



Product Program Industrial Lubricants

2022

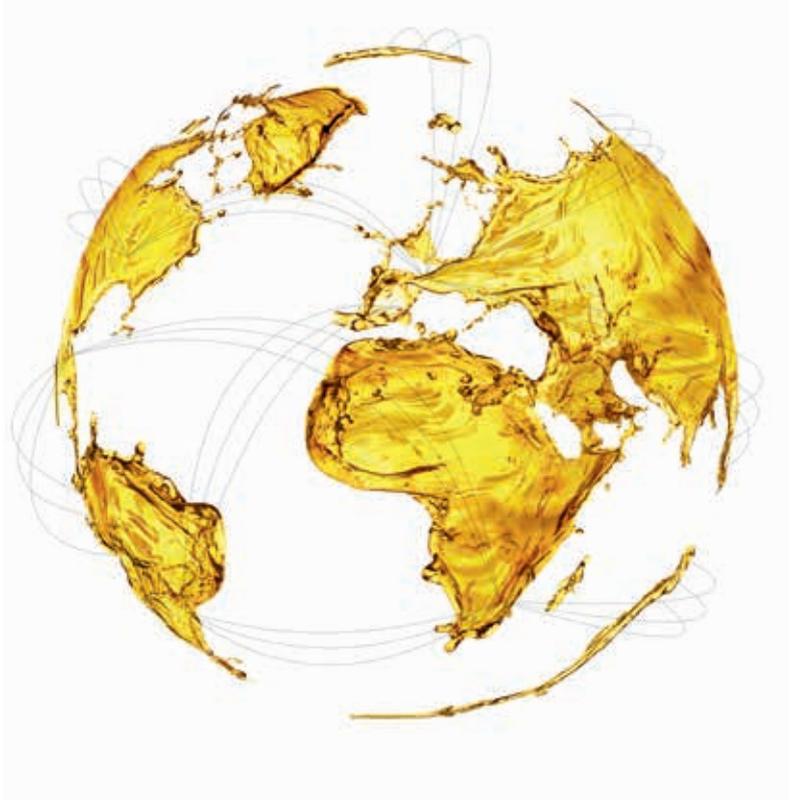


LUBRICANTS. TECHNOLOGY. PEOPLE.

We focus consistently on high-quality lubricants and related specialties.

We develop innovative and holistic solutions for a wide variety of applications.

We value the high level of commitment of our employees and their trusting interaction with one another.



Facts and figures

Company: FUCHS SCHMIERSTOFFE GMBH, a company of the FUCHS Group

Headquarters: Mannheim

Product range: A full range of more than 2,000 products and 6,000 articles

Certifications: IATF 16949, ISO 14001, ISO 45001, ISO 50001

References: One of the leading lubricants OEM for the German automotive industry

FUCHS has developed, produced and sold lubricants and related specialties since 90 years – for virtually all areas of application and sectors. With over 100,000 customers and 58 companies worldwide, the FUCHS Group is the leading independent supplier of lubricants.

A team of about 1,000 specialists across Germany works to guarantee the satisfaction of our customers. Whatever their requirements, we have the ideal lubricant for their specific applications and processes. In our technology centre we link interdisciplinary expertise in a quick and efficient way – and work on innovative lubricant solutions to meet the demands of today and tomorrow every single day.



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Package overview

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Industrial Product Brochures,
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Canister



IBC



Drum



Tank truck



Bottle



Tin



Cartridge



Tin



Tube



Spray can



Bucket



Hobcock

The World of Industrial Lubricants

Within the DMQP Program FUCHS supplies as a certified DMQP partner at DMG MORI cooling lubricants 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.



Industrial Oils

Industrial lubricants have an important task in the generation and transmission of energy, in the reduction or transmission of drive forces, in the deployment of machine tools, when generating cooling air or compressed air and for many other applications in production. FUCHS industrial lubricants can make a significant contribution to achieving higher productivity, improving efficiency and saving energy, for example in hydraulic systems, gear units and many other applications. Furthermore, rapidly biodegradable lubricants from FUCHS present a real alternative to hydrocarbon-based lubricants.

**RENOLIN, RENISO,
RENEP, PLANTO**

Greases

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. RENOLIT industrial lubricating greases are a balanced and complete package offering the ideal technical and economical solution in the largest possible number of lubricating grease applications in industry.

RENOLIT, PLANTO

Cutting Fluids

Today, a modern cutting fluid is subjected to a variety of demands. Cooling lubricants for metalworking processes must be effective, economical and free from ingredients that are harmful to health and the environment. In process chains downstream of metalworking, customized cleaning agent solutions and process-compatible and reliable corrosion preventatives play a decisive role when it comes to production reliability and product quality. That's why optimally matched lubricant concepts are important – because all process steps must be taken into account. With its comprehensive range of lubricants and its many years of application experience, FUCHS understands the processes of its customers like no other lubricant manufacturer.

ECOCOOL, ECOCUT



Quenching Products

Fluids are highly important in the area of heat treatment in particular: the required microstructure compositions and degrees of solidity can only be achieved with the right quenching medium. An altered quenching characteristic has a direct effect on the hardened microstructure, on the properties of the material and thereby also on its later deployment. Place your trust in a partner that understands the full heat treatment process, that uses that knowledge to advise you and provides you with system solutions – to your benefit.

THERMISOL



Cleaner

When manufacturing metal products, all materials that have a negative impact on the subsequent production steps or disrupt the later use of the metallic object must be removed from the surfaces. In addition to an extensive consulting, FUCHS offers everything from a single source. Perfectly matched products together with a comprehensive spectrum of industrial cleaners ensure a high level of process safety by avoiding product incompatibility as well as delivering excellent performance in virtually all cleaning processes.

RENOCLEAN



Corrosion Preventives

Corrosion protection measures must be optimally compatible with upstream process steps and the products used there. Our recommendation: the compatible ANTICORIT and ANTICORIT VCI corrosion protection products.

ANTICORIT

Forming Lubricants

For forming, we recommend the proven RENOFORM and WISURA products for almost all forming operations. They stand for highest quality and excellent application results – no matter whether for rolling, drawing/deep drawing, stamping, fine blanking, cold extrusion, wire, tube and bar drawing or hydroforming.



RENOFORM, WISURA

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



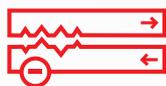
CO₂ reductions – optimizing our customer's carbon balance



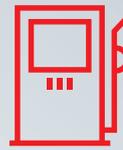
Food grade – enables industrial food processing



Process compatibility – efficient operations



Less wear – reliable operations



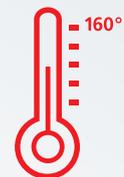
Fuel savings – saving precious resources and lowering emissions



Corrosion protection – enhanced machine life



Extension of maintenance intervals – reduced downtimes

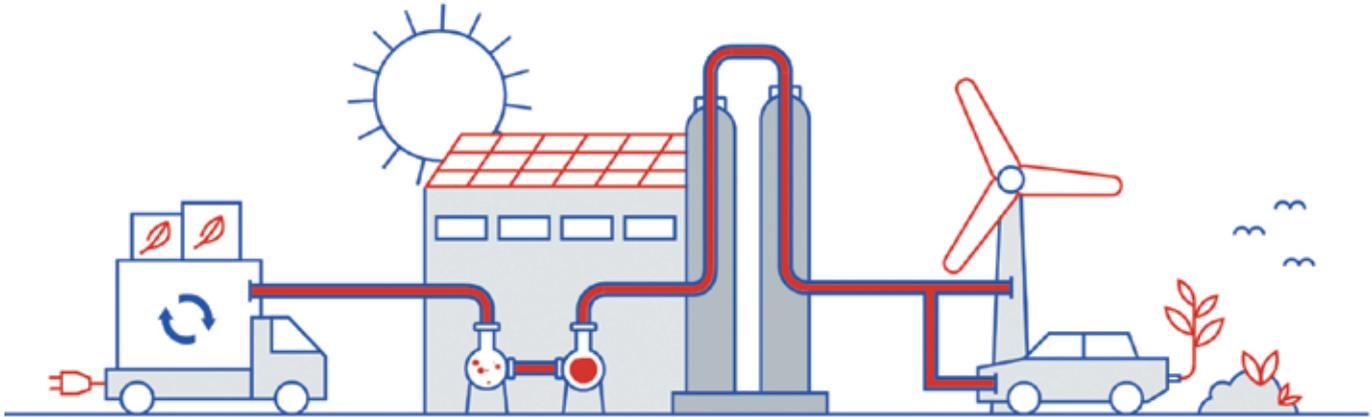


High thermal resistance – enhanced lubricant use, cost reduction



Reduced oil consumption – resource efficiency

CO₂-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 CO₂-neutral*.

We focus on resource conservation and energy savings within our production operations. We compensate for unavoidable CO₂ 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 CO₂ savings are significantly greater than with conventional products.

LUBRICANTS FROM CO₂-NEUTRAL* PRODUCTION

As of January 2020, FUCHS is a CO₂-neutral* company globally and its customers receive lubricants from CO₂-neutral* production worldwide.

FUCHS' CO₂-neutrality* strategy is embedded in its sustainability strategy, which was launched in 2010. In order to implement CO₂-neutrality*, FUCHS offsets its CO₂ 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 CO₂ 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 CO₂-neutral* products to its customers, which requires that FUCHS will in the future be supplied with CO₂-neutral* raw materials by its suppliers.



→ Climate protection projects

Examples for Key Technologies

Industrial oils

RENOLIN XTREMEMP 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 CO₂ 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: HVLPD, ISO 6743-4: HV (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, (CKS), CKT. 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- and high-temperature behavior. 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 Bruggen 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.

RENOLIT PU-LFT 1

The developers at FUCHS SCHMIERSTOFFE GMBH have succeeded in developing a new, **special lubricating grease RENOLIT PU-LFT 1** (polyurea, low friction tripod) for constant velocity joints of passenger cars. Extremely low coefficients of friction in a steel to steel contact and a sufficient endurance/ durability of the grease in the joint, are the main characteristics of RENOLIT PU-LFT 1, which are usually difficult to combine.

Cutting fluids

ECOCOOL AFC 1515

This innovative, boron-free, water-miscible cooling lubricant (KSS) 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 metalworking in the automotive and automotive supplier industry, ECOCOOL AFC 1515 is the product of choice.

ECOCOOL GLOBAL 10

With the cooling lubricant 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 cooling lubricant 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.

ECOCOOL PHH AL

With ECOCOOL PHH AL, FUCHS has developed a **universally deployable cooling lubricant for aerospace applications** that is suitable for all kinds of material groups, is boron-free and fulfills the requirements of REACH and TSCA. Beside the standard market engine materials (titanium, nickel and aluminum alloys), the test also had to be passed for older high-strength steels to be approved for use at Lufthansa Technik.

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 CO₂ 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 ³	Flash point Clev. °C	Kin. visc. at 40 °C mm ² /s	Kin. visc. at 100 °C mm ² /s	VI	Pour-point °C	Main application area
Machine Oils: AR								
RENOLIN AR 22 ■	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 ³	Flash point Clev. °C	Kin. visc. at 40 °C mm ² /s	Kin. visc. at 100 °C mm ² /s	VI	Pour-point °C	Main application area
Demulsifying Circulating, Spindle and Hydraulic Oils: HL / CL								
RENOLIN DTA 2 	<p>Range RENOLIN DTA Hydraulic and lubrication oils based on selected mineral base oils with additives to improve ageing stability and corrosion protection.</p> <p>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.</p> <p>ISO 6743-4: HL, ISO 6743-6 and ISO 12925-1: CKB.</p>	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.
RENOLIN DTA 5 		830	120	4.6	1.6	106	-40	Also suitable for hydrodynamic drives if HL or CL lubrication fluids are required.
RENOLIN DTA 7 		835	155	7.4	2.2	103	-27	VOITH Turbo couplings type T and S.
RENOLIN DTA 10  		849	174	10	2.6	92	-27	Suitable for Landis Lund machine tools, recommended for spindle lubrication (without AW/EP). Demulsifying type
RENOLIN DTA 22 		865	210	22	4.2	94	-27	
RENOLIN DTA 32   		874	222	32	5.4	102	-24	
RENOLIN DTA 46  		874	228	46	6.8	101	-24	
RENOLIN DTA 68 		882	250	68	8.7	99	-18	
RENOLIN DTA 100  		881	248	100	11.2	97	-18	
RENOLIN DTA 150   		889	266	150	15.5	94	-15	
RENOLIN DTA 220 		893	280	220	18.8	95	-12	
RENOLIN DTA 320 		898	280	320	24.0	95	-12	

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

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

Industrial Oils

Product name	Description	Density at 15 °C kg/m ³	Flash point Clev. °C	Kin. visc. at 40 °C mm ² /s	Kin. visc. at 100 °C mm ² /s	VI	Pour-point °C	Main application area
Zinc-containing Hydraulic Oils								
RENOLIN B 3 	Range RENOLIN 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 HLP hydraulic oils acc. to DIN 51524-2. 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.
RENOLIN B 5 		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.
RENOLIN B 10 		876	205	32	5.5	109	-24	Approvals: Denison HF0, HF1, HF2
RENOLIN B 15 		875	210	46	6.9	105	-24	Demulsifying type
RENOLIN B 20 		881	224	68	8.8	100	-24	
RENOLIN B 30 		883	232	100	11.1	96	-18	
RENOLIN B 10 PLUS 	Range RENOLIN B PLUS 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.
RENOLIN B 15 PLUS 		840	195	15	3.5	108	-48	Demulsifying type
RENOLIN B 22 PLUS 		845	220	22	4.4	108	-45	Approvals: Denison HF0, HF1, HF2 Bosch Rexroth RDE 90245
RENOLIN B 32 PLUS 		862	220	32	5.5	108	-39	
RENOLIN B 46 PLUS 		865	230	46	6.9	107	-36	
RENOLIN B 68 PLUS 		867	230	68	9.0	108	-33	
RENOLIN B 100 PLUS 		870	270	100	11.6	104	-33	

RENOLIN

Product name	Description	Density at 15 °C kg/m ³	Flash point Clev. °C	Kin. visc. at 40 °C mm ² /s	Kin. visc. at 100 °C mm ² /s	VI	Pour-point °C	Main application area
Zinc-containing Hydraulic Oils								
RENOLIN B 15 HVI 	Range RENOLIN B HVI 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
RENOLIN B 32 HVI   		871	178	32	6.3	151	-48	
RENOLIN B 46 HVI   		879	186	46	8.1	150	-45	
RENOLIN B 68 HVI   		868	240	68	11.0	153	-36	
RENOLIN B 10 HVI Plus 	Range RENOLIN B HVI Plus 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
RENOLIN B 15 HVI Plus 		844	190	15	3.8	148	-57	
RENOLIN B 22 HVI Plus 		845	210	22	4.9	152	-48	
RENOLIN B 32 HVI Plus  		846	230	32	6.3	151	-42	
RENOLIN B 46 HVI Plus  		856	240	46	8.2	152	-42	
RENOLIN B 68 HVI Plus  		854	260	66,5	10.8	153	-33	
RENOLIN B 100 HVI Plus 		867	260	102	14.0	140	-36	
RENOLIN B 150 HVI Plus 		876	260	151	18.0	132	-33	

Industrial Oils

Product name	Description	Density at 15 °C kg/m ³	Flash point Clev. °C	Kin. visc. at 40 °C mm ² /s	Kin. visc. at 100 °C mm ² /s	VI	Pour-point °C	Main application area	
Zinc-containing Hydraulic Oils									
RENOLIN D 7 PLUS 	Range RENOLIN D Plus 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.	
RENOLIN D 22 PLUS 		854	218	22	4.3	106	-42		
RENOLIN D 32 PLUS 		861	236	32	5.5	108	-39		
RENOLIN D 46 PLUS 		DIN 51524-2: HLP-D ISO 6743-4: HM (with DD-properties)	866	252	46	6.9	106		-36
RENOLIN D 68 PLUS 		869	258	68	9.0	105	-36		
RENOLIN D 22 HVI PLUS 	Range RENOLIN D HVI Plus 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.	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.	
RENOLIN D 32 HVI PLUS 		850	230	32	6.3	150	-42		
RENOLIN D 46 HVI PLUS   		DIN 51524-3: HVLP-D ISO 6743-4: HV (with DD properties)	858	238	46	8.2	150	-42	Hydraulic fluid with good DD-properties
RENOLIN D 68 HVI PLUS 		858	254	68	10.7	145	-39		

RENOLIN

Product name	Description	Density at 15 °C kg/m ³	Flash point Clev. °C	Kin. visc. at 40 °C mm ² /s	Kin. visc. at 100 °C mm ² /s	VI	Pour-point °C	Main application area
Zinc-containing Hydraulic Oils								
RENOLIN XtremeTemp 32   	Range RENOLIN XtremeTemp 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.	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
RENOLIN XtremeTemp 46    	Fulfil and surpass: DIN 51524-3: HVLP ISO 6743-4: HV ISO 11158: HV	853	230	48	9.3	180	-34	
RENOLIN XtremeTemp 32 Plus  	Range RENOLIN XtremeTemp Plus As RENOLIN XtremeTemp, but with additives which help to avoid stick-slip phenomena.	861	216	32	6.9	183	-33	Slightly detergent, HVLP (D) high performance multigrade hydraulic oils for stationary and mobile hydraulic systems surpass HVLDPD acc. 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.
RENOLIN XtremeTemp 46 Plus   	For high-pressure applications; reduce friction especially in mixed friction conditions. DIN 51524-3: HVL(P)D ISO 11158: HV ISO 6743-4: HV	855	234	48	9.3	181	-34	
RENOLIN LIFT 22  	Range RENOLIN LIFT Special detergent type of hydraulic oils for elevators, hydraulic conveyors and fork lifters. Reliably prevents stick-slip, especially at high loads and low speeds.	869	210	22	4.3	100	-30	Fork lifters, elevators, hydraulic transport mechanisms, stationary and mobile hydraulics. Protection against stick-slip.
RENOLIN LIFT 32  	Zinc-containing; fulfil and surpass requirements according to: DIN 51524-2: HLPD ISO 11158: HM ISO 6743-4: HM/HG	877	210	32	5.3	96	-30	
RENOLIN LIFT 46  		881	210	46	6.8	101	-27	

Industrial Oils

Product name	Description	Density at 15 °C kg/m ³	Flash point Clev. °C	Kin. visc. at 40 °C mm ² /s	Kin. visc. at 100 °C mm ² /s	VI	Pour-point °C	Main application area
Zinc-containing Hydraulic Oils								
RENOLIN MR 0 VG 2 	Range RENOLIN MR 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.
RENOLIN MR 1 VG 5 		834	135	4,6	1.7	–	-54	
RENOLIN MR 3 VG 10 		840	170	10	2.7	106	-54	
RENOLIN MR 5 VG 22 		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.
RENOLIN MR 10 VG 32 		866	220	32	5.5	109	-39	
RENOLIN MR 15 VG 46 		868	230	46	7.0	107	-36	High DD performance
RENOLIN MR 20 VG 68 		871	230	68	9.0	107	-33	
RENOLIN MR 30 VG 100 		874	270	100	11.6	104	-33	<u>RENOLIN MR 30, 40:</u> For larger gear boxes. As run-in protection oil and anticorrosion oil. Allows oil changes to be extended.
RENOLIN MR 40 VG 150 		881	280	150	15.1	101	-18	
RENOLIN MR 310 		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
RENOLIN MR 520 	886		154	32	8.0	270	-57	
RENOLIN MR 1030 	873		214	68	11.0	154	-36	

RENOLIN

Product name	Description	Density at 15 °C kg/m ³	Flash point Clev. °C	Kin. visc. at 40 °C mm ² /s	Kin. visc. at 100 °C mm ² /s	VI	Pour-point °C	Main application area
Zinc-containing Hydraulic Oils								
RENOLIN MR 22 MC   	Range RENOLIN MR MC 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. 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. MC base oils = hydrotreated base oils (Group III)
RENOLIN MR 32 MC   		848	230	32	6.3	150	-45	
RENOLIN MR 46 MC    		854	240	46	8.1	150	-42	
RENOLIN MR 68 MC    		856	260	68	10.9	150	-39	
RENOLIN MRX 46 	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.
RENOLIN FF 68 Spindelöl 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 ³	Flash point Clev. °C	Kin. visc. at 40 °C mm ² /s	Kin. visc. at 100 °C mm ² /s	VI	Pour-point °C	Main application area	
Zinc- and Ash-free Hydraulic Oils (ZAF)									
RENOLIN MWB 46 	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 HLPD according to DIN 51524-2 MWB 46: HLPD 46	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 ² , e.g. hydraulic presses in the automotive industry.	
RENOLIN ZAF B 10 HT 	Range RENOLIN ZAF B HT 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.	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 ≥ 30 N/mm ²	
RENOLIN ZAF B 22 HT 		863	210	22	4.4	106	-33		
RENOLIN ZAF B 32 HT 		HLP according to DIN 51524-2 HM acc. to ISO 6743-4 HM acc. to ISO 11158	875	220	32	5.4	96		-33
RENOLIN ZAF B 46 HT 		CLP acc. to DIN 51517-3 CKC acc. to ISO 6743-6 (DBL 6713-13: HLP, Daimler)	876	230	46	6.8	101		-24
RENOLIN ZAF B 68 HT 		882	242	68	8.8	100	-21		
RENOLIN ZAF B 100 HT 		882	240	100	11.3	99	-18		
RENOLIN ZAF D 22 HT 	Range RENOLIN ZAF D HT 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: CLPD 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 ≥ 30 N/mm ²	
RENOLIN ZAF D 32 HT 		870	220	32	5.3	97	-33		
RENOLIN ZAF D 46 HT 		880	230	46	6.8	100	-27		
RENOLIN ZAF D 68 HT 		880	>230	68	8.8	100	-27		

RENOLIN

Product name	Description	Density at 15 °C kg/m ³	Flash point Clev. °C	Kin. visc. at 40 °C mm ² /s	Kin. visc. at 100 °C mm ² /s	VI	Pour-point °C	Main application area
Zinc- and Ash-free Hydraulic Oils (ZAF)								
RENOLIN ZAF D 46 HT PLUS 	Universal zinc- and ash-free hydraulic fluid and lubricating oil, excellent ageing stability and high wear protection. Provides high deterging and dispersing properties. Fulfills 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 based on hydro-treated group II base oils with improved oxidation stability at high thermal stresses, for hydraulic presses. Brugger ≥ 30 N/mm ² Extended lifetime, excellent air release, detergent/dispersant type
RENOLIN ZAF 46 D-White 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. Fulfills 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, "non-discoloration oil" .
RENOLIN ZAF 5 DT 	Range RENOLIN ZAF DT Selected solvent extracts with special additives to improve corrosion protection and wear protection. High load carrying capacity acc. to Brugger. Detergent and dispersant. Fulfill and surpass DIN 51524-2: HLPD (except detergent / dispersant). ISO 11158: HM DIN 51517-3: CLP (detergent / dispersant) ISO 6743-6: CKC	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 ≥ 50 N/mm ²
RENOLIN ZAF 10 DT 		848	154	10	2.7	108	-30	
RENOLIN ZAF 15 DT 		865	190	15	3.3	86	-27	
RENOLIN ZAF 22 DT 		866	198	22	4.4	109	-27	
RENOLIN ZAF 32 DT 		876	210	32	5.4	102	-24	
RENOLIN ZAF 46 DT 		876	218	46	6.8	101	-24	
RENOLIN ZAF 68 DT 		879	224	68	8.9	104	-18	
RENOLIN ZAF 100 DT 		882	220	100	11.3	99	-18	
RENOLIN ZAF 150 DT 		887	222	150	14.6	96	-15	

Industrial Oils

Product name	Description	Density at 15 °C kg/m ³	Flash point Clev. °C	Kin. visc. at 40 °C mm ² /s	Kin. visc. at 100 °C mm ² /s	VI	Pour-point °C	Main application area
Zinc- and Ash-free Hydraulic Oils (ZAF)								
RENOLIN ZAF 32 MC 	Range RENOLIN ZAF MC 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). Fulfil and surpass DIN 51524-2: HLP DIN 51524-3: HVLP ISO 6743-4: HM ISO 6743-4: HV DIN 51517-3: CLP ISO 6743-6: CKC DBL 6713: HLP, HVLP	840	220	32	6.3	149	-45	Shear stable, zinc- and ash-free hydraulic and circulating oils with high viscosity index. Based on MC hydrotreated group III base oils. 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
RENOLIN ZAF 46 MC 		843	238	46	8.0	148	-45	
RENOLIN ZAF 68 MC 		854	238	68	10.6	146	-42	
RENOLIN ZAF 520 	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.
RENOLIN ZAF 15 LT 	Range RENOLIN ZAF LT 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 ² /s - RENOLIN ZAF 32 LT = 4850 mm ² /s
RENOLIN ZAF 32 LT 		869	155	31	8.7	281	<-60	
RENOLIN ZAF 32 XHV 	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 ² /s
RENOLIN HighPress 46 DLC 	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 ²). Fulfils and surpasses the requirements on hydraulic oils acc. to DIN 51524-2: HLPD and ISO 11158: HM together with DIN 51502	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.

