

#### **FUCHS LUBRICANTS GERMANY**

#### **Facts and figures**

Company: FUCHS LUBRICANTS GERMANY GmbH,

a company of the FUCHS Group

Locations: Mannheim, Dohna, Kaiserslautern, Kiel and Wedel;

approx. 1,400 employees

**Product range:** A full range of more than 3,000 products

for all application areas

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

Gate-to-Gate\* CO,-compensated

FUCHS LUBRICANTS GERMANY is a subsidiary of FUCHS SE, the world's largest independent supplier of lubricant solutions. Around 1,400 specialists at the headquarters in Mannheim and the sites in Kaiserslautern, Wedel, Kiel and Dohna work with dedication on innovative lubricant solutions that enable the mobility of tomorrow.

The high level of technical consulting expertise combined with the largest, nationwide network of its own technical contacts makes FUCHS LUBRICANTS GERMANY a reliable local partner. A comprehensive product range, supplemented by digital offerings and Smart Services, as well as many years of lubricant expertise and a high level of research competence are the foundations for the innovative FUCHS lubricant solutions. They reduce wear and energy requirements, extend the running times and service life of machines, and thus keep the world moving - from industrial motors and e-cars to wind turbines and washing machines. FUCHS LUBRICANTS GERMANY is certified to a wide range of standards and, as a technology leader and development partner, places the highest demands on quality management.

Customers in all industries benefit from this quality management: automotive suppliers and OEM, mechanical engineering, metal processing, mining and exploration, aerospace, energy, construction and transport, agriculture and forestry, as well as the paper, steel, metal, cement, forging and food industries, but also qualified lubricant dealers, car dealerships, workshops, and semiconductors as well as medical technology.

#### **MOVING YOUR WORLD**

# The World of Industrial Lubricants





#### **Industrial Oils**

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

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

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

In addition, FUCHS industrial oils can make a significant contribution to an improved productivity, can increase efficiency significantly and reduce energy consumption and associated  $\mathrm{CO}_2$  emissions.

#### **Lubricating Greases / Pastes**

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

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

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







#### **Metal Processing Lubricants**

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

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

#### **Special Application Lubricants**

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

#### **FUCHS** Special Applications

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

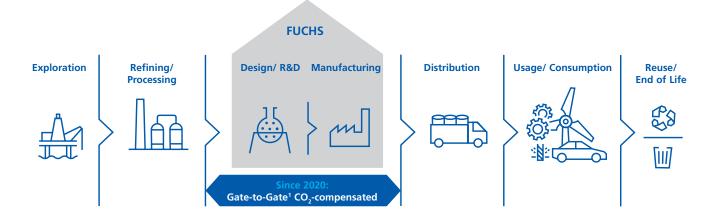
Furthermore, special application lubricants from FUCHS stand for sustainability as well as for safety, reliability and economy.



# ACTIVE PLAYER FOR SUSTAINABILITY – The path to 2050

The FUCHS carbon-neutrality strategy is embedded in our sustainability strategy, which began in 2010 when we signed the "Code of Responsible Conduct for Business". In 2018 we joined the "Alliance for Development and Climate" led by the Federal Ministry for Economic Cooperation and Development.

At the same time, we initiated the foundation of a sustainability workgroup under the umbrella of the Union of the European Lubricants Industry (UEIL). Together, we develop harmonized sustainability standards, KPIs, and benchmarks to enable sustainability-based comparisons.



Goal by 2050: Cradle-to-Grave<sup>2</sup> Net Zero CO<sub>2</sub>-neutral

- 1 Gate-to-Gate Scope includes GHG-Protocol Scope 1, 2 and selected Scope 3 emissions (water, waste, business travel, commuting) for all affiliates and JVs incl. compensation.
- <sup>2</sup> Cradle-to-Grave Scope includes GHG-Protocol Scope 1, 2 and applicable Scope 3 emissions (3.1/2/3/4/5/6/7/12) for all subsidiaries and JVs.

FUCHS has already achieved its first milestone, and in 2021 it also for the first time extended the recording of its Corporate Carbon Footprint and offset to all joint ventures. To do this, all greenhouse gas emissions of FUCHS that are directly attributable to our business activities ("gate-to-gate") have been measured retroactively since 2019 and offset through investments in climate protection projects.

FUCHS restricts its choice of projects for this purpose to high-quality certifications such as UN Gold Standard or VERRA. In any case, compensation measures are only the last step undertaken once avoidance and reduction measures have met their limits. FUCHS is therefore continuously expanding the proportion of renewable energies that make up its power supply, with the aim of gradually sourcing its electricity worldwide from renewable sources.



 More information about our path to climate neutrality

# TIME TO ACT

# Renewable, bio-based, recycled – on the way to a circular economy

# Advanced Circular Technologies

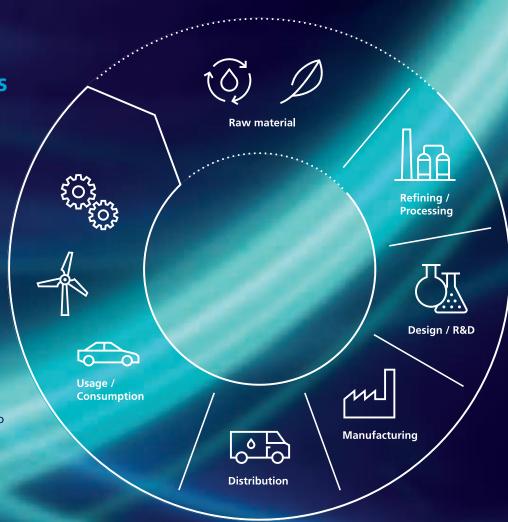
ACT, Advanced Circular Technologies, answers the challenge to transform our value chain from linear to circular - without compromising on performance!

ACT sums up everything we do for this transformation process: staring with raw materials to the application of our lubricant solutions and up to recycling at the end of the life cycle. TIME TO ACT: we gradually replace finite raw materials with renewable, bio-based or recycled ones. This also applies to our packs. As of 2024, our FUCHS small packs are made of 100% recycled materials.

# Sustainability meets performance

Selected products now based on ACT

- Selected FUCHS oils based on ACT product technologies now get a sustainability upgrade
- Your benefit: smaller Product Carbon Footprint and more sustainability as an add-on to the well-known outstanding FUCHS quality and performance
- ACT is driven by meticulous research and development, adding technical to environmental value



# **Overview Products and Services**

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# Lubricating Greases / Pastes

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## Special Application Lubricants

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NYE LUBRICANTS

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Tank Truck



IBC



Drum



Hobbock



Canister



Bucket



Bottle



Ī



☐ Tin



Spray Can



Tube







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Product name	Description	Densi- ty at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour- point °C	Main application area
		N	lachine	Oil: AR				
RENOLIN AR 22	General lubricating oil based on mineral oil. Exceeds the require- ments 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)

Product name	Description	Densi- ty at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour- point °C	Main application area
	Demulsifying C	irculatin	g, Spin	dle and H	lydraulic	Oils: H	IL / CL	
RENOLIN DTA 2	Range RENOLIN DTA Hydraulic and lubrication oils based on selected mineral base oils with additives to improve	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
RENOLIN DTA 5	ageing stability and corrosion pro- tection. All RENOLIN DTA products are DIN 51524-1: HL hydraulic oils	830	120	4.6	1.6	106	-40	additives. Also suitable for hydrodynamic drives if HL or CL lubrication fluids are required.
RENOLIN DTA 10	<ul> <li>and DIN 51517-2: CL circulating oils based on mineral oil, demul- sifying (water-separation), zinc- free.</li> </ul>	849	174	10	2.6	92	-27	VOITH Turbo couplings type T and S.  Suitable for Landis Lund machine
RENOLIN DTA 22	Fulfill and surpass the minimum requirements acc. to: DIN 51524-1: HL DIN 51517-2: CL	865	210	22	4.2	94	-27	tools, recommended for spindle lubrication (without AW/EP). Demulsifying type
RENOLIN DTA 32	ISO 6743-4: HL, ISO 6743-6 and ISO 12925-1: CKB.	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	

<sup>\*</sup> Measured acc. to Pensky Martens (Flashpoint P.M.)

Product name	Description	Densi- ty at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour- point °C	Main application area
		Zinc-con	taining	Hydraul	ic Oils			
RENOLIN B 3	Range RENOLIN B Lubrication and hydraulic oils with additives to improve the ageing and oxidation stability. Good wear	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	protection, demulsifying (good water seperation), good air release properties, zinc-containing AW/EP additive system.	863	200	22	4.4	107	-27	Universal hydraulic fluids; syner- gistic acting and robust additives ensure good wear protection in
RENOLIN B 10	The RENOLIN B range meets and surpasses the minimum requirements of hydraulic oils acc. to	876	205	32	5.5	109	-24	stationary and mobile hydraulic systems, even at high load and high temperature. Approvals:
RENOLIN B 15	DIN 51524-2: HLP ISO 6743-4: HM  B 3: HLP 10 B 5: HLP 22 B 10: HLP 32 B 15: HLP 46 B 20: HLP 68 B 30: HLP 100	875	210	46	6.9	105	-24	Denison HF0, HF1, HF2  Demulsifying type
RENOLIN B 20		881	224	68	8.8	100	-24	
RENOLIN B 30		883	232	100	11.1	96	-18	
RENOLIN B 5 VG 22-LCF Advanced Circular Technologies	Range RENOLIN B-LCF Zinc containing, demulsifying hydraulic oils, based on sustainable base oils from circular economy. The CO <sub>2</sub> footprint is reduced by up to 70% compared to conven- tional base oils.	845	236	22	4.5	118	-39	High quality HLP hydraulic oil for use in presses, machine tools or other hydraulic systems. Suitable to be used in stanionary and mobile equipment, when robust, demulsifying, zinc containing hydraulic oil is required.
RENOLIN B 10 VG 32-LCF Advanced Circular Technologies	Modern, zinc based AW / EP additives guarantee highest performance level. Requirements acc. to DIN 51524-2: HLP are clearly exceeded.	849	248	32	5.8	125	-33	Reduction of the $CO_2$ footprint through the use of sustainable base oils. Energy savings are possible due to the high efficiency of the hydraulic system.
RENOLIN B 15 VG 46-LCF Advanced Circular Technologies	Sustainability meets performance - RENOLIN B-LCF! The ACT product technology (Advanced Circular Technology) is based on sustainable base oils.	862	248	46	7.2	115	-30	
5	Fulfill and surpass: DIN 51524-2: HLP ISO 6743-4: HM							

Product name	Description	Densi- ty at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour- point °C	Main application area
		Zinc-con	taining	Hydraul	ic Oils			
RENOLIN B 10 PLUS	Range RENOLIN B PLUS Lubrication an hydraulic oils, based on high-quality, hydrated base oils (Group II). Contains	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
RENOLIN B 15 PLUS	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	195	15	3.5	108	-48	base oil (Hydrogenated base oils), for HP-high-pressure application. 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	6.94	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 B 150 PLUS Con request)		880	280	150	15.1	101	-18	

Product name	Description	Densi- ty at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour- point °C	Main application area
		Zinc-con	taining	Hydraul	ic Oils			
RENOLIN B 15 HVI	Range RENOLIN B HVI Hydraulic and lubricating oils (machine oils) with a high viscosity index and additives to improve	859	180	15	3.8	151	-45	RENOLIN B HVI oils are suitable for all hydraulic systems, especial- ly when a high viscosity index is required, reduced viscosity during
RENOLIN B 32 HVI	ageing stability, corrosion protecti- on and wear protection. The pro- ducts of the RENOLIN B HVI range are HVLP hydraulic and circulating	871	178	32	6.3	152	-48	cold start-up, high viscosify at operating temperature. High VI provides multigrade characteri- stics. Energy saving through high
RENOLIN B 46 HVI	<ul> <li>oils according to DIN 51524-3, mineral oil based, demulsifying and zinc-containing AW/EP additives.</li> <li>DIN 51524-3: HVLP</li> </ul>	879	186	46	8.1	150	-45	volumetric efficiency. Demulsifying type  Approval: Denison HF0, HF1, HF2
RENOLIN B 68 HVI	ISO 6743-4: HV ISO 11158: HV Denison HF0, HF1, HF2	868	240	68	11.0	154	-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	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	index and excellent shear stability, in combination with extraordinai- re oxidation stability, effects in long lifetime.	844	190	15	3.8	148	-57	
RENOLIN B 22 HVI Plus	High wear protection by using zinc-containing AW/EP additives, demulsifying.  DIN 51524-3: HVLP	845	210	22	4.9	152	-48	
RENOLIN B 32 HVI Plus	ISO 6743-4: HV ISO 11158: HV Denison HF0, HF1, HF2	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	

Product name	Description	Densi- ty at 15°C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour- point °C	Main application area
		Zinc-con	taining	Hydraul	ic Oils			
RENOLIN D 7 PLUS	Range RENOLIN D Plus Hydraulic oils with detergant properties and additives based on highquality hydrated base oils	832	176	6,8	2.1	106	-60	RENOLIN D Plus hydraulic oils can be used in hydraulic and circulat- ing systems - excellent oxidation stability enables reliable operation
RENOLIN D 22 PLUS	highquality hydrated base oils (Group II) to improve ageing resistance, corrosion protection and wear protection. Zinc-cont- aining AW/EP addtive systems,	854	218	22	4.4	106	-42	even at high temperatures and thermal stress. DD-properties avoid deposits and sludge, free water is avoided by emulsifying
RENOLIN D 32 PLUS	good viscosity-temperature behaviour. Hydrotreated base oils offer excellent oxidation stability.	861	236	32	5.5	106	-39	properties, this protects components of corrosion.
RENOLIN D 46 PLUS	DIN 51524-2: HLPD ISO 6743-4: HM (with DD-properties)	866	252	46	6.9	106	-36	
RENOLIN D 68 PLUS		869	258	68	8.9	105	-36	
RENOLIN D 22 HVI PLUS	Range RENOLIN D HVI Plus Detergant multigrade hydraulic oils based on highquality hydrated base oils (Group II). Zinc-cont-	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
RENOLIN D 32 HVI PLUS	aining AW/EP additive system offers excellent wear protection. Good shear-stability, excellent oxidation stability and additives to improve ageing resistance offer long lifetime.  DIN 51524-3: HVLPD ISO 6743-4: HV (with DD properties)	850	230	32	6.3	150	-42	index and good cold-temperature behaviour offers advantages at changing environmental condi- tions.
RENOLIN D 46 HVI PLUS		858	238	46	8.2	150	-42	Hydraulic fluid with good DD-pro- perties
RENOLIN D 68 HVI PLUS		858	254	68	10.7	145	-39	

Product name	Description	Densi- ty at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour- point °C	Main application area
		Zinc-con	taining	Hydraul	ic Oils			
RENOLIN Xtreme Temp 32	Range RENOLIN Xtreme Temp Universal, high-performance hydraulic oils with high viscosity index and excellent shear stability	845	216	32	6.9	180	-45	Universal high-performance multigrade hydraulic oils for stationary and mobile hydraulic systems, improved efficiency.
RENOLIN Xtreme Temp 46	(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.  Fulfill and surpass: DIN 51524-3: HVLP ISO 6743-4: HV ISO 11158: HV	853	230	48	9.3	180	-42	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 Xtreme Temp 32 PLUS	Range RENOLIN Xtreme Temp PLUS As RENOLIN Xtreme Temp, 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 HVLPD according to DIN 51524-3, wide
RENOLIN Xtreme Temp 46 PLUS	For high-pressure applications; reduce friction especially in mixed friction conditions.  DIN 51524-3: HVLP(D) ISO 6743-4: HV ISO 11158: HV	855	234	48	9.3	181	-34	temperature window, excellent shear stability. Help to avoid stickslip problems, especially at low speed and high load. Energy and fuel saving through high volumetric efficiency.
RENOLIN LIFT 22	Range RENOLIN LIFT Special detergent type of hydraulic oils for elevators, hydraulic conveyors and fork lifters. Reliably	869	210	22	4.3	100	-30	Fork lifters, elevators, hydraulic transport mechanisms, stationary and mobile hydraulics. Protection against stick-slip.
RENOLIN LIFT 32	prevents stick-slip, especially at high loads and low speeds.	877	210	32	5.3	96	-30	Liganiae accelerante
RENOLIN LIFT 46	Zinc-containing; fulfill and sur- pass requirements according to: DIN 51524-2: HLPD ISO 11158: HM ISO 6743-4: HM/HG	881	210	46	6.8	101	-27	

Product name	Description	Densi- ty at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour- point °C	Main application area
		Zinc-con	taining	Hydraul	ic Oils			
RENOLIN MR 0 VG 2	Range RENOLIN MR RENOLIN MR products are special HLPD lubricating and hydraulic fluids according to DIN 51502	823	75	2,2	-	-	-54	RENOLIN MR 0, 1 and 3: For machine tool spindles and roller bearing spindles in the textile industry.
RENOLIN MR 1 VG 5	with outstanding corrosion pro- tection and powerful cleaning and dirt carrying capacity. Zinc- containing, detergent and disper-	834	135	4,6	1.7	_	-54	
RENOLIN MR 3 VG 10	<ul> <li>sant. RENOLIN MR oils are used in many hydraulic systems as prob- lem solvers, especially when stan- dard oils cannot fulfill all require- ments.</li> </ul>	840	170	10	2.7	106	-54	
RENOLIN MR 5 VG 22	Excellent oxidation stability based on highquality hydrated base oils (Group II).	846	210	22	4.5	118	-45	RENOLIN MR 5, 10, 15 and 20: Universal hydraulic oils with out- standing corrosion protection up to continuous temperatures of
RENOLIN MR 10 VG 32	RENOLIN MR oils fulfill and surpass the requirements for hydraulic oils according to: DIN 5152-2: HLDD	866	220	32	5.5	109	-39	100 °C. For smaller gear boxes, in particular with electrical multi- plate clutches. High DD performance
RENOLIN MR 15 VG 46	SO 6743-4: HM with high DD-performance	868	230	46	7.0	107	-36	
RENOLIN MR 20 VG 68	_	871	230	68	9.0	107	-33	
RENOLIN MR 30 VG 100	-	874	270	100	11.6	104	-33	RENOLIN MR 30, 40: For larger gear boxes. As run-in protection oil and anticorrosion oil. Allows oil changes to be
RENOLIN MR 40 VG 150	_	881	280	150	15.1	101	-18	extended.
RENOLIN MR 310	Hydraulic and lubricating oils with extremely high viscosity index as well as outstanding cleaning properties and sludge carrying capa-	855	118	15	5.4	360	-48	MR 310, 520 and 1030: For all hydraulic systems which are subject to a wide temperature range or which are operated outdoors, e.g. in flood gates, for machines in low temperature environments.
RENOLIN MR 520	city.  HVLPD according to DIN 51502 together with	886	154	32	8.0	270	-57	
RENOLIN MR 1030	DIN 51524-HVLPD ISO 6743-4: HV	873	214	68	11.0	154	-36	

Product name	Description	Densi- ty at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour- point °C	Main application area
	Zi	nc-conta	ining H	lydraulic	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). Excel-	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
RENOLIN MR 32 MC	lent oxidation stability, outstanding cleaning properties and sludge carrying capacity.	848	230	32	6.3	150	-45	change intervals to be exten- ded and grades to be ratio- nalized. Multigrade characteri- stics. Very wide operating
RENOLIN MR 46 MC	Fulfills and surpasses the requirements acc. to: DIN 51524-3: HVLPD ISO 6743-4: HV (with DD properties)	854	240	46	8.1	150	-42	temperature window. Energy saving through high volumetric efficiency. MC base oils = hydrotreated base oils (Group III)
RENOLIN MR 68 MC		856	260	68	10.9	150	-39	
RENOLIN MR 46 MC-LCF Advanced Circular Technologies	Detergent multigrade hydraulic oil, based on sustainable MC base oils from circular economy. High, shear stable viscosity index and excellent detergant properties.  By using sustainable base oils, the CO <sub>2</sub> footprint can be significantly redcued.  Sustainability meets performance - RENOLIN MR 46 MC-LCF The ACT product technology (Advanced Circular Technology) is based on sustainable base oils.  Fulfills and surpasses requirements acc. to: DIN 51524-3: HVLPD ISO 6743-4: HV (with DD properties)	855	235	46	8.2	151	-40	For use in stationary and mobile hydraulics when a zinc-containing, detergent/dispersant hydraulic oil of the HVLPD type is required. Thanks to its multigrade characteristics, a rationalization of varieties is possible.  Reduction of the CO <sub>2</sub> footprint through the use of sustainable base oils. Energy savings are possible due to the high efficiency of the hydraulic system.
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.
<b>RENOLIN FF 68 Spindelöl</b> Packages on request	Ultra-pure and fine-filtrated lubrication oil for tool spindles - formulated on special partly synthetic base oils. A very high and shear stable viscosity index guarantees a stable lubricant film, even at high temperatures.  The complex filtration process effects a very good cleanliness of 15/13/10 acc.to ISO 4406.  Very good detergent and dispersant properties.  Fulfills and surpasses:  DIN 51524-3: HVLP-D ISO 6743-4: HV (with DD proerties)	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.

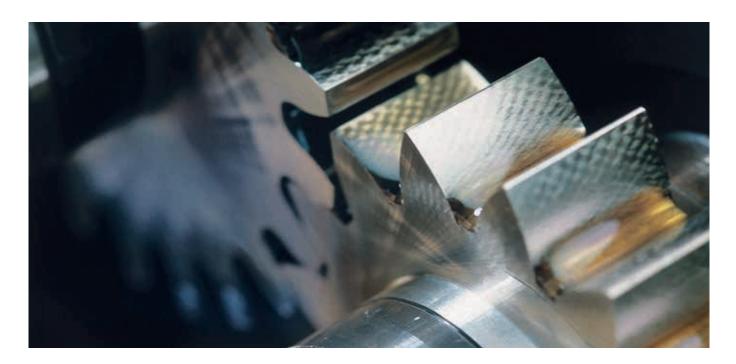
Product name	Description	Densi- ty at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour- point °C	Main application area
	Zinc- and A	Ash-free	Hydrau	lic Oils (Z	AF)			
RENOLIN MWB 46	Selected solvent base oil with additives to improve oxidation and ageing resistance. Excellent corrosion and wear protection, good load carrying capacity and low friction. High performance reserves. Zinc-free AW/EP additive system  Fulfills and surpasses requirements acc. to: DIN 51524-2: HLPD ISO 6743-4: HM	882	218	46	6.9	105	-24	Heavy-duty HLPD hydraulic and circulating oil (CLP) for all highly stressed hydraulics. Excellent wear protection. High load carrying capacity. High load capacity according to Brugger of ≥50 N/mm², 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 nonferrous metal compatibility.  Fulfills and surpasses requirements acc. to: DIN 51524-2: HLP ISO 6743-4: HM DIN 51517-3: CLP	848	170	10	2.7	100	<-54	Demulsifying, zinc- and ash-free HLP hydraulic and CLP lubricating oils with good ageing
RENOLIN ZAF B 22 HT		863	210	22	4.4	106	-33	resistance for all hydrau- lic systems, hydraulic presses or machine tools. Brugger ≥ 30N/mm²
RENOLIN ZAF B 32 HT		875	220	32	5.4	96	-33	
RENOLIN ZAF B 46 HT	ISO 6743-6: CKC DBL 6713-13: HLP	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 B 32 HT-LCF Advanced Circular Technologies	Range RENOLIN ZAF B HT-LCF Demulifying, zinc- and ashfree hydaulic oils based on sustainable raw materials. By the use of rerefined base oils, in combiantion with modern zinc and ashfree additiv technology, the CO <sub>2</sub> foodprint can be improved by up to 30% in comparison to	849	248	23	5.8	125	-33	For use in hydraulic systems, hydraulic presses or machine tools as demulisifying universal circulating oil, gear oil or hydraulic fluid.
RENOLIN ZAF B 46 HT-LCF Advanced Circular Technologies	conventional hydraulic oils.  Sustainability meets performance - RENOLIN ZAF B HT-LCF! The ACT product technology (Advanced Circular Technology) is based on sustainable base oils.  Fulfill and suprass requirements on HLP hydraulic oils acc. to DIN 51524-2 and CLP gear oils acc. to DIN 51517-3	861	244	46	7.1	115	-30	

Product name	Description	Densi- ty at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour- point °C	Main application area
	Zinc	- and Asl	h-free H	lydraulic	Oils (ZA	F)		
RENOLIN ZAF D 22 HT	Range RENOLIN ZAF D HT Zinc- and ash-free lubricating and hydraulic oils with detergent and dispersant properties. Good	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
RENOLIN ZAF D 32 HT	ageing resistance, excellent wear protection and oxidation stability, good air release properties.	870	220	32	5.3	97	-33	suitable for use as CLP lubricating oil. Brugger ≥ 30N/mm²
RENOLIN ZAF D 46 HT	Fulfill and surpass requirements acc. to DIN 51524-2: HLPD ISO 6743-4: HM DIN 51517-3: CLP(D)	880	230	46	6.8	100	-27	
RENOLIN ZAF D 68 HT	ISO 6743-6: CKC	880	>230	68	8.8	100	-27	
RENOLIN ZAF D 32 HT-LCF Advanced Circular Technologies	Range RENOLIN ZAF D HT-LCF Zinc- and ashfree hydraulic oils based, on sustainable raw mate- rials, with detergant / dispersant properties. They are designed by use of rerefined base oils, in com- bination with modern zinc- and	849	248	23	5.8	125	-33	For use in hydraulic systems, hydraulic presses or machine tools as universal circulating oil, gear oil or hydraulic fluid with detergant / dispersant properties.
RENOLIN ZAF D 46 HT-LCF Advanced Circular Technologies	ashfree addtive technology. The CO <sub>2</sub> foodprint can be reduced by up to 30%, compared to conventional hydraulic oils.  Sustainability meets performance - RENOLIN ZAF D HT-LCF! The ACT product technology (Advanced Circular Technology) is based on sustainable base oils.  Fulfill and surpass reuqirements on HLP hydraulic oils acc. to DIN 51524-2 and CLP gear oils	861	244	46	7.1	115	-30	
RENOLIN ZAF D 46 HT PLUS iii =====	acc. to DIN 51517-3  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 <b>based on hydro-treated group II base oils</b> with improved oxidation stability at high thermal stresses, for hydraulic presses.  Brugger ≥ 30 N/mm²  Extended lifetime, excellent air release, detergent/dispersant type
RENOLIN ZAF D 46 White (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".

