

# Product Program **Industrial Lubricants**

2023

*MOVING YOUR WORLD*



## FUCHS LUBRICANTS GERMANY

We do not just develop lubricants. We develop intelligent solutions for highly complex challenges.

To this end, we have pooled our expertise and experience from a wide range of application areas: FUCHS SCHMIERSTOFFE and FUCHS LUBRITECH became FUCHS LUBRICANTS GERMANY. Our goal: to keep our customers' world in motion. Efficient, sustainable, reliable. Today and tomorrow.

What can we move for you?





## FUCHS LUBRICANTS GERMANY

### Facts and figures

**Company:** FUCHS LUBRICANTS GERMANY GmbH,  
a company of the FUCHS Group

**Locations:** Based in Mannheim, with sites in  
Bremen, Dohna, Hamburg, Kaiserslautern, Kiel and Wedel;  
approx. 1,400 employees

**Product range:** A full range of more than 3,000 products  
for all application areas

**Certifications i. a.:** ISO 9001, IATF 16949, ISO 14001,  
ISO 45001, ISO 50001, ISO 21469, HALAL, KOSHER  
(detailed certifications at [www.fuchs.com/de/en](http://www.fuchs.com/de/en))

**CO<sub>2</sub> neutral production\***

Since 1931, we have been pursuing the same goal: to keep the world moving. With innovative and technological lubricant solutions that have a sustainable impact on the future. Unconditional reliability is our top priority, it is the foundation of our company and basis for everything that defines us.

Reliability is both a driver and a demand. And it's a promise to all our customers in the fields of automotive suppliers and OEMs, mechanical engineering, metal processing, mining and exploration, aerospace, energy, construction and transport, agriculture and forestry, as well as the paper, steel, metal, cement, forging and food industries, but also qualified lubricant dealers, car dealerships and workshops.

Long-term experience, high development strength and the fulfillment of far-reaching standards are the basis for the special quality of our world-leading product brands. We deliver solutions that are simply more efficient and therefore more sustainable. We always think in holistic solutions. For the development of individual solutions, we enter into an intensive customer dialog with you. This is the way we live up to our claim of moving your world.

## MOVING YOUR WORLD

\*Partially also based on compensation



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## Package overview

Get a quick overview of the available packages of a product. Under each product pictograms and package units are listed accordingly.



Canister



Cartridge



IBC



Tin



Drum



Tube



Tank truck



Spray can



Bottle



Bucket



Tin



Hobcock

## The World of Industrial Lubricants



### Industrial Oils

Many processes in the industry work perfectly only with specially tailored lubricant solutions. For example, in the transmission of energy by pressure media (**hydraulic fluids**), in the gearing of driving forces (**gear oils**), in the power generation in power plants (**turbine oils**), at refrigeration (**refrigeration oils**) or compressed air production (**air compressor oils**) the respective industrial oils have a significant task.

Rapidly biodegradable lubricants from FUCHS present a real alternative to hydrocarbon-based lubricants.

The range of industrial oils from FUCHS offers a whole host of high-performance product solutions for the most diverse of applications and target groups.

In addition, FUCHS industrial oils can make a significant contribution to an improved productivity, can increase efficiency significantly and reduce energy consumption and associated CO<sub>2</sub> emissions.

### Lubricating Greases / Pastes

Lubricating greases are consistent lubricants made up of base oil and a specially chosen thickener. To increase certain properties, additives are added to the lubricating greases. Lubricating greases are structural elements, especially when used as long-life lubricants for lifetime lubrication.

Pastes are consistent lubricants, which contain special solid lubricants to optimise their lubrication performance. It is precisely in the marginal areas of grease lubrication where grease pastes exhibit their exceptional efficiency, e.g. with high loads or rapidly changing directions of movement. They reduce friction and protect against wear.

The balanced and complete product range of FUCHS lubricating greases offers you the ideal technical and economical solutions for the greatest possible number of lubricating grease applications.



FUCHS has one of the world's most diverse portfolio of biolubricants. Many of our biodegradable products carry the European environmental label (Euro-Marguerite). New series of biodegradable hydraulic and gear oils were developed within the PLANTO range on the basis of saturated ester. The proportion of renewable raw materials is greater than 50% here.



### Metal Processing Lubricants

Modern metal processing lubricants are subjected to a variety of demands. They must be both economical and efficient, and free of ingredients that are harmful to the environment and human health.

FUCHS has the necessary process expertise to optimally meet the very specific and diverse requirements in metal processing. The comprehensive and high-performance lubricant range from FUCHS is characterized by outstanding application results in all areas of metal processing - from **cutting fluids**, **quenching fluids** and **forming lubricants** to **cleaners** and **corrosion preventives**.

### Special Application Lubricants

The product range of FUCHS includes lubricants and release agents for highly specialized applications. These lubricants are always used where the performance of conventional lubricants for the special application reaches its limits. They are marked with FUCHS Special Applications.

### FUCHS Special Applications

FUCHS develops highly specialized lubricants and related specialties in close cooperation with customers in order to offer tailor-made solutions. This has resulted in a very broad portfolio over the last decades that is characterized by its performance - even under extreme conditions.

Furthermore, special application lubricants from FUCHS stand for sustainability as well as for safety, reliability and economy.



Within the DMQP Program FUCHS supplies as a certified DMQP partner at DMG MORI cutting fluids and lubricants that have been exclusively tailored to machines and processes. The DMQP program generates synergies out of machines, peripheries and accessories with the very highest quality standards. It combines innovation and technology expertise from selected DMQP partners, who have been exclusively awarded the premium seal of quality for their products.



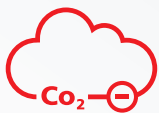
## FUCHS lubricants

stand for performance and sustainability, for safety and reliability, for efficiency and cost savings.

They represent a promise: **technology that pays back.**



Rapidly biodegradable –  
protecting  
endangered habitats



CO<sub>2</sub> reductions –  
optimizing our  
customer's carbon  
balance



Food grade –  
enables industrial  
food processing



Process  
compatibility –  
efficient operations



Less wear –  
reliable  
operations



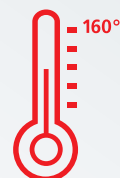
Fuel savings –  
saving precious resources  
and lowering emissions



Corrosion protection –  
enhanced machine life



Extension of  
maintenance intervals –  
reduced downtimes

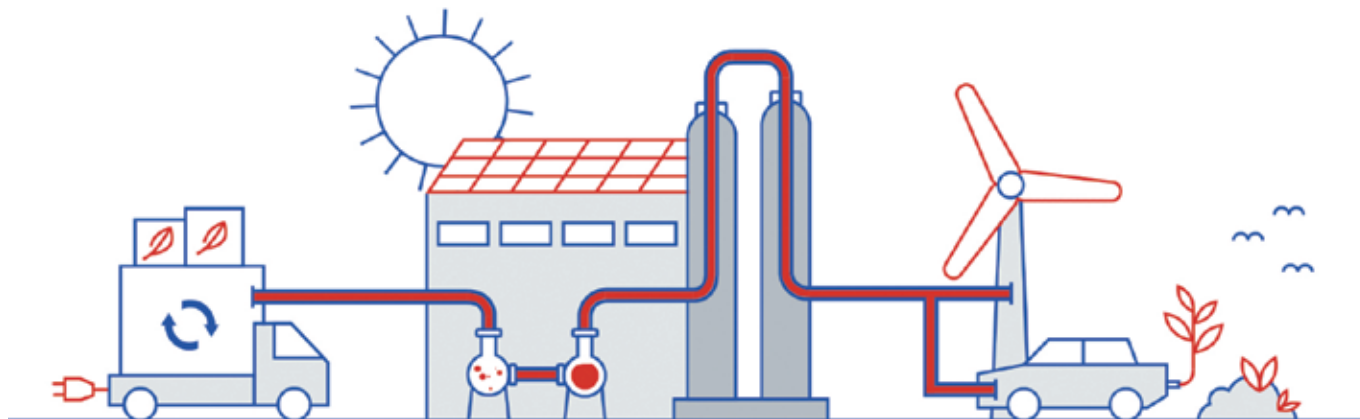


High thermal  
resistance –  
enhanced lubricant use,  
cost reduction



Reduced oil  
consumption –  
resource efficiency

# CO<sub>2</sub>-neutrality\* strategy



## We support our suppliers and engage in sustainable purchasing.

We share the results of our research and support our suppliers in developing and using sustainable and carbon-neutral\* precursors.

## Our production: Responsible and CO<sub>2</sub>-neutral\*.

We focus on resource conservation and energy savings within our production operations. We compensate for unavoidable CO<sub>2</sub> emissions with selected, certified climate protection projects.

## What our customers contribute: Less friction, reduced energy consumption.

The use of our products makes a strong contribution toward helping the environment. Our environmental performance analyses show: Thanks to factors including friction reduction, the CO<sub>2</sub> savings are significantly greater than with conventional products.

## LUBRICANTS FROM CO<sub>2</sub>-NEUTRAL\* PRODUCTION

As of January 2020, FUCHS is a CO<sub>2</sub>-neutral\* company globally and its customers receive lubricants from CO<sub>2</sub>-neutral\* production worldwide.

FUCHS' CO<sub>2</sub>-neutrality\* strategy is embedded in its sustainability strategy, which was launched in 2010. In order to implement CO<sub>2</sub>-neutrality\*, FUCHS offsets its CO<sub>2</sub> emissions, which have not yet been avoided so far, through carbon-compensation payments by investing in high-quality climate protection projects aimed primarily at promoting renewable energies.

Since 2021, the calculation of the above-mentioned CO<sub>2</sub> emissions has included not only the pure production companies, but also 100% of all sales and administration locations, as well as all joint ventures.

In the medium term, FUCHS intends to gradually reduce its carbon compensation payments and increase its share of renewable energy supplies, while continuing to invest in improving the energy efficiency of its locations.

In the long term, the company also aims to sell CO<sub>2</sub>-neutral\* products to its customers, which requires that FUCHS will in the future be supplied with CO<sub>2</sub>-neutral\* raw materials by its suppliers.



→ Climate protection projects

# Examples for Key Technologies

## Industrial oils

### RENOLIN XTREMETEMP RANGE

These **universal high-performance, multigrade hydraulic oils** are suitable for use in stationary and mobile hydraulic systems. Benefits include improved efficiency and, in particular, increased service life and change intervals. The products have excellent low-temperature behavior and a wide temperature application range. Due to the high efficiency, energy and thus CO<sub>2</sub> can be saved. Products of this series meet the latest requirements of many mobile hydraulics manufacturers. Approvals according to Bosch Rexroth RD90235 and RDE90245 as well as Denison HF0, HF1, HF2 are available.

### RENOLIN CLP VCI SERIES

The **special gear and corrosion protection oils based on mineral oil with VCI** (Vapour Corrosion Inhibitors) ensure reliable long-term corrosion protection in both the oil and vapour phases. The products are suitable for extended corrosion protection, especially in gearboxes that are stored and/or transported over a long period of time and equally for gearbox test rigs. They offer reliable wear protection, high scuffing resistance and good compatibility with gear oils. Products of the RENOLIN CLP VCI range meet or exceed the requirements for industrial gear oils according to DIN 51517-3: CLP, ISO 6743-6 and ISO 12925-1: CKC/CKD as well as AGMA 9005/E02: EP.

### RENOLIN MR SERIES

The **lubricating and hydraulic oils** of the RENOLIN MR series are characterized by their extremely high viscosity index and excellent cleaning and dirt-carrying capacity. Furthermore, the products offer special corrosion protection in addition to a long service life. They are suitable for all hydraulic systems that are exposed to large temperature fluctuations and humidity or operate outdoors, e.g. in sluices, weirs, machines in low ambient temperatures. The lubricating and hydraulic oils meet and exceed the requirements for hydraulic oils according to: DIN 51524-2: HLPD, ISO 67343-4: HM (with DD properties).

### RENOLIN PG SERIES

The series consists of **fully synthetic gear and circulation oils based on special polyalkylene glycols (PAG)**, for highest thermal loads. The oils are characterized by their very high oxidation and aging stability, high viscosity index (shear stable) and excellent viscosity-temperature behavior. In addition, the oils have the highest load carrying capacity, low friction coefficients, high FZG value, high micro-pitting resistance, excellent FE8 performance and very good pitting resistance. The oils of the RENOLIN PG series exceed the minimum requirements for lubricating oils CLP-PG according to DIN 51517-3; ISO 6743-6 and ISO 12925-1: CKC, CKD, CKE, CKSMP, CSPG, CTPG. Approvals from renowned gear manufacturers are available.

### RENOLIN UNISYN XT SERIES

**Fully synthetic high-performance industrial gear oils based on PAO (polyalphaolefins)** of the latest generation. The gear oils have a very high, natural, shear-stable viscosity index and excellent low-temperature behaviour. Other advantages include excellent wear protection, high micropitting resistance and very good corrosion protection. The products of the RENOLIN UNISYN XT range meet or exceed the requirements for industrial gear oils according to DIN 51517-3: CLP, ISO 6743-6 and ISO 12925-1: CKC, CKD, CKE, CKSMP as well as AGMA 9005/E02: EP. The industrial gear oils of the RENOLIN UNISYN XT series are approved by well-known gear manufacturers.

### RENOLIN ZAF B HT SERIES

The RENOLIN ZAF B HT range excels through high thermal and oxidative resistance and excellent wear-protection characteristics. In combination with selected mineral oil-based solvent raffinates, the innovative zinc-free and ash-free additive technology guarantees excellent hydraulic and gear oil properties.

### RENOLIN ZAF D HT PLUS

**Universal zinc- and ash-free, detergent hydraulic oil and industrial gear oil** with excellent aging stability and very high wear protection. Based on the latest low-sulfur and hydrogenated base oil generation and innovative additive technology. The hydraulic oil meets and exceeds the minimum requirements for hydraulic oils according to DIN 51524-2: HLPD, ISO 6743-4: HM and for gear oils acc. to DIN 51517-3: CLP and ISO 6743-6: CKC.

Application when Brugger value:  $\geq 30\text{N/mm}^2$  is required.



## Greases

### RENOLIT LX SERIES

This **multi-purpose grease is based on the GII base oil generation and the latest additive technology**. With the new, improved formulation of RENOLIT LX 2, the range of applications is very broad: The grease is particularly suitable for use in rolling bearings, electric motor bearings, clutch release bearings of e.g. crane vehicles, construction machinery, forging presses, commercial vehicle wheel bearings and machine tools. The grease is water-resistant, ageing-resistant, thermally and mechanically highly stressable, stable in operation and is further characterized by good corrosion protection.

## Cutting fluids

### ECOCOOL AFC 1515

This innovative, boron-free, water-miscible cutting fluids can be used universally and is particularly suitable for **cutting and finishing steel and all common aluminum alloys**. ECOCOOL AFC 1515 is a robust all-round product for multifunctional applications and alloys with many strengths: it offers high surface quality, good wetting properties, good washing properties for clean machines as well as low foaming, good filterability and low mist formation. Especially for metal processing in the automotive and automotive supplier industry, ECOCOOL AFC 1515 is the product of choice.

### ECOCOOL GLOBAL 10

With the cutting fluid ECOCOOL GLOBAL 10, we have succeeded in catering to the various requirements and release specifications within the **aerospace industry**. The product, developed specifically for **machining aluminum and titanium alloys**, complies with legislation in 19 leading aerospace countries. It is free from DEA, TEA, DCHA, chlorine, formaldehyde, silicone and boron and is highly resistant to microbiological contamination. In addition to this, it boasts excellent hard water stability, does not tend to form foam and is also designed for use with very soft water. The cutting fluid has passed comprehensive laboratory tests in line with the machining protocols of leading aerospace companies and was able to confirm the high expectations of international customers in many field tests.

## Corrosion preventives

### ANTICORIT BGI SERIES

In addition to the oily protective film, this series of corrosion protection oils also offers additional vapor phase corrosion protection (VCI, Vapor Corrosion Inhibitors). This also protects surfaces that have not been completely wetted. The products of the ANTICORIT BGI range are one of the **standard preservatives of leading European bearing manufacturers** and are available in various viscosity settings. The products are easy and versatile to use and SVHC-free.

### ANTICORIT CPX®

With its ANTICORIT CPX® range, FUCHS has developed a new formulation category for **long-term corrosion protection** (10 years). This new wax system guarantees controlled runoff inhibition, both at increased temperatures and at normal ambient temperatures, without compromising penetration into gaps and flanges. It also easy to remove. Individual parameters – such as drying time, run-off tendency, period of corrosion protection and film flexibility – can be customized according to customer requirements. CPX® technology is extremely versatile and suitable for a whole host of different applications, whether cavity protection, long-term warehousing or transport protection.

### ANTICORIT DF SERIES

The products of the ANTICORIT DF series are characterized by their **simple and versatile applicability**. The protective films formed are very thin and can be oily or waxy, depending on the product type. The formulation of the products in the ANTICORIT DF range enables **rapid and intensive water displacement** and clear phase separation between water and product. All products are generally very compatible with common re-lubricants, therefore rarely / no removal of the protective film is necessary before shoring. The worldwide uniform formulation and availability is another advantage of this product group.

# INDUSTRIAL OILS

Many processes in the industry work perfectly only with specially tailored lubricant solutions.

For example, in the transmission of energy by pressure media (hydraulic fluids), in the gearing of driving forces (gear oils), in the power generation in power plants (turbine oils), at refrigeration (refrigeration oils) or compressed air production (air compressor oils) the respective industrial oils have a significant task.

In addition, FUCHS industrial lubricants can make a significant contribution to a improved productivity in many other applications. They can increase efficiency significantly and reduce energy consumption and associated CO<sub>2</sub> emissions.

Low Varnish turbine oils e.g. ensure trouble-free operation of power plants. Refrigeration oils adjusted to environmentally neutral refrigerants improve the environmental balance in the cold chain. Rapidly biodegradable lubricants are a powerful alternative to hydrocarbon-based lubricants.





## Industrial Oils

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## Industrial Oils
















Product name	Description	Density at 15 °C kg/m <sup>3</sup>	Flash point Clev. °C	Kin. visc. at 40 °C mm <sup>2</sup> /s	Kin. visc. at 100 °C mm <sup>2</sup> /s	VI	Pour-point °C	Main application area
<b>Machine Oils: AR</b>								
<b>RENOLIN AR 22</b> ■	General lubricating oil based on mineral oil. Exceeds the requirements of L-AN lubricating oils according to DIN 51501.  AR 22: AN 150	888	240	150	14.6	96	-12	For lubrication systems without special requirements regarding ageing resistance, cold temperature behaviour, etc. Oil temperature should not exceed 70 °C. Lowest inlet temperature of the oil should be 5 °C above the pourpoint. For bearings and gearboxes at high loads but with low sliding speeds (below 10 m/s)

# RENOLIN

Product name	Description	Density at 15 °C kg/m <sup>3</sup>	Flash point Clev. °C	Kin. visc. at 40 °C mm <sup>2</sup> /s	Kin. visc. at 100 °C mm <sup>2</sup> /s	VI	Pour-point °C	Main application area
<b>Demulsifying Circulating, Spindle and Hydraulic Oils: HL / CL</b>								
<b>RENOLIN DTA 2</b> 	<b>Range RENOLIN DTA</b> Hydraulic and lubrication oils based on selected mineral base oils with additives to improve ageing stability and corrosion protection.  All RENOLIN DTA products are DIN 51524-1: HL hydraulic oils and DIN 51517-2: CL circulating oils based on mineral oil, demulsifying (water-separation), zinc-free.  ISO 6743-4: HL, ISO 6743-6 and ISO 12925-1: CKB.	805	100*	2.2	–	–	-27	For thermally-stressed bearings, gears and hydraulic systems with peak temperatures up to 120 °C. Lubrication oils without AW/EP additives.
<b>RENOLIN DTA 5</b> 		830	120	4.6	1.6	106	-40	
<b>RENOLIN DTA 10</b>  		849	174	10	2.6	92	-27	
<b>RENOLIN DTA 22</b> 		865	210	22	4.2	94	-27	VOITH Turbo couplings type T and S.
<b>RENOLIN DTA 32</b>   		874	222	32	5.4	102	-24	Suitable for Landis Lund machine tools, recommended for spindle lubrication (without AW/EP).  Demulsifying type
<b>RENOLIN DTA 46</b>  		874	228	46	6.8	101	-24	
<b>RENOLIN DTA 68</b> 		882	250	68	8.7	99	-18	
<b>RENOLIN DTA 100</b> 		881	248	100	11.2	97	-18	
<b>RENOLIN DTA 150</b>  		889	266	150	15.5	94	-15	
<b>RENOLIN DTA 220</b> 		893	280	220	18.8	95	-12	
<b>RENOLIN DTA 320</b> 		898	280	320	24.0	95	-12	





















\* Measured acc. to Pensky Martens (Flashpoint P.M.)

## Industrial Oils












Product name	Description	Density at 15 °C kg/m <sup>3</sup>	Flash point Clev. °C	Kin. visc. at 40 °C mm <sup>2</sup> /s	Kin. visc. at 100 °C mm <sup>2</sup> /s	VI	Pour-point °C	Main application area
<b>Zinc-containing Hydraulic Oils</b>								
<b>RENOLIN B 3</b> 	<b>Range RENOLIN B</b> Lubrication and hydraulic oils with additives to improve the ageing and oxidation stability. Good wear protection, demulsifying (good water separation), good air release properties, zinc-containing AW/EP additive system.  The RENOLIN B range meets and surpasses the minimum requirements of hydraulic oils acc. to DIN 51524-2: HLP ISO 6743-4: HM  B 3: HLP 10 B 5: HLP 22 B 10: HLP 32 B 15: HLP 46 B 20: HLP 68 B 30: HLP 100	850	178	10	2.6	95	-42	Universal applicable hydraulic fluids if good ageing resistance, good wear protection and demulsifying properties are required.
<b>RENOLIN B 5</b> 		863	200	22	4.4	107	-27	Universal hydraulic fluids; synergistic acting and robust additives ensure good wear protection in stationary and mobile hydraulic systems, even at high load and high temperature.
<b>RENOLIN B 10</b> 		876	205	32	5.5	109	-24	Approvals: Denison HF0, HF1, HF2
<b>RENOLIN B 15</b> 		875	210	46	6.9	105	-24	Demulsifying type
<b>RENOLIN B 20</b> 		881	224	68	8.8	100	-24	
<b>RENOLIN B 30</b> 		883	232	100	11.1	96	-18	
<b>RENOLIN B 10 PLUS</b> 	<b>Range RENOLIN B PLUS</b> Lubrication an hydraulic oils, based on high-quality, hydrated base oils (Group II). Contains additives for excellent ageing and oxidation stability, the zinc-containing AW/EP additive system protects against wear at high pressure and load. Extended oil drain intervals are possible.  Hydraulic oils according to DIN 51524-2: HLP and ISO 6743-4: HM.	840	170	10	2.7	104	-54	Suitable for all hydraulic systems especially if an approval according to Bosch Rexroth RDE 90235/ RDE 90245 is required. Group II base oil (Hydrogenated base oils), for HP-high-pressure application.
<b>RENOLIN B 15 PLUS</b> 		840	195	15	3.5	108	-48	Demulsifying type
<b>RENOLIN B 22 PLUS</b> 		845	220	22	4.4	108	-45	Approvals: Denison HF0, HF1, HF2 Bosch Rexroth RDE 90245
<b>RENOLIN B 32 PLUS</b> 		862	220	32	5.5	108	-39	
<b>RENOLIN B 46 PLUS</b> 		865	230	46	6.94	107	-36	
<b>RENOLIN B 68 PLUS</b> 		867	230	68	9.0	108	-33	
<b>RENOLIN B 100 PLUS</b> 		870	270	100	11.6	104	-33	





















# RENOLIN

Product name	Description	Density at 15 °C kg/m <sup>3</sup>	Flash point Clev. °C	Kin. visc. at 40 °C mm <sup>2</sup> /s	Kin. visc. at 100 °C mm <sup>2</sup> /s	VI	Pour-point °C	Main application area
<b>Zinc-containing Hydraulic Oils</b>								
<b>RENOLIN B 15 HVI</b> 	<b>Range RENOLIN B HVI</b> Hydraulic and lubricating oils (machine oils) with a high viscosity index and additives to improve ageing stability, corrosion protection and wear protection. The products of the RENOLIN B HVI range are HVLP hydraulic and circulating oils according to DIN 51524-3, mineral oil based, demulsifying and zinc-containing AW/EP additives. DIN 51524-3: HVLP ISO 6743-4: HV ISO 11158: HV Denison HF0, HF1, HF2	859	180	15	3.8	151	-45	RENOLIN B HVI oils are suitable for all hydraulic systems, especially when a high viscosity index is required, reduced viscosity during cold start-up, high viscosity at operating temperature. High VI provides multigrade characteristics. Energy saving through high volumetric efficiency. Demulsifying type  Approval: Denison HF0, HF1, HF2
<b>RENOLIN B 32 HVI</b>   		871	178	32	6.3	152	-48	
<b>RENOLIN B 46 HVI</b>   		879	186	46	8.1	150	-45	
<b>RENOLIN B 68 HVI</b>   		868	240	68	11.0	154	-36	
<b>RENOLIN B 10 HVI Plus</b> 	<b>Range RENOLIN B HVI Plus</b> Hydraulic and lubricating oils based on highquality hydrated base oils (Group II). High viscosity index and excellent shear stability, in combination with extraordinary oxidation stability, effects in long lifetime. High wear protection by using zinc-containing AW/EP additives, demulsifying.  DIN 51524-3: HVLP ISO 6743-4: HV ISO 11158: HV Denison HF0, HF1, HF2	837	170	10	3.0	171	-63	RENOLIN B HVI Plus oils are suitable for all stationary and mobile hydraulic systems when a high viscosity index and low cold-temperature viscosity is required. Extended oil change interval possible. High pressure applications are possible due to excellent AW/EP additive system.  Approval: Denison HF0, HF1, HF2
<b>RENOLIN B 15 HVI Plus</b> 		844	190	15	3.8	148	-57	
<b>RENOLIN B 22 HVI Plus</b> 		845	210	22	4.9	152	-48	
<b>RENOLIN B 32 HVI Plus</b>  		846	230	32	6.3	151	-42	
<b>RENOLIN B 46 HVI Plus</b>  		856	240	46	8.2	152	-42	
<b>RENOLIN B 68 HVI Plus</b> 		854	260	66,5	10.8	153	-33	
<b>RENOLIN B 100 HVI Plus</b> 		867	260	102	14.0	140	-36	
<b>RENOLIN B 150 HVI Plus</b> 		876	260	151	18.0	132	-33	













## Industrial Oils

Product name	Description	Density at 15 °C kg/m <sup>3</sup>	Flash point Clev. °C	Kin. visc. at 40 °C mm <sup>2</sup> /s	Kin. visc. at 100 °C mm <sup>2</sup> /s	VI	Pour-point °C	Main application area
<b>Zinc-containing Hydraulic Oils</b>								
<b>RENOLIN D 7 PLUS</b> 	<b>Range RENOLIN D Plus</b> Hydraulic oils with detergent properties and additives based on highquality hydrated base oils (Group II) to improve ageing resistance, corrosion protection and wear protection. Zinc-containing AW/EP additive systems, good viscosity-temperature behaviour. Hydrotreated base oils offer excellent oxidation stability.	832	176	6,8	2.1	106	-60	RENOLIN D Plus hydraulic oils can be used in hydraulic and circulating systems - excellent oxidation stability enables reliable operation even at high temperatures and thermal stress. DD-properties avoid deposits and sludge, free water is avoided by emulsifying properties, this protects components of corrosion.
<b>RENOLIN D 22 PLUS</b> 		854	218	22	4.3	106	-42	
<b>RENOLIN D 32 PLUS</b> 		861	236	32	5.5	108	-39	
<b>RENOLIN D 46 PLUS</b> 		866	252	46	6.9	106	-36	
<b>RENOLIN D 68 PLUS</b> 		869	258	68	9.0	105	-36	
<b>RENOLIN D 22 HVI PLUS</b> 	<b>Range RENOLIN D HVI Plus</b> Detergent multigrade hydraulic oils based on highquality hydrated base oils (Group II). Zinc-containing AW/EP additive system offers excellent wear protection. Good shear-stability, excellent oxidation stability and additives to improve ageing resistance offer long lifetime. DIN 51524-3: HVLP-D ISO 6743-4: HM (with DD properties)	847	210	22	4.9	150	-48	RENOLIN D HVI Plus can be used in stationary and mobile hydraulic equipment like machine tools or excavators. The high viscosity index and good cold-temperature behaviour offers advantages at changing environmental conditions.
<b>RENOLIN D 32 HVI PLUS</b> 		850	230	32	6.3	150	-42	
<b>RENOLIN D 46 HVI PLUS</b>   		858	238	46	8.2	150	-42	Hydraulic fluid with good DD-properties
<b>RENOLIN D 68 HVI PLUS</b> 		858	254	68	10.7	145	-39	

# RENOLIN

















Product name	Description	Density at 15 °C kg/m <sup>3</sup>	Flash point Clev. °C	Kin. visc. at 40 °C mm <sup>2</sup> /s	Kin. visc. at 100 °C mm <sup>2</sup> /s	VI	Pour-point °C	Main application area
<b>Zinc-containing Hydraulic Oils</b>								
<b>RENOLIN XtremeTemp 32</b>   	<b>Range RENOLIN XtremeTemp</b> Universal, high-performance hydraulic oils with high viscosity index and excellent shear stability (VI ≥ 180). Based on special hydrogenated base oils, very good ageing behaviour, long lifetime, excellent corrosion protection and very good zinc-containing wear protection for high pressure - good demulsifying properties.  Fulfil and surpass: DIN 51524-3: HVLP ISO 6743-4: HV ISO 11158: HV	845	216	32	6.9	180	-33	Universal high-performance multigrade hydraulic oils for stationary and mobile hydraulic systems, improved efficiency, increasing oil change intervals. Multigrade characteristics through high, shear-stable viscosity index. Energy and fuel saving through high volumetric efficiency.  Approvals: Denison HF0, HF1, HF2 Bosch Rexroth RD90235 and RDE90245
<b>RENOLIN XtremeTemp 46</b>    		853	230	48	9.3	180	-34	
<b>RENOLIN XtremeTemp 32 Plus</b>  	<b>Range RENOLIN XtremeTemp Plus</b> As RENOLIN XtremeTemp, but with additives which help to avoid stick-slip phenomena. For high-pressure applications; reduce friction especially in mixed friction conditions.  DIN 51524-3: HVLP(D) ISO 6743-4: HV ISO 11158: HV	861	216	32	6.9	183	-33	Slightly detergent, HVLP (D) high performance multigrade hydraulic oils for stationary and mobile hydraulic systems surpass HVLPD according to DIN 51524-3, wide temperature window, excellent shear stability. Help to avoid stick-slip problems, especially at low speed and high load. Energy and fuel saving through high volumetric efficiency.
<b>RENOLIN XtremeTemp 46 Plus</b>    		855	234	48	9.3	181	-34	
<b>RENOLIN LIFT 22</b>  	<b>Range RENOLIN LIFT</b> Special detergent type of hydraulic oils for elevators, hydraulic conveyors and fork lifters. Reliably prevents stick-slip, especially at high loads and low speeds.  Zinc-containing; fulfil and surpass requirements according to: DIN 51524-2: HLPD ISO 11158: HM ISO 6743-4: HM/HG	869	210	22	4.3	100	-30	Fork lifters, elevators, hydraulic transport mechanisms, stationary and mobile hydraulics. Protection against stick-slip.
<b>RENOLIN LIFT 32</b>  		877	210	32	5.3	96	-30	
<b>RENOLIN LIFT 46</b> 		881	210	46	6.8	101	-27	

## Industrial Oils






























Product name	Description	Density at 15 °C kg/m <sup>3</sup>	Flash point Clev. °C	Kin. visc. at 40 °C mm <sup>2</sup> /s	Kin. visc. at 100 °C mm <sup>2</sup> /s	VI	Pour-point °C	Main application area
<b>Zinc-containing Hydraulic Oils</b>								
<b>RENOLIN MR 0 VG 2</b> 	<b>Range RENOLIN MR</b> RENOLIN MR products are special HLPD lubricating and hydraulic fluids according to DIN 51502 with outstanding corrosion protection and powerful cleaning and dirt carrying capacity. Zinc-containing, detergent and dispersant. RENOLIN MR oils are used in many hydraulic systems as problem solvers, especially when standard oils cannot fulfil all requirements. Excellent oxidation stability based on highquality hydrated base oils (Group II).  RENOLIN MR oils fulfil and surpass the requirements for hydraulic oils according to: DIN 51524-2: HLPD ISO 6743-4: HM with high DD-performance	823	75	2,2	–	–	-54	<u>RENOLIN MR 0, 1 and 3:</u> For machine tool spindles and roller bearing spindles in the textile industry.
<b>RENOLIN MR 1 VG 5</b> 		834	135	4,6	1.7	–	-54	
<b>RENOLIN MR 3 VG 10</b> 		840	170	10	2.7	106	-54	
<b>RENOLIN MR 5 VG 22</b> 		846	210	22	4.5	118	-45	<u>RENOLIN MR 5, 10, 15 and 20:</u> Universal hydraulic oils with outstanding corrosion protection up to continuous temperatures of 100 °C. For smaller gear boxes, in particular with electrical multi-plate clutches.  High DD performance
<b>RENOLIN MR 10 VG 32</b> 		866	220	32	5.5	109	-39	
<b>RENOLIN MR 15 VG 46</b> 		868	230	46	7.0	107	-36	
<b>RENOLIN MR 20 VG 68</b> 		871	230	68	9.0	107	-33	
<b>RENOLIN MR 30 VG 100</b> 		874	270	100	11.6	104	-33	
<b>RENOLIN MR 40 VG 150</b> 		881	280	150	15.1	101	-18	
<b>RENOLIN MR 310</b> 	Hydraulic and lubricating oils with extremely high viscosity index as well as outstanding cleaning properties and sludge carrying capacity. HVLPD according to DIN 51502 together with DIN 51524-HVLPD ISO 6743-4: HV	855	118	15	5.4	360	-48	<u>MR 310, 520 and 1030:</u> For all hydraulic systems which are subject to a wide temperature range or which are operated outdoors, e.g. in flood gates, for machines in low temperature environments.
<b>RENOLIN MR 520</b> 		886	154	32	8.0	270	-57	
<b>RENOLIN MR 1030</b> 		873	214	68	11.0	154	-36	













# RENOLIN

Product name	Description	Density at 15 °C kg/m <sup>3</sup>	Flash point Clev. °C	Kin. visc. at 40 °C mm <sup>2</sup> /s	Kin. visc. at 100 °C mm <sup>2</sup> /s	VI	Pour-point °C	Main application area
<b>Zinc-containing Hydraulic Oils</b>								
<b>RENOLIN MR 22 MC</b>   	<b>Range RENOLIN MR MC</b> Universal lubricating and hydraulic oils based on MC base oils with high viscosity index (shear-stable). Excellent oxidation stability, outstanding cleaning properties and sludge carrying capacity. Fulfils and surpasses the requirements acc. to: DIN 51524-3: HVLDP ISO 6743-4: HV (with dd-properties)	847	210	22	4.9	150	-48	Same application as for RENOLIN MR in addition to those which require oils with high viscosity index. Allow oil change intervals to be extended and grades to be rationalized. Multigrade characteristics. Very wide operating temperature window. Energy saving through high volumetric efficiency. <b>MC base oils = hydrotreated base oils (Group III)</b>
<b>RENOLIN MR 32 MC</b>    		848	230	32	6.3	150	-45	
<b>RENOLIN MR 46 MC</b>    		854	240	46	8.1	150	-42	
<b>RENOLIN MR 68 MC</b>   		856	260	68	10.9	150	-39	
<b>RENOLIN MRX 46</b>  	Selected, and high quality special refined oil with additives to maximize ageing protection, reduce wear and friction. High detergent and sludge carrying capacity; excellent protection against corrosion: MRX 46: HLPD 46	884	232	46	6.9	103	-24	The RENOLIN MRX 46 hydraulic and lubricating oil is especially recommended for systems which are exposed to a high risk of dust/ dirt or water contamination, e.g. for mobile hydraulic systems, for running-in procedures or in agriculture and forestry applications.
<b>RENOLIN FF 68 Spindelöl</b> Packages on request	Ultra-pure and fine-filtrated lubrication oil for tool spindles - formulated on special partly synthetic base oils. A very high and shear stable viscosity index guarantees a stable lubricant film, even at high temperatures.  The complex filtration process effects a very good cleanliness of 15/13/10 acc.to ISO 4406.  Very good detergent and dispersant properties.  Fulfils and surpasses: DIN 51524-3: HVLP-D ISO 6743-4: HV (with DD properties)	870	253	68	11.2	157	-42	For lubrication of tool spindles. High dirt carrying property prevents from sludge and varnish, partly synthetic base oils guarantee very good oxidation and ageing stability.









## Industrial Oils

Product name	Description	Density at 15 °C kg/m <sup>3</sup>	Flash point Clev. °C	Kin. visc. at 40 °C mm <sup>2</sup> /s	Kin. visc. at 100 °C mm <sup>2</sup> /s	VI	Pour-point °C	Main application area
<b>Zinc- and Ash-free Hydraulic Oils (ZAF)</b>								
<b>RENOLIN MWB 46</b> 	Selected solvent base oil with additives to improve oxidation and ageing resistance. Excellent corrosion and wear protection, good load carrying capacity and low friction. High performance reserves. Zinc-free AW/EP additive system Fulfills and surpasses requirements acc. to: DIN 51524-2: HLPD ISO 6743-4: HM	882	218	46	6.9	105	-24	Heavy-duty HLPD hydraulic and circulating oil (CLP) for all highly stressed hydraulics. Excellent wear protection. High load carrying capacity. High load capacity according to Bruggen of ≥50 N/mm <sup>2</sup> , e.g. hydraulic presses in the automotive industry.
<b>RENOLIN ZAF B 10 HT</b> 	<b>Range RENOLIN ZAF B HT</b> Zinc- and ash-free, demulsifying hydraulic and gear oils with good ageing stability and oxidation resistance. Excellent wear protection for gears (FZG > 12) and roller bearings. High corrosion protection, even in the presence of water, excellent non-ferrous metal compatibility. Fulfills and surpasses requirements acc. to: DIN 51524-2: HLP ISO 6743-4: HM DIN 51517-3: CLP ISO 6743-6: CKC DBL 6713-13: HLP	848	170	10	2.7	100	<-54	Demulsifying, zinc- and ash-free HLP hydraulic and CLP lubricating oils with good ageing resistance for all hydraulic systems, hydraulic presses or machine tools. Bruggen ≥ 30N/mm <sup>2</sup>
<b>RENOLIN ZAF B 22 HT</b> 		863	210	22	4.4	106	-33	
<b>RENOLIN ZAF B 32 HT</b>    		875	220	32	5.4	96	-33	
<b>RENOLIN ZAF B 46 HT</b>    		876	230	46	6.8	101	-24	
<b>RENOLIN ZAF B 68 HT</b>   		882	242	68	8.8	100	-21	
<b>RENOLIN ZAF B 100 HT</b> 		882	240	100	11.3	99	-18	
<b>RENOLIN ZAF D 22 HT</b>  	<b>Range RENOLIN ZAF D HT</b> Zinc- and ash-free lubricating and hydraulic oils with detergent and dispersant properties. Good ageing resistance, excellent wear protection and oxidation stability, good air release properties. Fulfil and surpass requirements acc. to: DIN 51524-2: HLPD ISO 6743-4: HM DIN 51517-3: CLP(D) ISO 6743-6: CKC	860	206	22	4.3	103	-33	Detergent, zinc- and ash-free hydraulic HLPD and lubrication oils (CLP) for all hydraulic drives even if thermally stressed. Also suitable for use as CLP lubricating oil. Bruggen ≥ 30N/mm <sup>2</sup>
<b>RENOLIN ZAF D 32 HT</b>    		870	220	32	5.3	97	-33	
<b>RENOLIN ZAF D 46 HT</b>    		880	230	46	6.8	100	-27	
<b>RENOLIN ZAF D 68 HT</b>    		880	>230	68	8.8	100	-27	

# RENOLIN




Product name	Description	Density at 15 °C kg/m <sup>3</sup>	Flash point Clev. °C	Kin. visc. at 40 °C mm <sup>2</sup> /s	Kin. visc. at 100 °C mm <sup>2</sup> /s	VI	Pour-point °C	Main application area
<b>Zinc- and Ash-free Hydraulic Oils (ZAF)</b>								
<b>RENOLIN ZAF D 46 HT PLUS</b> 	Universal zinc- and ash-free hydraulic fluid and lubricating oil, excellent ageing stability and high wear protection. Provides high deterging and dispersing properties. Fulfils and surpasses the requirements according to DIN 51524-2: HLPD ISO 6743-4: HM DIN 51517-3: CLP ISO 6743-6: CKC	866	230	46	6.9	106	-39	Detergent zinc- and ash-free hydraulic oils <b>based on hydro-treated group II base oils</b> with improved oxidation stability at high thermal stresses, for hydraulic presses.  Brugger $\geq 30$ N/mm <sup>2</sup>  Extended lifetime, excellent air release, detergent/dispersant type
<b>RENOLIN ZAF D 46 White</b> Packages on request	Universal zinc- and ash-free detergent type of hydraulic fluid and industrial gear oil, excellent ageing stability, very high wear protection, latest base oil generation, hydrotreated base oils and low sulphur content. Fulfils and surpasses requirements according to: DIN 51524-2: HLPD ISO 6743-4: HM (with DD-properties)	865	>230	46	6.9	106	-39	Excellent for all applications in mobile and stationary hydraulic systems, recommended according to DIN 51524-2 (HLP).  Based on hydrotreated group II base oils, <b>"non-discoloration oil"</b> .
<b>RENOLIN ZAF 5 DT</b> 	<b>Range RENOLIN ZAF DT</b> Selected solvent extracts with special additives to improve corrosion protection and wear protection. High load carrying capacity acc. to Brugger. Detergent and dispersant. Fulfil and surpass DIN 51524-2: HLPD ISO 6743-4: HM (with dd-properties) DIN 51517-3: CLP(D) ISO 6743-6: CKC (with dd-properties)	838	116	5	1.7	99	-40	Heavy-duty hydraulic and circulating oils with outstanding detergent and dispersant properties. Very good ageing resistance, good corrosion protection and excellent load carrying capacity.  Daimler DBL 6721 for machine tools  Brugger value $\geq 50$ N/mm <sup>2</sup>
<b>RENOLIN ZAF 10 DT</b> 		848	154	10	2.7	108	-30	
<b>RENOLIN ZAF 15 DT</b> 		865	190	15	3.3	86	-27	
<b>RENOLIN ZAF 22 DT</b> 		866	198	22	4.4	109	-27	
<b>RENOLIN ZAF 32 DT</b> 		876	210	32	5.4	102	-24	
<b>RENOLIN ZAF 46 DT</b> 		876	218	46	6.8	101	-24	
<b>RENOLIN ZAF 68 DT</b> 		879	224	68	8.9	104	-18	
<b>RENOLIN ZAF 100 DT</b> 		882	220	100	11.3	99	-18	
<b>RENOLIN ZAF 150 DT</b> 		887	222	150	14.6	96	-15	

## Industrial Oils







Product name	Description	Density at 15 °C kg/m <sup>3</sup>	Flash point Clev. °C	Kin. visc. at 40 °C mm <sup>2</sup> /s	Kin. visc. at 100 °C mm <sup>2</sup> /s	VI	Pour-point °C	Main application area
<b>Zinc- and Ash-free Hydraulic Oils (ZAF)</b>								
<b>RENOLIN ZAF 32 MC</b> 	<b>Range RENOLIN ZAF MC</b> Lubricating and hydraulic oils based on group III base oils with selected additives. Very good oxidation and ageing stability, very good corrosion protection and high wear protection. High viscosity index (shear stable).	840	220	32	6.3	149	-45	Shear stable, zinc- and ash-free hydraulic and circulating oils with high viscosity index. <b>Based on MC hydrotreated group III base oils.</b> Oil drain intervals might be extended and grades can be rationalized (multigrade characteristics). Energy saving through high efficiency. Denison HFO approval Bosch Rexroth approval RDE 90245 and RD 90235
<b>RENOLIN ZAF 46 MC</b> 	Fulfil and surpass DIN 51524-3: HVLP ISO 6743-4: HV DIN 51517-3: CLP ISO 6743-6: CKC DBL 6713: HLP, HVLP	843	238	46	8.0	148	-45	
<b>RENOLIN ZAF 68 MC</b> 		854	238	68	10.6	146	-42	
<b>RENOLIN ZAF 520</b> 	Zinc- and ash-free special hydraulic and lubricating oil with extreme high viscosity index. Thus very good viscosity-temperature behaviour. Fulfils and surpasses DIN 51524-3: HVLP; ISO 6743-4: HV (detergent)	856	160	33	9.2	277	-48	For all hydraulic systems with high temperature variations also for low-temperature applications.
<b>RENOLIN ZAF 15 LT</b> 	<b>Range RENOLIN ZAF LT</b> Zinc- and ash-free hydraulic oils with very high viscosity index for low-temperature applications. Demulsifying with additives to improve ageing stability and corrosion protection. Surpass the requirements of DIN 51524-3: HVLP; ISO 6743-4: HV	873	>90	14	5.3	387	<-60	Developed for the use in applications with very low ambient temperatures in mobile and stationary equipment; latest additive technology. (ZAF) Demulsifying type. Kinematic viscosity at -40 °C: - RENOLIN ZAF 15 LT = 2380 mm <sup>2</sup> /s - RENOLIN ZAF 32 LT = 4850 mm <sup>2</sup> /s
<b>RENOLIN ZAF 32 LT</b> 		853	135	32	9.5	300	<-54	
<b>RENOLIN ZAF 32 XHV</b> 	Newly designed zinc- and ash-free hydraulic oil with very high shear stable viscosity index, which allows outstanding low-temperature properties. Demulsifying, with additives for an excellent compatibility with non-ferrous metals and a high wear protection. Fulfils the requirements according to DIN 51524-3: HVLP and ISO 6743-4: HV (with exception of the flashpoint).	853	135	32	9.5	300	≤-51	Developed for applications which require a very good flow behavior also at low temperatures.  Kinematic viscosity at -40 °C = 2150 mm <sup>2</sup> /s
<b>RENOLIN HighPress 46 DLC</b> 	Zinc- and ash-free high performance EP hydraulic oil for Ortlinghaus lamellar clutch systems (hydraulic presses). Excellent detergent and dispersant properties, very good wear protection (FZG failure load stage 12 / Bruggen value 50 N/mm <sup>2</sup> ). Fulfils and surpasses the requirements on hydraulic oils acc. to DIN 51524-2: HLPD ISO 6743-4: HM (with dd-properties)	877	212	46	6.8	100	–	Especially suitable for the use in systems with Ortlinghaus lamellar clutches. Defined friction coefficients are proved in use (static and dynamic).  Müller Weingarten DT 55005 Ortlinghaus lamellar clutches ON 9.2.19  Also suitable for the use in circulation and bearing lubrication in all hydraulic presses.