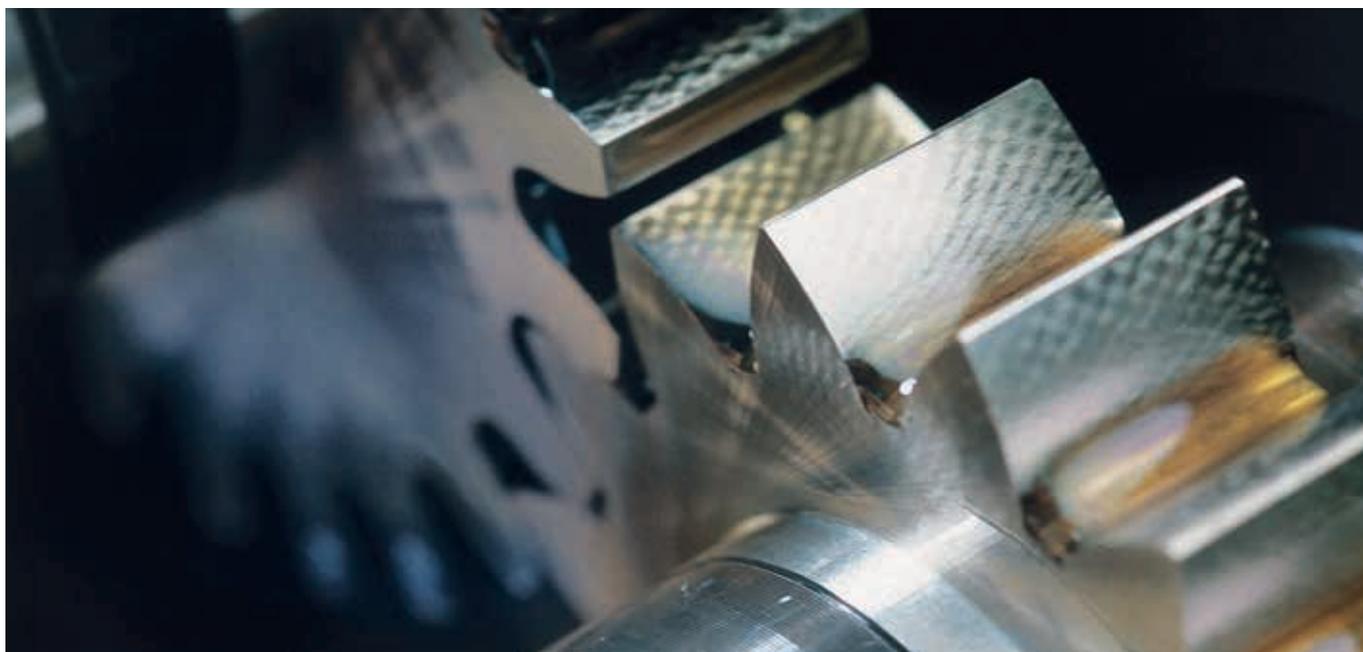
RENOLIN

Product name	Description	Density at 15 °C kg/m ³	Flash point Clev. °C	Kin. visc. at 40 °C mm ² /s	Kin. visc. at 100 °C mm ² /s	VI	Pour-point °C	Main application area
Zinc- and Ash-free Hydraulic Oils (ZAF)								
RENOLIN PG 32 	Range RENOLIN PG 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.
RENOLIN PG 46  		1024	240	46	9.7	203	-48	

Industrial Oils

Product name	Description	Density at 15 °C kg/m ³	Flash point Clev. °C	Kin. visc. at 40 °C mm ² /s	Kin. visc. at 100 °C mm ² /s	VI	Pour-point °C	Main application area
Fire-resistant Hydraulic Fluids								
HYDROTHERM 46 M 	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.
HYDROTHERM 42 HFC 	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.
RENOSAFE DU 46 	Water-free fire-resistant fluid based on special esters. Voith-Turbo Approval, HFDU acc. to ISO 12922	922	>280	48	9.7	188	-36	Fire-resistant hydraulic fluid based on special organic esters - HFDU. Optimized for turbo couplings. Compatible with mineral oils. Compatibility with sealings, tubes and paintings has to be checked.
RENOSAFE TURBO 46 HF 	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.
RENOSAFE FireProtect 46 	Range RENOSAFE FireProtect Water-free, fire-resistant hydraulic fluids based on latest ester and additive technology, type HFDU. 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 HFDU oils acc. to ISO 12922.	920	316	50	10.1	195	-48	For the use as fire-resistant hydraulic oils based on organic esters. Type HFDU 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 life-time, excellent yellow metal compatibility.
RENOSAFE FireProtect 68 		932	316	70	12.9	187	-45	

RENOLIN



Product name	Description	Density at 15 °C kg/m ³	Flash point Clev. °C	Kin. visc. at 40 °C mm ² /s	Kin. visc. at 100 °C mm ² /s	VI	Pour-point °C	Main application area
Gear and Circulating Oils								
RENOLIN CLP 68 📁 📦	Range RENOLIN CLP 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. Mineral oil based Demulsifying
RENOLIN CLP 100 📁 📦 🚚		885	>230	100	11.3	99	-24	
RENOLIN CLP 150 📁 📦 📦 🚚		889	>230	150	14.5	96	-24	
RENOLIN CLP 220 📁 📦 📦 🚚		892	>240	220	18.9	96	-18	
RENOLIN CLP 320 📁 📦 🚚		897	>240	320	24.0	95	-12	
RENOLIN CLP 460 📁 📦 📦 🚚		901	>240	460	30.4	95	-12	
RENOLIN CLP 680 📁 📦		902	>240	680	40.0	97	-12	

Industrial Oils

Product name	Description	Density at 15 °C kg/m ³	Flash point Clev. °C	Kin. visc. at 40 °C mm ² /s	Kin. visc. at 100 °C mm ² /s	VI	Pour-point °C	Main application area
Gear and Circulating Oils								
RENOLIN CLP 46 PLUS 	Range RENOLIN CLP PLUS 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.
RENOLIN CLP 68 PLUS  		884	236	68	8.7	100	-27	
RENOLIN CLP 100 PLUS  		887	240	100	11.2	97	-24	
RENOLIN CLP 150 PLUS 		892	250	150	14.8	97	-24	
RENOLIN CLP 220 PLUS     		895	260	220	18.9	96	-24	
RENOLIN CLP 320 PLUS  		898	255	320	24.0	95	-18	
RENOLIN CLP 460 PLUS 		902	270	460	30.2	94	-14	
RENOLIN CLP 680 PLUS  		902	270	680	39.6	95	-17	
RENOLIN AWD 68 	Range RENOLIN AWD 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. Bruggler value (typical: >75 N/mm ²), 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. Mineral oil based
RENOLIN AWD 100 		886	222	100	11.2	97	-24	
RENOLIN AWD 150    		894	208	150	14.6	96	-12	
RENOLIN AWD 220 		896	210	220	18.7	95	-12	

RENOLIN

Product name	Description	Density at 15 °C kg/m ³	Flash point Clev. °C	Kin. visc. at 40 °C mm ² /s	Kin. visc. at 100 °C mm ² /s	VI	Pour-point °C	Main application area
Fully Synthetic Gear and Circulating Oils								
RENOLIN PG 32* 	<p>Range RENOLIN PG 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.</p> <p>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.</p> <p>*RENOLIN PG 32 and RENOLIN PG 46 are hydraulic oils HEPG acc. to ISO 15380.</p>	1022	220	32	7.1	194	-51	<p>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.</p> <p>Change-over guidelines must be observed.</p> <p>Based on water-soluble Polyglycol</p>
RENOLIN PG 46*  		1024	240	46	9.7	203	-48	
RENOLIN PG 68 		1035	240	68	13.8	212	-48	
RENOLIN PG 100  		1043	260	100	19.6	220	-48	
RENOLIN PG 150 		1051	260	145	27.0	224	-48	
RENOLIN PG 220    		1075	240	220	36.8	220	-33	
RENOLIN PG 320   		1075	240	320	54.4	237	-33	
RENOLIN PG 460    		1075	280	460	75.1	245	-33	
RENOLIN PG 680 		1075	280	680	110.3	261	-33	
RENOLIN PG 1000 		1075	280	1000	162.0	281	-33	
RENOLIN PG 1500 	1078	280	1500	240.0	300	-18		

Industrial Oils

Product name	Description	Density at 15 °C kg/m ³	Flash point Clev. °C	Kin. visc. at 40 °C mm ² /s	Kin. visc. at 100 °C mm ² /s	VI	Pour-point °C	Main application area
Fully Synthetic Gear and Circulating Oils								
RENOLIN UNISYN XT 68  	Range RENOLIN UNISYN XT 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.
RENOLIN UNISYN XT 100  		850	238	100	15.3	162	-48	
RENOLIN UNISYN XT 150   		850	238	150	21.4	168	-45	ISO VG 220 and 320 for wind turbine applications.
RENOLIN UNISYN XT 220    		860	242	220	29.4	174	-42	Approved by leading gear box manufacturers. Based on mPAO
RENOLIN UNISYN XT 320   		860	242	320	40.2	179	-42	
RENOLIN UNISYN XT 460  		860	242	460	54.5	188	-39	
RENOLIN UNISYN XT 680  		860	244	680	75.5	192	-39	
RENOLIN UNISYN XT 1000 		860	244	1000	101.0	195	-33	

RENOLIN

Product name	Description	Density at 15 °C kg/m ³	Flash point Clev. °C	Kin. visc. at 40 °C mm ² /s	Kin. visc. at 100 °C mm ² /s	VI	Pour-point °C	Main application area	
Gear and Circulation Oils									
RENOLIN CLPF 100 SUPER 	Range RENOLIN CLPF SUPER with MoS₂ EP industrial gear oils containing MoS ₂ (molybdenum disulphide) with synergistically active EP / AW additives and physically active anti-wear layers (MoS ₂). The MoS ₂ components guarantee excellent lubricity at low temperature over a wide range of working conditions. The MoS ₂ as solid lubricant ensures reliable wear protection even under shock loads and unfavourable operating conditions. The MoS ₂ 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	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.	
RENOLIN CLPF 220 SUPER  		896	260	220	18.8	95	-21		
RENOLIN CLPF 320 SUPER 		897	255	320	24.0	95	-14		Mineral oil based
RENOLIN CLPF 460 SUPER 		902	270	460	30.4	95	-12		
RENOLIN CLPF 680 SUPER 		918	270	680	36.8	88	-10		
RENOLIN CLPF 1500 SUPER 		928	240	1500	70.5	104	-12		
RENOLIN HighGear 150 	Range RENOLIN HighGear 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.	
RENOLIN HighGear 220 		899	>210	220	19.0	97	-18		
RENOLIN HighGear 320 		904	>210	320	24.3	97	-12		Mineral oil based
RENOLIN HighGear 460  		909	>210	460	30.8	97	-9		
RENOLIN HighGear 680 		907	>210	680	41.5	101	-9		

Industrial Oils

Product name	Description	Density at 15 °C kg/m ³	Flash point Clev. °C	Kin. visc. at 40 °C mm ² /s	Kin. visc. at 100 °C mm ² /s	VI	Pour-point °C	Main application area
Special Gear and Circulating Oils								
RENOLIN HighGear Synth 150 	Range RENOLIN HighGear Synth 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.	871	220	150	18.0	133	-36	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. Based on PAO
RENOLIN HighGear Synth 220 		873	220	220	23.6	133	-33	
RENOLIN HighGear Synth 320 		876	220	320	31.2	135	-34	
RENOLIN MORGEAR 100 		Range RENOLIN MORGEAR High-performance circulating oils based on mineral oil, for the lubrication of MORGOIL 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	
RENOLIN MORGEAR 220 Packages on request	895	255	226	19.2	96	-10		
RENOLIN MORGEAR 460  	904	>270	470	31.1	96	-9		
RENOLIN MORGEAR 680  	915	252	682	39.2	95	-7		
RENOLIN CLP 150 VCI 	Range RENOLIN CLP VCI 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). Mineral oil based
RENOLIN CLP 220 VCI 		898	254	220	19.0	97	-24	
RENOLIN CLP 320 VCI 		900	254	320	23.0	92	-14	
RENOLIN CLP 460 VCI  		908	246	460	30.4	95	-12	

RENOLIN

Product name	Description	Density at 15 °C kg/m ³	Flash point Clev. °C	Kin. visc. at 40 °C mm ² /s	Kin. visc. at 100 °C mm ² /s	VI	Pour-point °C	Main application area
Special Gear and Circulating Oils								
RENOLIN UNISYN GEAR 220 VCI  *Further ISO VG grades available on request.	RENOLIN UNISYN GEAR 220 VCI* 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). Based on PAO
RENOFLUID TF 1500  	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. Mineral oil based
Special Corrosion Protection Concentrate								
RENOLIN VCI BOOST  (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%

Industrial Oils



Product name	Description	Density at 15 °C kg/m ³	Flash point Clev. °C	Kin. visc. at 40 °C mm ² /s	Kin. visc. at 100 °C mm ² /s	VI	Pour-point °C	Main application area
Slideway Oils								
RENEP CGLP 68 	Range RENE CGLP 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. RENEP CGLP 68: CGLP 68 RENEP CGLP 150: CGLP 150 RENEP CGLP 220: CGLP 220	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 ECOCOL cutting fluids. Proven good compatibility with many water-miscible cutting fluids. Approved by leading machine tool manufacturers.
RENEP CGLP 150 		892	230	150	14.6	96	-12	
RENEP CGLP 220 		895	240	220	19.0	96	-15	
RENEP 2 K 	Range RENE K Slideway oils with special additives to reduce stick-slip especially for machine tools. Good detergency. Emulsifying. Detergent/dispersant type RENEP 2 K: CGLP 68 RENEP 4 K: CGLP 100 RENEP 5 K: CGLP 220	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.
RENEP 4 K 		885	240	100	11.8	107	-24	
RENEP 5 K 		900	248	220	19.9	104	-12	
								Mineral oil based
								Mineral oil based

RENEP

Product name	Description	Density at 15 °C kg/m ³	Flash point Clev. °C	Kin. visc. at 40 °C mm ² /s	Kin. visc. at 100 °C mm ² /s	VI	Pour-point °C	Main application area
Slideway Oils								
RENEP KN 68  	Range RENEK KN 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. RENEP KN 68: CGLP 68 RENEP 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 tackyfier. Approved by leading machine tool manufacturers. Heller-Approval Especially suitable for the use with ECOCOL cutting fluids. Mineral oil based
RENEP KN 220  		895	238	220	19.5	100	-17	

Industrial Oils



Product name	Description	Density at 15 °C kg/m ³	Flash point Clev. °C	Kin. visc. at 40 °C mm ² /s	Kin. visc. at 100 °C mm ² /s	VI	Pour-point °C	Main application area
Paper Machine Oils								
RENOLIN PA 150 ■ ■ ■	Range RENOLIN PA 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. Mineral oil based
RENOLIN PA 220 ■		886	>230	220	19.3	99	-18	
RENOLIN NF PRESS 100 ■ ■ ■	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. Mineral oil based

RENOLIN

Product name	Description	Density at 15 °C kg/m ³	Flash point Clev. °C	Kin. visc. at 40 °C mm ² /s	Kin. visc. at 100 °C mm ² /s	VI	Pour-point °C	Main application area
Paper Machine Oils								
RENOLIN UNISYN CLP 150 PA 	Range RENOLIN UNISYN CLP PA 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.
RENOLIN UNISYN CLP 220 PA  		859	230	220	26.5	154	-36	
RENOLIN UNISYN CLP 320 PA 		864	>240	320	34.2	151	-32	Based on PAO
RENOLIN UNISYN CLP 460 PA 		866	>240	460	46.0	156	-27	
RENOLIN SynGear 220 HT 	Fully-synthetic high-temperature EP industrial gear oil and calendar 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 calendars 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. Based on PAG (Polyglycol)

Industrial Oils



Product name	Description	Density at 15 °C kg/m ³	Flash point Clev. °C	Kin. visc. at 40 °C mm ² /s	Kin. visc. at 100 °C mm ² /s	VI	Pour-point °C	Main application area
Turbine Oils								
RENOLIN ETERNA 32 	Range RENOLIN ETERNA 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.
RENOLIN ETERNA 46 		846	220	46	7.6	132	-15	Surpass TDP and TGP according to DIN 51515-1 and DIN 51515-2.
RENOLIN ETERNA 68 		851	230	68	9.5	120	-15	AW/EP turbine oils: FZG≥10. Approved by many well-known OEM
RENOLIN ETERNA 32 SGV 	Range RENOLIN ETERNA SGV 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.
RENOLIN ETERNA 46 SGV 		846	220	46	7.6	132	-15	Approved by many well-known OEM
RENOLIN ETERNA Clean 46 Packages on request	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.