Product name	Description	Densi- ty at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour- point	Main application area
	Zinc			Hydraulic		F)		
RENOLIN ZAF 5 DT	Range RENOLIN ZAF DT Selected solvent extracts with special additives to improve corro- sion protection and wear protec-	838	116	5	1.7	99	-40	Heavy-duty hydraulic and circula ting oils with outstanding detergent and dispersant properties.  Very good ageing resistance,
RENOLIN ZAF 10 DT	sion protection and wear protection. High load carrying capacity acc. to Brugger. Detergent and dispersant.	848	154	10	2.7	108	-30	good corrosion protection and excellent load carrying capacity.  Daimler DBL 6721 for machine
RENOLIN ZAF 15 DT	Fulfill and surpass DIN 51524-2: HLPD ISO 6743-4: HM (with dd- properties) DIN 51517-3: CLP(D)	865	190	15	3.3	86	-27	tools  Brugger value ≥ 50 N/mm²
RENOLIN ZAF 22 DT	ISO 6743-6: CKC (with dd- properties)	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	
RENOLIN ZAF 32 MC	Range RENOLIN ZAF MC Lubricating and hydraulic oils based on group III base oils with selected additives. Very good oxi-	840	220	32	6.3	149	-45	Shear stable, zinc- and ash-free hydraulic and circulating oils wit high viscosity index. <b>Based on</b> <b>MC hydrotreated group III</b>
RENOLIN ZAF 46 MC	dation and ageing stability, very good corrosion protection and high wear protection. High viscosity index (shear stable).	843	238	46	8.0	148	-45	base oils. Oil drain intervals might be extended and grades can be rationalized (multigrade characteristics). Energy saving
RENOLIN ZAF 68 MC	Fulfill and surpass DIN 51524-3: HVLP ISO 6743-4: HV DIN 51517-3: CLP ISO 6743-6: CKC DBL 6713: HLP, HVLP	854	238	68	10.6	146	-42	through high efficiency. Denison HFO approval Bosch Rexroth approval RDE 90245 and RD 90235

Product name	Description	Densi- ty at 15°C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pourpoint °C	Main application area
	Zinc	and As	h-free I	Hydraulic	Oils (ZA	F)		
RENOLIN ZAF 520	Zinc- and ash-free special hydrau- lic and lubricating oil with ex- treme high viscosity index. Thus very good viscosity-temperature behaviour. Fulfills 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.	873	>90	14	5.3	387	<-60	Developed for the use in applica- tions with very low ambient tem- peratures in mobile and stationary equipment; latest additive techno-
RENOLIN ZAF 32 LT	Demulsifying with additives to improve ageing stability and corrosion protection. Surpass the requirements of DIN 51524-3: HVLP; ISO 6743-4: HV	853	135	32	9.5	300	<-54	logy. (ZAF) Demulsifying type. Kinematic viscosity at -40 °C: - RENOLIN ZAF 15 LT = 460mm²/s - RENOLIN ZAF 32 LT = 4850 mm²/s
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 nonferrous metals and a high wear protection.  Fulfills 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 mm²/s
RENOLIN HighPress 46 DLC  IIII	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 / Brugger value 50 N/mm²). Fulfills and surpasses the requirements on hydraulic oils acc. to DIN 51524-2: HLPD ISO 6743-4: HM (with ddproperties)	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 PG 32	Range RENOLIN PG Fully-synthetic hydraulic and lubricating oils based on polyglycols for highest requirements regar-	1022	220	32	7.1	194	-51	For highly loaded hydraulic and lubricating systems with extreme thermal load. Please consider change-over guidelines. Water-
RENOLIN PG 46	ding thermal stability, high viscosity index. Not miscible or compatible with mineral oils, watersoluble, rapidly biodegradable acc. to OECD 301.  Classification acc. to ISO 15380: PG 32: HEPG 32 PG 46: HEPG 46 Fulfill and surpass the requirements on hydraulic oils HVLP acc. to DIN 51524-3.	1024	240	46	9.7	203	-48	soluble PAG hydraulic oil, not miscible or compatible with mineral oils or PAO oils.

Product name	Description	Densi- ty at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pourpoint	Main application area
		Fire-resi	stant H	ydraulic	Fluids			
HYDROTHERM 46 M	Based on water-glycol; tested and approved acc. to 6th and 7th Luxemburg 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, glas 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 Luxembourger 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.	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
RENOSAFE FireProtect 68	Highest oxidation and thermal stability, excellent nonferrous 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%.	932	316	70	12.9	187	-45	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 com- patibility.
	Surpass the requirements on HFDU oils acc. to ISO 12922.							Approved for use in Voith T and TP couplings.



Product name	Description	Densi- ty at 15 °C kg/m³	Flash point Clev.	Kin. visc. at 40 °C mm <sup>2</sup> /s	Kin. visc. at 100 °C mm <sup>2</sup> /s	VI	Pour- point	Main application area
				culating (				
RENOLIN CLP 68	Range RENOLIN CLP High-performance gear and circulating oils with good ageing stability and additives to improve cor-	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 when-
RENOLIN CLP 100	rosion protection (also combat steel and nonferrous 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	885	>230	100	11.3	99	-24	ever the manufacturer recommends a mineral oil of type CLP.  Approved by leading gear box
RENOLIN CLP 150		889	>230	150	14.5	96	-24	manufacturers.  Mineral oil based  Demulsifying
RENOLIN CLP 220	demulsifying properties, very good foaming behaviour, zinc and ash-free and silicone oil-free.	892	>240	220	18.9	96	-21	
RENOLIN CLP 320	RENOLIN CLP oils fulfill and exceed the minimum require- ments of CLP industrial gear oils acc. to DIN 51517-3, ISO 6743-6 and	897	>240	320	24.0	95	-12	
RENOLIN CLP 460	ISO 12925-1: CKC, CKD, CKSMP. US Steel 224, David Brown S1.53.10.	901	>240	460	30.4	95	-12	
RENOLIN CLP 680		902	>240	680	40.0	97	-12	

Product name	Description	Densi- ty at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pourpoint °C	Main application area
		Gear	and Cir	culating (	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 fulfill and surpass the minimum require-	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.
RENOLIN CLP 68 PLUS (200 L)		884	236	68	8.7	100	-27	Long-life oils (tested and approved for 30,000 hours in brown coal open pit mining conveyors/gears). Especially for use in severe condi-
RENOLIN CLP 100 PLUS		887	240	100	11.2	97	-24	tions where dirt, dust and water contamination prevail.  Increased oxidation stability.
RENOLIN CLP 150 PLUS	ments on lubricating oils acc. to DIN 51517-3: CLPD, ISO 6743-6 and ISO 12925-1: CKC, CKD, CKSMP.	892	250	150	14.8	97	-24	Mineral oil based
RENOLIN CLP 220 PLUS	RENOLIN CLP PLUS oils were developed especially for the extreme conditions (e.g. in surface mining).	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	882	221	68	8.9	105	-24	For highly-stressed industrial geal boxes and circulating systems, especially when good load carrying capacity in extreme
RENOLIN AWD 100	reduce friction and form reaction layers which offer excellent wear protection in extreme mixed friction and load conditions.	886	222	100	11.2	97	-24	mixed friction is required, e.g. press lines in the automotive industry.
RENOLIN AWD 150	<ul> <li>Brugger value (typical:</li> <li>&gt;75 N/mm²), excellent FE8 roller bearing wear protection, good dirt carrying capacity (detergent /</li> </ul>	894	208	150	14.6	96	-12	Mineral oil based
RENOLIN AWD 220	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.	896	210	220	18.7	95	-12	

Product name	Description	Densi- ty at 15 °C	Flash point Clev.	Kin. visc. at 40 °C	Kin. visc. at 100 °C	VI	Pour- point	Main application area
		kg/m³	°C	mm²/s	mm²/s		°C	
	Fully Sy	ynthetic	Gear a	nd Circula	iting Oils	5		
RENOLIN PG 68	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.  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	1035	240	68	13.8	212	-48	For gear boxes operating in extreme thermal and mechanical conditions, such as worm gears. Can also be used as
RENOLIN PG 100		1043	260	100	19.6	220	-48	compressor oils for process gases such as methane, ethane, propane, etc. due to low hydrocarbon gas solubility.
RENOLIN PG 150		1051	260	145	27.0	224	-48	And might be used for calender lubrication. RENOLIN PG is especially suitable for steel / bronze sliding pairs in worm gears.
RENOLIN PG 220		1075	240	220	36.8	220	-33	Not miscible or compatible with mineral oils, ester oils and PAO-based oils. Change-over guidelines must be observed.  Based on Polyglycol
RENOLIN PG 320		1075	240	320	54.4	237	-33	
RENOLIN PG 460	manufacturers.	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	

Product name	Description	Densi- ty at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour- point °C	Main application area
	Fully Syr	thetic G	iear and	d Circulat	ing Oils			
RENOLIN UNISYN XT 68	Range RENOLIN UNISYN XT Fully-synthetic industrial gear oils based on new, innovative polyalphaolefins with very high, natural, shear	850	238	68	11.0	154	-54	Suitable for the lubrication of gears and bearings. For the use in applications with high requirements on
RENOLIN UNISYN XT 100	stable viscosity index and excellent low temperature behaviour. Excellent wear protection, high micropitting resistance and very good corrosion	850	238	100	15.3	162	-48	wide temperature range. Extremely low viscosity at low temperatures.
RENOLIN UNISYN XT 150	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.	RENOLIN UNISYN XT oils exceed the requirements on industrial gear oils CLP-HC acc. to DIN 51517-3,	850	238	150	21.4	4 168 -45 wind turbine	ISO VG 220 and 320 for wind turbine applications.  Approved by leading gear
RENOLIN UNISYN XT 220 (20 x 1 L)		860	242	220	29.4	174	-42	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	-42	
RENOLIN UNISYN XT 680		860	244	680	75.5	192	-39	
RENOLIN UNISYN XT 1000		860	244	1000	101.0	195	-33	
RENOLIN UNISYN CLP 68	Rage RENOLIN UNISYN CLP Fully-synthetic PAO-based industrial gear oils with increased ageing stabi- lity, very good load carrying capacity	848	240	68	10.7	147	-56	Suitable for the lubrication of gears and bearings. For the use in applications with high requirements on
RENOLIN UNISYN CLP 150	and excellent wear protection. RENOLIN UNISYN CLP provides a high micropitting resistance, a good air release and very good filtraiton beha-	853	250	150	19.6	150	-45	wide temperature range. Extremely low viscosity at low temperatures.
RENOLIN UNISYN CLP 220	viour. Fulfill resp. surpass the minimum requirements acc. to DIN 51517-3: CLP;	854	260	220	26.7	155	-42	ISO VG 220 and 320 for wind turbine applications. Approved by leading gear box manufacturers.
RENOLIN UNISYN CLP 320	- ISO 6743-6 and ISO 12925-1: CKC, CKD, CKE, CKSMP and AGMA 9005/E02: EP.	860	260	320	35.0	155	-42	Based on PAO
RENOLIN UNISYN CLP 460		861	300	460	45.6	155	-39	
RENOLIN UNISYN CLP 680		862	300	680	62.2	160	-33	
RENOLIN UNISYN CLP 1000		864	300	1000	92.0	179	-33	

Product name	Description	Densi- ty at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour- point °C	Main application area
		ear and	Circula	ition Oils				
RENOLIN CLPF 100 SUPER	Range RENOLIN CLPF SUPER with MoS <sub>2</sub> EP industrial gear oils containing MoS <sub>2</sub> (molybdenum disulphide) with syner-	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 ope-
RENOLIN CLPF 220 SUPER	gistically active EP / AW additives and physically active anti-wear layers (MoS <sub>2</sub> ). The MoS <sub>2</sub> components gua- rantee excellent lubricity at low tem-	896	260	220	18.8 95	95	-21	rating conditions, for noise- dampening. Also for spindle and gear box applications in forging presses.
RENOLIN CLPF 320 SUPER	perature over a wide range of working conditions. The MoS <sub>2</sub> as solid lubricant ensures reliable wear protection even under shock loads and unfavourable operating conditions. The MoS <sub>2</sub> dam-	897	255	320	24.0	95	-14	Mineral oil based
RENOLIN CLPF 460 SUPER	pens vibrations and noise. Very good wear protection in mixed friction areas, good dirt carrying capacity, excellent foaming behaviour, very	902	270	460	30.4	95	-12	
RENOLIN CLPF 680 SUPER	good bearing wear protection - excellent FE8 performance, zinc and silicone oil-free.  RENOLIN CLPF SUPER series surpasses	918	270	680	36.8	88	-10	
RENOLIN CLPF 1500 SUPER	the minimum requirements on indust- rial gear oils DIN 51517-3: CLPF ISO 6743-6 and ISO 12925-1: CKC, CKD	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	894	>210	150	14.6	96	-21	RENOLIN HighGear can be used both in pre-damaged gear boxes and machine components to increase ser-
RENOLIN HighGear 220	protection of these new high-tech gear oils. Highly effective tribo-protec- tion layers reliably protect wetted machine components against wear.	899	>210	220	19.0	97	-18	vice life as well as in new gear boxes (spur, bevel, pla- netary and worm gears) to reduce friction, wear and
RENOLIN HighGear 320	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	904	>210	320	24.3	97	-12	noise in extreme conditions.  Mineral oil based
RENOLIN HighGear 460	roughness. DIN 51517-3: CLP, ISO 6743-6 and ISO 12925-1: CKC, CKD, CKE, CKSMP	909	>210	460	30.8	97	-9	
RENOLIN HighGear 680		907	>210	680	41.5	101	-9	

Product name	Description	Densi- ty at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour- point °C	Main application area
	Sp	ecial Ge	ar and	Circulati	ng Oils			
RENOLIN HighGear Synth 220	Range RENOLIN HighGear Synth RENOLIN HighGear Synth is based on synthetic polyalphaolefins (PAO). Special synergistic additives	873	220	220	23.6	133	-33	RENOLIN HighGear Synth can be used both in pre-damaged gear boxes and machine components to increase service life as well as in new gear boxes (spur, bevel,
RENOLIN HighGear Synth 320	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.	876	220	320	31.2	135	-34	planetary and worm gears) to reduce friction, wear and noise in extreme conditions.  Synthetic PAO components help reduce friction, enable lower operating temperatures and car increase efficiency. Excellent low-temperature characteristics high, shear stable viscosity inde
RENOLIN MORGEAR 100	Range RENOLIN MORGEAR High-performance circulating oils based on mineral oil, for the lubrication of MORGOIL bearings. Mild	888	248	100	11.1	96	-19	For the lubrication of MORGOIL bearings. RENOLIN MORGEAR oils fulfill and surpass the requirements of DANIELI (Italy)
RENOLIN MORGEAR 220	EP/AW additives provide good wear protection, synergistically acting additives ensure good ageing stability and excellent	895	255	226	19.2	96	-10	and SMS.  Mineral oil based
RENOLIN MORGEAR 460	demulsibility (very good water separation). ISO 6743-6 and DIN 51517-2: CL, ISO 12925-1: CKB.	904	>270	470	31.1	96	-9	
RENOLIN MORGEAR 680	130 12925*1. CKB.	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 Inhibi-	889	250	150	14.5	96	-24	Recommended for applications with highly loaded spur gears, bevel gears, and worm gears. Also suitable in highly loaded
RENOLIN CLP 220 VCI	tors). Excellent corrosion protection properties. Reliable long-term cor- rosion protection in the oil phase as well as in the vapour phase.	892	254	220	18.9	96	-24	bearings, joint bearings and pres sure spindles. Especially for gear and components which are not used for a longer period of time
RENOLIN CLP 320 VCI	Excellent wear protection, high scuffing protection, good compati- bility with industrial gear oils and good elastomer compatibility. Ful- fill and surpass the requirements	897	255	320	24.0	95	-12	or are stored before they are used and therefore a conserv. on must be applied. Contain VCI-components (Vapour Cor ion Inhibitors). Also recomme
RENOLIN CLP 460 VCI	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.	901	270	460	30.4	95	-12	ded for gear test rigs (running-ir oil).  Mineral oil based

Product name	Description	Densi- ty at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm <sup>2</sup> /s	Kin. visc. at 100 °C mm²/s	VI	Pour- point °C	Main application area
	Spe	cial Gear	and Ci	rculating	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. Fulfill 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
RENOLIN PentoGear 220 WT	Range RENOLIN PentoGear WT The products of the RENOLIN PentoGear WT range are PAO-free synthetic high-performance industrial	884	228	220	28.2	166	-42	Recommended for use in highly loaded industrial gear- boxes such as spur, bevel and worm gearboxes with recircu-
RENOLIN PentoGear 320 WT  Further viscosity grades available on request.	gear oils and wind turbine gear oils. Very good viscosity-temperature-behaviour due to the high viscosity index (VI).  Due to ist outstanding miscibility and compatibility with gear oils in the market, a simplified change-over is possible.  The unique technology enables a reduction in operating temperatures under load. Practical tests have demonstrated energy savings of up to 4% compared to conventional mineral oil-based industrial gear oils. Fulfill / surpass the minimum requirements for industrial gear oils according to  DIN 51517-3: CLP; ISO 6743-6 and ISO 12925-1: CKC / CKD / CKSMP / CKE	892	232	320	37.4	166	-39	lating or oil-injection lubrication. Suitable for wind turbing gearbox applications, especial ly as service oil or flushing oil, an alternative to PAO based gear oils.
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 coupling: Also suitable as low viscosity, high-pressure gear oil especially with hydraulic controls and combined oil system. Voith Turbo approval.
								Mineral oil based
	Special	Corrosio	n Prote	ction Cor	centrate			
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 industrail oils based on mineral oil, PAO and esters Easy dosage and usage. Recommended concentration: 2%

# **RENEP, RENOLIN**



Product name	Description	Densi- ty at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour- point °C	Main application area
			Slidev	vay Oils				
RENEP CGLP 68	Range RENEP CGLP Mineral oil based slideway oils with lubricity improvers and fric- tion-reducing additives. Good	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
RENEP CGLP 150	EP performance. Protect against corrosion and prevent stick-slip. CGLP slideway oils according to DIN 51502. Demulsifying.	892	230	150	14.6	96	-12	coefficient. HELLER approval. These slideway oils are especially suitable for the use with ECOCOOL cutting fluids. Proven good compatibility
RENEP CGLP 220	Fulfills and surpasses the requirements acc. to DIN 51502: CGLP ISO 6743-13: GA, GB DIN 51517-3: CLP	895	240	220	19.0	96	-15	with many water-miscible cutting fluids. Approved by leading machine tool manufacturers. <b>Mineral oil based</b>
RENEP 2 K	Range RENEP K Slideway oils with special additives to reduce stick-slip especially for machine tools. Good deter-	882	230	68	9.2	112	-27	Suitable for all slideway applications. RENEP K series show good material compatibility. RENEP 2 K is especially suitable for horizontal slideways.
RENEP 5 K	gency. Emulsifying. Detergent/ dispersant type RENEP 2 K: CGLP 68 RENEP 5 K: CGLP 220	900	248	220	19.9	104	-12	Also used for lubrication of bea- rings and gears and as hydraulic oil. RENEP 5 K is used in highly loaded slideways and in vertical guideways. Mineral oil based
RENEP 68 KN	Range RENEP KN Excellent adhesion provided by special additives which increase the adhesion to metal and	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 coef-
RENEP 220 KN	plastic surfaces - "tacky" effect. Good EP performance. Protect against corrosion and prevent stick-slip. Advanced formulation. Fulfills and surpasses require- ments acc. to: DIN 51502: CGLP ISO 6743-13: GA / GB DIN 51517-3: CLP	895	238	220	19.5	100	-17	ficient. Containing tackyfier. Approved by leading machine tool manufacturers. Heller-Approval Especially suitable for the use with ECOCOOL cutting fluids.  Mineral oil based



Product name	Description	Densi- ty at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour- point °C	Main application area		
	Paper Machine Oils									
RENOLIN PA 150	Range RENOLIN PA High-performance paper machine oils based on specially selected mineral base oils in	880	>230	150	15.0	100	-30	Recommended for the use in wet end and dryer sections in paper ma- chines, also in gear boxes, bearings in central lubricating systems as		
RENOLIN PA 220	combination with zinc-containing EP-additives which provide an excellent wear protection.  RENOLIN PA oils fulfill 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.	886	>230	220	19.3	99	-18	well as in applications where a lubricating oil with high thermal stability and very good ageing sta- bility is needed, demulsifying type. <b>Mineral oil based</b>		
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		

Product name	Description	Densi- ty at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour- point °C	Main application area
		Pa	aper M	achine Oi	ls			
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.  Fulfill 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 tem-
RENOLIN UNISYN CLP 220 PA		859	230	220	26.5	154	-36	peratures.  RENOLIN UNISYN CLP 220 PA Fulfills and surpasses the minimum requirements of the companies SKF, FAG and Voith VN 108
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 calender oil based on selected polyglycols (PAG). Excellent wear protection and ageing stability.  DIN 51517-3: CLP-PG ISO 6743-6: CKC/CKD/CKT	1078	240	240	39.0	216	-36	For mechanically and thermally highly loaded wheel and worm gears / rolling and plain bearings. Especially for calenders in the paper and foil industry. Peak temperatures of 250 °C are allowed for a short time.  Miscibility and compatibility properties with polyglycols of others manufacturers have to be checked.
								Based on PAG (Polyglycol)



Product name	Description	Densi- ty at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour- point °C	Main application area
		Tur	bine O	ils				
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	842	220	32	5.8	126	-15	For the lubrication of steam and gas turbines, generators, turbo compressors, pumps and transmissions. Furthermore used as lubricating and barrier oil in water-cooled generators. Surpass TDP and TGP according to DIN 51515 part 1 resp. part 2. AW/EP turbine oils: FZG≥10. Approved by many well-known OEM
RENOLIN ETERNA 46		846	220	46	7.6	132	-15	
RENOLIN ETERNA 68	Turbine oils.  Turbine oils acc. to DIN 51515-1: TDP and DIN 51515-2: TGP.	851	230	68	9.5	120	-15	
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.	838	220	32	5.8	126	-15	For the use in gas and steam turbines as well as in turbo compressors. Especially sui- table for the compression of
RENOLIN ETERNA 46 SGV	Exceed the requirements of DIN 51515-1: TD and DIN 51515-2: TG. EP/AW-free	846	220	46	7.6	132	-15	synthesis gases and ammo- nia. EP/AW-free, highest thermal stability. Approved by many well- known OEM
RENOLIN ETERNA Clean 46	Polar cleaning fluid for turbine oil circuits. Compatible with all common turbine oils. Free from detergents: No deterioration of the air and water separation behaviour and other negative impacts which occur with conventional cleaners. RENOLIN ETERNA Clean 46 contains a complete additive system. Therefore, a "weakening" of the turbine oil filling - arising by addition of other cleaners - will be prevented.	893	238	46	6.8	103	-42	With RENOLIN ETERNA Clean 46 old deposits, varnish and other oil degradation products can effectively be removed from the turbine oil system before an intended oil change. There will be no impairment of the new filling. Addition of approx. 5 – 10% to the existing turbine oil filling.

### **RENOLIN**



Product name	Description	Densi- ty at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour- point °C	Main application area
		Oils	for Tra	nsformer	s			
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.  Fulfills and surpasses the requirements for insulating oils according to IEC 60296 as well as RWE Power Specification class I.	874	142*	9.5	-	-	<-48	RENOLIN E 10 is used as insulating oil in transformers, switches, choking coils, condensers, converters and similar aggregates, also at low outdoor temperatures (e.g. in outdoor units).
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).
<b>RENOLIN E 3</b>	Inhibited switchgear oil based on naphthenic base oils. Especially for the use in outdoor units.  Fulfills the requirements according to IEC 60296.	861	100*	3.2	-	_	<-70	RENOLIN E 3 is primarily used in power switches in outdoor units. Even at low ambient temperatures RENOLIN E 3 ensures an excellent flowability. Hence any additional electric heating is not necessary.

<sup>\*</sup> Measured acc. to Pensky Martens (Flashpoint P.M.)



Product name	Description	Densi- ty at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour- point °C	Main application area
		Screv	w Com	pressor O	ils			
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.  Surpasses the requirements of DIN 51506:VDL.	863	235	32	5.5	108	-38	Universal air compressor fluids for oil injected screw, vane and piston compressors.
RENOLIN SilverScrew 46		868	244	46	6.9	105	-36	
RENOLIN SilverScrew 68	<ul> <li>Corresponds to ISO 6743-3-DAJ.</li> <li>Corresponds to several OEM requirements.</li> </ul>	870	255	68	9.0	106	-40	
RENOLIN GoldScrew 46 (3 x 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.  Surpasses the requirements of DIN 51506:VDL. Corresponds to ISO 6743-3-DAJ. Corresponds to several OEM requirements.	855	260	46	7.6	131	-39	Universal air compressor fluids for oil injected screw, vane and piston compressors.
RENOLIN GoldScrew 68		871	278	68	9.4	117	-33	

#### **RENOLIN**

Product name	Description	Densi- ty at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pourpoint °C	Main application area
		Sci	ew Coi	mpressor	Oils			
RENOLIN UNISYN OL 32	Range RENOLIN UNISYN OL Fully-synthetic cooling oils for piston and screw compressors based on polyalphaolefins with	838	240	32	6.1	138	<-60	Fully-synthetic screw compressor oils based on PAO for extended oil change intervals even when subjec to high thermal loads. Also suitable
RENOLIN UNISYN OL 46	excellent oxidation stability, outstanding wear protection, good demulsification and excellent viscosity-temperature	841	260	46	7.9	141	<-60	for highly loaded hydraulic systems Excellent air release properties. Extended oil drain intervals.
RENOLIN UNISYN OL 68	behaviour. High viscosity index. Excellent air release. Allow service intervals to be extended. Lubricating oils VDL according to DIN 51506 and synthetic	845	260	68	10.6	146	-54	Based on PAO
RENOLIN UNISYN OL 100	hydraulic oils according to DIN 51524-2/3: HLP/HVLP.	848	260	100	14.4	149	-54	
RENOLIN UNISYN OL 150		852	250	150	19.6	150	-47	
RENOLIN SynAir 46	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

Product name	Description	Densi- ty at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour- point °C	Main application area
	Pis	ton and	Rotary	Vane Cor	mpressoi	r Oils		
RENOLIN 503	Range RENOLIN 500 Special ageing-resistant lubrica- ting oils offering minimal coking. Contain additives to	867	250	68	9.1	109	-18	Compressor oils with excellent anti-ageing behaviour and extremely low coking tendency. For air com- pressors with end temperatures up
RENOLIN 504	improve corrosion protection and ageing stability. VDL lubri- cating oils according to DIN 51506. For compressor	890	280	100	10.7	90	-21	to 220 °C. Also for other thermally loaded circulation lubrication systems.
RENOLIN 505	outlet temperatures up to +220 °C. 503: VDL 68 504: VDL 100 505: VDL 150	883	275	150	15.0	100	-15	
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	-12	Can be used in minimum final pressure range from 10 <sup>-3</sup> up to 10 <sup>-4</sup> mbar. Suitable for different compressor types for example piston and rotary compressors.
RENOLIN SE 100  Further ISO VG classes on request	Fully-synthetic air compressor oil based on advanced syn- thetic ester technology. Fulfills the requirements accor- ding to VDL DIN 51506	987	270	100	10.3	81	-42	High temperature stable ester oil for use in vane type and reciprocating compressors, even under severe conditions e.g. high temperatures. Especially suited for compressors where the use of a mineral oil can lead to coking and varnish.
								Based on Di-Ester
		G	as Com	pressor (	Dils			
RENOLIN LPG 100	Range RENOLIN LPG Synthetic gas compressor oils based on polyalkylene glycols (PAG). Suitable for process	1002	270	100	16.2	175	-39	RENOLIN LGP 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
RENOLIN LPG 185 (on request)	gases, refinery gases (petrole- um gases) and other hydrocar- bon-based gases (propane, propylene, butane, etc.) and their blends.  Attention: For RENOLIN LPG 100 and LPG 185 a drying process has	1012	280	185	29.0	197	-36	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.
	to be applied prior to using them as refrigeration oils.							Based on polyglycol

### **RENOLIN, RENISO**



Product name	Description	Densi- ty at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour- point °C	Main application area
	r	Mineral C	Oil base	d Refrige	ration O	ils		
RENISO WF 2,3 A	Range RENISO WF Special refrigeration oils for use with the refrigerant isobutane (R600a) – highly refined, low	823	100	2.35	-	-	-42	RENISO WF refrigeration oils are recommended for the lubrication of hermetic refrigerator compressors with the refrigerant isobutane
RENISO WF 5 A (on request)	flocculation point with R600a, containing additives to improve wear protection and ageing stability. High energy efficiency. DIN 51503: KC, KE.	827	134	5.0	1.7	95	-45	(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
RENISO WF 7 A	_	832	158	7.2	2.2	97	-42	miscible with R600a and also with all other hydrocarbon refrigerants like R290.
RENISO WF 10 A (on request)		835	172	9.6	2.6	97	-42	Based on special mineral oils
RENISO WF 15 A		883	164	15	3.1	_	-51	