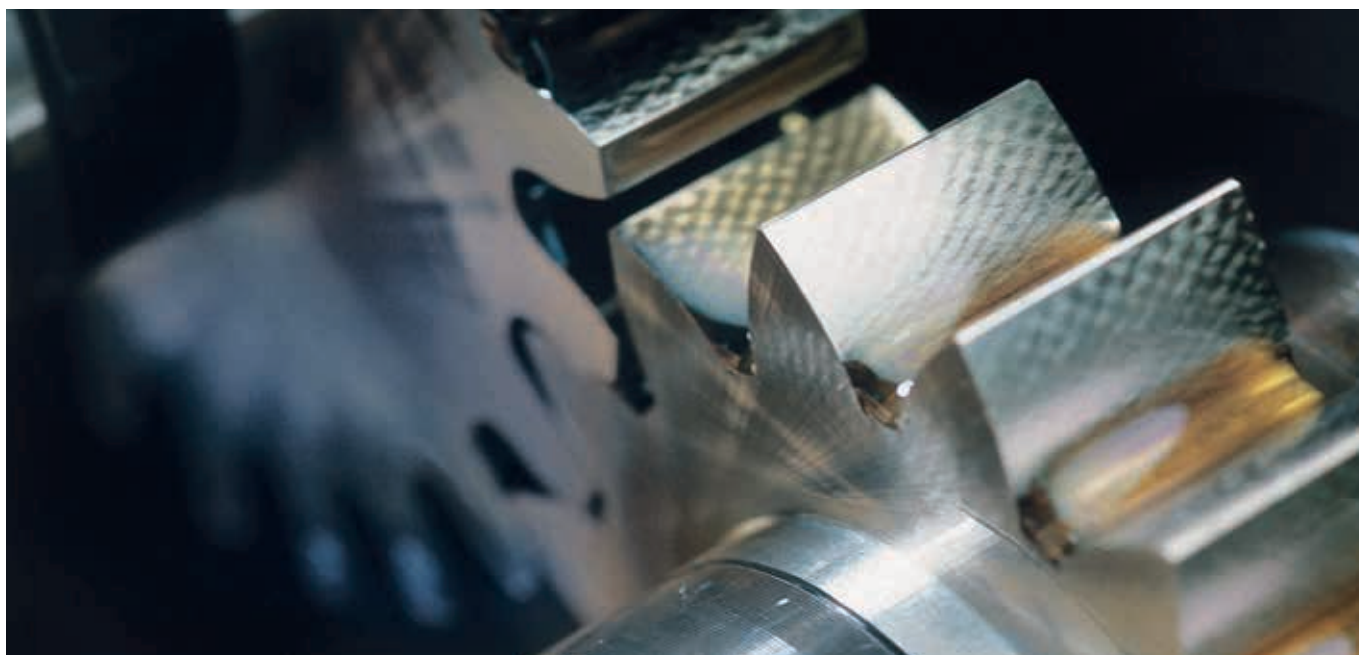
# RENOLIN

Product name	Description	Density at 15 °C kg/m <sup>3</sup>	Flash point Clev. °C	Kin. visc. at 40 °C mm <sup>2</sup> /s	Kin. visc. at 100 °C mm <sup>2</sup> /s	VI	Pour-point °C	Main application area
<b>Zinc- and Ash-free Hydraulic Oils (ZAF)</b>								
<b>RENOLIN PG 32</b> 	<b>Range RENOLIN PG</b> Fully-synthetic hydraulic and lubricating oils based on polyglycols for highest requirements regarding thermal stability, high viscosity index. Not miscible or compatible with mineral oils, water-soluble, rapidly biodegradable acc. to OECD 301. Classification acc. to ISO 15380: PG 32: HEPG 32 PG 46: HEPG 46 Fulfil and surpass the requirements on hydraulic oils HVLP acc. to DIN 51524-3.	1022	220	32	7.1	194	-51	For highly loaded hydraulic and lubricating systems with extreme thermal load. Please consider change-over guidelines. Water-soluble PAG hydraulic oil, not miscible or compatible with mineral oils or PAO oils.
<b>RENOLIN PG 46</b>  		1024	240	46	9.7	203	-48	

## Industrial Oils




















Product name	Description	Density at 15 °C kg/m <sup>3</sup>	Flash point Clev. °C	Kin. visc. at 40 °C mm <sup>2</sup> /s	Kin. visc. at 100 °C mm <sup>2</sup> /s	VI	Pour-point °C	Main application area
<b>Fire-resistant Hydraulic Fluids</b>								
<b>HYDROTHERM 46 M</b> 	Based on water-glycol; tested and approved acc. to 6th and 7th Luxembourg report. Good wear protection, very good corrosion protection, extreme ageing resistance. HFC hydraulic oil acc. to DIN 51502: HFC and VDMA 24317: HFC, ISO 12922: HFC46.	1084	–	46	9.5	195	-42	For all hydraulic systems in fire hazard areas (mining, steel industry, aluminium industry, foundry, forging, glass industry). Suitable for all materials, paintings and elastomers which are resistant to water-glycol. Monoethylene-free and amine-free.
<b>HYDROTHERM 42 HFC</b> 	New developed HFC fluid, fire-resistant hydraulic fluid (according to ISO 12922), based on water-glycol with the latest additive technology. Excellent wear protection and superior air release properties in combination with very good corrosion protection. Fulfills and surpasses requirements on HFC fluids according to: DIN 51502: HFC ISO 12922: HFC VDMA 24317: HFC	1084	–	42	8.9	195	<-60	For hydraulic systems in fire hazard areas, if HFC fluids are required. Fulfills requirements according to 7th Luxembourg Report.
<b>RENOSAFE DU 46</b> 	Water-free fire-resistant fluid based on special esters. Voith-Turbo Approval, HFUD acc. to ISO 12922	922	>280	48	9.7	188	-36	Fire-resistant hydraulic fluid based on special organic esters - HFUD. Optimized for turbo couplings. Compatible with mineral oils. Compatibility with sealings, tubes and paintings has to be checked.
<b>RENOSAFE TURBO 46 HF</b> 	Water-free, fire-resistant, special, thermally stable phosphoric acid esters. Good demulsibility (water separation), low foaming tendency, high oxidation stability. ISO 12922: HFDR46	1150	>262	44.5	5.0	-36	-24	Hydraulic fluid in fire hazard areas. For electrohydraulic controlled oil circuits in steam turbines, bearing lubrication for steam- and gas turbines, phosphoric ester. New HFDR technology.
<b>RENOSAFE FireProtect 46</b> 	<b>Range RENOSAFE FireProtect</b> Water-free, fire-resistant hydraulic fluids based on latest ester and additive technology, type HFUD.	920	316	50	10.1	195	-48	For the use as fire-resistant hydraulic oils based on organic esters. Type HFUD for all hydraulic applications in fire hazard areas or glowing metal surfaces such as in die-casting machines, steel mills, continuous casting machines, hot rolling mills, coking plants and other mobile and stationary hydraulic systems, excellent lifetime, excellent yellow metal compatibility.
<b>RENOSAFE FireProtect 68</b> 	Highest oxidation and thermal stability, excellent non-ferrous metal compatibility, hydrolytic stability, very robust and reliable wear protection. Multigrade characteristics by high, shear stable viscosity index. Biodegradable acc. to OECD 301 B >60%. Surpass the requirements on HFUD oils acc. to ISO 12922.	932	316	70	12.9	187	-45	

# RENOLIN


















Product name	Description	Density at 15 °C kg/m <sup>3</sup>	Flash point Clev. °C	Kin. visc. at 40 °C mm <sup>2</sup> /s	Kin. visc. at 100 °C mm <sup>2</sup> /s	VI	Pour point °C	Main application area
<b>Gear and Circulating Oils</b>								
<b>RENOLIN CLP 68</b> 📦 🚰	<b>Range RENOLIN CLP</b> High-performance gear and circulating oils with good ageing stability and additives to improve corrosion protection (also combat steel and non-ferrous metal corrosion caused by moisture). Outstanding antiwear characteristics – good EP / AW performance, excellent scuffing, load carrying capacity and protection against micropitting, excellent FE8 roller bearing wear protection, good demulsifying properties, very good foaming behaviour, zinc and ash-free and silicone oil-free. RENOLIN CLP oils fulfil and exceed the minimum requirements of CLP industrial gear oils acc. to DIN 51517-3, ISO 6743-6 and ISO 12925-1: CKC, CKD, CKSMP. US Steel 224, David Brown S1.53.10.	883	>230	68	8.7	99	-24	Universally useable gear oils for industrial applications such as in bearings, joints, spur gears, bevel gears and worm gears and whenever the manufacturer recommends a mineral oil of type CLP.  Approved by leading gear box manufacturers.  <b>Mineral oil based</b> Demulsifying
<b>RENOLIN CLP 100</b> 📦 🚰 🚚		885	>230	100	11.3	99	-24	
<b>RENOLIN CLP 150</b> 📦 🚰 🚚		889	>230	150	14.5	96	-24	
<b>RENOLIN CLP 220</b> 📦 🚰 🚚		892	>240	220	18.9	96	-21	
<b>RENOLIN CLP 320</b> 📦 🚰 🚚		897	>240	320	24.0	95	-12	
<b>RENOLIN CLP 460</b> 📦 🚰 🚚		901	>240	460	30.4	95	-12	
<b>RENOLIN CLP 680</b> 📦 🚰 🚚		902	>240	680	40	97	-12	

## Industrial Oils

Product name	Description	Density at 15 °C kg/m <sup>3</sup>	Flash point Clev. °C	Kin. visc. at 40 °C mm <sup>2</sup> /s	Kin. visc. at 100 °C mm <sup>2</sup> /s	VI	Pour-point °C	Main application area
Gear and Circulating Oils								
<b>RENOLIN CLP 46 PLUS</b> 	<b>Range RENOLIN CLP PLUS</b> High-performance gear and circulating oils offering excellent wear protection, good EP performance and excellent corrosion protection. Carefully selected antioxidants guarantee good ageing stability. Special detergent/dispersant additives offer very good cleaning properties and dirt carrying capacity. RENOLIN CLP PLUS oils fulfil and surpass the minimum requirements on lubricating oils acc. to DIN 51517-3: CLPD, ISO 6743-6 and ISO 12925-1: CKC, CKD, CKSMP. RENOLIN CLP PLUS oils were developed especially for the extreme conditions (e.g. in surface mining).	882	200	46	6.8	102	-27	Special gear oils for highly stressed mechanical industrial gears, spur gears, double-spur gears, bevel gears and worm gears. Long-life oils (tested and approved for 30,000 hours in brown coal open pit mining conveyors/gears). Especially for use in severe conditions where dirt, dust and water contamination prevail.  Increased oxidation stability.  <b>Mineral oil based</b>
<b>RENOLIN CLP 68 PLUS</b>  		884	236	68	8.7	100	-27	
<b>RENOLIN CLP 100 PLUS</b>  		887	240	100	11.2	97	-24	
<b>RENOLIN CLP 150 PLUS</b> 		892	250	150	14.8	97	-24	
<b>RENOLIN CLP 220 PLUS</b>   		895	260	220	18.9	96	-24	
<b>RENOLIN CLP 320 PLUS</b>  		898	255	320	24.0	95	-18	
<b>RENOLIN CLP 460 PLUS</b> 		902	270	460	30.2	94	-14	
<b>RENOLIN CLP 680 PLUS</b>  		902	270	680	39.6	95	-17	
<b>RENOLIN AWD 68</b> 	<b>Range RENOLIN AWD</b> Special gear and circulating oils for highest requirements on wear protection. Special additives reduce friction and form reaction layers which offer excellent wear protection in extreme mixed friction and load conditions. Bruggen value (typical: >75 N/mm <sup>2</sup> ), excellent FE8 roller bearing wear protection, good dirt carrying capacity (detergent / dispersant), zinc and silicone oil-free, high additive reserves. The RENOLIN AWD series surpasses the minimum requirements on industrial gear oils CLPD acc. to DIN 51517-3, ISO 6743-6 and ISO 12925-1: CKC, CKD, CKSMP. Approved by leading press manufacturers.	882	221	68	8.9	105	-24	For highly-stressed industrial gear boxes and circulating systems, especially when good load carrying capacity in extreme mixed friction is required, e.g. press lines in the automotive industry.  <b>Mineral oil based</b>
<b>RENOLIN AWD 100</b> 		886	222	100	11.2	97	-24	
<b>RENOLIN AWD 150</b>  		894	208	150	14.6	96	-12	
<b>RENOLIN AWD 220</b> 		896	210	220	18.7	95	-12	


















# RENOLIN












Product name	Description	Density at 15 °C kg/m <sup>3</sup>	Flash point Clev. °C	Kin. visc. at 40 °C mm <sup>2</sup> /s	Kin. visc. at 100 °C mm <sup>2</sup> /s	VI	Pour-point °C	Main application area
<b>Fully Synthetic Gear and Circulating Oils</b>								
<b>RENOLIN PG 68</b> 	<b>Range RENOLIN PG</b> Fully synthetic gear and lubricating oils based on special polyalkylene glycols (PAG) for applications with extreme thermal loads. Very high oxidation and ageing stability, high viscosity index (shear stable), good viscosity-temperature behaviour, excellent load carrying capacity, low friction coefficients, high FZG, very good pitting and high micropitting resistance, excellent FE8 performance.  The oils of the RENOLIN PG series surpass the minimum requirements of CLP-PG lubricating oils acc. to DIN 51517-3, ISO 6743-6 and ISO 12925-1: CKC, CKD, CKE, CKSMP, CSPG, CTPG. Approved by leading gear box manufacturers.	1035	240	68	13.8	212	-48	For gear boxes operating in extreme thermal and mechanical conditions, such as worm gears and calender lubrication. Can also be used as compressor oils for process gases such as methane, ethane, propane, etc. due to low hydrocarbon gas solubility. Particularly suitable for steel / bronze sliding pairs in worm gears. Not miscible or compatible with mineral oils, ester oils and PAO-based oils.  Change-over guidelines must be observed.
<b>RENOLIN PG 100</b> 		1043	260	100	19.6	220	-48	
<b>RENOLIN PG 150</b> 		1051	260	145	27.0	224	-48	
<b>RENOLIN PG 220</b>    		1075	240	220	36.8	220	-33	
<b>RENOLIN PG 320</b> 		1075	240	320	54.4	237	-33	
<b>RENOLIN PG 460</b>    		1075	280	460	75.1	245	-33	
<b>RENOLIN PG 680</b> 		1075	280	680	110.3	261	-33	
<b>RENOLIN PG 1000</b> 		1075	280	1000	162.0	281	-33	
<b>RENOLIN PG 1500</b> 		1078	280	1500	240.0	300	-18	

**Based on water-soluble Polyglycol**

## Industrial Oils













Product name	Description	Density at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour-point °C	Main application area
Fully Synthetic Gear and Circulating Oils								
<b>RENOLIN UNISYN XT 68</b> 	<b>Range RENOLIN UNISYN XT</b> Fully-synthetic industrial gear oils based on new, innovative polyalphaolefins with very high, natural, shear stable viscosity index and excellent low temperature behaviour. Excellent wear protection, high micropitting resistance and very good corrosion protection. RENOLIN UNISYN XT oils exceed the requirements on industrial gear oils CLP-HC acc. to DIN 51517-3, ISO 6743-6, ISO 12925-1: CKC, CKD, CKE, CKSMP and AGMA 9005/E02: EP.	850	238	68	11.0	154	-54	Suitable for the lubrication of gears and bearings. For the use in applications with high requirements on wide temperature range. Extremely low viscosity at low temperatures.  ISO VG 220 and 320 for wind turbine applications.  Approved by leading gear box manufacturers.  <b>Based on mPAO</b>
<b>RENOLIN UNISYN XT 100</b> 		850	238	100	15.3	162	-48	
<b>RENOLIN UNISYN XT 150</b> 		850	238	150	21.4	168	-45	
<b>RENOLIN UNISYN XT 220</b> 		860	242	220	29.4	174	-42	
<b>RENOLIN UNISYN XT 320</b> 		860	242	320	40.2	179	-42	
<b>RENOLIN UNISYN XT 460</b> 		860	242	460	54.5	188	-39	
<b>RENOLIN UNISYN XT 680</b> 		860	244	680	75.5	192	-39	
<b>RENOLIN UNISYN XT 1000</b> 		860	244	1000	101.0	195	-33	
<b>RENOLIN UNISYN CLP 68</b> 	<b>Range RENOLIN UNISYN CLP</b> Fully-synthetic PAO-based industrial gear oils with increased ageing stability, very good load carrying capacity and excellent wear protection. RENOLIN UNISYN CLP provides a high micropitting resistance, a good air release and very good filtration behaviour. Fulfill resp. surpass the minimum requirements acc. to DIN 51517-3: CLP; ISO 6743-6 and ISO 12925-1: CKC, CKD, CKE, CKSMP and AGMA 9005/E02: EP.	848	240	68	10.7	147	-56	Suitable for the lubrication of gears and bearings. For the use in applications with high requirements on wide temperature range. Extremely low viscosity at low temperatures.  ISO VG 220 and 320 for wind turbine applications. Approved by leading gear box manufacturers.  <b>Based on PAO</b>
<b>RENOLIN UNISYN CLP 100</b> 		851	250	100	14.5	150	-53	
<b>RENOLIN UNISYN CLP 150</b> 		853	250	150	19.6	150	-45	
<b>RENOLIN UNISYN CLP 220</b> 		854	260	220	26.7	155	-42	
<b>RENOLIN UNISYN CLP 320</b> 		860	260	320	35.0	155	-42	
<b>RENOLIN UNISYN CLP 460</b> 		861	300	460	45.6	155	-39	
<b>RENOLIN UNISYN CLP 680</b> 		862	300	680	62.2	160	-33	

# RENOLIN





Product name	Description	Density at 15 °C kg/m <sup>3</sup>	Flash point Clev. °C	Kin. visc. at 40 °C mm <sup>2</sup> /s	Kin. visc. at 100 °C mm <sup>2</sup> /s	VI	Pour-point °C	Main application area
<b>Gear and Circulation Oils</b>								
<b>RENOLIN CLPF 100 SUPER</b> 	<b>Range RENOLIN CLPF SUPER with MoS<sub>2</sub></b> EP industrial gear oils containing MoS <sub>2</sub> (molybdenum disulphide) with synergistically active EP / AW additives and physically active anti-wear layers (MoS <sub>2</sub> ). The MoS <sub>2</sub> components guarantee excellent lubricity at low temperature over a wide range of working conditions. The MoS <sub>2</sub> as solid lubricant ensures reliable wear protection even under shock loads and unfavourable operating conditions. The MoS <sub>2</sub> dampens vibrations and noise. Very good wear protection in mixed friction areas, good dirt carrying capacity, excellent foaming behaviour, very good bearing wear protection - excellent FE8 performance, zinc and silicone oil-free. RENOLIN CLPF SUPER series surpasses the minimum requirements on industrial gear oils DIN 51517-3: CLPF ISO 6743-6 and ISO 12925-1: CKC, CKD	888	240	100	11.2	98	-21	For highly stressed gear boxes at low circumferential speeds and high loads, also for shock loads and unfavourable operating conditions, for noise-dampening. Also for spindle and gear box applications in forging presses.
<b>RENOLIN CLPF 220 SUPER</b> 		896	260	220	18.8	95	-21	
<b>RENOLIN CLPF 320 SUPER</b> 		897	255	320	24.0	95	-14	<b>Mineral oil based</b>
<b>RENOLIN CLPF 460 SUPER</b> 		902	270	460	30.4	95	-12	
<b>RENOLIN CLPF 680 SUPER</b> 		918	270	680	36.8	88	-10	
<b>RENOLIN CLPF 1500 SUPER</b> 		928	240	1500	70.5	104	-12	
<b>RENOLIN HighGear 150</b> 	<b>Range RENOLIN HighGear</b> RENOLIN HighGear oils are based on selected mineral oils. Synergistic additives provide outstanding wear protection of these new high-tech gear oils. Highly effective tribo-protection layers reliably protect wetted machine components against wear. This new additive technology is also referred to as a smoothening PD (plastic deformation) reaction mechanism. These additives have a noticeable smoothening effect on surface roughness. DIN 51517-3: CLP, ISO 6743-6 and ISO 12925-1: CKC, CKD, CKE, CKSMP	894	>210	150	14.6	96	-21	RENOLIN HighGear can be used both in pre-damaged gear boxes and machine components to increase service life as well as in new gear boxes (spur, bevel, planetary and worm gears) to reduce friction, wear and noise in extreme conditions.
<b>RENOLIN HighGear 220</b> 		899	>210	220	19.0	97	-18	
<b>RENOLIN HighGear 320</b> 		904	>210	320	24.3	97	-12	<b>Mineral oil based</b>
<b>RENOLIN HighGear 460</b> 		909	>210	460	30.8	97	-9	
<b>RENOLIN HighGear 680</b> 		907	>210	680	41.5	101	-9	









## Industrial Oils

Product name	Description	Density at 15 °C kg/m <sup>3</sup>	Flash point Clev. °C	Kin. visc. at 40 °C mm <sup>2</sup> /s	Kin. visc. at 100 °C mm <sup>2</sup> /s	VI	Pour-point °C	Main application area
<b>Special Gear and Circulating Oils</b>								
<b>RENOLIN HighGear Synth 220</b> 	<b>Range RENOLIN HighGear Synth</b> RENOLIN HighGear Synth is based on synthetic polyalphaolefins (PAO). Special synergistic additives provide outstanding wear protection of these new high-tech gear oils. Highly effective tribo-protection layers reliably protect wetted machine components against wear. RENOLIN HighGear Synth oils have a high, natural and shear stable viscosity index and are suitable for both high and low temperature applications. High thermal and oxidation stability allow oil change intervals to be extended. DIN 51517-3: CLP; ISO 6743-6 and ISO 12925-1: CKC, CKD, CKE, CKSMP.	873	220	220	23.6	133	-33	RENOLIN HighGear Synth can be used both in pre-damaged gear boxes and machine components to increase service life as well as in new gear boxes (spur, bevel, planetary and worm gears) to reduce friction, wear and noise in extreme conditions. Synthetic PAO components help reduce friction, enable lower operating temperatures and can increase efficiency. Excellent low-temperature characteristics, high, shear stable viscosity index.  <b>Based on PAO</b>
<b>RENOLIN HighGear Synth 320</b> 		876	220	320	31.2	135	-34	
<b>RENOLIN MORGEAR 100</b> 	<b>Range RENOLIN MORGEAR</b> High-performance circulating oils based on mineral oil, for the lubrication of MORGEOIL bearings. Mild EP/AW additives provide good wear protection, synergistically acting additives ensure good ageing stability and excellent demulsibility (very good water separation). ISO 6743-6 and DIN 51517: CL(P) ISO 12925-1: CKB.	888	248	100	11.1	96	-19	For the lubrication of MORGEOIL bearings. RENOLIN MORGEAR oils fulfil and surpass the requirements of DANIELI (Italy) and SMS.  <b>Mineral oil based</b>
<b>RENOLIN MORGEAR 220</b> 		895	255	226	19.2	96	-10	
<b>RENOLIN MORGEAR 460</b>  		904	>270	470	31.1	96	-9	
<b>RENOLIN MORGEAR 680</b> 		915	252	682	39.2	95	-7	
<b>RENOLIN CLP 150 VCI</b> 	<b>Range RENOLIN CLP VCI</b> Special industrial gear oils based on mineral oil with VCI components (Vapour Corrosion Inhibitors). Excellent corrosion protection properties. Reliable long-term corrosion protection in the oil phase as well as in the vapour phase. Excellent wear protection, high scuffing protection, good compatibility with industrial gear oils and good elastomer compatibility. Fulfil and surpass the requirements on CLP industrial gear oils acc. to DIN 51517-3: CLP; ISO 6743-6 and ISO 12925-1: CKC / CKD as well as AGMA 9005/E02: EP.	893	240	150	14.7	97	-24	Recommended for applications with highly loaded spur gears, bevel gears, and worm gears. Also suitable in highly loaded bearings, joint bearings and pressure spindles. Especially for gears and components which are not used for a longer period of time or are stored before they are used and therefore a conservation must be applied. Contain VCI-components (Vapour Corrosion Inhibitors). Also recommended for gear test rigs (running-in oil).  <b>Mineral oil based</b>
<b>RENOLIN CLP 220 VCI</b> 		898	254	220	19.0	97	-24	
<b>RENOLIN CLP 320 VCI</b> 		900	254	320	23.0	92	-14	
<b>RENOLIN CLP 460 VCI</b>  		908	246	460	30.4	95	-12	







# RENOLIN

Product name	Description	Density at 15 °C kg/m <sup>3</sup>	Flash point Clev. °C	Kin. visc. at 40 °C mm <sup>2</sup> /s	Kin. visc. at 100 °C mm <sup>2</sup> /s	VI	Pour-point °C	Main application area
<b>Special Gear and Circulating Oils</b>								
<b>RENOLIN UNISYN GEAR 220 VCI</b> 	<b>RENOLIN UNISYN GEAR 220 VCI*</b> Fully-synthetic industrial gear oil based on PAO with excellent corrosion protection properties due to VCI components (Vapour Corrosion Inhibitors). Reliable long-term corrosion protection in the oil phase as well as in the vapour phase. Excellent wear protection, high scuffing protection, good compatibility with industrial gear oils. Fulfil and surpass the requirements on CLP industrial gear oils acc. to DIN 51517-3: CLP, ISO 6743-6 and ISO 12925-1: CKC, CKD as well as AGMA 9005/E02: EP.	855	260	220	27.3	160	-42	For the use in heavily loaded spur gears, bevel gears and worm gears with circulation oil system or oil injecting system. Especially for high operating temperatures. Contains VCI components (Vapour Corrosion Inhibitors).  <b>Based on PAO</b>
<b>RENOFLUID TF 1500</b>  	Special EP-hydraulic- and gear oil based on high-performance base oils. With high ageing stability. FZG-Test A/8,3/90 Failure load stage > 12. DIN 51524-2: HLP ISO 6743-4: HM	870	224	32	5.4	102	-30	Power transmission oil for VOITH turbo gears, hydraulic oils for VOITH-turbo couplings. Also suitable as low viscosity, high-pressure gear oil especially with hydraulic controls and combined oil system. Voith Turbo approval.  <b>Mineral oil based</b>
<b>Special Corrosion Protection Concentrate</b>								
<b>RENOLIN VCI BOOST</b>  (4 x 5 L)	Additive concentrate for the use in FUCHS gear, hydraulic and turbine oils. Contains VCI components (VCI = Vapour Corrosion Inhibitor).	905	155	105	12.5	112	-12	Universal VCI corrosion protection concentrate for the use in RENOLIN industrial oils based on mineral oil, PAO and esters. Easy dosage and usage. Recommended concentration: 2%



Product name	Description	Density at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour-point °C	Main application area
Slideway Oils								
<b>RENEP CGLP 68</b> 	<b>Range RENE CGLP</b> Mineral oil based slideway oils with lubricity improvers and friction-reducing additives. Good EP performance. Protect against corrosion and prevent stick-slip. CGLP slideway oils according to DIN 51502. Demulsifying.	879	220	68	8.6	99	-24	Excellent chemical compability with water-miscible metal working fluids. Slideway oils with very good demulsifying power, very low friction coefficient. HELLER approval. These slideway oils are especially suitable for the use with ECOCOOL cutting fluids. Proven good compatibility with many water-miscible cutting fluids. Approved by leading machine tool manufacturers.
<b>RENEP CGLP 150</b> 	Fulfils and surpasses the requirements acc. to DIN 51502: CGLP ISO 6743-13: GA, GB	892	230	150	14.6	96	-12	
<b>RENEP CGLP 220</b> 		895	240	220	19.0	96	-15	
<b>RENEP 2 K</b> 	<b>Range RENE K</b> Slideway oils with special additives to reduce stick-slip especially for machine tools. Good detergency. Emulsifying. Detergent/dispersant type	882	230	68	9.2	112	-27	Suitable for all slideway applications. RENE K series products display good compatibility with slide materials, very good ageing and oxidation stability and reliably combat stick-slip.
<b>RENEP 4 K</b> 	RENEP 2 K: CGLP 68 RENEP 4 K: CGLP 100 RENEP 5 K: CGLP 220	885	240	100	11.8	107	-24	
<b>RENEP 5 K</b> 		900	248	220	19.9	104	-12	

# RENEP

Product name	Description	Density at 15 °C kg/m <sup>3</sup>	Flash point Clev. °C	Kin. visc. at 40 °C mm <sup>2</sup> /s	Kin. visc. at 100 °C mm <sup>2</sup> /s	VI	Pour-point °C	Main application area
<b>Slideway Oils</b>								
<b>RENEP 68 KN</b>   	<b>Range RENEK KN</b> Excellent adhesion provided by special additives which increase the adhesion to metal and plastic surfaces - "tacky" effect. Good EP performance. Protect against corrosion and prevent stick-slip. Advanced formulation. CGLP slideway oils according to DIN 51502. Demulsifying. RENEK KN 68: CGLP 68 RENEK KN 220: CGLP 220	880	220	68	9.1	118	-29	Excellent chemical compability with water-miscible metal working fluids. Slideway oils with very good demulsifying properties, low friction coefficient. Containing tackifier.
<b>RENEP 220 KN</b>   		895	238	220	19.5	100	-17	Approved by leading machine tool manufacturers. Heller-Approval  Especially suitable for the use with ECOCOL cutting fluids.  <b>Mineral oil based</b>










## Industrial Oils



Product name	Description	Density at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour-point °C	Main application area
<b>Paper Machine Oils</b>								
<b>RENOLIN PA 150</b> ■ ■	<b>Range RENOLIN PA</b> High-performance paper machine oils based on specially selected mineral base oils in combination with zinc-containing EP-additives which provide an excellent wear protection. RENOLIN PA oils fulfil and exceed the minimum requirements on CLP gear oils acc. to DIN 51517-3 and the requirements of paper machine oils for the wet end and dryer section acc. to Voith VN 108.	878	>230	150	15.0	100	-30	Recommended for the use in wet end and dryer sections in paper machines, also in gear boxes, bearings in central lubricating systems as well as in applications where a lubricating oil with high thermal stability and very good ageing stability is needed, demulsifying type.  <b>Mineral oil based</b>
<b>RENOLIN PA 220</b> ■ ■		886	>230	220	19.3	99	-18	
<b>RENOLIN NF PRESS 100</b> ■	Mineral oil based hydraulic oil based on hydrogenated mineral oils in combination with specially selected, zinc- and ash-free additive technology. Specially developed for the use in hydraulic presses in paper machines. Exceeds the requirements on hydraulic oils acc. to Voith VN 108.	867	260	100	11.5	103	-36	For the use in hydraulic presses in paper machines, e.g. Voith shoe presses. Hydrogenated base oils.  <b>Mineral oil based</b>









# RENOLIN

Product name	Description	Density at 15 °C kg/m <sup>3</sup>	Flash point Clev. °C	Kin. visc. at 40 °C mm <sup>2</sup> /s	Kin. visc. at 100 °C mm <sup>2</sup> /s	VI	Pour-point °C	Main application area
<b>Paper Machine Oils</b>								
<b>RENOLIN UNISYN CLP 150 PA</b> 	<b>Range RENOLIN UNISYN CLP PA</b> Fully-synthetic, high performance paper machine oils based on polyalphaolefins. Excellent demulsibility (excellent water separation), high ageing stability, excellent wear protection and very good corrosion protection. High natural, shear stable viscosity index. For higher operating temperatures. Fulfil and surpass the minimum requirements of gear oils CLP-HC acc. to DIN 51517-3.	857	>200	150	19.8	152	-39	For the use in circulating lubrication of the wet end and dryer section in paper machines, also in gear boxes and central lubricating systems. Especially for higher operating temperatures.  <u>RENOLIN UNISYN CLP 220 PA</u> Fulfil and surpasses the minimum requirements of the companies SKF, FAG and Voith VN 108  <b>Based on PAO</b>
<b>RENOLIN UNISYN CLP 220 PA</b>   		859	230	220	26.5	154	-36	
<b>RENOLIN UNISYN CLP 320 PA</b>   		864	>240	320	34.2	151	-32	
<b>RENOLIN UNISYN CLP 460 PA</b> 		866	>240	460	46.0	156	-27	
<b>RENOLIN SynGear 220 HT</b> 	Fully-synthetic high-temperature EP industrial gear oil and calender oil based on selected polyglycols (PAG). Excellent wear protection and ageing stability. DIN 51517-3: CLP-PG ISO 6743-6: CKC/CKD/CKT	1078	240	240	39.0	216	-36	For mechanically and thermally highly loaded wheel and worm gears / rolling and plain bearings. Especially for calenders in the paper and foil industry. Peak temperatures of 250 °C are allowed for a short time. Miscibility and compatibility properties with polyglycols of others manufacturers have to be checked.  <b>Based on PAG (Polyglycol)</b>






## Industrial Oils



Product name	Description	Density at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour-point °C	Main application area
<b>Turbine Oils</b>								
<b>RENOLIN ETERNA 32</b> 	<b>Range RENOLIN ETERNA</b> Turbine oils of the latest generation for lubrication of gas and steam turbines and turbo compressors (also with gear boxes, FZG ≥ 10). Based on high-quality, hydrocracked base oils. High ageing resistance, excellent protection against sludge formation. No- / Low-Varnish turbine oils. Turbine oils acc. to DIN 51515-1: TDP and DIN 51515-2: TGP.	842	220	32	5.8	126	-15	For the lubrication of steam and gas turbines, generators, turbo compressors, pumps and transmissions. Furthermore used as lubricating and barrier oil in water-cooled generators. Surpass TDP and TGP according to DIN 51515 part 1 resp. part 2. AW/EP turbine oils: FZG≥10. Approved by many well-known OEM
<b>RENOLIN ETERNA 46</b> 		846	220	46	7.6	132	-15	
<b>RENOLIN ETERNA 68</b> 		851	230	68	9.5	120	-15	
<b>RENOLIN ETERNA 32 SGV</b> 	<b>Range RENOLIN ETERNA SGV</b> Turbine oils of the latest generation for gas and steam turbines as well as for turbo compressors without gear boxes. Exceed the requirements of DIN 51515-1: TD and DIN 51515-2: TG. EP/AW-free	838	220	32	5.8	126	-15	For the use in gas and steam turbines as well as in turbo compressors. Especially suitable for the compression of synthesis gases and ammonia. EP/AW-free, highest thermal stability. Approved by many well-known OEM
<b>RENOLIN ETERNA 46 SGV</b> 		846	220	46	7.6	132	-15	
<b>RENOLIN ETERNA Clean 46</b> 	Polar cleaning fluid for turbine oil circuits. Compatible with all common turbine oils. Free from detergents: No deterioration of the air and water separation behaviour and other negative impacts which occur with conventional cleaners. RENOLIN ETERNA Clean 46 contains a complete additive system. Therefore, a "weakening" of the turbine oil filling - arising by addition of other cleaners - will be prevented.	893	238	46	6.8	103	-42	With RENOLIN ETERNA Clean 46 old deposits, varnish and other oil degradation products can effectively be removed from the turbine oil system before an intended oil change. There will be no impairment of the new filling. Addition of approx. 5 – 10% to the existing turbine oil filling.

# RENOLIN

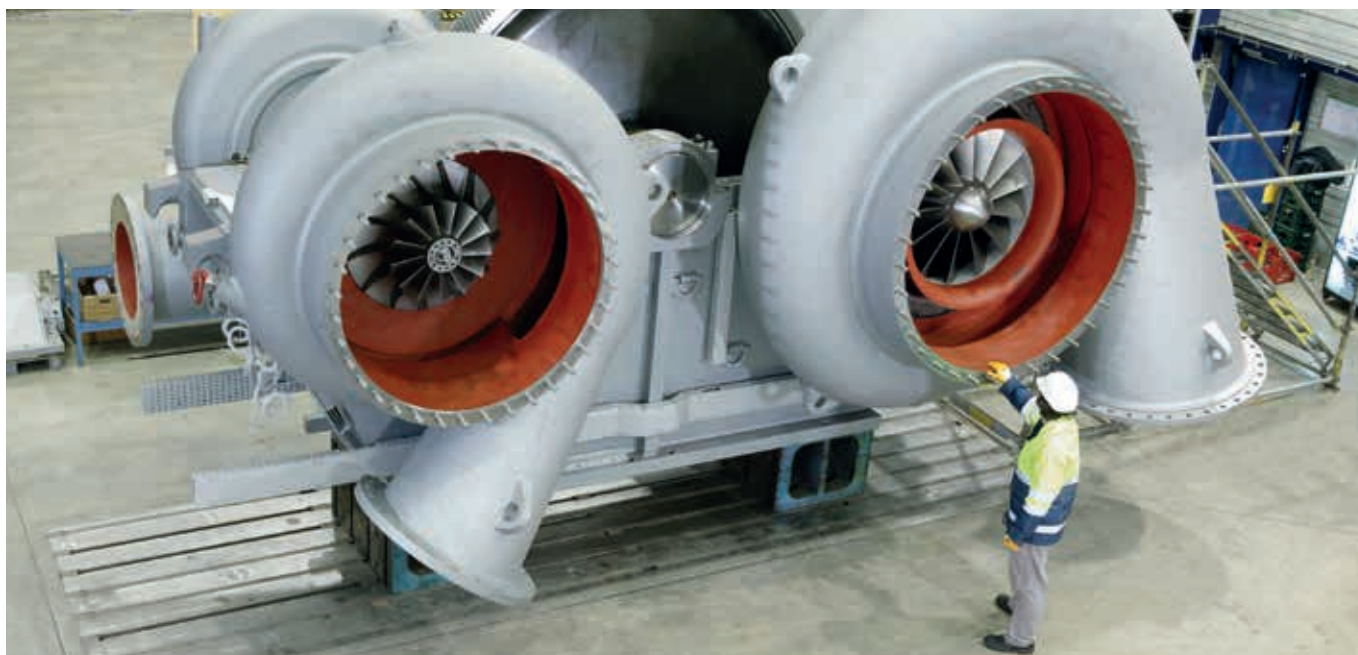


Product name	Description	Density at 15 °C kg/m <sup>3</sup>	Flash point Clev. °C	Kin. visc. at 40 °C mm <sup>2</sup> /s	Kin. visc. at 100 °C mm <sup>2</sup> /s	VI	Pour-point °C	Main application area
<b>Oils for Transformers</b>								
<b>RENOLIN E 10</b> 	High quality, inhibited insulating oil based on naphthenic base oils which can be used in transformers, switches, choking coils, condensers and converters. Excellent dielectric properties and high oxidation stability. Fulfills and surpasses the requirements for insulating oils according to IEC 60296 as well as RWE Power Specification class I.	874	142*	9.5	–	–	<-48	RENOLIN E 10 is used as insulating oil in transformers, switches, choking coils, condensers, converters and similar aggregates, also at low outdoor temperatures (e.g. in outdoor units).
<b>RENOLIN ELTEC</b>   	Non-inhibited insulating oil based on naphthenic base oils. Meets the requirements for insulating oils according to IEC 60296.	869	149*	10	–	–	-48	RENOLIN ELTEC is used as insulating oil in transformers, switches, choking coils, condensers, converters and similar aggregates, also at low outdoor temperatures (e.g. in outdoor units).
<b>RENOLIN E 3</b> 	Inhibited switchgear oil based on naphthenic base oils. Especially for the use in outdoor units. Fulfills the requirements according to IEC 60296.	861	100*	3.2	–	–	<-70	RENOLIN E 3 is primarily used in power switches in outdoor units. Even at low ambient temperatures RENOLIN E 3 ensures an excellent flowability. Hence any additional electric heating is not necessary.

\* Measured acc. to Pensky Martens (Flashpoint P.M.)









## Industrial Oils



Product name	Description	Density at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour-point °C	Main application area
<b>Screw Compressor Oils</b>								
<b>RENOLIN SilverScrew 32</b> 📁 📄	<b>Range RENOLIN SilverScrew</b> High-tech air compressor fluids with high oxidative and thermal stability, which allows oil lifetimes of up to 6000h.  Surpasses the requirements of DIN 51506:VDL. Corresponds to ISO 6743-3-DAJ. Corresponds to several OEM Requirements.	863	235	32	5.5	108	-38	Universal air compressor fluids for oil injected screw, vane and piston compressors.
<b>RENOLIN SilverScrew 46</b> 📁 (10 L, 20 L) 📄 📄		868	244	46	6.9	105	-36	
<b>RENOLIN SilverScrew 68</b> 📁 📄		870	255	68	9.0	106	-40	
<b>RENOLIN GoldScrew 46</b> 📁 (10 L) 📄	<b>Range RENOLIN GoldScrew</b> Outstanding high-tech air compressor fluids with excellent oxidative and thermal stability, which allows oil lifetimes of up to 9000h.  Surpasses the requirements of DIN 51506:VDL. Corresponds to ISO 6743-3-DAJ. Corresponds to several OEM Requirements.	855	260	46	7.6	131	-39	Universal air compressor fluids for oil injected screw, vane and piston compressors.
<b>RENOLIN GoldScrew 68</b> 📁 📄		871	278	68	9.4	117	-33	











# RENOLIN

Product name	Description	Density at 15 °C kg/m <sup>3</sup>	Flash point Clev. °C	Kin. visc. at 40 °C mm <sup>2</sup> /s	Kin. visc. at 100 °C mm <sup>2</sup> /s	VI	Pour-point °C	Main application area
<b>Screw Compressor Oils</b>								
<b>RENOLIN UNISYN OL 32</b> 	<b>Range RENOLIN UNISYN OL</b> Fully-synthetic cooling oils for piston and screw compressors based on polyalphaolefins with excellent oxidation stability, outstanding wear protection, good demulsification and excellent viscosity-temperature behaviour. High viscosity index. Excellent air release. Allow service intervals to be extended. Lubricating oils VDL according to DIN 51506 and synthetic hydraulic oils according to DIN 51524-2/3: HLP/HVLP.	838	240	32	6.1	138	<-60	Fully-synthetic screw compressor oils based on PAO for extended oil change intervals even when subject to high thermal loads. Also suitable for highly loaded hydraulic systems. Excellent air release properties. Extended oil drain intervals.  <b>Based on PAO</b>
<b>RENOLIN UNISYN OL 46</b> 		841	260	46	7.9	141	<-60	
<b>RENOLIN UNISYN OL 68</b> 		845	260	68	10.6	146	-54	
<b>RENOLIN UNISYN OL 100</b> 		848	260	100	14.4	149	-54	
<b>RENOLIN UNISYN OL 150</b> 		852	250	150	19.6	150	-47	
<b>RENOLIN SynAir 46</b>  (3 x 10 L)	High performance synthetic air compressor fluid, excellent biodegradability according to OECD 301C > 60%. Excellent thermal and oxidation stability. Guarantee a reliable corrosion protection and compatibility with elastomers	992	271	48	8.7	161	-50	For use in flooded or oil-injected screw air compressors. For applications at high temperatures to reduce oil-related residues, varnish and sludge. Extended oil drain intervals. Biodegradable acc. to OECD 301 C >60%.  <b>Based on PG + Ester</b>











# Industrial Oils

## RENOLIN

Product name	Description	Density at 15 °C kg/m <sup>3</sup>	Flash point Clev. °C	Kin. visc. at 40 °C mm <sup>2</sup> /s	Kin. visc. at 100 °C mm <sup>2</sup> /s	VI	Pour-point °C	Main application area
<b>Piston and Rotary Vane Compressor Oils</b>								
<b>RENOLIN 503</b> 	<b>Range RENOLIN 500</b> Special ageing-resistant lubricating oils offering minimal coking. Contain additives to improve corrosion protection and ageing stability. VDL lubricating oils according to DIN 51506. For compressor outlet temperatures up to +220 °C. 503: VDL 68 504: VDL 100 505: VDL 150 506: VDL 220	867	250	68	9.1	109	-18	Compressor oils with excellent anti-ageing behaviour and extremely low coking tendency. For air compressors with end temperatures up to 220 °C. Also for other thermally loaded circulation lubrication systems.
<b>RENOLIN 504</b> 		890	280	100	10.7	90	-21	
<b>RENOLIN 505</b>  		883	275	150	15.0	100	-15	
<b>RENOLIN 506</b> 		893	280	230	18.7	90	-12	
<b>RENOLIN VAC 100 F</b> 	Special vacuum pump lubricant based on highly refined mineral oils. Does not contain any additives. Extremely low evaporation losses. Suitable for high vacuum.	887	265	100	10.7	89	-12	Can be used in minimum final pressure range from 10 <sup>-3</sup> up to 10 <sup>-4</sup> mbar. Suitable for different compressor types for example piston and rotary compressors.
<b>RENOLIN SE 100</b>  	Fully-synthetic air compressor oil based on advanced synthetic ester technology.  Further ISO VG classes on request	987	270	100	10.3	81	-42	High temperature stable ester oil for use in vane type and reciprocating compressors, even under severe conditions e.g. high temperatures. Especially suited for compressors where the use of a mineral oil can lead to coking and varnish.  <b>Based on Di-Ester</b>
<b>Gas Compressor Oils</b>								
<b>RENOLIN LPG 100</b>  (on request)	<b>Range RENOLIN LPG</b> Synthetic gas compressor oils based on polyalkylene glycols (PAG). Suitable for process gases, refinery gases (petroleum gases) and other hydrocarbon-based gases (propane, propylene, butane, etc.) and their blends. Attention: For RENOLIN LPG 100 and LPG 185 a drying process has to be applied prior to using them as refrigeration oils.	1002	270	100	16.2	175	-39	RENOLIN LPG 100 and LPG 185 are characterized by a low solubility of hydrocarbon gases in the oil. Due to the use of special PAG base oils, the dilution of the lubricant in operation (drop in viscosity) is minimized. Thus, reliable wear protection and excellent lubricating properties are guaranteed. Selected additives provide additional security in terms of thermal-oxidative stability and wear protection of the lubricant under gas atmosphere.  <b>Based on polyglycol</b>
<b>RENOLIN LPG 185</b>  (on request)		1012	280	185	29.0	197	-36	

# RENISO



























Product name	Description	Density at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour-point °C	Main application area
Mineral Oil based Refrigeration Oils								
RENISO WF 2,3 A 	<b>Range RENISO WF</b> Special refrigeration oils for use with the refrigerant isobutane (R600a) – highly refined, low flocculation point with R600a, containing additives to improve wear protection and ageing stability. High energy efficiency. DIN 51503: KC, KE.	823	100	2.35	–	–	-42	RENISO WF refrigeration oils are recommended for the lubrication of hermetic refrigerator compressors with the refrigerant isobutane (R600a). Due to special additive systems, the RENISO WF refrigeration oils ensure the formation of a wear-protecting lubricating film at all operating temperatures. RENISO WF refrigeration oils are fully miscible with R600a and also with all other hydrocarbon refrigerants like R290.
RENISO WF 5 A  (on request) 		827	134	5.0	1.7	95	-45	
RENISO WF 7 A  (on request) 		832	158	7.2	2.2	97	-42	
RENISO WF 10 A  (on request) 		835	172	9.6	2.6	97	-42	
RENISO WF 15 A  (on request)		883	164	15	3.1	–	-51	
Based on special mineral oils								





## Industrial Oils

Product name	Description	Density at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour-point °C	Main application area
Mineral Oil based Refrigeration Oils								
RENISO KM 32 📦 (20 x 1 L) 📦	<b>Range RENISO K</b> Highly refined, <b>naphthenic mineral oils</b> with high ageing stability, low pourpoint, excellent low-temperature behaviour and particularly good compatibility with the following refrigerants: ammonia (NH <sub>3</sub> ), HCFCs (e.g. R22), hydrocarbons (e.g. propane R290, propylene R1270). DIN 51503: KAA, KC, KE.	881	202	32	4.9	63	-45	For all refrigeration systems using ammonia (NH <sub>3</sub> ) or HCFC refrigerants. RENISO KES 100 is suitable for applications with high evaporation and condensation temperatures, such as air conditioning applications, heat pumps - especially recommended for turbo compressors.  <b>Based on naphthenic base oils</b>
RENISO KS 46 📦 (4 x 5 L, 20 L) 📦		894	204	46	5.8	47	-42	
RENISO KC 68 📦 📦 📦		894	223	68	7.4	58	-39	
RENISO KES 100 📦		912	218	100	8.4	20	-33	
Fully Synthetic Refrigeration Oils based on Alkyl Benzenes								
RENISO SP 32 📦	<b>Range RENISO S/SP</b> Fully synthetic refrigeration oils <b>based on chemically and thermally stable alkyl benzenes</b> . RENISO SP 32, 46, 100 and 220 contain highly effective AW additives ( <b>not suitable for NH<sub>3</sub> applications</b> ). Excellent miscibility and excellent stability with HCFC refrigerants (e.g. R22). DIN 51503: KC, KE .	870	186	32	4.6	31	-51	Particularly good miscibility with HCFC refrigerants, such as R22. Suitable for very low evaporation temperatures down to -80 °C. RENISO SP products are also recommended for use with Drop-In refrigerants (R402A/B, R401A/B, etc.). Due to their excellent stability RENISO S/ SP – products are suitable for the lubrication of highly stressed refrigerant compressors.  <b>Based on alkyl benzenes</b>
RENISO SP 46 📦 (4 x 5 L)		869	190	46	5.3	26	-42	
RENISO SP 100 📦		869	208	95	8.0	11	-33	
RENISO S 3246 📦	RENISO S 3246 and RENISO S 68 <b>do not contain AW additives</b> and are suitable for use with HCFC refrigerants, hydrocarbons and NH <sub>3</sub> . DIN 51503: KAA, KC, KE.	876	184	40	5.0	17	-42	RENISO S 3246 and RENISO S68 – suitable for R22, hydrocarbons as well as NH <sub>3</sub> applications.
RENISO S 68 📦 📦		871	192	68	6.6	-30	-36	

## RENISO








Product name	Description	Density at 15 °C kg/m <sup>3</sup>	Flash point Clev. °C	Kin. visc. at 40 °C mm <sup>2</sup> /s	Kin. visc. at 100 °C mm <sup>2</sup> /s	VI	Pour-point °C	Main application area
<b>Fully Synthetic Refrigeration Oils based on Polyol Esters (POE)</b>								
<b>RENISO TRITON SEZ 22</b>  (20 x 1 L)  (4 x 5 L)	<b>Range RENISO TRITON SE/ SEZ</b> Fully synthetic refrigeration oils <b>based on synthetic polyol-esters</b> - especially suitable for non-ozone depleting FC/HFC refrigerants, such as R134a, R404A, R507, R410A, R407C. Also suitable for hydrocarbon refrigerants. As polyolester oils strongly tend to absorb water (hygroscopic behaviour), the contact of these lubricants with air (atmospheric humidity) has to be limited to a minimum. DIN 51503: KD, KE.  RENISO TRITON SE/SEZ is also suitable for the use with HFO and HFO/HFC refrigerants.	1003	248	20	4.4	133	-57	The RENISO TRITON SE/SEZ products are perfectly suited for all refrigeration circuits in which chlorine-free refrigerants (HFCs / FCs), e.g. R134a are used. RENISO TRITON SE/SEZ-refrigeration oils are recommended for hermetic, semi-hermetic and open piston compressors, as well as for screw and turbo compressors (depending on viscosity). Comprehensive tests have been performed on the use of RENISO TRITON SE/SEZ products with new refrigerants designed to replace R22, such as R422A/D and R417A.  <b>Based on polyolester</b>
<b>RENISO TRITON SEZ 32</b>  (20 x 1 L)  (4 x 5 L)  (3 x 10 L) 		1004	250	32	6.1	141	-57	
<b>RENISO TRITON SE 55</b>  (20 x 1 L)  (4 x 5 L)  (3 x 10 L) 		1009	286	55	8.8	137	-48	
<b>RENISO TRITON SEZ 68</b>  (20 x 1 L)  (4 x 5 L)  (3 x 10 L) 		972	258	68	8.9	104	-39	
<b>RENISO TRITON SEZ 80</b>  (20 x 1 L)		992	251	80	10.6	118	-42	
<b>RENISO TRITON SEZ 100</b>  (4 x 5 L) 		970	266	100	11.4	100	-30	
<b>RENISO TRITON SE 170</b>  (20 x 1 L)  (4 x 5 L)  (3 x 10 L) 		972	260	173	17.1	106	-27	
<b>RENISO TRITON SE 220</b>  (4 x 5 L) 		976	294	220	19.0	98	-27	
<b>RENISO TRITON SEZ 320</b>		1015	278	309	33.3	148	-42	
<b>RENISO TRITON CE 500</b>  (4 x 5 L)		950	221	505	52.1	166	-33	