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Product name	Description	Density at 15 °C kg/m ³	Flash point Clev. °C	Kin. visc. at 40 °C mm ² /s	Kin. visc. at 100 °C mm ² /s	VI	Pour-point °C	Main application area
Oils for Transformers								
RENOLIN E 10 ☐ 🚛	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. Fulfils 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).
RENOLIN ELTEC ☐ 🚛	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).
RENOLIN E 3 ☐	Inhibited switchgear oil based on naphthenic base oils. Especially for the use in outdoor units. Fulfils 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/m ³	Flash point Clev. °C	Kin. visc. at 40 °C mm ² /s	Kin. visc. at 100 °C mm ² /s	VI	Pour-point °C	Main application area
Screw Compressor Oils								
RENOLIN SilverScrew 32 📁	Range RENOLIN SilverScrew High-tech air compressor fluids with high oxidative and thermal stability, which allows oil lifetimes of up to 6000h.	863	235	32	5.5	108	-38	Universal air compressor fluids for oil injected screw, vane and piston compressors.
RENOLIN SilverScrew 46 📁 (10 L, 20 L) 📦	Surpasses the requirements of DIN 51506:VDL. Corresponds to ISO 6743-3-DAJ. Corresponds to several OEM Requirements.	868	244	46	6.9	105	-36	
RENOLIN SilverScrew 68 📁 📦		870	255	68	9.0	106	-40	
RENOLIN GoldScrew 46 📁 (10 L) 📦	Range RENOLIN GoldScrew Outstanding high-tech air compressor fluids with excellent oxidative and thermal stability, which allows oil lifetimes of up to 9000h.	855	260	46	7.6	131	-39	Universal air compressor fluids for oil injected screw, vane and piston compressors.
RENOLIN GoldScrew 68 📁	Surpasses the requirements of DIN 51506:VDL. Corresponds to ISO 6743-3-DAJ. Corresponds to several OEM Requirements.	871	278	68	9.4	117	-33	

RENOLIN

Product name	Description	Density at 15 °C kg/m ³	Flash point Clev. °C	Kin. visc. at 40 °C mm ² /s	Kin. visc. at 100 °C mm ² /s	VI	Pour-point °C	Main application area
Screw Compressor Oils								
RENOLIN UNISYN OL 32 	Range RENOLIN UNISYN OL 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. Based on PAO
RENOLIN UNISYN OL 46   		841	260	46	7.9	141	<-60	
RENOLIN UNISYN OL 68   		845	260	68	10.6	146	-54	
RENOLIN UNISYN OL 100   		848	260	100	14.4	149	-54	
RENOLIN UNISYN OL 150 		852	250	150	19.6	150	-47	
RENOLIN SynAir 46  (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%. Based on PG + Ester
Piston and Rotary Vane Compressor Oils								
RENOLIN 503 	Range RENOLIN 500 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.
RENOLIN 504 		890	280	100	10.7	90	-21	
RENOLIN 505   		883	275	150	15.0	100	-15	
RENOLIN 506 		893	280	230	18.7	90	-12	
RENOLIN VAC 100 F 		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	

Industrial Oils

Product name	Description	Density at 15 °C kg/m ³	Flash point Clev. °C	Kin. visc. at 40 °C mm ² /s	Kin. visc. at 100 °C mm ² /s	VI	Pour-point °C	Main application area
Piston and Rotary Vane Compressor Oils								
RENOLIN SE 100 	Fully-synthetic air compressor oil based on advanced synthetic ester technology. Fulfils the requirements according to VDL DIN 51506	971	268	100	11.1	97	-36	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. Based on Di-Ester
Further ISO VG classes on request								
Gas Compressor Oils								
RENOLIN LPG 100 	Range RENOLIN LPG 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. Based on polyglycol
RENOLIN LPG 185 		1012	280	185	29.0	197	-36	

RENOLIN, RENISO



Product name	Description	Density at 15 °C kg/m ³	Flash point Clev. °C	Kin. visc. at 40 °C mm ² /s	Kin. visc. at 100 °C mm ² /s	VI	Pour-point °C	Main application area
Refrigeration Oils								
RENISO WF 2,3 A ☞	Range RENISO WF 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	

Industrial Oils

Product name	Description	Density at 15 °C kg/m ³	Flash point Clev. °C	Kin. visc. at 40 °C mm ² /s	Kin. visc. at 100 °C mm ² /s	VI	Pour-point °C	Main application area
Refrigeration Oils								
RENISO KM 32 📦 (20 x 1 L) 📦 📦	Range RENISO K Highly refined, naphthenic mineral oils with high ageing stability, low pourpoint, excellent low-temperature behaviour and particularly good compatibility with the following refrigerants: ammonia (NH ₃), HCFCs (e.g. R22), hydrocarbons (e.g. propane R290, propylene R1270). DIN 51503: KAA, KC, KE.	881	202	32	4.9	–	-45	For all refrigeration systems using ammonia (NH ₃) 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.
RENISO KS 46 📦 📦 📦		894	204	46	5.8	–	-42	
RENISO KC 68 📦 📦		894	223	68	7.4	–	-39	
RENISO KES 100 📦		912	218	100	8.4	–	-33	
RENISO SP 32 📦	Range RENISO S/SP Fully synthetic refrigeration oils based on chemically and thermally stable alkyl benzenes. RENISO SP 32, 46, 100 and 220 contain highly effective AW additives (not suitable for NH₃ applications). Excellent miscibility and excellent stability with HCFC refrigerants (e.g. R22). DIN 51503: KC, KE .	870	186	32	4.6	–	-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.
RENISO SP 46 📦 (4 x 5 L) 📦		869	190	46	5.3	–	-39	
RENISO SP 100 📦		869	208	95	8.0	–	-33	
RENISO S 3246 📦	RENISO S 3246 and RENISO S 68 do not contain AW additives and are suitable for use with HCFC refrigerants, hydrocarbons and NH ₃ . DIN 51503: KAA, KC, KE.	876	184	40	5.0	–	-42	RENISO S 3246 and RENISO S68 – suitable for R22, hydrocarbons as well as NH ₃ applications.
RENISO S 68 📦 📦		871	192	68	6.6	–	-36	

RENISO

Product name	Description	Density at 15 °C kg/m ³	Flash point Clev. °C	Kin. visc. at 40 °C mm ² /s	Kin. visc. at 100 °C mm ² /s	VI	Pour-point °C	Main application area
Refrigeration Oils								
RENISO TRITON SEZ 22  (20 x 1 L)  (4 x 5 L)	Range RENISO TRITON SE/SEZ Fully synthetic refrigeration oils based on synthetic polyolesters - 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. Based on polyolester
RENISO TRITON SEZ 32  (20 x 1 L)  (4 x 5 L)  (3 x 10 L) 		1004	250	32	6.1	141	-57	
RENISO TRITON SE 55  (20 x 1 L)  (4 x 5 L)  (3 x 10 L) 		1009	286	55	8.8	140	-48	
RENISO TRITON SEZ 68  (20 x 1 L)  (4 x 5 L)  (3 x 10 L) 		972	258	68	8.9	104	-39	
RENISO TRITON SEZ 80  (20 x 1 L)		992	251	80	10.6	118	-39	
RENISO TRITON SEZ 100  (4 x 5 L) 		970	266	100	11.4	100	-30	
RENISO TRITON SE 170  (20 x 1 L)  (4 x 5 L)  (3 x 10 L) 		972	260	173	17.6	111	-27	
RENISO TRITON SE 220  (4 x 5 L) 		976	294	220	19.0	98	-27	
RENISO TRITON SEZ 35 SC  (4 x 5 L)		For HFC/FC refrigerants. Specially developed for scroll compressors. DIN 51503: KD.	1015	256	34	6.3	138	

Industrial Oils

Product name	Description	Density at 15 °C kg/m ³	Flash point Clev. °C	Kin. visc. at 40 °C mm ² /s	Kin. visc. at 100 °C mm ² /s	VI	Pour-point °C	Main application area
Refrigeration Oils								
RENISO LPG 68 Packages on request	Synthetic refrigeration oil based on polyalkylene glycols (PAG). For hydrocarbon refrigerants. Controlled hydrocarbon solvency for less viscosity reduction. DIN 51503 - KE	993	270	68	12.4	186	-45	Synthetic refrigeration oil based on polyalkylene glycols (PAG) for piston compressors. Especially suitable for hydrocarbon refrigerants. Based on polyglycol
RENISO SYNTH 68  	Synthetic refrigeration oil based on polyalphaolefins (PAO). For NH ₃ applications and hydrocarbon refrigerants. Also suitable for CO ₂ (not miscible with CO ₂). 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 ₃ compressors. Excellent stability with NH ₃ . 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 ₂ applications (not miscible with CO ₂). Based on PAO
RENISO UltraCool 68  	Refrigeration oil based on synthetic hydrocarbons. 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	
RENISO PG 68  (4 x 5 L)  	Fully synthetic refrigeration oil based on polyalkylene glycols (PAG), miscibility gap 10% oil / 90% NH ₃ : -35 °C. NH ₃ – 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 ₃ 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. Warning: PAG oils are not compatible / miscible with mineral oil. PAG oils are hygroscopic. Avoid any contamination with water. Please contact our FUCHS application engineers. Based on polyglycol
RENISO PAG 46  (24 x 250 ml)  (20 x 1 L)   (on request)	Synthetic refrigeration oils based on special polyalkylene glycols (PAG) 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. Based on polyglycol
RENISO PAG 100  (24 x 250 ml)  (20 x 1 L)  (on request)		996	240	120	21.0	202	-45	

RENISO

Product name	Description	Density at 15 °C kg/m ³	Flash point Clev. °C	Kin. visc. at 40 °C mm ² /s	Kin. visc. at 100 °C mm ² /s	VI	Pour-point °C	Main application area
Refrigeration Oils								
RENISO PAG 1234 ■ (24 x 250 ml)	Synthetic refrigeration oil on the basis of double end-capped polyalkylene glycols (PAG). 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. Based on polyglycol
RENISO PAG 220 C "Ultra dry" ■ (on request)	Synthetic refrigeration oil based on special, double-end capped PAGs for transcritical CO ₂ 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 ₂ applications (CO ₂ non-miscible oil) Based on polyglycol
RENISO ACC 68 ■ (4 x 5 L)	Synthetic refrigeration oil based on special, double end-capped PAGs for transcritical CO ₂ applications (industrial and commercial applications). DIN 51503: KB.	992	>220	68	14.1	215	-42	Refrigeration oil based on thermally very stable, double end-capped PAGs for industrial transcritical CO ₂ applications (particularly for air conditioning and heat pump applications). Contains special additives to improve wear protection and ageing stability. Based on polyglycol
RENISO ACC HV ■ (24 x 250 ml) ■	Synthetic refrigeration oil based on special, double end-capped PAGs for transcritical CO ₂ application. Especially developed for automotive A/C systems. DIN 51503: KB.	991	229	65	13.5	216	-45	RENISO ACC HV was developed in close collaboration with leading compressor manufacturers and OEMs specific for CO ₂ air conditioning systems in vehicles. RENISO ACC HV is based on chemical and thermal extremely stable double end-capped PAG fluids with efficient additivation – especially with regard to wear protection. Based on polyglycol

Industrial Oils

Product name	Description	Density at 15 °C kg/m ³	Flash point Clev. °C	Kin. visc. at 40 °C mm ² /s	Kin. visc. at 100 °C mm ² /s	VI	Pour-point °C	Main application area
Refrigeration Oils								
RENISO C 55 E  (20 x 1 L)  (4 x 5 L)  (on request)	Range RENISO C Synthetic refrigeration oils based on special polyol-esters with anti-wear additives for use with the refrigerant CO ₂ (subcritical and transcritical applications). Also suitable for HFC / FC refrigerants. DIN 51503: KB, KD.	1009	286	55	8.8	137	-48	The RENISO C products were especially developed for use in applications with the refrigerant CO ₂ . Application fields: supermarket refrigeration equipment (subcritical deep-freeze stage of cascade systems and transcritical applications), ship cooling, as well as nearly all fields of industrial and commercial refrigeration. Based on polyolester
RENISO C 85 E  (20 x 1 L)  (3 x 10 L) 		993	246	80	10.6	118	-42	
RENISO C 170 E  (20 x 1 L)  (3 x 10 L) 		976	286	172	18.0	116	-33	

RENISO, PLANTO



Product name	Description	Density at 15 °C kg/m ³	Flash point Clev. °C	Kin. visc. at 40 °C mm ² /s	Kin. visc. at 100 °C mm ² /s	VI	Pour-point °C	Main application area
Environmentally Friendly Industrial and Hydraulic Oils								
PLANTOHYD 15 S* 	Range PLANTOHYD S 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.
PLANTOHYD 22 S*   		901	200	22	5.4	198	-33	
PLANTOHYD 32 S*   		910	206	32	7.1	194	-36	
PLANTOHYD 46 S*  		920	300	46	9.2	187	-45	
PLANTOHYD 68 S*  		924	300	68	12.3	181	-36	



Industrial Oils

Product name	Description	Density at 15 °C kg/m ³	Flash point Clev. °C	Kin. visc. at 40 °C mm ² /s	Kin. visc. at 100 °C mm ² /s	VI	Pour-point °C	Main application area
Environmentally Friendly Industrial and Hydraulic Oils								
PLANTOSYN 32 HVI* 	Range PLANTOSYN HVI Environmentally friendly hydraulic and circulating oils based on synthetic saturated esters. Rapidly biodegradable acc. to OECD 301 B > 60%. High wear protection, good seal and non-ferrous metal compatibility, excellent oxidation stability.	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
PLANTOSYN 46 HVI* 	Fulfils 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).	913	280	46	8.2	150	-36	
PLANTOSYN 68 HVI* 		916	280	68	10.6	143	-30	
PLANTOSYN 3268 ECO* 	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. Fulfils 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.
PLANTOSYN 3268* 	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
PLANTOLUBE POLAR 15 S 	Range PLANTOLUBE POLAR S 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.
PLANTOLUBE POLAR 22 S 		908	166	22	5.7	200	<-51	

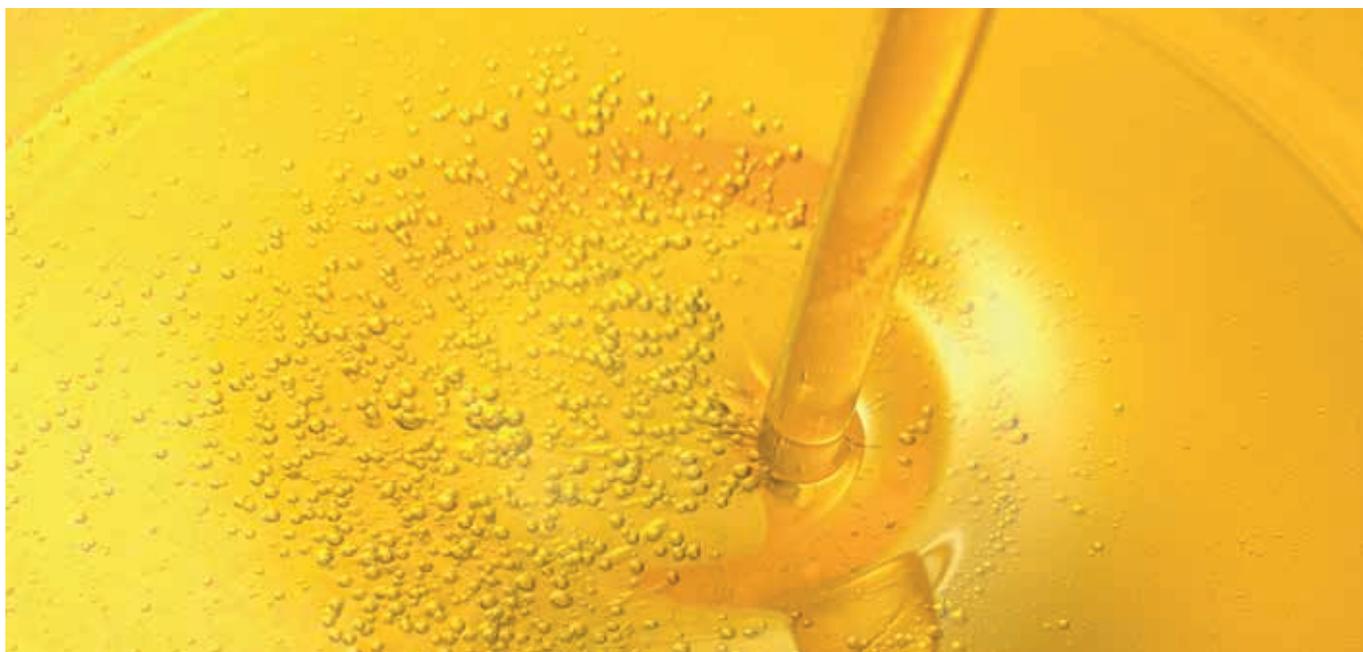
PLANTO

Product name	Description	Density at 15 °C kg/m ³	Flash point Clev. °C	Kin. visc. at 40 °C mm ² /s	Kin. visc. at 100 °C mm ² /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	

Industrial Oils

Product name	Description	Density at 15 °C kg/m ³	Flash point Clev. °C	Kin. visc. at 40 °C mm ² /s	Kin. visc. at 100 °C mm ² /s	VI	Pour-point °C	Main application area
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.
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.
PLANTO SCHALUNGSÖL N* 	Mould release oil based on vegetable oil. Rapidly biodegradable. With additives to increase ageing stability. Awarded the EU Ecolabel (EEL).	902	190	12	–	–	-15	Primarily used for steel shutterings in the concrete and plastics industry. Flattening the cement surface. Special attention must be paid to compatibility with paintings and elastomers.

PLANTO, RENOLIN



Product name	Description	Density at 15 °C kg/m ³	Flash point Clev. °C	Kin. visc. at 40 °C mm ² /s	Kin. visc. at 100 °C mm ² /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.

Industrial Oils

Product name	Description	Density at 15 °C kg/m ³	Flash point Clev. °C	Kin. visc. at 40 °C mm ² /s	Kin. visc. at 100 °C mm ² /s	VI	Pour-point °C	Main application area
Heat Transfer Oils								
RENOLIN THERM 250 	Range RENOLIN THERM 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)
RENOLIN THERM 320 		870	225	43.7	6.5	–	-12	Application range: -10 °C to 320 °C (film temperature)
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) Based on synthetic oils
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) Based on synthetic oils
Special Sealing Oils for Gasometers								
RENOLIN GAS 68  	Range RENOLIN GAS 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 Packages on request	Mineraloils with anti-wear and anti-corrosion additives as well as special detergent/dispersant additives 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 Bohrhammeröl DL 68 		891	212	85.1	10.0	96	-15	
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. Based on polyglycol

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

** Density at 20 °C

RENOLIN

Product name	Description	Density at 15 °C kg/m ³	Flash point Clev. °C	Kin. visc. at 40 °C mm ² /s	Kin. visc. at 100 °C mm ² /s	VI	Pour-point °C	Main application area
Test Oils								
Reference Oil IRM 901 	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.
Reference Oil IRM 902  (1 x 5 L)		935	243	441	18.8	–	–	
Reference Oil IRM 903  (1 x 5 L)		920	171	29.5	4.3	–	-33	
RENOLIN FST 101  (20 x 1 L)	Leakage test oil concentrate	990	>100	>40	–	–	-33	Fluorescent leak detection concentrate for lubricating and hydraulic oils.
PRÜFFARBSTOFF blau  (14 x 1 L)	Leakage test oil concentrate	990	–	–	–	–	–	Blue dye for leak detection in hydraulic and lubricating oils.
RENOLIN ANTI-STICK-SLIP  (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%

GREASES

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 weatherproof, particularly pressure-resistant or capable of creep, rapidly biodegradable or particularly adhesive greases.

With the RENOLIT and PLANTO lubricating greases 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.



Greases

Multipurpose / Longlife Greases	58-61
Greases for Plain and Roller Bearings	62-69
Greases for Gear Boxes	70-71
Rapidly Biodegradable Greases	72-73
Greases for Machine Tools	74-75
Greases for Rail Vehicles	76-77
Greases for Extreme High Temperatures	78-80
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Greases for Central Lubricating Systems	82-83
Greases with Solid Lubricants	84-85
Perfluorinated Pastes	86-87
Greases in Spray Cans or Rattle Cans	88-89
Assembly Pastes	90-91
Greases for Special Applications	92-93

Greases



Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubricants	NLGI grade	Base oil viscosity at 40 °C [mm ² /s]	Temperature range [°C]	Approvals, recommendations	Main application area
Multipurpose / Longlife Greases								
PLANTOGEL ECO 2 S	–	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), Drum							
PLANTOGEL ECO 2 FS	ISO-L-XD(F)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), Drum							
PLANTOGEL ECO 402 S	ISO-L-XD(F)CEB 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 viscosi- ty at 40 °C [mm ² /s]	Tem- pera- ture range [°C]	Approvals, re- commendations	Main application area
Multipurpose / Longlife Greases								
RENOLIT CA-LZ (Spray can: RENOLIT CA-LZ SPRAY)	KP2K-30 ISO-L- XCCHB2	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 (Hobbock), Drum							
RENOLIT LX 1	–	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), Drum							
RENOLIT LX 2	–	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), Drum							
RENOLIT LX 3	–	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), Drum							
RENOLIT FEP 2	KP2N-20 ISO-L- XBDEB 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), Drum							
RENOLIT FEP 25	KP2-3N-20 ISO-L- XBDEB 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)							
RENOLIT FLM 2	KPF2N-30 ISO-L- XCDEB 2	Lithium Mineral oil	•	2	100	-30 / +140	MAN 285 LI-PF 2	For mechanically loaded lubricating points, grease with MoS ₂ , 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), 3 x 5 KG (Bucket), 18 kg (Bucket), 50 kg (Hobbock), Drum, BULK							

Greases

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil viscosi- ty at 40 °C [mm ² /s]	Tem- pera- ture range [°C]	Approvals, re- commendations	Main application area
Multipurpose / Longlife Greases								
RENOLIT GP 1	K1K-30 ISO-L- XCCEA 1	Lithium Mineral oil	–	1	110	-30 / +120	–	Ageing resistant multipurpose grease 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- XCCEA 2	Lithium Mineral oil	–	2	110	-30 / +120	–	Ageing resistant multipurpose grease with good corrosion protection properties for lubrication of plain and roller bearings, easily pumpable in central lubricating systems.
   	12 x 0,4 kg (Cartridge), 18 kg (Bucket), 50 kg (Hobcock), Drum							
RENOLIT GP 3	K3K-30 ISO-L- XCCEA 3	Lithium Mineral oil	–	3	110	-30 / +120	–	Ageing resistant multipurpose grease with good corrosion protection properties for lubrication of plain and roller bearings, easily pumpable in central lubricating systems.
   	12 x 0,4 kg (Cartridge), 18 kg (Bucket), 50 kg (Hobcock), Drum							
RENOLIT LX-PEP 2	KP2N-30 ISO-L- XCDEB 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)							
RENOLIT LX-PEP 3	KP3N-30 ISO-L- XCDEB 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.
 	18 kg (Bucket), Drum							
RENOLIT MP	KP2K-40 ISO-L- XDCEB 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), Drum							

RENOLIT

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil viscosi- ty at 40 °C [mm ² /s]	Tem- pera- ture range [°C]	Approvals, re- commendations	Main application area
Multipurpose / Longlife Greases								
RENOLIT MP PLUS	KP2K-30 ISO-L- XCCEB 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)							
RENOLIT MP 150	KP2K-40 ISO-L- XDCEB 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 (Hobcock), Drum							
RENOLIT MP 735	KP2K-40 ISO-L- XDCEB 2	Lithium Mineral oil	–	2	105	-40 / +120	VW TL 735 MAN 283 Li-P 2 Stabilus 100 15883	Multipurpose grease
   	10 x 1 L (Bottle), 18 kg (Bucket), 50 kg (Hobcock), Drum							

Greases



Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubricants	NLGI grade	Base oil viscosity at 40 °C [mm ² /s]	Temperature range [°C]	Approvals, recommendations	Main application area
Greases for Plain and Roller Bearings								
PLANTOGEL ECO 2 S	–	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), Drum							
PLANTOGEL ECO 2 FS	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), Drum							
PLANTOGEL ECO 402 S	ISO-L-XD(F)CEB 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)							