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

### **RENISO**

Product name	Description	Densi- ty at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pourpoint °C	Main application area
	Fully Synthetic	c Refrige	eration	Oils base	d on Pol	yol Est	ers (PO	E)
<b>RENISO TRITON SEZ 22 1</b> (20 x 1 L) <b>1</b> (4 x 5 L)	Range RENISO TRITON SE/ SEZ Fully synthetic refrigeration oils based on synthetic polyol-esters - especially sui-	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-
RENISO TRITON SEZ 32	table 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	1004	250	32	6.1	141	-57	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 desi-
RENISO TRITON SE 55	these lubricants with air (atmospheric humidity) has to be limited to a minimum. DIN 51503: KD, KE. RENISO TRITON SE/SEZ is also	1009	286	55	8.8	137	-48	gned to replace R22, such as R422A/D and R417A.  Based on polyolester
	suitable for the use with HFO and HFO/HFC refrigerants.							
RENISO TRITON SEZ 68		972	258	68	8.9	104	-39	
RENISO TRITON SEZ 80		992	251	80	10.6	118	-42	
RENISO TRITON SEZ 100		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	17.1	106	-27	
RENISO TRITON SE 220		976	294	220	19.0	98	-27	
RENISO TRITON SEZ 320	Fully synthetic refrigeration oil based on saturated ester, suitable for ORC systems and HFO applications e.g. R1233zd. Also suitable for PFC and HCFC refrigerants.	1016	278	309	33.0	148	-42	
RENISO TRITON CE 500	Fully synthetic refrigeration oil based on saturated, synthetic ester (POE) for high tempera- ture heat pumps for the refri- gerant R1234ze, R1336mzZ.	950	221	505	52.1	166	-33	

Product name	Description	Densi- ty at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm <sup>2</sup> /s	Kin. visc. at 100 °C mm²/s	VI	Pour- point °C	Main application area
Fully Synthe	tic Refrigeration Oils based	l on Poly	alkylen	e Glycols	(PAG) fo	or Hyd	rocarbo	on Refrigerants Applications
RENISO LPG 68	Range RENISO LPG Synthetic refrigeration oil based on polyalkylene gly-	990	226	68	12.7	189	-48	For piston, scroll and screw compressors (observe operating conditions, e.g. pressure, temperature)
RENISO LPG 100	cols (PAG). For the application area of hydrocarbon refrigerants like propane (R290), propene (R1270). Synergetic acting additives improve the	992	228	100.0	18.1	201	-45	Based on polyglycol
RENISO LPG 150 Packages on request	properties of the used base oils. Depending on the field of application and type of compressor, different viscosities are used. Controlled hydrocarbon solvent for loss viscosities.	994	238	149.9	26.2	211	-42	
RENISO LPG 220 ■ (4 x 5 L) ■   ■	solvency for less viscostiy reduction.	999	240	220.0	36.9	219	-42	
■ (4 X J L) 当 题	DIN 51503 - KE	4!	O'll- I					(D4.0)
	Fully Synthetic Refr							
RENISO SYNTH 68	Synthetic refrigeration oil based on polyalphaolefins (PAO). For NH <sub>3</sub> applications and hydrocarbon refrigerants. Also suitable for CO <sub>2</sub> (not miscible with CO <sub>2</sub> ). DIN 51503: KAA, KB, KE.  NSF-H1-approved acceptable as a lubricant with incidental food contact, for use in and around food processing areas.	835	260	68	10.5	142	-57	RENISO SYNTH 68 has been developed especially for the lubrication of highly stressed NH <sub>3</sub> compressors. Excellent stability with NH <sub>3</sub> . Excellent low temperature flowability, suitable for evaporation temperatures below -50 °C. Very good thermal stability. Very good lubricity also in hydrocarbon (propane R290, propylene R1270, etc.) and CO <sub>2</sub> applications (not miscible with CO <sub>2</sub> ).  Based on PAO
RENISO UltraCool 68	Range RENISO UltraCool Refrigeration oil based on synthetic hydrocarbons. Particularly developed for	854	250	62	9.1	124	-48	RENISO UltraCool 68 combines high thermal stability (no varnish, no slud- ge) and low evaporation rate (low oil carry-over/ low oil loss) with good
RENISO UltraCool 100 Packages on request	ammonia applications. DIN 51503: KAA.	857	239	108	14.4	136	-46	elastomer compatibility (CR, HNBR, NBR).
F	Fully Synthetic Refrigeration	n Oil bas	ed on F	Polyalkyle	ne Glyco	ols (PA	G) for I	NH <sub>3</sub> Applications
RENISO PG 68	Fully synthetic refrigeration oil based on polyalkylene glycols (PAG), miscibility gap 10% oil / 90% NH <sub>3</sub> : -35 °C. NH <sub>3</sub> – partly miscible refrigeration oil, also suitable for hydrocarbon applications. DIN 51503: KAB, KE.	1044	250	70	14.0	210	-52	RENISO PG 68 is an ultra-dried, synthetic refrigeration oil based on PAG for NH <sub>3</sub> systems which operate on the principle of direct expansion. Suitable for screw and reciprocating piston compressors. RENISO PG 68 is also recommended for the use with hydrocarbon refrigerants.  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**

Product name	Description	Densi- ty at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour- point °C	Main application area
F	ully Synthetic Refrigeration	Oils ba	sed on	Polyalkyl	ene Glyc	ols (PA	G) for	Car A/C Systems
RENISO PAG 46 ■ (24 x 250 ml) ■ (20 x 1 L) ■ (on request)	Range RENISO PAG 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 polyalky- lene 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 compres- sors. RENISO PAG 46 and PAG 100 can
RENISO PAG 100	DIN 31303. NAB, ND, NE.	996	240	120	21.0	202	-45	be used together with hydrocarbon refrigerant and ammonia.  Based on polyglycol
<b>RENISO PAG 1234 (</b> 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
Fully	Synthetic Refrigeration Oi	l based o	on Poly	alkylene	Glycols (	PAG) f	or Heat	Pump Applications
RENISO PAG 460 Packages on request	Special fully synthetic refrigera- tion oil based on special polyalkylene glycol (PAG).	1001	252	460	72.4	238	-33	For the use in high temperature hea pump systems with hydrocarbon refrigerants, e.g. pentane (R601), iso-pentane (R601a).
Fu	lly Synthetic Refrigeration (	Oil based	on PO	E for Car	A/C Sys	tems ir	n Electr	ic and Hybrid Cars
RENISO TRITON SEZ 75 AC Packages on request	Synthetic refrigeration oil for electrically driven, hermetic compressors in R1234yf car a/c systems. Also suitable for R134a, <b>based on special</b> <b>polyolester</b> . DIN 51503: KD	992	246	75	9.9	113	-42	RENISO TRITON SEZ 75 AC was developed to lubricate electric compressors in car a/c systems. Due to its high electrical resistivity RENISO TRITON SEZ 75 AC is the ideal lubricant to secure the insulation of the electrical compressor parts at any time. Beyond that RENISO TRITON SEZ 75 AC guarantees reliable lubrication, excellent wear protection and safe oil transport.  Based on polyolester

Product name	Description	Densi- ty at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour- point °C	Main application area
F	ully Synthetic Refrigerat	ion Oils	based o	n Polyall	kylene G	lycols (	(PAG) fo	or CO <sub>2</sub> Applications
RENISO ACC 68 (4 x 5 L)	Synthetic refrigeration oil based on special, double end-capped PAGs for transcritical CO <sub>2</sub> 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 <sub>2</sub> applications (particularly for air conditioning and heat pump applications). Contains special additives to improve wear protection and ageing stability.
RENISO ACC HV (24 x 250 ml)	Synthetic refrigeration oil based on special, double end-capped PAGs for transcritical CO <sub>2</sub> application. Especially developed for automotive A/C sytems. DIN 51503: KB.	991	229	68	14.0	216	-45	RENISO ACC HV was developed in close collaboration with leading compressor manufacturers and OEMs specific for CO <sub>2</sub> 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
	Fully Synthetic Refrig	eration C	Oils bas	ed on Po	lyol Este	rs (POE	) for C	O <sub>2</sub> Applications
RENISO C 55 E ■ (20 x 1 L) ■ (4 x 5 L) ■ (on request)	Range RENISO C Synthetic refrigeration oils based on special polyolesters with anti-wear additives for use with the refrigerant CO <sub>2</sub> (subcritical	1009	286	55	8.8	137	-48	The RENISO C products were especially developed for use in applications with the refrigerant CO <sub>2</sub> . Application fields: supermarket refrigeration equipment (subcritical deep-freeze stage of cascade systems and transcritical applications),
RENISO C 85 E ■ (20 x 1 L) ■ (4 x 5 L) ■ (3 x 10 L) ■ ##	and transcritical applications). Also suitable for HFC / FC refrigerants. DIN 51503: KB, KD.	993	246	80	10.6	118	-42	ship cooling, as well as nearly all fields of industrial and commercial refrigeration.  Based on polyolester
RENISO C 170 E		976	286	172	18.0	116	-33	

### RENISO, PLANTO



Product name	Description	Densi- ty at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm <sup>2</sup> /s	VI	Pour- point °C	Main application area
	Environmen	tally Frie	ndly In	dustrial	and Hydi	aulic C	Dils	
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
PLANTOHYD 22 S*		901	200	22	5.4	198	-33	-30 °C to +90 °C. The change-over guidelines acc. to ISO 15380 must be observed.
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	



Product name	Description	Densi- ty at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour- point °C	Main application area
	Environmen	tally Frie	endly In	dustrial	and Hyd	raulic (	Dils	
PLANTOSYN 32 HVI*	Range PLANTOSYN HVI Environmentally friendly hydraulic and circulating oils based on syn-	915	220	32	6.2	148	-46	Suitable for all mobile and statio- nary hydraulic systems for which the use of a rapidly biodegradable
PLANTOSYN 46 HVI*	thetic saturated esters.  Rapidly biodegradable acc. to OECD 301 B > 60%. High wear protection, good seal and non- ferrous metal compatibility, excel-	913	280	46	8.2	150	-36	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
PLANTOSYN 68 HVI*	Fulfills the requirements of HEES hydraulic oils according to ISO 15380 and HVLP according to DIN 51524-3 (except TOST test).  Awarded the EU Ecolabel (EEL).	916	280	68	10.6	143	-30	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 3268 ECO*	PLANTOSYN 3268 ECO is a rapid- ly biodegradable hydraulic fluid based on synthetic esters. PLAN- TOSYN 3268 ECO was especially developed for use in high risk areas / environemental high risk areas.	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.
	Fulfills the minimum requirements on hydraulic oils HEES acc. to ISO 15380 and HVLP acc. to DIN 51524-3 (except TOST test) Awarded the EU Ecolabel (EEL)							
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	899	156	15	4.1	199	<-48	Gears, bearings, actuators used a extremely low temperatures (e.g. polar regions). Hydraulic systems operated under low temperatures
PLANTOLUBE POLAR 22 S	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.	908	166	22	5.7	200	<-51	can also be run with oils from the POLAR S range. The changeover guidelines according to ISO 15380 must be observed.
	Surpass the requirements of DIN 51524-3: HVLP (except TOST test) ISO 15380: HEES.							



#### **PLANTO**

Product name	Description	Densi- ty at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour- point °C	Main application area
	Environmentall	y Friend	ly Syntl	netic Circ	ulating a	and Ge	ar Oils	
PLANTOGEAR 100 HVI*	Range PLANTOGEAR HVI Environmentally friendly circula- tion and EP gear oils based on special saturated synthetic ester	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,
PLANTOGEAR 150 HVI*	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).	928	>270	150	19.1	145	-30	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 220 S*	Range PLANTOGEAR S Rapidly biodegradable high-per- formance gear oils based on spe- cial, saturated esters. Extremely	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
PLANTOGEAR 320 S*	high thermal and ageing stability, high viscosity index, good viscosi- ty-temperature behaviour. For low-temperature applications.	943	280	320	35.1	155	-30	ground or surface water. For high and low application temperatures. High, shearstable viscosity index. Can be used as a self-cleaning
PLANTOGEAR 460 S*	Excellent self- cleaning power due to polar ester structures, reduced friction, excellent wear protection. The PLANTOGEAR S series surpass the requirements of industrial	951	280	460	48.0	163	-30	gear oil (flushing oil).
PLANTOGEAR 680 S*	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)	958	280	680	66.0	170	-30	
	Environmenta	ally Frier	ndly Slic	leway Oi	ls / Lubr	ication	Oils	
PLANTOLUBE CGLP 68 S	Slideway oil based on synthetic esters with very good biodegradability. Prevents stick-slip. Load carrying capacity and wear protection are outstanding.	916	280	68	12.1	170	-33	PLANTOLUBE CGLP 68 S is designed for the use in combination with PLANTOCOOL and PLANTOCUT.
PLANTO TAC 68	Biodegradable high-performance chain saw oil based on rapeseed oils. Excellent lubrication behavi- our, good ageing resistance.	924	>270	55	12.0	216	-39	For the professional use in chain saws.  Recommendations: Husqvarna, Stihl, Solo, Dolmar
PLANTOTAC HV 220 N	High-quality adhesive oil based on vegetable oil, environmentally friendly and rapidly biodegradable. PLANTOTAC HV 220 N offers very good VT behaviour, adhesive properties and excellent wear protection. FZG A/8.3/90 failure load stage > 12. 220 N: CG 220	955	>250	249	31.5	169	-36	Predominantly for so-called loss lubrication, such as on non-oil- tight bearings, saw frames, guide ways, joints, bolts, etc.
PLANTOTAC HV 100 S	PLANTOTAC HV-N oil is based on ageing-stable synthetic esters. 100 S: CG 100	924	300	100	17.5	193	-36	Predominantly for so-called loss lubrication, such as on non-oil- tight bearings, saw frames, guide ways, joints, bolts, etc. Especially for higher operating temperatures.



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

### **RENOLIN**

Product name	Description	Densi- ty at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pourpoint °C	Main application area
			Heat T	ransfer C	ils			
RENOLIN THERM 250	Range RENOLIN THERM Heat transfer oils based on mineral oils with high thermal stability. High heat transfer	892	154	10.2	2.4	-	<-42	Application range: -20 °C to 250 °C (film temperature)  Based on mineral oils
RENOLIN THERM 320	coefficients.	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	864	>190	21	4.1	_	-60	Application range: until 320 °C (film temperature)
RENOLIN THERM 380 S	alkylbenzenes.  Synthetic heat transfer oil. Extremely high thermal stability. Minimum coking tenden-	1043**	200*	16.5	3.1	_	-34	Application range: until 380 °C (film temperature)  Based on synthetic oils
	cy.	Special 9	Sealing	Oils for (	Gasomet	ers		based on synthetic ons
RENOLIN GAS 68	Range RENOLIN GAS RENOLIN GAS are special sealing oils for gasometers. They are based on carefully chosen	898	232	68	7.9	78	-36	RENOLIN GAS oils can be used in various applications. They have a hig pumpability and good cold flow behaviour (low pourpoints). Moreove
RENOLIN GAS 70  (on request)	base oils and contain efficient additives to protect the oils against oxidation and to gua- rantee a reliable corrosion protection. RENOLIN GAS oils	867	245	68	9.1	113	-39	they display very good anti stick-slip characteristics and show very good demulsibility. Especially developed f the use as sealing oils in gasometer
RENOLIN GAS 150 (on request)	<ul> <li>show high compatibility with various gases and contain efficient anti stick-slip compo- nents.</li> </ul>	880	266	150	15.4	104	-33	
			Pneu	matic Oil	s			
RENOLIN SDL 1808	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.
KOMPRANOL GRÜN	Eco-friendly lubricating and preservation fluid for compressed air tools	1083	112	20	2.3	_	-75	For compressed air tools of all types, e.g. pneumatic hammers and chisels, tunnelling machines, pneumatic pile drivers in all industries. Absorbs wate condensate without loss of the lubricity.
KOMPRANOL PF 84	Synthetic, eco-friendly oil for compressed air tools.	1083	111	20	2.4	_	-75	Mixture of fully-synthetic oil with additives for protection against corrosion and wear. For lubrication of compressed air tools such as pneumatic hammers and chisels, displacement mole drives, and pneumatic tools in all branches of industries, especially in the construction industry Picks up condensate without loss of lubricating quality.

<sup>\*</sup> measured according to Pensky-Martens (Flashpoint P.M.)
\*\* Density at 20 °C

Product name	Description	Densi- ty at 15 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour- point °C	Main application area
			Test (	Oils				
Referenzflüssig- keit 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
Referenzflüssig- keit IRM 902		935	243	441	18.8	_	-	test oils.
Referenzflüssig- keit IRM 903		920	171	29.5	4.3		-33	
RENOLIN FST 101	Leakage test oil concentrate	990	>100	>40	_		-33	Fluorescent leak detection concentrate for lubricating and hydraulic oils.
PRÜFFARBSTOFF blau	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 beer used successfully in hydraulic sys tems of elevators, forklifts, agricultural machinery, platform lifts, hydraulic vibration dampers, etc. Recommended concentration: 2%
		Water-G	ilycol C	oolant Fl	uids			
RENOLIN MPG 5 MIX 30 IDM	Premixed, ready-to-use water-glycol coolant-fluid with a concentration of 30% mono propylene glycol. The product is colored blue nad is fluorescing. To ensure long lifetime, de-ionized water has been used to dilute the product.  Freezing Point [°C]: -11 °C pH value [-]: 8.4 Reserve alkality [0,5N HCI / 50g]: 5.0	1028	-	-	-	-	-	Specially developed for the use as special spindle coolant in CNC machinery. The product is recommended for all circulating systems, either for heating or cooling purposes. It also provides good frost protection, good aging stability and good corrosion protection against iron and nonferrous metals.
RENOLIN MPG 5 CONC IDM	Cooling fluid concentrate based on mono propylene glycol and additives. The concentrate has excellent corrosion protection properties, is colored blue and is fluorescing. Easy mixability, good corrosion protection and long lifetime.  Freezing Point with 40 vol% [°C]: -17 Freezing Point with 50 vol% [°C]: -26 pH value [-]: 7.8 Reserve alkality [0.5 N HCL / 50 g]: 8.8	1044	>110	16.7	-	-	-	The RENOLIN MPG 5 CONC IDM is recommended for industrial circulation systems as coolant, heating or frost protection. The concentrate has to be mixed with water acc. to the manufacturer to be ready-to-use. A minimum concentration of 33% of RENOLIN MPG 5 CONC IDM has to be ensured.

# **FUCHS** Special Applications Industrial Oils

### **RENOLIN**



Product name	Description	Densi- ty at 20 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm <sup>2</sup> /s	VI	Pour- point °C	Main application area
		hain Flui	ids for	Temperat	ures up	to +15	0°C	
RENOLIN CHAINLUBE 3080	Mineral oil-based chain lubricant (Old Name: STABYLAN 3080)	920	141	100	8.8	37	-25	For chain drives operating at high humidity, e.g. in docks, escalators, drive and conveying chains.  Operating temperature -25 to +80 °C  Base oil: mineral oil
RENOLIN CHAINLUBE W3880 SPRAY II (12 x 400 ml)	Chain lubricant with enhanced wear protec- tion (Old Name: STABYLAN W880 SPRAY)	900	-	20	2.9	139	-54	Solvent-free lubricant based on a mineral oil, combined with selected white solid lubricants ensuring a very high resistance to pressure. RENOLIN CHAINLUBE W3880 SPRAY reduces friction losses and protects against fretting corrosion.  Operating temperature -30 to +60°C
RENOLIN CHAINLUBE 2001  (4 x 5 L)	Semi-synthetic chain lubricant (Old Name: STABYLAN 2001)	910	>230	215	21.1	116	-19	For conveyor and drive chains operating at elevated temperatures e.g. in the chemical industry, mechanical engineering and wood processing.  Operating temperature -15 to +150 °C
RENOLIN CHAINLUBE 2001 SPRAY  I (12 x 400 ml)		795	-	215	21.1	116	-19	Base oil: semi-synthetic

# **FUCHS** Special Applications Industrial Oils

Product name	Description	Densi- ty at 20 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm <sup>2</sup> /s	VI	Pour- point °C	Main application area
		Chain F	luids fo	or Tempei	atures u	p to +	150 °C	
RENOLIN CHAINLUBE MO2080	Semi-synthetic lubricant with solid lubricants  (Old Name: STABYLAN 2080)	905	>220	408	26.2	86	-15	RENOLIN CHAINLUBE MO2080 is used for highly-loaded chains in the conveyor and drive technology, e.g. in the chemical industry, in mechanical engineering, wood and plastics processing, packaging equipment, etc. STABYLAN 2080 is well-proven for the lubrication of press guides in the forging industry.  Operating temperature -10 to +120 °C
								Base oil: semi-synthetic
RENOLIN CHAINLUBE G1000 (4 x 5 L)	Chain lubricant with graphite (Old Name: STABYLAN G 1000)	900	158	40	7.7	165	-38	For chain drives of all types in the normal temperature range, e.g. in the automotive industry, chemical industry, mechanical engineering, for transport or conveyor chains, forklift chains and external wire rope lubrication.
RENOLIN CHAINLUBE G1000 SPRAY		730	-	40	7.7	165	-38	Operating temperature -30 to +100 °C  Base oil: mineral oil
<b>I</b> (12 x 400 ml)								
	Chain Fluid	ds for ex	treme 1	Temperat	ures fror	n +150	°C (up	to 300 °C)
RENOLIN CHAINLUBE HT MO5301 (4 x 5 L)	Chain lubricant with MoS <sub>2</sub> (Old Name: STABYLAN MO 3001)	920	300	160	18	124	-19	For conveyor and drive chains as well as plair and roller bearings and sliding surfaces particularly for high-temperature operation in furnaces and dryers etc., e.g. in the chemical and automotive industry, in mechanical engineering, wood and plastics processing, packaging systems and in glass industry. Excellent dry running properties.  Operating temperature -10 to +220 °C
								Base oil: fully synthetic
RENOLIN CHAINLUBE HT 5000  (4 x 5 L)	Fully synthetic high-temperature chain lubricant with low base oil viscosity (Old Name: STABYLAN 5000)	970	>260	100	12	110	-30	For conveyor and drive chains, stenter frames and dryers in the chemical, engineering and textile industries. Is characterised by very low evaporation losses and does not form any lacquer-like deposits even at increased operating temperatures. Good creep ability due to low base oil viscosity.  Operating temperature -20 to +240 °C
				_				Base oil: fully synthetic
RENOLIN CHAINLUBE HT 5001  (4 x 5 L)	Fully synthetic high-temperature chain lubricant with good paint compati- bility	970	>260	180	16	91	-20	For high-temperature applications for conveyor and drive chains, bearings and sliding surfaces in the chemical, textile technology and raw materials industries. Is characterised by very low evaporation losses and does not form any lacquer-like deposits even at
RENOLIN CHAINLUBE HT 5001 SPRAY	(Old Name: STABYLAN 5001)	820	-	180	16	91	-20	increased operating temperatures. Excellent for lubricating conveyor chains in painting lines in the automotive industry. Operating temperature -15 to +240 °C

#### **RENOLIN**

Product name	Description	Densi- ty at 20 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour- point °C	Main application area		
	Chain Fluids for extreme Temperatures from +150 °C (up to 300 °C)									
RENOLIN CHAINLUBE HT 5006 (4 x 5 L)	Fully synthetic high-temperature chain lubricant with high base oil viscosity	940	245	3000	136	132	-7	"Chain honey" for largesized conveyor and drive chains, sliding surfaces, cams, bearings and disc cams e.g. in the chemical industry, in mechanical engineering, steel hydraulics and in printing machines. Is characterised by very low evaporation losses and does not form any lac-		
RENOLIN CHAINLUBE HT 5006 SPRAY	(Old Name: STABYLAN 5006)	780	-	3000	136	132	-7	quer-like deposits even at increased operating temperatures. Minimized fling-off behaviour due to high base oil viscosity.  Operating temperature 0 to +240 °C  Base oil: fully synthetic		
RENOLIN CHAINLUBE HT 5020	Fully synthetic high-temperature chain lubricant (Old Name: STABYLAN 5020)	970	>250	220	20	107	-42	RENOLIN CHAINLUBE HT 5020 is suitable for high-temperature applications of all types of conveyor and drive chains. RENOLIN CHAIN-LUBE HT 5020 was especially developed for the lubrication of chains in curing ovens in the production of gypsum board dryers.  Operating temperature -20 to +250 °C  Base oil: fully synthetic		
RENOLIN CHAINLUBE HT 6020  (4 x 5 L)	Chain fluid for extremely high temperatures (Old Name: STABYLAN 6020)	980	>280	130	14	105	-39	For minimum quantity lubrication of chains in tempering furnaces for insulation production as well as all types of steel link chains. Is characterised by very low evaporation losses and does not form any lacquerlike deposits even at increased operating temperatures. The high flash point offers maximum safety at high temperatures.  Operating temperature -20 to +260 °C  Base oil: fully synthetic		
RENOLIN CHAINLUBE HT 7001	High performance high temperature chain lubricant (Old Name: STABYLAN 7001)	960	>280	233	26	140	-33	RENOLIN CHAINLUBE HT 7001 maximises the lubrication performance in high temperature chain applications. Exceptionally high thermal stability and very good wear protection properties can significantly increase the running time of components, save energy and reduce the number of oven fires - while at the same time reducing lubricant consumption. Excellent for the lubrication of chains in hardening furnaces in insulation production.  Operating temperature -20 to +300 °C  Base oil: fully synthetic		

# **FUCHS** Special Applications Industrial Oils

Product name	Description	Densi- ty at 20 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour- point °C	Main application area			
	Environmentally Friendly Chain Fluids										
RENOLIN CHAINLUBE ECO20  (4 x 5 L)	Biodegradable lubricating fluid (Old Name: STABYLAN ECO 20)	950	>280	95	14	150	-60	For all types of chains and oil-lubricated machine elements, particularly in environmentally sensitive areas characterised by its very good corrosion protection and high water resistance.  Operating temperature -40 to +160 °C			
	20)							Base oil: fully synthetic			
RENOLIN CHAINLUBE ECO W10  (4 x 5 L)	Biodegradable synthetic oil with white solid lubri- cants (Old Name:	890	>180	18	-	-	-60	For lubrication of levers, joints, chains and other mechanisms, particularly for oscillating move- ments. Wherever rapid and selfactivating penetration of the lubricant is required. Operating temperature -20 to +110 °C			
RENOLIN CHAINLUBE ECO W10 SPRAY	STABYLAN ECO W 10)	860	12	18	-	-	-60	Base oil: fully synthetic			
<b>I</b> (12 x 400 ml)	_										
RENOLIN CHAINLUBE CG 68	Range RENOLIN CHAINLUBE CG Mineral oil-based chain lubricant. Contains additives	877	>210	68	8.7	99	< -20	RENOLIN CHAINLUBE CG oils are used to lubricate conveyor chains. They are also suitable for use in difficult conditions, e.g. at moisture or dust (e.g. in sawmills).			
RENOLIN CHAINLUBE CG 150	to increase corrosion protection and wear protection. Good fluidity and high adhesion guarantee safe lubrication of the chain.	892	>225	150	14.6	96	< -10				
PLANTO CHAINLUBE CG 68 Advanced Circular Technologies	Range PLANTO CHAINLUBE CG Biodegradable ester-based chain oils. They are cha- racterized by very good wear pro- tection, good	924	>295	68	12.4	181	< -30	PLANTOLUBE CHAINLUBE CG oils are used for the lubrication of transport chains, even under difficult conditions such as moisture and dust (e.g. in sawmills or mining), when biodegradab- le chain oils are required.			
PLANTO CHAINLUBE CG 150 Advanced Circular Technologies	creeping properties, optimized adhesion and excellent corrosion protection.	928	>270	150	19	145	≤ -30				

### **PLANTO**, RENOLIN, TRAMLUB



Product name	Description	Densi- ty at 20 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour- point °C	Main application area
		L	ubrican	ts for Rai	l Vehicle	es		
TRAMLUB S 3  Im (10 L) E (60 L, 220 L)	Eco-friendly rail and wheel flange lubricating fluid	860	120	165	17	110	-42	For eco-friendly lubrication of rails and wheel flanges of railway vehicles as well as for lubrication of switches. TRAMLUB S 3 is also very suitable for eco-friendly lubrication of chains.  Operating temperature -25 to +100 °C  Base oil: fully synthetic
TRAMLUB 5 4		840	155	37	6	106	-55	For eco-friendly lubrication of rails and wheel flanges of railway vehicles. Especially suitable for low temperatures. Operating temperature -30 to +100 °C  Base oil: fully synthetic
TRAMLUB S 5		920	300	68	12	175	-30	For eco-friendly lubrication of rails and wheel flanges of railway vehicles as well as for reliable lubrication of sliding surfaces of switch plates, biodegradable. Operating temperature -30 to +100 °C  Base oil: fully synthetic