## Industrial Oils

Product name	Description	Density at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour-point °C	Main application area
Fully Synthetic Gas Compressor Oils based on Polyalkylene Glycols (PAG)								
RENISO LPG 68  Packages on request	<b>Range RENISO LPG</b> Synthetic refrigeration oil <b>based on polyalkylene glycols (PAG)</b> . For the application area of hydrocarbon refrigerants like propane (R290), propene (R1270). Synergetic acting additives improve the properties of the used base oils. Depending on the field of application and type of compressor, different viscosities are used. Controlled hydrocarbon solvency for less viscosity reduction.  DIN 51503 - KE	993	254	68	12.7	189	-48	RENISO LPG 68: e.g. for piston compressors and screw compressors
RENISO LPG 100  Packages on request		995	266	102,4	18.5	201	-45	RENISO LPG 100 and LPG 150: e.g. for scroll compressors and screw compressors
RENISO LPG 150  Packages on request		994	238	149,9	26.1	211	-42	RENISO LPG 185: e.g. for screw compressors
RENISO LPG 185  Packages on request		1012	280	185	29.0	197	-36	<b>Based on polyglycol</b>
Fully Synthetic Refrigeration Oils based on Synthetic Hydrocarbons (PAO)								
RENISO SYNTH 68  	Synthetic refrigeration oil <b>based on polyalphaolefins (PAO)</b> . For NH <sub>3</sub> applications and hydrocarbon refrigerants. Also suitable for CO <sub>2</sub> (not miscible with CO <sub>2</sub> ). DIN 51503: KAA, KB, KE.  NSF-H1-approved acceptable as a lubricant with incidental food contact, for use in and around food processing areas.	835	260	68	10.5	142	-57	RENISO SYNTH 68 has been developed especially for the lubrication of highly stressed NH <sub>3</sub> compressors. Excellent stability with NH <sub>3</sub> . Excellent low temperature flowability, suitable for evaporation temperatures below -50 °C. Very good thermal stability. Very good lubricity also in hydrocarbon (propane R290, propylene R1270, etc.) and CO <sub>2</sub> applications (not miscible with CO <sub>2</sub> ).  <b>Based on PAO</b>
RENISO UltraCool 68  	<b>Range RENISO UltraCool</b> Refrigeration oil <b>based on synthetic hydrocarbons</b> . Particularly developed for ammonia applications. DIN 51503: KAA.	854	250	62	9.1	124	-48	RENISO UltraCool 68 combines high thermal stability (no varnish, no sludge) and low evaporation rate (low oil carry-over/ low oil loss) with good elastomer compatibility (CR, HNBR, NBR).
RENISO UltraCool 100  Packages on request		857	239	108	14.4	136	-46	
Fully Synthetic Refrigeration Oil based on Polyalkylene Glycols (PAG) for NH <sub>3</sub> Applications								
RENISO PG 68   (4 x 5 L) 	Fully synthetic refrigeration oil <b>based on polyalkylene glycols (PAG)</b> , miscibility gap 10% oil / 90% NH <sub>3</sub> : -35 °C. NH <sub>3</sub> – partly miscible refrigeration oil, also suitable for hydrocarbon applications. DIN 51503: KAB, KE.	1044	250	70	14.0	210	-52	RENISO PG 68 is an ultra-dried, synthetic refrigeration oil based on PAG for NH <sub>3</sub> systems which operate on the principle of direct expansion. Suitable for screw and reciprocating piston compressors. RENISO PG 68 is also recommended for the use with hydrocarbon refrigerants.  <b>Warning:</b> PAG oils are not compatible / miscible with mineral oil. PAG oils are hygroscopic. Avoid any contamination with water. Please contact our FUCHS application engineers.  <b>Based on polyglycol</b>

















## RENISO

Product name	Description	Density at 15 °C kg/m <sup>3</sup>	Flash point Clev. °C	Kin. visc. at 40 °C mm <sup>2</sup> /s	Kin. visc. at 100 °C mm <sup>2</sup> /s	VI	Pour-point °C	Main application area
<b>Fully Synthetic Refrigeration Oils based on Polyalkylene Glycols (PAG) for Car A/C Systems</b>								
<b>RENISO PAG 46</b>  (24 x 250 ml)  (20 x 1 L)  (on request)	<b>Range RENISO PAG</b> Synthetic refrigeration oils <b>based on special polyalkylene glycols (PAG)</b> for automotive air conditioning units with R134a. Also suitable for hydrocarbon applications. DIN 51503: KAB, KD, KE.	992	240	55	10.6	187	-45	Refrigeration oils based on polyalkylene glycols for application with the refrigerant R134a used in car and truck air conditioning systems (A/C systems). RENISO PAG 100 is especially suitable for vane compressors. RENISO PAG 46 and PAG 100 can be used together with hydrocarbon refrigerant and ammonia. <b>Based on polyglycol</b>
<b>RENISO PAG 100</b>  (24 x 250 ml)  (20 x 1 L)  (on request)		996	240	120	21.0	202	-45	
<b>RENISO PAG 1234</b>  (24 x 250 ml)	Synthetic refrigeration oil <b>on the basis of double end-capped polyalkylene glycols (PAG)</b> . For vehicle A/C systems with R1234yf. Also suitable for R134a. DIN 51503: KD.	993	224	44	9.8	218	-45	RENISO PAG 1234 has been newly developed for car air conditioning systems with R1234yf. The product combines both good miscibility properties and high thermo-chemical stability in contact with the refrigerant. Basic fluid and additivation of RENISO PAG 1234 guarantee best lubrication properties and wear protection. <b>Based on polyglycol</b>
<b>Fully Synthetic Refrigeration Oil based on Polyalkylene Glycols (PAG) for Heat Pump Applications</b>								
<b>RENISO PAG 460</b> Packages on request	Special fully synthetic refrigeration oil <b>based on special polyalkylene glycol (PAG)</b> .	1001	252	460	72.4	238	-33	For the use in high temperature heat pump systems with hydrocarbon refrigerants, e.g. pentane (R601), iso-pentane (R601a).
<b>RENISO PAG 220 C</b> "Ultra dry" Packages on request	Synthetic refrigeration oil <b>based on special, double-end capped PAGs</b> for trans-critical CO <sub>2</sub> applications (industrial and commercial applications). DIN 51503: KB, KD, KE.	1077	250	226	39.1	226	-39	Refrigeration oil based on polyalkylene glycols (PAGs). For HFC refrigerants like R134a. Especially suitable for screw compressors in heat pump applications for industrial and commercial use. Also suitable for hydrocarbon and CO <sub>2</sub> applications (CO <sub>2</sub> non-miscible oil). <b>Based on polyglycol</b>
<b>Fully Synthetic Refrigeration Oil based on POE for Car A/C Systems in Electric and Hybrid Cars</b>								
<b>RENISO TRITON SEZ 75 AC</b> Packages on request	Synthetic refrigeration oil for electrically driven, hermetic compressors in R1234yf car a/c systems. Also suitable for R134a, <b>based on special polyolester</b> . DIN 51503: KD	978	282	76	9.9	111	-42	RENISO TRITON SEZ 75 AC was developed to lubricate electric compressors in car a/c systems. Due to its high electrical resistivity RENISO TRITON SEZ 75 AC is the ideal lubricant to secure the insulation of the electrical compressor parts at any time. Beyond that RENISO TRITON SEZ 75 AC guarantees reliable lubrication, excellent wear protection and safe oil transport. <b>Based on polyolester</b>














# PLANTO



Product name	Description	Density at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour-point °C	Main application area
<b>Environmentally Friendly Industrial and Hydraulic Oils</b>								
<b>PLANTOHYD 15 S*</b> 	<b>Range PLANTOHYD S</b> Synthetic ester oils with additives to increase ageing stability. Rapidly biodegradable according to OECD 301 B > 60%. High wear protection (FZG stage 12). Surpass the requirements acc. to ISO 15380: "HEES". HVLP acc. to DIN 51524-3 (except TOST test). Awarded the EU Ecolabel (EEL).	893	200	15	4.1	191	-33	Universally useable. Especially recommended for hydraulic systems in sensitive areas. Oil sump temperatures from -30 °C to +90 °C. The change-over guidelines acc. to ISO 15380 must be observed.
<b>PLANTOHYD 22 S*</b>   		901	200	22	5.4	198	-33	
<b>PLANTOHYD 32 S*</b>   		910	206	32	7.1	194	-36	
<b>PLANTOHYD 46 S*</b>    		920	300	46	9.2	187	-45	
<b>PLANTOHYD 68 S*</b>   		924	300	68	12.3	181	-36	














## Industrial Oils

Product name	Description	Density at 15 °C kg/m <sup>3</sup>	Flash point Clev. °C	Kin. visc. at 40 °C mm <sup>2</sup> /s	Kin. visc. at 100 °C mm <sup>2</sup> /s	VI	Pour-point °C	Main application area
<b>Environmentally Friendly Industrial and Hydraulic Oils</b>								
<b>PLANTOSYN 32 HVI*</b> 	<b>Range PLANTOSYN HVI</b> Environmentally friendly hydraulic and circulating oils based on synthetic saturated esters.	915	220	32	6.2	148	-46	Suitable for all mobile and stationary hydraulic systems for which the use of a rapidly biodegradable HEES hydraulic oil according to ISO 15380 is recommended (e.g. in agriculture and forestry). Can be used where unsaturated, synthetic esters have failed. Extension of oil changing intervals possible. Oil sump temperature: -30°C to 100 °C or higher. The change-over guidelines acc. to ISO 15380 must be observed. Approvals: MANNESMANN REXROTH Sauer SUNDSTRAND
<b>PLANTOSYN 46 HVI*</b> 	Rapidly biodegradable acc. to OECD 301 B > 60%. High wear protection, good seal and non-ferrous metal compatibility, excellent oxidation stability.	913	280	46	8.2	150	-36	
<b>PLANTOSYN 68 HVI*</b>  	Fulfills the requirements of HEES hydraulic oils according to ISO 15380 and HVLP according to DIN 51524-3 (except TOST test). Awarded the EU Ecolabel (EEL).	916	280	68	10.6	143	-30	
<b>PLANTOSYN 3268 ECO*</b>   	PLANTOSYN 3268 ECO is a rapidly biodegradable hydraulic fluid based on synthetic esters. PLANTOSYN 3268 ECO was especially developed for use in high risk areas / environmental high risk areas. Fulfills the minimum requirements on hydraulic oils HEES acc. to ISO 15380 and HVLP acc. to DIN 51524-3 (except TOST test) Awarded the EU Ecolabel (EEL)	920	300	47	9.5	191	-45	PLANTOSYN 3268 ECO is recommended for hydraulic systems in environmental high risk areas. Change-over guidelines acc. to ISO 15380 must be observed.
<b>PLANTOSYN 3268*</b>  	Environmentally friendly, high temperature-stable HVI multigrade hydraulic oil based on fully saturated, synthetic ester (HEES), surpasses DIN ISO 15380, > 60% rapidly biodegradable acc. to OECD 301 B. Awarded the EU Ecolabel (EEL).	913	290	46	8.2	154	-36	FUCHS recommendations: Bosch Rexroth AG, CAT BF-1, KRAMER ALLRAD, PALFINGER, SAUER DANFOS, TIMBERJACK, VALMET / KOMATSU FOREST, PONSSE Approvals: FENDT, O&K
<b>PLANTOLUBE POLAR 15 S</b> 	<b>Range PLANTOLUBE POLAR S</b> PLANTOLUBE POLAR S oils are environmentally friendly, rapidly biodegradable fluids, with an extremely low pourpoint. Thanks to their very high VI they can be used in a wide temperature range. PLANTOLUBE POLAR S oils offer outstanding protection against corrosion and wear. Highly ageing resistant. Surpass the requirements of DIN 51524-3: HVLP (except TOST test) ISO 15380: HEES.	899	156	15	4.1	199	<-48	Gears, bearings, actuators used at extremely low temperatures (e.g. polar regions). Hydraulic systems operated under low temperatures can also be run with oils from the POLAR S range. The changeover guidelines according to ISO 15380 must be observed.
<b>PLANTOLUBE POLAR 22 S</b> 		908	166	22	5.7	200	<-51	






# PLANTO

Product name	Description	Density at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour-point °C	Main application area
Environmentally Friendly Synthetic Circulating and Gear Oils								
PLANTOGEAR 100 HVI* 	Range PLANTOGEAR HVI Environmentally friendly circulation and EP gear oils based on special saturated synthetic ester with high ageing stability, good load carrying capacity and excellent wear protection. The products PLANTOGEAR 100 HVI and 150 HVI meet and exceed the requirements according to DIN 51517-3: CLP -E AGMA 9005 / E02: EP Awarded the EU Ecolabel (EEL).	927	>270	100	13.7	138	-33	Universal CLP gear oils. The products are used in spur, bevel, planetary and worm gears, specially in environmentally sensitive areas, as well as for lubrication of drives in water protection areas, where by oil leaks groundwater and surface water could be endangered. The changeover guidelines according to ISO 15380 must be observed.
PLANTOGEAR 150 HVI* 		928	>270	150	19.1	145	-30	
PLANTOGEAR 220 S* 	Range PLANTOGEAR S Rapidly biodegradable high-performance gear oils based on special, saturated esters. Extremely high thermal and ageing stability, high viscosity index, good viscosity-temperature behaviour. For low-temperature applications. Excellent self- cleaning power due to polar ester structures, reduced friction, excellent wear protection. The PLANTOGEAR S series surpass the requirements of industrial gear oils DIN 51517-3: CLP-E ISO 6743-6 and ISO 12925-1: CKC, CKD, CKE. AGMA 9005/E02: EP Awarded the EU Ecolabel (EEL)	938	280	220	26.2	152	-30	For highly stressed spur, bevel, planetary and worm gears - above all in areas where leakages could present a hazard to soil and to ground or surface water. For high and low application temperatures. High, shearstable viscosity index. Can be used as a self-cleaning gear oil (flushing oil).
PLANTOGEAR 320 S* 		943	280	320	35.1	155	-30	
PLANTOGEAR 460 S* 		951	280	460	48.0	163	-30	
PLANTOGEAR 680 S* 		958	280	680	66.0	170	-30	
Environmentally Friendly Slideway Oils / Lubrication Oils								
PLANTOLUBE CGLP 68 S 	Slideway oil based on synthetic esters with very good biodegradability. Prevents stick-slip. Load carrying capacity and wear protection are outstanding.	916	280	68	12.1	170	-33	PLANTOLUBE CGLP 68 S is designed for the use in combination with PLANTOCOOL and PLANTOCUT.
PLANTO TAC 68  (4 x 5 L) 	Biodegradable high-performance chain saw oil based on rapeseed oils. Excellent lubrication behaviour, good ageing resistance.	924	>270	68	12.0	216	-39	For the professional use in chain saws.  Recommendations: Husqvarna, Stihl, Solo, Dolmar
PLANTOTAC HV 220 N 	High-quality adhesive oil based on vegetable oil, environmentally friendly and rapidly biodegradable. PLANTOTAC HV 220 N offers very good VT behaviour, adhesive properties and excellent wear protection. FZG A/8.3/90 failure load stage > 12. 220 N: CG 220	955	>250	249	31.5	169	-36	Predominantly for so-called loss lubrication, such as on non-oil-tight bearings, saw frames, guide ways, joints, bolts, etc.
PLANTOTAC HV 100 S 	PLANTOTAC HV-N oil is based on ageing-stable synthetic esters. 100 S: CG 100	924	300	100	17.5	193	-36	Predominantly for so-called loss lubrication, such as on non-oil-tight bearings, saw frames, guide ways, joints, bolts, etc. Especially for higher operating temperatures.





















## Industrial Oils



Product name	Description	Density at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour-point °C	Main application area
Cylinder Oils								
RENOLIN CH 500 	Range RENOLIN CH High-quality, mineral oil-based cylinder oils. Good thermal stability and low coking. Exceed the requirements of Z lubricating oils according to DIN 51510.	929	318	965	44.0	84	-6	For steam temperatures up to 340 °C in stationary equipments, for steam machines up to 325 °C.
RENOLIN CH 700 		927	>290	2020	81.0	98	-15	For highest steam temperatures up to 380 °C, intermittent working steam machines above 325 °C. Specially for old steam locomotives.
Tacky Oil								
RENOTAC 345 	High-quality tacky and lubricating oil based on mineral oils with lubricity improvers and anti-wear agents. Good EP and adhesive performance (tackiness). Lubricant for all total-loss applications (plain bearings, slideways, guides etc.). 345: CG(L) 220	890	250	220	19.7	100	-15	Lubricant for point of loss lubrication, for example slideways, guide ways, slide bearings at wood, packaging and textile machines.












# RENOLIN

Product name	Description	Density at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour-point °C	Main application area
Heat Transfer Oils								
RENOLIN THERM 250 	<b>Range RENOLIN THERM</b> Heat transfer oils based on mineral oils with high thermal stability. High heat transfer coefficients.	892	154	10.2	2.4	–	<-42	Application range: -20 °C to 250 °C (film temperature)  <b>Based on mineral oils</b>
RENOLIN THERM 320   		870	225	43.7	6.5	–	-12	Application range: -10 °C to 320 °C (film temperature)  <b>Based on mineral oils</b>
RENOLIN THERM 330 S  	Synthetic heat transfer oil with very high thermal stability. Mixture of low volatile alkylbenzenes.	864	>190	21	4.1	–	-60	Application range: until 320 °C (film temperature)  <b>Based on synthetic oils</b>
RENOLIN THERM 380 S 	Synthetic heat transfer oil. Extremely high thermal stability. Minimum coking tendency.	1043**	200*	16.5	3.1	–	-34	Application range: until 380 °C (film temperature)  <b>Based on synthetic oils</b>
Special Sealing Oils for Gasometers								
RENOLIN GAS 68  	<b>Range RENOLIN GAS</b> RENOLIN GAS are special sealing oils for gasometers. They are based on carefully chosen base oils and contain efficient additives to protect the oils against oxidation and to guarantee a reliable corrosion protection. RENOLIN GAS oils show high compatibility with various gases and contain efficient anti stick-slip components.	898	232	68	7.9	78	-36	RENOLIN GAS oils can be used in various applications. They have a high pumpability and good cold flow behaviour (low pourpoints). Moreover they display very good anti stick-slip characteristics and show very good demulsibility. Especially developed for the use as sealing oils in gasometers.
RENOLIN GAS 70  (on request)		867	245	68	9.1	113	-39	
RENOLIN GAS 150  (on request)		880	266	150	15.4	104	-33	
Pneumatic Oils								
RENOLIN Abbauhammeröl DA 	Mineral oil with anti-wear and anti-corrosion additives as well as special detergent/dispersant additive for excellent self-cleaning properties. Condensed water is emulsified.	876	210	33	5.5	102	-33	For jack hammers and other pneumatic tools, at ambient temperatures above 0 °C.
RENOLIN SDL 1808  (4 x 5 L) 	Fully synthetic pneumatic oil with high wear and corrosion protection.	1116	140	11	2.2	–	-51	Also for ambient temperatures below -3 °C; prevents freezing of valves and other components contaminated by moisture.  <b>Based on polyglycol</b>
KOMPRANOL GRÜN  (20 x 0.25 L)  (10 x 1 L)  (4 x 5 L) 	Eco-friendly lubricating and preservation fluid for compressed air tools	1083	112	20	2.3	–	-75	For compressed air tools of all types, e.g. pneumatic hammers and chisels, tunnelling machines, pneumatic pile drivers in all industries. Absorbs water condensate without loss of the lubricity.



\* measured according to Pensky-Martens (Flashpoint P.M.)

\*\* Density at 20 °C

## Industrial Oils

Product name	Description	Density at 15 °C kg/m <sup>3</sup>	Flash point Clev. °C	Kin. visc. at 40 °C mm <sup>2</sup> /s	Kin. visc. at 100 °C mm <sup>2</sup> /s	VI	Pour-point °C	Main application area
Pneumatic Oils								
<b>KOMPRANOL PF 84</b>  (20 x 0.25 L)  (10 x 1 L)  (4 x 5 L) 	Synthetic, eco-friendly oil for compressed air tools.	1083	111	20	2.4	–	-75	Mixture of fully-synthetic oil with additives for protection against corrosion and wear. For lubrication of compressed air tools such as pneumatic hammers and chisels, displacement mole drives, and pneumatic tools in all branches of industries, especially in the construction industry. Picks up condensate without loss of lubricating quality.
Test Oils								
<b>Referenzflüssigkeit IRM 901</b> 	Reference oils for laboratories	882	243	213	19.1	–	-12	Reference oils for laboratory tests, mainly used for elastomer compatibility tests. Successor products for old ASTM test oils.
<b>Referenzflüssigkeit IRM 902</b>  (1 x 5 L)		935	243	441	18.8	–	–	
<b>Referenzflüssigkeit IRM 903</b>  (1 x 5 L)		920	171	29.5	4.3	–	-33	
<b>RENOLIN FST 101</b>  (20 x 1 L)	Leakage test oil concentrate	990	>100	>40	–	–	-33	Fluorescent leak detection concentrate for lubricating and hydraulic oils.
<b>PRÜFFARBSTOFF blau</b>  (14 x 1 L)	Leakage test oil concentrate	990	–	–	–	–	–	Blue dye for leak detection in hydraulic and lubricating oils.
<b>RENOLIN ANTI-STICK-SLIP</b>  (4 x 5 L) 	Universal anti-stick-slip additive	944	270	103	–	–	> -20	RENOLIN Anti-Stick-Slip has been used successfully in hydraulic systems of elevators, forklifts, agricultural machinery, platform lifts, hydraulic vibration dampers, etc. Recommended concentration: 2%

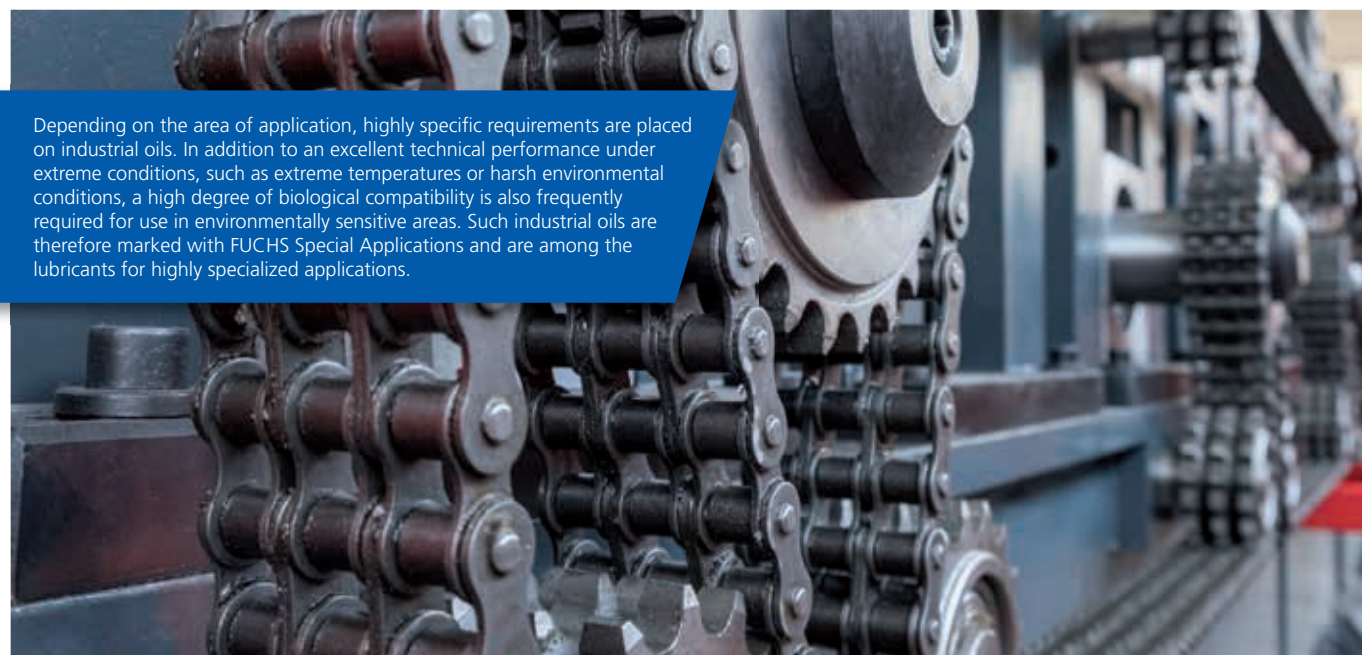
# RENOLIN

Product name	Description	Density at 15 °C kg/m <sup>3</sup>	Flash point Clev. °C	Kin. visc. at 40 °C mm <sup>2</sup> /s	Kin. visc. at 100 °C mm <sup>2</sup> /s	VI	Pour-point °C	Main application area
<b>Water-Glycol Coolant Fluid</b>								
<b>RENOLIN MPG 5 MIX 30 IDM</b> 	Premixed, ready-to-use water-glycol coolant-fluid with a concentration of 30% mono propylene glycol. The product is colored blue nad is fluorescing. To ensure long lifetime, de-ionized water has been used to dilute the product.  Freezing Point [°C]: -11 °C pH value [-]: 8.4 Reserve alkality [0,5N HCl / 50g]: 5.0	1028	–	–	–	–	–	Specially developed for the use as special spindle coolant in CNC machinery. The product is recommended for all circulating systems, either for heating or cooling purposes. It also provides good frost protection, good aging stability and good corrosion protection against iron and non-ferrous metals.
<b>RENOLIN MPG 5 CONC IDM</b> 	Cooling fluid concentrate based on mono propylene glycol and additives. The concentrate has excellent corrosion protection properties, is colored blue and is fluorescing. Easy mixability, good corrosion protection and long lifetime.  Freezing Point with 40 vol% [°C]: -17 Freezing Point with 50 vol% [°C]: -26 pH value [-]: 7.8 Reserve alkality [0.5 N HCL / 50 g]: 8.8	1044	>110	16.7	–	–	–	The RENOLIN MPG 5 CONC IDM is recommended for industrial circulation systems as coolant, heating or frost protection. The concentrate has to be mixed with water acc. to the manufacturer to be ready-to-use. A minimum concentration of 33% of RENOLIN MPG 5 CONC IDM has to be ensured.

## FUCHS Special Applications

### Industrial Oils










Depending on the area of application, highly specific requirements are placed on industrial oils. In addition to an excellent technical performance under extreme conditions, such as extreme temperatures or harsh environmental conditions, a high degree of biological compatibility is also frequently required for use in environmentally sensitive areas. Such industrial oils are therefore marked with FUCHS Special Applications and are among the lubricants for highly specialized applications.



Product name	Description	Density at 20 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour point °C	Main application area
<b>Chain Fluids for Temperatures up to +150 °C</b>								
<b>STABYLAN 3080</b> <div> <div></div> <div>(4 x 5 L)</div> <div></div> <div>(60 L, 205 L)</div> </div>	Mineral oil-based chain lubricant	920	>200	100	8.8	37	-25	For chain drives operating at high humidity, e.g. in docks, escalators, drive and conveying chains. Operating temperature -25 to +80 °C  <b>Base oil: mineral oil</b>
<b>STABYLAN 2001</b> <div> <div></div> <div>(4 x 5 L)</div> <div></div> <div>(60 L, 205 L)</div> <div></div> </div>	Semi-synthetic chain lubricant	910	>230	215	21.1	116	-19	For conveyor and drive chains operating at elevated temperatures e.g. in the chemical industry, mechanical engineering and wood processing. Operating temperature -15 to +150 °C
<b>STABYLAN 2001 SPRAY</b> <div> <div></div> <div>(12 x 400 ml)</div> </div>		795	–	215	21.1	116	-19	
<b>STABYLAN 2080</b> <div> <div></div> <div></div> </div>	Semi-synthetic lubricant with solid lubricants	905	>220	408	26.2	86	-15	STABYLAN 2080 is used for highly-loaded chains in the conveyor and drive technology, e.g. in the chemical industry, in mechanical engineering, wood and plastics processing, packaging equipment, etc. STABYLAN 2080 is well-proven for the lubrication of press guides in the forging industry. Operating temperature -10 to +120 °C  <b>Base oil: semi-synthetic</b>
















# STABYLAN

Product name	Description	Density at 20 °C kg/m <sup>3</sup>	Flash point Clev. °C	Kin. visc. at 40 °C mm <sup>2</sup> /s	Kin. visc. at 100 °C mm <sup>2</sup> /s	VI	Pour-point °C	Main application area
<b>Chain Fluids for Temperatures up to +150 °C</b>								
<b>STABYLAN G 1000</b>  (1 L)  (4 x 5 L)  (60 L, 205 L)	Chain lubricant with graphite	900	158	40	7.7	165	-38	For chain drives of all types in the normal temperature range, e.g. in the automotive industry, chemical industry, mechanical engineering, for transport or conveyor chains, forklift chains and external wire rope lubrication. Operating temperature -30 to +100 °C  <b>Base oil: mineral oil</b>
<b>STABYLAN G 1000 SPRAY</b>  (12 x 400 ml)		730	–	40	7.7	165	-38	
<b>STABYLAN GY SPRAY</b>  (12 x 400 ml)	Colourless and odourless white oil-based chain spray	780	–	-71	8.5	88	-6	Is intended for the lubrication of slideways, sliding guides and transport chains on machines. It is also successfully used to reduce friction in the assembly of electrical cables. In addition, it can also be used as a universal lubricant wherever conventional lubricating oils are undesirable due to their colour or odour. odour, conventional lubricating oils are not desirable. Operating temperature -20 to +100 °C  <b>Base oil: white oil</b>
<b>Chain Fluids for extreme Temperatures from +150 °C (up to 300 °C)</b>								
<b>STABYLAN 3001</b>  (4 x 5 L)  (60 L, 205 L)	Fully synthetic chain lubricant	922	284	160	18	124	-19	For chains, plain and roller bearings at high temperatures, e.g. in furnaces, dryers, stenter frames. Very good hot water resistance. Operating temperature -10 to +220 °C  <b>Base oil: fully synthetic</b>
<b>STABYLAN MO 3001</b>  (4 x 5 L)  (60 L)	Chain lubricant with MoS <sub>2</sub>	920	300	160	18	124	-19	
								For conveyor and drive chains as well as plain and roller bearings and sliding surfaces particularly for high-temperature operation in furnaces and dryers etc., e.g. in the chemical and automotive industry, in mechanical engineering, wood and plastics processing, packaging systems and in glass industry. Excellent dry running properties. Operating temperature -10 to +220 °C  <b>Base oil: fully synthetic</b>











Density Specification at 20 °C

 = Spray Can,  = 20 L (Canister),  = 205 L (Drum),  = 1000 L (IBC),  = Tank Truck

## FUCHS Special Applications Industrial Oils

Product name	Description	Density at 20 °C kg/m <sup>3</sup>	Flash point Clev. °C	Kin. visc. at 40 °C mm <sup>2</sup> /s	Kin. visc. at 100 °C mm <sup>2</sup> /s	VI	Pour-point °C	Main application area
<b>Chain Fluids for extreme Temperatures from +150 °C (up to 300 °C)</b>								
<b>STABYLAN 5000</b>  (1 L)  (4 x 5 L) 	Fully synthetic high-temperature chain lubricant with low base oil viscosity	970	>260	100	12	110	-30	For conveyor and drive chains, stenter frames, conveying equipment, dryers in the chemical, mechanical engineering and textile industries. Is characterised by very low evaporation losses and does not form any lacquer-like deposits even at increased operating temperatures. Good creep ability due to low base oil viscosity. Operating temperature -20 to +240 °C  <b>Base oil: fully synthetic</b>
<b>STABYLAN 5001</b>  (10 x 1 L)  (4 x 5 L)  (60 L, 205 L)	Fully synthetic high-temperature chain lubricant with good paint compatibility	970	>260	180	16	91	-20	For high-temperature applications for conveyor and drive chains, bearings and sliding surfaces in the chemical, textile technology and raw materials industries. Is characterised by very low evaporation losses and does not form any lacquer-like deposits even at increased operating temperatures. Excellent for lubricating conveyor chains in painting lines in the automotive industry. Operating temperature -15 to +240 °C  <b>Base oil: fully synthetic</b>
<b>STABYLAN 5001 SPRAY</b>  (12 x 400 ml)		820	–	180	16	91	-20	
<b>STABYLAN 5006</b>  (4 x 5 L) 	Fully synthetic high-temperature chain lubricant with high base oil viscosity	940	245	3000	136	132	-7	"Chain honey" for largesized conveyor and drive chains, sliding surfaces, cams, bearings and disc cams e.g. in the chemical industry, in mechanical engineering, steel hydraulics and in printing machines. Is characterised by very low evaporation losses and does not form any lacquer-like deposits even at increased operating temperatures. Minimized fling-off behaviour due to high base oil viscosity. Operating temperature 0 to +240 °C  <b>Base oil: fully synthetic</b>
<b>STABYLAN 5006 SPRAY</b>  (12 x 400 ml)		780	–	3000	136	132	-7	
<b>STABYLAN 5020</b>   	Fully synthetic high-temperature chain lubricant	970	>250	220	20	107	-42	STABYLAN 5020 is suitable for high-temperature applications of all types of conveyor and drive chains. STABYLAN 5020 was especially developed for the lubrication of chains in curing ovens in the production of gypsum board dryers. Operating temperature -20 to +250 °C  <b>Base oil: fully synthetic</b>

# STABYLAN

Product name	Description	Density at 20 °C kg/m <sup>3</sup>	Flash point Clev. °C	Kin. visc. at 40 °C mm <sup>2</sup> /s	Kin. visc. at 100 °C mm <sup>2</sup> /s	VI	Pour-point °C	Main application area
<b>Chain Fluids for extreme Temperatures from +150 °C (up to 300 °C)</b>								
<b>STABYLAN 6020</b>  (1 L)  (4 x 5 L) 	Chain fluid for extremely high temperatures	980	>280	130	14	105	-39	For minimum quantity lubrication of chains in tempering furnaces for insulation production as well as all types of steel link chains. Is characterised by very low evaporation losses and does not form any lacquerlike deposits even at increased operating temperatures. The high flash point offers maximum safety at high temperatures. Operating temperature -20 to +260 °C  <b>Base oil: fully synthetic</b>
<b>STABYLAN 7001</b> 	High performance high temperature chain lubricant	960	>280	233	26	140	-33	STABYLAN 7001 maximises the lubrication performance in high temperature chain applications. Exceptionally high thermal stability and very good wear protection properties can significantly increase the running time of components, save energy and reduce the number of oven fires - while at the same time reducing lubricant consumption. Excellent for the lubrication of chains in hardening furnaces in insulation production. Operating temperature -20 to +300 °C  <b>Base oil: fully synthetic</b>
<b>Environmentally Friendly Chain Fluids</b>								
<b>STABYLAN ECO 20</b>  (1 L)  (4 x 5 L) 	Biodegradable lubricating fluid	950	>280	95	14	150	-60	For all types of chains and oil-lubricated machine elements, particularly in environmentally sensitive areas characterised by its very good corrosion protection and high water resistance. Operating temperature -40 to +160 °C  <b>Base oil: fully synthetic</b>
<b>STABYLAN ECO W 10</b>  (4 x 5 L)  (50 L, 205 L)	Biodegradable synthetic oil with white solid lubricants	890	>180	18	—	—	-60	For lubrication of levers, joints, chains and other mechanisms, particularly for oscillating movements. Wherever rapid and self-factivating penetration of the lubricant is required. Operating temperature -20 to +110 °C  <b>Base oil: fully synthetic</b>
<b>STABYLAN ECO W 10 SPRAY</b>  (12 x 400 ml)		860	12	18	—	—	-60	

Density Specification at 20 °C

 = Spray Can,  = 20 L (Canister),  = 205 L (Drum),  = 1000 L (IBC),  = Tank Truck

## FUCHS Special Applications Industrial Oils



Product name	Description	Density at 20 °C kg/m <sup>3</sup>	Flash point Clev. °C	Kin. visc. at 40 °C mm <sup>2</sup> /s	Kin. visc. at 100 °C mm <sup>2</sup> /s	VI	Pour-point °C	Main application area
<b>Lubricants for Rail Vehicles</b>								
<b>TRAMLUB S 3</b> (10 L) (60 L, 205 L)	Eco-friendly rail and wheel flange lubricating fluid	860	120	165	17	110	-42	For eco-friendly lubrication of rails and wheel flanges of railway vehicles as well as for lubrication of switches. TRAMLUB S 3 is also very suitable for eco-friendly lubrication of chains. Operating temperature -25 to +100 °C  <b>Base oil: fully synthetic</b>
<b>TRAMLUB S 4</b> (1 L, 10 L) 		840	155	37	6	106	-55	For eco-friendly lubrication of rails and wheel flanges of railway vehicles. Especially suitable for low temperatures. Operating temperature -30 to +100 °C  <b>Base oil: fully synthetic</b>
<b>TRAMLUB S 5</b> (1 L, 10 L) (60 L, 205 L)		920	300	68	12	175	-30	For eco-friendly lubrication of rails and wheel flanges of railway vehicles as well as for reliable lubrication of sliding surfaces of switch plates, biodegradable. Operating temperature -30 to +100 °C  <b>Base oil: fully synthetic</b>

Density Specification at 20 °C

= Spray Can, = 20 L (Canister), = 205 L (Drum), = 1000 L (IBC), = Tank Truck











## FUCHS Special Applications Industrial Oils

Product name	Description	Density at 20 °C kg/m <sup>3</sup>	Flash point Clev. °C	Kin. visc. at 40 °C mm <sup>2</sup> /s	Kin. visc. at 100 °C mm <sup>2</sup> /s	VI	Pour-point °C	Main application area
Lubricants for Noise Reduction								
<b>CARBAFLO XTR 5F 80</b> Packages on request	Perfluorinated high-performance lubricating fluid including UV-tracer	1900	–	174	34	242	-63	After the evaporation of the carrier liquid a thin, anti-squeakeffective film remains which can be detected on any surface by a UV lamp. Used to avoid squeaking noise in the vehicle interior and for sealing systems. The CARBAFLO XTR 5F 80 version offers increased creeping ability when the product is applied. Operating temperature -54 to +220 °C  <b>Base oil: fully synthetic</b>

Density Specification at 20 °C

■ = Tin, ■ = Spray Can, ■ = 20 L (Canister), ■ = 205 L (Drum), ■ = 1000 L (IBC), ■ = Tank Truck

## CARBAFLO, CHEMPLEX

Product name	Description	Density at 20 °C kg/m <sup>3</sup>	Flash point Clev. °C	Kin. visc. at 40 °C mm <sup>2</sup> /s	Kin. visc. at 100 °C mm <sup>2</sup> /s	VI	Pour-point °C	Main application area
<b>Silicone Lubricant / Si-Fluids</b>								
<b>CHEMPLEX SI SPRAY</b>  (12 x 400 ml) Packages on request	Silicone lubricant	977	–	730	302	476	-50	CHEMPLEX SI SPRAY combines the excellent properties of silicone lubricants with the easy application from a spray can. Water-repellent, not greasy, does not attack plastics and rubber elastomers. For lubrication of telescopic platforms of road finishers, door sealings of vehicles, zippers, snaps fasteners, hinges, precision mechanics. Only available as spray! Operating temperature -40 to +250 °C  <b>Base oil: fully synthetic</b>
<b>Chemically Resistant Lubricating Fluid / Fluorinated Fluids</b>								
<b>ONTROPEEN 40</b>  (1 kg) Packages on request	Chemically resistant lubricating fluid based on perfluorinated polyether	1890	–	80	10.1	108	-35	For lubrication of special machine elements in the chemical industry at high and low temperatures. It is recommended as a pressure transfer fluid for process control devices in the chemical industry. Operating temperature -30 to +260 °C  <b>Base oil: fully synthetic</b>
<b>Solid Lubricant Additives / MoS<sub>2</sub></b>								
<b>MOLYPHIDE 10</b>  	MoS <sub>2</sub> suspensions	920	210	30	5.2	103	-15	MOLYPHIDE 10% and MOLYPHIDE 20% are thermally stable colloidal suspensions of highpurity molybdenum disulphide in mineral oil. The products are used as MoS <sub>2</sub> additive concentrate for engine and machine oils.  <b>Base oil: mineral oil</b>
<b>MOLYPHIDE 20</b>  		940	>235	30	5.2	103	-12	

# LUBRICATING GREASES / PASTES

Greases are viscous, tough to solid lubricants. By selecting suitable oils, thickeners and additives, the properties of the lubricating greases can be optimally adjusted for the most diverse applications with the corresponding experience and know-how. For example, there are greases for high or very low temperatures, for applications in vacuum, particularly water-resistant and weather-proof, particularly pressure-resistant or capable of creep, rapidly biodegradable or particularly adhesive greases.

Pastes are consistent lubricants, which contain special solid lubricants to optimise their lubrication performance. It is precisely in the marginal areas of grease lubrication where grease pastes exhibit their exceptional efficiency, e.g. with high loads or rapidly changing directions of movement. They reduce friction and protect against wear.

With the lubricating greases and pastes from FUCHS, you have one of the largest grease ranges on the market - for almost all applications and requirements and for the best possible technical and economical solutions.








## Lubricating Greases / Pastes

Multipurpose / Longlife Greases	66-69
Greases for Plain and Roller Bearings	70-78
Greases for Gear Boxes	79-81
Rapidly Biodegradable Greases	82-83
Greases for Machine Tools	84-85
Greases for Rail Traffic	86-87
Greases for Extreme High Temperatures	88-92
Greases for Extreme Low Temperatures	93
Greases for Central Lubricating Systems	94-95
Greases with Solid Lubricants	96-102
Perfluorinated Pastes	103-105
Greases in Spray Cans or Rattle Cans	106-107
Assembly Pastes	108-109
Greases for Special Applications	110-117
























## Lubricating Greases / Pastes






















Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubricants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Temperature range [°C]	Approvals, recommendations	Main application area
<b>Multipurpose / Longlife Greases</b>								
<b>PLANTOGEL ECO 2 S</b>	–	Li/Ca synth. ester	•	2	195	-30 / +120	–	Rapidly biodegradable EP multipurpose grease with solid lubrications for lubrication of plain and roller bearings, e.g. commercial vehicles and construction machinery.
 12 x 0,4 kg (Cartridge), 18 kg (Bucket), 50 kg (Hobbock), 180kg (Drum)								
<b>PLANTOGEL ECO 2 FS</b>	ISO-L-XD(L)CEB 2	Li/Ca synth. ester	–	2	105	-40 / +120	EU Ecolabel DE/027/273 	Rapidly biodegradable EP multipurpose grease for plain and roller bearing lubrication, e.g. water turbines or in agriculture and forestry. Good pumpability in central lubricating systems.
 18 kg (Bucket), 180kg (Drum)								
<b>PLANTOGEL ECO 402 S</b>	ISO-L-XD(F)BFB 2	Li/Ca synth. Ester	–	2	240	-40 / +120	EU Ecolabel DE/027/273 	Rapidly biodegradable EP multipurpose grease for lubrication of plain and roller bearings, e.g. commercial vehicles and construction machinery. Good pumpability in central lube systems.
 18 kg (Bucket)								



# PLANTO, RENOLIT

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommen- dations	Main application area
Multipurpose / Longlife Greases								
<b>RENOLIT CA-LZ</b>  (Spray can: RENOLIT CA-LZ SPRAY)	KP2K-30 ISO-L- XC(F)CHB 2	Calcium Mineral oil	–	2	700	-30 / +120	–	Strongly adhesive, protects from wear even under extreme conditions, very resistant to water wash-out from metallic surfaces, long-term lubrication of passenger cars and commercial vehicles, construction industry, industrial and agricultural machines.
   12 x 0,4 kg (Cartridge), 30 x 0,5 kg (Cartridge), 18 kg (Bucket), 50 kg (Hobcock), 180 kg (Drum)								
<b>RENOLIT LX 1</b>	–	Li-X Mineral oil	–	1	160	-30 / +160	–	Roller bearings, electric motor bearings, coupling bearings in the automotive sector, construction machines, forging presses.
   12 x 0,4 kg (Cartridge), 18 kg (Bucket), 50 kg (Hobcock), 180 kg (Drum)								
<b>RENOLIT LX 2</b>	–	Li-X Mineral oil	–	2	160	-30 / +160	–	Roller bearings, electric motor bearings, coupling bearings in the automotive sector, construction machines, forging presses, wheel bearings of commercial vehicles, machine tools.
   12 x 0,4 kg (Cartridge), 30 x 0,5 kg (Cartridge), 18 kg (Bucket), 50 kg (Hobcock), 180 kg (Drum)								
<b>RENOLIT LX 3</b>	–	Li-X Mineral oil	–	3	160	-20 / +160	–	Roller bearings, electric motor bearings, coupling bearings in the automotive sector, construction machines, forging presses, wheel bearings of commercial vehicles.
   12 x 0,4 kg (Cartridge), 18 kg (Bucket), 180 kg (Drum)								
<b>RENOLIT FEP 2</b>	KP2N-20 ISO-L- XB(F)DEB 2	Lithium Mineral oil	–	2	220	-20 / +140	–	Steel mills, quarries, construction equipment and forging presses, machine tools.
   12 x 0,4 kg (Cartridge), 18 kg (Bucket), 50 kg (Hobcock), 180 kg (Drum)								
<b>RENOLIT FEP 25</b>	KP2-3N-20 ISO-L- XB(F)DEB 2-3	Lithium Mineral oil	–	2-3	220	-20 / +140	–	Steel mills, quarries, construction equipment and forging presses.
  12 x 0,4 kg (Cartridge), 18 kg (Bucket)								
<b>RENOLIT FLM 2</b>	KPF2N-30 ISO-L- XC(F)DEB 2	Lithium Mineral oil	•	2	100	-30 / +140	MAN 285 LI-PF 2	For mechanically loaded lubricating points, grease with MoS <sub>2</sub> , agricultural machines, commercial vehicles, construction industry, quarries and mining, rubber and concrete factory.
    12 x 0,4 kg (Cartridge), 30 x 0,5 kg (Cartridge), 18 kg (Bucket), 50 kg (Hobcock), 180 kg (Drum), BULK								










## Lubricating Greases / Pastes

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommen- dations	Main application area
Multipurpose / Longlife Greases								
<b>RENOLIT GP 1</b>	K1K-30 ISO-L- XC(F)CEA 1	Lithium Mineral oil	–	1	110	-30 / +120	–	Ageing resistant multipurpose greases with good corrosion protection properties for lubrication of plain and roller bearings, easily pumpable in central lubricating systems.
	18 kg (Bucket)							
<b>RENOLIT GP 2</b>	K2K-30 ISO-L- XC(F)CEA 2	Lithium Mineral oil	–	2	110	-30 / +120	–	
   	12 x 0,4 kg (Cartridge), 18 kg (Bucket), 50 kg (Hobcock), 180 kg (Drum)							
<b>RENOLIT GP 3</b>	K3K-30 ISO-L- XC(F)CEA 3	Lithium Mineral oil	–	3	110	-30 / +120	–	
   	12 x 0,4 kg (Cartridge), 18 kg (Bucket), 50 kg (Hobcock), 180 kg (Drum)							
<b>RENOLIT LX-PEP 2</b>	KP2N-30 ISO-L- XC(F)DEB 2	Li-X Mineral oil	–	2	170	-30 / +150	MAN 284 Li-H2, MB Approval 265.1, ZF TE-ML 12, Schaeffler Gruppe, VW TL 52 147 X, Interprecise (IDC-Bearings), Deutsche Bahn	Multipurpose grease, wheel bearings of motor vehicles, roller bearings of e-motors, needle bearings of cardan shafts, plain and roller bearings, ventilator grease.
  	12 x 0,4 kg (Cartridge), 12 x 0,5 kg (Cartridge), 18 kg (Bucket), 50 kg (Hobcock)							
<b>RENOLIT LX-PEP 3</b>	KP3N-30 ISO-L- XC(F)DEB 3	Li-X Mineral oil	–	3	170	-30 / +150	Interprecise (IDC-Bearings)	Multipurpose grease, wheel bearings of motor vehicles, roller bearings of e-motors, plain and roller bearings, ventilator grease
	180 kg (Drum)							
<b>RENOLIT MP</b>	KP2K-40 ISO-L- XD(F)CEB 2	Lithium Mineral oil	–	2	35	-40 / +120	DBL 6804.00 MB Approval 267.0	Multipurpose grease for lubricating points in passenger cars, commercial vehicles, engines, where constant temperature does not exceed 100 °C, sliding speeds are very low and which are not exposed to high mechanical loads.
    	30 x 0,25 kg (Tube), 12 x 0,4 kg (Cartridge), 3 x 5 kg (Bucket), 18 kg (Bucket), 50 kg (Hobcock), 180 kg (Drum)							
<b>RENOLIT MP PLUS</b>	KP2K-30 ISO-L- XC(F)CEB 2	Lithium Mineral oil	–	2	100	-30 / +120	–	High quality EP multipurpose grease with high adhesiveness for the lubrication of plain and roller bearings. Only available in SR-cartridges.
	20 x 0,5 kg (Cartridge)							



## Lubricating Greases / Pastes



























Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubricants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Temperature range [°C]	Approvals, recommendations	Main application area
<b>Greases for Plain and Roller Bearings</b>								
<b>PLANTOGEL ECO 2 S</b>	–	Li/Ca Synth. ester	•	2	195	-30 / +120	–	Rapidly biodegradable EP multipurpose grease with solid lubrications for lubrication of plain and roller bearings, e.g. commercial vehicles and construction machinery.
    12 x 0,4 kg (Cartridge), 18 kg (Bucket), 50 kg (Hobcock), 180 kg (Drum)								
<b>PLANTOGEL ECO 2 FS</b>	ISO-L- XD(L)CEB 2	Li/Ca Synth. ester	–	2	105	-40 / +120	EU Ecolabel DE/027/273 	Rapidly biodegradable EP multipurpose grease for plain and roller bearing lubrication, e.g. water turbines or in agriculture and forestry. Good pumpability in central lubricating systems.
  18 kg (Bucket), 180 kg (Drum)								
<b>PLANTOGEL ECO 402 S</b>	ISO-L- XD(F)BFB 2	Li/Ca Synth. ester	–	2	240	-40 / +120	EU Ecolabel DE/027/273 	Rapidly biodegradable EP multipurpose grease for lubrication of plain and roller bearings, e.g. commercial vehicles and construction machinery. Good pumpability in central lube systems.
 18 kg (Bucket)								








