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Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil viscosi- ty at 40 °C [mm ² /s]	Tem- pera- ture range [°C]	Approvals, recommen- dations	Main application area
Greases for Plain and Roller Bearings								
RENOLIT CA-LZ (Spray can: RENOLIT CA-LZ SPRAY)	KP2K-30 ISO-L- XCCHB2	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.
  	20 x 0,4 kg (Cartridge), 30 x 0,5 kg (Cartridge), 18 kg (Bucket), 50 kg (Hobbock), Drum							
RENOLIT CSX 15	–	CaSX Mineral oil	–	1-2	440	-20 / +180	A. Kahl Pellet- pressen	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.; is easily pumpable even in long tubes fed by centralised lubrication systems. Typical applications are plain and roller bearings in steel mills, wood pellet presses, paper industry, mining, cement mills, quarries and construction equipment.
   	20 x 0,12 L (Autoluber), 30 x 0,5 kg (Cartridge), 18 kg (Bucket), 50 kg (Hobbock), Drum							
RENOLIT CX-EP 1	KP1N-30 ISO-L- XCDEB 1	Ca-X Mineral oil	–	1	110	-30 / +140	–	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.
  	18 kg (Bucket), 50 kg (Hobbock), Drum							
RENOLIT CX-EP 2	KP2N-30 ISO-L- XCDEB 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 (Hobbock), 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), Drum							
RENOLIT CX-TOM 15	–	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), Drum							

Greases

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil viscosi- ty at 40 °C [mm ² /s]	Tem- pera- ture range [°C]	Appro- vals, re- commen- dations	Main application area
Greases for Plain and Roller Bearings								
RENOLIT CXI 2	–	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), Drum							
RENOLIT LX 1	–	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), Drum							
RENOLIT LX 2	–	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), Drum							
RENOLIT LX 3	–	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), Drum							
RENOLIT FAP 502	–	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)							
RENOLIT FEP 2	KP2N-20 ISO-L- XBDEB 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), Drum							
RENOLIT FEP 25	KP2-3N-20 ISO-L- XBDEB 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)							
RENOLIT FLM 0	–	Lithium Mineral oil	•	0	100	-30 / +120	–	For mechanically loaded lubricating points, grease with MoS ₂ , and additives to improve corrosion protection, EP and AW.
	Drum							

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Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil viscosi- ty at 40 °C [mm ² /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- XCDEB 2	Lithium Mineral oil	•	2	100	-30 / +140	MAN 285 LI-PF 2	For mechanically loaded lubricating points, grease with MoS ₂ , 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), 3 x 5 kg (Bucket), 18 kg (Bucket), 50 kg (Hobbock), Drum, BULK							
RENOLIT GP 1	K1K-30 ISO-L- XCCEA 1	Lithium Mineral oil	–	1	110	-30 / +120	–	Ageing resistant multipurpose grease 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- XCCEA 2	Lithium Mineral oil	–	2	110	-30 / +120	–	Ageing resistant multipurpose grease with good corrosion protection properties for lubrication of plain and roller bearings, easily pumpable in central lubricating systems.
  	12 x 0,4 kg (Cartridge), 18 kg (Bucket), 50 kg (Hobbock), Drum							
RENOLIT GP 3	K3K-30 ISO-L- XCCEA 3	Lithium Mineral oil	–	3	110	-30 / +120	–	Ageing resistant multipurpose grease with good corrosion protection properties for lubrication of plain and roller bearings, easily pumpable in central lubricating systems.
  	12 x 0,4 kg (Cartridge), 18 kg (Bucket), 50 kg (Hobbock), Drum							
RENOLIT H 443-HD 88	–	Lithium Mineral oil	–	2-3	110	-30 / +140	RWE Rheinbraun Flender Siemens	Roller and friction bearings operating under specific high strain, in particular strain produced by shocks and vibrations e.g. in unbalanced motors, vibrating screens, vibrators, soil tampers and electrical machines. Lubrication of friction bearings via Stauffer grease cups, lubricating nipples or central lubricating systems. High loads within a wide speed range.
  	20 x 0,12 L (AUTOLUBER), 20 x 0,4 kg (Cartridge), 30 x 0,5 kg (Cartridge), 10 x 1 kg (Tin), 18 kg (Bucket), 50 kg (Hobbock), Drum							
RENOLIT HI-SPEED 2	KHCE2K-40 ISO-L- XDCEA 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), Drum							
RENOLIT HI-TEMP 100	KPHC2N-50 ISO-L- XEDFB 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), Drum							

Greases

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil viscosi- ty at 40 °C [mm ² /s]	Tem- pera- ture range [°C]	Approvals, recommenda- tions	Main application area
Greases for Plain and Roller Bearings								
RENOLIT HI-TEMP 220	KPHC2N-40 ISO-L- XDDFB 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), Drum							
RENOLIT HI-TEMP 460	KPHC2N-40 ISO-L- XDDFB 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 lifetime lubrication in trucks and construction machines.
  	12 x 0,38 kg (Cartridge), 18 kg (Bucket), Drum							
RENOLIT HLT 2	KPHC2N-40 ISO-L- XD(F)DBB 2	Lithium PAO	–	2	100	-40 / +140	–	For lubricating points at changing ambient temperatures and high requirements, 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), 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- XCDEB 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 (Hobbock), Drum							
RENOLIT LX-PEP 2	KP2N-30 ISO-L- XCDEB 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 (Hobbock)							
RENOLIT LX-PEP 3	KP3N-30 ISO-L- XCDEB 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.
 	18 kg (Bucket), Drum							

RENOLIT

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil viscosi- ty at 40 °C [mm ² /s]	Tem- pera- ture range [°C]	Appro- vals, re- commen- dations	Main application area
Greases for Plain and Roller Bearings								
RENOLIT LZR 2 H	KP2N-30 ISO-L- XCDB 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 compatible.
	24 x 0,1 kg (Tube), 12 x 0,4 kg (Cartridge), 18 kg (Bucket), 50 kg (Hobbock), Drum							
RENOLIT MP	KP2K-40 ISO-L- XDCEB 2	Lithium Mineral oil	–	2	35	-40 / +120	DBL 6804.00 MB Appro- val 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 (Hobbock), Drum							
RENOLIT MP PLUS	KP2K-30 ISO-L- XCCEB 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)							
RENOLIT MP 150	KP2K-40 ISO-L- XDCEB 2	Lithium Mineral oil	–	2	150	-40 / +120	DBL 6804.50 MB Appro- val 267.1	Multipurpose grease for commercial vehicles. Daimler wheel bearing grease for workshop use.
	3 x 5 kg (Bucket), 50 kg (Hobbock), Drum							
RENOLIT MP 735	KP2K-40 ISO-L- XDCEB 2	Lithium Mineral oil	–	2	105	-40 / +120	VW TL 735 MAN 283 Li-P 2 Stabilus 100 15883	Multipurpose grease
	10 x 1 L (Flasche), 18 kg (Bucket), 50 kg (Hobbock), Drum							
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.
	Drum							
RENOLIT PU-FH 300	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), Drum							
RENOLIT PU-MA 2	KPFH- C2R-40 ISO-L- XDFEB 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), Drum							

Greases

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil viscosi- ty at 40 °C [mm ² /s]	Tem- pera- ture range [°C]	Appro- vals, re- commen- dations	Main application area
Greases for Plain and Roller Bearings								
RENOLIT S 2	KE1-2G-60 ISO-L- XEBEA 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), Drum							
RENOLIT SI 400 L	KSJ1R-30 ISO-L- XEFEA 1-2	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), Drum							
RENOLIT SI 400 M	KSJ2R-30 ISO-L- XEFEA 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), Drum							
RENOLIT SI 511 F	–	PU Silicone oil	–	0	80	-40 / +200	–	Especially suitable for re-lubrication of RENOLIT SI 511 L and SI 511 M at very high temperature.
	5 kg (Bucket)							
RENOLIT SI 511 L	–	PU Silicone oil	–	1	80	-40 / +200	–	High temperature grease, plain and roller bearings, e.g. electric motors, conveyor chains, furnace carriages, drying equipment, bearing pairs: metal/metal, metal/plastic, plastic/plastic.
 	6 x 0,1 kg (Tube), 5 kg (Bucket), 18 kg (Bucket)							
RENOLIT SI 511 M	–	PU Silicone oil	–	2	80	-30 / +220	–	High temperature grease, plain and roller bearings, e.g. electric motors, conveyor chains, furnace carriages, drying equipment, bearing pairs: metal/metal, metal/plastic, plastic/plastic.
  	6 x 0,1 kg (Tube), 1 kg (Tin), 5 kg (Bucket), 18 kg (Bucket)							
RENOLIT ST-FTM 0-1	–	PTFE PFPE	–	1	335	-40 / +250	–	For the lubrication of plain and roller bearings and guidances at high temperatures. Also for the lubrication of ejectors of plastic injection moulding machines and tyre heating presses. Do not mix with mineral oil products or other lubricants. The surfaces to be lubricated shall be free of residual oil and grease.
 	1 kg (Tin), 50 kg (Hobstock)							

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Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil viscosi- ty at 40 °C [mm ² /s]	Tem- pera- ture range [°C]	Appro- vals, re- commen- dations	Main application area
Greases for Plain and Roller Bearings								
RENOLIT ST-FTM 2	–	PTFE PFPE	–	2	335	-40 / +250	–	For the lubrication of plain and roller bearings and guidances at high temperatures. Also for the lubrication of ejectors of plastic injection moulding machines, tyre heating presses and paint finishing systems. Do not mix with mineral oil products or other lubricants. The surfaces to be lubricated shall be free of residual oil and grease.
	 0,75 kg (Cartridge), 1 kg (Tin), 50 kg (Hobcock)							
RENOLIT ST 8-081/2	–	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.
	 1 kg (Tin)							
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), Drum							

Greases



Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil viscosi- ty at 40 °C [mm ² /s]	Tem- pera- ture range [°C]	Approvals, recommen- dations	Main application area
Greases for Gear Boxes								
PLANTOGEL ECO 000 S	–	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)							
RENOLIT CX-EP 0	GP0N-30	Ca-X Mineral oil	–	0	120	-30 / +140	–	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.
 	18 kg (Bucket), 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), Drum							

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Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil viscosi- ty at 40 °C [mm ² /s]	Tem- pera- ture range [°C]	Approvals, recommen- dations	Main application area
Greases for Gear Boxes								
RENOLIT EPLITH 00	GP00K-10	Lithium Mineral oil	–	00	420	-10 / +120	Müller- Weingarten Schuler	Lubrication of worm gears, bevel gears, spiral-toothed and straight-too- thed gears, e.g. forming presses, machine tools, industrial gears.
	18 kg (Bucket), Drum							
RENOLIT FLM 0	–	Lithium Mineral oil	•	0	100	-30 / +120	–	For mechanically loaded lubricating points, grease with MoS ₂ and addi- tives to improve corrosion protection, EP and AW.
	Drum							
RENOLIT LZR 000	GP00- 000G-40	Li/Ca Mineral oil	–	00-000	43	-40 / +110	MB Appro- val 264.0 MAN 283 LI-P 00/000	Semi-fluid grease for central lubrica- ting systems of commercial vehicles.
	3 x 5 kg (Bucket), 18 kg (Bucket), 50 kg (Hobbock), 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), 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), Drum							
RENOLIT SO-GFO 35	GPOH-30	Sodium Mineral oil	–	0	250	-30 / +100	–	Fast rotating gears, agricultural machines.
	20 x 1 kg (Bag), 18 kg (Bucket), 50 kg (Hobbock), Drum							

Greases

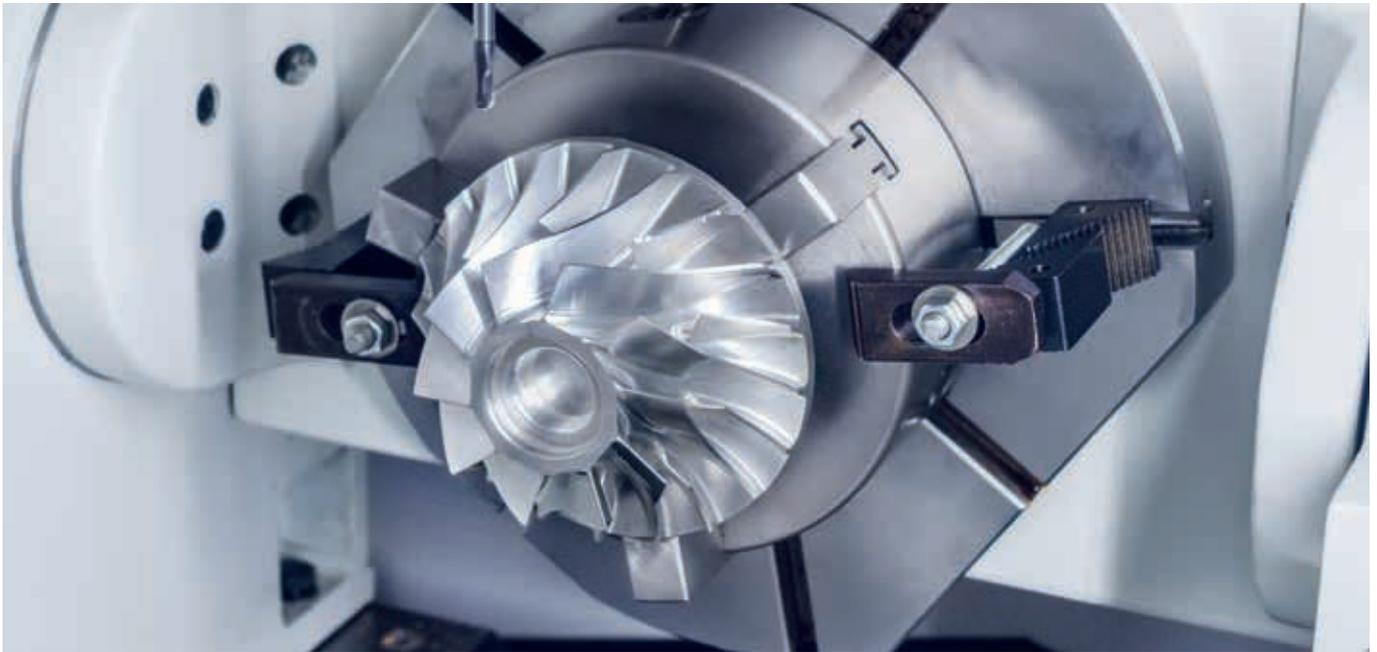


Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubricants	NLGI grade	Base oil viscosity at 40 °C [mm ² /s]	Temperature range [°C]	Approvals, recommendations	Main application area
Rapidly Biodegradable Greases								
PLANTOGEL ECO 1 N	ISO-L-XB(F)BEA 1	Calcium Rape seed oil	–	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)							
PLANTOGEL ECO 2 N	ISO-L-XB(F)BEA 2	Calcium Rape seed oil	–	2	36	-20 / +80	EU Ecolabel DE/027/273 	Rapidly biodegradable lubricating grease, e.g. for lock gates or in agriculture and forestry.
   	12 x 0,4 kg (Cartridge), 18 kg (Bucket), 50 kg (Hobcock), Drum							
PLANTOGEL ECO 000 S	–	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)							

PLANTO

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil viscosi- ty at 40 °C [mm ² /s]	Tem- pera- ture range [°C]	Approvals, recommen- dations	Main application area
Rapidly Biodegradable Greases								
PLANTOGEL ECO 2 S	ISO-L- XD(L)CEB 2	Li/Ca synth. ester	–	2	105	-40 / +120	EU Ecolabel DE/027/273 	Rapidly biodegradable EP multipur- pose grease for plain and roller bea- ring lubrication, e.g. water turbines or in agriculture and forestry. Good pumpability in central lubrica- tion systems.
   	12 x 0,4 kg (Cartridge), 18 kg (Bucket), 50 kg (Hobcock), Drum							
PLANTOGEL ECO 2 FS	–	Li/Ca synth. ester	•	2	195	-30 / +120	–	Rapidly biodegradable EP multipur- pose grease with solid lubrications for lubrication of plain and roller bearings, e.g. commercial vehicles and construc- tion machinery.
 	18 kg (Bucket), Drum							
PLANTOGEL ECO 402 S	ISO-L- XD(F)CEB 2	Li/Ca synth. Ester	–	2	240	-40 / +120	EU Ecolabel DE/027/273 	Rapidly biodegradable EP multipur- pose grease for lubrication of plain and roller bearings, e.g. commercial vehicles and construction machinery. Good pumpability in central lube sys- tems.
	18 kg (Bucket)							

Greases



Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubricants	NLGI grade	Base oil viscosity at 40 °C [mm ² /s]	Temperature range [°C]	Approvals, recommendations	Main application area
Greases for Machine Tools								
RENOLIT CHUCK PASTE	–	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)							
RENOLIT CX-EP 2	KP2N-30 ISO-L- XCDEB 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), Drum							
RENOLIT CX-TOM 15	–	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), Drum							
RENOLIT LX 2	–	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), Drum							

RENOLIT

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil viscosi- ty at 40 °C [mm ² /s]	Tem- pera- ture range [°C]	Appro- vals, re- commen- dations	Main application area
Greases for Machine Tools								
RENOLIT EPLITH 00	GP00K-10	Lithium Mineral oil	–	00	420	-10 / +120	Müller- Weingar- ten Schuler	Lubrication of worm gears, bevel gears, spiral-toothed and straight-toothed gears, e.g. forming presses, machine tools, industrial gears.
	18 kg (Bucket), Drum							
RENOLIT FEP 2	KP2N-20 ISO-L- XBDEB 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), Drum							
RENOLIT HI-SPEED 2	KHCE2K-40 ISO-L- XDCEA 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), Drum							
RENOLIT PASTE PW	–	CaSX Mineral oil	•	2	350	-20 / +1,200	–	Assembly paste for prevent fretting corrosion, e.g. gears, electrical motors, etc., chucks, spindle lubrication in superheated steam valves, bearing seats on knuckle pins, or spline connections in length adjusters of cardan shafts.
 	2 x 0,5 kg (Tin), 50 kg (Hobbock)							
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.
  	20 x 0,12 L (AUTOLUBER), 10 x 0,45 kg (Tube), 3 x 5 kg (Bucket), 18 kg (Bucket), 50 kg (Hobbock), Drum							

Greases



Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubricants	NLGI grade	Base oil viscosity at 40 °C [mm ² /s]	Temperature range [°C]	Approvals, recommendations	Main application area
Greases for Rail Vehicles								
RENOLIT HLT 2	KPHC2N-40 ISO-L- XD(F)DBB 2	Lithium PAO	–	2	100	-40 / +140	–	For lubricating points at changing ambient temperatures and high requirements, 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), Drum							
RENOLIT LX-PEP 1/2	KP1-2N -30 ISO-L- XCDEB 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), Drum							
RENOLIT LX-PEP 2	KP2N-30 ISO-L- XCDEB 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)							

RENOLIT

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil viscosi- ty at 40 °C [mm ² /s]	Tem- pera- ture range [°C]	Approvals, recommenda- tions	Main application area
Greases for Rail Vehicles								
RENOLIT LX-PEP 3	KP3N-30 ISO-L- XCDEB 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.
	18 kg (Bucket), Drum							

Greases



Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubricants	NLGI grade	Base oil viscosity at 40 °C [mm ² /s]	Temperature range [°C]	Approvals, recommendations	Main application area
Greases for Extreme High Temperatures								
RENOLIT PU-FH 300	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), Drum							
RENOLIT PU-MA 2	KPFH-C2R-40 ISO-L-XDFEB 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), Drum							
RENOLIT SI 400 L	KS11R-30 ISO-L-XEFEA 1-2	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), Drum							
RENOLIT SI 400 M	KS12R-30 ISO-L-XEFEA 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), Drum							

RENOLIT

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil viscosi- ty at 40 °C [mm ² /s]	Tem- pera- ture range [°C]	Approvals, recommen- dations	Main application area
Greases for Extreme High Temperatures								
RENOLIT SI 511 F	–	PU Silicone oil	–	0	80	-40 / +200	–	Especially suitable for re-lubrication of RENOLIT SI 511 L and SI 511 M at very high temperature.
	5 kg (Bucket)							
RENOLIT SI 511 L	–	PU Silicone oil	–	1	80	-40 / +200	–	High temperature grease, plain and roller bearings, e.g. electric motors, conveyor chains, furnace carriages, drying equipment, bearing pairs: metal/metal, metal/plastic, plastic/ plastic.
 	6 x 0,1 kg (Tube), 5 kg (Bucket), 18 kg (Bucket)							
RENOLIT SI 511 M	–	PU Silicone oil	–	2	80	-30 / +220	–	High temperature grease, plain and roller bearings, e.g. electric motors, conveyor chains, furnace carriages, drying equipment, bearing pairs: metal/metal, metal/plastic, plastic/ plastic.
  	6 x 0,1 kg (Tube), 1 kg (Tin), 5 kg (Bucket), 18 kg (Bucket)							
RENOLIT ST-FTM 0-1	–	PTFE PFPE	–	1	335	-40 / +250	–	For the lubrication of plain and roller bearings and guidances at high tem- peratures. Also for the lubrication of ejectors of plastic injection moulding machines and tyre heating presses. Do not mix with mineral oil products or other lubricants. The surfaces to be lubricated shall be free of residual oil and grease.
 	1 kg (Tin), 50 kg (Hobcock)							
RENOLIT ST-FTM 2	–	PTFE PFPE	–	2	335	-40 / +250	–	For the lubrication of plain and roller bearings and guidances at high tem- peratures. Also for the lubrication of ejectors of plastic injection moulding machines, tyre heating presses and paint finishing systems. Do not mix with mineral oil products or other lubricants. The surfaces to be lubricated shall be free of residual oil and grease.
  	0,75 kg (Cartridge), 1 kg (Tin), 50 kg (Hobcock)							
RENOLIT ST 8-081/2	–	PTFE PFPE	–	2	510	-20 / +260	–	Do not mix with other lubricants! Surfaces must be free from residual oil and grease! Fully synthetic, ther- mally 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 bear- ings, bearings of hot air and smoke gas flaps in power plants.
	1 kg (Tin)							