# **FUCHS** Special Applications Industrial Oils



Product name	Description	Densi- ty at 20 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour- point °C	Main application area
		L	ubrican	its for No	ise Redu	ıction		
CARBAFLO KSP 105 Packages on request	Perfluorinated high-performance lubricating fluid	1700	-	148	18	135	-42	Reduces mechanical noise due to stick-slip effects in the passenger compartment of cars, e.g. leather creaking, squeaking of the instrument panel and interior trim.
CARBAFLO KSP 105 SPRAY		1700	-	160	18	135	-42	Operating temperature -40 to +200 °C  Base oil: fully synthetic
CARBAFLO XTR 5F Packages on request	Perfluorinated high-performance lubricating fluid including UV-tracer	1900	-	174	34	242	-63	After the evaporation of the carrier liquid a thin, anti-squeakeffective film remains which can be detected on any surface by a UV lamp. Used to avoid squeaking noise in the vehicle interior and for sealing systems. Operating temperature -40 to +220 °C  Base oil: fully synthetic
CARBAFLO XTR 5F 80 Packages on request	Perfluorinated high-performance lubricating fluid including UV-tracer	1900	-	174	34	242	-63	After the evaporation of the carrier liquid a thin, anti-squeakeffective film remains which can be detected on any surface by a UV lamp. Used to avoid squeaking noise in the vehicle interior and for sealing systems. The CARBAFLO XTR 5F 80 version offers increased creeping ability when the product is applied.  Operating temperature -54 to +220 °C  Base oil: fully synthetic

### CARBAFLO, CHEMPLEX

Product name	Description	Densi- ty at 20 °C kg/m³	Flash point Clev. °C	Kin. visc. at 40 °C mm²/s	Kin. visc. at 100 °C mm²/s	VI	Pour- point °C	Main application area		
Silicone Lubricant / SI-Fluid										
CHEMPLEX SI SPRAY	Silicone lubricant	977	-	730	302	476	-50	CHEMPLEX SI SPRAY combines the excellent properties of silicone lubricants with the easy application from a spray can. Water-repellent, not greasy, does not attack plastics and rubber elastomers. For lubrication of telescopic platforms of road finishers, door sealings of vehicles, zippers, snaps fasteners, hinges, precision mechanics. Only available as spray! Operating temperature -40 to +250 °C		
	Chemi	cally Resi	stant L	.ubricatin	g Fluid /	Fluori	nated F	·luid		
ONTROPEEN 40 Packages on request	Chemically resistant lubricating fluid based on perfluorinated polyether	1890	-	80	10.1	108	-35	For lubrication of special machine elements in the chemical industry at high and low temperatures. It is recommended as a pressure transfer fluid for process control devices in the chemical industry.  Operating temperature -30 to +260 °C		
								Base oil: fully synthetic		
		Sol	id Lubi	ricant Ado	ditives /	MoS <sub>2</sub>				
MOLYPHIDE 10	MoS <sub>2</sub> -suspension	920	210	30	5.2	103	-15	MOLYPHIDE 10% is a thermally stable colloidal suspension of highpurity molybdenum disulphide in mineral oil. The product is used as MoS <sub>2</sub> additive concentrate for engine and machine oils.		
								Base oil: mineral oil		
MOLYPHIDE 20		940	>235	30	5.2	103	-12	MOLYPHIDE 20% is a thermally stable colloidal suspension of highpurity molybdenum disulphide in mineral oil. The product is used as MoS <sub>2</sub> additive concentrate for engine and machine oils.		
								Base oil: mineral oil		

# LUBRICATING GREASES / PASTES

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

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

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



# **Lubricating Greases / Pastes**

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# **Lubricating Greases / Pastes**



Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area
			Multip	ourpose /	Longlife	Greases		
LAGERMEISTER HDG 00	-	Calcium Mineral oil	•	00	350	-30 / +120	-	Main application in upper bearings of cone crushers.
	18 kg (Bucket	t), 45 kg (Hobb	ock), 180 kg	(Drum)				
RENOLIT CA-LZ (Spray can: RENOLIT CA-LZ SPRAY)	KP2K-30 ISO-L- XC(F)CHB 2	Calcium Mineral oil	-	2	700	-30 / +120	-	Strongly adhesive, protects from wear even under extreme conditions, very resistant to water wash-out from metallic surfaces, long-term lubrication of passenger cars and commercial vehicles, construction industry, industrial and agricultural machines.
i <b>T</b>	20 x 0.4 kg (F	Pull-Off Cartrid	ge), 12 x 0.5	kg (SR-Car	tridge),18 kg	g (Bucket), 5	60 kg (Hobbock)	, 180 kg (Drum)
RENOLIT FEP 2	KP2N-20 ISO-L- XB(F)DEB 2	Lithium Mineral oil	-	2	220	-20 / +140	-	Steel mills, quarries, construction equipment and forging presses, machine tools.
<b>4</b>	12 x 0.4 kg (F	Pull-Off Cartrid	ge), 18 kg (B	ucket), 50 l	kg (Hobbock	x), 180 kg (D	rum)	
RENOLIT FEP 25	KP2-3N-20 ISO-L- XB(F)DEB 2-3	Lithium Mineral oil	-	2-3	220	-20 / +140	-	Steel mills, quarries, construction equipment and forging presses.
I 🗑	12 x 0.4 kg (F	Pull-Off Cartrid	ge), 18 kg (B	ucket)				

### LAGERMEISTER, RENOLIT

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area
			Mul	tipurpose	e / Longli	fe Grease	es	
RENOLIT FLM 2	KPF2N-30 ISO-L- XC(F)DEB 2	Lithium Mineral oil	•	2	100	-30 / +140	MAN 285 LI-PF 2	For mechanically loaded lubrica ting points, grease with MoS <sub>2</sub> , agricultural machines, commer- cial vehicles, construction indus try, quarries and mining, rubber and concrete factory.
8 6 6	12 x 0.4 kg (P	ull-Off Cartridg	e), 12 x 0.5	kg (SR-Cart	ridge), 18 kg	g (Bucket), 5	50 kg (Hobbock), 180 kg	g (Drum)
RENOLIT GP 1	K1K-30 ISO-L- XC(F)CEA 1	Lithium Mineral oil	-	1	110	-30 / +120	-	Ageing resistant multipurpose greases with good corrosion protection properties for
9	18 kg (Bucket)	)						lubrication of plain and roller bearings, easily pumpable in
RENOLIT GP 2	K2K-30 ISO-L- XC(F)CEA 2	Lithium Mineral oil	-	2	110	-30 / +120	-	central lubricating systems.
1986	12 x 0.4 kg (P	ull-Off Cartridg	e), 18 kg (Bu	ucket), 50 k	g (Hobbock)	), 180 kg (D	rum)	
RENOLIT GP 3	K3K-30 ISO-L- XC(F)CEA 3	Lithium Mineral oil	-	3	110	-30 / +120	-	
	12 x 0.4 kg (P	ull-Off Cartridg	e), 18 kg (Bu	ucket), 50 k	g (Hobbock)	), 180 kg (D	rum)	
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.
7 6 6	12 x 0.4 kg (P	ull-Off Cartridg	e), 18 kg (Bu	ucket), 50 k	g (Hobbock)	), 180 kg (D	rum)	
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 (P	ull-Off Cartridg	e), 12 x 0.5	kg (SR-Cart	ridge),18 kg	(Bucket), 5	0 kg (Hobbock), 180 kg	(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.
198	12 x 0.4 kg (P	ull-Off Cartridg	e), 18 kg (Bu	ucket), 180	kg (Drum)			
RENOLIT LX-PEP 2	KP2N-30 ISO-L- XC(F)DEB 2	Li-X Mineral oil	-	2	170	-30 / +150	MAN 284 Li-H2, MB Approval 265.1, ZF TE-ML 12, Schaeffler Gruppe, VW TL 52 147 X, Interprecise (IDC-Bearings), Deutsche Bahn	Multipurpose grease, wheel bearings of motor vehicles, roller bearings of e-motors, needle bearings of cardan shafts, plain and roller bearings ventilator grease.
i	12 x 0.4 kg (P	ull-Off Cartridge	e) 12 x 0 5	ka (SR-Cart	ridae) 18 ka	n (Bucket) =	50 kg (Hobbock), 180 kg	n (Drum)

# **Lubricating Greases / Pastes**

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area
			Mul	tipurpos	e / Longli	fe Greas	es	
RENOLIT LX-PEP 3	KP3N-30 ISO-L- XC(F)DEB 3	Li-X Mineral oil	-	3	170	-30 / +150	Interprecise (IDC-Bearings)	Multipurpose grease, wheel bearings of motor vehicles, roller bearings of e-motors, plain and roller bearings, ventilator grease
<b>P 6</b>	18 kg (Bucket	t), 180 kg (Drui	m)					
RENOLIT MP	KP2K-40 ISO-L- XD(F)CEB 2	Lithium Mineral oil	-	2	35	-40 / +120	DBL 6804.00, MB Approval 267.0	Multipurpose grease for lubricating points in passenger cars, commercial vehicles, engines, where constant temperature does not exceed 100 °C, sliding speeds are very low and which are not exposed to high mechanical loads.
11886	30 x 0.25 kg	(Tube), 12 x 0.4	4 kg (Pull-Of	f Cartridge)	, 3 x 5 kg (B	ucket), 18	kg (Bucket), 50 kg (Hobl	bock), 180 kg (Drum)
RENOLIT MP PLUS	KP2K-30 ISO-L- XC(F)CEB 2	Lithium Mineral oil	-	2	100	-30 / +120	-	High quality EP multipurpose grease with high adhesiveness for the lubrication of plain and roller bearings. Only available in SR-cartridges.
i	12 x 0.5 kg (	SR-Cartridge)						
RENOLIT MT 2	KP2K-30	Calcium Mineral oil	+	2	100	-30 / +130	-	RENOLIT MT 2 is ideally suited for the lubrication of plain and roller bearings in construction machinery subjected to severe operating conditions, for all lubrication points. Furthermore suitable for vibration, dry and wet screening, reprocessing units, construction, stone, earth industries, gravel quarries, stone quarries, and mobile recycling equipments.
i 🗑	12 x 0 5 kg (9	SR-Cartridge), 1	8 ka (Bucka	+\				, .

### LAGERMEISTER, RENOLIT



Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area
			Greases	for Plai	n and Ro	ler Bearii	ngs	
LAGERMEISTER SL	K2-3K-20	Lithium Mineral oil	-	2-3	100	-20 / +120	-	For lubrication of plain and roller bearings at normal operating tem- peratures in mechanical enginee- ring, and conveyors. It is also suitable as a chassis and sealing
18	12 x 0.4 kg (F	Pull-Off Cartrido	ge), 12 x 0.5	kg (SR-Car	tridge), 5 kg	(Bucket), 1	8 kg (Bucket)	grease.
LAGERMEISTER SLG	KF2K-30	Lithium Mineral oil	•	2	100	-30 / +120	-	
i #	12 x 0.4 kg (F	Pull-Off Cartrido	ge), 12 x 0.5	kg (SR-Car	tridge), 45 k	g (Hobbock	)	
LAGERMEISTER TS (Spray can: LAGERMEISTER TS SPRAY)	KP2N-30	Lithium Semi- synth. base oil	-	2	800	-30 / +140	DB-MatNr. 245467, KHD Humboldt, Wedag Interna- tional, R.STAHL, Zeppelin Bau- maschinen	For plain and roller bearings under difficult operating conditions. Especially recommended for high pressures and low revolutions per minute . Allows longer regreasing intervals when compared to conventional greases. Very good adhesive properties.
1885	12 x 0.4 kg (F	Pull-Off Cartridg	ge), 12 x 0.5	kg (SR-Car	tridge), 18 k	g (Bucket),	45 kg (Hobbock), 1	85 kg (Drum)

# **Lubricating Greases / Pastes**

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area
			Greases	for Plai	n and Ro	ller Beari	ngs	
LAGERMEISTER XXL	KP2P-20	PU Mineral oil	-	2	180	-20 / +160 / +180	FLSmidth MAAG Gear, KHD Hum- boldt Wedag International, Loesche, Sandvik, SMS Meer, Zeppelin Bau- maschinen	Ideally suited for the lubrication of highly-loaded plain and roller bearings on all kinds of construction machinery, especially under harsh operating conditions, high loads and increased temperatures. Allows reduced number of lubricants and increased regreasing intervals.
	12 x 0.4 kg (F	Pull-Off Cartridg	ge), 12 x 0.5	kg (SR-Car	tridge), 6 x	1 kg (Tin), 1	8 kg (Bucket), 45	kg (Hobbock), 180 kg (Drum)
RENOLIT CA-LZ (Spray can: RENOLIT CA-LZ SPRAY)	KP2K-30 ISO-L- XC(F)CHB 2	Calcium Mineral oil	-	2	700	-30 / +120	-	Strongly adhesive, protects from wear even under extreme conditions, very resistant to water wash-out from metallic surfaces, long-term lubrica- tion of passenger cars and commer- cial vehicles, construction industry, industrial and agricultural machines.
1963	20 x 0.4 kg (F	Pull-Off Cartridg	ge), 12 x 0.5	kg (SR-Car	tridge),18 k	g (Bucket), !	50 kg (Hobbock),	180 kg (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.
	18 kg (Bucket	t), 50 kg (Hobb	ock), 180 kg	(Drum)				
RENOLIT CX-EP 1	KP1N-30 ISO-L- XC(F)DEB 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
7 8 6	18 kg (Bucket	t), 50 kg (Hobb	ock), 180 kg	(Drum)				solutions.
RENOLIT CX-EP 2	KP2N-30 ISO-L- XC(F)DEB 2	Ca-X Mineral oil	-	2	110	-30 / +140	Hoesch Rothe Erde	Easily pumpable in central lubricating systems.
	12 x 0.4 kg (F	Pull-Off Cartridg	ge), 18 kg (B	ucket), 50 l	kg (Hobbock	k), 180 kg ([	Orum)	
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.

### LAGERMEISTER, RENOLIT

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area
			Grease	s for Plai	n and Ro	ller Beari	ngs	
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 (Pi	ull-Off Cartridg	e), 12 x 0.5	kg (SR-Cart	ridge), 18 k	g (Bucket), 5	50 kg (Hobbock)	), 180 kg (Drum)
RENOLIT CX-TOM 15	-	CaSX Semi- synth. base oil	-	1-2	100	-40 / +160	SEW- Eurodrive	Industrial gear bearings, belt conveyors paper machines, machine tools, mining.
1285	12 x 0.4 kg (Pi	ull-Off Cartridg	e), 18 kg (Bı	ucket), 50 k	g (Hobbock)	), 180 kg (D	rum)	
RENOLIT FAP 502	-	Li/Ca Mineral oil	_	2	500	-20 / +140	-	For high loaded plain and roller bearings with slow sliding speeds.
90	18 kg (Bucket)	, 50 kg (Hobbo	ock)					
RENOLIT FEP 2	KP2N-20 ISO-L- XB(F)DEB 2	Lithium Mineral oil	-	2	220	-20 / +140	-	Steel mills, quarries, construction equipment and forging presses, machine tools.
i 2 8 5	12 x 0.4 kg (Pi	ull-Off Cartridg	e), 18 kg (Bı	ucket), 50 k	g (Hobbock)	), 180 kg (D	rum)	
RENOLIT FEP 25	KP2-3N-20 ISO-L- XB(F)DEB 2-3	Lithium Mineral oil	-	2-3	220	-20 / +140	-	Steel mills, quarries, construction equipment and forging presses.
Ī	12 x 0.4 kg (Pi	ull-Off Cartridg	e), 18 kg (Bı	ucket)				
RENOLIT FLM 0	-	Lithium Mineral oil	•	0	100	-30 / +120	-	For mechanically loaded lubricating points, grease with MoS <sub>2</sub> , and additives to improve corrosion protection, EP and AW.
	180 kg (Drum)	)						
RENOLIT FLM 2	KPF2N-30 ISO-L- XC(F)DEB 2	Lithium Mineral oil	•	2	100	-30 / +140	MAN 285 LI-PF 2	For mechanically loaded lubricating points, grease with MoS <sub>2</sub> , agricultural machines, commercial vehicles, construction industry, quarries and mining, rubber and concrete factory.
	12 x 0.4 ka (Pi	ull-Off Cartrido	e), 12 x 0.5	kg (SR-Carti	ridge), 18 k	a (Bucket). 5	50 ka (Hobbock)	), 180 kg (Drum)

# **Lubricating Greases / Pastes**

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area
			Grease	s for Plai	n and Ro	ler Beari	ngs	
RENOLIT GP 1	K1K-30 ISO-L- XC(F)CEA 1	Lithium Mineral oil	-	1	110	-30 / +120	-	Ageing resistant multipurpose greases with good corrosion protection properties for lubrication of plain and roller bearings, easily pumpable in central
9	18 kg (Bucke	t)						lubricating systems.
RENOLIT GP 2	K2K-30 ISO-L- XC(F)CEA 2	Lithium Mineral oil	-	2	110	-30 / +120	-	
<del>       </del>	12 x 0.4 kg (I	Pull-Off Cartrid	ge), 18 kg (B	ucket), 50	kg (Hobbock	x), 180 kg (	Drum)	
RENOLIT GP 3	K3K-30 ISO-L- XC(F)CEA 3	Lithium Mineral oil	-	3	110	-30 / +120	-	
1263	12 x 0.4 kg (I	Pull-Off Cartridg	ge), 18 kg (B	ucket), 50	kg (Hobbock	x), 180 kg (	Drum)	
RENOLIT H 443-HD 88	_	Lithium Mineral oil	-	2-3	110	-30 / +140	RWE Rhein- braun 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.
i <b>2</b> 6 3	20 x 0.4 kg (I	Pull-Off Cartridg	ge), 12 x 0.5	kg (SR-Car	tridge), 18 k	g (Bucket),	50 kg (Hobbock),	, 180 kg (Drum)
RENOLIT HI-TEMP 100	KPHC2N-50 ISO-L- XE(F)DFB 2	Li-X PAO	-	2	100	-50 / +140	-	Used in a wide temperature range for lubrication of plain and roller bearings of, e.g., electric motors, traction motors, bearings and cardan shafts in polar regions.
i <b>y</b> 5	12 x 0.38 kg	(Pull-Off Cartri	dge), 18 kg (	(Bucket), 17	'0 kg (Drum	)		
RENOLIT HI-TEMP 220	KPHC2N-40 ISO-L- XD(F)DFB 2	Li-X PAO	-	2	220	-40 / +140	-	Used in a wide temperature range for lubrication of plain and roller bearings of, e.g. paper mills (wet sector), truck hub units, and cardan shafts.
I <b>2</b>	12 x 0.38 kg	(Pull-Off Cartri	dge), 18 kg (	(Bucket), 50	kg (Hobbo	ck), 170 kg	(Drum)	
RENOLIT HI-TEMP 460	KPHC2N-40 ISO-L- XD(F)DFB 2	Li-X PAO	-	2	460	-40 / +140	-	Lubrication of plain and roller bearings of conveyor gears (e.g. in open cast mining), pellet presses, paper mills, and for lifetime lubrication in trucks and construction machines.
198	12 x 0.38 kg	(Pull-Off Cartri	dge), 18 kg (	(Bucket), 17	'0 kg (Drum	)		
RENOLIT HLT 2	KPHC2N-40 ISO-L- XD(F)DBB 2	Lithium PAO	-	2	100	-40 / +140	-	For lubricating points with high requirements, especially those exposed to fluctuating ambient temperatures, e. g lifetime lubrication of pneumatic applications, centrifuges, plain and roller bearings
i <b>2</b> 5	12 v 0 29 kg	(Pull-Off Cartri	dne) 3 x 5 k	a (Rucket)	18 kg (Ruck	at) 180 ka	(Drum)	

### **RENOLIT**

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area
			Grease	s for Pla	in and Ro	ller Bear	ings	
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.
i w a e	12 x 0.4 kg (Pul	l-Off Cartridge)	, 18 kg (Buc	ket), 50 kg	(Hobbock),	180 kg (Dru	ım)	
RENOLIT LX 2	-	Li-X Mineral oil	-	2	160	-30 / +160	-	Roller bearings, electric motor bearings, coupling bearings in the automotive sector, construc- tion machines, forging presses, wheel bearings of commercial vehicles, machine tools.
<b>2</b>   5	12 x 0.4 kg (Pul	l-Off Cartridge)	, 12 x 0.5 kg	g (SR-Cartrio	dge),18 kg (	Bucket), 50	kg (Hobbock), 180 kg (l	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 (Pul	l-Off Cartridge)	, 18 kg (Buc	ket), 180 kg	g (Drum)			
RENOLIT LX-PEP 1/2	KP1-2N -30 ISO-L- XC(F)DEB 1-2	Li-X Mineral oil	-	1-2	170	-30 / +150	-	High speed gears for power tools, e.g. power drill, circular hand saw, jigsaw, etc., needle cups and length adjustments of cardan shafts, plain and roller bearings.
	50 kg (Hobbock	), 180 kg (Drun	n)					
RENOLIT LX-PEP 2	KP2N-30 ISO-L- XC(F)DEB 2	Li-X Mineral oil	-	2	170	-30 / +150	MAN 284 Li-H2, MB Approval 265.1, ZF TE-ML 12, Schaeffler Gruppe, VW TL 52 147 X, Interprecise (IDC-Bearings), Deutsche Bahn	Multipurpose grease, wheel bearings of motor vehicles, roller bearings of e-motors, needle bearings of cardan shafts, plain and roller bearings ventilator grease.
8 8 8	12 x 0.4 kg (Pul	l-Off Cartridge)	, 12 x 0.5 kg	g (SR-Cartrio	dge), 18 kg	(Bucket), 50	kg (Hobbock), 180 kg	(Drum)
RENOLIT LX-PEP 3	KP3N-30 ISO-L- XC(F)DEB 3	Li-X Mineral oil	-	3	170	-30 / +150	Interprecise (IDC-Bearings)	Multipurpose grease, wheel bearings of motor vehicles, roller bearings of e-motors, plain and roller bearings, ventilator grease
9 5	18 kg (Bucket),	180 kg (Drum)						
RENOLIT LZR 2 H	KP2N-30 ISO-L- XC(F)DIB 2	Li/Ca 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, hytrel compatibel.
	12 x 0.4 kg (Pul	  -Off Cartridge\	18 kg (Ruc	kot) EO ka	(Habback)	190 kg /Dru	·m\	

# **Lubricating Greases / Pastes**

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area
			Grease	s for Pla	in and Ro	ller Bear	rings	
RENOLIT MP	KP2K-40 ISO-L- XD(F)CEB 2	Lithium Mineral oil	-	2	35	-40 / +120	DBL 6804.00 MB Approval 267.0	Multipurpose grease for lubricating points in passenger cars, commercial vehicles, engines, where constant temperature does not exceed 100 °C, sliding speeds are very low and which are not exposed to high mechanical loads.
ilase	30 x 0.25 kg (T	ube), 12 x 0.4	kg (Pull-Off (	Cartridge), 3	3 x 5 kg (Bu	cket), 18 kg	g (Bucket), 50 kg (Hobbo	ock), 180 kg (Drum)
RENOLIT MP PLUS	KP2K-30 ISO-L- XC(F)CEB 2	Lithium Mineral oil	-	2	100	-30 / +120	-	High quality EP multipurpose grease with high adhesiveness for the lubrication of plain and roller bearings. Only available in SR cartridges.
i	12 x 0.5 kg (SR	t-Cartridge)						
RENOLIT PU PEM 2 <b>NEW</b>	KPHC 2 N-40 ISO-L-X-DFEB	PU PAO	-	2	62	-40 / +160	-	Lubrication of high-speed electric motors, but also for industrial applications like hot-air blowers, spindle bearings, tumble dryers, black-rubber mixers, paper industry dryers, calander bearings, etc.
<b>e</b>	18 kg (Bucket)							
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).
<b>   </b>	12 x 0.4 kg (Pu	ıll-Off Cartridge	), 18 kg (Bu	cket), 180 k	g (Drum)			
RENOLIT PU-GU 2	KP2N-30	PU Mineral oil	-	2	196	-25 / +140	-	Thermally and mechanically loaded roller and plain bearings. Alternative to conventional lithium/lithium complex greases
181	12 x 0.5 kg (SR	R-Cartridge), 18	kg (Bucket)	50 kg (Hol	obock)			
RENOLIT PU-MA 2	KPFHC2R-40 ISO-L- XD(F)FEB 2	PU Synth. base oil	•	2	100	-40 / +180	-	Lubrication of electric motors, hot-air blowers, tumble dryers, black-rubber mixers, paper industry dryers, calander bearings, etc.
i 2 E	12 x 0.4 kg (Pu	ıll-Off Cartridge	), 18 kg (Bu	cket), 180 k	g (Drum)			
RENOLIT S 2	KE1-2G-60 ISO-L- XE(F)BEA 1-2	Lithium Synth. ester	-	1-2	14	-60 / +100	-	Low temperature e.g. electrical motors, instruments, air traffic control systems, refrigerators, air conditioners and transmitter equipment.
1863	12 x 0.4 kg (Pu	ıll-Off Cartridge	), 5 kg (Bucl	ket), 18 kg	(Bucket), 50	kg (Hobbo	ck), 180 kg (Drum)	
RENOLIT UNITEMP 2	-	Synth. NaX PAO	-	2	180	-40 / +180	-	Plain and roller bearings at high temperatures.
i <b>v</b> E	12 x 0.4 kg (Pu	ıll-Off Cartridge	), 3 x 5 kg (l	Bucket), 18	kg (Bucket),	, 180 kg (D	rum)	

### RENOLIT, STABYL, URETHYN

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area
			Greas	ses for Pl	ain and F	Roller Bea	rings	
STABYL 300 AL 1	KPF1P-20	Al-X Mineral oil	•	1	320	-20 / +150	-	For plain and roller bearings, guides at highest loads, high
	45 kg (Hobbo	ock), 185 kg (D	rum)					temperatures and considerable temperature fluctuations, e.g. in
STABYL 300 AL 2	KPF2P-20	Al-X Mineral oil	•	2	320	-20 / +150	-	raw materials industry, iron and steel works, chemical industry, sintering plants, calanders, extru- ders.
1886	12 x 0.4 kg (F	Pull-Off Cartrid	ge), 18 kg (B	Bucket), 45 l	kg (Hobbock	k), 185 kg (E	Orum)	
STABYL AX 1	KP1P-20	Al-X Mineral oil	-	1	320	-20 / +150	Palfinger Systems, Sprimag Spritzma- schinenbau	Universal greases for many applications at highest specific loads, high temperatures and and con-
j <b>v</b> 5	12 x 0.4 kg (F	Pull-Off Cartrid	ge), 18 kg (B	Bucket), 180	kg (Drum)			siderable temperature fluctua- tions. Particularly suitable for
STABYL AX 2	KP2P-20	Al-X Mineral oil	-	2	320	-20 / +150	Palfinger Systems, Sprimag Spritzma- schinenbau	central lubrication systems with long feed lines and low diame- ters.
	12 x 0.4 kg (F	Pull-Off Cartridg	e), 12 x 0.5	kg (SR-Cartı	ridge), 6 x 1	kg (Tin), 5 k	g (Bucket), 18 kg (Bucke	t), 45 kg (Hobbock), 185 kg (Drum)
URETHYN E/M 1	KPE1P-20	PU Semi- synth. base oil	-	1	150	-20 / +160	ANDRITZ, Bosch Rexroth, KHD Humboldt, Wedag International, NEFF Gewindetriebe	Long-life lubrication of plain and roller bearings, e.g. electric motor bearings in textile machines, ventilator bearings in dryers and kilns, spindle
i 🗆 🗑 🛢	12 x 0.4 kg (F	Pull-Off Cartride	ge), 6 x 1 kg	(Tin), 5 kg	(Bucket), 18	kg (Bucket)	), 185 kg (Drum)	bearings. Lubrication of plastics, elastomers and sealing elements.
URETHYN E/M 2	KPE2R-20	PU Semi- synth. base oil	-	2	150	-20 / +180	ANDRITZ, Bosch Rexroth, KHD Humboldt, Wedag International, NEFF Gewindetriebe	
		Tube), 12 x 0.4 ock), 185 kg (Dr		Cartridge),	12 x 0.5 kg	(SR-Cartridg	ne), 6 x 1 kg (Tin), 5 kg (E	Bucket), 18 kg (Bucket),