## Lubricating Greases / Pastes

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubricants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Temperature range [°C]	Approvals, recommendations	Main application area
Greases for Plain and Roller Bearings								
<b>RENOLIT CXI 2</b>	–	CaSX Mineral oil	–	2	400	-20 / +160	–	Lubrication of high loaded, low speed plain and roller bearings and can be applied when the grease has to meet high demands on corrosion protection and working stability. Typical applications are plain and roller bearings in steel mills, paper industry, mining, concrete industry, quarries and construction equipment.
   	12 x 0,4 kg (Cartridge), 20 x 0,5 kg (Cartridge), 18 kg (Bucket), 50 kg (Hobbock), 180 kg (Drum)							
<b>RENOLIT LX 1</b>	–	Li-X Mineral oil	–	1	160	-30 / +160	–	Roller bearings, electric motor bearings, coupling bearings in the automotive sector, construction machines, forging presses.
   	12 x 0,4 kg (Cartridge), 18 kg (Bucket), 50 kg (Hobbock), 180 kg (Drum)							
<b>RENOLIT LX 2</b>	–	Li-X Mineral oil	–	2	160	-30 / +160	–	Roller bearings, electric motor bearings, coupling bearings in the automotive sector, construction machines, forging presses, wheel bearings of commercial vehicles, machine tools.
   	12 x 0,4 kg (Cartridge), 30 x 0,5 kg (Cartridge), 18 kg (Bucket), 50 kg (Hobbock), 180 kg (Drum)							
<b>RENOLIT LX 3</b>	–	Li-X Mineral oil	–	3	160	-20 / +160	–	Roller bearings, electric motor bearings, coupling bearings in the automotive sector, construction machines, forging presses, wheel bearings of commercial vehicles.
  	12 x 0,4 kg (Cartridge), 18 kg (Bucket), 180 kg (Drum)							
<b>RENOLIT FAP 502</b>	–	Li/Ca Mineral oil	–	2	500	-20 / +140	–	For high loaded plain and roller bearings with slow sliding speeds.
 	18 kg (Bucket), 50 kg (Hobbock)							
<b>RENOLIT FEP 2</b>	KP2N-20 ISO-L- XB(F)DEB 2	Lithium Mineral oil	–	2	220	-20 / +140	–	Steel mills, quarries, construction equipment and forging presses, machine tools.
   	12 x 0,4 kg (Cartridge), 18 kg (Bucket), 50 kg (Hobbock), 180 kg (Drum)							
<b>RENOLIT FEP 25</b>	KP2-3N-20 ISO-L- XB(F)DEB 2-3	Lithium Mineral oil	–	2-3	220	-20 / +140	–	Steel mills, quarries, construction equipment and forging presses.
 	12 x 0,4 kg (Cartridge), 18 kg (Bucket)							
<b>RENOLIT FLM 0</b>	–	Lithium Mineral oil	•	0	100	-30 / +120	–	For mechanically loaded lubricating points, grease with MoS <sub>2</sub> , and additives to improve corrosion protection, EP and AW.
	180 kg (Drum)							








# RENOLIT

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Appro- vals, re- commen- dations	Main application area
Greases for Plain and Roller Bearings								
RENOLIT FLM 2	KPF2N-30 ISO-L- XC(F)DEB 2	Lithium Mineral oil	•	2	100	-30 / +140	MAN 285 LI-PF 2	For mechanically loaded lubricating points, grease with MoS <sub>2</sub> , agricultural machines, commercial vehicles, construction industry, quarries and mining, rubber and concrete factory.
   	12 x 0,4 kg (Cartridge), 30 x 0,5 kg (Cartridge), 18 kg (Bucket), 50 kg (Hobbock), 180 kg (Drum), BULK							
RENOLIT GP 1	K1K-30 ISO-L- XC(F)CEA 1	Lithium Mineral oil	–	1	110	-30 / +120	–	Ageing resistant multipurpose greases with good corrosion protection properties for lubrication of plain and roller bearings, easily pumpable in central lubricating systems.
	18 kg (Bucket)							
RENOLIT GP 2	K2K-30 ISO-L- XC(F)CEA 2	Lithium Mineral oil	–	2	110	-30 / +120	–	
  	12 x 0,4 kg (Cartridge), 18 kg (Bucket), 50 kg (Hobbock), 180 kg (Drum)							
RENOLIT GP 3	K3K-30 ISO-L- XC(F)CEA 3	Lithium Mineral oil	–	3	110	-30 / +120	–	
  	12 x 0,4 kg (Cartridge), 18 kg (Bucket), 50 kg (Hobbock), 180 kg (Drum)							
RENOLIT H 443-HD 88	–	Lithium Mineral oil	–	2-3	110	-30 / +140	RWE Rheinbraun Flender Siemens	
  	20 x 0,4 kg (Cartridge), 30 x 0,5 kg (Cartridge), 18 kg (Bucket), 50 kg (Hobbock), 180 kg (Drum)							
RENOLIT HI-SPEED 2	KHCE2K-40 ISO-L- XD(F)CEA 2	Lithium Synth. base oil	–	2	18	-40 / +120	–	For high-speed bearings, n x dm = 1,4 Mio, machine tools and textile spindles, electrical motor, linear guiding.
   	0,5 kg (Cartridge), 1 kg (Tin), 18 kg (Bucket), 180 kg (Drum)							
RENOLIT HI-TEMP 100	KPHC2N-50 ISO-L- XE(F)DFB 2	Li-X PAO	–	2	100	-50 / +140	–	Used in a wide temperature range for lubrication of plain and roller bearings of, e.g., electric motors, traction motors, bearings and cardan shafts in polar regions.
  	12 x 0,38 kg (Cartridge), 18 kg (Bucket), 170 kg (Drum)							
RENOLIT HI-TEMP 220	KPHC2N-40 ISO-L- XD(F)DFB 2	Li-X PAO	–	2	220	-40 / +140	–	Used in a wide temperature range for lubrication of plain and roller bearings of, e.g. paper mills (wet sector), truck hub units, and cardan shafts.
  	12 x 0,38 kg (Cartridge), 18 kg (Bucket), 50 kg (Hobbock), 170 kg (Drum)							

## Lubricating Greases / Pastes

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommen- dations	Main application area
Greases for Plain and Roller Bearings								
RENOLIT HI-TEMP 460	KPHC2N-40 ISO-L- XD(F)DFB 2	Li-X PAO	–	2	460	-40 / +140	–	Lubrication of plain and roller bearings of conveyor gears (e.g. in open cast mining), pellet presses, paper mills, and for life-time lubrication in trucks and construction machines.
i   12 x 0,38 kg (Cartridge), 18 kg (Bucket), 170 kg (Drum)								
RENOLIT HLT 2	KPHC2N-40 ISO-L- XD(F)DBB 2	Lithium PAO	–	2	100	-40 / +140	–	For lubricating points with high requirements, especially those exposed to fluctuating ambient temperatures, e. g. lifetime lubrication of pneumatic applications, centrifuges, plain- and roller bearings
i   12 x 0,38 kg (Cartridge), 3 x 5 kg (Bucket), 18 kg (Bucket), 180 kg (Drum)								
RENOLIT JP 1619	–	Lithium Synth. base oil	–	1	25	-50 / +120	DBL 6804.70 VW TL 52 168 Dana Spicer Bosch MAN	EP-grease with additive for improve corrosion protection, ageing resistance and adhesiveness, lubrication of friction points requiring very good sliding behaviour, low start-up resistance, also at low temperature, e.g. rack and pinion steerings, prop shafts, high-speed bearings.
  10 x 1 kg (Tin), 18 kg (Bucket), further packages on request								
RENOLIT LX-PEP 1/2	KP1-2N -30 ISO-L- XC(F)DEB 1-2	Li-X Mineral oil	–	1-2	170	-30 / +150	–	High speed gears for power tools, e.g. power drill, circular hand saw, jigsaw, etc., needle cups and length adjustments of cardan shafts, plain and roller bearings.
  50 kg (Hobcock), 180 kg (Drum)								
RENOLIT LX-PEP 2	KP2N-30 ISO-L- XC(F)DEB 2	Li-X Mineral oil	–	2	170	-30 / +150	MAN 284 Li-H2, MB Approval 265.1, ZF TE-ML 12, Schaeffler Gruppe, VW TL 52 147 X, Interprecise (IDC-Bearings), Deutsche Bahn	Multipurpose grease, wheel bearings of motor vehicles, roller bearings of e-motors, needle bearings of cardan shafts, plain and roller bearings, ventilator grease.
i   12 x 0,4 kg (Cartridge), 12 x 0,5 kg (Cartridge), 18 kg (Bucket), 50 kg (Hobcock)								
RENOLIT LX-PEP 3	KP3N-30 ISO-L- XC(F)DEB 3	Li-X Mineral oil	–	3	170	-30 / +150	Interprecise (IDC-Bearings)	Multipurpose grease, wheel bearings of motor vehicles, roller bearings of e-motors, plain and roller bearings, ventilator grease
 180 kg (Drum)								

# RENOLIT

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommen- dations	Main application area
<b>Greases for Plain and Roller Bearings</b>								
<b>RENOLIT LZR 2 H</b>	KP2N-30 ISO-L- XC(F)DIB 2	Lithium Mineral oil	–	2	230	-30 / +140	Baier & Köppel	Premium multipurpose grease, long-term rust prevention, sealing grease, central lubricating systems, sugar refineries, roof tile factories, paper industry, prevent standstill corrosion, hytel compatibel.
 24 x 0,1 kg (Tube), 12 x 0,4 kg (Cartridge), 18 kg (Bucket), 50 kg (Hobstock), 180 kg (Drum)								
<b>RENOLIT MP</b>	KP2K-40 ISO-L- XD(F)CEB 2	Lithium Mineral oil	–	2	35	-40 / +120	DBL 6804.00 MB Approval 267.0	Multipurpose grease for lubricating points in passenger cars, commercial vehicles, engines, where constant temperature does not exceed 100 °C, sliding speeds are very low and which are not exposed to high mechanical loads.
 30 x 0,25 kg (Tube), 12 x 0,4 kg (Cartridge), 3 x 5 kg (Bucket), 18 kg (Bucket), 50 kg (Hobstock), 180 kg (Drum)								
<b>RENOLIT MP PLUS</b>	KP2K-30 ISO-L- XC(F)CEB 2	Lithium Mineral oil	–	2	100	-30 / +120	–	High quality EP multipurpose grease with high adhesiveness for the lubrication of plain and roller bearings. Only available in SR cartridges.
 20 x 0,5 kg (Cartridge)								
<b>RENOLIT MP 150</b>	KP2K-40 ISO-L- XD(F)CEB 2	Lithium Mineral oil	–	2	150	-40 / +120	DBL 6804.50 MB Approval 267.1	Multipurpose grease for commercial vehicles. Daimler wheel bearing grease for workshop use.
 3 x 5 kg (Bucket), 50 kg (Hobstock), 180 kg (Drum)								
<b>RENOLIT POLAR BLACK</b>	–	Lithium PAO	•	1-2	340	-50 / +140	–	Fully synthetic heavy duty all-season grease with solid lubricants for plain and roller bearings of construction machines and mining vehicles exposed to changing ambient temperatures.
 180 kg (Drum)								
<b>RENOLIT PU-FH 300</b>	KP2R-20	PU Mineral oil	–	2	500	-20 / +180	–	Lubricating points exposed to high thermal loads and bearings with slow sliding speeds (asphalt pavers).
 20 x 0,4 kg (Cartridge), 18 kg (Bucket), 180 kg (Drum)								
<b>RENOLIT PU-MA 2</b>	KPFH- C2R-40 ISO-L- XD(F)FEB 2	PU PAO	•	2	100	-40 / +180	–	Lubrication of electric motors, hot-air blowers, tumble dryers, black-rubber mixers, paper industry dryers, calander bearings, etc.
 12 x 0,4 kg (Cartridge), 18 kg (Bucket), 180 kg (Drum)								









# LAGERMEISTER, RENOLIT, STABYL, URETHYN































Product name	Classifi- cation DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommen- dations	Main application area
Greases for Plain and Roller Bearings								
LAGERMEISTER SL  i	K2-3K-20	Lithium Mineral oil	–	2-3	100	-20 / +120	–	For lubrication of plain and roller bearings at normal operating temperatures in mechanical engineering, and conveyors. It is also suitable as a chassis and sealing grease.
30 x 0,4 kg (Cartridge), 30 x 0,5 kg (Cartridge), 5 kg (Bucket), 18 kg (Bucket)								
LAGERMEISTER SLG  i	KF2K-30	Lithium Mineral oil	•	2	100	-30 / +120	–	
30 x 0,4 kg (Cartridge), 30 x 0,5 kg (Cartridge), 45 kg (Hobbock)								
STABYL 300 AL 1  i	KPF1P-20	Al-X Mineral oil	•	1	320	-20 / +150	–	For plain and roller bearings, guides at highest loads, high temperatures and considerable temperature fluctuations, e.g. in raw materials industry, iron and steel works, chemical industry, sintering plants, calanders, extruders.
30 x 0,4 kg (Cartridge), 45 kg (Hobbock), 185 kg (Drum)								
STABYL 300 AL 2  i	KPF2P-20	Al-X Mineral oil	•	2	320	-20 / +150	–	
30 x 0,4 kg (Cartridge), 18 kg (Bucket), 45 kg (Hobbock), 185 kg (Drum)								
STABYL AX 1  i	KP1P-20	Al-X Mineral oil	–	1	320	-20 / +150	Palfinger Sys- tems, Sprimag Spritzmaschi- nenbau	Universal greases for many applica- tions at highest specific loads, high temperatures and and considerable temperature fluctuations. Particular- ly suitable for central lubrication systems with long feed lines and low diameters.
30 x 0,4 kg (Cartridge), 18 kg (Bucket), 185 kg (Drum)								
STABYL AX 2  i	KP2P-20	Al-X Mineral oil	–	2	320	-20 / +150	Palfinger Sys- tems, Sprimag Spritzmaschi- nenbau	
30 x 0,4 kg (Cartridge), 30 x 0,5 kg (Cartridge), 6 x 1 kg (Tin), 5 kg (Bucket), 18 kg (Bucket), 45 kg (Hobbock), 185 kg (Drum)								
URETHYN E/M 1  i	KPE1R-20	PU Semi- synth. base oil	–	1	150	-20 / +160	ANDRITZ, Bosch Rexroth, KHD Humboldt, Wedag Interna- tional, NEFF Gewindetriebe	Long-life lubrication of plain and roller bearings, e.g. electric motor bearings in textile machines, venti- lator bearings in dryers and kilns, spindle bearings. Lubrication of plastics, elastomers and sealing elements.
30 x 0,4 kg (Cartridge), 6 x 1 kg (Tin), 5 kg (Bucket), 18 kg (Bucket), 185 kg (Drum)								
URETHYN E/M 2  i	KPE2R-20	PU Semi- synth. base oil	–	2	150	-20 / +180	ANDRITZ, Bosch Rexroth, KHD Humboldt, Wedag Interna- tional, NEFF Gewindetriebe	Long-life lubrication of plain and roller bearings, e.g. electric motor bearings in textile machines, venti- lator bearings in dryers and kilns, spindle bearings. Lubrication of plastics, elastomers and sealing elements.
30 x 0,4 kg (Cartridge), 30 x 0,5 kg (Cartridge), 6 x 1 kg (Tin), 5 kg (Bucket), 18 kg (Bucket), 45 kg (Hobbock), 185 kg (Drum)								

## Lubricating Greases / Pastes









Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm <sup>2</sup> /s]	Tem- pera- ture range [°C]	Approvals, recommen- dations	Main application area
Greases for Plain and Roller Bearings								
<b>URETHYN XHD 2</b>	KPFHC2R-40	PU Synth. base oil	–	2	290	-40 / +180	–	Smooth, fully synthetic polyurea grease for extreme conditions, such as alternating speeds, temperatures and loads. URETHYN XHD 2 is especially suitable for bearings of large-size generators of wind turbines and thermally and mechanically highly loaded bearings in various industrial applications.
 12 x 0,4 kg (Cartridge), 4 x 3,540 kg (Cartridge), 5 kg (Bucket), 18 kg (Bucket), 25 kg (Hobbock), 185 kg (Drum)								
<b>LAGERMEISTER XXL</b>	KP2P-20	PU Mineral oil	–	2	180	-20 / +160	FLSmidth MAAG Gear, KHD Humboldt, Wedag Interna- tional, Loesche, Sandvik, SMS Meer, Zeppelin Bau- maschinen	Ideally suited for the lubrication of highly-loaded plain and roller bearings on all kinds of construction machinery, especially under harsh operating conditions, high loads and increased temperatures. Allows reduced number of lubricants and increased regreasing intervals.
 30 x 0,4 kg (Cartridge), 30 x 0,5 kg (Cartridge), 6 x 1 kg (Tin), 18 kg (Bucket), 45 kg (Hobbock), 180 kg (Drum)								
<b>LAGERMEISTER TS</b>	KP2N-30	Li Semi- synth. base oil	–	2	800	-30 / +140	DB-Mat.-Nr. 245467, KHD Humboldt, Wedag Interna- tional, R.STAHL, Zeppelin Bau- maschinen	For plain and roller bearings under difficult operating conditions. Especially recommended for high pressures and low revolutions per minute. Allows longer regreasing intervals when compared to conventional greases. Very good adhesive properties.
 30 x 0,4 kg (Cartridge), 30 x 0,5 kg (Cartridge), 18 kg (Bucket), 45 kg (Hobbock), 180 kg (Drum)								
<b>RENOLIT UNITEMP 2</b>	–	Synt. NaX PAO	–	2	180	-50 / +180	–	Plain and roller bearings at high temperatures.
 12 x 0,4 kg (Cartridge), 3 x 5 kg (Bucket), 18 kg (Bucket), 180 kg (Drum)								



## Lubricating Greases / Pastes

Product name	Classifi- cation DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area
Greases for Gear Boxes								
RENOLIT LZR 000	GP00-000G-40	Li/Ca Mineral oil	–	00-000	43	-40 / +110	MB Approval 264.0 MAN 283 LI-P 00/000	Semi-fluid grease for central lubricating systems of commercial vehicles.
  	3 x 5 kg (Bucket), 18 kg (Bucket), 50 kg (Hobbock), 180 kg (Drum)							
RENOLIT SF 7-041	GP000K-30	Lithium Mineral oil	–	000	110	-30 / +120	–	Machine tools, labelling and packaging machines with central lubrication systems, industrial gears.
    	10 x 0,45 kg (Tube), 3 x 5 kg (Bucket), 18 kg (Bucket), 50 kg (Hobbock), 180 kg (Drum)							
RENOLIT SO-GFB	GP00H-30	Sodium Mineral oil	–	00	250	-30 / +100	Siemens Flender	Fast rotating gears, gear motors, drum motors, gear couplings.
  	18 kg (Bucket), 50 kg (Hobbock), 180 kg (Drum)							
RENOLIT SO-GFO 35	GP0H-30	Sodium Mineral oil	–	0	250	-30 / +100	–	Fast rotating gears, agricultural machines.
    	20 x 1 kg (Bag), 18 kg (Bucket), 50 kg (Hobbock), 180 kg (Drum)							
EASYMESH HTS	–	Inorg. thickener Synth. base oil	–	1-2	300	-30 / +180	–	EASYMESH HTS is a non- melting grease for the lubrication of gears and bearings in high-tempera- ture environments. It has no drop point, very low oil separation at high tem- peratures and a avery low evaporatoin rate of the base oil.
    	12 x 0,5 kg (Cartridge), 5 kg (Bucket), 50 kg (Hobbock), 180 kg (Drum)							
GEARMASTER LI 400	GP00N-30	Li-X Semi- synth. base oil	–	00	150	-30 / +140	Ammann Verdichtung, bielomatik Leuze, KHD Humboldt Wedag International, Maschinenfabrik Köppern, Outotec, SMS Meer, ThyssenKrupp Resource Technologies	For gear motors on DIY equipment and machine tools as well as for all types of small gears.
 	5 kg (Bucket), 18 kg (Bucket), 45 kg (Hobbock)							
GEARMASTER LXG 00	GPHC00P-40	Li-X Synth. base oil	–	00	180	-40 / +160	bielomatik Leuze, ThyssenKrupp Resource Technologies	For lubrication of gears of a high power density. Sealing grease for struts in shock absorbers.
    	6 x 1 kg (Tin), 5 kg (Bucket), 18 kg (Bucket), 25 kg (Hobbock), 45 kg (Hobbock), 180 kg (Drum)							
GEARMASTER ZSA	GP000K-40	Lithium Mineral oil	–	000	45	-40 / +120	bielomatik Leuze, MAN, Zeppelin Baumaschi- nen	For all lubrication points in commercial vehicles which are supplied by central lubrication systems.
 	30 x 0,38 kg (Tube), 5 kg (Bucket), 18 kg (Bucket)							









## GEARMASTER, RENOLIT, URETHYN

Product name	Classifi- cation DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm <sup>2</sup> /s]	Tem- pera- ture range [°C]	Approvals, recommen- dations	Main application area
Greases for Gear Boxes								
<b>URETHYN GE 00</b>	GPHC00P-40	PU Synth. base oil	–	00	180	-40 / +160	–	Is used in fast-running small gears. It is characterised by a high mechanical and thermal stability as well as its compatibility with sealings and by its neutrality towards non-ferrous and light metals.
   	1 kg (Tin), 18 kg (Bucket), 40 kg (Hobbock), 175 kg (Drum)							
<b>RENOLIT LI IDM 000</b>	GP000K-30	Lithium Mineral oil	–	000	300	-30 / +120	DMG MORI	Machine tools, linear guidance and central lubrication systems
   	10 x 1 L (Tube), 3 x 5 kg (Bucket), 50 kg (Hobbock), 180 kg (Drum)							



## Lubricating Greases / Pastes
















Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubricants	NLGI grade	Base oil visc. at 40 °C [mm <sup>2</sup> /s]	Temperature range [°C]	Approvals, recommendations	Main application area
<b>Rapidly Biodegradable Greases</b>								
<b>PLANTOGEL ECO 1 N</b>	ISO-L- XB(F)BEA 1	Calcium Rape seed oil	–	1	36	-20 / +80	EU Ecolabel DE/027/273 	Rapidly biodegradable lubricating grease, e.g. for lock gates or in agriculture and forestry.
	18 kg (Bucket)							
<b>PLANTOGEL ECO 2 N</b>	ISO-L- XB(F)BEA 2	Calcium Rape seed oil	–	2	36	-20 / +80	EU Ecolabel DE/027/273 	
   	12 x 0,4 kg (Cartridge), 18 kg (Bucket), 50 kg (Hobcock), 180 kg (Drum)							
<b>PLANTOGEL ECO 000 S</b>	–	Li/Ca Synth. ester	–	00-000	56	-40 / +120	–	Rapidly biodegradable semi-fluid grease for lubrication of plain and roller bearings in commercial vehicles and construction machinery with central lubrication systems. Also for gear systems which are exposed to low to medium loads.
	18 kg (Bucket)							









## Lubricating Greases / Pastes











Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubricants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Temperature range [°C]	Approvals, recommendations	Main application area
<b>Greases for Machine Tools</b>								
<b>RENOLIT CHUCK PASTE</b>	–	Li/Ca Mineral oil	•	2-3	166	-30 / +155	–	Chucks for machine tools and as mounting aide for gears and electrical motors, etc., ejectors of plastic injection moulding machines (up to +100 °C), prevent corrosion and fretting corrosion.
  12 x 0,4 kg (Cartridge), 6 x 0,5 kg (Tin)								
<b>RENOLIT CX-EP 2</b>	KP2N-30 ISO-L- XC(F)DEB 2	Ca-X Mineral oil	–	2	110	-30 / +140	Hoesch Rothe Erde	In general suitable for high thermal and mechanical loads, especially in the chemical, rubber, tire, steel, quarry and excavation industry. Good water and salt water resistance, also resists to weak acids and caustic solutions. Easily pumpable in central lubricating systems.
    12 x 0,4 kg (Cartridge), 18 kg (Bucket), 50 kg (Hobcock), 180 kg (Drum)								
<b>RENOLIT CX-TOM 15</b>	–	CaSX semisynth. base oil	–	1-2	100	-40 / +160	SEW- Eurodrive	Industrial gear bearings, belt conveyors, paper machines, machine tools, mining.
   12 x 0,4 kg (Cartridge), 18 kg (Bucket), 180 kg (Drum)								
<b>RENOLIT LX 2</b>	–	Li-X Mineral oil	–	2	160	-30 / +160	–	Roller bearings, electric motor bearings, coupling bearings in the automotive sector, construction machines, forging presses, wheel bearings of commercial vehicles, machine tools.
    12 x 0,4 kg (Cartridge), 30 x 0,5 kg (Cartridge), 18 kg (Bucket), 180 kg (Drum)								

## GLEITMO, RENOLIT

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommen- dations	Main application area
Greases for Machine Tools								
RENOLIT EPLITH 00	GP00K-10	Lithium Mineral oil	–	00	420	-10 / +120	Müller- Weingarten Schüler	Lubrication of worm gears, bevel gears, spiral-toothed and straight- toothed gears, e.g. forming presses, machine tools, industrial gears.
	18 kg (Bucket), 180 kg (Drum)							
RENOLIT FEP 2	KP2N-20 ISO-L- XB(F)DEB 2	Lithium Mineral oil	–	2	220	-20 / +140	–	Steel mills, quarries, construction equipment and forging presses, machine tools.
	12 x 0,4 kg (Cartridge), 18 kg (Bucket), 50 kg (Hobbock), 180 kg (Drum)							
RENOLIT HI-SPEED 2	KHCE2K-40 ISO-L- XD(F)CEA 2	Lithium Synth. base oil	–	2	18	-40 / +120	–	For high-speed bearings, n x dm = 1,4 Mio, machine tools and textile spindles, electrical motor, linear guiding.
	0,5 kg (Cartridge), 1 kg (Tin), 18 kg (Bucket), 170 kg (Drum)							
GLEITMO WSP 5040	–	CaSX Mineral oil	•	2	250	-20 / +140	COLUMBUS McKINNON Engineered Products (Pfaff-silber- blau), NEUERO Indus- trietechnik für Förderanlagen, Sandvik, ThyssenKrupp Steel Europe	For machine elements of all types subjected to extreme pressures, shock loads and oscillatory movements. It is particularly appropriate if the surrounding area is subject to high humidity or the effects of splash water. For sliding pairings, which have a tendency to stick slip and scuffing (fretting). At low sliding speeds and high pressures as well as where fretting corrosion is present. Application as a high-temperature screw paste up to +1,200 °C.
	24 x 0,1 kg (Tube), 6 x 1 kg (Tin), 30 x 0,4 kg (Cartridge), 12 x 0,5 kg (SR-Cartridge), 5 kg (Bucket), 18 kg (Bucket), 200 kg (Drum)							
RENOLIT SF 7-041	GP000K-30	Lithium Mineral oil	–	000	110	-30 / +120	–	Machine tools, labelling and packa- ging machines with central lubrication systems, industrial gears.
	20 x 0,12 L (AUTOLUBER), 10 x 0,45 kg (Tube), 3 x 5 kg (Bucket), 18 kg (Bucket), 50 kg (Hobbock), 180 kg (Drum)							
RENOLIT LI IDM 000	GP000K-30	Lithium Mineral oil	–	000	300	-30 / +120	DMG MORI	Machine tools, linear guidance and central lubrication systems
	10 x 1 L (Tube), 3 x 5 kg (Bucket), 50 kg (Hobbock), 180 kg (Drum)							









## Lubricating Greases / Pastes



Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubricants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Temperature range [°C]	Approvals, recommendations	Main application area
<b>Greases for Rail Traffic</b>								
<b>RENOLIT HLT 2</b>	KPHC2N-40 ISO-L- XD(F)DBB 2	Lithium PAO	–	2	100	-40 / +140	–	For lubricating points with high requirements, especially those exposed to fluctuating ambient temperatures, e. g. lifetime lubrication of pneumatic applications, centrifuges, plain- and roller bearings
   12 x 0,38 kg (Cartridge), 3 x 5 kg (Bucket), 18 kg (Bucket), 180 kg (Drum)								
<b>RENOLIT LX-PEP 1/2</b>	KP1-2N -30 ISO-L- XC(F)DEB 1-2	Li-X Mineral oil	–	1-2	170	-30 / +150	–	High speed gears for power tools, e.g. power drill, circular hand saw, jigsaw, etc., needle cups and length adjustments of cardan shafts, plain and roller bearings.
  50 kg (Hobstock), 180 kg (Drum)								
<b>RENOLIT LX-PEP 2</b>	KP2N-30 ISO-L- XC(F)DEB 2	Li-X Mineral oil	–	2	170	-30 / +150	MAN 284 Li-H2, MB Approval 265.1, ZF TE-ML 12, Schaeffler Gruppe, VW TL 52 147 X, Interprecise (IDC-Bearings), Deutsche Bahn	Multipurpose grease, wheel bearings of motor vehicles, roller bearings of e-motors, needle bearings of cardan shafts, plain and roller bearings, ventilator grease.
   12 x 0,4 kg (Cartridge), 12 x 0,5 kg (Cartridge), 18 kg (Bucket), 50 kg (Hobstock)								















# RENOLIT

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area
Greases for Rail Traffic								
TRAMLUB F 234 MOD 2	–	Inorg. thickener Semi- synth. base oil	•	000	–	-25 / +150	Baier + Köppel, DB-Mat.-Nr. 106192, REBS Zentralschmier- technik, Siemens	For rail and wheel flange lubrication of railroad vehicles.
	18 kg (Bucket), 45 kg (Hobbock), 190 kg (Drum), 1000 kg (BULK)							
TRAMLUB SSM ECO	–	Lithium Synth. base oil	•	1-2	–	-40 / +120	CEMAFER Gleisbauma- schinen und -geräte, DB-Mat.-Nr. 783667, Schreck-Mieves	Designed for the lubrication of running edges and flanks of rails used by rail-borne traffic and serves to reduce friction and wear in the wheel/rail contact area.
	18 kg (Bucket), 45 kg (Hobbock), 180 kg (Drum)							
TRAMLUB F 234 G	–	Inorg. thickener Synth. base oil	•	00	–	-30 / +100	–	For lubrication of rails and wheel flanges of railway vehicles as well as for switch lubrication.
	18 kg (Bucket), 25 kg (Hobbock), 175 kg (Drum)							
TRAMLUB 384 G PLUS	–	Inorg. thickener Synth. base oil	•	< 000	–	-35 / +100	–	For sliding surfaces on switch points in marshalling yards on standard gauge railways, underground and regional express railways, tramways and industrial railways.
	5 kg (Bucket), 18 kg (Bucket), 25 kg (Hobbock), 50 kg (Hobbock), 170 kg (Drum)							
TRAM-SILENCE	–	Special thickener Native base oil	•	0	–	-20 / +80	Baier + Köppel, CEMAFER Gleisbauma- schinen und -geräte, SKF Lubrication Sys- tems, REBS Zentral- schmiertechnik	Are applied sparsely to the railhead in order to fight squealing noises in tracks with extreme curves.
	12,5 kg (Hobbock)							
TRAM-SILENCE 00	–	Inorg. thickener Synth. base oil	•	00	–	-20 / +80	Baier + Köppel, CEMA- FER Gleisbaumaschinen und -geräte, SKF Lubri- cation Systems, REBS Zentralschmiertechnik	
	12,5 kg (Hobbock), 45 kg (Hobbock)							
LOCOLUB ECO	–	Inorg. thickener Synth. base oil	•	000	–	-30 / +80	Baier + Köppel, DB-Mat.-Nr. 517718, ÖBB-Personenverkehr, REBS Zentralschmier- technik	For wheel flange lubrication on railroad vehicles of all kinds and on portal cranes.
	5 kg (Bucket), 15 kg (Bucket), 18 kg (Bucket), 25 kg (Hobbock), 45 kg (Hobbock), 190 kg (Drum), 950 kg (BULK)							
RENOLIT LX-PEP 3	KP3N-30 ISO-L- XC(F)DEB 3	Li-X Mineral oil	–	3	170	-30 / +150	Interprecise (IDC-Bearings)	Multipurpose grease, wheel bearings of motor vehicles, roller bearings of e-motors, plain and roller bearings, ventilator grease
	180 kg (Drum)							

## Lubricating Greases / Pastes



Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubricants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Temperature range [°C]	Approvals, recommendations	Main application area
<b>Greases for Extreme High Temperatures</b>								
<b>RENOLIT PU-FH 300</b>	KP2R-20	PU Mineral oil	–	2	500	-20 / +180	–	Lubricating points exposed to high thermal loads and bearings with slow sliding speeds (asphalt pavers).
   20 x 0,4 kg (Cartridge), 18 kg (Bucket), 180 kg (Drum)								
<b>RENOLIT PU-MA 2</b>	KPFHC2R-40 ISO-L- XD(F)FEB 2	PU PAO	•	2	100	-40 / +180	–	Lubrication of electric motors, hot-air blowers, tumble dryers, black-rubber mixers, paper industry dryers, calander bearings, etc.
   12 x 0,4 kg (Cartridge), 18 kg (Bucket), 180 kg (Drum)								
<b>RENOLIT SI 400 L</b>	KSI1R-30 ISO-L- XE(F)FEA 1	Lithium Silicone oil	–	1	80	-30 / +180	–	For slightly to normally loaded roller and friction bearings in electric motors, for joints, conveyor chains, ventilators, dryers, controlling equipment, and household appliances. RENOLIT SI 400 L guarantees a good lubrication to metal/plastic parings.
  6 x 0,1 kg (Tube), 185 kg (Drum)								
<b>RENOLIT SI 400 M</b>	KSI2R-30 ISO-L- XE(F)FEA 2	Lithium Silicone oil	–	2	80	-30 / +180	–	For slightly to normally loaded roller and friction bearings in electric motors, for joints, conveyor chains, ventilators, dryers, controlling equipment, and household appliances. RENOLIT SI 400 M guarantees a good lubrication to metal/plastic parings.
    6 x 0,1 kg (Tube), 1 kg (Tin), 5 kg (Bucket), 180 kg (Drum)								

Al-X: Aluminium complex; Ca-X: Calcium complex; CaSX: Calcium sulfonate complex; HDK: Gel thickener; Li/Ca: Lithium/Calcium; Li-X: Lithium complex; PU: Polyurea; Synth. NaX: Synthetic sodium complex; PFPE: Perfluoropolyether







## Lubricating Greases / Pastes

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommen- dations	Main application area
Greases for Extreme High Temperatures								
<b>GLEITMO 155</b>	–	Synth. base oil	•	1-2	–	-30 / +1200	–	For turbine bolts, high-temperature screws, especially stainless steel screws in the chemical industry, in refineries and power stations. Release agent for bolted flanges in the high-temperature range.
☐ 12 x 0,25 kg (Tin), 6 x 1 kg (Tin)								
<b>GLEITMO 160 NEU</b>	–	Al-X Mineral oil	•	2	–	-30 / +1100	FLSmidth MAAG Gear	For lubrication of turbine bolts, high-temperature screws and as release agent for flange connections in the high temperature range.
☐ ☑ 6 x 1 kg (Tin), 18 kg (Bucket)								
<b>GLEITMO 165</b>	–	Synth. base oil	•	2	–	-40 / +1200	VW, Volvo Car Germany	For lubrication of turbine bolts, high-temperature screws and for lubrication of bolts, slide rings, sliding rails at high temperatures. No formation of oxide layers.
☐ ☑ ☑ 6 x 1 kg (Tin), 5 kg (Bucket), 25 kg (Hobbock)								
<b>GLEITMO 705</b>	–	Synth. base oil	•	2	68	-20 / +1000	–	Lubrication of low speed bearings, bolts, hinges, slipper pads and slide rails on firing, drying and annealing systems. Facing for casting ladles, tools, funnels and spouts in aluminium die casting.
☐ ☑ ☑ 6 x 1 kg (Tin), 5 kg (Bucket), 25 kg (Hobbock)								
<b>PBC 1574</b>	–	Inorg. thickener Mineral oil	•	2-3	–	-20 / +160 (+260) +1200	–	PBC 1574 is used for the prevention of seizures on screw threads, linkages, pivots, flanges and mating surfaces subject to high temperatures, fretting corrosion, salt water and aggressive environmental media. The product is used to lubricate brake callipers and prevent corrosion of disc brakes. PBC 1574 is not electrically conductive and does not affect the sensors of ABS systems.
! ☐ ☑ ☑ 10 x 0,1 kg (Tube), 12 x 0,225 kg (Tin), 12 x 0,4 kg (Cartridge), 6 x 1 kg (Tin), 5 kg (Bucket), 18 kg (Bucket)								
<b>PBC TP492</b>	–	Inorg. thickener Mineral oil	•	2-3	250	-20 / +160 (+260) +1200	–	As a protective grease PBC TP492 acts as a lubricating seal to prevent ingress of water and corrosive solutions. It may also be used as a jointing compound and anti-squeal medium. Applications can be found in variable pitch blade fans and king pin thrust bearings of heavy trucks, and universal joints. PBC TP492 acts as an anti-fretting agent between contact surfaces with oscillating movements.
☐ ☑ ☑ ☑ 12 x 0,4kg (Cartridge), 10 x 0,5kg (Tin), 20 x 1kg (Tin), 5kg (Bucket), 25kg (Hobbock)								





















## Lubricating Greases / Pastes

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm <sup>2</sup> /s]	Tem- pera- ture range [°C]	Approvals, recommen- dations	Main application area
Greases for Extreme High Temperatures								
<b>RENOLIT ST 8-081/2</b>	–	PTFE PFPE	–	2	510	-20 / +260	–	Do not mix with other lubricants! Surfaces must be free from residual oil and grease! Fully synthetic, thermally stable, resistant to solvents (exception: halocarbon refrige- rants), oxidation stable, high load carrying abilities; plain and roller bearings of all industrial sectors, e.g. enameling lines, drying stoves, machines in the packaging industries, calander bearings, bearings of hot air and smoke gas flaps in power plants
	1 kg (Tin)							
<b>RENOLIT UNITEMP 2</b>	–	Synt. NaX PAO	–	2	180	-50 / +180	–	Plain and roller bearings at high tempera- tures.
  	12 x 0,4 kg (Cartridge), 3 x 5 kg (Bucket), 18 kg (Bucket), 180 kg (Drum)							








## RENOLIT, URETHYN

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubricants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Temperature range [°C]	Approvals, recommendations	Main application area
Greases for Extreme Low Temperatures								
RENOLIT HI-TEMP 100	KPHC2N-50 ISO-L-XE(F)DFB 2	Li-X PAO	–	2	100	-50 / +140	–	Used in a wide temperature range for lubrication of plain and roller bearings of, e.g. electric motors, traction motors, bearings and cardan shafts in polar regions.
   12 x 0,38 kg (Cartridge), 18 kg (Bucket), 170 kg (Drum)								
RENOLIT JP 1619	–	Lithium Synth. base oil	–	1	25	-50 / +120	DBL 6804.70 VW TL 52 168 Dana Spicer Bosch MAN	EP-grease with additive for improve corrosion protection, ageing resistance and adhesiveness, lubrication of friction points requiring very good sliding behaviour, low start-up resistance, also at low temperature, e.g. rack and pinion steerings, prop shafts, high-speed bearings.
  10 x 1 kg (Tin), 18 kg (Bucket), further packages on request								
RENOLIT POLAR BLACK	–	Lithium PAO	•	1-2	340	-50 / +140	–	Fully synthetic heavy duty all-season grease with solid lubricants for plain and roller bearings of construction machines and mining vehicles exposed to changing ambient temperatures.
 180 kg (Drum)								
RENOLIT S 2	KE1-2G-60 ISO-L-XE(F)BEA 1-2	Lithium Synth. ester	–	1-2	14	-60 / +100	–	Low temperature e.g. electrical motors, instruments, air traffic control systems, refrigerators, air conditioners and transmitter equipment.
   12 x 0,4 kg (Cartridge), 5 kg (Bucket), 18 kg (Bucket), 50 kg (Hobbock)								
RENOLIT SI 300 M	MSI2P-70	Lithium Silicone oil	–	2	75	-70 / +160	DBL 6812.10 VW TL 767 X	Low temperature grease for electric and electronic equipment, precision machines, sealing grease for radial waves sealing rings, groove rings, sealing rings; lubrication of sealing bellows.
   6 x 0,1 kg (Tube), 1 kg (Tin), 5 kg (Bucket)								
RENOLIT SI 300 S	MSI3P-70 ISO-L-XE(F)EEA 3	Lithium Silicone oil	–	3	75	-70 / +160	–	Low temperature grease for electric and electronic equipment, precision machines, sealing grease for radial waves sealing rings, groove rings, sealing rings.
 18 kg (Bucket)								
URETHYN LT 60	KE1N-50	PU Synth. base oil	–	1	23	-50 / +140	Salzgitter Maschinenbau (SMAG), Sprimag Spritz Maschinenbau	For plain and roller bearings, guides, Open Gears on equipment in the low temperature range, e.g. machines and installations operating out doors in winter service, snow rollers, cable cars, transport installations in cold-storage depots, outdoor escalators. Also suitable for high-speed roller bearings.
  6 x 1 kg (Tin), 5 kg (Bucket)								
RENOLIT UNITEMP 2	–	Synt. NaX PAO	–	2	180	-50 / +180	–	Plain and roller bearings at high temperatures.
   12 x 0,4 kg (Cartridge), 3 x 5 kg (Bucket), 18 kg (Bucket), 180 kg (Drum)								
















## PLANTO, RENOLIT







Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommen- dations	Main application area
<b>Greases for Central Lubricating Systems</b>								
<b>RENOLIT LZR 000</b>	GP00-000G-40	Li/Ca Mineral oil	–	00-000	43	-40 / +110	MB Approval 264.0 MAN 283 LI-P 00/000	Semi-fluid grease for central lubricating systems of commercial vehicles.
 3 x 5 kg (Bucket), 18 kg (Bucket), 50 kg (Hobstock), 180 kg (Drum)								
<b>RENOLIT LZR 2 H</b>	KP2N-30 ISO-L- XC(F)DIB 2	Lithium Mineral oil	–	2	230	-30 / +160	Baier & Köppel	Premium multipurpose grease, long-term rust prevention, sealing grease, central lubricating systems, sugar refineries, roof tile factories, paper industry, prevent standstill corrosion, hytel compatible.
 24 x 0,1 kg (Tube), 12 x 0,4 kg (Cartridge), 18 kg (Bucket), 50 kg (Hobstock), 180 kg (Drum)								
<b>RENOLIT POLAR BLACK</b>	–	Lithium PAO	•	1-2	340	-50 / +140	–	Fully synthetic heavy duty all-season grease with solid lubricants for plain and roller bearings of construction machines and mining vehicles exposed to changing ambient temperatures.
 180 kg (Drum)								
<b>RENOLIT SF 7-041</b>	GP000K-30	Lithium Mineral oil	–	000	110	-30 / +120	–	Machine tools, labelling and packaging machines with central lubrication systems, industrial gears.
 10 x 0,45 kg (Tube), 3 x 5 kg (Bucket), 18 kg (Bucket), 50 kg (Hobstock), 180 kg (Drum)								
<b>RENOLIT LI IDM 000</b>	GP000K-30	Lithium Mineral oil	–	000	300	-30 / +120	DMG MORI	Machine tools, linear guidance and central lubrica- tion systems
 10 x 1 L (Tube), 3 x 5 kg (Bucket), 50 kg (Hobstock), 180 kg (Drum)								

## Lubricating Greases / Pastes



























Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommen- dations	Main application area
Greases with Solid Lubricants								
PLANTOGEL ECO 2 FS	–	Li/Ca Synth. ester	•	2	195	-30 / +120	–	Rapidly biodegradable EP multipurpose grease with solid lubrications for lubri- cation of plain and roller bearings, e.g. commercial vehicles and construction machinery.
  18 kg (Bucket), 180 kg (Drum)								
RENOLIT CX-HT 2	–	CaSX Mineral oil	•	2	400	-20 / +180	–	Lubrication of high loaded, low speed plain and roller bearings, e.g. for kiln cars, construction machinery, steel mills, coal and ore mills.
   20 x 0,5 kg (Cartridge), 18 kg (Bucket), 180 kg (Drum)								
RENOLIT EP X1	–	Lithium Mineral oil	•	1	1050	-15 / +120	Renk CMD	Heavy duty gear coupling grease.
  18 kg (Bucket), 180 kg (Drum)								
RENOLIT FLM 2	KPF2N-30 ISO-L- XC(F)DEB 2	Lithium Mineral oil	•	2	100	-30 / +140	MAN 285 LI-PF 2	For mechanically loaded lubricating points, grease with MoS <sub>2</sub> , agricultural machines, commercial vehicles, construction industry, quarries and mining, rubber and concrete factory.
     12 x 0,4 kg (Cartridge), 30 x 0,5 kg (Cartridge), 18 kg (Bucket), 50 kg (Hobstock), 180 kg (Drum), BULK								
RENOLIT FOL 2	–	Lithium PAO	•	2	110	-10 / +21	MPA Stuttgart approved	Very ageing resistant, grease for sliding films in engineering, low sliding speed.
 18 kg (Bucket)								

## PLANTO, RENOLIT, STABYL






Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommen- dations	Main application area
<b>Greases with Solid Lubricants</b>								
<b>RENOLIT LX-OTP 2</b>	—	Li-X Polyglycol	•	1-2	360	-40 / +160	MAN	Lubrication of MAN knuckle pins.
	12 x 0,4 kg (Cartridge), further packages on request							
<b>RENOLIT POLAR BLACK</b>	—	Lithium PAO	•	1-2	340	-50 / +140	—	Fully synthetic heavy duty all-season grease with solid lubricants for plain and roller bearings of construction machines and mining vehicles exposed to changing ambient temperatures.
	180 kg (Drum)							
<b>RENOLIT PU-MA 2</b>	KPFHC2R-40 ISO-L- XD(F)FEB 2	PU PAO	•	2	100	-40 / +180	—	Lubrication of electric motors, hot-air blowers, tumble dryers, black-rubber mixers, paper industry dryers, calander bearings, etc.
	12 x 0,4 kg (Cartridge), 18 kg (Bucket), 180 kg (Drum)							
<b>STABYL TA</b>	KPF1-2N-40	Lithium semi-syn- th. base oil	•	1-2	200	-40 / +140	—	STABYL TA is a semi-synthetic special grease based on lithium soap. Its special gliding properties are achieved by a combination of synergetically effective solid lubricants.
	24 x 0,4 kg (Cartridge), 5 kg (Bucket), 18 kg (Bucket), 180 kg (Drum)							
<b>STABYL L-TS MO</b>	KPF2N-30	Lithium semi-syn- th. base oil	•	2	800	-30 / +140	KHD Hum- boldt Wedag International, Komatsu Mining Germany, Loesche, SMS Meer, ThyssenKrupp Rothe Erde	For plain and roller bearings under difficult operating conditions. Especially recommended for high pressures and low speeds. Allows longer regreasing intervals when compared to conventional greases.
	30 x 0,5 kg (SR-Cartridge), 18 kg (Bucket), 45 kg (Hobbock), 185 kg (Drum)							
<b>STABYL MO 500</b>	KPF2-3K-25	Lithium Mineral oil	•	2-3	110	-25 / +120	China Natio- nal Materials (Sinoma), ThyssenKrupp Resource Technologies, Zeppelin Bau- maschinen	For plain and roller bearings of all types subjected to continuous high mechanical loads. Mechanical engineering industry, chemical industry, iron and steel works, construction machines and automotive industry.
	30 x 0,4 kg (Cartridge), 30 x 0,5 kg (SR-Cartridge), 6 x 1 kg (Tin), 18 kg (Bucket), 45 kg (Hobbock)							

## Lubricating Greases / Pastes

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommen- dations	Main application area
Greases with Solid Lubricants								
GLEITMO 577 A	–	Inorg. thickener Synth. base oil	•	1	85	-40 / +180	GLEITMO 577 A entspricht der VW Norm TL 52 160	Special lubricating greases based on a synthetic oil and specially selected white solid lubricants for reducing friction and wear with the material pairings plastic/plastic, plastic/metal and rubber-elastomer/metal. GLEITMO 577 A and GLEITMO 577 C are used to lubricate O-rings seals, plastic adjustment devices and shock absorber seals.
   	6 x 1 kg (Tin), 5 kg (Bucket), 45 kg (Hobbock), 180 kg (Drum)							
GLEITMO 577 C	–	Inorg. thickener Synth. base oil	•	00	85	-40 / +180	–	
  	5 kg (Bucket), 45 kg (Hobbock), 180 kg (Drum)							
GLEITMO 582	–	Lithium Semi- synth. base oil	•	0	–	-15 / +120	–	High-performance chain grease for low and high-speed power transmit- ting chains, even where resistance to water, water vapour, acids and lyes is required.
	20 L (Can)							
GLEITMO 585 M	–	Lithium Mineral oil	•	2	100	-25 / +120	KARL MAYER Textilmaschinen- fabrik, Loesche	For bearings and all types of lubrica- ting points, particularly if they are subject to the risk of fretting corro- sion (oscillating movements, vibra- tions, e.g. bearings on large cardan shafts).
   	30 x 0,4 kg (Cartridge), 30 x 0,5 kg (SR-Cartridge), 6 x 1 kg (Tin), 5 kg, 18 kg (Bucket), 25 kg, 45 kg (Hobbock), 180 kg (Drum)							
GLEITMO 800	–	Lithium Mineral oil	•	2	68	-25 / +100	Daimler	Thin film lubrication where extreme pressures, stick-slip, oscillating movements and fretting corrosion are prevalent. For assembly, household appliances, textile machines and packaging machines.
  	12 x 0,25 kg (Tin), 6 x 1 kg (Tin), 5 kg (Bucket), 18 kg (Bucket), 250 kg (Drum)							
GLEITMO 805	–	Lithium Semi- synth. base oil	•	2	105	-20 / +110	Bosch Rexroth, Daimler, DB-Mat.-Nr. 823600, Volvo Car Germany	For articulated bearings, spindles, plain bearings, bolts, chucks and screws which are subjected to shock loads and oscillating movements. Other typical fields of application are oscillating pins on construction machinery, telescopic beams of cranes. GLEITMO 805 has proved itself for lubrication in the incremen- tal launching process of bridges.
    	24 x 0,1 kg (Tube), 12 x 0,47 kg (Cartridge), 30 x 0,5 kg (SR-Cartridge), 6 x 1 kg (Tin), 5 kg, 18 kg (Bucket), 50 kg (Hobbock), 200 kg (Drum)							
GLEITMO 805 K	–	Lithium synth. base oil	•	2*	130	-45 / +110	Volvo Car Germany	For articulated bearings, spindles, plain bearings, bolts, chucks and screws, which are subjected to shock loads and oscillating movements. Outstanding low temperature behavi- our and excellent plastics compatibili- ty.
   	30 x 0,4 kg (Cartridge), 6 x 1 kg (Tin), 5 kg (Bucket), 18 kg (Bucket), 50 kg (Hobbock)							