Greases

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil viscosi- ty at 40 °C [mm ² /s]	Tem- pera- ture range [°C]	Appro- vals, recom- menda- tions	Main application area
Greases for Extreme High Temperatures								
RENOLIT UNITEMP 2	–	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), Drum							

RENOLIT

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubricants	NLGI grade	Base oil viscosity at 40 °C [mm ² /s]	Temperature range [°C]	Approvals, recommendations	Main application area
Greases for Extreme Low Temperatures								
RENOLIT HI-TEMP 100	KPHC2N-50 ISO-L- XEDFB 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), 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 steering, 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.
	Drum							
RENOLIT S 2	KE1-2G-60 ISO-L- XEBEA 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	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)							
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), Drum							

Greases



Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil viscosi- ty at 40 °C [mm ² /s]	Tem- pera- ture range [°C]	Approvals, recommen- dations	Main application area
Greases for Central Lubricating Systems								
PLANTOGEL ECO 000 S	–	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)							
PLANTOGEL ECO 2 S	ISO-L- XD(L)CEB 2	Li/Ca synth. ester	–	2	105	-40 / +120	EU Ecolabel DE/027/273 	Rapidly biodegradable EP multi-purpose grease for plain and roller bearing lubrication, e.g. water turbines or in agriculture and forestry. Good pumpability in central lubricating systems.
	12 x 0,4 kg (Cartridge), 18 kg (Bucket), 50 kg (Hobcock), Drum							
RENOLIT LX-PEP 2	KP2N-30 ISO-L- XCDEB 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)							

PLANTO, RENOLIT

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil viscosi- ty at 40 °C [mm ² /s]	Tem- pera- ture range [°C]	Approvals, recommenda- tions	Main application area
Greases for Central Lubricating Systems								
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 commer- cial vehicles.
	3 x 5 kg (Bucket), 18 kg (Bucket), 50 kg (Hobstock), Drum							
RENOLIT LZR 2 H	KP2N-30 ISO-L- XCDIB 2	Lithium Mineral oil	–	2	230	-30 / +160	Baier & Köppel	Premium multipurpose grease, long-term rust prevention, sea- ling grease, central lubricating systems, sugar refineries, roof tile factories, paper industry, prevent standstill corrosion, hytel com- patible.
	24 x 0,1 kg (Tube), 12 x 0,4 kg (Cartridge), 18 kg (Bucket), 50 kg (Hobstock), Drum							
RENOLIT POLAR BLACK	–	Lithium PAO	•	1-2	340	-50 / +140	–	Fully synthetic heavy duty all- season grease with solid lubri- cants for plain and roller bea- rings of construction machines and mining vehicles exposed to changing ambient temperatures.
	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.
	20 x 0,12 L (AUTOLUBER), 10 x 0,45 kg (Tube), 3 x 5 kg (Bucket), 18 kg (Bucket), 50 kg (Hobstock), Drum							

Greases



Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil viscosi- ty at 40 °C [mm ² /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 lubrication of plain and roller bearings, e.g. commercial vehicles and construction machinery.
 	18 kg (Bucket), 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), Drum							
RENOLIT EP X1	–	Lithium Mineral oil	•	1	1050	-15 / +120	Renk CMD	Heavy duty gear coupling grease.
 	18 kg (Bucket), Drum							
RENOLIT FLM 2	KPF2N-30 ISO-L- XCDEB 2	Lithium Mineral oil	•	2	100	-30 / +140	MAN 285 LI-PF 2	For mechanically loaded lubricating points, grease with MoS ₂ , 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), 3 x 5 KG (Bucket), 18 kg (Bucket), 50 kg (Hobstock), 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

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil viscosi- ty at 40 °C [mm ² /s]	Tem- pera- ture range [°C]	Appro- vals, re- commen- dations	Main application area
Greases with Solid Lubricants								
RENOLIT LX-OTP 2	–	Li-X Polyglycol	•	1-2	360	-40 / +160	MAN	Lubrication of MAN knuckle pins.
	12 x 0,4 kg (Cartridge), 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.
	Drum							
RENOLIT PU-MA 2	KPFH- C2R-40 ISO-L- XDFEB 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), Drum							
RENOLIT TFL 2	–	Lithium PAO	•	2	110	-40 / +140	–	With PTFE, for slide-pairs with and without plastic components.
	18 kg (Bucket)							

Greases



Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil viscosi- ty at 40 °C [mm ² /s]	Tem- pera- ture range [°C]	Appro- vals, re- commen- dations	Main application area
Perfluorinated Pastes								
RENOLIT ST-FTM 0-1	–	PTFE PFPE	–	1	335	-40 / +250	–	For the lubrication of plain and roller bearings and guidances at high temperatures. Also for the lubrication of ejectors of plastic injection moulding machines and tyre heating presses. Do not mix with mineral oil products or other lubricants. The surfaces to be lubricated shall be free of residual oil and grease.
☐ ■	1 kg (Tin), 50 kg (Hobbock)							
RENOLIT ST-FTM 2	–	PTFE PFPE	–	2	335	-40 / +250	–	For the lubrication of plain and roller bearings and guidances at high temperatures. Also for the lubrication of ejectors of plastic injection moulding machines, tyre heating presses and paint finishing systems. Do not mix with mineral oil products or other lubricants. The surfaces to be lubricated shall be free of residual oil and grease.
■ ☐ ■	0,75 kg (Cartridge), 1 kg (Tin), 50 kg (Hobbock)							

RENOLIT

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil viscosi- ty at 40 °C [mm ² /s]	Tem- pera- ture range [°C]	Appro- vals, re- commen- dations	Main application area
Perfluorinated Pastes								
RENOLIT ST 8-081/2	–	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, resis- tant to solvents (exception: halocarbon refrigerants), oxidation stable, high load carrying abilities; plain and roller bea- rings of all industrial sectors, e.g. ena- melling lines, drying stoves, machines in the packaging industries, calander bea- rings, bearings of hot air and smoke gas flaps in power plants.
□	1 kg (Tin)							

Greases



Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil viscosi- ty at 40 °C [mm ² /s]	Tem- pera- ture range [°C]	Approvals, recommen- dations	Main application area
Greases in Spray Cans or Rattle Cans								
DUOTAC ZAHNRADSPRAY	–	Wax Mineral oil	•	–	–	-20 / +150 (after evapo- ration solvent)	–	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.
RENAX GLEITSPRAY (Grease: RENOLIT GL 1)	–	Lithium Semi- synth. base oil	–	1	–	-30 / +140 (after evapo- ration solvent)	–	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							
	12 x 400 ml							

RENOLIT

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil viscosi- ty at 40 °C [mm ² /s]	Tem- pera- ture range [°C]	Approvals, recommen- dations	Main application area
Greases in Spray Cans or Rattle Cans								
RENOLIT CA-LZ SPRAY (Grease: RENOLIT CA-LZ)	KP2K-30 ISO-L- XCCHB2	Calcium Mineral oil	–	2	700	-30 / +120 (after evapo- ration solvent)	–	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 400 ml							

Greases



Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil viscosi- ty at 40 °C [mm ² /s]	Tem- pera- ture range [°C]	Approvals, recommen- dations	Main application area
Assembly Pastes								
RENOLIT AS	–	Lithium synth. base oil	–	1	3000	-20 / +140	–	Lubricating and sealing grease, reduces friction, and vibration, pre- vents stick-slip, resists many liquids and gases, protects from corrosion; pump bearings, ventilators, con- veyors, printing machines, cleaning equipment and painting lines.
	5 kg (Bucket), 18 kg (Bucket)							
RENOLIT CHUCK PASTE	–	Li/Ca Mineral oil	•	2-3	166	-30 / +155	–	Chucks for machine tools and as mounting aide for gears and electri- cal 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)							
RENOLIT LX-PG 2	–	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), Drum							

RENOLIT

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil viscosi- ty at 40 °C [mm ² /s]	Tem- pera- ture range [°C]	Approvals, recommen- dations	Main application area
Assembly Pastes								
RENOLIT PASTE PW	–	CaSX Mineral oil	•	2	350	-20 / +1,200	–	Assembly paste for prevent fretting corrosion, e.g. gears, electrical motors, etc., chucks, spindle lubrication in superheated steam valves, bearing seats on knuckle pins, or spline connections in length adjusters of cardan shafts.
 	2 x 0,5 kg (Tin), 50 kg (Hobcock)							
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	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)							
RENOLIT SI 708	–	HDK Silicone oil	–	2-3	750	-40 / +200	–	Assembly aid for sealings, insulation grease.
   	6 x 0,1 kg (Tube), 1 kg (Tin), 3 x 5 kg (Bucket), Drum							

Greases



Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil viscosi- ty at 40 °C [mm ² /s]	Tem- pera- ture range [°C]	Approvals, recommen- dations	Main application area
Greases for Special Applications								
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)							
RENOLIT GL 1 <small>(Spray can: RENAX GLEITSPRAY)</small>	–	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), Drum							
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	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)							

RENOLIT

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil viscosi- ty at 40 °C [mm ² /s]	Tem- pera- ture range [°C]	Approvals, recommen- dations	Main application area
Greases for Special Applications								
RENOLIT SI 410 M	KSI2K-55 ISO-L- XECEA 2	Calcium Silicone oil	–	2	750	-55 / +120	eurofins (F)	Beer tap grease for lubrication of taps, bearings and sealings of fermentation and filling plants for beverages, food plants and packaging.
	6 x 0,1 kg (Tube), 1 kg (Tin), 5 kg (Bucket), Drum							
RENOLIT TFL 2	–	Lithium PAO	•	2	110	-40 / +140	–	With PTFE, for slide-pairs with and without plastic components.
	18 kg (Bucket)							
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)							

CUTTING FLUIDS

In modern production, the requirements for a cooling lubricant have grown considerably. Within the framework of Industry 4.0, a network of the entire value-added chain of man, machine, plant, logistics and cutting fluids shall be achieved and optimized, to enable a self-organized production using modern information and communication technology to a large extent.

For this purpose, cooling lubricant measurement data must be recorded online, evaluated and corresponding maintenance must be implemented. In order to be able to analyze the measurement data with sufficient accuracy cutting fluids of high stability are required.

FUCHS is the worldwide specialist for metalworking. Our cutting fluids can be applied safely and in a stable way. They meet all legal requirements and ensure a long service life, also with boron-free products. They stand for highest cutting performance and outstanding finish quality.



→ Cooling Lubricant Navigator



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Cutting Fluids – Water-miscible



Product name	Con-vent. Emulsion	Semi synth. Emulsion	Solution Fully synthetic	Density at 15 °C	pH Value 5%	Mixing water Hardness	Bor-free	Material Recommendations	Main application area
Global & EU Core Range – (1st choice of new product disposition)									
ECOCOOL GLOBAL 20	–	• (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.
	20 L (Canister), 205 L (Drum), 1000 L (IBC)								
ECOCOOL GLOBAL 1000	• (EP)	–	–	0.99	9.4	S, M, H	•	Steel, high-alloy steel, Al, Ti, Ni	With special quality properties for high-performance metal machining, especially in aerospace, medical engineering and many other industrial applications. Approval for medical engineering.
	20 L (Canister), 205 L (Drum), 1000 L (IBC)								
ECOCOOL AFC 1515	•	–	–	0.95	9.4	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
	20 L (Canister), 60 L (Drum), 205 L (Drum), 1000 L (IBC), Tank Truck								
ECOCOOL FERROSTAR MBF	–	• (ME EP)	–	0.97	9.6	M, H	•	Steel, alloyed steel, Al*	For general machining, especially for special cast iron alloys and high-alloy steels; excellent cooling, wetting and flushing; low drag-out losses. GROB-Approval
	205 L (Drum), 1000 L (IBC)								

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-tions	Main application area
Global & EU Core Range – (1st choice of new product disposition)									
ECOCOOL MG 825 BFF	–	• (ME)	–	0.97	9.3	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	For multifunctional machining of cast iron, steel materials and all and all common aluminum materials. In particular, hypereutectic aluminum materials such as Alusil and Siltec can be machined excellently.
  	205 L (Drum), 1000 L (IBC), Tank Truck								
ECOCOOL R - VHCM	–	• (ME)	–	1.01	9.5	M, H	–	Steel, cast iron	Versatile metalworking fluid for general machining; low top up concentration required. DMG MORI Approval
  	20 L (Canister), 205 L (Drum), 1000 L (IBC)								
ECOCOOL VHCM - 1K	–	• (ME)	–	0.99	9.4	S, M	•	Steel, cast iron	For general machining and grinding. Boron-free and pre-preserved counterpart to ECOCOOL R - VHCM. Low top up concentration required. Suitable for turning, drilling, milling and grinding.
  	20 L (Canister), 205 L (Drum), 1000 L (IBC)								
ECOCOOL MG 128 BFF	–	• (ME EP)	–	0.98	9.6	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 metalworking fluid.
 	205 L (Drum), Tank Truck								
ECOCOOL MACH 50	–	• (EP)	–	0.94	9.7	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)								
ECOCOOL MACH 20	–	• (ME)	–	0.99	9.7	S, M, H	•	Steel, cast iron, Al*	For all medium-heavy machining operations on nodular cast iron and medium-alloy steels. Can be used on aluminum die casted materials.
	205 L (Drum)								

Cutting Fluids – Water-miscible

Product name	Con-vent. Emulsion	Semi synth. Emulsion	Solution Fully synthetic	Density at 15 °C	pH Value 5%	Mixing water Hardness	Boron-free	Material Recommendations	Main application area
Global & EU Core Range – (1st choice of new product disposition)									
ECOCOOL MACH 300	–	• (ME EP)	–	1.00	9.2	M, H	•	Steel, high-alloy steel, Al, Ni, yellow metal	Milky emulsion of novel metalworking fluid technology for high performance machining such as broaching, drilling, threading of various materials.
	205 L (Drum)								
ECOCOOL GLOBAL 10	• (EP)	–	–	0.98	9.5	S, M, H	•	Steel, alloyed steel, Al, Ti	Next generation water miscible metalworking fluid with robust raw materials that provide long life. The emulsifier system forms a stable emulsion that tolerates tramp oils without residue formation.
	205 L (Drum)								
ECOCOOL 6100 SG	–	–	• (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)								
ECOCOOL MG 22 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)								
ECOCOOL S-FC VW	–	–	• (EP)	1.06	9.4	S, M	•	Steel, cast iron, Al*	For grinding and machining of cast iron and steel, extremely low foaming, good wetting and flushing properties, leaves no sticky residues.
 	205 L (Drum), 1000 L (IBC)								
ECOCOOL S-CO 5 BF	–	–	•	1.1	8.8	S, M	•	Hard metal, non-ferrous metal	For the machining and grinding of tungsten carbides and non-ferrous metals; reduces cobalt leaching and soap formation; low foaming; low drag-out losses
 	20 L (Canister), 205 L (Drum)								



FUCHS Fluid Analyzer – Advanced Analysis & Monitoring

Detect unfavorable changes that lead to an impairment of the performance of your metalworking fluid early and clearly. The FUCHS Fluid Analyzer supports you to do so!



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-tions	Main application area
Local Core Range – (Completing the Global & EU Core Range)									
ECOCOOL HPL 720 GT	• (EP)	–	–	0.96	9.0	M, H	•	Steel, alloyed steel, Al*	Multifunctional, especially for difficult operations such as reaming and threading. GROB-Approval
	205 L (Drum), 1000 L (IBC), Tank Truck								
ECOCOOL R - 2030	•	–	–	1.00	9.4	M, H	–	Steel, alloyed steel, cast iron, Al*	For general and precision machining (such as reaming); low foaming; low misting.
	20 L (Canister), 205 L (Drum), 1000 L (IBC)								
ECOCOOL 68 CF 3-1	–	• (ME)	–	1.02	9.4	M, H	–	Steel, alloyed steel, cast iron	For general machining and grinding; outstanding flushing; greater economy due to low drag-out losses
	205 L (Drum), 1000 L (IBC)								
ECOCOOL R - GRINDSTAR	–	• (ME)	–	1.01	9.7	S, M	–	Steel, alloyed steel, cast iron, Al*	For general machining and grinding; very good flushing and high pH buffering properties; for soft water from 2° dH; greater economy due to low drag-out losses
	205 L (Drum), 1000 L (IBC)								
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)								
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	–	• (ME EP)	–	0.99	9.4	M, H	•	Steel, cast iron	For general machining and grinding operations; the boron-free equivalent to ECOCOOL R - VHCM; greater economy due to low drag-out losses. Also available pre-preserved under ECOCOOL VHCM-1K.
	205 L (Drum), 1000 L (IBC), Tank Truck								
ECOCOOL ALUSTAR BF	•	–	–	0.95	7.9	M	•	Steel, alloyed steel, Al*, zinc- and lead-containing non-ferrous materials	High-quality, universal, especially for machining of zinc- and lead-containing non-ferrous materials and critical aluminium alloys; pH neutral; outstanding lubricity; good wetting and flushing properties.
	205 L (Drum), 1000 L (IBC)								

Cutting Fluids – Water-miscible

Product name	Con-vent. Emulsion	Semi synth. Emulsion	Solution Fully synthetic	Density at 15 °C	pH Value 5%	Mixing water Hardness	Bo-ron-free	Material Recommendations	Main application area
Water-miscible Cutting Fluids with DMG MORI and DMQP Approval									
ECOCOOL R - VHCM	–	• (ME)	–	1.01	9.5	M, H	–	Steel, cast iron	Versatile metalworking fluid for general machining; low top up concentration required. DMG MORI Approval
	20 L (Canister), 205 L (Drum), 1000 L (IBC)								
ECOCOOL TNA-IDM	• (EP)	–	–	0.96	9.0	S, M	•	Steel, Titanium and Ni alloys, Al (critical for staining)	High-performance product for drilling, turning, milling and grinding of titanium-, nickel-based alloys, aluminum, stainless steel and steel. DMQP Product
	20 L (Canister), 205 L (Drum), 1000 L (IBC)								
ECOCOOL AFC-IDM	• (EP)	• (ME)	–	0.94	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)								
ECOCOOL S-FC IDM	–	–	•	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)								
ECOCOOL AFC 1515 BW	• (EP)	–	–	0.99	9.4	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								

DMG MORI

 TECHNOLOGY
PARTNER


DMG MORI & FUCHS – A strong partnership

Since 2017, a technology partnership has united DMG MORI AG, a leading global manufacturer of cutting machine tools, and FUCHS. Our goal: To set standards in the field of lubricants for machine tools with innovative product developments.



ECOCOOL

Product name	Con-vent. Emulsion	Semi synth. Emulsion	Solution Fully synthetic	Density at 15 °C	pH Value 5%	Mixing water Hardness	Bo-ron-free	Material Recommendations	Main application area
Machining Aluminium									
ECOCOOL ALUSTAR BF	•	–	–	0.94	7.9	M	•	Steel, alloyed steel, Al*, zinc- and lead-containing non-ferrous materials	High-quality, universal, especially for machining of zinc- and lead-containing nonferrous materials and critical aluminium alloys; pH neutral; outstanding lubricity; good wetting and flushing properties
	205 L (Drum), 1000 L (IBC)								
ECOCOOL AFC 1515	•	–	–	0.95	9.4	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
  	20 L (Canister), 60 L (Drum), 205 L (Drum), 1000 L (IBC), Tank Truck								
ECOCOOL GLOBAL 1000	• (EP)	–	–	0.99	9.4	S, M, H	•	Steel, high-alloy steel, Al, Ti, Ni	With special quality properties for high-performance metal machining, especially in aerospace, medical engineering and many other industrial applications. Approval for medical engineering.
	20 L (Canister), 205 L (Drum), 1000 L (IBC)								
ECOCOOL R - 2030	•	–	–	1.00	9.4	M, H	–	Steel, alloyed steel, cast iron, Al*	For general and precision machining (for example, reaming); low foaming; low misting and good abrasion sedimentation properties
	20 L (Canister), 205 L (Drum), 1000 L (IBC)								
ECOCOOL S-G 2	–	–	• (EP)	1.06	8.8	S, M	•	Steel, Al*	For the most demanding machining and grinding operations on steel and aluminium alloys; extremely low foaming; suitable for soft water and high pressures; better economy due to low drag-out losses.
	205 L (Drum)								
ECOCOOL HPL 720 GT	• (EP)	–	–	0.96	9.0	M	•	Steel, alloyed steel, Al*	Multifunctional, especially for difficult operations such as reaming and threading. GROB-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	Bo-ron-free	Material Recom-menda-tions	Main application area
Machining Cast Iron and Low-Alloy Steels									
ECOCOOL FERROSTAR MBF	–	• (ME EP)	–	0.97	9.6	M, H	•	Steel, alloyed steel, Al*	For general machining, especially for special cast iron alloys and high-alloy steels; excellent cooling, wetting and flushing; low drag-out losses. GROB-Approval
 	205 L (Drum), 1000 L (IBC)								
ECOCOOL 68 CF 3-1	–	• (ME)	–	1.02	9.4	M, H	–	Steel alloyed steel, cast iron	For general machining and grinding; outstanding flushing; greater economy due to low drag-out losses.
 	205 L (Drum), 1000 L (IBC)								
ECOCOOL R - GRINDSTAR	–	• (ME)	–	1.01	9.7	S, M	–	Cast iron, steel, Al*	For general machining and grinding operations; very good flushing and high pH buffering capacity; for soft water from 2 °dH; low drag-out losses.
 	205 L (Drum), 1000 L (IBC)								
ECOCOOL R - VHCM	–	• (ME)	–	1.01	9.5	M, H	–	Steel, cast iron	Versatile metalworking fluid for general machining operations; low drag-out losses. DMG MORI Approval
  	20 L (Canister), 205 L (Drum), 1000 L (IBC)								
ECOCOOL VHCM - 1	–	• (ME EP)	–	0.99	9.4	M, H	•	Steel, cast iron	For general machining and grinding operations; boron-free equivalent to ECOCOOL R -VHCM; low drag-out losses. Also available pre-preserved under ECOCOOL VHCM-1K.
  	205 L (Drum), 1000 L (IBC), Tank Truck								