### **FUCHS** Special Applications

### **Lubricating Greases / Pastes**

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area
			Greases	for Plai	n and Ro	ler Beari	ngs	
GLEITMO SIL 115 F	-	PU Silicone oil	-	0	80	-40 / +200	-	Especially suitable for re-lubrication of GLEITMO SIL 115 L and SIL 115 M at very high temperature.
	1 x 1 kg (Tin)	, 5 kg (Bucket),	18 kg (Buck	cet)				
GLEITMO SIL 115 L	-	PU Silicone oil	-	1	80	-40 / +200	-	High temperature grease, plain and roller bearings, e.g. electric motors,
! □ <del>□</del>	6 x 0.1 kg (Tu	be), 6 x 1 kg (1	Γin), 5 kg (Βι	ıcket), 18 k	g (Bucket)			conveyor chains, furnace carriages, drying equipment, bearing pairs: metal/
GLEITMO SIL 115 M	-	PU Silicone oil	-	2	80	-30 / +220	-	metal, metal/plastic, plastic/plastic.
I 🗆 🗟	6 x 0.1 kg (Tu	lbe), 6 x 1 kg (1	Γin), 5 kg (Βι	ıcket), 18 k	g (Bucket)			
GLEITMO SIL 400 L	KSI1R-30 ISO-L- XE(F)FEA 1	Lithium Silicone oil	-	1	80	-30 / +180	-	For slightly to normally loaded roller and friction bearings in electric motors, for joints, conveyor chains, ventilators,
	6 x 0.1 kg (Tu	ıbe), 185 kg (D	rum)					dryers, controlling equipment and household appliances. Guarantees a good lubrication to metal/plastic parings.
GLEITMO SIL 400 M	KSI2R-30 ISO-L- XE(F)FEA 2	Lithium Silicone oil	+	2	80	-30 / +180	-	
i 🗆 🗟	6 x 0.1 kg (Tu	be), 1 x 1 kg (1	Tin), 5 kg (Bu	ıcket), 18 k	g (Bucket)			
PLANTOGEL ECO 2 FS Advanced Circular Technologies	-	Li/Ca Synth. ester	•	2	195	-30 / +120	-	Rapidely biodegradable EP multipur- pose grease with solid lubrications for lubrication of plain and roller bearings, e.g. commercial vehicles and construc- tion machinery.
₩ 5	18 kg (Bucket	t), 180 kg (Drui	m)					
PLANTOGEL ECO 2 S Advanced Circular Technologies	ISO-L- XD(L)CEB 2	Li/Ca Synth. ester	-	2	105	-40 / +120	EU Ecolabel DE/027/273  CELECTRIC STREET	Rapidely biodegradable EP multipur- pose grease for plain and roller bearing lubrication, e.g. water turbines, con- struction machinery or in agriculture and forestry. Good pumpability in central lube systems. Also used in laby- rinth seals of tunnel boring machines.
1913	12 x 0.4 kg (F	Pull-Off Cartrido	ge), 18 kg (B	ucket), 50 l	kg (Hobbock	x), 180 kg ([	Orum)	
PLANTOGEL ECO 402 S Advanced Circular Technologies	ISO-L- XD(F)BFB 2	Li/Ca Synth. ester	-	2	240	-40 / +120	EU Ecolabel DE/027/273	Rapidely biodegradable EP multipur- pose grease for plain and roller bearing lubrication, e.g. water turbines, con- struction machinery or in agriculture and forestry. Good pumpability in central lube systems.
9	18 kg (Bucket	t)						

### **GLEITMO, PLANTO, RENOLIT, URETHYN**

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area
			Greas	es for Pla	ain and R	oller Bea	rings	
RENOLIT GL 1 (Spray can: RENAX GLEIT- SPRAY)	-	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.
Y 5	18 kg (Bucket)	, 180 kg (Drun	n)					
RENOLIT HI-SPEED 2	KHCE2K-40 ISO-L- XD(F)CEA 2	Lithium Synth. base oil	-	2	18	-40 / +120	-	For high-speed bearings, n x dm = 1,4 Mio, machine tools and textile spindles, electrical motor, linear guiding.
	1 x 0.5 kg (SR-	-Cartridge), 1 x	1 kg (Tin),	18 kg (Buck	et), 170 kg (	Drum)		
RENOLIT JP 1619  BlueV TECHNOLOGY	-	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 (Bucke	t), further pa	ackages 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.
5	180 kg (Drum)	)						
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.
	6 x 1 kg (Tin)							
URETHYN XHD 2	KPFHC2R-40	PU Synth. base oil	•	2	290	-40 / +180	-	Smooth, fully synthetic polyurea grease for extreme conditions, such as alternating speeds, temperatures and loads. URETHYN XHD 2 is especially suitable for bearings of largesize generators of wind turbines and thermally and mechanically highly loaded bearings in various industrial applications.
i 2 6 5	12 x 0.4 kg (P 185 kg (Drum)		e), 4 x 3.540	) kg (Service	e-Cartridge),	5 kg (Bello	w), 5 kg (Bucket), '	18 kg (Bucket), 25 kg (Hobbock),





Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area
				Greases 1	or Gear I	Boxes		
EASYMESH HTS	-	Inorg. thickener Synth. base oil	-	1-2	300	-30 / +180 / +260	-	EASYMESH HTS is a non-melting grease for the lubrication of gears and bearings in high-temperature environments. It has no drop point, very low oil separation at high temperatures and a avery low evaporatoin rate of the base oil.
[ <b>2</b>	12 x 0.5 kg (	SR-Cartridge), 5	kg (Bucket)	, 50 kg (Hob	bock), 180	kg (Drum)		
RENOLIT CX-EP 0	GPON-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.
<b>9 3</b>	18 kg (Bucket	t), 180 kg (Drui	m)					
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- toothed gears, e.g. forming presses, machine tools, industrial gears.
	18 kg (Bucke	t), 180 kg (Drui	m)					
RENOLIT FLM 0	-	Lithium Mineral oil	•	0	100	-30 / +120	-	For mechanically loaded lubricating points, grease with MoS <sub>2</sub> and additives to improve corrosion protection, EP and AW.
3	180 kg (Drum	1)						

### **RENOLIT, URETHYN**

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area
				Greases	for Gear	Boxes		
RENOLIT LX G 400	GP00N-30	Li-X Semi- synth. base oil	-	00	150	-30 / +140	Ammann Verdichtung, bielomatik Leuze, KHD Humboldt Wedag International, Maschinenfabrik Köppern, Outotec, SMS Meer, ThyssenKrupp Resource Technologies	For gear motors on DIY equipment and machine tools as well as for all types of small gears.
91	5 kg (Bucket),	18 kg (Bucket)	, 45 kg (Hob	obock)				
RENOLIT LX P 00	GPHC00P-40	Li-X Synth. base oil	-	00	180	-40 / +160	bielomatik Leuze, ThyssenKrupp Resource Technologies	For lubrication of gears of a high power density. Sealing grease for struts in shock absorbers.
	6 x 1 kg (Tin),	5 kg (Bucket),	18 kg (Buck	et), 45 kg (H	lobbock), 18	0 kg (Drum	)	
RENOLIT LZR 000	GP00- 000G-40	Li/Ca Mineral oil	-	00-000	43	-40 / +110	MB Approval 264.0, MAN 283 LI-P 00/000	Semi-fluid grease for central lubricating systems of commercial vehicles.
988	3 x 5 kg (Buck	et), 18 kg (Buc	ket), 50 kg (	Hobbock), 1	80 kg (Drum	n)		
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.
i 5 1 3	10 x 0.45 kg (	Tube), 3 x 5 kg	(Bucket), 18	3 kg (Bucket)	, 50 kg (Hol	obock), 180	kg (Drum)	
RENOLIT SO-GFB	GP00H-30	Sodium Mineral oil	_	00	250	-30 / +100	Siemens Flender	Fast rotating gears, gear motors, drum motors, gear couplings.
9 1 5	18 kg (Bucket)	, 50 kg (Hobbo	ock), 180 kg	(Drum)				
RENOLIT SO-GFO 35	GP0H-30	Sodium Mineral oil	-	0	250	-30 / +100	-	Fast rotating gears, agricultural machines.
	20 x 1 kg (Tin)	), 18 kg (Bucke	t), 50 kg (Ho	obbock), 180	kg (Drum)			
URETHYN GE 00	GPHC00P-40	PU Synth. base oil	-	00	180	-40 / +160	-	Is used in fast-running small gears. It is characterised by a high mechanical and thermal stability as well as its compatibility with sealings and by its neutrality towards nonferrous and light metals.
	1 kg (Tin), 18	kg (Bucket), 40	ka (Hobboo	- :k), 175 ka (	Drum)			

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area	
			(	Greases f	or Gear B	oxes			
PLANTOGEL ECO 000 S Advanced Circular Technologies	-	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 cen-tral lubrication systems. Also for gear systems which are exposed to low to medium loads.	
9	18 kg (Bucket	t)							
RENOLIT LI IDM 000	GP00- 000K-30	Lithium Mineral oil	-	00-000	300	-30 / +120	DMG MORI	Machine tools, linear guidance and central lubrication systems	
i	10 x 1 L (Tube), 5 kg (Bucket), 50 kg (Hobbock),180 kg (Drum)								

### **PLANTO**, RENOLIT



Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area					
	Rapidly Biodegradable Greases												
PLANTOGEL ECO 0 N NEW Advanced Circular Technologies	ISO-L- XB(F)BEA 0	Calcium Rape seed oil	-	0	36	-20 / +80	-	Rapidely biodegradable semi-fluid grease for lubrication of stone saws and as lubricating grease, e.g. for lock gates or in agriculture and forestry.					
	180 kg (Drum	180 kg (Drum)											
PLANTOGEL ECO 1 N Advanced Circular Technologies	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.					
8	18 kg (Bucket	t)											
PLANTOGEL ECO 2 N Advanced Circular Technologies	ISO-L- XB(F)BEA 2	Calcium Rape seed oil	-	2	36	-20 / +80	EU Ecolabel DE/027/273  Figure 1: The second of the second						
i <b>2</b> 8 5	12 x 0.4 kg (F	Pull-Off Cartrid	ge), 18 kg (B	ucket), 50 k	g (Hobbock)	), 180 kg (D	rum)						

#### **PLANTO**

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area
			Rapi	dly Biode	gradable	Greases		
PLANTOGEL ECO 000 S Advanced Circular Technologies	-	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 cen-tral lubrication systems. Also for gear systems which are exposed to low to medium loads.
$\Theta$	18 kg (Bucket	:)						
PLANTOGEL ECO 2 FS Advanced Circular Technologies	-	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.
₽ 8	18 kg (Bucket	:), 180 kg (Drui	m)					
PLANTOGEL ECO 2 S Advanced Circular Technologies	ISO-L- XD(L)CEB 2	Li/Ca Synth. ester	-	2	105	-40 / +120	EU Ecolabel DE/027/273  Ecolabel Herren- knecht	Rapidely biodegradable EP multipurpose grease for plain and roller bearing lubrication, e.g. water turbines, construction machinery or in agriculture and forestry. Good pumpability in central lube systems. Also used in labyrinth seals of tunnel boring machines.
1913	12 x 0.4 kg (F	Pull-Off Cartrid	ge), 18 kg (B	ucket), 50 k	g (Hobbock)	, 180 kg (D	rum)	
PLANTOGEL ECO 402 S Advanced Circular Technologies	ISO-L- XD(F)BFB 2	Li/Ca Synth. ester	-	2	240	-40 / +120	EU Ecolabel DE/027/273	Rapidely biodegradable EP multipur- pose grease for plain and roller bea- ring lubrication, e.g. water turbines, construction machinery or in agricul- ture and forestry. Good pumpability in central lube systems.
•	18 kg (Bucket	-)						

#### **RENOLIT**



Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area				
			Gı	reases fo	r Machin	e Tools						
RENOLIT CX-EP 2	KP2N-30 ISO-L- XC(F)DEB 2	Ca-X Mineral oil	-	2	110	-30 / +140	Hoesch Rothe Erde	In general suitable for high thermal and mechanical loads, especially in the chemical, rubber, tire, steel, quarry and excavation industry. Good water and salt water resistance, also resists to weak acids and caustic solutions. Easily pumpable in central lubricating systems.				
<b>2   6</b>	12 x 0.4 kg (F	12 x 0.4 kg (Pull-Off Cartridge), 18 kg (Bucket), 50 kg (Hobbock), 180 kg (Drum)										
RENOLIT CX-TOM 15	-	CaSX Semi- synth. base oil	-	1-2	100	-40 / +160	SEW- Eurodrive	Industrial gear bearings, belt conveyors, paper machines, machine tools, mining.				
	12 x 0.4 kg (F	Pull-Off Cartride	ge), 18 kg (B	ucket), 180	kg (Drum)							
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-toothed gears, e.g. forming presses, machine tools, industrial gears.				
9 5	18 kg (Bucket	t), 180 kg (Drui	m)									
RENOLIT FEP 2	KP2N-20 ISO-L- XB(F)DEB 2	Lithium Mineral oil	-	2	220	-20 / +140	-	Steel mills, quarries, construction equipment and forging presses, machine tools.				
	12 x 0.4 kg (F	Pull-Off Cartridg	ge), 18 kg (B	ucket), 50 k	kg (Hobbock	k), 180 kg ([	Orum)					

#### **RENOLIT**

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area
				Greases	for Mach	ine Tools		
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.
i <b>7</b>	12 x 0.4 kg (I	Pull-Off Cartrid	ge), 12 x 0.5	kg (SR-Car	tridge), 18 k	g (Bucket),	50 kg (Hobbock), 1	80 kg (Drum)
RENOLIT SF 7-041	GP000K-30	Lithium Mineral oil	-	000	110	-30 / +120	-	Machine tools, labelling and packaging machines with central lubrication systems, industrial gears.
! <b>2</b> 8 5	10 x 0.45 kg	(Tube), 3 x 5 kg	g (Bucket), 1	8 kg (Bucke	t), 50 kg (H	obbock), 18	0 kg (Drum)	

#### **GLEITMO, RENOLIT**

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area	
				Greases f	or Machi	ne Tools			
GLEITMO WSP 5040	-	CaSX Semi- synth. base oil	•	2	170	-20 / +140 / +1200	COLUMBUS McKINNON Engineered Products (Pfaff-silberblau), NEUERO Industrietechnik für Förderanla- gen, Sandvik, ThyssenKrupp Steel Europe	For machine elements of all types subjected to extreme pressures, shock loads and oscillatory movements. It is particularly appropriate if the surrounding area is subject to high humidity or the effects of splash water. For sliding pairings, which have a tendency to stick slip and scuffing (fretting). At low sliding speeds and high pressures as well as where fretting corrosion is present. Application as a high-temperature screw paste up to +1,200 °C.	
i 🗆 I 🖴 3	24 x 0.1 kg (7	Tube), 6 x 1 kg	(Tin), 12 x 0	.5 kg (SR-Ca	rtridge), 5 k	g (Bucket),	18 kg (Bucket), 200	kg (Drum)	
RENOLIT HI-SPEED 2	KHCE2K-40 ISO-L- XD(F)CEA 2	Lithium Synth. base oil	+	2	18	-40 / +120	-	For high-speed bearings, n x dm = 1,4 Mio, machine tools and textile spindles, electrical motor, linear guiding.	
	1 x 0.5 kg (SF	R-Cartridge), 1	x 1 kg (Tin),	18 kg (Buck	et), 170 kg	(Drum)			
RENOLIT LI IDM 000	GP00- 000K-30	Lithium Mineral oil	_	00-000	300	-30 / +120	DMG MORI	Machine tools, linear guidance and central lubrication systems	
! <b>2 1</b> 5	10 x 1 L (Tube), 5 kg (Bucket), 50 kg (Hobbock), 180 kg (Drum)								

#### **RENOLIT**



Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area
				Grease	s for Rail	Traffic		
RENOLIT HLT 2	KPHC2N-40 ISO-L- XD(F)DBB 2	Lithium PAO	-	2	100	-40 / +140	-	For lubricating points with high requirements, especially those exposed to fluctuating ambient temperatures, e. g. lifetime lubrication of pneumatic applications, centrifuges, plain and roller bearings
1 2 E	12 x 0.38 kg (F	Pull-Off Cartridg	je), 3 x 5 kg	(Bucket), 18	8 kg (Bucket	:), 180 kg ([	Orum)	
RENOLIT LX-PEP 1/2	KP1-2N -30 ISO-L- XC(F)DEB 1-2	Li-X Mineral oil	-	1-2	170	-30 / +150	-	High speed gears for power tools, e.g. power drill, circular hand saw, jigsaw, etc., needle cups and length adjustments of cardan shafts, plain and roller bearings.
	50 kg (Hobboc	k), 180 kg (Dru	m)					
RENOLIT LX-PEP 2	KP2N-30 ISO-L- XC(F)DEB 2	Li-X Mineral oil	-	2	170	-30 / +150	MAN 284 Li-H2, MB Approval 265.1, ZF TE-ML 12, Schaeffler Gruppe, VW TL 52 147 X, Interprecise (IDC-Bearings), Deutsche Bahn	Multipurpose grease, wheel bearings of motor vehicles, roller bearings of e-motors, needle bearings of cardan shafts, plain and roller bearings, ventilator grease.
121	12 x 0.4 kg (Pu	ıll-Off Cartridge	), 12 x 0.5 k	g (SR-Cartr	idge), 18 kg	(Bucket), 5	0 kg (Hobbock)	
RENOLIT LX-PEP 3	KP3N-30 ISO-L- XC(F)DEB 3	Li-X Mineral oil	-	3	170	-30 / +150	Interprecise (IDC-Bearings)	Multipurpose grease, wheel bearings of motor vehicles, roller bearings of e-motors, plain and roller bearings, ventilator grease.
<b>8</b> 5	18 kg (Bucket),	180 kg (Drum)	)					

#### GLEITMO, LOCOLUB, TRAMLUB

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area
				Greases	for Rail 1	raffic		
GLEITMO RFL ECO NEW Advanced Circular Technologies	-	Calcium native base oil	•	1	-	-30 / +70	EU Ecolabel DE/027/288	For rail flank and wheel flange lubrication of railroad vehicles. Additional rail head conditioning.
	6 x 1 kg (Tin),	18 kg (Bucket),	45 kg (Hobo	ock), 180 kg	g (Drum)			
LOCOLUB ECO Advanced Circular Technologies	-	Inorg. thickener Synth. base oil	•	000	-	-30 / +80	Baier + Köppel, DB-MatNr. 517718, ÖBB-Personenver- kehr, REBS Zentral- schmiertechnik	For wheel flange lubrication or railroad vehicles of all kinds and on portal cranes.
Y 1 5 44	5 kg (Bucket),	15 kg (Bucket),	18 kg (Buck	et), 25 kg (	Hobbock), 4	5 kg (Hobb	ock), 190 kg (Drum), 950	) kg (BULK)
LOCOLUB ECO PLUS NEW Advanced Circular Technologies	-	Calcium native / synth. base oil	•	000	-	-30 / +80	EU Ecolabel DE/027/288  Ecolabel BVG, Delimon	For wheel flange lubrication or railroad vehicles of all kinds and on portal cranes. Additio- nal rail head conditioning.
	1 x 1 kg (Tin),	18 kg (Bucket),	50 kg (Hobo	ock), 190 kg	g (Drum)			
TRAMLUB 384 G PLUS Advanced Circular Technologies	-	Inorg. thickener Synth. base oil	•	< 000	-	-35 / +100	-	For sliding surfaces on switch points in marshalling yards on standard gauge railways, underground and regional express railways, tramways and industrial railways.
¥ 8 8	5 kg (Bucket),	18 kg (Bucket),	25 kg (Hobl	oock), 50 kg	g (Hobbock),	170 kg (Di	rum)	
TRAMLUB F 234 G	-	Inorg. thickener Synth. base oil	•	00	-	-30 / +100	-	For lubrication of rails and wheel flanges of railway vehicles as well as for switch lubrication.
8 8 8	18 kg (Bucket)	, 25 kg (Hobboo	ck), 175 kg (	Drum)				
TRAMLUB F 234 MOD 2	-	Inorg. thickener Semi- synth. base oil	•	000	_	-25 / +150	Baier + Köppel, DB-MatNr. 106192, REBS Zentralschmier- technik, Siemens	For rail and wheel flange lubrication of railroad vehicles.
7 I I 4	18 kg (Bucket)	, 45 kg (Hobboo	ck), 190 kg (	Drum), 100	0 kg (BULK)			
TRAMLUB SSM ECO	-	Lithium Synth. base oil	•	1-2	-	-40 / +120	CEMAFER Gleisbau- maschinen und -geräte, DB-MatNr. 783667, Schreck-Mieves	Designed for the lubrication of running edges and flanks of rails used by rail-borne traffic and serves to reduce friction and wear in the wheel/rail contact area.

#### **RENOLIT**



Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area			
	Greases for Extreme Low Temperatures										
RENOLIT HI-TEMP 100	KPHC2N-50 ISO-L- XE(F)DFB 2	Li-X PAO	-	2	100	-50 / +140	-	Used in a wide temperature range for lubrication of plain and roller bearings of, e.g. electric motors, traction motors, bearings and cardan shafts in polar regions.			
i 🛛 🛢	12 x 0.38 kg (	Pull-Off Cartrid	ge), 18 kg (E	Bucket), 170	) kg (Drum)						
RENOLIT S 2	KE1-2G-60 ISO-L- XE(F)BEA 1-2	Lithium Synth. ester	-	1-2	14	-60 / +100	-	Low temperature e.g. electrical motors, instruments, air traffic control systems, refrigerators, air conditioners and transmitter equipment.			
191	12 x 0.4 kg (Pull-Off Cartridge), 5 kg (Bucket), 18 kg (Bucket), 50 kg (Hobbock)										

# **GLEITMO,** RENOLIT, URETHYN

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area			
			Gre	ases for	Extreme l	ow Tem	peratures				
GLEITMO SIL 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.			
i 🗆 🗷	6 x 0.1 kg (Tube), 1 x 1 kg (Tin), 5 kg (Bucket), 18 kg (Bucket)										
RENOLIT JP 1619  BluEV TECHNOLOGY	-	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.			
i 🗆 🗑	10 x 1 kg (Tin)	), 18 kg (Bucke	t), furthe	r 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.			
es.	180 kg (Drum)	)									
URETHYN LT 60	KE1N-50	PU Synth. base oil	-	1	23	-50 / +140	Salzgitter Maschinenbau (SMAG), Sprimag Spritz Maschinenbau	For plain and roller bearings, guides, Open Gears on equipment in the low temperature range, e.g. machines and installations operating out doors in winter service, snow rollers, cable cars, transport installations in cold-storage depots, outdoor escalators.  Also suitable for high-speed roller bearings.			
	6 x 1 kg (Tin),	5 kg (Bucket)									



Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area				
	Greases for Extreme High Temperatures											
GLEITMO 821	-	Mineral oil	•	FLUID	_	-20 / +160 / +1200	-	GLEITMO 821 is used for drop forging, hot extrusion, hot rolling, hot bending. Can also be used as thinner for GLEITMO 820.				
	■ 1 kg (Tin), 5 kg (Bucket), 25kg (Hobbock)											
PBC 1574 (Spray can: PBC 1574 SPRAY)	-	lnorg. thickener Mineral oil	٠	2-3	-	-20 / +160 +1200 (dry lubrica- tion)	-	PBC 1574 is used for the prevention of seizures on screw threads, linkages, pivots, flanges and mating surfaces subject to high temperatures, fretting corrosion, salt water and aggressive environmental media. The product is used to lubricate brake callipers and prevent corrosion of disc brakes. PBC 1574 is not electrically conductive and does not affect the sensors of ABS systems.				
1018	100 x 5.5 g (P	illow), 10 x 0.1	kg (Tube	), 12 x 0.22	25 kg (Tin),	12 x 0.4 kg (	(Pull-Off Cartridge	e), 6 x 1 kg (Tin), 5 kg (Bucket), 18 kg (Bucket)				
PBC TP492	-	lnorg. thickener Mineral oil	•	2-3	250	-20 / +150 / +1200 (dry lubrica- tion)	-	As a protective grease PBC TP492 acts as a lubricating seal to prevent ingress of water and corrosive solutions. It may also be used as a jointing compound and anti-squeal medium. Applications can be found in variable pitch blade fans and king pin thrust bearings of heavy trucks, and universal joints.  PBC TP492 acts as an anti-fretting agent between contact surfaces with oscillating movements.				

### **GLEITMO, RENOLIT, STABYL, URETHYN**

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area
			Grease	es for Ex	treme Hi	gh Tempe	eratures	
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).
i <b>y</b> 5	12 x 0.4 kg (l	Pull-Off Cartridg	ge), 18 kg (B	ucket), 180	kg (Drum)			
RENOLIT PU-MA 2	KPFH- C2R-40 ISO-L- XD(F)FEB 2	PU Synth. base oil	•	2	100	-40 / +180	-	Lubrication of electric motors, hot- air blowers, tumble dryers, black-rub- ber mixers, paper industry dryers, calander bearings, etc.
98	12 x 0.4 kg (l	Pull-Off Cartridg	ge), 18 kg (B	ucket), 180	kg (Drum)			
RENOLIT UNITEMP 2	-	Synt. NaX PAO	-	2	180	-40 / +180	-	Plain and roller bearings at high tempera- tures.
	12 x 0.4 kg (l	Pull-Off Cartrid	ge), 3 x 5 kg	(Bucket), 1	8 kg (Bucke	t), 180 kg (	Drum)	
STABYL EHT 2	KPE1-2T-20	PTFE Synth. base oil	-	1-2	160	-20 / +220	Bernd Münstermann	Long-life lubrication of plain and roller bearings subjected to heavy-duty thermal and mechanical loads, e.g in drying plants, conveying and transportation equipment, film stretching machines etc.
i <b>2</b> 6	12 x 0.4 kg (l	Pull-Off Cartridg	ge), 12 x 0.5	kg (SR-Car	tridge), 5 kg	g (Bucket), 1	5 kg (Bucket), 25 kg (H	obbock), 45 kg (Hobbock)
URETHYN 160	KP2-3P-20	PU Mineral oil	-	2-3	320	-20 / +160	ANDRITZ, ATEK Antriebstech- nik Willi Glapiak	For lubrication of plain and roller bearings under difficult conditions in the chemical industry, the steel industry, in mining and in general engineering. For use in ventilators, electric motors, car wheel bearings, clutch bearings, decanter bearings, tread rollers of drying plants etc.
	12 x 0.4 kg (l	Pull-Off Cartridg	ge), 18 kg (B	ucket)				
URETHYN CC 2-1	KP1R-20	PU Mineral oil	-	1	460	-20 / +180	German Steel Industry Association VDEh (standard SEB 181 255)	For plain and roller bearings operating under the influence of temperature and humidity, e.g. roller bearings in continuous casting as well as in the steel and raw materials industry etc.
i <b>y</b> 5	12 x 0.4 kg (l	Pull-Off Cartridg	ge), 10 kg (B	ucket), 185	kg (Drum)			
i 🗑 🛢 URETHYN E 2	12 x 0.4 kg (l	Pull-Off Cartride PU Synth. base oil	ge), 10 kg (B –	ucket), 185 1-2	kg (Drum)	-20 / +150 / +1200	Daimler, Eisenmann, EVG Lufttechnik, Sprimag Spritzma- schinenbau	For long-life or lifetime lubrication of thermally highly loaded plain and roller bearings in the chemical industry, textile industry, conveying and drying equipment as well as ir KTL installations in the automotive industry.