**GLEITMO**

Product name	Classifi- cation DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommen- dations	Main application area
<b>Greases with Solid Lubricants</b>								
<b>GLEITMO 810</b>	—	Lithium Mineral oil	•	2	68	-40 / +80	Daimler, KARL MAYER Textilmaschi- nenfabrik	For ball screw drives, multi-groove profiles, ball bushes, gear couplings, threaded spindles, stainless steel threaded connections, plain bearings, household appliances, textile, office and packaging machines.
 24 x 0,1 kg (Tube), 6 x 1 kg (Tin), 5 kg (Bucket), 30 kg (Hobbock), 200 kg (Drum)								
<b>GLEITMO 815</b>	—	Inorg. thickener Synth. base oil	•	2	115	-45 / +150	MAN	For ball screw drives, multi-groove profiles, ball bushes, gear couplings, threaded spindles, stainless steel threaded connections, plain bearings, household appliances, textile, office and packaging machines. With extended temperature range (short term up to +180 °C). As a spray, especially suitable for assembly and maintenance.
 24 x 0,1 kg (Tube), 30 x 0,5 kg (SR-Cartridge), 6 x 1 kg (Tin), 5 kg (Bucket), 50 kg (Hobbock), 200 kg (Drum)								
<b>GLEITMO 860</b>	—	Synth. base oil	•	1-2	—	-45 / +140	—	Used for any point of lubrication subject to high requirements, e.g. points of lubrication with the risk of fretting corrosion or exposed to oscillating movements and vibrations. Special benefits will result if applied to heavy-duty planetary roller gears, e.g. in actuators in the automotive industry.
 180 kg (Drum)								
<b>GLEITMO 1580 V</b>	—	Synth. base oil	•	2	—	-45 / +130	—	Used for lubrication points subject to risk of fretting corrosion - oscillatory movements and vibration like spindles, slowly running worm gear drives and slide shafts.
 5 kg (Bucket), 18 kg (Bucket), 25 kg (Hobbock)								
<b>GLEITMO WSP 5000</b>	—	CaSX Mineral oil	•	2	350	-20 / +140	—	For lubrication of machine parts such as rolling and plain bearings, axles or shafts subjected to high pressures, shock loads and vibrating or oscillating movements, especially in high ambient humidities or where there is water splashing. For reduction of friction and wear at high and low loads as well as against fretting corrosion and stick-slip.
 30 x 0,4 kg (Cartridge), 5 kg (Bucket), 25 kg (Hobbock), 45 kg (Hobbock)								

\* Also available in consistency classes NLGI 00 and 1

Al-X: Aluminium complex; Ca-X: Calcium complex; CaSX: Calcium sulfonate complex; HDK: Gel thickener; Li/Ca: Lithium/Calcium; Li-X: Lithium complex; PU: Polyurea; Synth. NaX: Synthetic sodium complex; PFPE: Perfluoropolyether

## Lubricating Greases / Pastes

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubricants	NLGI grade	Base oil visc. at 40 °C [mm <sup>2</sup> /s]	Temperature range [°C]	Approvals, recommendations	Main application area
Greases with Solid Lubricants								
<b>GLEITMO WSP 5040</b>	–	CaSX Mineral oil	•	2	250	-20 / +140	COLUMBUS McKINNON Engineered Products (Pfaff-silberblau), NEUERO Indust- rietechnik für Förderanlagen, Sandvik, ThyssenKrupp Steel Europe	For machine elements of all types subjected to extreme pressures, shock loads and oscillatory movements. It is particularly appropriate if the surrounding area is subject to high humidity or the effects of splash water. For sliding pairings, which have a tendency to stick slip and scuffing (fretting). At low sliding speeds and high pressures as well as where fretting corrosion is present. Application as a high-temperature screw paste up to +1,200 °C.
! □ ■ ■ ■ 24 x 0,1 kg (Tube), 6 x 1 kg (Tin), 30 x 0,4 kg (Cartridge), 12 x 0,5 kg (SR-Cartridge), 5 kg (Bucket), 18 kg (Bucket), 200 kg (Drum)								
<b>GLEITMO 100</b>	–	Synth. base oil	•	2	–	-35 / +400	VW, Josef Fröhling, KHD Humboldt Wedag International	Assembly pastes with an extremely large range of applications. For running-in lubrication of heavy-duty plain bearings, slide and guide rails, gear wheels and screw spindles as well as bolt and threaded connections. Facilitates assembly / disassembly and prevents stick-slip. From approx. +140 °C dry lubrication by solid lubricants. Based on the higher MoS <sub>2</sub> share GLEITMO 100 S is suitable for extreme applications.
□ ■ ■ 6 x 1 kg (Tin), 5 kg (Bucket), 25 kg (Hobcock)								
<b>GLEITMO 100 S</b>	–	Synth. base oil	•	1-2	–	-35 / +400	VW, Josef Fröhling, KHD Humboldt Wedag International	
! □ ■ ■ 24 x 0,1 kg (Tube), 6 x 1 kg (Tin), 5 kg (Bucket), 30 kg (Hobcock)								
<b>GLEITMO 700</b>	–	Synth. base oil	•	1	180	-40 / +400	–	For use in all areas of high-temperature lubrication technology, where oils and greases cannot be used e.g. kiln cab bearings (plain and roller bearings). Also for assembly and running-in processes. From approx. +200 °C dry lubrication by solid lubricants (carrier oil evaporates leaving no residue).
□ ■ 6 x 1 kg (Tin), 5 kg (Bucket)								
<b>GLEITMO 720</b>	–	Synth. base oil	•	3	670	-20 / +120	–	GLEITMO 720 is a paste, especially for sealing individual components, clearances or grommets. Based on its increased consistency, GLEITMO 720 is suitable to maintain a long-term impermeableness to water under pressure.
■ 25 kg (Hobcock)								
<b>GLEITMO 155</b>	–	Synth. base oil	•	1-2	–	-30 / +1200	–	For turbine bolts, high-temperature screws, especially stainless steel screws in the chemical industry, in refineries and power stations. Release agent for bolted flanges in the high-temperature range.
□ 12 x 0,25 kg (Tin), 6 x 1 kg (Tin)								

















## CARBAFLO, LAGERMEISTER, RENOLIT






Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubricants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Temperature range [°C]	Approvals, recommendations	Main application area
<b>Perfluorinated Pastes</b>								
<b>CARBAFLO 2160</b>	–	Synth. base oil	•	2	310	-60 / +260	–	CARBAFLO 2160 is a white, almost transparent high-temperature paste for the lubrication of bearings, slide rails or plug-in contacts. It is resistant to most lyes and acids, features excellent EP properties and acts as electric insulator. The low evaporation rate of the base oil guarantees extended relubrication intervals. Properly applied, CARBAFLO 2160 guarantees a lifetime lubrication of sensitive slide rails and adjusting mechanisms like in sunroofs.
<div> <div></div> 100 g (Spritze), 6 x 1 kg (Tin) </div>								
<b>CARBAFLO 2455</b>	–	Synth. base oil	•	2	210	-45 / +220	–	CARBAFLO 2455 is a fluorescent special paste based on a highly stable synthetic oil and white solid lubricants. It is resistant to many aggressive chemicals and offers an excellent compatibility with various elastomer and plastic types. The addition of a UV tracer allows simple identification of CARBAFLO 2455 using a UV lamp.
<div> <div></div> <div></div> <div></div> 12 x 1 kg (Cartridge), 6 x 1 kg (Tin), 10 kg (Bucket) </div>								

## Lubricating Greases / Pastes

Product name	Classifi- cation DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Appro- vals, re- commen- dations	Main application area
Perfluorinated Pastes								
CARBAFLO 3631	–	Synth. base oil	•	2	310	-60 / +260	–	The paste has excellent extreme pressure properties across the whole temperature range and offers a long-term wear prevention, thus resulting in a considerable increase in machine component life.
	10 kg (Bucket)							
GLEITMO 591	–	PTFE Synth. base oil	•	2*	510	-25 / +260	–	For plain and roller bearings at the highest temperatures, e.g. in fans, electric motors, transport chains and centrifuge bearings.
  	24 x 0,06 kg (Tin), 0,6 kg (Semco), 12 x 0,75 kg (Cartridge), 12 x 0,85 kg (SR-Cartridge), 6 x 1 kg (Tin), 10 kg (Bucket)							
GLEITMO 593	–	PTFE Synth. base oil	•	2*	510	-25 / +250	–	For roller bearings of low-speed conveyor chains in textile finishing plants, in drying and enamelling ovens.
 	6 x 1 kg (Tin), 10 kg (Bucket)							
GLEITMO PFG 4022	–	PTFE Synth. base oil	•	1	80	-40 / +150	–	GLEITMO PFG 4022 is suitable for lubrication of plain and roller bearings, for lifetime lubrication in the presence of aggressive media, at high and low temperatures, for example high-speed bearings, conveyor chains, bearings of centrifuges, electric actuators and magnetic valves.
 	12 x 0,85 kg (SR-Cartridge), 6 x 1 kg (Bucket)							
GLEITMO 591 (OX)	–	PTFE Synth. base oil	•	2	–	-25 / +260	BAM Oxygen test	For oxygen applications. Resistant to many aggressive chemicals and excellent compatibility with various types of rubbers and plastics. <b>Please contact us for more information.</b>
	1 kg (Tin)							
GLEITMO 593 (OX)	–	PTFE Synth. base oil	•	2	–	-25 / +250	BAM Oxygen test	
	6 x 1 kg (Tin)							
GLEITMO 595	–	PTFE Synth. base oil	•	3	–	-60 / +250	BAM Oxygen test	First lubrication and maintenance of valves for oxygen bottles and of equipment for the oxygen producing and processing industries. Used in diving. Physiological respiratory certificate is available. Also tested with gaseous oxygen at higher temperatures and with liquid oxygen. <b>Please contact us for more information.</b>
 	6 x 1 kg (Tin), 10 kg (Bucket)							



## CARBAFLO, GLEITMO, RENOLIT



Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Appro- vals, re- commen- dations	Main application area
<b>Perfluorinated Pastes</b>								
<b>GLEITMO 599</b>	—	Special thickener synth. base oil	•	3	—	-40 / +250	BAM Oxygen test	First lubrication and maintenance of valves for oxygen bottles and of fittings and equipment for the oxygen producing and processing industries. The tested oxygen pressures significantly exceed 400 bar (at 60 °C). With this lubricant it is therefore even possible for example to lubricate the valves of 300 bar oxygen bottles safely and reliably. Ideal for diving applications. Physiological respiratory certificate is available. Also suitable for higher oxygen temperatures. <b>Please contact us for more information.</b>
<div>   </div> <div>6 x 1 kg (Tin), 10 kg (Bucket)</div>								
<b>RENOLIT ST 8-081/2</b>	—	PTFE PFPE	—	2	510	-20 / +260	—	Do not mix with other lubricants! Surfaces must be free from residual oil and grease! Fully synthetic, thermally stable, resistant to solvents (exception: halocarbon refrigerants), oxidation stable, high load carrying abilities; plain and roller bearings of all industrial sectors, e.g. enamelling lines, drying stoves, machines in the packaging industries, calander bearings, bearings of hot air and smoke gas flaps in power plants.
<div>  </div> <div>1 kg (Tin)</div>								

\* Also available in consistency classes NLGI 00 and 1

Al-X: Aluminium complex; Ca-X: Calcium complex; CaSX: Calcium sulfonate complex; HDK: Gel thickener; Li/Ca: Lithium/Calcium; Li-X: Lithium complex; PU: Polyurea; Synth. NaX: Synthetic sodium complex; PFPE: Perfluoropolyether

## Lubricating Greases / Pastes



Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubricants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Temperature range [°C]	Approvals, recommendations	Main application area
<b>Greases in Spray Cans or Rattle Cans</b>								
<b>DUOTAC ZAHNRADSPRAY</b>	–	Wax Mineral oil	•	–	–	-20 / +150*	–	Dry, tenacious lubricating film. Open gears, gear rims, racks, chains, outer lubrication of wire ropes in crane installations, excavators, agricultural machines, rack and pinion railways; to be applied in cold condition, for open toothed-wheel gearing, transportation and conveying systems in the metallurgical industry and roller mills, lubrication/conservation of drag ropes and chains, e.g. in non-metallic mineral processing, solid lubricating film up to +300 °C; Bitumen-free special lubricant with graphite.
 12 x 400 ml								
<b>RENAX GLEITSPRAY</b> (Grease: RENOLIT GL 1)	–	Lithium Semi-synth. base oil	–	1	–	-30 / +140*	–	Very adhesive, noise-suppressing, reduces friction and wear, protects from corrosion. Suitable for plain and roller bearings and for gear boxes, bowden cables, guide rails, sun roofs, etc.
 12 x 400 ml								







\* After evaporation solvent

Al-X: Aluminium complex; Ca-X: Calcium complex; CaSX: Calcium sulfonate complex; HDK: Gel thickener; Li/Ca: Lithium/Calcium; Li-X: Lithium complex; PU: Polyurea; Synth. NaX: Synthetic sodium complex; PFPE: Perfluoropolyether



## Lubricating Greases / Pastes



Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubricants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Temperature range [°C]	Approvals, recommendations	Main application area
<b>Assembly Pastes</b>								
<b>RENOLIT AS</b>	–	Lithium Synth. base oil	–	1	3000	-20 / +140	–	Lubricating and sealing grease, reduces friction, and vibration, prevents stick-slip, resists many liquids and gases, protects from corrosion; pump bearings, ventilators, conveyors, printing machines, cleaning equipment and painting lines.
 5 kg (Bucket), 18 kg (Bucket)								
<b>RENOLIT CHUCK PASTE</b>	–	Li/Ca Mineral oil	•	2-3	166	-30 / +155	–	Chucks for machine tools and as mounting aid for gears and electrical motors, etc., ejectors of plastic injection moulding machines (up to +100 °C), prevent corrosion and fretting corrosion.
  12 x 0,4 kg (Cartridge), 6 x 0,5 kg (Tin)								
<b>RENOLIT LX-PG 2</b>	–	Li-X Polyglycol	–	1-2	380	-40 / +160	VW TL52150	Plain and roller bearings, guides, gears, assembly aid for brake actuator boots made of EPDM.
   10 x 1 kg (Tin), 18 kg (Bucket), 180 kg (Drum)								



## Lubricating Greases / Pastes























Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubricants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Temperature range [°C]	Approvals, recommendations	Main application area
<b>Greases for Special Applications</b>								
<b>RENOLIT FOL 2</b>	–	Lithium PAO	•	2	110	-10 / +21	MPA Stuttgart approved	Very ageing resistant, grease for sliding films in engineering, low sliding speed.
🪣	18 kg (Bucket)							
<b>RENOLIT GL 1</b> (Spray can: RENAX GLEITSPRAY)	–	Lithium Semi-synth. base oil	–	1	–	-30 / +140	–	Very adhesive, reduces friction and wear, protects from corrosion, temperature stable, noise-suppressing, suitable for plain and roller bearings and for gear boxes, bowden cables, guide rails, sun roofs, etc.
🪣 🪣	18 kg (Bucket), 180 kg (Drum)							
<b>RENOLIT SI 300 M</b>	MSI2P-70	Lithium Silicone oil	–	2	75	-70 / +160	DBL 6812.10 VW TL 767 X	Low temperature grease for electric and electronic equipment, precision machines, sealing grease for radial waves sealing rings, groove rings, sealing rings; lubrication of sealing bellows.
⚠️ 🪣	6 x 0,1 kg (Tube), 1 kg (Tin), 5 kg (Bucket)							
<b>RENOLIT SI 300 S</b>	MSI3P-70 ISO-L-XE(F)EEA 3	Lithium Silicone oil	–	3	75	-70 / +160	–	Low temperature grease for electric and electronic equipment, precision machines, sealing grease for radial waves sealing rings, groove rings, sealing rings.
🪣	18 kg (Bucket)							















## Lubricating Greases / Pastes

















Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubricants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Temperature range [°C]	Approvals, recommendations	Main application area
Greases for Special Applications								
<b>CHEMPLEX SI 400 Medium</b>	–	Lithium Silicone oil	–	2	80	-30 / +180	–	For light to normally loaded plain and roller bearings, e.g. in electric motors, fans, dryers, control devices and household equipment as well as for guides, joints and light-duty conveyor chains.
   6 x 1 kg (Tin), 18 kg (Bucket), 25 kg (Hobbock)								
<b>CHEMPLEX SI 410 Medium</b>	–	Calcium Silicone oil	–	2	750	-40 / +120	French drinking water approval	For lubrication of light-duty bearings, particularly valves, O-rings and similar lubrication points.
  6 x 1 kg (Tin), 25 kg (Hobbock)								
<b>CHEMPLEX SI 511 FLUID</b>	–	PU Silicone oil	–	00	80	-40 / +200 (+280)	–	For high-temperature applications such as in wheel hubs of wagons in brickworks, hot air ventilators, conveying devices and door hinges in drying furnaces, foundries, control and monitoring equipment in vulcanising works.
  1 kg (Tin), 18 kg (Bucket)								
<b>CHEMPLEX SI 511 LIGHT</b>	KSI15-40	PU Silicone oil	–	1	80	-40 / +200 (+280)	–	
 6 x 1 kg (Tin)								
<b>CHEMPLEX SI 511 MEDIUM</b>	KSI25-30	PU Silicone oil	–	2	80	-30 / +200 (+280)	–	
  6 x 1 kg (Tin), 5 kg (Bucket), 18 kg (Bucket)								
<b>CHEMPLEX SI-LK 2</b>	–	Li-X Silicone oil	–	2-3	190	-50 / +200	–	Particularly suitable for long-life lubrication of steel/plastic, plastic/plastic and steel/rubber material pairings. Good load carrying capacity due to white solid lubricants.
  6 x 1 kg (Tin), 180 kg (Drum)								
<b>GLEITMO 585 K</b>	–	Lithium Synth. base oil	•	2	50	-45 / +130	ThyssenKrupp Rothe Erde, SKF-Lincoln, BEKA	For plain and roller bearings as well as all types of lubricating points, particularly if they are subject to the risk of fretting corrosion (oscillating movements, vibrations, e.g. pitch and azimuth bearings of wind turbines).
    30 x 0,37 kg, 4 x 3,57 kg (Cartridge), 30 x 0,5 kg (SR-Cartridge), 0,95 kg (Tin), 5 kg, 18 kg (Bucket), 25 kg, 40 kg (Hobbock), 180 kg (Drum)								
<b>GLEITMO 585 K PLUS</b>	–	Lithium Synth. base oil	•	2	50	-45 / +130	ThyssenKrupp Rothe Erde, SKF-Lincoln, BEKA	For plain and roller bearings as well as all types of lubricating points, particularly if they are subject to the risk of fretting corrosion (oscillating movements, vibrations, e.g. pitch and azimuth bearings of wind turbines). GLEITMO 585 K PLUS was especially designed for progressive lubrication systems.
    30 x 0,37 kg (Cartridge), 4 x 3,57 kg (Cartridge), 5 kg (Bucket), 18 kg (Bucket), 25 kg (Hobbock), 180 kg (Drum)								

Al-X: Aluminium complex; Ca-X: Calcium complex; CaSX: Calcium sulfonate complex; HDK: Gel thickener; Li/Ca: Lithium/Calcium; Li-X: Lithium complex; PU: Polyurea; Synth. NaX: Synthetic sodium complex; PFPE: Perfluoropolyether

**CEPLATTYN, CHEMPLEX, GLEITMO**



















Product name	Classifi- cation DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommen- dations	Main application area
Greases for Special Applications								
SILICONFETT 300 MITTEL BLQ	MSI2P-70	Lithium Silicone oil	–	2	75	-35 / +21	MPA Stuttgart approved	Bridge bearing quality (DIN EN 1337-2)
	18 kg (Bucket)							
CEPLATTYN GT 10	–	Synth. base oil	•	–	10000	0 / +140	FLSmidth, KHD Hum- boldt Wedag International, Metso, Outotec, ThyssenKrupp Industrial Solutions, Sinoma, Citic, Ferry Capitain	CEPLATTYN GT 10 is a high-viscosity adhesive lubricant for heavy-duty Open Gears, e.g. on kilns, mills and driers in the raw materials industry. CEPLATTYN GT 10 has been especial- ly developed for the application on Open Gears under critical operating conditions, such as low-speed kiln drives with increased tooth flank temperatures, mill drives with extre- me drive power, and drives which are frequently operated under start-stop conditions.
   	1 kg (Tin), 45 kg (Hobstock), 190 kg (Drum), BULK							
CEPLATTYN GT 30	–	Synth. base oil	•	–	28000	+5 / +140	Falk Rexnord, Ferry Capitain	CEPLATTYN GT 30 is a high-viscosity adhesive lubricant for heavy-duty Open Gears, e.g. on kilns, mills and driers in the raw materials industry. CEPLATTYN GT 30 has been especial- ly developed for the application on Open Gears under critical operating conditions, such as low-speed kiln drives with increased tooth flank temperatures, mill drives with ex- treme drive power, and drives which are frequently operated under start- stop conditions.
 	190 kg (Drum), BULK							
CEPLATTYN GT P	–	Al-X Semi- synth. base oil	•	1-2	300	-30 / +140	FLSmidth, KHD Hum- boldt Wedag International, Sinoma, ThyssenKrupp Industrial Solutions	Used as a priming lubricant for Open Gears, is especially adjusted to CEPLATTYN GT and CEPLATTYN SF operational lubricants.
	18 kg (Bucket)							
CEPLATTYN GT RN	–	Synth. base oil	•	–	3000	-10 / +140	ThyssenKrupp Industrial Solutions, FLSmidth, KHD Hum- boldt Wedag International, Sinoma, Ferry Capitain	Is used to smoothen the manufactur- ing surface roughness of the tooth surfaces and to optimise the contact pattern on newly installed gear rims and pinions.
 	175 kg (Drum), BULK							

## Lubricating Greases / Pastes

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommen- dations	Main application area
Greases for Special Applications								
<b>CEPLATTYN 100 HV</b>	–	Al-X Mineral oil	•	–	1750	0 / +140	FLSmidth, Sinoma, Ferry Captain, CMD, ThyssenKrupp Industrial Solutions	For bath lubrication of Open Gears in mills, dryers and rotary kilns.
    1 kg (Tin), 18 kg (Bucket), 45 kg (Hobcock), 170 kg (Drum)								
<b>CEPLATTYN GT 3</b>	–	Synth. base oil	•	–	3200	-5 / +60	ThyssenKrupp Industrial Solutions, Sinoma	CEPLATTYN GT 3 is a high-viscosity adhesive lubricant for heavy-duty Open Gears, e.g. on kilns, mills and driers in the raw materials industry, used with bath or circula- tion systems. CEPLATTYN GT 3 has been especially developed for the application on Open Gears under critical operating conditions, such as kiln and mill drives in the cement and mining industry.
  190 kg (Drum), BULK								
<b>CEPLATTYN 300</b>	–	Al-X Mineral oil	•	1-2	1300	-30 / +250	DB-Mat.-Nr. 106169, Ferry Captain, FLSmidth, Sinoma, Citic, CMD, Christian Pfeiffer, Sandvik, Gebr. Pfeiffer, KHD Humboldt Wedag International, Maschinenfabrik Gustav Eirich, ThyssenKrupp Industrial Solutions, RUD Ketten	Priming lubricant for large Open Gear drives, gear racks and sliding surfaces. It is also used as an assembly paste for screws/bolts and pins. It is also suitable for wire rope lubrication and preservation as well as in steel hydraulics const- ruction for chains, sliding surfaces, and gear tooth systems. Dry lubri- cation up to +500 °C.
     30 x 0,4 kg (Cartridge), 6 x 1 kg (Tin), 5 kg (Bucket), 15 kg (Bucket), 25 kg (Hobcock), 45 kg (Hobcock), 210 kg (Drum)								
<b>CEPLATTYN RN</b>	–	Al-X semi-syn- th. base oil	•	00	460	-10 / +140	Ferry Captain, FLSmidth, Outotec, Sinoma, Citic, CMD, Maguin, Christian Pfeiffer, Sandvik, KHD Humboldt Wedag International, ThyssenKrupp Industrial Solu- tions	CEPLATTYN RN can be applied to single and double pinion drives of any kind of tube mills and kilns, e.g. in cement works, fertilizer plants, combustion and compost units. CEPLATTYN RN is applied to gear drives with high performance. Furthermore it is used when run- ning under critical operating condi- tions, when having big tooth widths or when running with high speeds.
     1 kg (Tin), 18 kg (Bucket), 45 kg (Hobcock), 190 kg (Drum), BULK								



## Lubricating Greases / Pastes

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubricants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Temperature range [°C]	Approvals, recommendations	Main application area
Greases for Special Applications								
<b>CEPLATTYN SF 10</b>	–	Synth. base oil	–	–	10000	0 / +120	Ferry Capitain, Metso, Outotec, ThyssenKrupp Industrial Solutions, FLSmidth, KHD, CMD, Citic	The high base oil viscosity guarantees a stable lubricant film between the contacting tooth flanks. This leads to the exceptional efficiency together with the new type of additive package. Use on Open Gears in mills and large drive chains in raw materials industry. Meets AGMA 2005-D94/13 EP/13 S.
   1 kg (Tin), 45 kg (Hobcock), 185 kg (Drum)								
<b>CEPLATTYN SF 30</b>	–	Synth. base oil	–	–	30000	+15 / +120	Metso, FLSmidth, ThyssenKrupp Industrial Solutions, Citic, Falk, Rexnord	For use on Open Gears in the raw materials industry. The extremely high base oil viscosity guarantees a good separation of the friction partners resulting in an exceptional efficiency. Reliable operation of the drives is guaranteed even with small amounts of the lubricant.
   50 kg (Hobcock), 185 kg (Drum), BULK								
<b>CEPLATTYN BL WHITE</b>	OGPF1-2P-30	Al-X semi-synth. base oil	•	1-2	300	-50 / +160	–	CEPLATTYN BL WHITE is especially used for the lubrication of azimuth and pitch gears in wind power plants. In addition to that it is used, e.g. on gears, sliding tracks, chains, worm gears, and wire ropes, or for the lubrication of machine parts subjected to considerable temperature fluctuations and environmental influences.
     30 x 0,4 kg (Cartridge), 4 x 3,6 kg (Cartridge), 5 kg (Bucket), 18 kg (Bucket), 185 kg (Drum)								
<b>CEPLATTYN HT</b>	–	Synth. base oil	•	–	160	-20 / +600	FLSmidth, KHD Humboldt Wedag International, ThyssenKrupp Industrial Solutions, Sinoma, Sprimag	For internal lubrication of riding rings fitted to rotary kilns or dryers.
    1 kg (Tin), 18 kg (Bucket), 45 kg (Hobcock), 185 kg (Drum)								
<b>CEPLATTYN 24 LR</b>	–	Water based	•	–	–	>0 / +600	ThyssenKrupp Industrial Solutions, Sprimag	For internal lubrication of riding rings in rotary and drying kilns in order to maintain the relative movement of the ball races when no flammable lubricant should be used.
   1 kg (Tin), 10 kg (Bucket), 25 kg (Hobcock)								







# METAL PROCESSING LUBRICANTS

Modern metal processing lubricants are subjected to a variety of demands. They must be both economical and efficient, and free of ingredients that are harmful to the environment and human health.

FUCHS has the necessary process expertise to optimally meet the very specific and diverse requirements in metal processing. The comprehensive and high-performance lubricant range from FUCHS is characterized by outstanding application results in all areas of metal processing - from cutting fluids, quenching fluids and forming lubricants to cleaners and corrosion preventives.

# Metal Processing Lubricants

## Cutting Fluids – Water-miscible

Core Range – Globally available   Boron containing Products   Core Range   Water-miscible Cutting Fluids with DMG MORI and DMQP Approval	120-126
Machining Aluminium, Cast-Iron and Low-Alloy Steels, High-Alloy Steels and Hot Strength Materials, Nonferrous Metals (Copper, Brass, Bronze), Magnesium   Special Products	127-129
Service Additives for Water-miscible Metal Processing Fluids: Top-up Concentrate   Defoamers   Bactericides and Fungicides	130-131

## Neat Cutting Fluids

ECOCUT HFN Series   500 Series   600 Series   700 Series   800 Series   Universal for Steel and yellow Metals   FT Series, based on GTL   LCF Series, based on Reraffinate   PLANTOCUT Series   Minimum Quantity Lubrication	132-136
Specific Applications: Tool Grinding, Gear Machining, Spark Erosion, Threading, Honing/Finishing, Medical Engineering, Deep Hole Drilling	137-139
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## Quenching Fluids

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## Cleaner

Neutral Cleaner   1-Component Products   Acid Cleaner   Assembly Aids   Special Products   Builder Components   Surfactant Components   System Cleaner   Solvents   Corrosion Protection	143-156
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## Corrosion Preventives

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## Cold Forming Lubricants















Cold Forming Lubricants for Deep Drawing, Blanking, Fine Blanking, Heavy Forming, Circular Lubrication, WTB Drawing (Wire - Tube - Bar), Hydroforming	170-181
VDA Forming Lubricants   Rolling Oils	182-183

## Hot Forming Lubricants

Hot Forming Lubricants for Drop Forging, Hammer Forging, High-speed Forging, Rotatory Forming Operations, Billet Pretreatment	184-189
Release Agents and Auxiliary Materials for Pressure Die Casting   Other Products	190-193

## Cutting Fluids – Water-miscible














Product name	Con-vent. emul-sion	Semi synth. emul-sion	Solution fully syn-thetic	Densi-ty at 15 °C	pH value 5%	Mixing water hard-ness	Bo-ron-free	Material recom-menda-tion	Main application areas
<b>Core Range – Globally available</b>									
<b>ECOCOOL GLOBAL 20</b>	–	• (ME EP)	–	0.99	9.6	S, M, H	•	Steel, alloyed steel, Al*	Helps maximize operational productivity, improves the work environment and generates cost savings. Developed specifically for the automotive industry.
<div>    </div> 20 L (Canister), 205 L (Drum), 1000 L (IBC)									
<b>ECOCOOL GLOBAL 1000</b>	• (EP)	–	–	0.99	9.4	S, M, H	•	Steel, high-alloy steel, Al, Ti, Ni	Metal processing fluid with special quality properties for high-performance metal machining, especially in aerospace, medical engineering and many other industrial applications. Approval for medical engineering, DMG MORI, Rolls-Royce, Safran, GROB
<div>    </div> 20 L (Canister), 205 L (Drum), 1000 L (IBC)									
<b>ECOCOOL AFC 1515</b>	•	–	–	0.98	9.5	S, M, H	•	Steel, alloyed steel, Al*	For roughing and precision machining, as well as the grinding of steel and aluminium materials; excellent lubricity; always maintain minimum concentration
<div>     </div> 20 L (Canister), 60 L (Drum), 205 L (Drum), 1000 L (IBC), Tank Truck									
<b>ECOCOOL FERROSTAR MBF</b>	–	• (ME EP)	–	0.97	9.6	S, M, H	•	Steel, alloyed steel, Al*	Metal processing fluid for general machining, especially for special cast iron alloys and high-alloy steels; excellent cooling, wetting and flushing; low drag-out losses. GROB-Approval
<div>     </div> 20 L (Canister), 205 L (Drum), 1000 L (IBC), Tank Truck									







ME = Micro-emulsion; EP = EP additivation; ME EP = Micro-emulsion with EP additives; S = Water hardness: Soft; M = Water hardness: Medium; H = Water hardness: Hard;  
 \* = Check compatibility with critical alloys; • = Yes; – = No; (•) – conditional



# ECOCOOL

Product name	Con-vent. emul-sion	Semi synth. emul-sion	Solution fully syn-thetic	Densi-ty at 15 °C	pH value 5%	Mixing water hard-ness	Bo-ron-free	Material recom-menda-tion	Main application areas
Core Range – Globally available									
ECOCOOL MG 825 BFF	–	• (ME)	–	0.99	9.8	M, H	•	Steel, Cast iron, Al*	For machining ferrous metals. Also suitable for general machining of aluminum parts (milling, drilling, threading, etc.).
	205 L (Drum)								
ECOCOOL R - AFC 1526	–	• (ME EP)	–	1.00	9.6	S, M, H	–	Cast iron, steel, alloyed steel, Al	Metal processing fluid for multifunctional machining of cast iron, steel materials and all common aluminum materials. In particular, hypereutectic aluminum materials such as Alusil and Siltec can be machined excellently. <b>The product is not available in Germany.</b>
	205 L (Drum)								
ECOCOOL R - VHCM	–	• (ME)	–	1.01	9.5	M, H	–	Steel, cast iron	Versatile metal processing fluid for general machining; low top up concentration required. DMG MORI Approval <b>The product is not available in Germany.</b>
  	20 L (Canister), 205 L (Drum), 1000 L (IBC)								
ECOCOOL VHCM - 1K	–	• (ME)	–	0.99	9.4	S, M	•	Steel, cast iron	Metal processing fluid for general machining and grinding. Boron-free and preserved counterpart to ECOCOOL VHCM - 1. Low top up concentration required. Suitable for turning, drilling, milling and grinding.
  	205 L (Drum), 1000 L (IBC), Tank Truck								
ECOCOOL MG 128 BFF	–	• (ME EP)	–	0.98	9.7	S, M, H	•	Steel, alloyed steel, cast iron	Particularly suitable for cooling and lubrication in general machining operations. It produces surfaces with low roughness and guarantees minimum tool wear and excellent surface finish.
	205 L (Drum)								
ECOCOOL FG - BF	–	• (ME)	–	1.01	10.0	S, M, H	•	Steel, cast iron, Al*, Cu*	Multifunctional microemulsion for machining ferrous and non-ferrous metals (copper alloys and conventional aluminum). Due to long-term stability reduces the consumption of metal processing fluid.
	205 L (Drum)								
ECOCOOL MACH 50	–	• (EP)	–	0.94	9.6	S, M, H	•	Steel, alloyed steel, Al	Suitable for high performance machining of many materials such as aluminum and various steel alloys in heavy duty applications such as broaching, drilling and tapping. Suitable for low silicon aluminum alloys such as 6000 and 7000 series.
	205 L (Drum)								

## Cutting Fluids – Water-miscible








Product name	Con-vent. emul-sion	Semi synth. emul-sion	Solution fully syn-thetic	Densi-ty at 15 °C	pH value 5%	Mixing water hard-ness	Bo-ron-free	Material recom-menda-tion	Main application areas
Core Range – Globally available									
<b>ECOCOOL MACH 300</b>	• (EP)	–	–	1.01	9.2	S, M, H	•	Steel, high-alloy steel, Al, Ni, yellow metal	Milky emulsion of novel metal processing fluid technology for high performance machining such as broaching, drilling, threading of various materials. Especially suitable for staining-critical aluminium with high surface quality requirements.
 20 L (Canister), 205 L (Drum), 1000 L (IBC)									
<b>ECOCOOL GLOBAL 10</b>	• (EP)	–	–	0.98	9.5	S, M, H	•	Steel, alloyed steel, Al, Ti	Specially designed water miscible metal processing fluid with robust raw materials that provide long life. The emulsifier system forms a stable emulsion that tolerates tramp oils without residue formation.
 20 L (Canister), 205 L (Drum), 1000 L (IBC)									
<b>ECOCOOL 6100 SG</b>	–	–	• (EP)	1.04	9.7	S, M, H	–	Steel, alloyed steel, cast iron	For machining and grinding of ferrous metals. Suitable for soft water from 2 °dH. Achieves high surface finish.
 205 L (Drum)									
<b>ECOCOOL MG 22 B</b>	–	–	•	1.03	9.5	S, M, H	•	Steel, cast iron	Aqueous solution, particularly suitable for cooling and lubrication during machining and grinding of ferrous materials.
 205 L (Drum)									
<b>ECOCOOL S-FC VW</b>	–	–	• (EP)	1.05	9.4	S, M	•	Steel, cast iron, Al*	Fully synthetic metal processing fluid for grinding and machining of cast iron and steel, extremely low foaming, good wetting and flushing properties, leaves no sticky residues.
 20 L (Canister), 205 L (Drum), 1000 L (IBC)									
<b>ECOCOOL S-CO 5 BF</b>	–	–	•	1.1	9	S, M	•	Hard metal, yellow metal	Fully-synthetic metal processing fluid for the machining and grinding of tungsten carbides and nonferrous metals; reduces cobalt leaching and soap formation; low foaming; low drag-out losses.
 20 L (Canister), 205 L (Drum)									





# Cutting Fluids – Water-miscible

## ECOCOOL

Product name	Con-vent. emul-sion	Semi synth. emul-sion	Solution fully synthetic	Densi-ty at 15 °C	pH value 5%	Mixing water hard-ness	Bo-ron-free	Material recom-menda-tion	Main application areas
Core Range									
ECOCOOL S-G2	–	–	• (EP)	1.06	8.8	S, M	•	Steel, Al*	For the most difficult machining and grinding operations on steel and aluminium alloys; very low foaming; suitable for high pressures and soft water; greater economy due to low drag-out losses
 205 L (Drum), 1000 L (IBC)									
ECOCOOL TN 2530	• (EP)	–	–	0.98	9.4	M, H	•	Steel, alloyed steel, Titan, Inconel, Al*	With EP additives; universally applicable for aluminium materials, titanium and stainless steels; stable at high pressures and low foaming
 205 L (Drum)									
ECOCOOL VHCM-1 CP	–	• (ME EP)	–	0.99	9.4	M, H	•	Steel, cast iron	Metal processing fluid for general machining and grinding operations; the boron-free equivalent to ECOCOOL R - VHCM; greater economy due to low drag-out losses. Also available the pre-served Version under ECOCOOL VHCM - 1K.
    20 L (Canister), 205 L (Drum), 1000 L (IBC), Tank Truck									
ECOCOOL ALUSTAR BF-V	•	–	–	0.98	8.4	M	•	Steel, alloyed steel, Al*, non-ferrous materials	High quality, universally applicable metal processing fluid, especially for the machining of nonferrous materials; not suitable for machining cast iron; pH neutral; outstanding lubricity; good wetting and flushing.
 205 L (Drum)									

## **FUCHS** Smart Services

### **FUCHS Fluid Analyzer – Advanced Analysis & Monitoring**







Detect unfavorable changes that lead to an impairment of the performance of your metal-working fluid early and clearly. This enables you to react quickly and initiate the necessary measures. The operational capability of the system is thus ensured.

The FUCHS Fluid Analyzer supports you to do so. It continuously monitors and documents the pH value, the concentration and temperature of the metal processing fluid. The device analyses and reports deviations immediately. Your FUCHS expert or trained personnel on site can be alerted automatically.

Read more about digital coolant monitoring →


















## Cutting Fluids – Water-miscible

Product name	Con-vent. emul-sion	Semi synth. emul-sion	Solution fully syn-thetic	Densi-ty at 15 °C	pH value 5%	Mixing water hard-ness	Bo-ron-free	Material recom-menda-tion	Main application areas
<b>Water-miscible Cutting Fluids with DMG MORI and DMQP Approval</b>									
<b>ECOCOOL FERROSTAR MBF</b>	–	• (ME EP)	–	0.97	9.6	S, M, H	•	Steel, alloyed steel, Al*	Metal processing fluid for general machining, especially for special cast iron alloys and high-alloy steels; excellent cooling, wetting and flushing; low drag-out losses. GROB-Approval
	20 L (Canister), 205 L (Drum), 1000 L (IBC), Tank Truck								
<b>ECOCOOL GLOBAL 1000</b>	• (EP)	–	–	0.99	9.4	S, M, H	•	Steel, high-alloy steel, Al, Ti, Ni	Metal processing fluid with special quality properties for high-performance metal machining, especially in aerospace, medical engineering and many other industrial applications. Approval for medical engineering, DMG MORI, Rolls-Royce, Safran, GROB
	20 L (Canister), 205 L (Drum), 1000 L (IBC)								
<b>ECOCOOL VHCM - 1K</b>	–	• (ME)	–	0.99	9.4	S, M	•	Steel, cast iron	Metal processing fluid for general machining and grinding. Boron-free and preserved counterpart to ECOCOOL VHCM - 1. Low top up concentration required. Suitable for turning, drilling, milling and grinding.
	205 L (Drum), 1000 L (IBC), Tank Truck								
<b>ECOCOOL AFC-IDM</b>	• (EP)	• (ME)	–	0.95	9.3	S, M, H	•	Steel, alloyed steel, Al*	Multifunctional universal product for drilling, turning, milling and grinding of various alloys.  DMQP Product
	20 L (Canister), 205 L (Drum), 1000 L (IBC), Tank Truck								
<b>ECOCOOL S-FC IDM</b>	–	–	•	1.05	9.5	S, M	•	Steel, cast iron, Al*	Fully synthetic coolant for grinding and machining of cast iron, steel and conventional aluminium alloys.  DMG MORI Approval
	205 L (Drum), 1000 L (IBC)								
<b>ECOCOOL AFC 1515 BW</b>	• (EP)	–	–	0.99	9.5	S, M	•	Steel, stainless steel, Al (critical for staining)	For the machining of steel materials and Al with low Si content and Al - materials critical for staining.  DMG MORI Approval
	205 L (Drum), 1000 L (IBC), Tank Truck								









## Cutting Fluids – Water-miscible












Product name	Con-vent. emul-sion	Semi synth. emul-sion	Solution fully syn-thetic	Densi-ty at 15 °C	pH value 5%	Mixing water hard-ness	Bor-on-free	Material recom-menda-tion	Main application areas
Machining Cast Iron and Low-Alloy Steels									
ECOCOOL FERROSTAR MBF	–	• (ME EP)	–	0.97	9.6	S, M, H	•	Steel, alloyed steel, Al*	Metal processing fluid for general machining, especially for special cast iron alloys and high-alloy steels; excellent cooling, wetting and flushing; low drag-out losses. GROB-Approval
   	20 L (Canister), 205 L (Drum), 1000 L (IBC), Tank Truck								
ECOCOOL VHCM-1 CP	–	• (ME)	–	0.99	9.6	S, M, H	–	Steel, cast iron	Metal processing fluid for general machining and grinding with increased corrosion protection; boron-free counterpart to ECOCOOL R -VHCM; low top-up concentration required.
   	20 L (Canister), 205 L (Drum), 1000 L (IBC), Tank Truck								
Machining High-Alloy Steels and Hot Strength Materials									
ECOCOOL TN 2530	• (EP)	–	–	0.98	9.4	M, H	•	Steel, alloyed steel, Titan, Inconel, Al*	Metal processing fluid with EP additives; universally applicable for aluminum materials, titanium and stainless steels; high-pressure stable and low foaming.
	205 L (Drum)								
ECOCOOL TN 2550	• (EP)	–	–	0.97	9.3	M, H	•	Titanium, Al, stainless steel	Advanced product for machining difficult-to-machine materials, mineral oil-free, sustainable formulation, approval: MTU, GROB
 	205 L (Drum), 1000 L (IBC)								
ECOCOOL GLOBAL 1000	• (EP)	–	–	0.99	9.4	S, M, H	•	Steel, high-alloy steel, Al, Ti, Ni	Metal processing fluid with special quality properties for high-performance metal machining, especially in aerospace, medical engineering and many other industrial applications. Approval for medical engineering, DMG MORI, Rolls-Royce, Safran, GROB
  	20 L (Canister), 205 L (Drum), 1000 L (IBC)								
ECOCOOL NI 1000	• (EP)	–	–	0,98	9,3	M, H	•	Nickel alloys, stainless steel, heat resistant materials	High-performance product for machining heat-resistant materials such as nickel-based alloys (INCONEL 718) as well as stainless steel and steel. High pressure stable, approval Medical technology, MTU
	205 L (Drum)								




# ECOCOOL







Product name	Con-vent. emul-sion	Semi synth. emul-sion	Solution fully syn-thetic	Densi-ty at 15 °C	pH value 5%	Mixing water hard-ness	Bo-ron-free	Material recom-menda-tion	Main application areas
Machining Nonferrous Metals (Copper, Brass, Bronze)									
ECOCOOL ALUSTAR BF-V	•	–	–	0.98	8.4	M	•	Steel, alloyed steel, Al*, non-ferrous materials	High quality, universally applicable metal processing fluid, especially for the machining of nonferrous materials; not suitable for machining cast iron; pH neutral; outstanding lubricity; good wetting and flushing.
	205 L (Drum)								
ECOCOOL S-CO 5 BF	–	–	•	1.1	9	S, M	•	Hard metal, yellow metal	Fully-synthetic metal processing fluid for the machining and grinding of tungs- ten carbides and nonferrous metals; reduces cobalt leaching and soap formation; low foaming; low drag-out losses.
	20 L (Canister), 205 L (Drum)								
Machining Magnesium									
ECOCOOL 2516 MG-DC	•	–	–	0.98	9.1	H	•	Al*, Mg	High-quality, universally applicable; specially developed for the machining of magnesium; mixing water > 30 °dH; stable up to 200 °dH without deposits forming
	205 L (Drum)								
Special Products									
ECOCOOL GS 2000	–	–	•	1.06	8	–	•	Cast iron, steel	Thread cutting medium for water pipes; approved by the German DVWG; dyed red
	205 L (Drum), 1000 L (IBC)								
ECOCOOL S-CO 5 BF	–	–	•	1.1	9	S, M	•	Hard metal, yellow metal	Fully-synthetic metal processing fluid for the machining and grinding of tungsten carbides and nonferrous metals; reduces cobalt leaching and soap formation; low foaming; low drag-out losses
	20 L (Canister), 205 L (Drum)								
ECOCOOL GLOBAL S 240	–	–	•	1.05	9.0	S, M	•	Compo-sites	Fully-synthetic metal processing fluid for machining CFRP/GFRP, good wetting and flushing properties, extreme less foaming, leaves no sticky residues, AIRBUS Approval
	205 L (Drum)								

## Service Additives for Cutting Fluids

Product name	Description/features	Application conc. (of the final dilution) [%]	Increasing corrosion protection	Increasing pH value	Main application areas
<b>Top-up Concentrate for Water-miscible Metal Processing Fluids</b>					
<b>ECOCOOL ALKALISATOR G</b> 	Primary alkanolamine 20 L (Canister), 200 L (Drum)	0.1 - 0.5 steps	(•)	•	Increases pH value
<b>ECOCOOL AKTIV CU</b> 	Copper passivator 20 L (Canister)	0.1 - 0.3	•	–	Combats the staining and greenish discolouration of nonferrous metals
<b>ECOCOOL AKTIV ALU</b> 	To avoid Al-staining 20 L (Canister)	0.1 - 0.15	•	–	Avoids aluminium staining
<b>NETZMITTEL 12</b> 	Wetting agent 20 L (Canister)	0.05 - 0.2	–	–	Improves wetting properties
<b>ECOCOOL AKTIV CPO</b> 	Corrosion protection for ferrous metals 20 L (Canister), 205 L (Drum), 1000 L (IBC)	0.1 - 0.3	•	–	Increases the corrosion protection offered by emulsions and synthetic metal processing fluid
<b>Defoamers, Synergetically Matched to ECOCOOL Water-miscible Metal Processing Fluids</b>					
<b>ANTI-FOAM 46</b> 	Si-organic chemistry 5 L (Canister)	0.0025 - 0.005	–	–	Standard defoamer for emulsions and synthetic solutions. Before use, mix 1:1 with the processing fluid in use and add slowly.
<b>ANTI-FOAM 46 W</b> 	Si-organic chemistry 5 L (Canister)	0.004 - 0.008	–	–	Equivalent to ANTI-FOAM 46 but with solubilizers, therefore mixes well
<b>ANTI-FOAM 48</b> 	Si-organic chemistry 5 L (Canister)	0.005 - 0.01	–	–	For use with emulsions and synthetic solutions. Before use, mix 1:1 with the processing fluid in use and add slowly.
<b>ANTI-FOAM 1860</b> 	Si-organic chemistry 5 L (Canister)	0.005 - 0.01	–	–	Standard defoamer for emulsions and synthetic solutions. Before use, mix 1:1 with the processing fluid in use and add slowly.
<b>ANTI-FOAM 51 G</b> 	Si-organic chemistry 5 L (Canister), 205 L (Drum)	0.001 - 0.01	–	–	With solubilizers, therefore mixes well
<b>ANTI-FOAM LC 30 W</b> 	Si-organic chemistry 5 L (Canister)	0.001 - 0.01	–	–	Mixture of various defoamers; very broad range of applications. With solubilizers; no dilution necessary.