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-tions	Main Application area
Machining High-Alloy Steels and Hot Strength Materials									
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; high-pressure stable and low foaming.
	205 L (Drum)								
ECOCOOL TNA-IDM	• (EP)	–	–	0.96	9.0	S, M	•	Steel, Titanium and Ni alloys, Al (critical for staining)	High-performance product for for drilling, turning, milling and grinding of titanium-, nickel-based alloys, aluminium, stainless steel and steel. DMQP Product; DMG MORI approval
  	20 L (Canister), 205 L (Drum), 1000 L (IBC)								
ECOCOOL GLOBAL 1000	• (EP)	–	–	0.99	9.4	S, M, H	•	Steel, high-alloy steel, Al, Ti, Ni	With special quality properties for high-performance metal machining, especially in aerospace, medical engineering and many other industrial applications. Approval for medical engineering.
  	20 L (Canister), 205 L (Drum), 1000 L (IBC)								
ECOCOOL NI 1000	• (EP)	–	–	0,98	9,3	M, H	•	Steel, Titanium and Ni alloys, Cobalt-Chrom Steel, Medical Steel	High-performance product for machining high-temperature resistant materials such as among others titanium and nickel-based alloys, stainless steel and steel. High pressure stable, applicable for medical engineering, and aerospace metal processing
	205 L (Drum)								
Machining Nonferrous Metals (Copper, Brass, Bronze)									
ECOCOOL ALUSTAR BF	•	–	–	0.94	7.9	M	•	Steel, alloyed steel, Al*, zinc- and lead-containing nonferrous materials	High-quality, universally applicable metalworking fluid, especially for the machining of zinc- and lead-containing nonferrous materials; pH neutral; outstanding lubricity; good wetting and flushing
 	205 L (Drum), 1000 L (IBC)								
ECOCOOL S-CO 5 BF	–	–	•	1.1	8.8	S, M	•	Hard metal, non-ferrous metal	For the machining and grinding of tungsten carbides and non-ferrous metals; reduces cobalt leaching and soap formation; low foaming; low drag-out losses
 	20 L (Canister), 205 L (Drum)								

Cutting Fluids – Water-miscible

Product name	Con-vent. Emulsion	Semi synth. Emulsion	Solution Fully synthetic	Density at 15 °C	pH Value 5%	Mixing water Hardness	Boron-free	Material Recommendations	Main Application area
Machining Magnesium									
ECOCOOL 2516 MG-DC	•	–	–	0.97	9.3	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), 1000 L (IBC)								
Special Products									
ECOCOOL GS 2000	–	–	•	1.06	8-10	–	•	Cast iron, steel	Thread cutting medium for water pipes; approved by the German DVVWG; dyed red
 	205 L (Drum), 1000 L (IBC)								
ECOCOOL S-CO 5 BF	–	–	•	1.1	8.8	S, M	•	Hard metal, non-ferrous metal	For the machining and grinding of tungsten carbides and non-ferrous metals; reduces cobalt leaching and soap formation; low foaming; low drag-out losses
	20 L (Canister), 205 L (Drum)								
ECOCOOL GLOBAL S 240	–	–	•	1.00	9.0	S, M	•	Composites	Fully-synthetic metalworking fluid for machining CFRP/GFRP, good wetting and flushing properties, extreme less foaming, leaves no sticky residues
	205 L (Drum)								

Service Additives for Cutting Fluids

ECOCOOL

Product name	Description/ Features	Application conc. (of the final dilution) [%]	Increased corrosion protection	Increase pH value	Main application area
Top-up Concentrate for Water-miscible Metalworking Fluids					
ECOCOOL ALKALISATOR G 	Primary alkanolamine 20 L (Canister), 200 L (Drum)	0.1 - 0.5 steps	(●)	•	Increases pH value
ECOCOOL AKTIV CU 	Copper deactivator 20 L (Canister)	0.1 - 0.3	•	–	Combats the staining and greenish discolouration of nonferrous metals
ECOCOOL AKTIV ALU 	Against alumin- ium staining 20 L (Canister)	0.1 - 0.15	•	–	Avoids aluminium staining
NETZMITTEL 12 	Wetting agent 20 L (Canister)	0.05 - 0.2	–	–	Improves wetting properties
ECOCOOL AKTIV CPO 	Corrosion protection 20 L (Canister), 205 L (Drum), 1000 L (IBC)	0.1 - 0.3	•	–	Increases the corrosion protection offered by emulsions and synthetic metalworking fluids
Defoamers, Synergetically Matched to ECOCOOL Water-miscible Metalworking Fluids					
ANTIFOAM 46 	Si-organic compound 5 L (Canister)	0.0025 - 0.005 (of the concentrate)	–	–	Standard defoamer for emulsions and syn- thetic solutions
ANTIFOAM 46 W 	Si-organic compound 5 L (Canister)	0.004 - 0.008 (of the emulsion volume)	–	–	Equivalent to ANTIFOAM 46 but with solubili- zers, therefore mixes well
ANTIFOAM 48 	Si-organic compound 5 L (Canister)	0.005 - 0.01 (of the concentrate)	–	–	For use with emulsions and synthetic solutions
ANTIFOAM 51 G 	Si-organic compound 5 L (Canister), 205 L (Drum)	0.001 - 0.01 (of the emulsion volume)	–	–	Equivalent to ANTIFOAM 51 but with solubili- zers, therefore mixes well
ANTIFOAM LC 30 W 	Si-organic compound 5 L (Canister)	0.001 - 0.01 (of the emulsion volume)	–	–	Mixture of various defoamers; very broad range of applications
ANTIFOAM WS 1 	Ca hardening compounds 5 L (Canister), 20 L (Canister)	0.01 (of the emulsion volume)	–	–	Agents to harden water; as a rule, 0.01% increases water hardness by about 1 °dH, to a max. of 30 °dH

Service Additives for Cutting Fluids

Product name	Application concentration (of the final dilution) [%]	Fungicide	Bactericide	pH value effect	Main application area
Formaldehyde-free Bactericides and Fungicides for the Maintenance of ECOCOL Water-miscible Metalworking Fluids					
TROYSHIELD PA 10	0.1 - 0.2	•	–	–	Fungicide for emulsions
 20 kg (Canister)					
ACTICIDE WB 200	0.02 - 0.05 max. 0.1	•	–	–	Fungicide for emulsions and synthetic solutions
 25 kg (Canister)					
ACTICIDE MBS	0.1 - 0.2	•	•	–	Combination of fungicide and bactericide for emulsions and synthetic solutions
   25 kg (Canister), 200 kg (Drum), 1000 L (IBC)					
ACTICIDE M 20	0.1 - 0.2	•	•	–	Fungicide and bactericide for emulsions, chloride-free, AOX-free
 200 kg (Drum)					
ACTICIDE MV	0.1 - 0.2	–	•	–	Fast working bactericide for emulsions and synthetic solutions
   5 kg (Canister), 25 kg (Canister), 200 kg (Drum), 1000 L (IBC)					

Neat Cutting Fluids

ECOCUT



Product name	Kin. visc. at 40 °C [mm ² /s]	Density at 15 °C	Flash point [°C]	Steel	High-Alloy Steel	Aluminium	Copper, Copper Alloys	Main application area
ECOCUT 3000 Series								
ECOCUT 3022 ☞ ☞	22	0.86	180	•	–	•	•	Multipurpose cutting oil; low misting; copper inactive; for general machining; universally applicable for cutting and grinding; Viscosities 32 and 46 also suitable as hydraulic oils
	205 L (Drum), 1000 L (IBC)							
ECOCUT 3032 ☞	32	0.87	210	•	–	•	•	
	205 L (Drum)							
ECOCUT 3046 ☞	45	0.88	220	•	–	•	•	
	205 L (Drum)							
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)							

Neat Cutting Fluids

Product name	Kin. visc. at 40 °C [mm ² /s]	Density at 15 °C	Flash point [°C]	Steel	High-Alloy Steel	Aluminium	Copper, Copper Alloys	Main application area	
ECOCUT HFN Series									
ECOCUT HFN 22 LE  	22	0.85	212	•	–	•	•	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)								
ECOCUT HFN 32 LE   	30	0.85	200	•	–	•	•		
	205 L (Drum), 1000 L (IBC), Tank Truck								
ECOCUT 500 Series									
ECOCUT 515 	15	0.90	158	•	•	–	–	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.	
	205 L (Drum)								
ECOCUT 522 	24	0.90	204	•	•	–	–		
	205 L (Drum)								
ECOCUT 532 LE 	30	0.88	200	•	•	–	–		
	205 L (Drum)								
ECOCUT 600 Series									
ECOCUT 610 A  	10	0.85	160	•	•	–	–	Neat cutting oils universally applicable for the most machining operations with definite 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.	
	1000 L (IBC), Tank Truck								
ECOCUT 615 A  	17	0.87	200	•	•	–	–		
	205 L (Drum), 1000 L (IBC)								
ECOCUT 615 LE   	16	0.88	210	•	•	–	–		
	205 L (Drum), 1000 L (IBC), Tank Truck								
ECOCUT 628 LE   	26	0.86	210	•	•	–	–		
	205 L (Drum), 1000 L (IBC), Tank Truck								
ECOCUT 700 Series									
ECOCUT 710 LE  	10	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.	
	205 L (Drum), 1000 L (IBC)								
ECOCUT 715 LE   	17	0.89	200	•	•	–	–		
	20 L (Canister), 205 L (Drum), 1000 L (IBC)								

ECOCUT

Product name	Kin. visc. at 40 °C [mm ² /s]	Density at 15 °C	Flash point [°C]	Steel	High-Alloy Steel	Aluminium	Copper, Copper Alloys	Main application area	
ECOCUT 700 Series									
ECOCUT 717 EK 	18	0.89	196	•	•	–	(•)	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.	
	205 L (Drum), Tank Truck								
ECOCUT 720 LE 	21	0.89	210	•	•	–	–		
	205 L (Drum), 1000 L (IBC)								
ECOCUT 732 LE 	32	0.88	190	•	•	–	–		
	20 L (Canister), 205 L (Drum)								
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	•	•	–	–		
	205 L (Drum), 1000 L (IBC)								
ECOCUT 8536 S 	37	0.95	200	•	•	–	–		
	205 L (Drum)								
ECOCUT FT Series									
ECOCUT FT 7 WSE 	7	0.8	184	•	–	–	(•)	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 gear grinding however also suitable for cylindrical grinding. Odorless, high flash point, low evaporation, superb foaming behavior. Also applicable for medium machining 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 [mm ² /s]	Density at 15 °C	Flash point [°C]	Steel	High-Alloy Steel	Aluminium	Copper, Copper Alloys	Main application area	
PLANTOCUT Series – Environmentally Friendly Metalworking Fluids									
PLANTOCUT 10 SR 	10	0.86	206	•	•	•	•	Rapidly biodegradable, ester based cutting oil. Particularly suitable for operations with geometrically defined cutting edges such as turning, milling, drilling, etc. Low evaporation and low misting; H304 free.	
	20 L (Canister), 205 L (Drum), 1000 L (IBC)								
PLANTOCUT 22 SR 	22	0.90	215	•	•	•	•		
	205 L (Drum)								
PLANTOCUT 40 SR 	40	0.92	216	•	•	•	•		
	205 L (Drum), 1000 L (IBC)								
PLANTOCUT 18 S-CS 	38	0.93	200	•	•	–	–		
	205 L (Drum), 1000 L (IBC)								
Minimum Quantity Lubrication (MQL)									
PLANTO MIKRO UNI 	15	0.88	200	•	•	•	•	Rapidly biodegradable, ester based, high EP level minimum quantity lubrication oil, universally applicable for all materials. Suitable for all spray systems.	
	20 L (Canister), 205 L (Drum)								
PLANTO MIKRO 30 HD 	30	0.93	211	•	•	•	–	Minimal quantity lubrication oil based on ester, with high EP level. Applicable for steel, steel alloys and aluminium alloys. Can be used with diverse spray systems.	
	20 L (Canister)								
ECOCUT MIKRO PLUS 20 	27	0.84	188	•	•	•	•	Minimum quantity lubrication oils based on fatty alcohols; evaporate with almost no residues. Suitable for all application systems	
	20 L (Canister), 205 L (Drum), 1000 L (IBC)								
ECOCUT MIKRO PLUS 82 	20	0.84	172	•	•	•	•	Minimum quantity lubrication oils based on fatty alcohols; evaporate with almost no residues. Suitable for all application systems	
	20 L (Canister), 205 L (Drum), 1000 L (IBC)								

ECOCUT, PLANTO

Product name	Kin. visc. at 40 °C [mm ² /s]	Density at 15 °C	Flash point [°C]	Hard metal	HSS Steel	Main application area
Specific Application – Tool grinding						
ECOCUT FT 7 WSE	8.0	0.81	184	•	(•)	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 HS	5.5	0.80	160	•	(•)	PAO-based machining fluid, universally applicable for the grinding and sharpening of HSS and tungsten carbide tools; low aromatic content; prevents cobalt leaching, suitable for micro filtering systems
	205 L (Drum), 1000 L (IBC), Tank Truck					

Product name	Kin. visc. at 40 °C [mm ² /s]	Density at 15 °C	Flash point [°C]	Steel	High-Alloy Steel	Aluminium	Copper, Copper Alloys	Main application area
Specific Application – Gear Machining								
ECOCUT 628 LE	26	0.86	210	•	•	–	–	Universally applicable for all gear machining operations (shaving, hobbing, shaping, etc)
	205 L (Drum), 1000 L (IBC), Tank Truck							
ECOCUT 720 LE	21	0.89	210	•	•	–	–	
	205 L (Drum), 1000 L (IBC)							
ECOCUT HFN 13 LE UNI	13	0.85	194	•	•	•	•	Universally applicable for gear machining and grinding. Approved by the leading grinding machine manufacturers; low misting and low evaporation; available in other viscosities on request. H 304 labeling free version is ECOCUT HFN 13 LE CLP.
	205 L (Drum), 1000 L (IBC), Tank Truck							
ECOCUT HSG 211 LE	11	0.84	172	•	•	•	•	High performance grinding oil for gear grinding. It provides a high metal removal rate and reduces grinding burn through special additives. Low oil mist and evaporation.
	205 L (Drum), 1000 L (IBC), Tank Truck							
Specific Application – Spark Erosion								
ECOCUT FE	4	0.81	134	•	•	•	•	Dielectric medium, especially for roughing; free of aromatics
	205 L (Drum), 1000 L (IBC)							
ECOCUT 1520	2,3	0.82	101	•	•	•	•	Dielectric, can be used for roughing as well as for finishing. Despite lower viscosity high flash point >100 °C
	20 L (Canister), 205 L (Drum), 1000 L (IBC)							

Neat Cutting Fluids

Product name	Kin. visc. at 40 °C [mm ² /s]	Density at 15 °C	Flash point [°C]	Steel	High-Alloy Steel	Aluminium	Copper, Copper Alloys	Main application area
Specific Application – Threading								
ECOCUT 522	24	0.89	204	•	•	–	(•)	Solvent raffinate with chlorine free EP additives; 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	•	•	•	•	Machining medium 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, difficult-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 (titanium, 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)							

(•) – Check compatibility with critical alloys

ECOCUT

Product name	Kin. visc. at 40 °C [mm ² /s]	Density at 15 °C	Flash point [°C]	Steel	High-Alloy Steel	Aluminium	Copper, Copper Alloys	Main application area
Specific Application – Lapping								
ECOCUT HO 74 	4	0.84	128	•	•	•	•	Universal lapping oil for all materials and for use with commonly used lapping powders
	205 L (Drum)							
Specific Application – Deep Hole Drilling								
ECOCUT MX 10 	10	0.86	178	•	•	•	(•)	Mineral oil based machining medium with EP additives for deep hole drilling; also suitable for yellow metals; conducting a suitability trial is recommended.
	205 L (Drum)							
ECOCUT 717 EK 	18	0.89	196	•	•	–	(•)	
	205 L (Drum), Tank Truck							
ECOCUT MXB 18 	16	0.90	180	•	•	–	–	Mineral oil based, low misting machining medium with EP and AW additives for deep hole drilling; especially for the most difficult-to-machine materials; also suitable for drilling fuel injection holes; not suitable for nonferrous metals
	205 L (Drum), 1000 L (IBC)							

Service Additives for Neat Cutting Fluids

Product name	Kin. visc. at 40 °C [mm ² /s]	Copper active	Application concentration [%]	Main application area
Adjusting Concentrate for Cutting Oils				
ECOCUT PLUS KWU 	36	•	1 - 100	Adjusting concentrate to improve cutting performance, tool life and surface finish
	20 L (Canister)			
ECOCUT PLUS 800 	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)			
ECOCUT PLUS HK 	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

Particularly in the field of heat treatment, fluids play a central role. Only if the optimum quenchant is selected, can the required microstructure and strength be achieved.

Any change to the quenching rate has an effect on the microstructure, on the properties of the material and thus on its later use.

Apart from the selection of the right quenchant, precise control over the corresponding process parameters is crucial for optimum heat treatment results. Only the perfect matching of all the hardening process parameters can guarantee consistent and warp-free heat treatment results.

Trust a partner who understands all the facets of heat treatment, who is glad to advise you and who can offer you the very best system solutions for perfect results.



Quenching Fluids

Quenching Oils based on Mineral Oil	116
High-performance Quenching Oils based on Mineral Oil	116
High-performance Quenching Oils based on Hydrocrack Oil	116
Synthetic High-performance Quenching Oils	116
Water-miscible Quenchants	117

Quenching Fluids

Product name	Kin. Visc. at 40 °C [mm ² /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 	46	0.87	220	50 – 100	
	205 L (Drum), 1000 L (IBC), 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	0.87	234	50 – 110 (max. 150)	
	205 L (Drum), 1000 L (IBC)				
High-performance Quenching Oils based on Hydrocrack Oil					
THERMISOL QH 10 MC 	11	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 H ₂ (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. The new development THERMISOL QH 35 MC is a universal high-performance quenching oil with best performance values and high process reliability.
	205 L (Drum), 1000 L (IBC)				
THERMISOL QH 30 MC 	26	0.84	220	50 – 100 (max. 150)	
	205 L (Drum), 1000 L (IBC)				
THERMISOL QH 35 MC 	37	0.85	236	40 – 100 (max. 150)	
	205 L (Drum), 1000 L (IBC), Tank Truck				
Synthetic High-performance Quenching Oils					
THERMISOL QHY 10 	11	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.
	205 L (Drum)				
THERMISOL QHY 150 	145	0.93	312	60 – 260	
	20 L (Canister), 200 L (Drum)				

THERMISOL

Product name	Main application	Quenching performance	Materials	Properties
Water-miscible Quenchants				
THERMISOL PGI 2010	Quenching for induction and flame hardening	Very high	Unalloyed ferrous material	Especially for high corrosion protection requirements.
	205 L (Drum)			
THERMISOL QZS 700	Quenching for induction and flame hardening	Very high	Unalloyed ferrous material Low-alloyed ferrous material	Controlled quenching behaviour possible using variation in concentration. Reduces foam formation.
 	20 L (Canister), 205 L (Drum)			
THERMISOL QZS 400	Quenching for induction and flame hardening	Very high	Unalloyed ferrous material Low-alloyed ferrous material	Controlled quenching behaviour possible using variation in concentration. Long service life can be achieved. Reduces foam formation.
  	20 L (Canister), 205 L (Drum), 1000 L (IBC)			
THERMISOL QZS 700 K-FF	Quenching for induction and flame hardening	Very high	Unalloyed ferrous material Low-alloyed ferrous material	Controlled quenching behaviour possible using variation in concentration. Long service life can be achieved. Reduces foam formation. Especially for the highest corrosion protection requirements.
	1000 L (IBC)			
THERMISOL QZS 400-WB	Quenching for induction and flame hardening	Very high	Unalloyed ferrous material Low-alloyed ferrous material	Controlled quenching curve possible using variation in concentration. Offers a particularly good dissolving capacity. Long service life can be achieved. Reduces foam formation. Especially for high corrosion protection requirements.
 	205 L (Drum), 1000 L (IBC)			
THERMISOL PVM 4000	Bath quenching of batches	Medium	Unalloyed ferrous material Low-alloyed ferrous material High-alloyed ferrous material	Controlled quenching behaviour possible using variation in concentration. Mild quenching characteristics can be achieved. Can be used as a substitute for low viscosity quenching oils.
 	205 L (Drum), 1000 L (IBC)			
THERMISOL QZS 550 CPO	Immersion quenching of single batches	Low	Unalloyed ferrous material Low-alloyed ferrous material High-alloyed ferrous material	Controlled quenching behaviour possible using variation in concentration. Particularly mild quenching characteristics can be achieved. Can be used as a substitute for low viscosity quenching oils. Especially for high corrosion protection requirements.
	205 L (Drum)			

Properties water-miscible quenching fluids THERMISOL series

General characteristics

- Controlled quenching behaviour possible using variation in concentration (QZS series)
- Formaldehyde-free
- Very low fire hazard
- No oil vapour is released

QZS 400 and 700 series

- High cooling rate
- Hardly any reduction of the cooling rate in the martensite-transforming temperature range
- Smooth collapse of the polymer film
- Especially recommended for spraying or dipping after inductive heat treatment or flame hardening

QZS 550 and PVM series

- Oil-like quenching characteristics
- Low cooling rate in the martensite-transforming temperature range
- Very different quenching intensities adjustable via concentration
- Quenching of high-alloyed materials up to tool steel possible
- Particularly recommended for large and crack-sensitive components

CLEANER

During the manufacturing process, the surface of a workpiece comes into contact with a wide variety of substances. Although these facilitate processing, their residues can cause errors and errors during subsequent processing.

The cleaning of semi-finished products and intermediates is necessary to remove residues, abrasions and impurities from previous work steps. Only then the parts will have the required degree of purity for subsequent operations or storage.

