboration at the rhenus stand: Daniele Kleinmann and Dr Max Reiners (right) with Fabrice Himpan (4th from right)

Also in attendance: Daniele Kleinmann, Product Manager Coolants. During a conference, they presented innovative products from the rhenus portfolio together with their French rhenus colleague Jérôme

Carrier, the qualified chemist who has recently started working with Rhenus Lub at its Toulouse site. Topics that were


of particular interest to the audience included the technical performance of environmentally friendly coolant rhenus FU 800 and FluidSafe, the online monitoring system for coolants.

Daniele Kleinmann and Fabrice Himpan were also interviewed by ToulEco TV on the topic of coolants for machining composite workpieces and Industry 4.0 (smart manufacturing). The interview is available in French on the Siane website www.salonsiane.com or at vimeo.com/187991811.

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Fluid management

Tool life tripled!

 *At the start of the year, they Rhenus Lub branch in the Netherlands launched a comprehensive fluid management system for a global manufacturer of industrial packaging. With its specialist process knowledge, Rhenus Lub is helping to optimise processes and reduce costs. We spoke with Marcel Gros, Managing Director of Rhenus Lub Netherlands.*

Mr Gros, how does fluid management work for your customer?

Marcel Gros: We visit our customer on a regular basis so that we can provide optimum support as part of our fluid management service. We generally check numerous factors that influence the use of fluids, including the coolants used, their quality, and the stability of the emulsions. We look for areas where we can make further improvements. For example, we developed a special lubricating oil for this company that is used in the cutting presses and makes a significant contribution to performance. Maximum performance and reliable production can only be achieved by conducting regular checks as part of the fluid management system. This includes care and maintenance of machinery.

What are the advantages for the manufacturing company?

Marcel Gros: That's quite clear: significant cost savings through a longer tool life. We ensure the process is highly robust by using high-performance lubricants in combination with ongoing checks and step-by-step optimisation of the fluid parameters. We improve the products and can reduce

consumption. On average, this has enabled our customer to triple the working life of its tools. In addition to the cost savings, the outstanding service is a winning factor. If a problem arises, we respond quickly and can be at the customer's site in a very short period of time. This creates security and trust.


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Stockfer and Leirilub

Equally strong in Portugal



 *Customers in Portugal are also placing their trust in the first-class coolants and high-performance lubricating greases from Rhenus Lub, which they can purchase locally from two dealers: Stockfer and Leirilub.*

Leirilub has been offering innovative lubricants for 13 years, with a focus on the automotive remodelling industry. The dealer primarily operates in a small region north of Lisbon where there are a particularly large

number of remodelling companies for the automotive industry, which is very well-developed in Portugal. It has been enhancing its portfolio with high-performance rhenus products since 2012. Stockfer, which was founded in 1997, is a dealer specialising in sophisticated tools for the metal industry and introduced the specialised lubricants to its product range in 2005. The dealer has many large, well-known customers from the automotive industry in its portfolio.

Leirilub and Stockfer are excellent points of contact for Portuguese customers. They provide a perfect service and the highest level of lubricant expertise when it comes to sales and service for Rhenus Lub lubricants. The Rhenus Lub branch in Spain supports them in this task.

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Coolants

Dörries Scharmann visit

The ideal development partnership

Test together, develop together: Since 2013, machine construction company Dörries Scharmann has been more than just a customer for Rhenus Lub: It has been a strategic development partner.

Close collaboration forms a key element of the partnership. In keeping with this approach, the Sales department from Rhenus Lub returned to visit the construction company, which is also based in Mönchengladbach, only recently — one of many visits attended by both partners in which the coolants used are examined: "As part of our close collaboration with Dörries Scharmann, we analyse products that are used, define requirement parameters and

discuss opportunities for optimisation. By working so closely with our customer, we are able to gain an even better understanding of the effects of a coolant in use right down to the smallest detail — and our customer benefits from lubricants that are tailored to their specific areas of application", explains Meinhard Kiehl, Director of Marketing, Product Management at Rhenus Lub.

Dörries Scharmann, part of the Starrag Group, provides machine tools for turning, drilling, milling and grinding medium to large metal or composite workpieces.

We want your opinion!



For over four years, we have been keeping you up to date with the latest news from the lubricant industry and what our company is currently working on through the medium of the Rhenus Lub customer magazine "impuls". To make sure that we continue to focus on topics that are of interest to you, we would like to invite you to take part in our major online survey. We look forward to hearing from you.

50 Krafftform Kompakt 20-bit screwdrivers from Wera are available for participants to win.



The address for the survey is: <https://de.research.net/r/rhenuslub-impuls-en>



Legal note

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*Developing together:
 Rhenus Lub Sales for
 Southern Germany visits
 Dörries Scharmann*