## ECOCOOL

Product name	Description/features	Application conc. (of the final dilution) [%]	Increasing corrosion protection	Increasing pH value	Main application areas
<b>Defoamers, Synergetically Matched to ECOCOOL Water-miscible Metal Processing Fluids</b>					
<b>ANTIFOAM WS 1</b>	Ca-hardness increaser	from 0.01	–	–	Agents to harden water; as a rule, 0.01% increases water hardness by about 1 °dH, to a max. of 30 °dH
	5 L (Canister), 20 L (Canister)				












Product name	Application concentration (of the final dilution) [%]	Fungicide	Bactericide	pH value effect	Main application areas
<b>Formaldehyde-free Bactericides and Fungicides for the Maintenance of ECOCOOL Water-miscible Metal Processing Fluids</b>					
<b>ACTICIDE MBS</b>	0.1 - 0.2	•	•	–	Combination of fungicide and bactericide for emulsions and synthetic solutions
  	5 L (Canister), 25 kg (Canister), 200 kg (Drum), 1000 L (IBC)				
<b>ACTICIDE M 20</b>	0.1 - 0.2	•	•	–	Fungicide and bactericide for emulsions, chloride-free, AOX-free
	5 kg (Canister), 200 kg (Drum)				
<b>ACTICIDE MV</b>	0.1 - 0.2	–	•	–	Fast working bactericide for emulsions and synthetic solutions
 	5 kg (Canister), 25 kg (Canister), 1000 L (IBC)				

## Neat Cutting Fluids


















Product name	Kin. visc. at 40 °C [mm²/s]	Density at 15 °C	Flash point [°C]	Steel	High- alloy steel	Alumi- nium	Copper, copper alloys	Main application areas
ECOCUT HFN Series								
ECOCUT HFN 5 LE-HC 	4	0.83	136	•	–	•	•	Multipurpose cutting oil; low evaporation and low misting; copper inactive; for grinding and cutting operations with geometrically defined cutting tools. The low viscosity versions (4 and 10) are also suitable for honing; the higher viscosities can be used as multi-functional oils (HLP hydraulic oils).
205 L (Drum), 1000 L (IBC), Tank Truck								
ECOCUT HFN 10 LE-HC 	10	0.84	170	•	–	•	•	
205 L (Drum), 1000 L (IBC), Tank Truck								
ECOCUT HFN 16 LE 	15	0.86	200	•	–	•	•	
205 L (Drum), 1000 L (IBC)								
ECOCUT HFN 22 LE 	22	0.85	212	•	–	•	•	
205 L (Drum), 1000 L (IBC)								
ECOCUT HFN 32 LE 	30	0.85	200	•	–	•	•	
205 L (Drum), 1000 L (IBC), Tank Truck								

# ECOCUT

Product name	Kin. visc. at 40 °C [mm²/s]	Density at 15 °C	Flash point [°C]	Steel	High- alloy steel	Alumi- nium	Copper, copper alloys	Main application areas
ECOCUT 500 Series								
ECOCUT 515 	15 205 L (Drum)	0.90	158	•	•	–	–	Neat cutting oils with high EP additive content for machining operations and especially thread cutting on high alloy steels (stainless steels). ECOCUT 515 is very good suitable for deep hole drilling. The products are zinc free and low in oil mist.
ECOCUT 522 	24 205 L (Drum)	0.90	204	•	•	–	–	
ECOCUT 600 Series								
ECOCUT 610 A 	10 1000 L (IBC), Tank Truck	0.85	160	•	•	–	–	Neat cutting oils universally applicable for the most machining operations with defined edge in alloyed steels. Special additives with geometrically defined cutting edges reduce the friction and increase the tool life. Low misting, chlorine-free and zinc-free.
ECOCUT 615 LE 	16 205 L (Drum), 1000 L (IBC), Tank Truck	0.88	210	•	•	–	–	
ECOCUT 615 A 	17 205 L (Drum), 1000 L (IBC)	0.87	200	•	•	–	–	
ECOCUT 628 LE 	26 205 L (Drum), 1000 L (IBC), Tank Truck	0.86	210	•	•	–	–	
ECOCUT 700 Series								
ECOCUT 710 LE 	10 205 L (Drum), 1000 L (IBC)	0.87	158	•	•	–	–	High performance oils with high EP additive content and universally applicable for operations on high alloy steels (Cr-Ni steels) in gear machining such as gear hobbing, broaching and deep hole drilling. Low misting, chlorine-free and zinc-free.
ECOCUT 715 LE 	17 20 L (Canister), 205 L (Drum), 1000 L (IBC)	0.89	200	•	•	–	–	
ECOCUT 717 EK 	18 205 L (Drum), Tank Truck	0.89	196	•	•	–	(•)	
ECOCUT 720 LE 	21 205 L (Drum), 1000 L (IBC)	0.89	210	•	•	–	–	
ECOCUT 732 LE 	32 20 L (Canister), 205 L (Drum)	0.88	190	•	•	–	–	











## Neat Cutting Fluids

Product name	Kin. visc. at 40 °C [mm²/s]	Density at 15 °C	Flash point [°C]	Steel	High- alloy steel	Alumi- nium	Copper, copper alloys	Main application areas
ECOCUT 800 Series								
ECOCUT 832   	29	0.92	180	•	•	–	–	Broaching and special oils for very difficult machining operations on high alloy (also stainless) steels; particularly for the vertical and horizontal broaching of gear teeth and keyways. Low misting; zinc free; high EP additive content.
205 L (Drum), 1000 L (IBC), Tank Truck								
ECOCUT 8532 	32	0.94	210	•	•	–	–	
ECOCUT 8536 S 	37	0.95	200	•	•	–	–	
205 L (Drum)								
Universal for Steel and yellow Metals								
ECOCUT HFN 15 GB 1   	15	0.85	180	•	•	–	•	High-strength cutting oil based on high-quality HC base oils with a high additive content. This special copper-inactive formulation is suitable for machining steel, high-alloy materials as well as non-ferrous metals. Another area of application is medical technology, as described below.
20 L (Canister), 205 L (Drum), 1000 L (IBC)								
ECOCUT FT 11 HP  	11	0.82	194	•	•	•	•	High-performance cutting oil on GTL base oil for universal machining of high-alloy steels up to copper alloys. Odorless, high flash point, low evaporation, excellent foaming behavior.
205 L (Drum), 1000 L (IBC)								
ECOCUT FT Series, based on GTL								
ECOCUT FT 7 WSE  	7	0.8	184	•	Especially for hard metal	–	–	Grinding oil formulated on GTL base oil, for grinding of carbide tools; prevents cobalt leaching. Further application is sharpening of HSS tools. Suitable for ultra fine filter systems, free of aromatics.
1000 L (IBC), Tank Truck								
ECOCUT FT 10 GP 	10	0.83	200	•	–	•	–	High-performance grinding oil on GTL base oil for grinding gear wheels and also for flat/round grinding. Odourless, high flash point, low evaporation, superb foaming behaviour. Also suitable for medium-duty cutting with defined cutting edge.
205 L (Drum)								
ECOCUT FT 11 HP  	11	0.82	194	•	•	•	•	High-performance cutting oil on GTL base oil for universal machining of high alloy steels up to copper alloys. Odorless, high flash point, low evaporation, excellent foaming behavior.
205 L (Drum), 1000 L (IBC)								






















## Neat Cutting Fluids





Product name	Kin. visc. at 40 °C [mm²/s]	Density at 15 °C	Flash point [°C]	Steel	High- alloy steel	Alumi- nium	Copper, copper alloys	Main application areas
<b>Minimum Quantity Lubrication (MQL)</b>								
<b>PLANTO MIKRO UNI</b>	15	0.88	200	•	•	•	•	Ester-based minimum quantity lubricants with high EP level, universally applicable for all materials. Suitable for all spray systems. Machine manufacturer approval: Knoll, TKM.
 	20 L (Canister), 205 L (Drum)							
<b>PLANTO MIKRO 30 HD</b>	31	0.93	211	•	•	•	–	Ester-based minimum quantity lubricant with very high EP level. Suitable for steel, steel alloys and aluminium alloys. Use of different spray systems must be taken into account. Machine manufacturer approval: Bielomatik, Grob, TKM.
	20 L (Canister)							
<b>ECOCUT MIKRO PLUS 20</b>	27	0.85	188	•	•	•	•	Minimum quantity lubricant based on fatty alcohol. Suitable for machining aluminium, but also cast iron, non-ferrous metals, steel and steel alloys. Evaporates very effectively. Suitable for all spraying systems. Machine manufacturer approval: Bielomatik, Grob, Knoll, SKF, TKM. Customer approval: Boeing, Bombardier, Embraer.
  	20 L (Canister), 205 L (Drum), 1000 L (IBC)							
<b>ECOCUT MIKRO 20 D</b>	28	0.85	188	•	•	•	•	Minimum quantity lubricant based on fatty alcohol. Suitable for machining aluminium, but also cast iron, non-ferrous metals, steel and steel alloys. Evaporates very effectively. Improved cleaning. Suitable for all spray systems. Machine manufacturer approval: Bielomatik, Grob, TKM.
	20 L (Canister)							
<b>ECOCUT MIKRO PLUS 82</b>	20	0.84	172	•	•	•	•	Minimum quantity lubricant based on fatty alcohol. Suitable for machining aluminium, but also cast iron, non-ferrous metals, steel and steel alloys. Evaporates almost residue-free. Suitable for all spraying systems. Machine manufacturer approval: Bielomatik, Grob, Knoll, SKF, TKM. Customer approval: Boeing.
  	20 L (Canister), 205 L (Drum), 1000 L (IBC)							








## Neat Cutting Fluids

Product name	Kin. visc. at 40 °C [mm²/s]	Density at 15 °C	Flash point [°C]	Steel	High- alloy steel	Alumi- nium	Copper, copper alloys	Main application areas
Specific Application – Threading								
ECOCUT 522	24	0.89	204	•	•	–	(•)	Solvent raffinate with chlorine free EP addi- tives; low misting and zinc free. Especially for the threading of stainless steels and other machining operations on high alloy materials.
	205 L (Drum)							
Specific Applications – Honing, Finishing								
ECOCUT HFN 5 LE-HC	4	0.84	136	•	(•)	•	•	Honing oil for steel and cast iron; also suitable for super finishing and high performance honing operations.
  	205 L (Drum), 1000 L (IBC), Tank Truck							
ECOCUT GBS 5	5	0.83	150	•	(•)	•	•	For grinding and honing of balls and races in the roller bearing industry.
	1000 L (IBC)							
ECOCUT FE	4	0.81	134	•	•	•	•	Metal processing oil for honing and finishing; based on white oils and free of aromatics.
 	205 L (Drum), 1000 L (IBC)							
Specific applications – Medical Engineering								
PLANTOCUT 10 SR	10	0.86	206	•	•	•	•	Rapidly biodegradable, ester based cutting oil. Recommended turning, milling, drilling, etc. Low evaporation and low misting; H304 free. Cytotoxicity: EN ISO 10993-1, EN ISO 10993-5, EN ISO 10993-12.
  	20 L (Canister), 205 L (Drum), 1000 L (IBC)							
ECOCUT HFN 15 GB 1	15	0.85	180	•	•	–	•	Cutting oil for machining of high alloy, diffi- cult-to-machine materials (titanium, CoCr and nickel alloys, medical steels) used in medical engineering. Cytotoxicity: EN ISO 10993-1, EN ISO 10993-5, EN ISO 10993-12, DMQP Medical Product.
  	20 L (Canister), 205 L (Drum), 1000 L (IBC)							
ECOCUT FT 11 MED	11	0.82	194	•	•	•	•	High performance cutting oil on GTL base oil for universal machining of high alloy steels and copper alloys. Odorless, high flash point, low evaporation, superb foaming behavior. For the machining of medical steels. Cytotoxicity: EN ISO 10993-1, EN ISO 10993-5, EN ISO 10993-12.
 	205 L (Drum), 1000 L (IBC)							
ECOCUT 7520 LE-M	17	0.86	214	•	•	–	–	High performance cutting oil for tool wear reduction and for the machining of high- alloy, difficult-to-machine materials (tita- nium, CoCr and nickel alloys, medical steels) used in medical engineering. Cytotoxicity: EN ISO 10993-1, EN ISO 10993-5, EN ISO 10993-12.
 	205 L (Drum), 1000 L (IBC)							

## ECOCUT

Product name	Kin. visc. at 40 °C [mm <sup>2</sup> /s]	Density at 15 °C	Flash point [°C]	Steel	High- alloy steel	Alumi- nium	Copper, copper alloys	Main application areas
<b>Specific Application – Deep Hole Drilling</b>								
<b>ECOCUT FT 11 HP</b>	11	0.82	194	•	•	•	•	High-performance cutting oil on GTL base oil for universal machining of high-alloy steels up to copper alloys. Odorless, high flash point, low evaporation, excellent foaming behavior.
 	205 L (Drum), 1000 L (IBC)							
<b>ECOCUT 618</b>	18	0.87	200	•	•	(•)	–	Mineral oil-based, low-oil-mist machining oil with EP and AW additives for deep-hole drilling, especially hard-to-machine steel materials; also suitable for valve drilling.
 	205 L (Drum), 1000 L (IBC)							









## Service Additives for Neat Cutting Fluids

Product name	Kin. visc. at 40 °C [mm <sup>2</sup> /s]	Copper active	Application concentration [%]	Main application areas
<b>Adjusting Concentrate for Cutting Oils</b>				
<b>ECOCUT PLUS KWU</b>	36	•	1 - 100	Adjusting concentrate to improve cutting performance, tool life and surface finish.
	20 L (Canister)			
<b>ECOCUT PLUS 800</b>	27	•	1 - 100	Adjusting concentrate to improve cutting performance, tool life and surface finish; especially for the ECOCUT 800 Series.
  	20 L (Canister), 205 L (Drum), 1000 L (IBC)			
<b>ECOCUT PLUS HK</b>	32	–	1 - 100	Special adjusting concentrate for the PLANTOCUT Series when copper-inactivity is necessary.
	1000 L (IBC)			

**ANTIFOAM Defoamer for cutting oils –  
Products available on request**






## Quenching Fluids



Product name	Kin. Visc. at 40 °C [mm²/s]	Density at 15 °C [g/ml]	Flash- point [°C]	Temperature range bath temperature [°C]	Main application area
Quenching Oils based on Mineral Oil					
THERMISOL QB 32	31	0.87	231	50 – 90	Quenching oils based on mineral oil are usually conventional solvates containing a relatively low level of additives. These oils are generally used to quench components made of high-alloy materials and with simple geometries. They are mainly used for the heat treatment of distortion-resistant components.
  	205 L (Drum), 1000 L (IBC), Tank Truck				
THERMISOL QB 46	44	0.87	230	50 – 100	
 	205 L (Drum), Tank Truck				
High-performance Quenching Oils based on Mineral Oil					
THERMISOL QH 10	12	0.85	178	50 – 80	High performance quenching oils usually contain high levels of additives and special agents which accelerate component wetting. High performance quenching oils are normally based on conventional solvates. They are widely used because optimized wetting behaviour makes them suitable for warp-prone components. Depending on the flash point, these quenching oils can also be used as hot bath and martempering oils.
 	205 L (Drum), 1000 L (IBC)				
THERMISOL QH 40	45	0.86	223	50 – 110 (max. 150)	
	205 L (Drum)				














## THERMISOL

Product name	Kin. Visc. at 40 °C [mm²/s]	Density at 15 °C [g/ml]	Flash- point [°C]	Temperature range bath temperature [°C]	Main application area
High-performance Quenching Oils based on Hydrocrack Oil					
THERMISOL QH 10 MC 	12 205 L (Drum), 1000 L (IBC)	0.84	172	50 – 80	High performance quenchants based on high-quality, low evaporation and low-aromatic hydrocracked oils. MC - the key is a special manufacturing process in which natural mineral oil is converted by hydrocracking, i.e. under high pressure and high temperatures in the presence of H2 (hydrogen). This creates a more cost-effective base oil which is comparable to synthetic oils. This base oil together with high-quality additives combines the oxidation stability and the optimum wetting properties of high-performance quenching oils with the thermal stability and extremely low evaporation of hydrocracked oils.
THERMISOL QH 30 MC 	26 205 L (Drum), 1000 L (IBC)	0.84	220	50 – 100 (max. 150)	
THERMISOL QH 35 MC 	37 205 L (Drum), 1000 L (IBC)	0.85	236	40 – 100 (max. 150)	
Synthetic High-performance Quenching Oils					
THERMISOL QHY 10 	11 205 L (Drum)	0.87	204	50 – 130	The use of these quenching oils based on synthetic esters is particularly recommended for highly warp-prone components. Apart from their sustainability credentials, these high-performance quenching oils offer a number of other advantages. Synthetic high-performance quenching oils have significantly better wetting properties than their conventional counterparts. These excellent wetting properties ensure that the vapour phase over the whole surface of the component being treated collapses rapidly. This almost simultaneous wetting of the entire component surface significantly reduces the temperature gradients created during quenching and thus ultimately the uneven shape changes known as warping. Depending on the flash point, these quenching oils can also be used as hot bath and martempering oils.
THERMISOL QHY 150 	145 20 L (Canister), 200 L (Drum)	0.93	312	60 – 260	

# Quenching Fluids

## THERMISOL

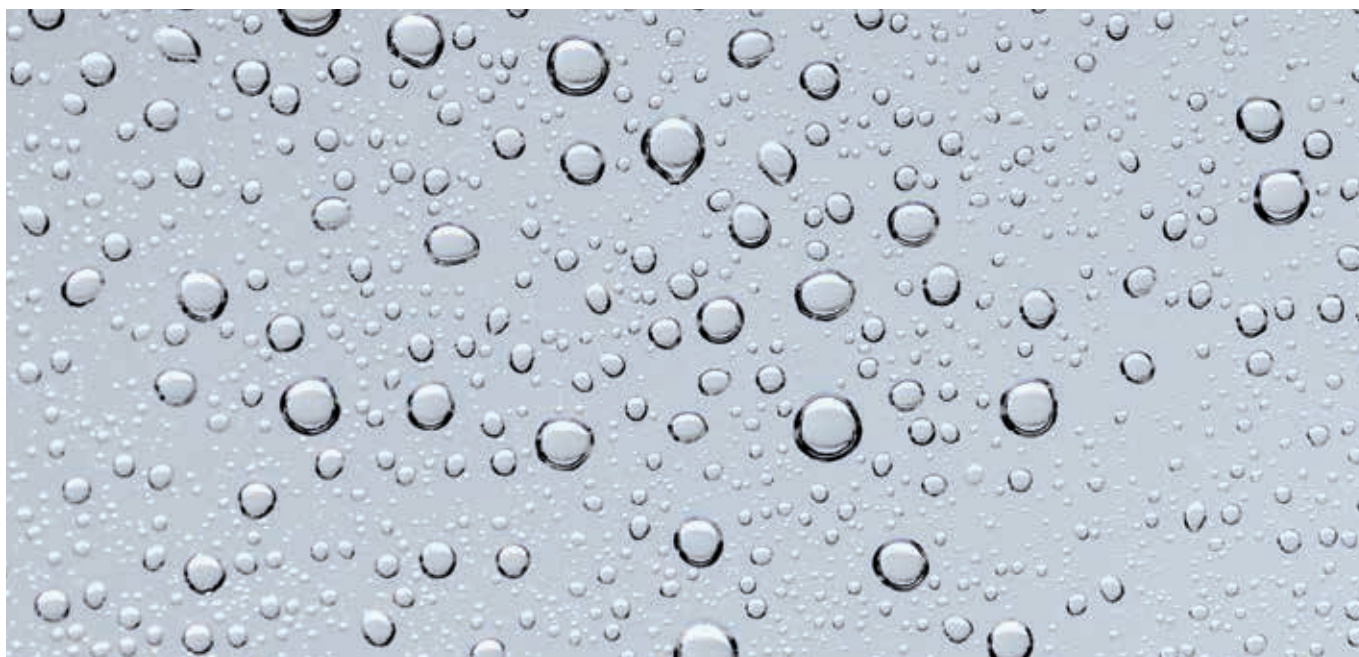
Product name	Main application	Quenching intensity	Materials	Properties
<b>Water-miscible Quenchants</b>				
<b>THERMISOL PGI 2010</b> 	Quenching for induction and flame hardening 205 L (Drum)	Very high	Unalloyed steel	Especially for high corrosion protection requirements.
<b>THERMISOL QZS 700</b> 	Quenching for induction and flame hardening 205 L (Drum)	Very high	Unalloyed steel Low alloyed steel	Limited control of the quenching process through the concentration is possible. Reduces foaming.
<b>THERMISOL QZS 400</b>   	Quenching for induction and flame hardening 20 L (Canister), 205 L (Drum), 1000 L (IBC)	Very high	Unalloyed steel Low alloyed steel	Limited control of the quenching process through the concentration is possible. Provides increased bath life. Reduces foaming.
<b>THERMISOL QZS 700 K-FF</b> 	Quenching for induction and flame hardening. Also suitable for immersion quenching 1000 L (IBC)	High	Unalloyed steel Low alloyed steel Higher alloyed steel	Controlled quenching behaviour possible through variation of concentration. Provides increased bath life. Offers a particularly good dissolving capacity. Reduces foaming. Especially for the highest corrosion protection requirements.
<b>THERMISOL QZS 400-WB</b>  	Quenching for induction and flame hardening. Also suitable for immersion quenching 205 L (Drum), 1000 L (IBC)	High	Unalloyed steel Low alloyed steel Higher alloyed steel	Controlled quenching behaviour possible through variation of concentration. Provides increased bath life. Offers a particularly good dissolving capacity. Reduces foaming. Especially for the highest corrosion protection requirements. Protects copper inductors in induction hardening systems. Machine manufacturer approval: EFD Induction
<b>THERMISOL PVM 4000</b>  	Immersion quenching of single batches 205 L (Drum), 1000 L (IBC)	Medium	Unalloyed steel Low alloyed steel High alloyed steel	Mild to particularly mild quenching processes can be achieved. Can be used as a substitute for low-viscosity hardening oils.
<b>THERMISOL QZS 550 CPO</b> 	Immersion quenching of single batches 205 L (Drum)	Low	Unalloyed steel Low alloyed steel High alloyed steel	Mild to particularly mild quenching processes can be achieved. Can be used as a substitute for low-viscosity hardening oils. Especially for high corrosion protection requirements.




### Properties water-miscible quenching fluids THERMISOL series

General characteristics	QZS 400 and 700 series	QZS 550 and PVM series
<ul style="list-style-type: none"> <li>Controlled quenching behaviour possible through variation of concentration</li> <li>There is no fire hazard in the tank</li> <li>No oil steam will be released</li> <li>Free of Boron, Formaldehyde Phenol and Isothiazolinone</li> </ul>	<ul style="list-style-type: none"> <li>Severe quenching characteristic</li> <li>Smooth transition from vapour phase to polymer film</li> <li>Good for rinsing or immersion after induction heat treatment or flame hardening</li> </ul>	<ul style="list-style-type: none"> <li>Oil-like quenching characteristics possible</li> <li>Very different quenching intensities can be set with the variation of concentration</li> <li>Quenching of high-alloy materials up to tool steel possible</li> <li>Particularly recommended for large and crack-sensitive components</li> </ul>






# Cleaner

## RENOCLEAN


















Product name	Function	Comments	Materials	Corrosion protection, chip/filter test 0/0 at x% in y °dH	pH (2%), if applicable	Concentration range in %	Temperature range in °C	Spray pressure in bar to app.	Density at 15 °C in kg/m³
<b>Neutral Cleaner</b>									
<b>RENOCLEAN MSO 3011</b>	Neutral cleaner for spray and high-pressure cleaning, high-pressure deburring	Highly demulsifying, almost foam-free above 25 °C, salt-free. PSA-approval worldwide: MABEC-code Z 000 546790	Fe, Al, Cu, Ms, Plastics <sup>1</sup>	Temporarily, '2% / in DI-water	9.2 ± 0.4 at 3.5%	3 (1 - 5)	50 (20 - 80)	600	1036 ± 15
 20 L (Canister), 205 L (Drum), 1000 L (IBC)									
<b>RENOCLEAN WSA 3002</b>	Spray cleaner for high-pressure cleaning and high-pressure deburring systems	Practically foam-free from 30 °C  VW-release A29 2862 as RENOCLEAN VR 1021 C!	Fe, Al, Cu, Ms, Plastics <sup>1</sup>	Temporarily, '2.5% / 10 °dH	9.2 ± 0.4	2 (1 - 5)	65 (30 - 80)	30 (High pr. device 350)	1082 ± 15
 205 L (Drum)									
<b>RENOCLEAN MTO 3002</b>	Neutral cleaner and corrosion protection "All-in-One" for spray, pressure flood, high pressure cleaning and deburring	Very low residue formation, very good temporary corrosion protection, low-foaming application from 20 °C pressure-dependent, salt-free	Fe, Cu, Ms, (Al, Mg) <sup>1</sup>	Temporarily, '2% / 10 °dH	9.4 ± 0.5	3 (2 - 5)	60 (20 - 80)	500 (≥ 50 °C)	1078 ± 20
 20 L (Canister), 205 L (Drum)									

## Cleaner

Product name	Function	Comments	Ma-terials	Corrosion protection, chip/filter test 0/0 at x% in y °dH	pH (2%), if appli-cable	Concen-tration range in %	Tem-perature range in °C	Spray pressure in bar to app.	Density at 15 °C in kg/m³
Neutral Cleaner									
<b>RENOCLEAN MSO 3012</b> <b>NEW</b>	Medium alkali-line cleaner for high pressure cleaning and deburring up to approx. 500 bars	Free of Mono- and Triethanolamine	Fe, Al, Zn, Cu, Ms, Mg <sup>1</sup> , Plastics <sup>1</sup>	Temporarily, '2% / in DI water	9.4 ± 0.5	2 (1 - 5)	50 (420 - 80)	500	1027 ± 15
	205 L (Drum)								
<b>RENOCLEAN MTO 3001</b>	Multi-metal capable neutral cleaner for spray and immersion applications	Suitable for ultra-sonic, universal use, e.g. before heat treatment, sprayable from ~ 45 °C, very low residue formation, salt-free	Fe, Al, red brass, (Zn, Cu, Ms, Plastics) <sup>1</sup>	Temporarily, '2% / in DI water	9.5 ± 0.4	2.5 (1 - 7)	60 (30 - 80)	15	1035 ± 15
	20 L (Canister), 205 L (Drum)								
<b>RENOCLEAN MTO 3003</b>	Multi-metal capable neutral cleaner for spray and immersion applications	Developed especially for the removal of micro-quantity lubricants such as: ECOCUT MIKRO PLUS 20. almost foam-free from 30 °C, salt-free.	Fe, Al, Zn, Cu, Ms, Plastics <sup>1</sup>	Temporarily, '2% / in DI water	9.5 ± 0.4	3 (2 - 7)	60 (30 - 80)	300 (500 short-term)	1050 ± 15
	20 L (Canister)								
<b>RENOCLEAN MSO 3004</b>	Neutral cleaner for spray and high-pressure cleaning up to 500 bar	Residue formation very low, suitable for microfiltration, can be used before heat treatment, almost foam-free from 10 °C, salt-free	Fe, Al, Zn, Cu, Ms, Mg <sup>1</sup>	Temporarily, '2% / in DI water	9.8 ± 0.4	2.5 (1 - 5)	60 (10 - 80)	500 (≥ 50 °C)	1038 ± 15
	20 L (Canister), 205 L (Drum)								
<b>RENOCLEAN MSA 3011</b>	Neutral cleaner for spray, pressure flooding, high pressure cleaning and deburring	Foam-free from 20 °C, pressure and temperature dependent  PSA approval worldwide: MABEC-code Z 000 533 700	Fe, Al, Cu, Ms, Mg	Temporarily, '2.5 % / 10 °dH	9.8 ± 0.4	3 (1 - 5)	60 (20 - 80)	500 (≥ 50 °C)	1040 ± 15
	20 L (Canister)								







# Cleaner

Product name	Function	Comments	Materials	Corrosion protection, chip/filter test 0/0 at x% in y °dH	pH (2%), if applicable	Concentration range in %	Temperature range in °C	Spray pressure in bar to app.	Density at 15 °C in kg/m³
<b>1-Component Products</b>									
<b>RENOCLEAN VR 2950</b>	Spray cleaner for ferrous metals	Spray cleaner for battery components	Fe	Temporarily, '2% / 10 °dH	9.9 ± 0.5 in 10 ° DIN water	2 (1 - 4)	60 (30 - 80)	20	1060 ± 15
	1000 L (IBC)								
<b>RENOCLEAN MTA 3003</b>	Multi-metal capable spray and immersion cleaner, suitable for ultrasonic cleaning	Universally applicable, e.g. for non-cutting formed parts or for engine reconditioning	Fe, Al, (Zn, Cu, Ms, Plastics) <sup>1</sup>	Temporarily, '3% / 10 °dH	9.7 ± 0.4 (3%)	3 (2 - 7)	65 (40 - 80)	15	1120 ± 15
  	20 L (Canister), 205 L (Drum), 1000 L (IBC)								
<b>RENOCLEAN MSA 3001</b>	Multi-metal capable spray cleaner	Universally applicable, limited suitability for immersion, low-foaming from approx. 40 °C	Fe, Al, Cu, Ms, (Zn, Plastics) <sup>1</sup>	Temporarily, '2.5% / 10 °dH	9.7 ± 0.4 (3%)	3 (2 - 7)	60 (40 - 80)	15	1074 ± 15
  	20 L (Canister), 205 L (Drum), 1000 L (IBC)								
<b>RENOCLEAN MDA 4201</b>	Multi-metal capable emulsifying cleaner for immersion, ultrasonic and manual use	Alkaline silicate containing cleaner with very good wetting capacity, supports clean, spotless drying, also suitable for manual and floor cleaning from 20 °C	Fe, Al, Cu, Ms, (Zn, Plastics) <sup>1</sup>	–	10.7 ± 0.5	4 (2 - 7)	65 (20 - 80)	–	1058 ± 20
  	20 L (Canister), 205 L (Drum), 1000 L (IBC)								
<b>RENOCLEAN WSA 4002</b>	Cleaner for spray, immersion, ultrasonic and manual application	For heavily soiled parts and aggregates (e.g. railway, engine and chassis parts)	Fe, Al, Cu, Ms, (Zn, Mg, Plastics) <sup>1</sup>	Temporarily, '2.5% / 20 °dH	12.0 ± 0.5 (2.5%)	3 (2 - 7)	60 (30 - 80)	15	1092 ± 15
  	20 L (Canister), 205 L (Drum), 1000 L (IBC)								
<b>RENOCLEAN FDC 4001</b>	Cleaner for immersion, ultrasonic and manual application in medical technology	Supports stain-free drying. Silicate-free. Non-skin irritating.	Titan, Fe, Al, (Cu, Ms, Mg, Plastics) <sup>1</sup>	–	12.1 ± 0.5	5 (2 - 33)	65 (20 - 80)	–	1090 ± 15
	20 L (Canister)								
<b>RENOCLEAN MDA 4002</b>	Immersion and ultrasonic cleaner, sprayable	For cleaning of parts, e.g.: with difficult to remove forming lubricants. Sprayable up to approx. 8 bar (depending on the equipment)	Fe, Zn, Mg, (Al, Cu, Ms) <sup>1</sup>	Temporarily, '2.5 % / 20 °dH	12.2 ± 0.3	4 (1 - 7)	65 (40 - 80)	8	1145 ± 15
	20 L (Canister)								



















## Cleaner

Product name	Function	Comments	Materials	Flash point in °C	pH (2%), if applicable	Concentration range in %	Temperature range in °C	Spray pressure in bar to app.	Density at 15 °C in kg/m³
Assembly Aids									
<b>RENOCLEAN 431</b>	Industrial assembly aid for rubber and elastomers	Lubricant, for example, for fitting window seals made of rubber, hoses, etc. Parts are fixed after drying, no more sliding effect	–	–	7 ± 1 (100%)	20 (10 - 30)	Room temperature (15 - 30)	–	1017 ± 15
	205 L (Drum)								
<b>RENOCLEAN GXS 9055</b>	Assembly aids, ready for use, synthetic (ex PENTOSIN MONTAGE-FLUID 55)	Aid for the assembly of various components. Compatible with all common lubricants and corrosion protection agents based on mineral, HC synthetic or synthetic oil as well as fuels	–	≥ 150	–	100	Room temperature (15 - 30)	–	897 ± 10
	20 L (Canister)								
<b>RENOCLEAN GXS 9067</b>	Assembly aid, ready for use, UV additive (ex PENTOSIN MONTAGE-FLUID 67UVA)	Aids for assembly and short-term transport of brake units and their components. Compatible with all common brake fluids, contains UV indicator.	–	≥ 200	–	100	Room temperature (15 - 30)	–	992 ± 10
	60 L (Drum)								
<b>RENOCLEAN GXS 9094</b>	Assembly aid, containing corrosion protection, synthetic (ex PENTOSIN MONTAGE-FLUID 94)	Aids for assembly and short-term transport of brake components and brake systems. Compatible with all common brake fluids	–	≥ 210	–	100	Room temperature (15 - 30)	–	995 ± 10
	205 L (Drum)								

# RENOCLEAN

Product name	Function	Comments	Ma- terials	Corrosion protection, chip/filter test 0/0 at x% in y °dH	pH (2%), if appli- cable	Concen- tration range in %	Tem- pera- ture range in °C	Spray pressure in bar to app.	Density at 15 °C in kg/m³
Special Products									
<b>RENOCLEAN GSO 3001</b>	Cleaner for transport con- tainers (KLT) for spray, immersion and manual application	For removing oil, grease, abrasion and transport dust. Designed for con- tainer cleaning systems	All ma- terials <sup>1</sup>	–	8.5 ± 0.5 (100%)	2 (1 - 10)	50 (20 - 80)	5	1004 ± 15
 	20 L (Canister), 205 L (Drum)								
<b>RENOCLEAN GTM 3001</b>	Drying accelera- tor for spraying and immersion application	Antistatic effect on plastic surfaces. Dosage in rinse tank e. g. for faster drying of plastic containers	–	–	8.7 ± 1	0.3 (0.2 - 1.0)	50 (20 - 80)	5	1017 ± 15
	20 L (Canister)								
<b>RENOCLEAN FXM 3014</b>	Synthetic weld release agent with corrosion protection	Ready to use solution! Forms a coherent moist film that prevents the adhesion of weld- ing beads	–	Temporarily, '100%	8.7 ± 0.5 (100%)	100	Room tem- perature (15 - 30)	–	1010 ± 15
	20 L (Canister)								
<b>RENOCLEAN GXM 3001</b>	Defoamer, foam regulating addi- tive especially for cleaning solutions	Immediate, long- lasting defoaming and deaerating effect	–	–	8.8 ± 1.2 (100%)	0.05 (0.01 - 0.25)	–	–	998 ± 15
	5 L (Canister)								
<b>RENOCLEAN MXO 3001</b>	Vibratory finish- ing compound with synth. corrosion pro- tection, mildly alkaline cleaner for immersion application	Suitable for all fer- rous metals, after testing also for alu- minium, zinc and magnesium mate- rials	–	Temporarily, '5% / in DI-water	8.8 ± 0.5 (5 %)	2 (2 - 5)	20 (20 - 80)	–	1029 ± 15
	20 L (Canister)								
<b>RENOCLEAN MXO 3003</b>	Designed as a transmission medium for ultrasonic crack detection.	Biocide-containing, synthetic corrosion protection product free of mineral oil and surfactants	Fe, Al, Cu, brass	Temporary '3% / in DIN-water	9.2 ± 0.5 (3 %)	4 (1 - 10)	30 (10 - 70)	100	1081 ± 15
	205 L (Drum)								
<b>RENOCLEAN GXA 3004</b>	Floor, plant and hall cleaners	For all manual and mechanical appli- cations, odourless, especially suitable for floor cleaning equipment	All ma- terials <sup>1</sup>	–	9.1 ± 0.6 (100%)	3 (1 - 20)	20 (20 - 90)	–	1047 ± 15
 	20 L (Canister), 1000 L (IBC)								

## Cleaner












Product name	Function	Comments	Ma-terials	Corrosion protection, chip/filter test 0/0 at x% in y °dH	pH (2%), if applicable	Concen-tration range in %	Tem-pera-ture range in °C	Spray pressure in bar to app.	Density at 15 °C in kg/m³
Special Products									
<b>RENOCLEAN AKTIV DA</b>	Demulsifier for separating emulsified oil	Demulsifier with defoaming effect, equipment for removing demulsified oil is necessary (oil separator etc.)	–	–	9.3 ± 0.7 (100%)	0.2 (0.05 - 1.0)	–	–	987 ± 10
	20 L (Canister)								
<b>RENOCLEAN SPEZIAL 2000</b>	Emulsifying universal cleaner for immersion, ultrasonic and manual cleaning of commercial vehicles, tarpaulins, halls and workshops	For all manual cleaning, for immersion, suitable for steam jet and floor cleaning equipment. Specifications - FORD Tox-Number 150602 (2014) - Federal-Mogul Nürnberg GmbH, Release number R041 (2014)	Fe, Mg, (Al, Cu, Ms, Lacke, Plastics) <sup>1</sup>	–	10.9 ± 0.4 at 3%	5 (1 - 20)	35 ( <u>20</u> - 80)	–	1045 ± 20
  	5 L (Canister), 20 L (Canister), 205 L (Drum), 1000 L (IBC)								
<b>RENOCLEAN GXA 4014</b>	Universal cleaner for floors, halls and vehicle fleet	For mechanical and manual cleaning of workshop, vehicle fleet, etc. Contains lime scent	Fe, Mg, (Al, Cu, Ms, Lacke, Plastics) <sup>1</sup>	–	11.7 ± 0.5 (1%)	3 (1 - 20)	20 ( <u>20</u> - 80)	–	1036 ± 15
	20 L (Canister)								

Fe – steel, iron, cast iron and stainless steel







1 – to check first

\* – Observe product information - use with appropriate surfactant components

# RENOCLEAN

Product name	Function	Comments	Materials	Corrosion protection, chip/filter test 0/0 at x% in y °dH	pH (2%), if applicable	Concentration range in %	Temperature range in °C	Spray pressure in bar to app.	Density at 15 °C in kg/m³
<b>Builder Components</b>									
<b>RENOCLEAN MTA 2001</b>	Neutral, for immersion, pressure flood, flood and spray application	Borate, silicate and surfactant free, micro-filterable, *	Al, Cu, Ms, Plastics, Zn <sup>1</sup>	–	7.7 ± 0.8	4 (2 - 8)	65 (20 - 80)	Applicable spraying pressure according to the surfactant component used!	1335 ± 25
	20 L (Canister)								
<b>RENOCLEAN MTA 4001</b>	Medium alkaline, for immersion, pressure flood, flood and spray application	Borate, silicate and surfactant free, micro-filterable, *	Fe, Plastics, (Al, Zn, Cu, Ms, Mg) <sup>1</sup>	–	10.0 ± 0.6	4 (2 - 8)	65 (20 - 80)		1579 ± 25
	20 L (Canister)								
<b>RENOCLEAN FTA 4002</b>	Highly alkaline, for dipping, pressure flooding, flooding and spraying	Borate, silicate and surfactant free, micro-filterable, *	Fe, Mg, Plastics <sup>1</sup>	–	12.5 ± 0.5	4 (2 - 8)	65 (20 - 80)		1435 ± 20
 	20 L (Canister), 205 L (Drum)								
<b>RENOCLEAN ENTFETTER 39</b>	Highly alkaline, silicate, for dipping, pressure flooding, flooding and spraying	Borate-free	Fe, Mg, Al, Cu, brass, plastic, Zn <sup>1</sup>	–	12.5 ± 0.5	5 (1 - 20)	65 (20 - 80)		1370 ± 15
	700 L (IBC)								
<b>RENOCLEAN FTA 4001</b>	Highly alkaline, for immersion, pressure flooding, ultrasonic and spray cleaning, electrolytic degreasing, dephosphating	Borate-free, micro-filterable, *	Fe, Mg, (Cu, Ms, Plastics) <sup>1</sup>	–	12.9 ± 0.6 (1 %)	5 (2 - 20)	65 (20 - 85)		1433 ± 25
	20 L (Canister)								
<b>RENOCLEAN VR 3222</b>	With corrosion protection, recyclable, for immersion, pressure flood, flood and spray application	Free of nitrite, borate, silicate and surfactants, micro-filterable, suitable for high pressure, free of salt,*	All materials <sup>1</sup>	Temporarily, '3.5% / 10 °dH	8.0 ± 0.4 (3.5%)	2 (0.5 - 5)	60 (20 - 80)		1079 ± 15
 	20 L (Canister), 205 L (Drum)								
<b>RENOCLEAN VR 2729 K</b>	With corrosion protection, recyclable, salt-free, for immersion, pressure flood, flood and spray application	Free of nitrite, borate, silicate and surfactants, micro-filterable, *. Has a corrosion-protecting effect in the vapour phase. Salt-free.	Fe, Mg, Plastics <sup>1</sup>	Temporarily, '3% / 10 °dH	10.8 ± 0.5 (3 %)	2 (0.5 - 5)	60 (20 - 80)		1035 ± 15
  	20 L (Canister), 205 L (Drum), 1000 L (IBC)								










## Cleaner

Product name	Function	Comments	Ma-terials	Corrosion protection, chip/filter test 0/0 at x% in y °dH	pH (2%), if appli-cable	Concen-tration range in %	Tem-pera-ture range in °C	Spray pressure in bar to app.	Density at 15 °C in kg/m³
Surfactant Components									
<b>RENOCLEAN VR 1500</b>	Cleaning booster for spray cleaning, neutral cleaner	As a neutral cleaner free from corrosion protection components	All ma-terials <sup>1</sup>	–	8.5 ± 0.5	1 (0.3 - 5)	65 (30 - 80)	25	1047 ± 15
  	20 L (Canister), 205 L (Drum), 1000 L (IBC)								
<b>RENOCLEAN MTT 2003</b>	Cleaning booster for immersion, pressure flood, ultrasonic and spray cleaning	Micro-filterable, strongly dependent on membrane and working parameters! Spraying at least 40 °C	All ma-terials <sup>1</sup>	–	7.9 ± 1.2 (1%)	1 (0.4 - 5)	65 (20 - 80)	15 (25 above 65 °C)	1020 ± 20
	20 L (Canister)								
<b>RENOCLEAN TENSID 161</b>	Cleaning booster for immersion, ultrasonic and pressure flood cleaning	Micro-filterable, strongly dependent on membrane and working parameters! *	All ma-terials <sup>1</sup>	–	9.1 ± 0.6	0.4 (0.1 - 1)	65 (20 - 80)	2 (above 60 °C)	1025 ± 20
 	20 L (Canister), 205 L (Drum)								
















## Cleaner

Product name	Function	Comments	Ma- terials	Evapora- tion number approx. Ether = 1	Flash point in °C	Boiling range in °C	Density at 15 °C in kg/m <sup>3</sup>
Solvents							
<b>RENOCLEAN MTS 7001</b>	Cleaner based on modified alcohols	Distillable. Especially designed for closed cleaning systems!	All materials, plastics <sup>1</sup>	125	≥ 61	165 - 175	880 ± 10
	205 L (Drum)						
<b>RENOCLEAN MVS 8015</b>	Hydrocarbon cleaner based on isoparaffin, aromatic-free	Narrow boiling cut, fast drying, distillable. Especially designed for closed cleaning systems!	All materials, plastics <sup>1</sup>	93	≥ 56	179 - 197	760 ± 10
	205 L (Drum)						
<b>RENOCLEAN MVS 8016</b>	Hydrocarbon cleaner based on isoparaffin, aromatic-free	Narrow boiling cut, fast drying, distillable. Especially designed for closed cleaning systems!	All materials, plastics <sup>1</sup>	115	≥ 62	184 - 206	763 ± 10
	205 L (Drum)						
<b>RENOCLEAN MVS 9004</b>	VOC-compliant, aromatics-free hydrocarbon cleaner	Universal application, slowly evaporating. Simple application, e.g. for the removal of car wax preservative. VW-Approval A29 2819	All materials, plastics <sup>1</sup>	900	≥ 86	217 - 255	815 ± 20
  	10 L (Canister), 205 L (Drum), 1000 L (IBC)						
<b>RENOCLEAN MVS 9014</b>	VOC- and aromatic-free hydrocarbon cleaner with corrosion protection	VOC compliant. Universal application, good corrosion protection due to very thin oil film. For solvent plants without distillation	All materials, plastics <sup>1</sup>	900	≥ 86	217 - 255	814 ± 20
	1000 L (IBC)						
<b>FUCHS MVS 8201</b> <b>NEW</b>	Low-aromatic hydrocarbon cleaner, environmentally friendly, demulsifying	Universal application in industry and trade, applicable with steam jet, good corrosion protection properties. Free of corrosive and caustic substances	All materials, plastics <sup>1</sup>	120	≥ 61	180 - 330	770 ± 20
	60 L (Drum)						
<b>RENOCLEAN MVS 8010</b>	Hydrocarbon cleaner based on isoparaffin, aromatic-free	Gentle cleaning, for precision mechanics and electronic parts cleaning, not irritating to skin. Easy application, for solvent plants without permanent distillation	All materials, plastics <sup>1</sup>	130	≥ 61	185 - 210	765 ± 10
  	20 L (Canister), 60 L (Drum), 205 L (Drum), 1000 L (IBC)						
<b>RENOCLEAN MVS 7008</b>	Hydrocarbon cleaner, aromatics-free	Fine cleaning, fast drying. Easy application, for solvent plants without permanent distillation	All materials, plastics <sup>1</sup>	200	≥ 61	160 - 245	790 ± 25
 	60 L (Drum), 205 L (Drum), 1000 L (IBC)						
<b>RENOCLEAN ECO AIR</b>	Washing oil for air purification devices (ex RENOCLEAN MVS 9005 / PENTOWASH 30!)	Washing oil for air cleaning systems in aluminium rolling mills, distillable, recyclable	All materials, plastics <sup>1</sup>	–	≥ 220	–	837 ± 20
  	20 L (Canister), 205 L (Drum), 1000 L (IBC), Tank Truck						

# RENOCLEAN

Product name	Function	Comments	Materials	Corrosion protection, chip/filter test 0/0 at x% in y °dH	pH (2%), if applicable	Concentration range in %	Temperature range in °C	Spray pressure in bar to app.	Density at 15 °C in kg/m <sup>3</sup>
Corrosion Protection									
<b>RENOCLEAN VR 3222</b>	Synthetic, mineral oil-free corrosion protection	Nitrite- and borate free, suitable for vibratory grinding. For dipping, flooding, pressure flooding and spray application.	All materials <sup>1</sup>	Temporarily, '3.5% / 10 °dH	8.0 ± 0.4 (3.5%)	2 (0.5 - 5)	60 (20 - 80)	100	1079 ± 15
 	20 L (Canister), 205 L (Drum)								
<b>RENOCLEAN MTO 3002</b>	Corrosion protection and neutral cleaner "All-in-One" for spray, pressure flood and high pressure application	Very low residue formation, very good temporary corrosion protection, low-foaming application from 20 °C, pressure dependent	All materials <sup>1</sup>	Temporarily, '2% / 10 °dH	9.4 ± 0.4	3 (2 - 5)	60 (20 - 80)	500 at 50 °C	1090 ± 15
 	20 L (Canister), 205 L (Drum)								
<b>ANTICORIT SKR 40</b>	Synthetic hydraulic water and corrosion protection concentrate	Immersion and filling application, especially for press water applications. Not approved for drinking water!	Fe	Temporarily, '4% / 20 °dH	9.4 ± 0.3 (10%)	7 (3 - 10)	20 (10 - 40)	10	1038 ± 15
	205 L (Drum)								
<b>ANTICORIT SKR 42</b>	Synthetic hydraulic water and corrosion protection concentrate	Stable against salt and alkali entrainment, for immersion and filling applications	Fe	Temporarily, '1.5% / 20 °dH	9.8 ± 1	3 (1 - 5)	20 (10 - 50)	10	1068 ± 15
 	20 L (Canister), 205 L (Drum)								
<b>ANTICORIT SKR 3001</b>	Synthetic, mineral oil-free corrosion protection	Free of nitrite and borate, protects in the vapour phase against corrosion, suitable for vibratory grinding, for immersion, pressure flood, flood and spray applications	All materials <sup>1</sup>	Temporarily, '2% / 20 °dH	9.8 ± 0.4	3 (0.5 - 5)	60 (10 - 80)	2	1033 ± 15
 	20 L (Canister), 205 L (Drum)								
<b>RENOCLEAN VR 2729 K</b>	Synthetic, mineral oil-free corrosion protection	Free of nitrite and borate, protects in the vapour phase against corrosion, suitable for vibratory grinding, for immersion, pressure flood, flood and spray applications	Fe	Temporarily, '1.5% / VE	10.8 ± 0.5 (3%)	2 (0.5 - 5)	60 (20 - 80)	300	1035 ± 15
  	20 L (Canister), 205 L (Drum), 1000 L (IBC)								

## Cleaner

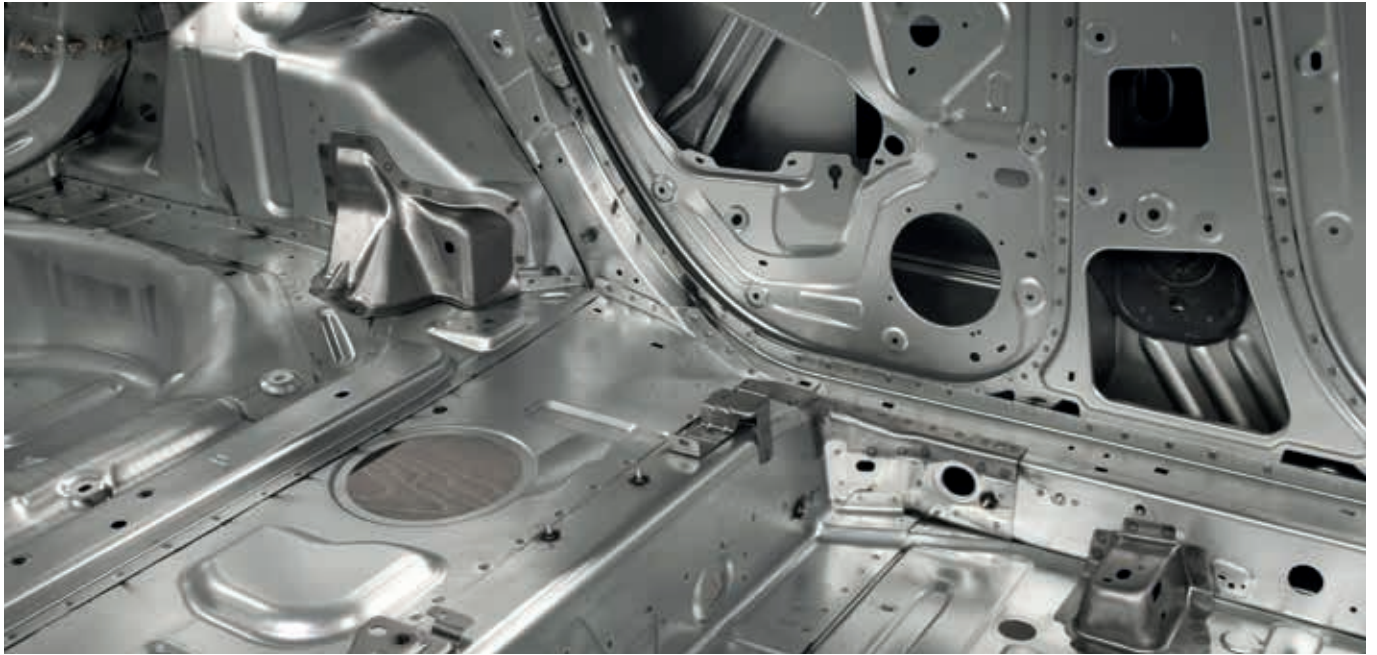
Product name	Function	Comments	Materials	Corrosion protection, chip/filter test 0/0 at x% in y °dH	pH (2%), if applicable	Concentration range in %	Temperature range in °C	Spray pressure in bar to app.	Density at 15 °C in kg/m³
Corrosion Protection									
<b>RENOCLEAN MTE 3001</b>	Emulsion cleaner, water miscible corrosion protection concentrate	Emulsion cleaner and corrosion protection emulsion for immersion, flush and spray application. Free of barium and boron compounds, contains no monoethanolamine	All materials <sup>1</sup>	Temporarily, '3% / 10 °dH	8.8 ± 0.5	4 (3 - 20)	20 (20 - 60)	5	995 ± 20
	205 L (Drum)								
<b>RENOCLEAN MTE 3201</b>	Emulsion cleaner, water-miscible anti-corrosion concentrate	Emulsion cleaner and corrosion protection emulsion for immersion, splash and spray application. Free of barium and boron compounds, contains no monoethanolamine.	Fe, Al, Cu, Ms, (Zn) <sup>1</sup>	Temporarily, '5% / 10 °dH	9.6 ± 0.5 (3%)	4 (3 - 20)	50 (20 - 70)	6	917 ± 20
	20 L (Canister)								