The RENOCLEAN product range from FUCHS offers cleaners for a large number of different processes and applications, and ensures convincing cleaning performance with high efficiency.



Cleaner

Neutral Cleaner	120-121
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1-Component Products	122-123
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Skin Protection, Cleansing, Care	133
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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/m ³
Neutral Cleaner									
RENOCLEAN MSO 3011	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 ¹	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)								
RENOCLEAN WSA 3002	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 ¹	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)								
RENOCLEAN MTO 3002	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) ¹	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)								
RENOCLEAN MTO 3001	Multi-metal capable neutral cleaner for spray and immersion applications	Suitable for ultrasonic, 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) ¹	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)								
RENOCLEAN MTO 3003	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 ¹	Temporarily, '2% / in DI water	9.5 ± 0.4	3 (2 - 7)	60 (30 - 80)	300 (500 short-term)	1050 ± 15
	20 L (Canister)								
RENOCLEAN MSO 3004	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 ¹	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)								

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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 ³
Neutral Cleaner									
RENOCLEAN MSA 3011	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)								
RENOCLEAN VR 1021 CXV	Spray cleaner for spray, pressure flood and high pressure cleaning up to approx. 300 bar	High pressure cleaning (200 bar, 300 for short periods), almost foam-free from 30 °C VW-Approval A29 0976	Fe, Al, Brass, Cu, Mg	Temporarily, '2% / 10 °dH	9.8 ± 0.3	3 (1 - 5)	65 (30 - 80)	200 (300 short-term)	1053 ± 15
  	20 L (Canister), 205 L (Drum), 1000 L (IBC)								
RENOCLEAN VR 1021	Neutral cleaner for spray application	Residue formation very low, usable before heat treatment, salt-free	Fe, Mg, (Al, Cu, Ms) ¹	Temporarily, '2% / 10 °dH	10.2 ± 0.3	2 (1 - 5)	65 (30 - 80)	20	1040 ± 15
 	20 L (Canister), 205 L (Drum)								
RENOCLEAN C 20 K 1427	Neutral cleaner with very good corrosion protection for ferrous metals, spray application	Low residue formation, usable before heat treatment, salt-free VW-Approval A29 2863	Fe, Mg ¹	Temporarily, '1.5% / 10 °dH	10.2 ± 0.4	2 (1 - 5)	65 (40 - 80)	15	1044 ± 15
	205 L (Drum)								

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/m ³
1-Component Products									
RENOCLEAN VR 2950	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)								
RENOCLEAN MTA 3003	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) ¹	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)								
RENOCLEAN MSA 3001	Multi-metal capable spray cleaner	Universally applicable, limited suitability for immersion, low-foaming from approx. 40 °C	Fe, Al, Cu, Ms, (Zn, Plastics) ¹	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)								
RENOCLEAN MDA 4201	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) ¹	–	10.7 ± 0.5	4 (2 - 7)	65 (20 - 80)	–	1058 ± 20
  	20 L (Canister), 205 L (Drum), 1000 L (IBC)								
RENOCLEAN WSA 4002	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) ¹	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)								
RENOCLEAN FDC 4001	Cleaner for immersion, ultrasonic and manual application in medical technology	Supports stain-free drying. Can be combined with RENOCLEAN MDT 3002, silicate-free. Non-skin irritating.	Titan, Fe, Al, (Cu, Ms, Mg, Plastics) ¹	–	12.1 ± 0.5	5 (2 - 33)	65 (20 - 80)	–	1090 ± 15
	20 L (Canister)								
RENOCLEAN MDA 4002	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) ¹	Temporarily, '2.5% / 20 °dH	12.2 ± 0.3	4 (1 - 7)	65 (40 - 80)	8	1145 ± 15
	20 L (Canister)								

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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 ³
1-Component Products									
RENOCLEAN FSA 4017	Alkaline spray cleaner for ferrous metals	For cleaning of parts, e.g.: with difficult to remove pigment dirt. Sprayable up to approx. 25 bar (depending on the plant)	Fe	Temporarily, 2 % / 20 °dH	12.3 ± 0.5	3 (1 - 7)	65 (35 - 85)	25	1168 ± 15
	20 L (Canister)								
RENOCLEAN VR 2999	Spray and immersion cleaner for ferrous metals, suitable for ultrasonic	For cleaning of parts, e.g.: with difficult to remove pigment dirt (e.g. deep-drawn formed parts)	Fe	Temporarily, 2% / 10 °dH	12.3 ± 0.6	3 (2 - 7)	60 (40 - 80)	10	1175 ± 15
	1000 L (IBC)								
Acid Cleaner									
RENOCLEAN FTM 1001	Derusting, decalcification phosphoric acidic for immersion, ultrasonic and manual application	Suitable for cleaning calcified and germinated cleaning systems. Integrated consumption indicator	Fe, (Al, Mg, Plastics) ¹	Ferrous parts must be metallicly bright after treatment and immediately protected with corrosion protection (RENOCLEAN or ANTICORIT product)	1.5 ± 0.5 in DI-water	10 (5 - 50)	30 (20 - 60)	5	1360 ± 15
 	20 L (Canister), 205 L (Drum)								
RENOCLEAN FSO 2010	Neutral deruster for spraying, immersion and ultrasonic applications	Chloride free, applicable after thermal or ECM deburring	Fe, Al, (Cu, Ms, Mg, Plastics) ¹	Ferrous parts must be metallicly bright after treatment and immediately protected with corrosion protection (RENOCLEAN or ANTICORIT product)	5.9 ± 0.5 at 5%	10 (2 - 30)	50 (20 - 70)	20 (HD 200)	1265 ± 20
 	20 L (Canister), 205 L (Drum)								

Cleaner

Product name	Function	Comments	Ma-terials	Flash point in °C	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/m ³
Assembly Aids									
RENOCLEAN 431	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)								
RENOCLEAN GXS 9055	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)								
RENOCLEAN GXS 9067	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)								
RENOCLEAN GXS 9094	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	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 ³
Special Products									
RENOCLEAN GSO 3001	Cleaner for transport containers (KLT) for spray, immersion and manual application	For removing oil, grease, abrasion and transport dust. Designed for container cleaning systems	All materials ¹	–	8.5 ± 0.5 (100%)	2 (1 - 10)	50 (20 - 80)	5	1004 ± 15
	20 L (Canister), 205 L (Drum)								
RENOCLEAN GTM 3001	Drying accelerator 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)								
RENOCLEAN FXM 3014	Synthetic weld release agent with corrosion protection	Ready to use solution! Forms a coherent moist film that prevents the adhesion of welding beads	–	Temporarily, '100%	8.7 ± 0.5 (100%)	100	Room temperature (15 - 30)	–	1010 ± 15
	20 L (Canister)								
RENOCLEAN GXM 3001	Defoamer, foam regulating additive 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)								
RENOCLEAN MXO 3001	Vibratory finishing compound with synth. corrosion protection, mildly alkaline cleaner for immersion application	Suitable for all ferrous metals, after testing also for aluminium, zinc and magnesium materials	–	Temporarily, '5% / in DI-water	8.8 ± 0.5 (5 %)	2 (2 - 5)	20 (20 - 80)	–	1029 ± 15
	20 L (Canister)								
RENOCLEAN MXO 3003	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)								
RENOCLEAN GXA 3004	Floor, plant and hall cleaners	For all manual and mechanical applications, odourless, especially suitable for floor cleaning equipment	All materials ¹	–	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-perature range in °C	Spray pressure in bar to app.	Density at 15 °C in kg/m ³
Special Products									
RENOCLEAN AKTIV DA	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)								
RENOCLEAN SPEZIAL 2000	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) ¹	–	10.9 ± 0.4 at 3%	5 (1 - 20)	35 (20 - 80)	–	1045 ± 20
  	5 L (Canister), 20 L (Canister), 205 L (Drum), 1000 L (IBC)								
RENOCLEAN GXA 4014	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) ¹	–	11.7 ± 0.5 (1%)	3 (1 - 20)	20 (20 - 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

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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 ³	
Builder Components										
RENOCLEAN MTA 2001	Neutral, for immersion, pressure flood, flood and spray application	Borate, silicate and surfactant free, micro-filterable, *	Al, Cu, Ms, Plastics, Zn ¹	–	7.7 ± 0.8	4 (2 - 8)	65 (20 - 80)	Applicable spraying pressure according to the surfactant component used!	1335 ± 25	
	20 L (Canister)									
RENOCLEAN MTA 4001	Medium alkaline, for immersion, pressure flood, flood and spray application	Borate, silicate and surfactant free, micro-filterable, *	Fe, Plastics, (Al, Zn, Cu, Ms, Mg) ¹	–	10.0 ± 0.6	4 (2 - 8)	65 (20 - 80)		1579 ± 25	
	20 L (Canister)									
RENOCLEAN FTA 4002	Highly alkaline, for dipping, pressure flooding, flooding and spraying	Borate, silicate and surfactant free, micro-filterable, *	Fe, Mg, Plastics ¹	–	12.5 ± 0.5	4 (2 - 8)	65 (20 - 80)		1435 ± 20	
 	20 L (Canister), 205 L (Drum)									
RENOCLEAN ENTFETTER 39	Highly alkaline, silicate, for dipping, pressure flooding, flooding and spraying	Borate-free	Fe, Mg, Al, Cu, brass, plastic, Zn ¹	–	12.5 ± 0.5	5 (1 - 20)	65 (20 - 80)		1370 ± 15	
	1000 L (IBC)									
RENOCLEAN FTA 4001	Highly alkaline, for immersion, pressure flooding, ultrasonic and spray cleaning, electrolytic degreasing, dephosphating	Borate-free, micro-filterable, *	Fe, Mg, (Cu, Ms, Plastics) ¹	–	12.9 ± 0.6 (1 %)	5 (2 - 20)	65 (20 - 85)	1433 ± 25		
	20 L (Canister)									
RENOCLEAN VR 3222	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 ¹	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)									
RENOCLEAN VR 2729 K	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 ¹	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	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 ³
Surfactant Components									
RENOCLEAN VR 1500	Cleaning booster for spray cleaning, neutral cleaner	As a neutral cleaner free from corrosion protection components	All materials ¹	–	8.5 ± 0.5	1 (0.3 - 5)	65 (30 - 80)	25	1047 ± 15
  	20 L (Canister), 205 L (Drum), 1000 L (IBC)								
RENOCLEAN MTT 2003	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 materials ¹	–	7.9 ± 1.2 (1%)	1 (0.4 - 5)	65 (20 - 80)	15 (25 above 65 °C)	1020 ± 20
	20 L (Canister)								
RENOCLEAN TENSID 161	Cleaning booster for immersion, ultrasonic and pressure flood cleaning	Micro-filterable, strongly dependent on membrane and working parameters! *	All materials ¹	–	9.1 ± 0.6	0.4 (0.1 - 1)	65 (20 - 80)	2 (above 60 °C)	1025 ± 20
 	20 L (Canister), 205 L (Drum)								
RENOCLEAN MDT 3002	Cleaning booster, emulsifying, for immersion, ultrasonic and pressure flood cleaning	Good ultrasonic support, high oil and grease absorption	All materials ¹	–	9.8 ± 1.0 (3 %)	1 (0.3 - 2)	65 (20 - 80)	0.5	1050 ± 20
	20 L (Canister)								

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Product name	Function	Comments	Materials	Corrosion protection, chip/filter test 0/0 at x% in y °dH	pH (2%), if applicable	Concentration range in %	Density at 15 °C in kg/m ³
System Cleaner							
GROTANOL FF 1 N	System cleaner for coolant supply systems, registered in most European countries!	Contact time 6 - 24h	According to coolant	–	app. 9 ± 1 at 1%	2 (1 - 3)	1010 ± 15
	10 L (Canister), 205 L (Drum)						
RENOCLEAN FXM 4005	System cleaner biocide- and fungicide-free, for coolant supply systems, basic system without biocide / fungicide	Contact time 8 - 24h Separate dosing of bactericide. Permanent use in coolant lubricants without bactericide possible	According to coolant	–	10.0 ± 0.6	1.5 (1 - 2)	1005 ± 15
  	20 L (Canister), 205 L (Drum), 1000 L (IBC)						
ACTICIDE MBS / WB 200	Biocides and fungicides for system cleaning, in combination with RENOCLEAN FXM 4005 for targeted application	See "Service additives for cooling lubricants" under "Cooling lubricants - water-miscible"	According to contamination / infestation	–	–	–	–
	20 L (Canister)						

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 ³
Solvents							
RENOCLEAN MTS 7001	Cleaner based on modified alcohols	Distillable. Especially designed for closed cleaning systems!	All materials, plastics ¹	125	≥ 61	165 - 175	880 ± 10
	205 L (Drum)						
RENOCLEAN MVS 8015	Hydrocarbon cleaner based on isoparaffin, aromatic-free	Narrow boiling cut, fast drying, distillable. Especially designed for closed cleaning systems!	All materials, plastics ¹	93	≥ 56	179 - 197	760 ± 10
	205 L (Drum)						
RENOCLEAN MVS 8016	Hydrocarbon cleaner based on isoparaffin, aromatic-free	Narrow boiling cut, fast drying, distillable. Especially designed for closed cleaning systems!	All materials, plastics ¹	115	≥ 62	184 - 206	763 ± 10
	205 L (Drum)						
RENOCLEAN MVS 9004	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 ¹	900	≥ 86	217 - 255	810 ± 20
  	10 L (Canister), 205 L (Drum), 1000 L (IBC)						
RENOCLEAN MVS 9014	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 ¹	900	≥ 86	217 - 255	814 ± 20
	1000 L (IBC)						
FUCHS MULTICLEAN	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 ¹	120	≥ 61	180 - 330	795 ± 15
 	60 L (Drum), 1000 L (IBC)						
RENOCLEAN MVS 8010	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 ¹	130	≥ 61	185 - 210	765 ± 10
  	20 L (Canister), 60 L (Drum), 205 L (Drum), 1000 L (IBC)						
RENOCLEAN MVS 7008	Hydrocarbon cleaner, aromatics-free	Fine cleaning, fast drying. Easy application, for solvent plants without permanent distillation	All materials, plastics ¹	200	≥ 61	160 - 245	790 ± 25
 	60 L (Drum), 205 L (Drum), 1000 L (IBC)						
RENOCLEAN ECO AIR	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 ¹	–	≥ 220	–	837 ± 20
   	20 L (Canister), 205 L (Drum), 1000 L (IBC), Tank Truck						

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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/m ³
Corrosion Protection									
RENOCLEAN VR 3222	Synthetic, mineral oil-free corrosion protection	Nitrite- and borate free, suitable for vibratory grinding. For dipping, flooding, pressure flooding and spray application.	All materials ¹	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)								
RENOCLEAN MTO 3002	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 ¹	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)								
ANTICORIT SKR 40	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)								
ANTICORIT SKR 42	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)								
ANTICORIT SKR 3001	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 ¹	Temporarily, '2% / 20 °dH	9.8 ± 0.4	3 (0.5 - 5)	60 (10 - 80)	2	1033 ± 15
 	20 L (Canister), 205 L (Drum)								
RENOCLEAN VR 2729 K	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/m ³
Corrosion Protection									
RENCLEAN MTE 3001	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 ¹	Temporarily, '3% / 10 °dH	8.8 ± 0.5	4 (3 - 20)	20 (20 - 60)	5	995 ± 20
	205 L (Drum)								
RENCLEAN MTE 3201	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) ¹	Temporarily, '5% / 10 °dH	9.6 ± 0.5 (3%)	4 (3 - 20)	50 (20 - 70)	6	917 ± 20
	20 L (Canister)								

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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

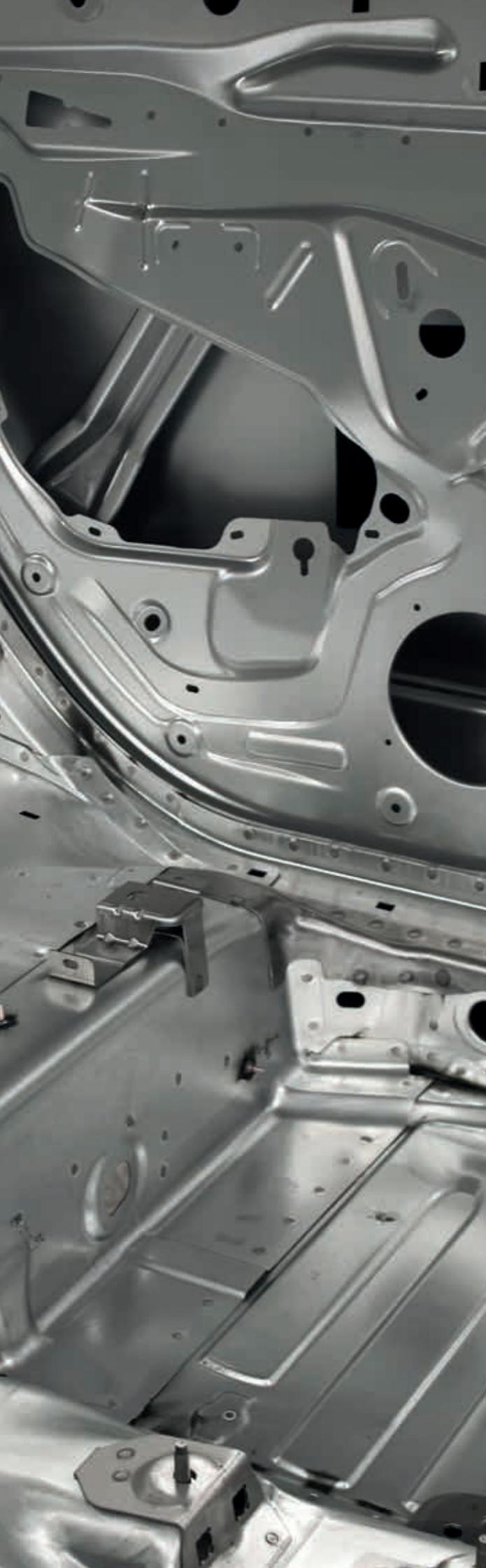
Unprotected, bare metal surfaces lose their elaborated finish quality often due to corrosion, in particular oxidation. This is not only a deterioration of the look-and-feel, but often a loss of proper function.

The ANTICORIT products from FUCHS are temporary corrosion preventives that can be easily removed if necessary without damaging the surfaces to be protected.

ANTICORIT corrosion preventives have been developed under careful consideration of all conditions, both in the laboratory and in practice. They are simple and economical to use and, adapted to the diverse requirements of the practice, are available in a comprehensive product range.



→ Corrosion Prevention Navigator



Corrosion Preventives

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Corrosion Preventives

Product name	Description	Kin. visc. at 40 °C [mm ² /s] DIN 51562	Density at 15 °C [KG/m ³]	Consumption [l/m ²]	Film weight [g/m ²]	Shed storage [Mon.]	Hall storage [Mon.]	FP [°C]	Thixotropic	VCI	Lubricating properties
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 BGI 15	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										
ANTICORIT BGI 21	Corrosion protection oil with VCI	22	902	0.006	6	3-6	9-15	150	–	•	•
  	205 L (Drum), 1000 L (IBC), Tank Truck										
ANTICORIT LBO 160 TT	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)										
ANTICORIT RPS 30 N	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										
ANTICORIT RP 30 NT	Corrosion protection oil designed for steel mill application	30	889	0.010	9	3-6	6-9	172	–	–	–
 	205 L (Drum), 1000 L (IBC)										

ANTICORIT

Product name	Description	Kin. visc. at 40 °C [mm ² /s] DIN 51562	Density at 15 °C [KG/m ³]	Consumption [l/m ²]	Film weight [g/m ²]	Shed storage [Mon.]	Hall storage [Mon.]	FP [°C]	Thixotropic	VCI	Lubricating properties
Corrosion Protection Oils											
ANTICORIT RP 4107 A	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										
ANTICORIT RP 4107 LV NT	Low-viscous, non thixotropic modification of ANTICORIT RP 4107 S	12	864	0.007	6	3-6	6-9	150	–	–	–
	205 L (Drum)										
ANTICORIT PL 3802 39 LV 8	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)										
ANTICORIT PL 3802 39 NT	Non thixotropic modification of ANTICORIT PL 3802 39 S	26	880	0.009	8	3-6	6-9	n/a	–	–	•
	205 L (Drum)										
ANTICORIT PL 39 LV 8	Low-viscous blank washing oil	8	880	0.002	2	3-6	6-9	116	–	–	•
   	205 L (Drum), 1000 L (IBC), Tank Truck										
ANTICORIT PL 39 LV 18	Mid-viscous blank washing oil	17	900	0.008	7	3-6	6-9	158	–	–	•
	205 L (Drum)										
Oily Corrosion Preventative Concentrates											
ANTICORIT RPC 5000	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)										
ANTICORIT MPC 5000	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										
ANTICORIT 03 W C	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)										

ANTICORIT

Product name	Description	Kin. visc. at 40 °C [mm ² /s] DIN 51562	Density at 15 °C [KG/m ³]	Consumption [l/m ²]	Film weight [g/m ²]	Shed storage [Mon.]	Hall storage [Mon.]	FP [°C]	Thixotropic	VCI	Optimized lubricating properties
Thixotropic Corrosion Protection Oils											
ANTICORIT PL 39 SX	Hotmelt for mill application, meets VDA 230-213	20 at 60 °C	895	0.001	1	6-12	12-20	175	•	–	•
	205 L (Drum)										
Mineral Oil-free Corrosion Protection Products											
ANTICORIT EB 1	Ester based corrosion protection oil for mill application, suitable for embalage sheets	17	951	–	0.3	–	1-3	175	–	–	•
	205 L (Drum)										
ANTICORIT BML 3	Corrosion protection based on polyglycol, suitable for brake components	35	985	–	–	1-3	3-6	200	–	–	–
  	20 L (Canister), 205 L (Drum), 1000 L (IBC)										
ANTICORIT SYNTH	Fully synthetic, high viscous multipurpose oil, good lubrication properties	102	834	–	–	3-6	6-12	150	–	–	•
	20 L (Canister)										