#### **URETHYN**

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area
			Grease	s for Ext	reme Hig	h Tempe	ratures	
URETHYN MP 1	KP1R-20	PU Mineral oil	-	1	460	-20 / +180	FLSmidth MAAG Gear, Josef Fröhling, Loesche, Salzhause- ner Maschinenbau- technik SALMATEC, Sandvik, SMS Meer, ThyssenKrupp Resource Technolo- gies, Zeppelin Bau- maschinen	For plain and roller bearings at high temperatures, e.g. long-life lubrication of roller bearings in electric machines, ventilator bearings, conveyor roller bearings in continuous steel casting plants, pump, blower and compressor equipment.
	18 kg (Bucke	t), 45 kg (Hobb	ock), 185 kg	(Drum)				
URETHYN MP 2	KP2R-20	PU Mineralöl	-	2	460	-20 / +180	FLSmidth MAAG Gear, Josef Fröhling, Loesche, Salzhause- ner Maschinenbau- technik SALMATEC, Sandvik, SMS Meer, ThyssenKrupp Resource Technolo- gies, Zeppelin Bau- maschinen	
i <b>2</b> 6 5	12 x 0.4 kg (l 185 kg (Drun		ge), 12 x 0.5	kg (SR-Car	tridge), 5 kg	(Bucket), 1	8 kg (Bucket), 25 kg (H	obbock), 45 kg (Hobbock),

#### **GLEITMO**

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area
			Grease	s for Extr	eme Hig	h Temper	atures	
GLEITMO 155	-	Synth. base oil	•	1-2	-	-30 / +1200	-	For turbine bolts, high-temperature screws, especially stainless steel screws in the chemical industry, in refineries and power stations. Release agent for bolted flanges in the high-temperature range.
	12 x 0.25 kg	(Tin), 6 x 1 kg	(Tin)					
GLEITMO 160	-	Al-X Mineral oil	•	2	-	-30 / >1000	FLSmidth MAAG Gear	For lubrication of turbine bolts, high- temperature screws and as release agent for flange connections in the high temperature range.
	6 x 1 kg (Tin)	, 18 kg (Bucket	<u>:</u> )					
GLEITMO 165 (Spray can: GLEITMO 165 SPRAY)	-	Synth. base oil	•	1-2	-	-40 / +1200	VW, Volvo Car Germany	For lubrication of turbine bolts, high- temperature screws and for lubrica- tion of bolts, slide rings, sliding rails at high temperatures. No formation of oxide layers.
8	12 x 0.25 kg	(Tin), 6 x 1 kg	(Tin), 5 kg (E	Bucket), 25	kg (Hobboc	k)		
GLEITMO 705	-	Synth. base oil	•	2	68	-20 / +1000	-	Lubrication of low speed bearings, bolts, hinges, slipper pads and slide rails on firing, drying and annealing systems. Facing for casting ladles, tools funnels and spouts in aluminium die casting.
	6 x 1 kg (Tin)	, 5 kg (Bucket),	. 25 kg (Hob	bock)				
GLEITMO 820	-	Mineral oil	•	1-2	-	-20 / +1150	-	GLEITMO 820 is used for drop forging, hot extrusion, hot rolling, hot bending. Also ideal for lubricating the column guides of the presses.
81	5 kg (Bucket)	, 25 kg (Hobbo	ock), 60 kg (I	Hobbock)				
GLEITMO SIL 115 F	-	PU Silicone oil	_	0	80	-40 / +200	-	Especially suitable for re-lubrication of GLEITMO SIL 115 L and SIL 115 M at very high temperature
<b>8</b>	1 x 1 kg (Tin)	, 5 kg (Bucket),	, 18 kg (Bucl	ket)				
GLEITMO SIL 115 L	-	PU Silicone oil	-	1	80	-40 / +200	-	High temperature grease, plain and roller bearings, e.g. electric motors, conveyor chains, furnace carriages,
i 🛮 🗟	6 x 0.1 kg (Tu	ıbe), 6 x 1 kg (	Tin), 5 kg (B	ucket), 18 k	g (Bucket)			drying equipment, bearing pairs: metal, metal/plastic, plastic/plastic.
GLEITMO SIL 115 M	-	PU Silicone oil	-	2	80	-30 / +220	-	,
i 🗆 🕹	6 x 0.1 kg (Tu	ıbe), 6 x 1 kg (	Tin), 5 kg (B	ucket), 18 k	g (Bucket)			
GLEITMO SIL 400 L	KSI1R-30 ISO-L- XE(F)FEA 1	Lithium Silicone oil	-	1	80	-30 / +180	-	For slightly to normally loaded roller and friction bearings in electric motors, for joints, conveyor chains, ventilators, dryers, controlling equipment and household appliances. Guarantees a good lubrication to metal/plastic parings.
	6 x 0.1 kg (Tu	ıbe), 180 kg (D	rum)					

#### **GLEITMO, RENOLIT**

Product name	Classifi- cation DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area
			Grease	s for Ext	reme Hig	h Tempei	ratures	
GLEITMO SIL 400 M	KSI2R-30 ISO-L- XE(F)FEA 2	Lithium Silicone oil	-	2	80	-30 / +180	-	For slightly to normally loaded roller and friction bearings in electric motors, for joints, conveyor chains, ventilators, dryers, controlling equipment and household appliances. Guarantees a good lubrication to metal/plastic parings.
18	6 x 0.1 kg (Tu	ube), 1 x 1 kg (	Γin), 5 kg (Βι	ucket), 18 k	g (Bucket)			
RENOLIT ST 8-081/2	-	PTFE PFPE	Ŧ	2	510	-20 / +260	Ŧ	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. enameling lines, drying stoves, machines in the packaging industries, calander bearings, bearings of hot air and smoke gas flaps in power plants.
	6 x 1 kg (Tin)							

#### **RENOLIT**



Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area
			Grease	s for Cen	tral Lubri	cating Sy	stems	
RENOLIT LX-PEP 2	KP2N-30 ISO-L- XC(F)DEB 2	Li-X Mineral oil	-	2	170	-30 / +150	MAN 284 Li-H2, MB Approval 265.1, ZF TE-ML 12, Schaeffler Gruppe, VW TL 52 147 X, Interprecise (IDC- Bearings), Deutsche Bahn	Multipurpose grease, wheel bearings of motor vehicles, roller bearings of e-motors, needle bearings of cardan shafts, plain and roller bearings, ventilator grease.
1286	12 x 0.4 kg (F	Pull-Off Cartrido	ge), 12 x 0.5	kg (SR-Carti	ridge), 18 kg	g (Bucket), 5	0 kg (Hobbock), 180 kg	(Drum)
RENOLIT LZR 000	GP00- 000G-40	Li/Ca Mineral oil	-	00-000	43	-40 / +110	MB Approval 264.0, MAN 283 LI-P 00/000	Semi-fluid grease for central lubricating systems of commercial vehicles.
Y 8 8	3 x 5 kg (Buc	ket), 18 kg (Bu	cket), 50 kg	(Hobbock), 1	180 kg (Drui	m)		
RENOLIT LZR 2 H	KP2N-30 ISO-L- XC(F)DIB 2	Li/Ca Mineral oil	-	2	230	-30 / +160	Baier & Köppel	Premium multipurpose grease, long-term rust prevention, sealing grease, central lubricating systems, sugar refineries, roof tile factories, paper industry, prevent standstill corrosion, hytrel compatible.
1816	12 x 0.4 kg (F	Pull-Off Cartrido	ge), 18 kg (B	ucket), 50 k	g (Hobbock)	, 180 kg (Dr	rum)	
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.
1 <b>2</b> 1 3	10 x 0.45 kg	(Tube), 3 x 5 kg	g (Bucket), 1	8 kg (Bucket	), 50 kg (Hc	bbock), 180	kg (Drum)	

#### **PLANTO, RENOLIT**

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area
			Greases	for Cent	ral Lubric	ating Sy	stems	
PLANTOGEL ECO 000 S Advanced Circular Technologies	-	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.
$m{arphi}$	18 kg (Bucket	t)						
PLANTOGEL ECO 2 S Advanced Circular Technologies	ISO-L- XD(L)CEB 2	Li/Ca Synth. ester	-	2	105	-40 / +120	EU Ecolabel DE/027/273  Collabel Herren- knecht	Rapidely biodegradable EP multipur- pose grease for plain and roller bearing lubrication, e.g. water turbines, con- struction machinery or in agriculture and forestry. Good pumpability in central lube systems. Also used in laby- rinth seals of tunnel boring machines.
1813	12 x 0.4 kg (F	Pull-Off Cartrid	ge), 18 kg (B	ucket), 50 k	g (Hobbock)	), 180 kg (C	Orum)	
RENOLIT LI IDM 000	GP00- 000K-30	Lithium Mineral oil	-	00-000	300	-30 / +120	DMG MORI	Machine tools, linear guidance and central lubrication systems.
T 2 8 5	10 x 1 L (Tube	e), 5 kg (Bucke	t), 50 kg (Ho	bbock), 180	kg (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.
•	180 kg (Drum	1)						

# Lubricating Greases / Pastes GLEITMO, LAGERMEISTER



Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area
			Gre	ases with	n Solid Lu	ubricants		
GLEITMO 720	-	Synth. base oil	•	3	670	-20 / +120	-	GLEITMO 720 is a paste, especially for sealing individual components, clerances or grommets. Based on it's increased consistency, GLEITMO 720 is suitable to maintain a long-term imper- meableness to water under pressure.
	25 kg (Hobbo	ock)						
LAGERMEISTER WHS 2002 (Spray can: LAGERMEISTER WHS 2002 SPRAY)	KPF1-2K-20	Lithium Mineral oil	٠	1-2	320	-20 / +120	DB-MatNr. 685377 u. 685382, Terex Germany, Zeppelin Baumaschi- nen	For plain and roller bearings operating under extreme conditions (dust, water, vibrations), e.g. conveyors, construction machines, raw material processing machines. For lubrication of plastic crosshead guides on telescopic cranes. Also available as fluid.
11088	42 x 250 g (T	ube), 12 x 0.4	kg (Pull-Off (	Cartridge), 1	2 x 0.5 kg	(SR-Cartridg	e), 6 x 1 kg (Tin	), 5 kg, 18 kg (Bucket), 45 kg (Hobbock)
PBC 1574 (Spray can: PBC 1574 SPRAY)	-	Inorg. thickener Mineral oil	٠	-	-	-20 / +160 +1200 (dry lubrica- tion)	-	PBC 1574 is used for the prevention of seizures on screw threads, linkages, pivots, flanges and mating surfaces subject to high temperatures, fretting corrosion, salt water and aggressive environmental media. The product is used to lubricate brake callipers and prevent corrosion of disc brakes. PBC 1574 is not electrically conductive and does not affect the sensors of ABS systems.
! 🗆 i 🗑	100 x 5.5 g (l 18 kg (Bucke	,,	1 kg (Tube),	12 x 0.225	kg (Tin), 12	x 0.4 kg (Pu	ıll-Off Cartridge	), 6 x 1 kg (Tin), 5 kg (Bucket),

### RENOLIT, STABYL

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area
				Greases	with Sol	id Lubrica	ants	
PBC TP492	-	lnorg. thickener Mineral oil	•	-	250	-20 / +150 / +1200 (dry lubrica- tion)	-	As a protective grease PBC TP492 acts as a lubricating seal to prevent ingress of water and corrosive solutions. It may also be used as a jointing compound and anti-squeal medium. Applications can be found in variable pitch blade fans and king pin thrust bearings of heavy trucks, and universal joints. PBC TP492 acts as an anti-fretting agent between contact surfaces with oscillating movements.
	12 x 0.4 kg (Pu	ull-Off Cartridg	e), 10 x 0.5	kg (Tin), 20	x 1 kg (Tin)	, 5 kg (Buck	ket), 25 kg (Hobbock)	)
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.
i <b>v</b> e	12 x 0.5 kg (SI	R-Cartridge), 18	3 kg (Bucket	), 180 kg (D	rum)			
RENOLIT EP X1	-	Lithium Mineral oil	•	1	1050	-15 / +120	Renk CMD	Heavy duty gear coupling grease.
Y 5	18 kg (Bucket)	, 180 kg (Drum	n)					
RENOLIT FLM 2	KPF2N-30 ISO-L- XC(F)DEB 2	Lithium Mineral oil	•	2	100	-30 / +140	MAN 285 LI-PF 2	For mechanically loaded lubricating points, grease with MoS <sub>2</sub> , agricultural machines, commercial vehicles, construction industry, quarries and mining, rubber and concrete factory.
i 2 t :	12 x 0.4 kg (Pւ	ull-Off Cartridg	e), 12 x 0.5	kg (SR-Carti	ridge), 18 k	g (Bucket), 5	50 kg (Hobbock), 180	) kg (Drum)
RENOLIT PU-MA 2	KPFHC2R-40 ISO-L- XD(F)FEB 2	PU Synth. base oil	•	2	100	-40 / +180	-	Lubrication of electric motors, hot-air blowers, tumble dryers, black-rubber mixers, paper industry dryers, calander bearings, etc.
186	12 x 0.4 kg (Pւ	ull-Off Cartridg	e), 18 kg (Bı	ucket), 180	kg (Drum)			
STABYL L-TS MO	KPF2N-30	Lithium Semi- synth. base oil	•	2	800	-30 / +140	KHD Humboldt Wedag Inter- national, Komatsu Mining Germany, Loesche, SMS Meer, ThyssenKrupp Rothe Erde	For plain and roller bearings under difficult operating conditions. Especially recommended for high pressures and low speeds. Allows longer regreasing intervals when compared to conventional greases.
i <b>y</b> i 3	12 x 0.5 kg (SF	R-Cartridge), 18	3 kg (Bucket	), 45 kg (Hc	bbock), 185	kg (Drum)		
STABYL MO 500	KPF2-3K-25	Lithium Mineral oil	٠	2-3	110	-25 / +120	China National Materials (Sino- ma), ThyssenKrupp Resource Techno- logies, Zeppelin Bauma- schinen	For plain and roller bearings of all types subjected to continuous high mechanical loads. Mechanical engineery industry, chemical industry, iron and steel works, construction machines and automotive industry.
	12 0 4 l /P.	III Off Cartridge	a) 12 v 0 E	lea (CD Conte	rialma\ C v 1	L= (T:=) 10	3 kg (Bucket), 45 kg	



Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area
				Greases	with Sol	id Lubric	ants	
GLEITMO 100	-	Semi- synth. base oil	•	2	-	-35 / +400	VW, Josef Fröhling, KHD Humboldt Wedag International	Assembly pastes with an extremely large range of applications. For running-in lubrication of heavy-duty plain bearings, slide and guide rails, gear wheels and screw spindles as well as bolt and threaded connections. Facilitates assembly /
8	6 x 1 kg (Tin)	), 5 kg (Bucket),	25 kg (F	lobbock)				disassembly and prevents stick-slip.
GLEITMO 100 S (Spray can: GLEITMO 100 S SPRAY)	-	Synth. base oil	•	1	-	-40 / +400	VW, Josef Fröhling, KHD Humboldt Wedag International	From approx. +140 °C dry lubrication by solid lubricants. Based on the higher MoS <sub>2</sub> share GLEITMO 100 S is suitable for extreme applications.
i 🗆 🕏 🗈	24 x 0.1 kg (	Tube), 6 x 1 kg	(Tin), 5 k	g (Bucket),	30 kg (Hobl	oock)		
GLEITMO 155	-	Synth. base oil	•	1-2	-	-30 / +1200	-	For turbine bolts, high-temperature screws, especially stainless steel screws in the chemical industry, in refineries and power stations. Release agent for bolted flanges in the high-temperature range.
	12 x 0.25 kg	(Tin), 6 x 1 kg	(Tin)					
GLEITMO 1580 V	-	Synth. base oil	•	2	-	-45 / +130	-	Used for lubrication points subject to risk of fretting corrosion - oscillatory movements and vibration like spindles, slowly running worm gear drives and slide shafts.
91	5 kg (Bucket)	, 18 kg (Bucket	), 25 kg (	(Hobbock)				
GLEITMO 160	-	Al-X Mineral oil	•	2	-	-30 / >1000	FLSmidth MAAG Gear	For lubrication of turbine bolts, high- temperature screws and as release agent for flange connections in the high temperature range.
	6 x 1 kg (Tin)	, 18 kg (Bucket	:)					
GLEITMO 165 (Spray can: GLEITMO 165 SPRAY)	-	Synth. base oil	•	1-2	_	-40 / +1200	VW, Volvo Car Germany	For lubrication of turbine bolts, high- temperature screws and for lubrication of bolts, slide rings, sliding rails at high temperatures. No formation of oxide layers.
	12 x 0.25 kg	(Tin), 6 x 1 kg	(Tin), 5 kg	g (Bucket),	25 kg (Hobb	ock)		
GLEITMO 577 A	-	Inorg. thickener Synth. base oil	•	1	85	-40 / +180	VW Norm TL 52 160	Special lubricating greases based on a synthetic oil and specially selected white solid lubricants for reducing friction and wear with the material pairings plastic/
	6 x 1kg (Tin),	5kg (Bucket), 4	45kg (Hol	bbock), 180	okg (Drum)			plastic, plastic/metal and rubber- elastomer/metal. GLEITMO 577 A and
GLEITMO 577 C	-	Inorg. thickener Synth. base oil	•	00	85	-40 / +180	-	GLEITMO 577 C are used to lubricate O-rings seals, plastic adjustment devices and shock absorber seals.
<b>7</b> 8 8	5 ka (Bucket)	, 45 kg (Hobbo	ck), 180	ka (Drum)				

#### **FUCHS** Special Applications

### **Lubricating Greases / Pastes**

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area
			G	ireases w	ith Solid	Lubrican	ts	
GLEITMO 582 (Spray can: GLEITMO 582 SPRAY)	-	Lithium Semi- synth. base oil	•	0	-	-15 / +120	-	High-performance chain grease for low and high-speed power transmitting chains, even where resistance to water, water vapour, acids and lyes i required.
	5 L (Canister)	, 20 L (Can)						
GLEITMO 585 M	-	Lithium Mineral oil	٠	2	100	-20 / +120	KARL MAYER Textilmaschinen- fabrik, Loesche	For bearings and all types of lubricating points, particularly if they are subject to the risk of fretting corrosion (oscillating movements, vibrations, e.g. bearings on large cardan shafts).
	12 x 0.4 kg (F 180 kg (Drum		ge), 12 x 0.5	kg (SR-Car	tridge), 6 x	l kg (Tin), 5	5 kg (Bucket), 18 kg	(Bucket), 25 kg, 45 kg (Hobbock),
GLEITMO 700	-	Synth. base oil	٠	1	180	-40 / +400	-	For use in all areas of high-temperature lubrication technology, where oils and greases cannot be used e.g. kiln cab bearings (plain and roller bearings). Also for assembly and running-in processes. From approx. +200 °C dry lubrication by solid lubricants (carrier oil evaporates leaving no residue).
	6 x 1 kg (Tin)	, 5 kg (Bucket)						
GLEITMO 705	-	Synth. base oil	•	2	68	-20 / +1000	-	Lubrication of low speed bearings, bolts, hinges, slipper pads and slide rails on firing, drying and annealing systems. Facing for casting ladles, tools, funnels and spouts in aluminium die casting.
	6 x 1 kg (Tin)	, 5 kg (Bucket)	, 25 kg (Hob	bock)				
GLEITMO 800	-	Lithium Mineral oil	•	2	68	-25 / +100	Daimler	Thin film lubrication where extreme pressures, stick-slip, oscillating move ments and fretting corrosion are prevalent. For assembly, household appliances, textile machines and packaging machines.
	12 x 0.25 kg	(Tin), 6 x 1 kg	(Tin), 5 kg (E	Bucket), 18	kg (Bucket),	250 kg (Dr	um)	
GLEITMO 805	-	Lithium Semi- synth. base oil	•	2	105	-20 / +110	Bosch Rexroth, Daimler, DB-MatNr. 823600, Volvo Car Germany	For articulated bearings, spindles, plain bearings, bolts, chucks and screws which are subjected to shock loads and oscillating movements. Other typical fields of application are oscillating pins on construction machinery, telescopic beams of cranes. GLEITMO 805 has proved itself for lubrication in the incremental launching process of bridges.
!i	24 x 0.1 kg (Tu 200 kg (Drum)		kg (Pull-Off C	artridge), 1	2 x 0.5 kg (SI	R-Cartridge)	, 6 x 1 kg (Tin), 5 kg,	18 kg (Bucket), 50 kg (Hobbock),

 $<sup>\</sup>mbox{*}$  Also available in the consistency classes NLGI 00 and 1

#### **GLEITMO**

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area
				Grease	s with So	olid Lubri	cants	
GLEITMO 805 K	-	Lithium synth. base oil	•	2*	130	-45 / +110	Volvo Car Germany	For articulated bearings, spindles, plain bearings, bolts, chucks and screws, which are subjected to shock loads and oscillating movements. Outstanding low temperature behaviour and excellent plastics compatibility.
	12 x 0.4 kg (I	Pull-Off Cartrid	ge), 6 x 1	kg (Tin), 5	kg (Bucket)	, 18 kg (Bu	cket), 50 kg (Hobl	bock)
GLEITMO 810	-	Lithium Synth. base oil	•	2	38	-40 / +80	Daimler, KARL MAYER Textilmaschi- nenfabrik	For ball screw drives, multi-groove profiles, ball bushes, gear couplings, threaded spindles, stainless steel threaded connections, plain bearings, household appliances, textile, office and packaging machines.
i 🗆 🔓 🛢 3	0.1 kg (Tube)	, 6 x 1 kg (Tin),	5 kg (Bu	icket), 30 k	g (Hobbock)	, 200 kg (D	rum)	
GLEITMO 815 (Spray can: GLEITMO 815 SPRAY)	-	Inorg. thickener Synth. base oil	•	2	115	-45 / +150 / +180	MAN	For ball screw drives, multi-groove profiles, ball bushes, gear couplings, threaded spindles, stainless steel threaded connections, plain bearings, household appliances, textile, office and packaging machines. With extended temperature range (short term up to +180 °C). As a spray, especially suitable for assembly and maintenance.
	24 x 0.1 kg (	Tube), 12 x 0.5	kg (SR-C	artridge), 6	x 1 kg (Tin)	, 5 kg (Bucl	ket), 50 kg (Hobbe	ock), 200 kg (Drum)
GLEITMO 860	-	Synth. base oil	•	1-2	-	-45 / +140	-	Used for any point of lubrication subject to high requirements, e.g. points of lubrication with the risk of fretting corrosion or exposed to oscillating movements and vibrations. Special benefits will result if applied to heavy-duty planetary roller gears, e.g. in actuators in the automotive industry.
₽ 5	18 kg (Bucke	t), 180 kg (Dru	m)					
GLEITMO WSP 5000	-	CaSX Mineral oil	•	2	350	-20 / +140	-	For lubrication of machine parts such as rolling and plain bearings, axles or shafts subjected to high pressures, shock loads and vibrating or oscillating movements, especially in high ambient humidities or where there is water splashing. For reduction of friction and wear at high and low loads as well as against fretting corrosion and stick-slip.
[8]	12 x 0.4 kg (I	Pull-Off Cartrid	ge), 5 kg	(Bucket), 2	5 kg (Hobbo	ock), 45 kg	(Hobbock)	
GLEITMO WSP 5040 (Spray can: GLEITMO WSP 5040 SPRAY)	-	CaSX Semi- synth. base oil	٠	2	170	-20 / +140 / +1200	COLUMBUS McKINNON Engineered Products (Pfaff-silber- blau), NEUERO Industrietech- nik für För- deranlagen, Sandvik, ThyssenKrupp Steel Europe	For machine elements of all types subjected to extreme pressures, shock loads and oscillatory movements. It is particularly appropriate if the surrounding area is subject to high humidity or the effects of splash water. For sliding pairings, which have a tendency to stick slip and scuffing (fretting). At low sliding speeds and high pressures as well as where fretting corrosion is present. Application as a high-temperature screw paste up to +1,200 °C.

# **FUCHS** Special Applications

### **Lubricating Greases / Pastes**

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area					
			Gre	ases witl	n Solid Lu	ıbricants							
MEISSELPASTE	-	Al-X Mineral oil	٠	2	7	-20 / +1100	BEKA, DELIMON, SKF-Lincoln	Copper-coloured mineral oil-based paste with aluminium complex soap and solid lubricants to lubricate socket tools and bushings of pneumatic and compressed air tools with weights ranging from 75 to 6,000 kg, pneumatic drills and other power tools. Can also be used under water and at high temperatures.					
	12 x 0.4 kg (F	12 x 0.4 kg (Pull-Off Cartridge), 30 x 0.5 kg (SR-Cartridge), 6 x 1 kg (Tin), 5 kg (Bucket), 45 kg (Hobbock), 190 kg (Drum)											
PLANTOGEL ECO 2 FS Advanced Circular Technologies	-	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.					
₽ 3	18 kg (Bucket	c), 180 kg (Drui	m)										
RENOLIT FOL 2	-	Lithium PAO	•	2	110	-10 / +21	MPA Stuttgart approved	Very ageing resistant, grease for sliding films in engineering, low sliding speed.					
9	18 kg (Bucket	<u>.</u> )											
RENOLIT LX-OTP 2	-	Li-X Polyglycol	•	1-2	360	-40 / +160	MAN	Lubrication of MAN knuckle pins.					
İ	12 x 0.4 kg (F	Pull-Off Cartrid	ge), further p	ackages or	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.					
3	180 kg (Drum	n)											
RENOLIT TFL 2	-	Lithium PAO	•	2	110	-40 / +140	-	With PTFE, for slide-pairs with and without plastic components.					
9	18 kg (Bucket	<u>.</u> )											
STABYL TA	KPF1-2N-40	Lithium Semi- synth. base oil	•	1-2	200	-40 / +140	-	STABYL TA is a semi-synthetic special grease based on lithium soap. Its special gliding properties are achieved by a combination of synergetically effective solid lubricants.					
	12 x 0.4 kg (Lube-Shuttle Cartridge), 5 kg (Bucket), 18 kg (Bucket), 180 kg (Drum)												

### CARBAFLO, PLANTO, RENOLIT, STABYL



Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area		
				Perflu	orinated	Pastes				
CARBAFLO 2160 (Spray can: CARBAFLO 2160 SPRAY)	-	Synth. base oil	٠	2	310	-60 / +260	-	CARBAFLO 2160 is a white, almost transparent high-temperature paste for the lubrication of bearings, slide rails or plug-in contacts. It is resistant to most lyes and acids, features excellent EP properties and acts as electric insulator. The low evaporation rate of the base oil guarantees extended relubrication intervals. Properly applied, CARBAFLO 2160 guarantees a lifetime lubrication of sensitive slide rails and adjusting mechanisms like in sunroofs.		
	100 g (Spritze	e), 6 x 1 kg (Tin	), 10 kg (B	ucket)						
CARBAFLO 2455	-	Synth. base oil	•	2	210	-45 / +220	-	CARBAFLO 2455 is a fluorescent special paste based on a highly stable synthetic oil an white solid lubricants. It is resistant to many aggressive chemicals and offers an excellent compatibility with various elastomer and plastic types. The addition of a UV tracer allows simple identification of CARBAFLO 2455 using a UV lamp.		
I 🗆	12 x 1 kg (SR	12 x 1 kg (SR-Cartridge), 6 x 1 kg (Tin)								
CARBAFLO 3631	-	Synth. base oil	•	2	310	-60 / +260	-	The paste has excellent extreme pressure properties across the whole temperature range and offers a long-term wear prevention, thus resulting in a considerable increase in machine component life.		
9	10 kg (Bucke	t)								