# RENOCLEAN



Product name	Function	Application	Comments
Skin Protection Prior to Work			
RENOCLEAN HAND PROTECT MULTI	Silicone-free, fingerprint-free, breathable and universally applicable skin protection cream	Before working with alternating substances (water-soluble and water-insoluble contaminants and irritants)	Forms a thin, invisible and protective film on the skin
🔧 🔧	20 x 100 ml (Tube), 6 x 1000 ml (Pouch Bottle) – RENOCLEAN DONA 2000K Dispenser (for pouch bottle, 1000ml and 2000ml)		
Skin Cleansing			
RENOCLEAN HAND WASH MILD	Mild, soap-free, unscented skin cleansing gel	For the cleansing of highly stressed and sensitive skin	Especially suitable where frequent hand washing is necessary
🔧	25 x 250 ml (Bottle), 6 x 2000 ml (Pouch Bottle) – RENOCLEAN DONA 2000K Dispenser (for pouch bottle, 1000ml and 2000ml)		
RENOCLEAN HAND WASH INTENSIVE	Hand cleaner with abrasive particles for heaviest soiling	Excellent for cleaning very dirty hands in repair workshops, mechanical engineering etc.	With natural scrubbing agents from corncobs, with a pleasant orange scent. pH-neutral and with conditioning substances. Free of plastic scrubbers
🔧	25 x 250 ml (Bottle), 6 x 2000 ml (Pouch Bottle) – RENOCLEAN DONA 2000K Dispenser (for pouch bottle, 1000ml and 2000ml)		
Skin Care			
RENOCLEAN HAND CARE	Silicone-free skin care cream	After work, it is ideal as a care cream for hands whose natural protective barrier is damaged during work	Contains caring vegetable oils, beeswax and moisture regulating substances
🔧 🔧	25 x 250 ml (Bottle), 6 x 2000 ml (Pouch Bottle) – RENOCLEAN DONA 2000K Dispenser (for pouch bottle, 1000ml and 2000ml)		























## Corrosion Preventives













Product name	Description	Kin. visc. at 40 °C [mm²/s] DIN 51562	Density at 15 °C [KG/m³]	Con- sump- tion [l/m²]	Film weight [g/m²]	Shed storage [Mon.]	Hall storage [Mon.]	FP [°C]	Thix- otropic	VCI	Lubri- cating proper- ties
Corrosion Protection Oils											
ANTICORIT RPO 1001	Conventional corrosion protection oil with low viscosity	8	839	0.002	2	2-4	4-8	146	–	–	–
	205 L (Drum)										
ANTICORIT RPO 2001	Conventional corrosion protection oil with medium viscosity	15	839	0.005	4	2-4	4-8	194	–	–	–
  	20 L (Canister), 205 L (Drum), 1000 L (IBC)										
ANTICORIT RPO 2002	Conventional corrosion protection oil with medium viscosity; improved corrosion protection	15	846	0.005	4	3-5	5-8	190	–	–	–
 	20 L (Canister), 205 L (Drum)										
ANTICORIT RPO 3002	Conventional corrosion protection oil with high viscosity; improved corrosion protection	30	851	0.011	9	3-6	6-8	226	–	–	–
  	20 L (Canister), 205 L (Drum), 1000 L (IBC)										
ANTICORIT RPO 3003	Conventional corrosion protection oil with high viscosity	30	871	0.010	9	3-5	5-8	226	–	–	–
	205 L (Drum)										



## ANTICORIT












Product name	Description	Kin. visc. at 40 °C [mm²/s] DIN 51562	Density at 15 °C [KG/m³]	Consumption [l/m²]	Film weight [g/m²]	Shed storage [Mon.]	Hall storage [Mon.]	FP [°C]	Thixotropic	VCI	Lubricating properties
Corrosion Protection Oils											
<b>ANTICORIT BGI 15</b>	Corrosion protection oil with VCI; medium viscosity	14	865	0.006	5	3-6	9-15	155	–	•	•
  	205 L (Drum), 1000 L (IBC), Tank Truck										
<b>ANTICORIT BGI 21</b>	Corrosion protection oil with VCI	22	902	0.006	6	3-6	9-15	150	–	•	•
  	205 L (Drum), 1000 L (IBC), Tank Truck										
<b>ANTICORIT LBO 160 TT</b>	Corrosion protection oil with very high viscosity, suitable for use in low temperature applications	160	920	0.038	35	3-6	6-9	150	–	–	•
	205 L (Drum)										
<b>ANTICORIT RPS 30 N</b>	Corrosion protection oil with good environmental and work safety properties, designed for mill application	23	840	0.011	9	3-6	6-9	230	–	–	–
 	1000 L (IBC), Tank Truck										
<b>ANTICORIT RP 30 NT</b>	Corrosion protection oil designed for steel mill application	30	889	0.010	9	3-6	6-9	172	–	–	–
 	205 L (Drum), 1000 L (IBC)										
<b>ANTICORIT RP 4107 A</b>	Mid-viscous, non thixotropic modification of ANTICORIT RP 4107 S	15	870	0.010	9	3-6	6-9	130	–	–	–
   	20 L (Canister), 205 L (Drum), 1000 L (IBC), Tank Truck										
<b>ANTICORIT RP 4107 LV NT</b>	Low-viscous, non thixotropic modification of ANTICORIT RP 4107 S	12	864	0.007	6	3-6	6-9	150	–	–	–
	205 L (Drum)										
<b>ANTICORIT PL 3802 39 LV 8</b>	Low-viscous blank washing oil with advanced lubrication, non thixotropic	8	890	0.002	2	3-6	6-9	110	–	–	•
 	205 L (Drum), 1000 L (IBC)										
<b>ANTICORIT PL 3802 39 NT</b>	Non thixotropic modification of ANTICORIT PL 3802 39 S	26	880	0.009	8	3-6	6-9	n/a	–	–	•
	205 L (Drum)										
<b>ANTICORIT PL 39 LV 8</b>	Low-viscous blank washing oil	8	880	0.002	2	3-6	6-9	116	–	–	•
  	205 L (Drum), 1000 L (IBC), Tank Truck										

## Corrosion Preventives



















Product name	Description	Kin. visc. at 40 °C [mm <sup>2</sup> /s] DIN 51562	Density at 15 °C [KG/m <sup>3</sup> ]	Consumption [l/m <sup>2</sup> ]	Film weight [g/m <sup>2</sup> ]	Shed storage [Mon.]	Hall storage [Mon.]	FP [°C]	Thixotropic	VCI	Lubricating properties
Corrosion Protection Oils											
<b>ANTICORIT PL 39 LV 18</b>	Mid-viscous blank washing oil	17	900	0.008	7	3-6	6-9	158	–	–	•
	205 L (Drum)										
Oily Corrosion Preventative Concentrates											
<b>ANTICORIT RPC 5000</b>	Corrosion protection concentrate, successor of ANTICORIT OHK	85	887	Depends on conc.	Depends on conc.	Depends on conc.	Depends on conc.	248	–	–	–
  	20 L (Canister), 205 L (Drum), 1000 L (IBC)										
<b>ANTICORIT MPC 5000</b>	Corrosion protection concentrate, advanced corrosion protection and lubrication performance, compatible with chlorinated solvents	90	890	Depends on conc.	Depends on conc.	Depends on conc.	Depends on conc.	240	–	–	–
   	20 L (Canister), 205 L (Drum), 1000 L (IBC), Tank Truck										
<b>ANTICORIT 03 W C</b>	High-viscous, thixotropic corrosion protection concentrate; suitable for bearings	160	912	Depends on conc.	Depends on conc.	Depends on conc.	Depends on conc.	150	•	–	–
 	20 L (Canister), 205 L (Drum)										


























## Corrosion Preventives

Product name	Description	Kin. visc. at 40 °C [mm²/s] DIN 51562	Density at 15 °C [KG/m³]	Consumption [l/m²]	Film weight [g/m²]	Shed storage [Mon.]	Hall storage [Mon.]	FP [°C]	Thixotropic	VCI	Optimized lubricating properties
Mineral Oil-free Corrosion Protection Products											
ANTICORIT EB 1 	Ester based corrosion protection oil for mill application, suitable for embalage sheets  205 L (Drum)	17	951	–	0.3	–	1-3	175	–	–	•
ANTICORIT BML 3   	Corrosion protection based on polyglycol, suitable for brake components  20 L (Canister), 205 L (Drum), 1000 L (IBC)	35	985	–	–	1-3	3-6	200	–	–	–
ANTICORIT SYNTH 	Fully synthetic, high viscous multipurpose oil, good lubrication properties  20 L (Canister)	102	834	–	–	3-6	6-12	150	–	–	•
Solvent based Corrosion Protection Products											
ANTICORIT RPS 6201 	Solvent based corrosion protection oil, 20% evaporation residue, D40 solvent  205 L (Drum)	2.2 at 20 °C	800	0.013	2	6-9	12-18	>40	–	–	–
ANTICORIT RPS 7201 	Solvent based corrosion protection oil, 20% evaporation residue, D60 solvent  205 L (Drum)	3.3 at 20 °C	810	0.012	2	6-9	12-18	>60	–	–	–
ANTICORIT RPS 7601  	Solvent based corrosion protection oil, 60% evaporation residue, D60 solvent  20 L (Canister), 205 L (Drum)	16.5 at 20 °C	840	0.010	5	9-12	18-24	>60	–	–	–
ANTICORIT 04 W 2 	Pre-diluted corrosion protection oil, 75% evaporation residue, isoparaffin, suitable for bearings  205 L (Drum)	32 at 20 °C	906	Depends on conc.	Depends on conc.	6-12	12-20	>60	–	–	–
ANTICORIT 04 W 2 VOC kon. 	Pre-diluted corrosion protection oil, 75% evaporation residue, VOC-free according to 31. BlmSchV, suitable for bearings  205 L (Drum)	47 at 20 °C	920	Depends on conc.	Depends on conc.	6-12	12-20	>90	–	–	–

## ANTICORIT














Product name	Description	Kin. visc. at 40 °C [mm²/s] DIN 51562	Density at 15 °C [KG/m³]	Consumption [l/m²]	Film weight [g/m²]	Shed storage [Mon.]	Hall storage [Mon.]	FP [°C]	Thixotropic	VCI	Optimized lubricating properties
Water Displacing Corrosion Protection Products											
<b>ANTICORIT DFO 6101</b>	Dewatering fluid, leaving a thin, oily protection layer	1.8 at 20 °C	795	0.010	0.8	3-6	6-12	>40	–	–	–
	205 L (Drum)										
<b>ANTICORIT DFO 6301</b>	Dewatering fluid, leaving a thick, oily protection layer	2.6 at 20 °C	821	0.010	2	6-12	12-24	>40	–	–	–
 	20 L (Canister), 205 L (Drum)										
<b>ANTICORIT DFO 7101</b>	Dewatering fluid, leaving a thin, oily protection layer	2.8 at 20 °C	810	0.012	1	3-6	6-12	>60	–	–	–
	205 L (Drum)										
<b>ANTICORIT DFO 7301</b>	Dewatering fluid, leaving a thick, oily protection layer	4.6 at 20 °C	825	0.012	2.5	6-12	12-24	>60	–	–	–
	205 L (Drum)										
<b>ANTICORIT DFO 8101</b>	Dewatering fluid, leaving a thin, oily protection layer, iso-paraffin	2.4 at 20 °C	780	0.013	1	3-6	6-12	>60	–	–	–
 	20 L (Canister), 205 L (Drum)										
<b>ANTICORIT DFO 8301</b>	Dewatering fluid, leaving a thick, oily protection layer, iso-paraffin	4 at 20 °C	800	0.013	2.5	6-12	12-24	>60	–	–	–
  	20 L (Canister), 205 L (Drum), 1000 L (IBC)										
<b>ANTICORIT DFO 9101</b>	Dewatering fluid, leaving a thin, oily protection layer, VOC-free acc. to 31. BlmSchV	4.4 at 20 °C	820	0.012	1	3-6	6-12	>90	–	–	–
  	20 L (Canister), 205 L (Drum), 1000 L (IBC)										
<b>ANTICORIT DFO 9301</b>	Dewatering fluid, leaving a thick, oily protection layer, VOC-free acc. to 31. BlmSchV	7.2 at 20 °C	835	0.012	2.5	6-12	12-24	>90	–	–	–
  	20 L (Canister), 205 L (Drum), 1000 L (IBC)										
<b>ANTICORIT DFO 9401</b>	Dewatering fluid, leaving a thick, oily protection layer, VOC free according to 31. BlmSchV, no H304	10.9	865	0.012	2.5	6-12	12-24	>90	–	–	–
 	20 L (Canister), 205 L (Drum)										

## Corrosion Preventives















Product name	Description	Kin. visc. at 40 °C [mm²/s] DIN 51562	Density at 15 °C [KG/m³]	Consumption [l/m²]	Film weight [g/m²]	Shed storage [Mon.]	Hall storage [Mon.]	FP [°C]	Thixotropic	VCI	Optimized lubricating properties
Water Displacing Corrosion Protection Products											
ANTICORIT DFW 6101	Dewatering fluid, leaving a thin, waxy protection layer	1.6 at 20 °C	795	0.013	1	3-6	6-12	>40	•	–	–
  	20 L (Canister), 205 L (Drum), 1000 L (IBC)										
ANTICORIT DFW 6301	Dewatering fluid, leaving a thick, soft waxy protection layer	3.7 at 20 °C	813	0.010	2	6-12	12-24	>40	•	–	–
 	20 L (Canister), 205 L (Drum)										
ANTICORIT DFW 7101	Dewatering fluid, leaving a thin, waxy protection layer	2.7 at 20 °C	800	0.013	1	3-6	6-12	>60	•	–	–
  	205 L (Drum), 1000 L (IBC), Tank Truck										
ANTICORIT DFW 7301	Dewatering fluid, leaving a thick, soft waxy protection layer	4.3 at 20 °C	820	0.012	2.5	6-12	12-24	>60	•	–	–
 	205 L (Drum), 1000 L (IBC)										
ANTICORIT DFW 8101	Dewatering fluid, leaving a thin, waxy protection layer, isoparaffin	3.5 at 20 °C	780	0.013	1	3-6	6-12	>60	•	–	–
  	20 L (Canister), 205 L (Drum), 1000 L (IBC)										
ANTICORIT DFW 8301	Dewatering fluid, leaving a thick, soft waxy protection layer, isoparaffin	3.7 at 20 °C	800	0.013	2.5	6-12	12-24	>60	•	–	–
  	20 L (Canister), 205 L (Drum), 1000 L (IBC)										
ANTICORIT DFW 9101	Dewatering fluid, leaving a thin, waxy protection layer, VOC-free acc. to 31. BlmSchV	4.2 at 20 °C	820	0.012	1	3-6	6-12	>90	•	–	–
  	20 L (Canister), 205 L (Drum), 1000 L (IBC)										
ANTICORIT DFW 9301	Dewatering fluid, leaving a thick, soft waxy protection layer, VOC-free according to 31. BlmSchV	6.7 at 20 °C	835	0.012	2.5	6-12	12-24	>90	•	–	–
  	20 L (Canister), 205 L (Drum), 1000 L (IBC)										
ANTICORIT DFW 9201	Dewatering fluid, leaving a thick, soft waxy protection layer, VOC free according to 31. BlmSchV	5.5 at 20 °C	830	0.012	1.8	6-9	12-18	>90	•	–	–
	1000 L (IBC)										





# ANTICORIT

Product name	Description	Kin. visc. at 40 °C [mm²/s] DIN 51562	Density at 15 °C [KG/m³]	Consumption [l/m²]	Film weight [g/m²]	Shed storage [Mon.]	Hall storage [Mon.]	FP [°C]	Thixotropic	VCI	Optimized lubricating properties
Water Displacing Corrosion Protection Products											
ANTICORIT DFW 9601	Dewatering fluid, leaving a very thick waxy protection layer, VOC-free according to 31. BImSchV	10.4	855	0.010	5	9-15	18-24	>100	•	–	–
	205 L (Drum)										
Water-miscible, Oily Corrosion Protection Products											
ANTICORIT WMC 7000	Emulsifiable corrosion protection oil with good corrosion protection	60	922	Depends on conc.	Depends on conc.	Depends on conc.	Depends on conc.	>175	–	–	–
  	20 L (Canister), 205 L (Drum), 1000 L (IBC)										
ANTICORIT WMC 9000	Emulsifiable corrosion protection oil with high corrosion protection	100	942	Depends on conc.	Depends on conc.	Depends on conc.	Depends on conc.	>175	–	–	–
  	20 L (Canister), 205 L (Drum), 1000 L (IBC)										
ANTICORIT WMC 9002	Emulsifiable oil with high corrosion protection on steel and zinc, supports forming processes	100	910	Depends on conc.	Depends on conc.	Depends on conc.	Depends on conc.	>150	–	–	–
	20 L (Canister)										
ANTICORIT WMD 9200	Emulsion with outstanding corrosion protection like a dewatering. VOC-free, fast drying	50	980	0.04	2	3-6	6-12	>150	–	–	–
	205 L (Drum)										
ANTICORIT MKR 10	Emulsifiable corrosion protection oil with high corrosion protection and thixotropic characteristics	128	931	Depends on conc.	Depends on conc.	Depends on conc.	Depends on conc.	>150	•	–	–
 	205 L (Drum), 1000 L (IBC)										
Water-miscible, Synthetic Corrosion Protection Product											
ANTICORIT SKR 3001	Mineral oil-free (synthetic) corrosion protection concentrate	–	1030	Depends on conc.	Depends on conc.	–	<1	–	–	•	–
 	20 L (Canister), 205 L (Drum)										





## Corrosion Preventives

Product name	Description	Kin. visc. at 40 °C [mm²/s] DIN 51562	Density at 15 °C [KG/m³]	Consumption [l/m²]	Film weight [g/m²]	Shed storage [Mon.]	Hall storage [Mon.]	FP [°C]	Thixotropic	VCI	Optimized lubricating properties
Corrosion Protection Coatings											
ANTICORIT BW 366	Solvent containing corrosion protection wax, leaves a brownish touch dry film with very high corrosion protection properties	FT - 4mm nozzle = 60s	885	0.311	50	12-36	12-36	>60	•	–	–
  	8 L (Pail), 205 L (Drum), 1000 L (IBC)										
ANTICORIT HKW 6501	Solvent-based, high performance corrosion protection wax; excellent multi-metal adhesion	FT - 4mm nozzle = 30s	920	0.272	50	12-36	12-36	>40	•	–	–
	205 L (Drum)										
ANTICORIT CPX 3373	Solvent-free, high performance corrosion protection coating with thixotropy; curing oxidatively	dyn. visc. at 300 1/s = 350mPas	1050	0.048	75	>36	>36	>135	•	–	–
  	1 L (Can), 29 kg (Hobbock), 205 L (Drum), 1000 L (IBC)										
ANTICORIT CPX 3373 VW LV	Solvent-free, high performance corrosion protection coating with lower thixotropy; curing oxidatively	dyn. visc. at 300 1/s = 170mPas	1050	0.048	30	>24	>24	>220	•	–	–
 	20 L (Canister), 205 L (Drum)										
ANTICORIT CPX 3373 VW HV	Solvent-free, high performance corrosion protection coating with higher thixotropy; curing oxidatively	dyn. visc. 300 1/s = 190mPas	1050	0.048	75	>36	>36	>160	•	–	–
 	20 L (Canister), 205 L (Drum)										
ANTICORIT CPX 3230	Solvent-free, high performance corrosion protection coating with very high thixotropy; curing oxidatively; suitable for underbody application	dyn. visc. at 300 1/s = 2000mPas	1080	0.139	150	>36	>36	>130	•	–	–
	205 L (Drum)										
ANTICORIT CPX 3320	Solvent-free, high performance corrosion protection coating with thixotropy; curing oxidatively; low odour	dyn. visc. at 300 1/s = 250mPas	1090	0.046	50	>36	>36	>130	•	–	–
 	20 L (Canister), 205 L (Drum)										

# ANTICORIT

Product name	Description	Iron, Steel	Copper	Aluminium	Film weight [g/m²]	Shed storage [Mon.]	Hall storage [Mon.]	FP [°C]	Thixotropic	VCI	Optimized lubricating properties
<b>Volatile Corrosion Inhibitor</b>											
<b>ANTICORIT VCI UNI O 40</b>	Corrosion protection of closed systems like tanks and gear boxes. Miscible with diesel, gear oils and other mineral oils	•	•	•	–	≤6	≤24	>120	–	•	–
	20 L (Canister), 205 L (Drum)										
<b>ANTICORIT VCI UNI IP 30</b>	Corrosion protection of closed packaging systems like blisters and card board boxes. Suitable for e. g. power train components and body in white parts	•	•	•	–	≤6	≤24	>60	–	•	–
	20 L (Canister), 205 L (Drum)										
<b>ANTICORIT VCI UNI S</b>	Corrosion protection for easy application in already existing packaging solutions	•	•	•	–	≤6	≤24	–	–	•	–
	600 x 25 g (Bags per box)										
<b>ANTICORIT VCI F P</b>	VCI film for corrosion protection during shipping and storage (available as gusseted bags, flat films and others)	•	•	•	–	≤6	≤24	–	–	•	–
	On request										
<b>ANTICORIT VCI P</b>	VCI paper for protection during shipping and storage	•	•	•	–	≤6	≤24	–	–	•	–
	On request										

## Corrosion Preventives

Product name	Description	Kin. visc. at 40 °C [mm²/s] DIN 51562	Density at 15 °C [KG/m³]	Consumption [l/m²]	Film weight [g/m²]	Shed storage [Mon.]	Hall storage [Mon.]	FP [°C]	Thixotropic	VCI	Optimized lubricating properties
Maintenance Fluids for Dewatering Products											
ANTICORIT DF 9000	Water displacement, leaving no residues, D90 solvent, VOC-free according to 31. BImSchV	2.8 at 20 °C	810	–	–	–	–	>90	–	–	–
 	205 L (Drum), 1000 L (IBC)										
ANTICORIT DFC 1001	Additive to enhance water displacement properties	6.2 at 20 °C	953 at 20 °C	–	–	–	–	>105	–	–	–
 	20 L (Canister), 205 L (Drum)										

## ANTICORIT

Product name	Description	Kin. visc. at 40 °C [mm²/s] DIN 51562	Density at 15 °C [KG/m³]	Con- sump- tion [l/m²]	Film weight [g/m²]	Shed storage [Mon.]	Hall storage [Mon.]
Spraying Cans							
<b>ANTICORIT 5F</b> 🔧	Rust preventative spray forming a film with active water displacement 12 x 400 ml	3.7 at 20 °C	813	–	2.5	6-12	12-24
<b>ANTICORIT BW 366</b> 🔧	Solvent-based and durable high performance corrosion protection wax 12 x 400 ml	FT 4mm nozzle = 60s	885	–	50	12-36	12-36
<b>ANTICORIT HKW 6501</b> 🔧	Solvent-based, high performance corrosion protection wax; excellent multi-metal adhesion 12 x 400 ml	FT 4mm nozzle = 30s	920	–	50	12-36	12-36
<b>ANTICORIT DFG</b> 🔧	Rust preventative spray, after evaporation a highly viscous film is formed 12 x 400 ml	8.5	851	–	5	3-6	6-12
<b>ANTICORIT RPC</b> 🔧	Classic anti-corrosive oil and contact spray, multipurpose 12 x 400 ml	84	887	–	5	6-12	6-24
<b>ANTICORIT CPX 3373</b> 🔧	Solvent-free and durable high performance corrosion protection coating; curing oxidatively 12 x 400 ml	Dyn. visc. at 300 1/s = 350mPas	1050	–	50	>36	>36
<b>ANTICORIT SYNTH</b> 🔧	Synthetic multipurpose oil 12 x 400 ml	102	834	–	15	3-6	6-12
<b>ANTICORIT RP 4107 S</b> 🔧	Thixotropic corrosion protection oil, meets VDA 230-213 12 x 400 ml	35	887	–	11	6-12	12-20



## **WISURA goes RENOFORM - nothing else changes**

By harmonizing our two familiar forming lubricant brands WISURA and RENOFORM, we are creating better orientation, transparency and a clearer product structure for our customers.
















What's important for you:

- beginning of 2023, the brand name for forming lubricants WISURA will be changed to RENOFORM.
- The formulation of our proven products remains identical.
- The unique performance profiles continue to exist.
- It remains the same: FUCHS still offers you an excellent, comprehensive portfolio of lubricants for cold forming.















FUCHS forming lubricants remain what they have always been. They stand for highest quality and excellent application results. Regardless of the type of cold forming process – RENOFORM is the lubricant of choice. Local, regional, global: the FUCHS leading brand for forming lubricants.




















Product name	Description	Kin. visc. at 40 °C [mm²/s] DIN 51562	Density at 15 °C [g/ml]	Flash point [°C]	Steel carbon (a. alloyed, zinc plated)	Steel, stainless	Aluminum	Copper alloys
Non Water-miscible Cold Forming Lubricants for Deep Drawing								
<b>RENOFORM ZO 3107/22</b>	Low-viscosity high-performance lubricant for non-ferrous metals	21	0.87	200	●○	●○	●●	●
  	20 L (Canister), 205 L (Drum), 1000 L (IBC)							
<b>RENOFORM DMO 3027</b>	Low-viscosity, mineral oil based forming lubricant for drawing and stamping operations	29	0.93	190	●●	●	●	○
  	205 L (Drum), 1000 L (IBC)							
<b>RENOFORM 96</b>	Classic, powerful multi-purpose lubricant	39	0.92	182	●●	●	●	○
  	205 L (Drum), 1000 L (IBC), Tank Truck							
<b>RENOFORM ZO 3408</b>	Based upon synthetic ingredients high performance forming lubricant. Suitable for all common metals, including non-ferrous metals.	45	0.96	180	●●	●	●●	●●
 	20 L (Canister), 205 L (Drum)							
<b>RENOFORM DSO 5005</b>	Based upon synthetic ingredients highest performance forming lubricant. Especially suitable for difficult deep drawing of steel including stainless steel.	97	0.96	>180	●●	●●	●	○
   	20 L (Canister), 205 L (Drum), 1000 L (IBC), Tank Truck							







## Cold Forming Lubricants

Product name	Description	Kin. visc. at 40 °C [mm <sup>2</sup> /s] DIN 51562	Density at 15 °C [g/ml]	Flash point [°C]	Steel carbon (a. alloyed, zinc plated)	Steel, stainless	Aluminum	Copper alloys
Non Water-miscible Cold Forming Lubricants for Deep Drawing								
<b>RENOFORM PLUS 93 B</b>	Mineral oil based forming lubricant with EP agents and high lubricity	110	0.94	>200	••	•	•	○
	205 L (Drum)							
<b>RENOFORM ZO 3180</b>	Classic, powerful multi-purpose forming lubricant at higher viscosity level	117	0.98	180	••	•	•○	○
   	20 L (Canister), 205 L (Drum), 1000 L (IBC), Tank Truck							
<b>RENOFORM DSO 5012</b>	Highest-performance, newest generation forming lubricant especially for stainless steel applications. Based upon synthetic ingredients and EP agents and able to replace chlorinated forming lubricants.	167	1.03	>180	•	••	•○	○
 	20 L (Canister), 205 L (Drum)							
<b>RENOFORM DY0 5007</b> <b>NEW</b>	High-performance, mineral oil based forming lubricant for non-ferrous-metals, especially designed for aluminium deep drawing.	171	0.91	>200	•	•○	••	•
	205 L (Drum)							
<b>RENOFORM DSO 5015</b>	Based upon synthetic ingredients highest performance forming lubricant. Especially suitable for difficult deep drawing of steel including stainless steel.	175	1.00	>180	•	••	•○	○
	205 L (Drum)							
<b>RENOFORM ZO 3107/180</b>	High viscous, high-performance lubricant for non-ferrous metals	180	0.90	200	•○	•○	••	•
	205 L (Drum)							
<b>RENOFORM 19 B</b>	High-performance forming lubricant for deep drawing of steel and aluminium	205	0.97	200	••	•	•	○
	205 L (Drum)							
<b>RENOFORM DSO 7006</b>	Based upon synthetic ingredients high performance forming lubricant. Especially suitable for stainless steel grades	570	0.98	>150	•	••	•	○
 	20 L (Canister), 205 L (Drum)							
<b>RENOFORM HBO 3212</b>	High-viscosity, high-performance lubricant for deep drawing of different kind of steel	840	0.97	200	••	••	•	○
	205 L (Drum)							


















# RENOFORM

Product name	Description	Kin. visc. at 40 °C [mm²/s] DIN 51562	Density at 15 °C [g/ml]	Flash point [°C]	Steel carbon (a. alloyed, zinc plated)	Steel, stainless	Aluminum	Copper alloys
<b>Water-miscible Cold Forming Lubricants for Deep Drawing</b>								
<b>RENOFORM DSW 2012</b>	Synthetic, water-based forming lubricant for a wide range of forming processes (drawing, punching, stamping and bending processes) with a large variety of material compatibility	3	1.03	–	••	•	•	•◦
 	205 L (Drum), 1000 L (IBC)							
<b>RENOFORM DSW 4003 A</b>	Synthetic, water-based forming lubricant for a wide range of drawing operations	5	1.08	–	••	•	◦	◦
 	205 L (Drum), 1000 L (IBC)							
<b>RENOFORM DSW 3004</b>	Watermiscible, based upon synthetic ingredients forming lubricant. Boron and zinc free.	34	1.06	–	••	••	◦	◦
	205 L (Drum)							
<b>RENOFORM MBW 2055</b>	Mineral oil based, water-miscible forming lubricant, concentrate for emulsion	300	0.97	200	••	•	••	◦
 	205 L (Drum), 1000 L (IBC)							
<b>RENOFORM MBW 2815</b>	Mineral oil based, water-miscible high performance forming lubricant, concentrate for emulsion	390	0.99	–	••	•	•◦	◦
	205 L (Drum)							
<b>RENOFORM MBW 677/6</b>	Mineral oil based, water-miscible high-performance lubricant. Boron free. Concentrate for emulsion	165	0.98	200	••	•	•◦	◦
 	205 L (Drum), 1000 L (IBC)							
<b>RENOFORM DSW 6002</b>	Water-miscible synthetic high-performance lubricant for the most demanding forming operations, especially for carbon steels. Boron free. Concentrate for solution	276	1.04	–	••	•	◦	◦
 	205 L (Drum), 1000 L (IBC)							
<b>RENOFORM ZW 3356</b>	Water-miscible synthetic high-performance lubricant for the most demanding forming operations, also for stainless steels, also suitable for fine blanking. Boron free. Concentrate for solution	300	1.02	180	••	••	•	◦
  	20 L (Canister), 205 L (Drum), 1000 L (IBC)							





















## Cold Forming Lubricants

Product name	Description	Kin. visc. at 40 °C [mm²/s] DIN 51562	Density at 15 °C [g/ml]	Flash point [°C]	Steel carbon (a. alloyed, zinc plated)	Steel, stainless	Aluminum	Copper alloys
Pasty, Non Water-miscible Cold Forming Lubricants for Deep Drawing								
<b>RENOFORM HBT 581/3</b>	Mineral oil containing, non water-miscible and pigmented paste	–	0.97	–	••	•	•	○
 	25 kg (Hobcock), 180 kg (Drum)							
Pasty, Water-miscible Cold Forming Lubricants for Deep Drawing								
<b>RENOFORM PRESSALIN</b>	Synthetic water-miscible and pigmented forming paste for various demanding deep-drawing operations	–	1.00	–	••	••	•	○
 	25 kg (Hobcock), 160 kg (Drum)							
<b>RENOFORM DSP 8007 (MF9)</b>	Water-miscible paste for various deep-drawing operations	–	0.97	–	••	•	•	○
 	25 kg (Hobcock), 180 kg (Drum)							

# RENOFORM



Product name	Description	Kin. visc. at 40 °C [mm <sup>2</sup> /s] DIN 51562	Density at 15 °C [g/ml]	Flash point [°C]	Steel carbon (a. alloyed, zinc plated)	Steel, stainless	Aluminum	Copper alloys
<b>Cold Forming Lubricants without Solvents for Blanking</b>								
<b>RENOFORM DMO 2003</b>	Low-viscosity stamping oil for carbon steels	8.3	0.85	170	••	•◦	•	◦
	205 L (Drum), 1000 L (IBC)							
<b>RENOFORM AK 3080</b>	Synthetic forming lubricant for blanking, stamping, bending and drawing processes. Especially for non-ferrous metals	20	0.84	172	•	•	••	••
	Package up to 10 L (Canister), 20 L (Canister), 205 L (Drum)							
<b>RENOFORM ZO 3107/22</b>	Low-viscosity forming lubricant for non-ferrous metals	21	0.87	200	•	•◦	••	•
 	20 L (Canister), 205 L (Drum), 1000 L (IBC)							
<b>RENOFORM DMO 3027</b>	Low-viscosity, mineral oil based forming lubricant for drawing and stamping operations	29	0.93	190	••	•	•	◦
	205 L (Drum), 1000 L (IBC)							
<b>RENOFORM 96</b>	Low-viscosity, mineral oil based forming lubricant for drawing and stamping operations	39	0.92	182	••	•	•	◦
  	205 L (Drum), 1000 L (IBC), Tank Truck							
<b>RENOFORM ZO 3368</b>	High-performance blanking oil of medium viscosity for processing a wide range of materials	51	0.98	180	••	••	••	◦
	20 L (Canister), 205 L (Drum)							
<b>RENOFORM DMO 4034</b>	Low viscosity, versatile forming lubricant, especially for stainless steel grades	52	0.93	180	••	••	•	◦
	20 L (Canister), 205 L (Drum)							
<b>RENOFORM HBO 2222</b>	High-performance stamping lubricant for all kinds of steel, also suitable for fine blanking	58	1.03	186	••	•	•◦	◦
 	20 L (Canister), 205 L (Drum), 1000 L (IBC)							
<b>RENOFORM HBO 962/2</b>	All purpose forming lubricant for stamping and drawing	80	0.94	230	••	•	•◦	◦
   	20 L (Canister), 205 L (Drum), 1000 L (IBC), Tank Truck							
<b>RENOFORM FSO 4001</b>	Based upon synthetic ingredients high performance forming lubricant. Suitable for all common metals, including non-ferrous metals	93	0.95	180	•	••	•	••
	20 L (Canister), 205 L (Drum)							

## Cold Forming Lubricants

















Product name	Description	Kin. visc. at 40 °C [mm²/s] DIN 51562	Density at 15 °C [g/ml]	Flash point [°C]	Steel carbon (a. alloyed, zinc plated)	Steel, stainless	Aluminum	Copper alloys
Cold Forming Lubricants with Solvents for Blanking								
<b>RENOFORM SVO/SP</b>	Almost completely fast vanishing forming lubricant for easy application	1.3	0.75	47	••	•○	••	••
	205 L (Drum)							
<b>RENOFORM UBO 377/1</b>	Almost completely vanishing forming lubricant for easy applications	1.2	0.79	62	••	•○	••	••
 	205 L (Drum), 1000 L (IBC)							
<b>PLANTOFORM BSO 1002</b>	Almost residue-free vanishing forming lubricant from renewable raw materials	5.4	0.86	130	••	••	••	••
	170 kg (Drum)							
<b>RENOFORM DMV 1011</b>	Almost residue-free vanishing forming lubricant for light-duty applications	1.2	0.79	62	••	•	••	••
	205 L (Drum)							
<b>RENOFORM UBO 377/5</b>	Vanishing forming lubricant with less residue	2	0.80	62	••	•	••	••
  	20 L (Canister), 205 L (Drum), 1000 L (IBC)							
<b>RENOFORM AK 3085</b>	Vanishing forming lubricant with less residue. Especially for aluminium and non-ferrous metals	2	0.80	65	•	•	••	••
 	20 L (Canister), 205 L (Drum)							
<b>RENOFORM DMV 1009</b>	Vanishing forming lubricant with low residue	1.6	0.80	63	••	•	••	••
  	20 L (Canister), 205 L (Drum), 1000 L (IBC)							
<b>RENOFORM AK 3107</b>	Vanishing forming lubricant with low residue especially for aluminium applications	3	0.81	65	•	•○	••	••
	205 L (Drum)							
<b>RENOFORM ZO 3107/5</b>	Primarily vanishing forming lubricant, particularly for aluminium	5	0.83	65	•	•○	••	••
	205 L (Drum)							
<b>RENOFORM DMV 1012</b>	Partly vanishing forming lubricant for sophisticated applications	4	0.82	62	••	••	••	••
  	20 L (Canister), 205 L (Drum), 1000 L (IBC)							
<b>RENOFORM LVO 377/1</b>	Almost residue-free vanishing forming lubricant for light-duty applications. VOC-free	4	0.82	101	••	•○	••	••
 	205 L (Drum), 1000 L (IBC)							









# RENOFORM

Product name	Description	Kin. visc. at 40 °C [mm <sup>2</sup> /s] DIN 51562	Density at 15 °C [g/ml]	Flash point [°C]	Steel carbon (a. alloyed, zinc plated)	Steel, stainless	Aluminum	Copper alloys
Cold Forming Lubricants with Solvents for Blanking								
<b>RENOFORM LVO 1518</b>	Partly vanishing forming lubricant for sophisticated applications. VOC-free	3	0.84	>102	••	••	•	◦
 	205 L (Drum), 1000 L (IBC)							






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Cold Forming Lubricants for Fine Blanking								
<b>RENOFORM 96</b>	Classic, powerful multi-purpose forming lubricant	39	0.92	182	•	•	•	○
  	205 L (Drum), 1000 L (IBC), Tank Truck							
<b>RENOFORM FMO 5020</b>	High-performance lubricant for various forming technologies, especially fine blanking, with special FEINTOOL approval	110	0.96	200	••	•	•○	○
 	205 L (Drum), 1000 L (IBC)							
<b>RENOFORM ZO 3180</b>	Classic, powerful multi-purpose forming lubricant at higher viscosity level	117	0.98	180	••	•	•○	○
  	205 L (Drum), 1000 L (IBC), Tank Truck							
<b>RENOFORM HBO 2222 HV</b>	Classic fine blanking lubricant with high performance for steel grades	120	1.03	190	••	•	•○	○
	205 L (Drum)							
<b>RENOFORM ZSB 120 JBM</b>	Fine blanking oil for all kinds of steel	134	0.97	>160	••	•	•○	○
  	205 L (Drum), 1000 L (IBC), Tank Truck							
<b>RENOFORM DSO 5012</b>	Highest-performance, newest generation forming lubricant especially for stainless steel fine blanking applications. Based upon synthetic ingredients and EP agents and able to replace chlorinated forming lubricants. Special FEINTOOL approval.	167	1.03	>180	•	••	•○	○
	205 L (Drum)							
<b>RENOFORM FMO 5010</b>	High-performance lubricant for various forming technologies, especially fine blanking. With special FEINTOOL approval	170	0.94	200	••	•	•○	○
	205 L (Drum)							
<b>RENOFORM FMO 5022</b>	High-performance fine blanking oil of the latest generation	183	0.97	>180	••	•	•○	○
 	205 L (Drum), 1000 L (IBC)							





# RENOFORM

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<b>Cold Forming Lubricants for Cold Forging – Heavy Forming</b>								
<b>RENOFORM FSO 4001</b>	Based upon synthetic ingredients high-performance forming lubricant. Suitable for all common metals, including non-ferrous metals	93	0.95	180	•	••	•	••
	20 L (Canister), 205 L (Drum)							
<b>RENOFORM ESO 5002</b>	High-performance cold extrusion oil for difficult operations. In some cases, phosphating of the surface can be skipped	110	0.98	180	••	•	•◦	◦
	20 L (Canister), 205 L (Drum)							
<b>RENOFORM MBO 369/2</b>	Classic, heavy duty cold extrusion oil	126	0.95	220	••	•	•	◦
	205 L (Drum), 1000 L (IBC)							
<b>RENOFORM ZO 3373</b>	Universal high-performance lubricant for cold forging even at elevated temperatures	127	0.93	200	••	•	••	◦
	205 L (Drum), 1000 L (IBC)							
<b>Cold Forming Lubricants for Cold Forging – for Circular Lubrication</b>								
<b>RENOFORM DMO 4039</b>	Universal high-performance lubricant for circular lubrication	77	0.91	200	••	•	•	•◦
	205 L (Drum), 1000 L (IBC)							
<b>RENOFORM EMO 4020</b>	High-performance lubricant for circular lubrication	93	0.95	>180	••	•	•	•◦
	205 L (Drum)							

## Cold Forming Lubricants








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Non Water-miscible Cold Forming Lubricants for WTB Drawing (Wire - Tube - Bar)								
<b>RENOFORM ESO 5002</b>	Multi and high-performance lubricant for extrusion, also difficult calibration	110	0.98	180	••	•	•◦	◦
	20 L (Canister), 205 L (Drum)							
<b>RENOFORM DSO 7006</b>	Based upon synthetic ingredients high performance forming lubricant. Especially suitable for stainless steel grades	570	0.98	>150	•	••	•	◦
	20 L (Canister), 205 L (Drum)							
<b>RENOFORM DSO 7010</b>	High-performance lubricant for drawing of seamless, stainless steel tubes	1014	1.00	>180	•	••	•	◦
	205 L (Drum)							
<b>RENOFORM HBO 3014</b>	High-performance lubricant for drawing of round and cantilever steel rods	320	1.01	190	••	•	•	◦
 	205 L (Drum), 1000 L (IBC)							

# RENOFORM

Product name	Description	Kin. visc. at 40 °C [mm <sup>2</sup> /s] DIN 51562	Density at 15 °C [g/ml]	Flash point [°C]	Steel carbon (a. alloyed, zinc plated)	Steel, stainless	Aluminum	Copper alloys
Non Water-miscible Cold Forming Lubricants for Hydroforming								
<b>RENOFORM HSO 5002</b>	Synthetic high-performance outside lubricant	180	1.00	180	••	••	•◦	◦
	205 L (Drum)							
<b>RENOFORM MBO 2907</b>	Synthetic demulsifying external lubricant for hydroforming	122	0.96	200	••	•	•◦	•◦
	205 L (Drum)							
<b>RENOFORM HMO 7001</b>	Mineral oil based external lubricant for hydroforming	630	0.92	>200	••	•	•◦	◦
	205 L (Drum)							
Water-miscible Cold Forming Lubricants for Hydroforming								
<b>RENOFORM DSW 2004</b>	Boron-free pressurising lubricant	1.1	1.06	–	••	•	•	•
	205 L (Drum)							

## Cold Forming Lubricants








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VDA Forming Lubricants								
<b>RENOFORM MCO 3802 SN</b>	Spot lubricant in the car body shop for light to medium forming and stamping operations, fulfils the requirements of VDA 201-213	100	0.92	142	••	•	••	•◦
	60 L (Drum), 205 L (Drum)							
<b>RENOFORM MCO 3802</b>	Spot lubricant in the body shop for medium and heavy forming operations, fulfils the requirements of VDA 201-213	130	0.92	155	••	•	••	•◦
  	205 L (Drum), 1000 L (IBC), Tank Truck							
<b>RENOFORM MCO 3802 LV</b>	Predominantly fast evaporating forming lubricant for stamping, bending and light drawing operations. Evaporation residue corresponds to RENOFORM MCO 3028	2.5 at 20 °C	0.78	260	••	•	••	•◦
 	205 L (Drum), 1000 L (IBC)							
<b>RENOFORM MCO 3802 MV</b>	Spot lubricant in the car body shop for light to medium forming and stamping operations	7	0.85	100	••	•	••	•◦
	205 L (Drum)							

## Rolling Oils

## RENOFORM



Product name	Description	Kin. visc. at 40 °C [mm <sup>2</sup> /s] DIN 51562	Density at 15 °C [g/ml]	Flash point [°C]	Steel carbon (a. alloyed, zinc plated)	Steel, stainless	Aluminum	Copper alloys
<b>Non Water-miscible Rolling Oils</b>								
<b>RENOFORM WO 52 B</b>	Cold rolling oil and skin pass oil with excellent corrosion protec- tion	6	0.85	>100	••	•	•◦	••
  	205 L (Drum), 1000 L (IBC), Tank Truck							
<b>RENOFORM WO 79 A</b>	Cold rolling oil with additional EP additives	9	0.85	>170	••	•	•◦	••
	205 L (Drum)							
<b>TRENOIL CCO 40</b>	Cold rolling for non-ferrous metals	5	0.83	148	••	•	•◦	••
	Tank Truck							

Further rolling oils and rolling emulsions on request.

•• = very suitable; • = suitable; •◦ = conditional; ◦ = unsuitable



## FUCHS Special Applications

### Hot Forming Lubricants

Hot forming places high demands on the lubricants used. On the one hand, there is the need to lubricate and cool tools, and on the other hand, hot forming processes are subject to a large number of influencing factors. FUCHS hot forming lubricants not only cover a very wide range of applications, but also stand for excellent part quality, optimum machine utilization, reduced operating costs and lower environmental impact. They are marked with FUCHS Special Applications and are thus among the lubricants for highly specialized applications.