Corrosion Preventives

Product name	Description	Kin. visc. at 40 °C [mm ² /s] DIN 51562	Density at 15 °C [KG/m ³]	Consumption [l/m ²]	Film weight [g/m ²]	Shed storage [Mon.]	Hall storage [Mon.]	FP [°C]	Thixotropic	VCI	Optimized lubricating properties
Solvent based Corrosion Protection Products											
ANTICORIT RPS 6201	Solvent based corrosion protection oil, 20% evaporation residue, D40 solvent	2.2 at 20 °C	800	0.013	2	6-9	12-18	>40	–	–	–
	20 L (Canister), 205 L (Drum)										
ANTICORIT RPS 7201	Solvent based corrosion protection oil, 20% evaporation residue, D60 solvent	3.3 at 20 °C	810	0.012	2	6-9	12-18	>60	–	–	–
	205 L (Drum)										
ANTICORIT RPS 7601	Solvent based corrosion protection oil, 60% evaporation residue, D60 solvent	16.5 at 20 °C	840	0.010	5	9-12	18-24	>60	–	–	–
	20 L (Canister), 205 L (Drum)										
ANTICORIT 04 W 2	Pre-diluted corrosion protection oil, 75% evaporation residue, isoparaffin, suitable for bearings	32 at 20 °C	906	Depends on conc.	Depends on conc.	6-12	12-20	>60	–	–	–
	205 L (Drum), 1000 L (IBC)										
ANTICORIT 04 W 2 VOC kon.	Pre-diluted corrosion protection oil, 75% evaporation residue, VOC-free according to 31. BlmSchV, suitable for bearings	47 at 20 °C	920	Depends on conc.	Depends on conc.	6-12	12-20	>90	–	–	–
	205 L (Drum)										

ANTICORIT

Product name	Description	Kin. visc. at 40 °C [mm ² /s] DIN 51562	Density at 15 °C [KG/m ³]	Consumption [l/m ²]	Film weight [g/m ²]	Shed storage [Mon.]	Hall storage [Mon.]	FP [°C]	Thixotropic	VCI	Optimized lubricating properties
Water Displacing Corrosion Protection Products											
ANTICORIT DFO 6101	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)										
ANTICORIT DFO 6301	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)										
ANTICORIT DFO 7101	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)										
ANTICORIT DFO 7301	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)										
ANTICORIT DFO 8101	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)										
ANTICORIT DFO 8301	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)										
ANTICORIT DFO 9101	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)										
ANTICORIT DFO 9301	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), Tank Truck										
ANTICORIT DFO 9401	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 [mm ² /s] DIN 51562	Density at 15 °C [KG/m ³]	Consumption [l/m ²]	Film weight [g/m ²]	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	•	–	–
   	20 L (Canister), 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	•	–	–
  	20 L (Canister), 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), Tank Truck										
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 [mm ² /s] DIN 51562	Density at 15 °C [KG/m ³]	Consumption [l/m ²]	Film weight [g/m ²]	Shed storage [Mon.]	Hall storage [Mon.]	FP [°C]	Thixotropic	VCI	Optimized lubricating properties
Water Displacing Corrosion Protection Products											
ANTICORIT DFW 9302	Dewatering fluid, leaving a thick, soft waxy protection layer, VOC-free according to 31. BlmSchV	7.1 at 20 °C	841	0.010	2	6-12	12-24	>100	•	–	–
	205 L (Drum)										
ANTICORIT DFW 9601	Dewatering fluid, leaving a very thick waxy protection layer, VOC-free according to 31. BlmSchV	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)										

Corrosion Preventives

Product name	Description	Kin. visc. at 40 °C [mm ² /s] DIN 51562	Density at 15 °C [KG/m ³]	Consumption [l/m ²]	Film weight [g/m ²]	Shed storage [Mon.]	Hall storage [Mon.]	FP [°C]	Thixotropic	VCI	Optimized lubricating properties
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 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 (Hobstock), 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

Product name	Description	Iron, Steel	Copper	Aluminium	Film weight [g/m ²]	Shed storage [Mon.]	Hall storage [Mon.]	FP [°C]	Thixotropic	VCI	Optimized lubricating properties
Corrosion Protection Coatings											
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)										
Volatile Corrosion Inhibitor											
ANTICORIT VCI UNI O 40	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)										
ANTICORIT VCI UNI IP 30	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)										
ANTICORIT VCI UNI S	Corrosion protection for easy application in already existing packaging solutions	•	•	•	–	≤6	≤24	–	–	•	–
	600 x 25 g (Bags per box)										
ANTICORIT VCI UNI T	Corrosion protection for easy application in already existing packaging solutions. Suitable for small cavities	•	•	•	–	≤6	≤24	–	–	•	–
	1000 x 1 g (Tablets per bottle)										

Corrosion Preventives

Product name	Description	Kin. visc. at 40 °C [mm ² /s] DIN 51562	Density at 15 °C [KG/m ³]	Consumption [l/m ²]	Film weight [g/m ²]	Shed storage [Mon.]	Hall storage [Mon.]	FP [°C]	Thixotropic	VCI	Optimized lubricating properties
Volatile Corrosion Inhibitor											
ANTICORIT VCI F P	VCI film for corrosion protection during shipping and storage (available as gusseted bags, flat films and others) On request	•	•	•	–	≤6	≤24	–	–	•	–
ANTICORIT VCI P	VCI paper for protection during shipping and storage On request	•	•	•	–	≤6	≤24	–	–	•	–
Maintenance Fluids for Dewatering Products											
ANTICORIT DF 8000	Water displacement, leaving no residues, isoparaffin solvent  205 L (Drum)	1.8 at 20 °C	777	–	–	–	–	>60	–	–	–
ANTICORIT DF 9000	Water displacement, leaving no residues, D90 solvent, VOC-free according to 31. BImSchV   205 L (Drum), 1000 L (IBC)	2.8 at 20 °C	810	–	–	–	–	>90	–	–	–
ANTICORIT DFC 1001	Additive to enhance water displacement properties   20 L (Canister), 205 L (Drum)	6.2 at 20 °C	953 at 20 °C	–	–	–	–	>105	–	–	–

ANTICORIT

Product name	Description	Kin. visc. at 40 °C [mm ² /s] DIN 51562	Density at 15 °C [KG/m ³]	Consumption [l/m ²]	Film weight [g/m ²]	Shed storage [Mon.]	Hall storage [Mon.]
Spraying Cans							
ANTICORIT 5F	Rust preventative spray forming a film with active water displacement	3.7 at 20 °C	813	–	2.5	6-12	12-24
	12 x 400 ml						
ANTICORIT BW 366	Solvent-based and durable high performance corrosion protection wax	FT 4mm nozzle = 60s	885	–	50	12-36	12-36
	12 x 400 ml						
ANTICORIT HKW 6501	Solvent-based, high performance corrosion protection wax; excellent multi-metal adhesion	FT 4mm nozzle = 30s	920	–	50	12-36	12-36
	12 x 400 ml						
ANTICORIT DFG	Rust preventative spray, after evaporation a highly viscous film is formed	8.5	851	–	5	3-6	6-12
	12 x 400 ml						
ANTICORIT RPC	Classic anti-corrosive oil and contact spray, multipurpose	84	887	–	5	6-12	6-24
	12 x 400 ml						
ANTICORIT CPX 3373	Solvent-free and durable high performance corrosion protection coating; curing oxidatively	Dyn. visc. at 300 1/s = 350mPas	1050	–	50	>36	>36
	12 x 400 ml						
ANTICORIT CPX 3373 UBC	Non-dripping corrosion protection coating for vehicle underbodies, curing oxidatively	Dyn. visc. at 300 1/s = 2000mPas	1080	–	50	>36	>36
	12 x 400 ml						
ANTICORIT SYNTH	Synthetic multipurpose oil	102	834	–	15	3-6	6-12
	12 x 400 ml						
ANTICORIT RP 4107 S	Thixotropic corrosion protection oil, meets VDA 230-213	35	887	–	11	6-12	12-20
	12 x 400 ml						



FORMING LUBRICANTS

The success of a perfect metal forming depends on three factors: the material, the forming process including the tools being used and last but not least the forming lubricant. FUCHS offers lubricants for almost all forming processes. They stand for highest quality and excellent application results - no matter whether for drawing/deep drawing, punching, fine blanking, cold extrusion, wire-, tube- and bar drawing or hydroforming. With RENOFORM and WISURA forming lubricants you maximise efficiency, durability and plant safety. You minimise wear, the environmental impact and follow-up costs. By using our highly effective FUCHS lubricant formulations, you optimise your forming processes all along the line.



Forming Lubricants

Forming Lubricants for Deep Drawing, Blanking, Fine Blanking, Cold Forging, WTB Drawing, Hydroforming	150-156
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Forming Lubricants

Product name	Description	Kin. visc. at 40 °C [mm ² /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 Forming Lubricants for Deep Drawing								
WISURA ZO 3107/22 	Low-viscosity high-performance lubricant for non-ferrous materials 20 L (Canister), 205 L (Drum), 1000 L (IBC)	21	0.87	200	•	•◦	••	••
RENOFORM 96 	Classic multipurpose lubricant 205 L (Drum), 1000 L (IBC), Tank Truck	39	0.92	182	••	•	•	◦
WISURA ZO 3408 	High-performance lubricant for deep drawing of different kind of materials 20 L (Canister), 205 L (Drum)	45	0.96	180	••	•	••	••
WISURA DSO 5005 	Synthetic high-performance lubricant for deep drawing of different kind of materials 20 L (Canister), 205 L (Drum), 1000 L (IBC), Tank Truck	97	0.96	>180	••	•	••	◦
WISURA ZO 3180 	Classic multipurpose lubricant at higher viscosity level 20 L (Canister), 205 L (Drum), 1000 L (IBC), Tank Truck	117	0.98	180	••	•◦	•◦	◦
WISURA DSO 5015 	Synthetic high-performance lubricant for deep drawing of stainless steel 205 L (Drum)	175	1.00	>180	•	••	◦	◦
WISURA ZO 3107/180 	High viscous, high-performance lubricant for non-ferrous materials 205 L (Drum)	180	0.90	200	•	◦	••	••
RENOFORM 19 B 	High-performance lubricant for deep drawing of steel and aluminium 205 L (Drum)	205	0.97	200	••	•	•	◦
RENOFORM HBO 3212 	High-viscosity, high-performance lubricant for deep drawing of different kind of steel 205 L (Drum)	840	0.97	200	••	••	•	◦

RENOFORM, WISURA

Product name	Description	Kin. visc. at 40 °C [mm ² /s] DIN 51562	Density at 15 °C [g/ml]	Flash point [°C]	Steel carbon (a. alloyed, zinc plated)	Steel, stainless	Aluminum	Copper alloys
Water-miscible Forming Lubricants for Deep Drawing								
WISURA DSW 2012	Synthetic, water-based forming lubricant for a wide range of forming processes with a large variety of material compatibility	3	1.03	–	••	•	•	•
 	205 L (Drum), 1000 L (IBC)							
WISURA DSW 4003 A	Synthetic, water-based forming lubricant for a wide range of drawing operations	5	1.08	–	••	◦	◦	◦
 	205 L (Drum), 1000 L (IBC)							
RENOFORM MBW 677/6	Mineral oil based, water-miscible high-performance lubricant	165	0.98	200	•	•	•	◦
 	205 L (Drum), 1000 L (IBC)							
WISURA DSW 6002	Water-miscible synthetic high-performance lubricant for the most demanding forming operations, especially for carbon steels	276	1.04	–	••	•	◦	◦
 	205 L (Drum), 1000 L (IBC)							
WISURA ZW 3356	Water-miscible synthetic high-performance lubricant for the most demanding forming operations, also for stainless steels, also suitable for fine blanking	300	1.02	180	••	••	•	◦
  	20 L (Canister), 205 L (Drum), 1000 L (IBC)							
Pasty, Non Water-miscible Forming Lubricants for Deep Drawing								
RENOFORM HBT 581/3	Pasty, mineral oil containing and non-water miscible high-performance lubricant	–	0.97	–	•	•◦	•	◦
 	25 kg (Hobcock), 180 kg (Drum)							
Pasty, Water-miscible Forming Lubricants for Deep Drawing								
WISURA PRESSALIN	Synthetic water-miscible high-performance lubricant for various demanding deep-drawing operations	–	1.00	–	•	•	•	◦
 	25 kg (Hobcock), 45 kg (Hobcock), 160 kg (Drum)							

Forming Lubricants

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

RENOFORM, WISURA

Product name	Description	Kin. visc. at 40 °C [mm ² /s] DIN 51562	Density at 15 °C [g/ml]	Flash point [°C]	Steel carbon (a. alloyed, zinc plated)	Steel, stainless	Aluminum	Copper alloys
Forming Lubricants with Solvents for Blanking								
RENOFORM UBO 377/1	Almost completely evaporating forming lubricant for easy applications	1.2	0.79	62	•	◦◦	•	•
	205 L (Drum), 1000 L (IBC)							
PLANTOFORM BSO 1002	Almost residue-free evaporating forming lubricant for more demanding applications from renewable raw materials	5.4	0.86	130	•	••	•	••
	170 kg (Drum)							
WISURA DMV 1011	Evaporating forming lubricant with low residue	1.2	0.79	62	◦◦	◦	••	•
	205 L (Drum)							
RENOFORM UBO 377/5	Evaporating forming lubricant with less residue	2	0.80	62	••	◦◦	••	••
	20 L (Canister), 205 L (Drum), 1000 L (IBC)							
WISURA AK 3085	Evaporating forming lubricant with less residue, especially für aluminium and NE-metals	2	0.80	65	•	◦◦	••	••
	20 L (Canister), 205 L (Drum)							
WISURA DMV 1009	Evaporating forming lubricant with low residue for demanding operations	1.6	0.80	63	•	◦	••	••
	20 L (Canister), 205 L (Drum), 1000 L (IBC)							
WISURA AK 3107	Low-residue, evaporating forming medium especially for aluminium applications	3	0.81	65	•	◦	••	••
	205 L (Drum)							
WISURA ZO 3107/5	Partially evaporating forming lubricant, particularly for aluminium	5	0.83	65	•	◦	••	••
	205 L (Drum)							
WISURA DMV 1012	Evaporating forming lubricant for demanding applications	4	0.82	62	••	••	••	••
	20 L (Canister), 205 L (Drum), 1000 L (IBC)							
RENOFORM LVO 377/1	Almost completely evaporating forming lubricant for easy applications, VOC free	4	0.82	101	••	◦◦	••	••
	205 L (Drum), 1000 L (IBC)							
RENOFORM LVO 1518	Partially evaporating forming lubricant, additivated especially for demanding applications	3	0.84	>102	•	•	•	◦
	205 L (Drum), 1000 L (IBC)							

Forming Lubricants

Product name	Description	Kin. visc. at 40 °C [mm ² /s] DIN 51562	Density at 15 °C [g/ml]	Flash point [°C]	Steel carbon (a. alloyed, zinc plated)	Steel, stainless	Aluminum	Copper alloys
Forming Lubricants for Fine Blanking								
RENOFORM 96	Classic multipurpose forming lubricant also for fine blanking with low viscosity lubrication	39	0.92	182	•	•	•	○
  	205 L (Drum), 1000 L (IBC), Tank Truck							
WISURA FMO 5020	High-performance lubricant for various forming technologies, with special FEINTOOL approval	110	0.96	200	••	○	•○	○
	205 L (Drum), 1000 L (IBC)							
WISURA ZO 3180	Classic multipurpose forming lubricant in higher viscosity	117	0.98	180	••	•○	•○	○
  	205 L (Drum), 1000 L (IBC), Tank Truck							
RENOFORM ZSB 120 JBM	High-performance fine blanking oil for all kinds of steel	134	0.97	>160	••	•	•○	○
  	205 L (Drum), 1000 L (IBC), Tank Truck							
WISURA DSO 5012	High-performance fine blanking oil of the latest generation for stainless steel applications	167	1.03	>180	•	••	○	○
	205 L (Drum)							
WISURA FMO 5010	Higher viscosity version of WISURA FMO 5020	170	0.94	200	••	○	•	○
	205 L (Drum)							
WISURA FMO 5022	High-performance fine blanking oil of the latest generation	183	0.97	>180	••	○	•	○
 	205 L (Drum), 1000 L (IBC)							
Forming Lubricants for Cold Forging – Heavy Forming								
WISURA FSO 4001	Sulphur-free high-performance lubricant	93	0.95	180	•	••	•	••
 	20 L (Canister), 205 L (Drum)							
RENOFORM MBO 369/2	Cold extrusion oil for heavy-duty applications, also suitable for thread rolling	126	0.95	220	••	•	•	○
 	205 L (Drum), 1000 L (IBC)							
WISURA ZO 3373	Universal high-performance lubricant for cold forging even at elevated temperatures	127	0.93	200	••	•	••	○
 	205 L (Drum), 1000 L (IBC)							

RENOFORM, WISURA

Product name	Description	Kin. visc. at 40 °C [mm ² /s] DIN 51562	Density at 15 °C [g/ml]	Flash point [°C]	Steel carbon (a. alloyed, zinc plated)	Steel, stainless	Aluminum	Copper alloys
Forming Lubricants for Cold Forging – for Circular Lubrication								
WISURA DMO 4039	Universal high-performance lubricant for circular lubrication	77	0.91	200	••	•	•	•
	205 L (Drum), 1000 L (IBC)							
WISURA EMO 4020	High-performance lubricant for circular lubrication	93	0.95	>180	••	•	•	•
	205 L (Drum)							
Non Water-miscible Forming Lubricants for WTB Drawing (Wire - Tube - Bar)								
WISURA ESO 5002	Multi and high-performance lubricant for extrusion, also difficult calibration	110	0.98	180	••	•◦	•◦	◦
	20 L (Canister), 205 L (Drum)							
WISURA DSO 7010	High-performance lubricant for drawing of seamless, stainless steel tubes	1014	1.00	>180	•	••	•	◦
	205 L (Drum)							
RENOFORM HBO 3014	High-performance lubricant for drawing of round and cantilever steel rods	320	1.01	190	••	•	•	◦
	205 L (Drum), 1000 L (IBC)							
WISURA TYO 8003	High-performance lubricant for copper tube drawing	2600	0.88	180	◦	◦	◦	•
	205 L (Drum)							
Water-miscible Forming Lubricants for WTB Drawing (Wire - Tube - Bar)								
RENOFORM TYW 4008	Synthetic high-performance lubricant for wire drawing	382	0.97	200	•	◦	•	••
	205 L (Drum)							

Forming Lubricants

Product name	Description	Kin. visc. at 40 °C [mm ² /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 Forming Lubricants for Hydroforming								
WISURA HSO 5002	Synthetic high-performance outside lubricant	180	1.00	180	•	••	•◦	◦
	205 L (Drum)							
RENOFORM MBO 2907	Synthetic demulsifying external lubricant for hydroforming	122	0.96	200	••	•	•◦	•
	205 L (Drum)							
RENOFORM HMO 7001	Mineral oil based external lubricant for hydroforming	630	0.92	>200	••	•◦	•◦	◦
	205 L (Drum)							
Water-miscible Forming Lubricants for Hydroforming								
WISURA DSW 2004	Boron-free pressurising lubricant	1.1	1.06	–	•	◦	•	•
	205 L (Drum)							

RENOFORM, WISURA



Product name	Description	Kin. visc. at 40 °C [mm ² /s] DIN 51562	Density at 15 °C [g/ml]	Flash point [°C]	Steel carbon (a. alloyed, zinc plated)	Steel, stainless	Aluminum	Copper alloys
VDA Forming Lubricants								
RENOFORM MCO 3802 SN	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)							
RENOFORM MCO 3802	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							
RENOFORM MCO 3802 LV	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)							
RENOFORM MCO 3802 MV	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

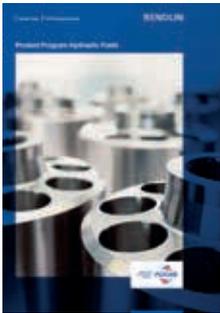


Product name	Description	Kin. visc. at 40 °C [mm ² /s] DIN 51562	Density at 15 °C [g/ml]	Flash point [°C]	Steel carbon (a. alloyed, zinc plated)	Steel, stainless	Aluminum	Copper alloys
Non Water-miscible Rolling Oils								
RENOFORM WO 52 B	Cold rolling oil and skin pass oil with excellent corrosion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

Industrial Product Brochures



Hydraulic oils – RENOLIN



Gear and general lubricating oils – RENOLIN



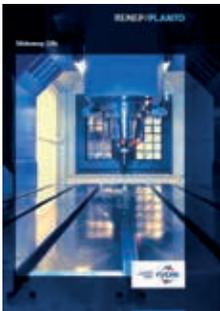
Lubricants for turbines – RENOLIN



Compressor Oils – RENOLIN



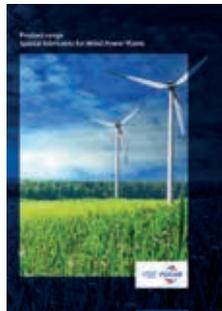
Lubricants for the paper industry – RENOLIN / RENOLIT / PLANTO



Slideway oils – RENEPLANTO



Refrigeration oils – RENISO



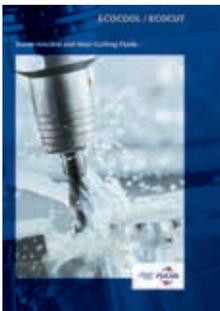
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Water-miscible and Neat Cutting Fluids – ECOCOOOL / ECOCUT



Lubricant solutions for the medical technology



AEROSPACE lubricants – ECO-COOOL / ECOCUT



ECOCOOOL GLOBAL 10 PLUS – Metal working fluid for aerospace



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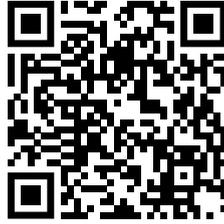
Videos



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 cooling lubricants



Innovative lubricants need experienced application engineers

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