### **FUCHS** Special Applications

### **Lubricating Greases / Pastes**

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area					
				Per	fluorinat	ed Pastes	5						
GLEITMO 591	-	PTFE Synth. base oil	•	2*	510	-25 / +260	-	For plain and roller bearings at the highest temperatures, e.g. in fans, electric motors, transport chains and centrifuge bearings.					
	24 x 60 g (Tir	n), 0.6 kg (Sem	co), 0.75 kg	(Pull-Off Ca	artridge), 0.8	35 kg (SR-Ca	artridge), 6 x 1 k	kg (Tin), 10 kg (Bucket)					
GLEITMO 593	-	PTFE Synth. base oil	•	2	510	-25 / +250	-	For roller bearings of low-speed conveyor chains in textile finishing plants, in drying and enamelling ovens.					
	60 g (Tin), 6	60 g (Tin), 6 x 1 kg (Tin), 10 kg (Bucket)											
GLEITMO 591 (OX)	-	PTFE Synth. base oil	•	2	-	-25 / +260	BAM Oxygen test	For oxygen applications. Resistant to many aggressive chemicals and excellent compatibility with various types of rubbers and plastics.					
	60 g (Tin), 1	kg (Tin)						Please contact us for more information.					
GLEITMO 593 (OX)	-	PTFE Synth. base oil	•	2	-	-25 / +250	BAM Oxygen test						
	6 x 1 kg (Tin)												
GLEITMO 595	-	PTFE Synth. base oil	•	3	-	-60 / +250	BAM Oxygen test	First lubrication and maintenance of valves for oxygen bottles and of equipment for the oxygen producing and processing industries. Used in diving. Physiological respiratory certificate is available. Also tested with gaseous oxygen at higher temperatures and with liquid oxygen.  Please contact us for more information.					
	96 x 60 g (Tu	be), 6 x 1 kg (T	in), 10 kg (B	lucket)									
GLEITMO 599	-	Special thickener Synth. base oil	•	3	-	-40 / +250	BAM Oxygen test	First lubrication and maintenance of valves for oxygen bottles and of fittings and equipment for the oxygen producing and processing industries. The tested oxygen pressures significantly exceed 400 bar (at 60 °C). With this lubricant it is therefore even possible for example to lubricate the valves of 300 bar oxygen bottles safely and reliably. Ideal for diving applications. Physiological respiratory certificate is available. Also suitable for higher oxygen temperatures.  Please contact us for more information.					
<b>!</b> 🗆	100 x 60 g (T	ube), 6 x 1 kg	(Tin)										
GLEITMO PFG 4022	-	PTFE Synth. base oil	•	1	80	-40 / +150	-	GLEITMO PFG 4022 is suitable for lubrication of plain and roller bearings, for life-time lubrication in the presence of aggressive media, at high and low temperatures, for example high-speed bearings, conveyor chains, bearings of centrifuges, electric actuators and magnetic valves.					
19	0.85 kg (SR-C	Cartridge), 6 x 1	kg (Bucket)										

#### **GLEITMO, RENOLIT**

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area
				Perfluo	rinated P	astes		
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 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)							



Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area
			Grea	ses in Sp	ray Cans	or Rattle	Cans	
DUOTAC ZAHNRADSPRAY	-	Wax Mineral oil	•	-	-	-20 / +150*	-	Dry, tenacious lubricating film. Open gears, gear rims, racks, chains, outer lubrication of wire ropes in crane installations, excavators, agricultural machines, rack and pinion railways; to be applied in cold condition, for open toothed-wheel gearing, transportation and conveying systems in the metallurgical industry and roller mills, lubrication/conservation of drag ropes and chains, e.g. in non-metallic mineral processing, solid lubricating film up to +300 °C; Bitumen-free special lubricant with graphite.
f	12 x 400 ml (	(Spray Can)						
LAGERMEISTER TS SPRAY (Grease: LAGERMEISTER TS)	KP2N-30	Lithium semi- synth. base oil	-	2	800	-30 / +140*	DB-MatNr. 245467, KHD Humboldt Wedag Interna- tional, R.STAHL, Zeppelin Bau- maschinen	For plain and roller bearings under difficult operating conditions. Especially recommended for high pressures and low revolutions per minute. Allows longer regreasing intervals when compared to conventional greases. Very good adhesive properties.
ľ	12 x 400 ml (	(Spray Can)						

### LAGERMEISTER, RENOLIT

Product name	Classifi- cation DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area
			Grea	ses in Sp	ray Cans	or Rattle	Cans	
LAGERMEISTER WHS 2002 SPRAY (Grease: LAGERMEISTER WHS 2002)	KPF1-2K-20	Lithium Mineral oil	•	1-2	320	-20 / +120*	DB-MatNr. 685377+685382, Terex Germany, Zeppelin Bauma- schinen	For plain and roller bearings operating under extreme conditions (dust, water, vibrations), e.g. conveyors, construction machines, raw material processing machines. For lubrication of plastic crosshead guides on telescopic cranes. Also available as fluid.
ľ	12 x 400 ml (	(Spray Can)						
PBC 1574 SPRAY	-	Inorg. thickener Mineral oil	•	2-3	-	-20 / +160* +1200 (dry lubri- cation)	-	PBC 1574 is used for the prevention of seizures on screw threads, linkages, pivots, flanges and mating surfaces subject to high temperatures, fretting corrosion, salt water and aggressive environmental media. The product is used to lubricate brake callipers and prevent corrosion of disc brakes. PBC 1574 is not electrically conductive and does not affect the sensors of ABS systems.
f	12 x 300 ml (	Spray Can)						
RENOLIT CA-LZ SPRAY (Grease: RENOLIT CA-LZ)	-	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.
f	12 x 400 ml (	(Spray Can)						

### **FUCHS** Special Applications

# **Lubricating Greases / Pastes**

Product name	Classifi- cation DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area
			Grea	ses in Sp	ray Cans	or Rattle	Cans	
CARBAFLO 2160 SPRAY (Grease: CARBAFLO 2160)	-	Synth. base oil	٠	2	310	-60 / +260*	-	CARBAFLO 2160 is a white, almost transparent high-temperature paste for the lubrication of bearings, slide rails or plug-in contacts. It is resistant to most lyes and acids, features excellent EP properties and acts as electric insulator. The low evaporation rate of the base oil guarantees extended relubrication intervals. Properly applied, CARBAFLO 2160 guarantees a lifetime lubrication of sensitive slide rails and adjusting mechanisms like in sunroofs.
<u>f</u>	100 ml (Spray	/ Can)						
CEPLATTYN 300 SPRAY (Grease: CEPLATTYN 300)	-	Al-X Mineral oil	٠	1-2	1300	-30 / +250*	DB-MatNr. 106169, Ferry Capitain, FLSmidth, Sinoma, Citic, CMD, Christian Pfeiffer, Sandvik, Gebr. Pfeiffer, KHD Humboldt Wedag International, Maschinenfabrik Gustav Eirich, ThyssenKrupp Industrial Solutions, RUD Ketten	Priming lubricant for large Open Gear drives, gear racks and sliding surfaces. It is also used as an assembly paste for screws/bolts and pins. It is also suitable for wire rope lubrication and preser- vation as well as in steel hydrau- lics construction for chains, sliding surfaces, and gear tooth systems. Dry lubrication up to +500 °C.
f	12 x 400 ml (	Spray Can)						
CEPLATTYN ECO 300 SPRAY (Grease: CEPLATTYN ECO 300)	-	Calcium native base oil	•	1	-	-20 / +80*	-	For sprocket chains, Open Gears, wire ropes, rack and pinion devices, sliding surfaces in locks and weirs, in the chemical industry, in mechanical engineering, in construction machinery and all kinds of conveyors. For lubrication of buffer plates, screwed joints, handbrake screws and horn cheeks on rolling stock.
f	12 x 400 ml (	Spray Can)						

#### CARBAFLO, CEPLATTYN, GLEITMO

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area
			Grea	ses in Sp	ray Cans	or Rattle	Cans	
GLEITMO 100 S SPRAY (Grease: GLEITMO 100 S)	-	Synth. base oil	٠	1	-	-40 / +400*	VW, Josef Fröhling, KHD Humboldt Wedag International	Assembly pastes with an extremely large range of applications. For running-in lubrication of heavy-duty plain bearings, slide and guide rails, gear wheels and screw spindles as well as bolt and threaded connections. Facilitates assembly / disassembly and prevents stick-slip. From approx. +140 °C dry lubrication by solid lubricants. Based on the higher MoS <sub>2</sub> share GLEITMO 100 S is suitable for extreme applications.
ľ	12 x 400 ml (	Spray Can)						
GLEITMO 165 SPRAY (Grease: GLEITMO 165)	-	Synth. base oil	•	1-2	-	-40 / +1200*	VW, Volvo Car Germany	For lubrication of turbine bolts, high-temperature screws and for lubrication of bolts, slide rings, sliding rails at high temperatures. No formation of oxide layers.
ľ	12 x 400 ml (	Spray Can)						
GLEITMO 582 SPRAY (Grease: GLEITMO 582)	-	Lithium semi- synth. base oil	•	0	-	-15 / +120*	-	High-performance chain grease for low and high-speed power transmitting chains, even where resistance to water, water vapour, acids and lyes is required.
ľ	12 x 400 ml (	Spray Can)						
GLEITMO 815 SPRAY (Grease: GLEITMO 815)	-	Inorg. thickener synth. base oil	•	2	115	-45 / +150* +180*	MAN	For ball screw drives, multi-groove profiles, ball bushes, gear couplings, threaded spindles, stainless steel threaded connections, plain bearings, household appliances, textile, office and packaging machines. With extended temperature range (short term up to +180 °C). As a spray, especially suitable for assembly and maintenance.
f	12 x 400 ml (	Spray Can)						
GLEITMO SIL SPRAY	-	Silcone oil	-	-	730	-40 / +250*	-	GLEITMO SIL SPRAY is a high- quality silicone lubricant for use as a lubricant and release agent. It forms a corrosion-protecting, thin film that protects the surface and prevents any adhesion of dirt. GLEITMO SIL SPRAY is colorless, water-repellent and clean.
ľ	12 x 400 ml (	Spray Can)						



Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area
			Grea	ses in Sp	ray Cans	or Rattle	e Cans	
GLEITMO WSP 5040 SPRAY (Grease: GLEITMO WSP 5040)	-	CaSX semi- synth. base oil	٠	2	170	-20 / +140* +1200*	COLUMBUS McKINNON Engineered Products (Pfaff-silberblau), NEUERO Industrietechnik für Förderanlagen, Sandvik, ThyssenKrupp Steel Europe	For machine elements of all types subjected to extreme pressures, shock loads and oscillatory movements. It is particularly appropriate if the surrounding area is subject to high humidity or the effects of splash water. For sliding pairings, which have a tendency to stick slip and scuffing (fretting). At low sliding speeds and high pressures as well as where fretting corrosion is present. Application as a high-temperature screw paste up to +1,200 °C.
f	12 x 400 ml (	Spray Can)						
RENAX GLEITSPRAY (Grease: RENOLIT GL 1)	-	Lithium Semi- synth. base oil	_	1	-	-30 / +140*	-	Very adhesive, noise-suppressing, reduces friction and wear, protects from corrosion. Suitable for plain and roller bearings and for gear boxes, bowden cables, guide rails, sun roofs, etc.
f	12 x 400 ml (	Spray Can)						

#### **RENOLIT**



Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area	
				Assen	nbly Past	es			
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), 180 kg (Drum)									

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area			
				Ass	embly Pa	stes					
GLEITMO SIL 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.			
i 🗆 🗸	6 x 0.1 kg (Tu	ube), 1 x 1 kg (	Γin), 5 kg (Βι	ucket), 18 k	g (Bucket)						
GLEITMO SIL 708	-	HDK Silicone oil	_	2-3	750	-40 / +200	-	Assembly aid for sealings, insulation grease.			
i 🗆 🕹 e	6 x 0.1 kg (Tube), 1 kg (Tin), 3 x 5 kg (Bucket), 180 kg (Drum)										
GLEITMO WSP 5040 (Spray can: GLEITMO WSP 5040 SPRAY)	-	CaSX Semi- synth. base oil	•	2	170	-20 / +140 / +1200	COLUMBUS McKINNON Engineered Products (Pfaff-silber- blau), NEUERO Industrietech- nik für Förder- anlagen, Sandvik, ThyssenKrupp Steel Europe	For machine elements of all types subjected to extreme pressures, shock loads and oscillatory movements. It is particularly appropriate if the surrounding area is subject to high humidity of the effects of splash water. For sliding pairings, which have a tendency to stick slip and scuffing (fretting). At low sliding speeds and high pressures as well as where fretting corrosion is present. Application as a high-temperature screw paste up to +1,200 °C.			
i	24 x 0.1 kg (	Tube), 6 x 1 kg	(Tin), 12 x 0	.5 kg (SR-C	artridge), 5	kg (Bucket),	, 18 kg (Bucket), 2	00 kg (Drum)			
RENOLIT AS	-	Lithium Synth. base oil	-	1	3000	-20 / +140	-	Lubricating and sealing grease, reduces friction, and vibration, prevents stickslip, resists many liquids and gases, protects from corrosion; pump bearings, ventilators, conveyors, printing machines, cleaning equipment and painting lines.			
•	5 ka (Bucket)	, 18 kg (Bucket	)								

### CEPLATTYN, GLEITMO, RENOLIT



Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area
			Grea	ases for S	Special Ap	plication	าร	
CEPLATTYN 100 HV	-	Al-X Mineral oil	•	_	1750	0 / +140	FLSmidth, Sinoma, Ferry Captain, CMD, ThyssenKrupp Indus- trial Solutions	For bath lubrication of Open Gears in mills, dryers and rotary kilns.
	1 kg (Tin), 18	kg (Bucket), 4	5 kg (Hobbo	ck), 170 kg	(Drum)			
CEPLATTYN 24 LR	-	Water based	•	-	-	>0 / +600	ThyssenKrupp Industrial Solutions, KHD Humboldt Wedag, Sprimag	For internal lubrication of riding rings in rotary and drying kilns in order to maintain the relative movement of the ball races when no flammable lubricant should be used.
	1 kg (Tin), 10	kg (Bucket), 2	5 kg (Hobbo	ck)				
CEPLATTYN 300 (Spray can: CEPLATTYN 300 SPRAY)	-	Al-X Mineral oil	•	1-2	1300	-30 / +250	DB-MatNr. 106169, Ferry Capitain, FLSmidth, Sinoma, Citic, CMD, Christian Pfeiffer, Sandvik, Gebr. Pfeiffer, KHD Humboldt Wedag International, Maschinenfabrik Gustav Eirich, ThyssenKrupp Industrial Solutions, RUD Ketten	Priming lubricant for large Open Gear drives, gear racks and sliding surfaces. It is also used as an assembly paste for screws/bolts and pins. It is also suitable for wire rope lubrica- tion and preservation as well as in steel hydraulics construction for chains, sliding surfaces, and gear tooth systems. Dry lubrica- tion up to +500 °C.

### **FUCHS** Special Applications

### **Lubricating Greases / Pastes**

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area			
			Grea	ses for S	pecial Ap	plication	S				
CEPLATTYN BL	OGPF2P-20	Al-X Mineral oil	٠	2	500	-40 / +150	FLSmidth, BEKAwind	For lubrication of machines and machine parts under difficult operating conditions, e.g. gear wheels, slide bars, chains, worm gears and ropes as well as for lubrication of machine parts subject to outdoor temperature fluctuations and environmental influences. Also suitable for use on wind turbine actuators.			
	0.5 kg (SR-Ca	rtridge), 6 x 1	kg (Tin), 5 kg	g (Bellow), !	5 kg (Bucket	), 18 kg (Bu	ıcket), 25 kg (Hob	bock), 45 kg (Hobbock), 185 kg (Drum)			
CEPLATTYN BL WHITE	OGPF1- 2P-30	Al-X Semi- synth. base oil	٠	1-2	300	-50 / +160	-	CEPLATTYN BL WHITE is especially used for the lubrication of azimuth and pitch gears in wind power plants. In addition to that it is used, e.g. on gears, sliding tracks, chains, worm gears, and wire ropes, or for the lubrication of machine parts subjected to considerable temperature fluctuations and environmental influences.			
I ■ 12 x 0.4 kg (Pull-Off Cartridge), 3.6 kg (Service-Cartridge), 5 kg (Bucket), 18 kg (Bucket), 185 kg (Drum)											
CEPLATTYN ECO 300 (Spray can: CEPLATTYN ECO 300 SPRAY)	-	Calcium Native base oil	•	1	-	-20 / +80	-	For sprocket chains, Open Gears, wire ropes, rack and pinion devices, sliding surfaces in locks and weirs, in the chemical industry, in mechanical engineering, in construction machinery and all kinds of conveyors. For lubrication of buffer plates, screwed joints, handbrake screws and horn cheeks on rolling stock.			
	6 x 1 kg (Tin)	, 5 kg (Bucket),	15 kg (Buck	cet), 25 kg	(Hobbock), 4	15 kg (Hobb	ock), 185 kg (Dru	ım)			
CEPLATTYN ECO 300 PLUS	-	Inorg. thickener Synth. base oil	•	0	-	-30 / +100	IMO, BEKAwind	For the lubrication of buffer discs, screw couplings, handbrake spindles and axle guard sliding plates on rolling stock. For the lubrication of plate link chains.			
21	5 kg (Bucket)	, 15 kg (Bucket	), 18 kg (Bud	ket), 50 kg	(Hobbock)						
CEPLATTYN GT 10	-	Synth. base oil	•	-	10000	0 / +140	FLSmidth, KHD Hum- boldt Wedag International, Metso, Outotec, ThyssenKrupp Industrial Solutions, Sinoma, Citic, Ferry Capitain	CEPLATTYN GT 10 is a high-viscosity adhesive lubricant for heavy-duty Open Gears, e.g. on kilns, mills and driers in the raw materials industry. CEPLATTYN GT 10 has been especially developed for the application on Open Gears under critical operating conditions, such as low-speed kiln drives with increased tooth flank temperatures, mill drives with extreme drive power, and drives which are frequently operated under startstop conditions.			

#### **CEPLATTYN**

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area
			Grea	ses for S <sub>l</sub>	oecial Ap	plication	S	
CEPLATTYN GT 3	-	Synth. base oil	٠	-	3200	-5 / +60	ThyssenKrupp Industrial Solutions, Sinoma	CEPLATTYN GT 3 is a high-viscosity adhesive lubricant for heavy-duty Open Gears, e.g. on kilns, mills and driers in the raw materials industry, used with bath or circulation systems. CEPLATTYN GT 3 has been especially developed for the application on Open Gears under critical operating conditions, such as kiln and mill drives in the cement and mining industry.
	190 kg (Drum	1)						
CEPLATTYN GT 30	-	Synth. base oil	•	_	28000	+5 / +140	Falk Rexnord, Ferry Capitain	CEPLATTYN GT 30 is a high-viscosity adhesive lubricant for heavy-duty Open Gears, e.g. on kilns, mills and driers in the raw materials industry. CEPLATTYN GT 30 has been especially developed for the application on Open Gears under critical operating conditions, such as low-speed kiln drives with increased tooth flank temperatures, mill drives with extreme drive power, and drives which are frequently operated under startstop conditions.
	190 kg (Drum	1)						
CEPLATTYN GT P	-	Al-X Semi- synth. base oil	•	1-2	300	-30 / +140	FLSmidth, KHD Hum- boldt Wedag International, Sinoma, ThyssenKrupp Industrial Solutions	Used as a priming lubricant for Open Gears, is especially adjusted to CEPLATTYN GT and CEPLATTYN SF operational lubricants.
	18 kg (Bucke	t)						
CEPLATTYN GT RN	-	Synth. base oil	•	-	3000	-10 / +140	ThyssenKrupp Industrial Solutions, FLSmidth, KHD Hum- boldt Wedag International, Sinoma, Ferry Capitain	Is used to smoothen the manufacturing surface roughness of the tooth surfaces and to optimise the contact pattern on newly installed gear rims and pinions.
	175 kg (Drum	n), BULK						
CEPLATTYN HT	-	Synth. base oil	٠	-	160	-20 / +600	FLSmidth, KHD Hum- boldt Wedag International, ThyssenKrupp Industrial Solutions, Sinoma, Sprimag	For internal lubrication of riding rings fitted to rotary kilns or dryers.
	1 kg (Tin), 18	kg (Bucket), 4	5 kg (Hobbo	ck), 185 kg	(Drum)			

### **FUCHS** Special Applications

# **Lubricating Greases / Pastes**

Product name	Classifi- cation DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area
			G	reases fo	or Special	Applicat	tions	
CEPLATTYN KG 10 HMF	OGPF0- 00N-10	Al-X Mineral oil	•	0-00	500	-10 / +140	Ferry Capitain, FLSmidth, Maschi- nenfabrik Gustav Eirich, Outotec, CMD, Maguin, Christian Pfeiffer, Sandvik, Gebr. Pfeif- fer, KHD Humboldt Wedag International, ThyssenKrupp Indus- trial Solutions	For open running gear drive units of tube mills, rotary kilns, dryers, crushers.
	1 kg (Tin), 18	kg (Bucket), 4	5 kg (Hob	bock), 190	kg (Drum), I	BULK		
CEPLATTYN KG 10 HMF- 1000	OGPF0- 00N-10	Al-X Mineral oil	•	0-00	1000	-10 / +140	Ferry Capitain, FLSmidth, Outotec, CMD, KHD Hum- boldt Wedag Inter- national, Thyssen- Krupp Industrial Solutions	For open running gear drives used under heavy loads and where the surrounding and tooth flank temperatures are permanently increased as well as for gear drives with slightly damaged tooth flanks and unfavourable load pattern.
	1 kg (Tin), 18	kg (Bucket), 4	5 kg (Hob	bock), 190	kg (Drum), I	BULK		
CEPLATTYN KG 10 HMF- 2500	OGPF0- 00N+5	Al-X Mineral oil	•	0-00	2500	+5 / +140	Ferry Capitain, FLSmidth, Citic, CMD, KHD Hum- boldt Wedag Inter- national, Outotec, ThyssenKrupp Indus- trial Solutions	For drives with pre-damaged load- carrying tooth flanks (pitting forma- tion, chipped surface etc.) and for tooth flank temperatures of more than +70 °C. Because of the high viscosity of the base oil, transmis- sion of vibrations is dampened.
	1 kg (Tin), 15	kg (Bucket), 18	8 kg (Buck	ket), 45 kg	(Hobbock),	190 kg (Dru	ım), BULK	
CEPLATTYN RN	-	Al-X Semi- synth. base oil	•	00	460	-10 / +140	Ferry Capitain, FLSmidth, Outotec, Sinoma, Citic, CMD, Maguin, Christian Pfeiffer, Sandvik, KHD Humboldt Wedag International, ThyssenKrupp Indus- trial Solutions	CEPLATTYN RN can be applied to single and double pinion drives of any kind of tube mills and kilns, e.g. in cement works, fertilizer plants, combustion and compost units. CEPLATTYN RN is applied to gear drives with high performance. Furthermore it is used when running under critical operating conditions, when having big tooth widths or when running with high speeds.
	1 kg (Tin), 18	kg (Bucket), 4	5 kg (Hob	bock), 190	kg (Drum), I	BULK		
CEPLATTYN R-VGP Advanced Circular Technologies	-	Calcium Native base oil	٠	1	_	-30 / +70	EU Ecolabel DE/027/288	For the lubrication of wire ropes, sliding guides, drive elements, and open gearings, for example of jacking rigs, used in environmentally sensitive areas, such as harbours, ships, water locks, etc. CEPLATTYN R-VGP was especially developed to meet the requirements of the US Environmental Protection Agency for Environmentally Acceptable Lubricants (EAL) and thus comply with the Vessel General Permit (VGP).
	1 kg (Tin), 5	kg (Hobbock),	25 kg (Ha	bbock), 19	0 kg (Drum)			

### CEPLATTYN, GLEITMO

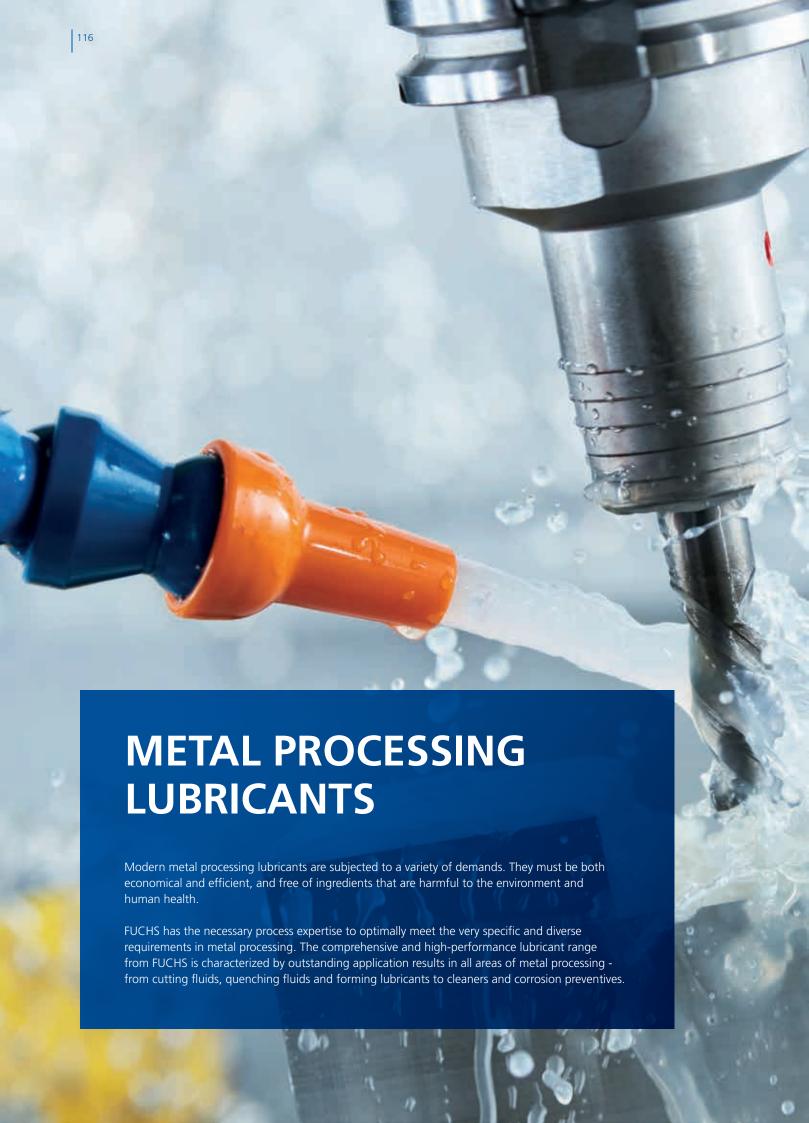
Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area
			Gr	eases fo	r Special	Applicati	ons	
CEPLATTYN SF 10	-	Synth. base oil	-	-	10000	0 / +120	Ferry Capitain, Metso, Outotec, ThyssenKrupp Industrial Solutions, FLSmidth, KHD Humboldt Wedag, CMD, Citic	The high base oil viscosity guarantees a stable lubricant film between the contacting tooth flanks. This leads to the exceptional efficiency together with the new type of additive package. Use on Open Gears in mills and large drive chains in raw materials industry. Meets AGMA 2005-D94/13 EP/13 S.
	1 kg (Tin), 45 kg	(Hobbock), 18	5 kg (Dru	m)				
CEPLATTYN SF 20 <b>NEW</b>	-	Synth. base oil	-	-	20000	+10 / +120	-	For use on Open Gears in the raw materials industry. Especially formulated for heavy-duty, high-speed open mill drives subject to high vibration. Also suitable for the lubrication of large driving chains.
	50 kg (Hobbock)	, 185 kg (Drum	)					
CEPLATTYN SF 30	-	Synth. base oil	-	-	30000	+15 / +120	Metso, FLSmidth, ThyssenKrupp Industrial Solutions, Citic, Falk, KHD Humboldt Wedag, Rexnord	Especially formulated for extremely heavy-duty Open Gear drives exposed to high shock loads. The extremely high base oil viscosity guarantees a good separation of the friction partners resulting in an exceptional efficiency.
	50 kg (Hobbock)	, 185 kg (Drum	), BULK					
CEPLATTYN T ECO NEW Advanced Circular Technologies	-	Calcium native base oil	•	1	-	-30 / +70	EU Ecolabel DE/027/288	CEPLATTYN T ECO is a lubricating grease for heavy duty threads of drilling systems. It is especially suited for the use in environmentally sensitive areas. Furthermore the lubricant is suitable for the lubrication of buffer plates, screw couplings, hand brake spindles and axle guard sliding plates of rail vehicles.
	5 kg (Hobbock)							
GLEITMO 585 K	-	Lithium Synth. base oil	٠	2	50	-45 / +130	ThyssenKrupp Rothe Erde, SKF-Lincoln, BEKA	For plain and roller bearings as well as all types of lubricating points, particularly if they are subject to the risk of fretting corrosion (oscillating movements, vibrations, e.g. pitch and azimuthh bearings of wind turbines).
	12 x 0.37 kg (Pu 25 kg, 40 kg (Ho			(SR-Cartrid	ge), 0.95 kg	(Tin), 3.57	kg (Service-Cartridge), 5	5 kg (Bellow), 5 kg, 18 kg (Bucket),