Product name	Description	Dry residue [%]	RF-value [%]	Visc. [mPas]	Density [g/cm³]	Water-miscible	Solids	Material recommendation
<b>Hot Forming Lubricants for Drop Forging</b>								
<b>GRASINOL 10 %</b> ☞	Dispersion of graphite in mineral oil for forging of complex aluminum components 180 kg (Drum)	–	–	600	1.01	◦	Graphite	Aluminium
<b>HYKOGREEN 217</b> ☞ ☞	Oil-graphite dispersion for forging of complex steel components 25 kg (Bucket), 190 kg (Drum)	–	–	6500	1.00	◦	Graphite	Steel
<b>HYKOGREEN 87/3</b> ☞ ☞	Graphite-containing forming lubricant for forging of complex brass components 25 kg (Pail), 180 kg (Drum)	–	–	2000	0.91	◦	Graphite	Brass
<b>HYKOGREEN 87/43</b> ☞	Forming lubricant for long extrusion paths, e.g. in the forging of car valves 25 kg (Bucket)	–	–	5500	–	◦	Graphite	Steel
<b>HYKOGREEN G 30</b> ☞	Dispersion of highly ground, chemically pure graphite in mineral oil for hot forming of steel and non-ferrous metals 185 kg (Drum)	–	–	>15000	1.10	◦	Graphite	Steel
<b>HYKOGREEN G 60</b> ☞	Highly concentrated dispersion of graphite in mineral oil for hot forming of steel and non-ferrous metals 25 kg (Bucket)	–	–	–	1.30	◦	Graphite	Steel

## HYKOGREEN, LUBRODAL

Product name	Description	Dry residue [%]	RF-value [%]	Visc. [mPas]	Density [g/cm³]	Water-miscible	Solids	Material recommendation
Hot Forming Lubricants for Drop Forging								
<b>HYKOGREEN MB 1000</b>  	Graphite-containing forming lubricant for forging of complex brass components 25 kg (Pail), 180 kg (Drum)	–	–	2000	0.94	○	Graphite	Brass
<b>HYKOGREEN UMD 2/1</b>  	Versatile graphite dispersion for hot forming of steel and non-ferrous metals 25 kg (Pail), 200 kg (Drum)	–	–	–	1.10	○	Graphite	Steel
<b>LUBRODAL F 105</b>   	Water-graphite dispersion for steel forging with a wide wetting temperature range and excellent lubrication properties 25 kg (Bucket), 200 kg (Drum), 1000 kg (IBC)	25	–	1200	–	●	Graphite	Steel
<b>LUBRODAL F 18/24 W - AF</b>   	Graphite-containing emulsion for forging of highly complex aluminum components 25 kg (Bucket), 200 kg (Drum), 1000 kg (IBC)	46	–	3500	1.05	●	Graphite	Aluminium
<b>LUBRODAL F 20 CH</b>   	Economical water-graphite dispersion for steel forging with high active agent concentration 25 kg (Bucket), 220 kg (Drum), 1200 kg (IBC)	42	–	3000	1.30	●	Graphite	Steel
<b>LUBRODAL F 21 A SET</b>   	Hot forming lubricant for forging of steel providing highest process stability and plant availability 25 kg (Bucket), 200 kg (Drum), 1000 kg (IBC)	32	–	950	1.22	●	Graphite	Steel
<b>LUBRODAL F 2336</b>  	Graphite-containing forming lubricant for isothermal forging of highly complex aluminum components 25 kg (Pail), 180 kg (Drum)	–	–	600	–	○	Graphite	Aluminium
<b>LUBRODAL F 24 W</b>   	Graphite-containing emulsion, particularly suitable for semi-hot forging of complex steel components 25 kg (Bucket), 200 kg (Drum), 1000 kg (IBC)	50	–	3500	1.05	●	Graphite	Steel
<b>LUBRODAL F 25 AL</b>  	Emulsion concentrate for forging aluminum components with the highest demands on surface quality 10 kg (Canister), 25kg (Canister), 200 kg (Drum)	22	–	<50	0.98	●	–	Aluminium
<b>LUBRODAL F 25 D</b>  	Water-graphite dispersion for precision forging of steel components 25 kg (Bucket), 1000 kg (IBC)	25	–	300	1.15	●	Graphite	Steel
<b>LUBRODAL F 25 PLE</b>   	Versatile water-graphite dispersion for forging of steel 25 kg (Bucket), 210 kg (Drum), 1000 kg (IBC)	28	–	2000	1.15	●	Graphite	Steel

## FUCHS Special Applications

### Hot Forming Lubricants

Product name	Description	Dry residue [%]	RF-value [%]	Visc. [mPas]	Density [g/cm³]	Water-miscible	Solids	Material recommendation
Hot Forming Lubricants for Drop Forging								
<b>LUBRODAL F 27 AL</b>	Graphite-, wax- and solid-free forming lubricant for forging of complex aluminum components	20.5	–	1500	–	•	–	Aluminium
	25 kg (Canister), 200 kg (Drum)							
<b>LUBRODAL F 29/2 - TB</b>	Forming lubricant for forging turbine blades from titanium or nickel-based alloys	36.5	–	–	1.22	•	Graphite	Titanium Nickel-base
	25 kg (Bucket), 220 kg (Drum), 1000 kg (IBC)							
<b>LUBRODAL F 31 EB</b>	Economical water-graphite dispersion for forging of steel	32	–	2200	1.20	•	Graphite	Steel
	25 kg (Bucket), 1000 kg (IBC)							
<b>LUBRODAL F 318</b>	Economical, graphite-free forming lubricant for forging of steel components	–	26.5	400	1.11	•	–	Steel
	25 kg (Canister), 220 kg (Drum), 1000 kg (IBC)							
<b>LUBRODAL F 318 N - HV</b>	Graphite-free forming lubricant for forging of complex steel components	26	32	500	1.16	•	–	Steel
	1000 kg (IBC)							
<b>LUBRODAL F 327</b>	Graphite-free forming lubricant for forging of steel with elevated tool temperatures	–	35	800	–	•	–	Steel
	25 kg (Canister), 220 kg (Drum), 1000 kg (IBC)							
<b>LUBRODAL F 33 AL</b>	Water-graphite dispersion with emulsified ester content for forging of complex aluminum components	30	–	2000	1.12	•	Graphite	Aluminium
	25 kg (Pail), 210 kg (Drum), 1000 kg (IBC)							
<b>LUBRODAL F 36</b>	Graphite-containing, mineral oil-free emulsion for isothermal forging of highly complex aluminum components	23.25	–	1400	–	•	Graphite	Aluminium
	25 kg (Pail), 200 kg (Drum), 1000 kg (IBC)							
<b>LUBRODAL F 3629</b>	Water-graphite dispersion for highest wetting temperatures	19	–	350	–	•	Graphite	Steel
	25 kg (Bucket)							
<b>LUBRODAL F 3670</b>	High-performance lubricant for the isothermal forging of complex aluminum components	–	–	450	–	◦	Graphite	Aluminium
	25 kg (Pail), 180 kg (Drum), 900 kg (IBC)							
<b>LUBRODAL F 37</b>	Graphite-containing, mineral oil-free emulsion for isothermal forging of highly complex aluminum components with improved lubrication performance	23.25	–	1400	–	•	Graphite	Aluminium
	25 kg (Pail), 200 kg (Drum)							

## LUBRODAL, ZONAL



















Product name	Description	Dry residue [%]	RF-value [%]	Visc. [mPas]	Density [g/cm³]	Water-miscible	Solids	Material recommendation
<b>Hot Forming Lubricants for Drop Forging</b>								
<b>LUBRODAL F 40 S</b> 	Graphite-free emulsion for forging of non-ferrous metals	40	–	–	0.99	•	–	Brass
	25 kg (Canister), 200 kg (Drum), 1000 kg (IBC)							
<b>LUBRODAL F 41 G</b> 	Hot and semi-hot forming of steel on fully automated forging lines	32.5	–	1300	–	•	Graphite	Steel
	25 kg (Bucket), 1000 kg (IBC)							
<b>LUBRODAL F 442</b> 	Water-graphite dispersion for very high wetting temperatures and long flow paths	40	–	1150	–	•	Graphite	Steel
	25 kg (Bucket), 230 kg (Drum), 1000 kg (IBC)							
<b>LUBRODAL F 475 E</b> 	Dispersion of highly ground graphite in water for forging of steel, particularly suitable for fast-running forging presses with high tool temperatures	25	–	750	1.15	•	Graphite	Steel
	25 kg (Bucket), 200 kg (Drum), 1000 kg (IBC)							
<b>LUBRODAL F 53/40</b> 	Graphite-free forming lubricant for forging of very complex steel components	33	37	1400	1.18	•	–	Steel
	25 kg (Canister), 220 kg (Drum), 1000 kg (IBC)							
<b>LUBRODAL F 645 AFE</b> 	Forging of complex steel components on fully automated forging lines with circulation lubrication	18	–	1250	1.10	•	Graphite	Steel
	25 kg (Bucket), 200 kg (Drum), 1000 kg (IBC)							
<b>LUBRODAL F70M - 40 LV</b> 	Highly concentrated water-graphite dispersion for forging of large steel components with long contact times	50	–	3500	1.40	•	Graphite	Steel
	25 kg (Bucket), 230 kg (Drum), 1000 kg (IBC)							
<b>LUBRODAL W 27 F</b> 	Water-graphite dispersion for precision forging of steel	27	–	1500	–	•	Graphite	Steel
	25 kg (Bucket), 210 kg (Drum), 1000 kg (IBC)							
<b>LUBRODAL W 27 F/260</b> 	Dispersion of highly ground graphites for precision forging of steel	27.5	–	–	1.20	•	Graphite	Steel
	25 kg (Bucket), 210 kg (Drum)							
<b>ZONAL 1000</b> 	Dispersion of highly ground graphite in mineral oil	–	–	1000	–	◦	Graphite	Steel
	20 kg (Canister), 200 kg (Drum)							
<b>ZONAL 1002</b> 	Dispersion of highly ground graphite in mineral oil	–	–	330	–	◦	Graphite	Steel
	20 kg (Canister), 180 kg (Drum)							

## FUCHS Special Applications

### Hot Forming Lubricants

Product name	Description	Dry residue [%]	RF-value [%]	Visc. [mPas]	Density [g/cm³]	Water-miscible	Solids	Material recommendation
<b>Hot Forming Lubricants for Hammer Forging</b>								
<b>LUBRODAL C 38 N</b>	Hammer forging of steel components. High propulsive effect and good lubrication properties	35	–	–	1.17	•	–	Steel
  	25 kg (Canister), 220 kg (Drum), 1000 kg (IBC)							
<b>LUBRODAL F 185</b>	Graphite-containing forming lubricant with increased release power and propulsive effect	25	–	1750	–	•	Graphite	Steel
  	25 kg (Bucket), 200 kg (Drum), 1000 kg (IBC)							
<b>LUBRODAL F 64 GM</b>	Forming lubricant for hammer forging of complex steel components with very high propulsive effect	35	–	100	1.16	•	–	Steel
  	25 kg (Canister), 220 kg (Drum), 1000 kg (IBC)							
<b>Hot Forming Lubricants for High-speed Forging</b>								
<b>LUBRODAL C 102</b>	Start-up additive for circulation baths in high-speed forging	40	–	–	0.99	•	–	Steel
	25 kg (Canister)							
<b>LUBRODAL C 48 PM</b>	High-speed forging of highly complex steel components (hot and semi-hot)	35	–	900	1.15	•	–	Steel
  	25 kg (Canister), 220 kg (Drum), 1000 kg (IBC)							
<b>LUBRODAL F 270 EP</b>	EP additive for circulation baths in high-speed forging	24.5	25	–	–	•	–	Steel
	25 kg (Canister)							
<b>LUBRODAL F 318 H</b>	Graphite-free forming lubricant for high-speed forging of steel components	–	39	500	1.17	•	–	Steel
 	220 kg (Drum), 1000 kg (IBC)							
<b>Hot Forming Lubricants for Rotatory Forming Operations</b>								
<b>LUBRODAL F 400</b>	Graphite-free hot forming lubricant for forging of steel or especially for flow forming processes as in the production of aluminum rims	–	38	375	1.17	•	–	Aluminium
  	25 kg (Canister), 220 kg (Drum), 1000 kg (IBC)							
<b>LUBRODAL F 53/318</b>	Graphite-free hot forming lubricant, particularly suitable for ring rolling of steel	–	37	500	1.16	•	–	Steel
 	200 kg (Drum), 1000 kg (IBC)							
<b>LUBRODAL F 70 B</b>	Graphite-containing mandrel bar lubricant for seamless tube production	50	–	7000	1.40	•	Graphite	Steel
 	230 kg (Drum), 1000 kg (IBC)							
<b>LUBRODAL F 95</b>	Graphite-containing emulsion, particularly suitable for rotary forging of large aluminum components	50	–	4500	1.25	•	Graphite	Aluminium
	200 kg (Drum)							

# LUBRODAL

Product name	Description	Dry residue [%]	RF-value [%]	Visc. [mPas]	Density [g/cm³]	Water-miscible	Solids	Material recommendation
<b>Hot Forming Lubricants for Rotatory Forming Operations</b>								
<b>LUBRODAL RM 4000</b> 	Graphite-free forming lubricant for hot rolling of steel 1000 kg (IBC)	–	38	300	1.17	•	–	Steel
<b>LUBRODAL ST 500 V</b> 	Graphite-free mandrel bar lubricant for seamless tube production 1400 kg (IBC)	44	–	20	1.45	•	–	Steel
<b>Hot Forming Lubricants for Billet pretreatment</b>								
<b>LUBRODAL F 22 B</b>   	Pre-graphiting agent with high lubrication power for large steel components 25 kg (Bucket), 230 kg (Drum), 1000 kg (IBC)	50	–	3500	1.40	•	Graphite	Steel
<b>LUBRODAL FC 331</b>  	Pre-graphiting agent for semi-hot forming of steel 25 kg (Bucket), 220 kg (Drum)	30	–	4000	1.20	•	Graphite	Steel
<b>LUBRODAL FC 441</b>  	Pre-graphiting agent for hot forming of steel 25 kg (Bucket), 230 kg (Drum)	41	–	4500	1.29	•	Graphite	Steel
<b>LUBRODAL RV 20</b> 	Billet coating to prevent sticking during heating 25 kg (Bucket)	22	–	250000	–	•	white	Steel
<b>LUBRODAL SR 300</b>   	Scale minimization agent for hot forming of steel 5 kg (Canister), 25 kg (Canister), 220 kg (Drum), 1000 kg (IBC)	27	22	–	–	•	–	Steel
<b>LUBRODAL SR 900</b>  	Scale minimization and reduction of skin decarburization for large steel billets 25 kg (Bucket), 250 kg (Drum)	42	–	600	–	•	weiß	Steel
<b>LUBRODAL TROMMEL-GRAPHIT</b> 	Pre-graphiting of small billets by tumbling 10 kg (Bucket)	65	–	–	–	•	Graphite	Brass
<b>LUBRODAL ZG 600</b>  	Scale reduction agent for semi-hot forming of steel 5 kg (Canister), 25 kg (Canister), 1200 kg (IBC)	44	35	–	–	•	–	Steel




## FUCHS Special Applications

### Hot Forming Lubricants

Product name	Description	Dry residue [%]	RF-value [%]	Visc. [mPas]	Density [g/cm³]	Water-miscible	Solids	Material recommendation
Release Agents and Auxiliary Materials for Pressure Die Casting								
<b>HYKOGREEN CP 43</b>  	Lubrication of critical areas in pressure die casting of non-ferrous metals 1 kg (Can), 5 kg (Bucket), 25 kg (Bucket)	–	–	–	0.90	◦	Graphite	Aluminium
<b>HYKOGREEN EP 10</b>  	Ejector lubricant 1 kg (Can), 15 kg (Bucket)	–	–	–	0.90	◦	Graphite	Aluminium
<b>HYKOGREEN LS 50</b>  	Burn-in paste for casting ladles and related tools in non-ferrous metal casting 1 kg (Can), 5 kg (Bucket), 25 kg (Bucket)	–	–	–	1.30	◦	white	Aluminium
<b>HYKOGREEN LS 507</b>  	Facing for casting ladles, tools, funnels and spouts in aluminium pressure die casting 1 kg (Can), 25 kg (Bucket)	–	–	–	1.20	◦	Graphite	Aluminium
<b>HYKOGREEN P 550</b>  	Graphite-free, liquid plunger lubricant for pressure die casting machines 5 kg (Canister), 25 kg (Pail)	–	–	2000	0.91	◦	–	Aluminium
<b>HYKOGREEN P 770</b> 	Graphite-containing, liquid plunger lubricant for pressure die casting machines 25 kg (Pail)	–	–	1700	0.93	◦	Graphite	Aluminium
<b>HYKOGREEN RLP 100</b> 	Minimum quantity lubricant for aluminum pressure die casting 180 kg (Drum)	–	–	200	–	◦	–	Aluminium
<b>HYKOGREEN ZN 10</b>   	Water-free die casting release agent for zinc pressure die casting 20 kg (Canister), 150 kg (Drum), 750 kg (IBC)	–	–	–	0.77	◦	–	Zinc
<b>HYKOGREEN ZN 15</b>  	Water-free die casting release agent for zinc pressure die casting 20 kg (Canister), 160 kg (Drum)	–	–	–	0.82	◦	–	Zinc
<b>LUBRODAL AL 100/21</b>   	Emulsion concentrate for pressure die casting of highly complex components made of aluminum or magnesium 25 kg (Canister), 200 kg (Drum), 1000 kg (IBC)	–	–	< 50	0.99	•	–	Aluminium
<b>LUBRODAL AL 80</b>  	Wax-free emulsion concentrate for pressure die casting of aluminum 25 kg (Canister), 200 kg (Drum)	–	–	< 50	0.99	•	–	Aluminium
<b>LUBRODAL C 100 SF</b>  	Silicone-free emulsion concentrate for pressure die casting of aluminum 25 kg (Canister), 200 kg (Drum)	–	–	< 50	0.99	•	–	Aluminium
<b>LUBRODAL C 35/40</b>   	Mineral oil-based emulsion for pressure die casting of non-ferrous metals 25 kg (Canister), 200 kg (Drum), 1000 kg (IBC)	40	–	–	0.99	•	–	Aluminium



**HYKOGEEEN, LUBRODAL**





Product name	Description	Dry residue [%]	RF-value [%]	Visc. [mPas]	Density [g/cm³]	Water-miscible	Solids	Material recommendation
<b>Release Agents and Auxiliary Materials for Pressure Die Casting</b>								
<b>PISTON POWDER G 2</b>	Wax granulate for plunger lubrication of pressure die casting machines	–	–	–	–	◦	–	Aluminium
 	12 kg (Bucket), 120 kg (Drum)							
<b>PISTON POWDER W 1</b>	Graphite-containing wax granulate for plunger lubrication of pressure die casting machines	–	–	–	–	◦	Graphite	Aluminium
	12 kg (Bucket)							

## FUCHS Special Applications

### Hot Forming Lubricants

Product name	Description	Dry residue [%]	RF-value [%]	Visc. [mPas]	Density [g/cm³]	Water-miscible	Solids	Material recommendation
Other Products for Hot Forming								
<b>HYKOGREEN 820</b>	Highly concentrated dispersion of white solid lubricants in mineral oil for hot forming				1.60	◦	white	Steel
  	1 kg (Can), 5 kg (Bucket), 25 kg (Bucket), 70 kg (Pail)							
<b>HYKOGREEN 821</b>	Dispersion of white solid lubricants in mineral oil for hot forming with improved flowability				0.95	◦	white	Steel
  	1 kg (Can), 5 kg (Canister), 25 kg (Pail)							
<b>HYKOGREEN KS 706</b>	Biodegradable mold facing for continuous aluminium casting			600		◦	–	Aluminium
	55 kg (Drum)							
<b>HYKOGREEN PASTE 712</b>	Graphite-containing paste with very good adhesion for lubricating very critical areas in hot forming					◦	Graphite	Steel
 	5 kg (Bucket), 25 kg (Bucket), 190 kg (Drum)							
<b>LUBRODAL BN</b>	Dispersion of hexagonal boron nitride in water, for lubrication at very high temperatures	25		300	1.14	•	white	Steel
 	1 kg (Bottle), 5 kg (Canister)							
<b>LUBRODAL C 120</b>	Versatile graphite dispersion that forms a very smooth, polishable layer	36		15000		•	Graphite	Steel
 	10 kg (Canister), 30 kg (Pail)							
<b>LUBRODAL C 52 C</b>	White mold facing for nonferrous metal casting	52		2000	1.45	•	white	Aluminium
	10 kg (Bucket)							
<b>LUBRODAL C 60 OP</b>	Base coating of thermically high loaded metal casting tools, such as ladles, gutters and plungers	50		1500	1.80	•	white	Aluminium
 	5 kg (Canister), 30 kg (Bucket)							
<b>LUBRODAL C 71</b>	Mold facing for squeeze casting of aluminum with very good release effect	23		3200	1.20	•	white	Aluminium
	30 kg (Pail)							
<b>LUBRODAL F 30 DS</b>	Versatile graphite dispersion with very good adhesion even on cold surfaces	40		6000		•	Graphite	Steel
 	25 kg (Bucket), 220 kg (Drum)							
<b>LUBRODAL SQC/1</b>	Mold facing for squeeze casting of aluminium with high release and lubricating effect	23		3200	1.20	•	white	Aluminium
	30 kg (Pail)							

## HYKOGREEN, LUBRODAL

Product name	Description	Dry residue [%]	RF-value [%]	Visc. [mPas]	Density [g/cm <sup>3</sup> ]	Water-miscible	Solids	Material recommendation
Other Products for Hot Forming								
<b>LUBRODAL W 27 F - ES</b> 	Coating of anode stubs in aluminum production 25 kg (Bucket), 210 kg (Drum)	22		2000		•	Graphite	Aluminium
<b>WAGRAS ZZ 20</b>   	Graphite-containing mold facing 1 kg (Bottle), 10 kg (Bucket), 25 kg (Bucket), 200 kg (Drum)	21.5			1.17	•	Graphite	Aluminium

A background image of laboratory glassware, including a graduated cylinder and an Erlenmeyer flask, with a blue overlay at the bottom containing text.

# SPECIAL APPLICATION LUBRICANTS

The product range of FUCHS includes lubricants and release agents for highly specialized applications. These lubricants are always used where the performance of conventional lubricants for the special application reaches its limits. They are marked with FUCHS Special Applications.

## **FUCHS** Special Applications

FUCHS develops highly specialized lubricants and related specialties in close cooperation with customers in order to offer tailor-made solutions. This has resulted in a very broad portfolio over the last decades that is characterized by its performance - even under extreme conditions. Furthermore, special application lubricants from FUCHS stand for sustainability as well as for safety, reliability and economy.



## Special Application Lubricants

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Product name	Description	Visc. at 20 °C [mm²/s]	Flash point [°C]	Bio-degradability [% after 28 d]	Water pollution category (German regulation)	GISCODE	Shelf life [months]
Solvent-based Concrete Release Agents for Precast Plants							
SOK 128	Ready-to-use concrete release agent for all common types of formwork. Particularly well suited for e.g. exposed concrete, slabs, beams, special elements.	≤ 4.5	28	91	1	BTM 50	24
SOK ULTRA		≤ 4.5	28	91	1	BTM 50	24
SOK 912		≤ 4.5	28	86	1	BTM 50	24
SOK SI		3.0 ± 0.5	28	n/a	1	BTM 50	24
  	20 L (Canister), 200 L (Drum), 1000 L (IBC)						
SOK BTM UP/4	Odor-reduced and ready-to-use concrete release agent for all common types of formwork based on isoparaffin. Particularly well suited for pigmented concrete.	≤ 4.5	28	n/a	1	BTM 50	24
  	20 L (Canister), 200 L (Drum), 1000 L (IBC)						
SOK U/K 105	Ready-to-use concrete release agent with increased corrosion protection. Particularly well suited for e.g. TT ceilings.	≤ 4.5	28	n/a	1	BTM 50	24
SOK 2/K 105		≤ 4.5	ca. 30	n/a	1	BTM 50	24
  	20 L (Canister), 200 L (Drum), 1000 L (IBC)						
SOK U/K 115	Ready-to-use concrete release agent with very strong corrosion protection for short-term use in case of acute corrosion problems.	≤ 4.5	ca. 32	n/a	1	BTM 50	24
  	20 L (Canister), 200 L (Drum), 1000 L (IBC)						




























## FUCHS Special Applications





















### Concrete Release Agents

Product name	Description	Visc. at 20 °C [mm²/s]	Flash point [°C]	Bio-degradability [% after 28 d]	Water pollution category (German regulation)	GISCODE	Shelf life [months]
<b>Concrete Release Agent Emulsions for Precast Plants</b>							
<b>SOK AQUA Z</b>	Ready-to-use concrete release agent for all common types of formwork. Particularly well suited for self-compacting concrete (SCC).	< 4.5	n/a	> 80	1	BTM 05	6
	20 L (Canister), 200 L (Drum), 1000 L (IBC)						
<b>SOK AQUA G PLUS</b>	Ready-to-use concrete release agent for all common types of formwork. Particularly well suited for large pipes, ceilings and walls.	5.5 - 6.0	n/a	> 80	1	BTM 05	6
	20 L (Canister), 200 L (Drum), 1000 L (IBC)						
<b>SOK AQUA KS</b>	Ready-to-use concrete release agent with increased corrosion protection. Particularly well suited for filigree ceiling production and shake compaction.	< 4.5	n/a	89.6	1	BTM 05	6
	20 L (Canister), 200 L (Drum), 1000 L (IBC)						
<b>SOK AQUA HF</b>	Ready-to-use concrete release agent for all common types of formwork. Particularly well suited for e.g. slabs, beams, ceilings and walls.	< 4.5	n/a	n/a	1	BTM 05	6
	20 L (Canister), 200 L (Drum), 1000 L (IBC)						
<b>Ester oil-based Concrete Release Agents for Precast Plants</b>							
<b>SOK ECO 107*</b>	EU Ecolabel certified concrete release agent for e.g. ceilings and walls - ready to use.	45.0 ± 4.0	210	> 80	awg	BTM 10	24
	20 L (Canister), 200 L (Drum), 1000 L (IBC)						
<b>SOK ECO 911</b>	Label-free concrete release agent for spun concrete and the production of concrete sleepers produced with curing process - ready to use.	8.0 ± 1.0	175	> 80	1	BTM 10	24
	20 L (Canister), 200 L (Drum), 1000 L (IBC)						
<b>SOK MULTITRENN</b>	Blue colored concrete release agent especially for polystyrene stopp-off formwork elements e.g. in the production of filigree ceilings - ready to use.	49.0 - 59.0	208	> 80	1	BTM 10	24
	20 L (Canister), 200 L (Drum), 1000 L (IBC)						
<b>PLANTO Schalungsöl S</b>	Label-free concrete release agent for L-shaped stone production - ready to use.	7.3	190	> 60	1	BTM 10	24
	1000 L (IBC)						










**SOK**

Product name	Description	Visc. at 20 °C [mm <sup>2</sup> /s]	Flash point [°C]	Bio-degradability [% after 28 d]	Water pollution category (German regulation)	GISCODE	Shelf life [months]
<b>Pasty Formwork Waxes</b>							
<b>SOK WAX ECO</b>	Pasty ester oil-based concrete release agent wax with a stiff consistency for complex formwork elements, chamfer strips, etc. Particularly well suited for high outside temperatures.	n/a	ca. 250	n/a	awg	BTM 10	24
	9 kg (Bucket)						
<b>SOK WAX 1</b>	Pasty mineral oil-based concrete release agent wax with soft consistency for complex formwork elements, chamfer strips, etc.	n/a	ca. 150	n/a	1	BTM 10	24
	5 kg (Bucket), 15 kg (Bucket), 25 kg (Bucket)						
<b>SOK WAX ECO S</b>	Pasty ester oil-based concrete release agents wax with a very soft consistency for door and window recesses as well as trowel cutting in filigree ceilings.	n/a	ca. 250	n/a	awg	BTM 10	24
	9 kg (Bucket)						
<b>SOK WAX 3</b>	Pasty mineral oil-based concrete release agent wax with very stiff consistency for complex formwork elements, chamfer strips, etc. Particularly well suited for high outside temperatures.	n/a	150	n/a	1	BTM 10	24
	15 kg (Bucket)						
<b>Concrete Release Agents for Immediate Demolding</b>							
<b>SOK BTM HU 3</b>	Mineral oil-based concrete release agent for universal use for immediate demolding processes like slatted floors, cable ducts or concrete sleepers etc. Suitable for all water-cement ratios.	6.3 ± 0.3	ca. 101	n/a	1	BTM 30	24
  	20 L (Canister), 200 L (Drum), 1000 L (IBC)						
<b>SOK BTM HU 2</b>	Mineral oil-based concrete release agent for universal use for immediate demolding processes like slatted floors, cable ducts or concrete sleepers etc. Particularly suitable for water-cement ratios < 0.41.	4.0 ± 0.4	ca. 101	n/a	1	BTM 30	24
  	20 L (Canister), 200 L (Drum), 1000 L (IBC)						
<b>SOK HU ECO</b>	Label-free concrete release agent based on ester oils for universal use for immediate demolding processes like slatted floors, cable ducts or concrete sleepers etc. Suitable for all water-cement ratios.	7.8 ± 0.4	ca. 153	n/a	1	BTM 10	24
  	20 L (Canister), 200 L (Drum), 1000 L (IBC)						

## **FUCHS** Special Applications Concrete Release Agents & Mixer Protection Agents

Product name	Description	Visc. at 20 °C [mm²/s]	Flash point [°C]	Bio-degradability [% after 28 d]	Water pollution category (German regulation)	GISCODE	Shelf life [months]
Concrete Release Agents for Stone Production							
<b>SOK AQUA 100</b>	Particularly economical ester oil-based concrete release agent concentrate for universal use in stone production. The mixing ratio can be individually adjusted from 1:1 to 1:5. Suitable for boards made of steel, plastic and wood.	14.0 - 17.5	n/a	n/a	1	BTM 05	9
  	5 L (Canister), 10 L (Canister), 200 L (Drum), 1000 L (IBC)						
<b>SOK AQUA CB</b>	Ready-to-use mineral oil-based concrete release emulsion with high release effect for stone production. Suitable for steel and plastic boards.	5.5 - 6.0	n/a	> 80	1	BTM 05	6
 	200 L (Drum), 1000 L (IBC)						
Concrete Release Agents for Building Construction							
<b>SOK BTM E</b>	Mineral oil-based structural release agent for universal use on the construction site - ready to use.	21.0 ± 2.5	145	> 70	1	BTM 20	24
  	20 L (Canister), 200 L (Drum), 1000 L (IBC)						
<b>SOK 72 S</b>	Mineral oil based concrete release agent especially for the use of rough cutted wooden formwork - ready to use.	23.0 ± 1.0	82	n/a	1	BTM 20	24
  	20 L (Canister), 200 L (Drum), 1000 L (IBC)						
<b>SOK ECO 911</b>	Ester oil-based structural release agent for universal use on the construction site - ready to use.	8.0 - 1.0	175	> 80	1	BTM 10	24
  	20 L (Canister), 200 L (Drum), 1000 L (IBC)						
<b>SOK AQUA 100</b>	Particularly economical concrete release agent concentrate based on ester oil for universal use on the construction site. The 10 L and 20 L canister are each supplied half-filled and are filled-up with water on site in a mixing ratio of 1:1.	14.0 - 17.5	n/a	n/a	1	BTM 05	9
  	5 L (Canister), 10 L (Canister), 200 L (Drum), 1000 L (IBC)						
<b>SOK AQUA E</b>	Ready-to-use mineral oil-based concrete release emulsion for universal use on the construction site.	5.5 - 6.0	n/a	n/a	1	BTM 05	6
  	20 L (Canister), 200 L (Drum), 1000 L (IBC)						













## SOK, BETONEX

Product name	Description	Visc. at 20 °C [mm <sup>2</sup> /s]	Flash point [°C]	Bio-degradability [% after 28 d]	Water pollution category (German regulation)	GISCODE	Shelf life [months]
<b>Mixer Protection Agents</b>							
<b>BETONEX* ECO</b>	EU Ecolabel-certified mixer protection based on ester oil. Particularly well suited for concrete mixers, transport slides, concrete pumps. Reduces foam formation during the first concrete mixing.	45.0	300	> 80	awg	BTM 10	24
  	20 L (Canister), 200 L (Drum), 1000 L (IBC)						
<b>BETONEX E</b>	Universally applicable mixer protection based on mineral oil. Particularly well suited for concrete mixers, transport slides, concrete pumps, etc.	21.0 ± 2.5	145	> 70	1	BTM 20	24
<b>BETONEX SP-1</b>		19.0 ± 23.5	125	n/a	1	BTM 20	24
<b>BETONEX PLUS</b>		22.0 ± 1.0	160	n/a	1	BTM 20	24
  	20 L (Canister), 200 L (Drum), 1000 L (IBC)						
<b>BETONEX SI</b>	Mineral oil-based mixer protection especially to reduce foam formation during the first concrete mixing.	17.0 ± 1.0	135	n/a	1	BTM 20	24
  	20 L (Canister), 200 L (Drum), 1000 L (IBC)						



## FUCHS Special Applications

### Asphalt Release Agents & Bitumen Cleaners







Product name	Description	Visc. at 20 °C [mm²/s]	Flash point [°C]	Bio-degradability [% after 28 d]	Water pollution category (German regulation)	GISCODE	Shelf life [months]
<b>Asphalt Release Agents &amp; Bitumen Cleaners</b>							
<b>BITEEREX 1</b>	Universally applicable mineral oil-based asphalt release agent. Particularly well suited for e.g. asphalt mixers, transport trucks and road pavers - ready to use. Test report of the Technical University of Kaiserslautern confirms compatibility with asphalt.	21.0 ± 2.5	145	> 70	1	n/a	24
  	20 L (Canister), 200 L (Drum), 1000 L (IBC)						
<b>BITEEREX* ECO</b>	EU Ecolabel-certified ester oil-based asphalt release agent. Particularly well suited for asphalt mixers, asphalt trucks and road pavers.	ca. 45	300	> 70	awg	n/a	24
  	20 L (Canister), 200 L (Drum), 1000 L (IBC)						
<b>BITEEREX AQUA</b>	Ready-to-use asphalt release agent emulsion for loading areas of asphalt trucks, conveyor belts of asphalt feeders and rubber-wheeled road rollers.	< 4.5	n/a	> 82	1	n/a	6
  	20 L (Canister), 200 L (Drum), 1000 L (IBC)						
<b>BITEEREX C 1</b>	Particularly economical asphalt release agent concentrate for loading areas of asphalt trucks, conveyor belts of asphalt feeders and rubber-wheeled road rollers. The 20 L small canister is delivered half-filled and is filled-up with water on site in a mixing ratio of 1:1.	14.0 - 17.5	n/a	n/a	1	n/a	9
  	10 L (Canister), 200 L (Drum), 1000 L (IBC)						

**BITEEREX**

Product name	Description	Visc. at 20 °C [mm <sup>2</sup> /s]	Flash point [°C]	Bio-degradability [% after 28 d]	Water pollution category (German regulation)	GISCODE	Shelf life [months]
<b>Asphalt Release Agents &amp; Bitumen Cleaners</b>							
<b>BITEEREX CLEANER</b>	Solvent-based cleaner in a liquid form for surfaces contaminated with bitumen or asphalt.	1.7 - 2.4	ca. 61	n/a	1	n/a	24
	20 L (Canister)						
<b>BITEEREX CLEANER SPRAY</b>	Solvent-based cleaner as a spray for surfaces contaminated with bitumen and asphalt.	n/a	> 61	n/a	1	n/a	24
	400 ml (Spray can)						























## FUCHS Special Applications Coatings



Product name	Description	Thinner	pH Value	Color	Temperature range [°C]	Coefficient of friction <sup>1</sup>	Applications
<b>HMP Films</b>							
<b>GLEITMO 300</b> (also available as GLEITMO 300 SPRAY)	Solvent-based universal lubricant for industry and household use	–	–	colorless, transparent	-40/+50	0.08	For calibration, for switches and mechanisms of any kind. For plastics, elastomers, zippers, screws etc.
 1 L (Bottle), 5 L (Canister), 25 L (Can), 400 ml (Spray can)							
<b>GLEITMO 602</b>	Dry film lubricant for bulk part coating	Water	8.5 - 9.5	colorless, transparent	-40/+80	0.13 - 0.15	Nuts and bolts in the automotive industry. To obtain friction coefficients with small deviation at an elevated level of friction coefficients.
 1 kg (Bottle), 25 kg (Can), 150 kg (Drum)							
<b>GLEITMO 605</b>	Dry film lubricant for bulk part coating	Water	8.5 - 9.5	colorless, shiny	-40/+110	0.11 - 0.12	Fasteners such as screws and nuts in the automotive industry with friction value range according to VDA as well as chipboard screws, sheet metal screws, clamping screws, union nuts.
 1 kg (Bottle), 25 kg (Can), 150 kg (Drum), 1000 kg (IBC)							
<b>GLEITMO 615</b>	Dry film lubricant for bulk part coating	Water	5.0 - 6.0	colorless, matt	-40/+110	0.09	To achieve low coefficients of friction in screw connections, avoid seizure in stainless steel screw connections, achieve low forming torques in thread-forming screws.
 1 kg (Bottle), 25 kg (Can), 150 kg (Drum)							

















**GLEITMO**

Product name	Description	Thinner	pH Value	Color	Temperature range [°C]	Coefficient of friction <sup>1</sup>	Applications
HMP Films							
GLEITMO 625	Dry film lubricant for bulk part coating	Water	5.0 - 6.0	colorless, matt	-40/+110	0.09	To achieve low coefficients of friction in screw connections, avoid seizure in stainless steel screw connections, achieve low forming torques in thread-forming screws.
  	1 kg (Bottle), 5 kg (Bucket), 25 kg (Can), 150 kg (Drum)						
GLEITMO 627	Dry film lubricant for bulk part coating	Water	5.0 - 6.0	colorless, matt	-40/+110	0.09	To achieve low coefficients of friction in screw connections, avoid seizure in stainless steel screw connections, achieve low forming torques in thread-forming screws.
   	1 kg (Bottle), 25 kg (Can), 150 kg (Drum), 1000 kg (IBC)						
GLEITMO HMP 8040	Dry film lubricant for bulk part coating	Water	5.0 - 6.0	colorless, matt	-40/+110	0.09	To achieve low coefficients of friction in screw connections, achieve low forming torques in thread-forming screws.
 	1 kg (Bottle), 1000 kg (IBC)						
GLEITMO 2345V	Dry film lubricant	Water	8.5 - 9.5	colorless, matt	-40/+70	–	Assembly lubrication of elastomers (O-rings, profile gaskets), metal sleeves and bolts, lubricants for chipless metal forming.
  	1 kg (Tin), 5 kg (Bucket), 25 kg (Can), 90 kg (Drum)						
GLEITMO HMP 8420 NF	Dry film lubricant with anti-corrosion sealer for bulk part coating	Water	8.5 - 9.5	colorless, shiny	-40/+110	0.10 - 0.11	For screws and nuts in the automotive industry. To achieve very uniform friction values according to VDA requirement. Excellent corrosion protection on zinc alloy coatings.
  	1 kg (Bottle), 25 kg (Can), 150 kg (Drum)						
GLEITMO HMP 9020	MoS <sub>2</sub> -containing dry film for bulk part coating	Water	n/a	dark grey-black	-70/+350	0.12 - 0.14 (K-value M20)	Coating of bolts and nuts. Can be used on hot-dip galvanized nuts to achieve the friction values required in DIN 14399.
  	1 kg (Flasche), 25 kg (Kanne), 150 kg (Fass)						
GLEITMO HMP 9020 K	MoS <sub>2</sub> -containing dry film for bulk part coating	Water	8.0 - 8.6	dark grey-black	-70/+250	0.14 - 0.15 (K-value M20)	Coating of bolts and nuts. Can be used on hot-dip galvanized nuts to achieve the friction values required in DIN 14399. Very good corrosion protection properties.
  	1 kg (Bottle), 25 kg (Can), 150 kg (Drum)						
GLEITMO HMP 9030	MoS <sub>2</sub> -containing dry film for bulk part coating	Water	n/a	dark grey-black	-70/+200	0.12 - 0.13 (K-value M20)	Coating of bolts and nuts. Can be used on hot-dip galvanized nuts to achieve the friction values required in DIN 14399. Very good corrosion protection properties. New development with very good moisture resistance.
	150 kg (Drum)						





## FUCHS Special Applications Coatings

Product name	Description	Thinner	Solids	Binder	Color	Temperature range [°C]	Applications	
Solid Film Lubricants								
GLEITMO SFL 9560	Thermosetting, white PTFE solid film lubricant	GLEITMO 950 V	PTFE	organic	white	-70/+130	Lifetime lubrication on metallic materials at medium and high pressures, slow sliding speed and for emergency lubrication. Good corrosion protection. Application for adjusting mechanisms (spindles and slide rails) or machine elements.	
 	1 kg (Tin), 5 kg (Bucket)							
GLEITMO SFL 9563	Thermosetting PTFE solid film lubricant with molybdenum disulfide	GLEITMO 950 V	PTFE, MoS <sub>2</sub>	organic	dark grey-black	-70/+180	Lifetime lubrication on metallic materials at medium and high pressures and slow sliding speeds as well as for running-in lubrication on highly loaded components. Good corrosion protection. For example, lubrication of adjustment mechanisms (levers, spindles and slide rails) or machine elements.	
  	1 kg (Tin), 5 kg (Bucket), 30 kg (Hobcock)							
GLEITMO SFL 9680 K1	Three-component solvent-based solid film lubricant - main component	META-BLANC V901	Poly-siloxane	inorganic-organic	colorless transparent	-70/+180	Dry lubrication of elastomers. Significantly facilitates the assembly of components due to very low assembly forces.	
  	1 kg (Bottle), 5 L (Bucket), 30 L (Hobcock)							
GLEITMO SFL 9680 K2	Crosslinking component for three-component solid film lubricant	META-BLANC V901	–	–	colorless transparent	-70/+180		
	100 ml (Bottle), 1 L (Bottle)							
GLEITMO SFL 9680 K3	Curing catalyst for three-component solid film lubricant	META-BLANC V901	–	–	–	-70/+180		
	100 ml (Canister), 1 L (Can)							
GLEITMO SFL 9680 K3TF	Curing catalyst for three-component solid film lubricant, tin-free	META-BLANC V901	–	–	–	-70/+180		
	100 ml (Bottle), 500 ml (Bottle)							
GLEITMO RLC 3000	Thermosetting PTFE solid film lubricant	Water	PTFE	organic	colorless matt	–	Dry lubrication of a wide variety of material combinations of elastomers, plastics, metals	
  	1 kg (Bottle), 5 kg (Bucket), 25 kg (Hobcock)							




## FUCHS Special Applications

### Coatings

Product name	Description	Carrier	Color	Applications
<b>Additives for Solid Film Lubricants</b>				
<b>GLEITMO 920 V</b> 	Thinner for solid film lubricants 5 L (Canister)	Solvent	colorless	See PI of respective solid film lubricant
<b>GLEITMO 950 V</b> 	Thinner for solid film lubricants 1 L (Can), 5 L (Canister)	Solvent	colorless	See PI of respective solid film lubricant
<b>GLEITMO 9540 V</b>  	Thinner for solid film lubricants 1 L (Bottle), 5 L (Canister)	Solvent	colorless	See PI of respective solid film lubricant
<b>METABLANC V 901</b>  	Thinner for solid film lubricants 5 L (Canister), 200 L (Drum)	Solvent	colorless	See PI of respective solid film lubricant
<b>GLEITMO 1992 V</b>  	Defoamer 1 kg (Bottle), 5 kg (Bucket)	Water	–	For foam reduction in GLEITMO Coating Baths
<b>GLEITMO HMP Cleaner</b>  	Cleaner for dry HMP films 1 kg (Bottle), 5 kg (Bucket), 25 kg (Can)	Water	colorless	Removal of GLEITMO 605, 615 and other GLEITMO films
<b>GLEITMO Colour BL 01</b> 	Black dye concentrate for water-based solid film lubricants 100 g (Bottle), 1 kg (Bottle)	Water	black	Coloring of GLEITMO water-based solid film lubricants (e.g. GLEITMO RLC 3100, GLEITMO HMP 8420 NF)
<b>GLEITMO Colour BU 01</b> 	Blue dye concentrate for water-based solid film lubricants 100 g (Bottle), 1 kg (Bottle)	Water	blue	Coloring of GLEITMO RLC 3100
<b>GLEITMO Colour GN 01</b> 	Green dye concentrate for water-based solid film lubricants 100 g (Bottle), 1 kg (Bottle)	Water	green	Coloring of GLEITMO RLC 3100
<b>GLEITMO Colour RD 01</b> 	Red dye concentrate for water-based solid film lubricants 100 g (Bottle), 1 kg (Bottle)	Water	red	Coloring of GLEITMO RLC 3100
<b>GLEITMO Colour WH 01</b> 	White dye concentrate for water-based solid film lubricants 100 g (Bottle), 1 kg (Bottle)	Water	white	Coloring of GLEITMO RLC 3100
<b>GLEITMO Colour YE 01</b> 	Yellow dye concentrate for water-based solid film lubricants 100 g (Bottle), 1 kg (Bottle)	Water	yellow	Coloring of GLEITMO RLC 3100
<b>UV-Verstärker-Konzentrat</b>  	Additive to enhance UV activity 1 kg (Bottle), 5 kg (Canister)	Water	yellowish	Addition to water-based GLEITMO films (e.g. GLEITMO 605, 615, etc.) to improve visibility under UV light

**GLEITMO**

Product name	Description	Carrier	Color	Applications
<b>Additives for Solid Film Lubricants</b>				
<b>Farbkonzentrat blau</b>	Blue dye for water-based dry film products	Water	blue	Addition to water-based GLEITMO films (e.g. GLEITMO 605, 615, etc.) produces a translucent blue film as a coating verification
	1 kg (Bottle)			
<b>Farbkonzentrat gelb</b>	Yellow dye for water-based dry film products	Water	yellow	Addition to water-based GLEITMO films (e.g. GLEITMO 605, 615, etc.) produces a translucent yellow film as a coating verification
 	1 kg (Bottle), 5 kg (Bucket)			
















## FUCHS Special Applications Coatings



Product name	Description	Dyn. visc. at 20 °C [mPas]	Color	Applications
<b>Refractory Industry</b>				
<b>MOLYPAUL 900</b>	Coating for ceramic, refractory materials	> 15000	grey-black	For application by brush, sponge or roller. Fills superficial porosities of ceramic materials and adjusts surface irregularities. Improves the sliding behaviour of ceramic slide plates used in sliding valve systems. Suitable for the use on any ceramic product versions and combinations.
☐ 🪴 🪴	1 kg (Tin), 4 kg (Bucket), 20 kg (Hobbock)			
<b>MOLYPAUL 900/50</b>	Coating for ceramic, refractory materials	n/a	grey-black	For application by brush, sponge or roller. Adjusts small surface roughnesses and improves the sliding behavior of ceramic slide plates used in sliding valve systems. Suitable for the use on any ceramic product version and combination.
🪴	5 kg (Bucket)			
<b>MOLYPAUL 912</b>	Coating of rotary valve closing plates	> 5000	grey-black	Apply on cold or hot (up to 200 °C) surface with brush or roller. Fills cracks and other surface defects, reduces surface wear and frictional resistance at the closing plates.
☐	1 kg (Tin)			
<b>MOLYPAUL 919</b>	Coating for ceramic, refractory materials	> 15000	grey-black	For application by brush, sponge or roller. Reduces the surface porosity and adjusts surface imperfections. Improves the sliding behavior of the ceramic slide plates used in mechanical sliding valve systems. Suitable for the use on any ceramic product version and combination.
☐ 🪴 🪴	1 kg (Tin), 4 kg (Bucket), 20 kg (Hobbock)			

# MOLYPAUL

Product name	Description	Dyn. visc. at 20 °C [mPas]	Color	Applications
<b>Refractory Industry</b>				
<b>MOLYPAUL 930</b>	Coating for ceramic materials and mold release agent	500 - 1000	grey-black	Coating agent for spray application. Suitable for use on refractory materials in the steel industry and as a release agent in the non-ferrous casting industry. Shows low friction and reduces the surface porosity of ceramics. Good lubricity, high abrasion resistance and oxidation resistance.
  	1 kg (Tin), 4 kg (Bucket), 12,5 kg (Canister)			
<b>MOLYPAUL 942 FAV</b>	Coating for ceramic, refractory materials	n/a	grey-black	Pasty coating agent for application with scraper or spatula. Reduces the surface porosity of ceramic surfaces and fills surface imperfections effectively. Based on its reduced shrinking effect it is especially suitable for recycled slide plates and as primer coat prior to a subsequent solid lubricant coating.
	4 kg (Bucket)			
<b>MOLYPAUL 950</b>	Coating for ceramic, refractory materials	1000 - 3000	grey-black	Coating agent for spray application. Reduces the surface porosity and improves the service life of the ceramic components used. Good lubricity, abrasion resistance and oxidation resistance.
	4 kg (Bucket)			
<b>MOLYPAUL 959</b>	Release agent for casting molds	n/a	creme colored	Non-curing liquid emulsion, designed for the use as a mold release agent on wooden, laminate, plastic, metal and composite-material molds. Can be used in combination with any conventional refractory material, binding agent and filler.
	20 kg (Hobcock)			
<b>MOLYPAUL 994</b>	Spray coating for refractory surfaces	400 - 800	grey-black	Specially designed for spraying on hot surfaces. Suitable as a release agent for mortar release, slide nozzle links, joint compound surfaces, and as a spray guard for mechanical aggregate parts.
   	1 kg (Tin), 4 kg (Bucket), 12,5 kg (Hobcock), 570 g (Tube + Cleaner)			
<b>MOLYPAUL 750</b>	Release and lubricant coating for casting molds	1000 - 3500	grey-black	Primarily used as a casting release agent by direct application to the inner surfaces of the casting mold. Forms a continuous dry film on the surface. Can be used as a starting aid for the dummy bar in continuous casting.
 	4 kg (Bucket), 20 kg (Hobcock)			
<b>MOLYPAUL 783</b>	Mold lubricant for continuous casting plants	n/a	black	Pasty solid lubricant for application with brush, roller or sponge. Is used to pre-treat molds of continuous casting plants in the iron and steel industry for an initial protection before or during a casting sequence.
	12.5 kg (Bucket)			

## Industry Brochures



Lubricant Solutions for the Aerospace Industry



Specialty Lubricants and Release Agents for Asphalt Processing



Lubricants and solutions for all applications of the cement industry



Lubricant Solutions for the Medical Technology



Specialty Lubricants for Railway Traffic



Specialty Lubricants for Forging Industry



Special Lubricants for Wind Power Plants



Lubricant solutions and related products for e-mobility concepts

## Product Brochures Industrial Oils



Hydraulic Fluids



High Performance Hydraulic Oil – RENOLIN XtremeTemp



Gear and Circulating Oils



Lubricants for Turbines



Compressor Oils



Refrigeration Oils



Rapidly Biodegradable Industrial Lubricants

## Product Brochures Lubricating Greases / Pastes



Product Group Pastes



Service Cartridge for easy and safe Relubrication of Wind Turbines



Specialty Lubricants for mobile telescopic cranes



SYSTEM REINER – Safe and Clean Lubrication of your Machines



Rapidly Biodegradable Industrial Lubricants

## Product Brochures Metal Processing Lubricants



Water-miscible and Neat Cutting Fluids



Quenching Oils and Polymer Quenchants



Cleaner for Metal Processing



Skin Protection, Skin Cleansing and Skin Care



Lubricants in spray cans



Rapidly Biodegradable Industrial Lubricants

You will find these and further brochures under [www.fuchs.com/de/en/products/download-center/](http://www.fuchs.com/de/en/products/download-center/)



## Product Brochures Special Application Lubricants



Concrete Release Agents for the Construction Industry



Lubrication, Maintenance, Service for Open Gears



Solid Film Lubricants – the Dry Lubrication



Solid Film Lubricants for Elastomer Products



Solid Lubricants for the Iron, Steel and Refractory Industry



Nye Lubricants – The Design Engineer's Guide to Selecting a Connector Grease

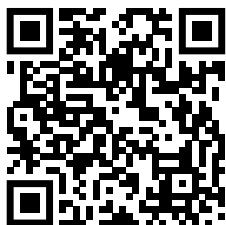


Nye Lubricants – The Design Engineer's Guide to Selecting a Motion Control Grease



Nye Lubricants – Medical Device & Equipment Lubrication

## Videos



Hydraulic oil RENOLIN  
XtremeTemp in the field test



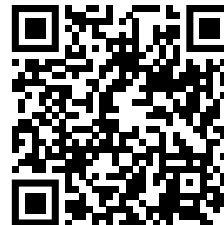
The high efficiency of  
RENOLIN XtremeTemp



Cavity conservation in  
practice – ANTICORIT CPX®



Comparison of flaming  
behaviour – universal high-  
performance quenching oil  
THERMISOL QH 35 MC  
(right in the video)



FUCHS Fluid Analyzer –  
Digital monitoring of cutting  
fluids

### Note

The information contained in this product information is based on the experience and know-how of FUCHS LUBRICANTS GERMANY GmbH in the development and manufacturing of lubricants and represents the current state-of-the-art. The performance of our products can be influenced by a series of factors, especially the specific use, the method of application, the operational environment, component pre-treatment, possible external contamination, etc. For this reason, universally-valid statements about the function of our products are not possible.

Our products must not be used in aircraft or spacecraft. Our products may be used in the manufacture of components for aircraft or spacecraft if they are removed without residue from the components prior to assembly into the aircraft or spacecraft.

The information given in this product information represents general, non-binding guidelines. No warranty expressed or implied is given concerning the properties of the product or its suitability for any given application. We therefore recommend that you consult a FUCHS LUBRICANTS GERMANY GmbH application engineer to discuss application conditions and the performance criteria of the products before the product is used. It is the responsibility of the user to test the functional suitability of the product and to use it with the corresponding care.

Our products undergo continuous improvement. We therefore retain the right to change our product program, the products, and their manufacturing processes as well as all details of our product information sheets at any time and without warning, unless otherwise provided in customer-specific agreements. With the publication of this product information, all previous editions cease to be valid. Any form of reproduction requires express prior written permission from FUCHS LUBRICANTS GERMANY GmbH.

## Notes

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## Innovative lubricants need experienced application engineers

Every lubricant change should be preceded by expert consultation on the application in question. Only then the best lubricant system can be selected. Experienced FUCHS employees will be glad to advise on products for the application in question and also on our full range of lubricants.

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