# **FUCHS** Special Applications **Lubricating Greases / Pastes**

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area
			Grea	ses for S	pecial Ap	plication	s	
GLEITMO 585 K PLUS	-	Lithium Synth. base oil	•	2	50	-45 / +130	ThyssenKrupp Rothe Erde, SKF-Lincoln, BEKA	For plain and roller bearings as well as all types of lubricating points, particularly if they are subject to the risk of fretting corrosion (oscillating movements, vibrations, e.g. pitch and azimuthh bearings of wind turbines). GLEITMO 585 K PLUS was especially designed for progressive lubrication systems.
I 2 8 8	12 x 0.4 kg (F	Pull-Off Cartride	ge), 3.55 kg	(Service-Ca	rtridge), 5 k	g (Bellow), s	5 kg, 18 kg (Bucke	et), 25 kg (Hobbock), 180 kg (Drum)
GLEITMO 830	-	Mineral oil	•	2	-	-25 / +100	-	GLEITMO 830 is used in cold forming processes, where commonly used lubricants are not satisfactory. GLEITMO 830 is proven for most demanding requirements in stamping, drawing, stretch-forming, bending, rolling, and forming of profiles. GLEITMO 830 is suitable for different materials such as austenitic and ferritic steels, copper, aluminium, zinc and their alloys.
91	5 kg (Bucket)	, 18 kg (Bucket	), 60 kg (Hol	bbock)				
GLEITMO 850 ST	-	Hybrid Semi- synth. base oil	•	1	110	-40 / +130	-	This lubricating grease has been customized to the extremely challenging requirements in blade and pitch bearings of wind turbines. This is where GLEITMO 850 ST shows an unprecedented reliability and versatility to meet the requirements regarding wear protection, corrosion protection and suitability at low temperatures. The product is also characterized by the necessary suitability for progressive distributor systems of common manufacturers and represents a benchmark when it comes to protection from standstil marks.
<b>9</b> 8	5 kg (Bucket)	, 170 kg (Drum	), others on	request				
GLEITMO SIL 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.
i 🗆 🖀	6 x 0.1 kg (Tu	ıbe), 1 x 1 kg ( <sup>-</sup>	Γin), 5 kg (Βι	ıcket), 18 k	g (Bucket)			
GLEITMO SIL 410 M	MSI2K-50	Calcium Silicone oil	-	2	750	-55 / +120	eurofins (F)	Beer tap grease for lubriation of taps, bearings and sealings of fermentation and filling plants for beverages, food plants and packaging.
	6 x 0 1 kg (Tı	ıbe), 1 kg (Tin),	5 ka (Bucke	rt) 25 ka (B	tucket) 180	ka (Drum)		

### **GLEITMO, RENOLIT, STABYL**

Product name	Classification DIN 51502 ISO 6743-9	Thickener Base oil	Solid lubri- cants	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tem- pera- ture range [°C]	Approvals, recommendations	Main application area
			Grea	ses for S	pecial Ap	plication	S	
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	t)						
RENOLIT TFL 2	-	Lithium PAO	•	2	110	-40 / +140	-	With PTFE, for slide-pairs with and without plastic components.
9	18 kg (Bucket	t)						
SILICONFETT 300 MITTEL BLQ	MSI2P-70	Lithium Silicone oil	-	2	75	-35 / +21	MPA Stuttgart approved	Bridge bearing quality (DIN EN 1337-2)
<b>P</b>	18 kg (Bucket	t)						
STABYL EOS E 2 Advanced Circular Technologies	KPE1-2K-40	Lithium Synth. base oil	-	1-2	320	-40 / +130	General Electric, IMO, Jungblut wind elements, KENERSYS, ThyssenKrupp Rothe Erde, ZS Schmier- anlagen	For lubrication of heavy-duty plain and roller bearings in all types of wind turbines. Has a wide operating temperature range, high mechanical stability, pronounced load bearing capacity and excellent corrosion protection properties. It can be used both for the lubrication of rotor bearings as well as for the blade and azimuthh bearings.
i 9 5	12 x 0.4 kg (F	Pull-Off Cartrid	ge), 3.7 kg (	Service-Cart	ridge), 5 kg	(Bellow), 5	kg (Bucket), 18 kg	g (Bucket), 180 kg (Drum)
STABYL LX 460 SYN	KPHC1- 2N-40	Li-X Synth. base oil	-	1-2	460	-40 / +140	-	STABYL LX 460 SYN is a fully synthetic high performance grease which is an excellent choice for the lubrication of main bearings in wind turbines due to its wide temperature range, high mechanical stability and exceptional load carrying capacity.
	12 x 0.4 kg (F	Pull-Off Cartrid	ge), 3.57 kg	(Service-Ca	rtridge), 5 k	g (Bellow), 5	kg (Bucket), 25 l	kg (Hobbock), 180 kg (Drum)
STABYL LX 460 SYN 00	KPHC 00 N-40	Li-X Synth. base oil	-	00	460	-40 / +140	-	STABYL LX 460 SYN 00 is a fully synthetic high-performance grease which was especially developed for the use in wind power plants. Combining the advantages of synthetic base oil, a special lithium complex thickener and a state-of-the-art additive package, STABYL LX 460 SYN 00 shows an outstanding performance throughout a wide temperature range.
	5 kg (Faltenh:	alg), 18 kg (Buo	rket) 25 kg	(Hobbock)	180 kg (Dru	ım)		





### **Metal Processing Lubricants**

Cutting Fluids - Water missible	
Cutting Fluids – Water-miscible	
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ECOCUT HFN Series   500 Series   600 Series   700 Series   800 Series   Universal for Steel and Nonferrous Metals   FT Series   ACT Series   PLANTOCUT Series   Minimum Quantity Lubrication	127-133
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Corrosion Preventives  Corrosion Protection Oils   Oily Corrosion Preventative Concentrates   Thixotropic Corrosion Protection Oils   Mineral Oil-free Corrosion Protection Products   Solvent based Corrosion Protection Products   Water Displacing Corrosion Protection Products   Water-miscible, Oily Corrosion Protection Products   Water-miscible, Synthetic Corrosion Protection Product   Corrosion Protection Coatings   Volatile Corrosion Inhibitor   Maintenance Fluids for Dewatering Products   Spraying Cans	154-165
Corrosion Protection Oils   Oily Corrosion Preventative Concentrates   Thixotropic Corrosion Protection Oils   Mineral Oil-free Corrosion Protection Products   Solvent based Corrosion Protection Products   Water Displacing Corrosion Protection Products   Water-miscible, Oily Corrosion Protection Products   Water-miscible, Synthetic Corrosion Protection Product   Corrosion Protection Coatings   Volatile Corrosion Inhibitor	154-165
Corrosion Protection Oils   Oily Corrosion Preventative Concentrates   Thixotropic Corrosion Protection Oils   Mineral Oil-free Corrosion Protection Products   Solvent based Corrosion Protection Products   Water Displacing Corrosion Protection Products   Water-miscible, Oily Corrosion Protection Products   Water-miscible, Synthetic Corrosion Protection Product   Corrosion Protection Coatings   Volatile Corrosion Inhibitor   Maintenance Fluids for Dewatering Products   Spraying Cans	154-165 166-175
Corrosion Protection Oils   Oily Corrosion Preventative Concentrates   Thixotropic Corrosion Protection Oils   Mineral Oil-free Corrosion Protection Products   Solvent based Corrosion Protection Products   Water Displacing Corrosion Protection Products   Water-miscible, Oily Corrosion Protection Products   Water-miscible, Synthetic Corrosion Protection Product   Corrosion Protection Coatings   Volatile Corrosion Inhibitor   Maintenance Fluids for Dewatering Products   Spraying Cans  Cold Forming Lubricants Cold Forming Lubricants for Deep Drawing, Blanking, Fine Blanking,	
Corrosion Protection Oils   Oily Corrosion Preventative Concentrates   Thixotropic Corrosion Protection Oils   Mineral Oil-free Corrosion Protection Products   Solvent based Corrosion Protection Products   Water Displacing Corrosion Protection Products   Water-miscible, Oily Corrosion Protection Products   Water-miscible, Synthetic Corrosion Protection Product   Corrosion Protection Coatings   Volatile Corrosion Inhibitor   Maintenance Fluids for Dewatering Products   Spraying Cans  Cold Forming Lubricants  Cold Forming Lubricants for Deep Drawing, Blanking, Fine Blanking, Heavy Forming, Circular Lubrication, WTB Drawing (Wire - Tube - Bar), Hydroforming	166-175
Corrosion Protection Oils   Oily Corrosion Preventative Concentrates   Thixotropic Corrosion Protection Oils   Mineral Oil-free Corrosion Protection Products   Solvent based Corrosion Protection Products   Water Displacing Corrosion Protection Products   Water-miscible, Oily Corrosion Protection Products   Water-miscible, Synthetic Corrosion Protection Product   Corrosion Protection Coatings   Volatile Corrosion Inhibitor   Maintenance Fluids for Dewatering Products   Spraying Cans  Cold Forming Lubricants  Cold Forming Lubricants for Deep Drawing, Blanking, Fine Blanking, Heavy Forming, Circular Lubrication, WTB Drawing (Wire - Tube - Bar), Hydroforming VDA Forming Lubricants   Rolling Oils	166-175
Corrosion Protection Oils   Oily Corrosion Preventative Concentrates   Thixotropic Corrosion Protection Oils   Mineral Oil-free Corrosion Protection Products   Solvent based Corrosion Protection Products   Water Displacing Corrosion Protection Products   Water-miscible, Oily Corrosion Protection Products   Water-miscible, Synthetic Corrosion Protection Product   Corrosion Protection Coatings   Volatile Corrosion Inhibitor   Maintenance Fluids for Dewatering Products   Spraying Cans  Cold Forming Lubricants  Cold Forming Lubricants for Deep Drawing, Blanking, Fine Blanking, Heavy Forming, Circular Lubrication, WTB Drawing (Wire - Tube - Bar), Hydroforming VDA Forming Lubricants   Rolling Oils  Hot Forming Lubricants  Hot Forming Lubricants for Drop Forging, Hammer Forging, High-speed Forging,	166-175 176-177

### **Cutting Fluids – Water-miscible**



Product name	Milky emul- sion	Trans- lucent emul- sion	Solution fully syn- thetic	Densi- ty at 15 °C	pH value 5%	Mixing water hard- ness	Bo- ron- free	Material recom- menda- tion	Main application areas
			Core	Range –	Global	and Europ	ean Pr	oducts	
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 (Ca	nister), 205	L (Drum), 10	00 L (IBC)					
ECOCOOL GLOBAL 1000	(EP)	-	-	0.99	9.4 (10%)	S, M, H	•	Steel, high-alloy steel, Al, Ti, Ni	Metal processing fluid with special quality properties for high-performance metal machining, especially in Aerospace, Medical engineering, Semiconductor machine part production and many other industrial applications. Approval for Medical engineering, DMG MORI, Rolls-Royce, Airbus, Safran, GROB
	20 L (Ca	nister), 205	L (Drum), 10	00 L (IBC)					
ECOCOOL AFC 1515 LC	•	-	-	0.95	9.3	S, M, H	•	Steel, alloyed steel, Al*, Ti	For roughing and precision machining, as well as the grinding of titanium, steel and aluminium materials; excellent lubricity.
	20 L (Ca	nister), 205	L (Drum), 10	00 L (IBC),	Tank Truck	ζ.			
ECOCOOL FERROSTAR MBF	-	(ME EP)	-	0.97	9.6	M, H	•	Steel, alloyed steel, Al*	Metal processing fluid for general machining, especially for special cast iron alloys and high-alloy steels; excel- lent cooling, wetting and flushing; low drag-out losses. GROB approval, DMG MORI approval
	20 L (Ca	nister), 205	L (Drum), 10	00 L (IBC),	Tank Truck				

#### **ECOCOOL**

Product name	Milky emul- sion	Trans- lucent emul- sion	Solution fully syn- thetic	Densi- ty at 15 °C	pH value 5%	Mixing water hard- ness	Bo- ron- free	Material recom- menda- tion	Main application areas
			Core	Range –	Global	and Europ	ean Pr	oducts	
ECOCOOL VHCM - 1K	_	(ME)	-	0.99	9.5	S, M	•	Steel, cast iron	Metal processing fluid for general machining and grinding; low top up concentration required. Suitable for turning, drilling, milling and grinding.
	205 L (D	rum), 1000	L (IBC), Tank	Truck					
ECOCOOL MG 128 BFF	-	(ME EP)	-	0.98	9.7	S, M, H	•	Steel, alloyed steel, cast iron	Particularly suitable for cooling and lubr cation in general machining operations. It produces surfaces with low roughness and guarantees minimum tool wear and excellent surface finish.
	205 L (C	rum)							
ECOCOOL FG - BF	-	(ME)	-	1.01	10.0	S, M, H	•	Steel, cast iron, Al*, Cu*	Multifunctional microemulsion for machining ferrous and nonferrous metals (copper alloys and conventional aluminum). Due to long-term stability reduces the consumption of metal processing fluid.
€	205 L (C	rum)							
ECOCOOL MACH 50	-	(EP)	-	0.94	9.6	S, M, H	•	Steel, alloyed steel, Al	Suitable for high performance machining of many materials such as aluminum and various steel alloys in heavy duty applications such as broaching, drilling and tapping. Suitable for low silicon aluminum alloys such as 6000 and 7000 series.
	205 L (D	rum)							
ECOCOOL MACH 300	(EP)	-	-	1.01	9.2	S, M, H	٠	Steel, high-alloy steel, Al, Ni	Milky emulsion of novel metal processing fluid technology for high performance machining such as broaching drilling, threading of various materials. Especially suitable for staining-critical aluminium with high surface quality requirements.
	20 L (Ca	nister), 205	L (Drum), 10	00 L (IBC)					
ECOCOOL GLOBAL 10	(EP)	-	-	0.98	9.5	S, M, H	•	Steel, alloyed steel, Al, Ti	Specially designed water miscible metal processing fluid with robust raw materials that provide long life. The emulsifier system forms a stable emulsion that tolerates tramp oils without residue formation.
	20 L (Ca	nister), 205	L (Drum), 10	00 L (IBC)					
ECOCOOL 6100 SG	-	-	(EP)	1.04	10	M, H	-	Steel, alloyed steel, cast iron	Synthetic metalworking fluid for machining and grinding of ferrous metals. Achieves high surface finish.
	205 L (C	rum)							

# **Cutting Fluids – Water-miscible**

Product name	Milky emul- sion	Trans- lucent emul- sion	Solution fully syn- thetic	Densi- ty at 15 °C	pH value 5%	Mixing water hard- ness	Bo- ron- free	Material recom- menda- tion	Main application areas
			Core	Range -	- Globa	l and Euro	pean F	Products	
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.
<b>.</b>	205 L (D	Orum)							
ECOCOOL S-FC VW	-	-	(EP)	1.05	9.4	S, M	•	Steel, cast iron	Fully synthetic metal processing fluid for grinding and machining of cast iron and steel, extremely low foaming, good wetting and flushing properties, leaves no sticky residues.
	20 L (Ca	anister), 205	L (Drum), 10	00 L (IBC)					
ECOCOOL S-CO 5 BF	-	-	•	1.10	9.0	S, M	•	Hard metal, non- ferrous materials	Fully-synthetic metal processing fluid for the machining and grinding of tungs- ten carbides and nonferrous metals; reduces cobalt leaching and soap for- mation; low foaming; low drag-out losses. Also suitable for nonferrous metal processing.
	20 L (Ca	anister), 205	L (Drum)						
		Loc	al Core R	ange – C	omplet	ting the G	lobal 8	& EU Core Ra	ange
ECOCOOL HPL 730	• (EP)	-	-	0.99	9.2	S, M, H	•	Steel, alloyed steel, Al*	Multifunctional metalworking fluid for difficult machining, for reaming and threading with high surface qualities.
	200 L (D	Orum), Tank 1	ruck						
ECOCOOL S-G2	-	-	• (EP)	1.06	8.8	S, M	•	Steel, AI*	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
8 #	205 L (D	Drum), 1000	L (IBC)						
ECOCOOL TN 2530	• (EP)	-	-	0.98	9.4	M, H	•	Steel, alloyed steel, Titan, Inconel, AI*	With EP additives; universally applicable for aluminium materials, titanium and stainless steels; stable at high pressures and low foaming
3	205 L (D	Orum)							
ECOCOOL VHCM-1 CP	-	(ME)	-	0.99	9.6	S, M, H	•	Steel, cast iron	Metalworking fluid for general machining and grinding operations; greater economy due to low drag-out losses.
	20 L (Ca	anister), 205	L (Drum), 10	00 L (IBC),	Tank Truc	:k			
ECOCOOL ALUSTAR BF	•	-	-	0.94	7.9	М	•	Steel, alloyed steel, AI*, nonferrous materials	High-quality metalworking fluid for machining critical aluminium alloys; pH neutral; with excellent lubricating effect, good wetting and flushing properties. Not suitable for machining cast iron.
	205 L (C	Orum)							

#### **ECOCOOL**

Product name	Milky emul- sion	Trans- lucent emul- sion	Solution fully syn- thetic	Densi- ty at 15 °C	pH value 5%	Mixing water hard- ness	Bo- ron- free	Material recom- menda- tion	Main application areas
		Water-mi	scible Cut	ting Flui	ds with	DMG MC	RI and	DMQP Ap	pproval
ECOCOOL FERROSTAR MBF	-	(ME EP)	-	0.97	9.6	M, H	•	Steel, alloyed steel, Al*	Metal processing fluid for general machining, especially for special cast iron alloys and high-alloy steels; excel- lent cooling, wetting and flushing; low drag-out losses. GROB approval, DMG MORI approval
	20 L (Ca	anister), 205	L (Drum), 10	00 L (IBC),	Tank Truck	<			
ECOCOOL GLOBAL 1000	• (EP)	-	-	0.99	9.4 (10%)	S, M, H	•	Steel, high-alloy steel, Al, Ti, Ni	Metal processing fluid with special quality properties for high-performance metal machining, especially in Aerospace, Medical engineering, Semiconductor machine part production and many other industrial applications. Approval for Medical engineering, DMG MORI, Rolls-Royce, Airbus, Safran, GROB
<b>=</b> 5 <u>#</u>	20 L (Ca	anister), 205	L (Drum), 10	00 L (IBC)					
ECOCOOL VHCM - 1K	-	• (ME)	-	0.99	9.5	S, M	•	Steel, cast iron	Metal processing fluid for general machining and grinding. Low top up concentration required. Suitable for turning, drilling, milling and grinding.
	205 L ([	Orum), 1000	L (IBC), Tank	Truck					
ECOCOOL AFC-IDM	(EP)	-	-	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 (Ca	anister), 205	L (Drum), 10	00 L (IBC),	Tank Truck	(			
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 (D	Orum), 1000	L (IBC)						



### **Cutting Fluids – Water-miscible**

Product name	Milky emul- sion	Trans- lucent emul- sion	Solution fully syn- thetic	Densi- ty at 15 °C	pH value 5%	Mixing water hard- ness	Bo- ron- free	Material recom- menda- tion	Main application areas
				Мас	hining A	Aluminiun	n		
ECOCOOL ALUSTAR BF	•	-	-	0.94	7.9	М	•	Steel, alloyed steel, Al*, non- ferrous materials	High-quality metalworking fluid for machining critical aluminium alloys; pH neutral; with excellent lubricating effect, good wetting and flushing properties. Not suitable for machining cast iron.
	205 L (C	Drum), 1000	L (IBC)						
ECOCOOL AFC 1515 LC	•	-	-	0.95	9.3	S, M, H	•	Steel, alloyed steel, Al*, Ti	For roughing and precision machining, as well as the grinding of titanium, steel and aluminium materials; excellent lubricity.
	20 L (Ca	anister), 205	L (Drum), 10	00 L (IBC),	Tank Truck	<			
ECOCOOL GLOBAL 1000	(EP)	-	-	0.99	9.4 (10%)	S, M, H	•	Steel, high-alloy steel, Al, Ti, Ni	Metal processing fluid with special quality properties for high-performance metal machining, especially in Aerospace Medical engineering, Semiconductor machine part production and many other industrial applications. Approval for Medical engineering, DMG MORI, Rolls-Royce, Airbus, Safran, GROB
	20 L (Ca	anister), 205	L (Drum), 10	00 L (IBC)					
ECOCOOL S-G 2	-	-	(EP)	1.06	8.8	S, M	٠	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 (D	Orum), 1000	L (IBC)						
ECOCOOL MACH 300	(EP)	-	-	1.01	9.2	S, M, H	•	Steel, high-alloy steel, Al, Ni	Milky emulsion of novel Metal processing fluid technology for high performance machining such as broaching, drilling, threading of various materials. Especially suitable for staining-critical aluminium with high surface quality requirements.
	20 L (Ca	anister), 205	L (Drum), 10	00 L (IBC)					

### **ECOCOOL**

	Milky emul- sion	Trans- lucent emul- sion	Solution fully syn- thetic	Densi- ty at 15 °C	pH value 5%	Mixing water hard- ness	Bo- ron- free	Material recom- menda- tion	Main application areas
			Machi	ining Ca	st Iron a	nd Low-A	lloy St	eels	
ECOCOOL FERROSTAR MBF	-	(ME EP)	-	0.97	9.6	S, M, H	•	Steel, alloyed steel, Al*	Metal processing fluid for general machining, especially for special cast iron alloys and high-alloy steels; excellent cooling, wetting and flushing low drag-out losses. GROB approval, DMG MORI approval
	20 L (Ca	nister), 205	L (Drum), 10	00 L (IBC),	Tank Truck	<			
ECOCOOL VHCM-1 CP	-	(ME)	-	0.99	9.6	S, M, H	•	Steel, cast iron	Metalworking fluid for general machining and grinding operations; greater economy due to low drag-out losses.
	20 L (Ca	nister), 205	L (Drum), 10	00 L (IBC),	Tank Truck	<			
ECOCOOL MACH 15 NEW Advanced Circular Technologies	-	(ME)	-	0.99	9.8	S, M, H	•	Steel, cast iron	Metal processing fluid based on sustainable mineral oil for general machining and grinding; especially for steel and cast iron materials with good corrosion protection; good priceperformance ratio; very economical; low additive concentration required.
	20 L (Ca	nister), 205	L (Drum)						
		Ma	chining Hi	igh-Alloy	/ Steels	and Hot S	Strengt	h Material	s
ECOCOOL TN 2530	• (EP)	_	-	0.98	9.4	M, H	•	Steel, alloyed steel, Titan, Inconel, AI*	Metal processing fluid with EP additives; universally applicable for aluminium materials, titanium and stainless steels; high-pressure stable and low foaming.
<b>E</b>	205 L (D	rum)							
ECOCOOL TN 2550	(EP)	_	-	0.97	9.3	M, H	•	Titanium, Al, stainless steel	Advanced product for machining difficult-to-machine materials, mineral oil-free, sustainable formulation, approval: MTU, GROB
		– Prum), 1000	L (IBC)	0.97	9.3	M, H	•	Al, stainless	difficult-to-machine materials, mineral oil-free, sustainable formulation,
TN 2550		– vrum), 1000 –	L (IBC)	0.97	9.3 9.4 (10%)	M, H	•	Al, stainless	difficult-to-machine materials, mineral oil-free, sustainable formulation,
TN 2550	205 L (D • (EP)	-	_ L (IBC) _ L (Drum), 10	0.99	9.4	-	•	Al, stainless steel Steel, high-alloy steel, Al,	difficult-to-machine materials, mineral oil-free, sustainable formulation, approval: MTU, GROB  Metal processing fluid with special quality properties for high-performance metal machining, especially in Aerospace Medical engineering, Semiconductor machine part production and many other industrial applications. Approval for Medical engineering, DMG MORI,
TN 2550  E III  ECOCOOL GLOBAL 1000	205 L (D • (EP)	-	-	0.99	9.4	-	•	Al, stainless steel Steel, high-alloy steel, Al,	difficult-to-machine materials, mineral oil-free, sustainable formulation, approval: MTU, GROB  Metal processing fluid with special quality properties for high-performance metal machining, especially in Aerospace Medical engineering, Semiconductor machine part production and many other industrial applications. Approval for Medical engineering, DMG MORI,

### **Cutting Fluids – Water-miscible**

Product name	Milky emul- sion	Trans- lucent emul- sion	Solution fully syn- thetic	Densi- ty at 15 °C	pH value 5%	Mixing water hard- ness	Bo- ron- free	Material recom- menda- tion	Main application areas
		М	achining l	Nonferro	us Meta	als (Coppe	er, Bras	s, Bronze)	
ECOCOOL AFB 300	(EP)	-	7	0.99	9.3	S, M, H	٠	Steel, alloyed steel, Al, Ni, non- ferrous metal	Milky emulsion based on innovative metalworking fluid technology for high-performance machining such as broaching, drilling, thread cutting, reaming and boring out a wide range of materials. Especially suitable for zinc-containing nonferrous metals, preventing the formation of zinc soaps. Not suitable for use with nonferrous metals with a high lead content.
3 11	205 L (D	Orum), 1000	L (IBC)						
				Mach	nining N	/lagnesiun	n		
ECOCOOL 2516 MG-DC	•	-	-	0.97	9.1	Н	•	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
<b>a #</b>	205 L (E	)rum), 1000	L (IBC)						
				S	pecial P	roducts			
ECOCOOL GS 2000	-	-	•	1.06	8.0	-	•	Cast iron, steel	Thread cutting medium for water pipes; approved by the German DVWG; dyed red
	205 L (D	orum), 1000	L (IBC)						
ECOCOOL S-CO 5 BF	-	-	٠	1.10	9.0	S, M	•	Hard metal, non- ferrous metal	Fully-synthetic metal processing fluid for the machining and grinding of tungsten carbides and nonferrous metals; reduces cobalt leaching and soap formation; low foaming; low drag-out losses. Also suitable for non- ferrous metal processing.
	20 L (Ca	anister), 205	L (Drum)						
ECOCOOL GLOBAL S 240	-	-	•	1.05	9.0	S, M	•	Compo- sites	Fully-synthetic metal processing fluid for machining CFRP/GFRP, good wet- ting and flushing properties, extreme less foaming, leaves no sticky residues, AIRBUS Approval
	205 L (E	Orum)							
ECOCOOL S-ZNS <b>NEW</b>	-	-	•	1.05	8.6	S, M, H	•	Galva- nised material, steel	Fully synthetic cooling lubricant for processing galvanised materials; prevents staining (blooming) of zinc and is therefore recommended for processing galvanised pipes and profiles.
3	205 L (D	Orum)							

### **Service Additives for Cutting Fluids**

#### **ECOCOOL**

Product name	Description/ features	Application conc. (of the final dilution)	Increasing corrosion protection	Increasing pH value	Main application areas
	Top-up	Concentrate for V	Vater-miscibl	e Metal Proc	essing Fluids
ECOCOOL ALKALISATOR G	Primary alkanolamine	0.1 - 0.5 stepwise	(•)	•	Increases pH value.
	20 L (Canister), 200 L (	Drum)			
ECOCOOL AKTIV CU	Copper passivator	0.1 - 0.3	•	-	Combats the staining and greenish discolouration of nonferrous metals.
	20 L (Canister)				
ECOCOOL AKTIV ALU	To avoid Al-staining	0.1 - 0.15	•	-	Avoids aluminium staining. Not suitable for synthetic metalworking fluids.
	20 L (Canister)				
NETZMITTEL 12	Wetting agent	0.05 - 0.2	-	-	Improves wetting properties.
	20 L (Canister)				
ECOCOOL AKTIV CPO	Corrosion protection for ferrous metals	0.3 - 0.5	•	-	Increases the corrosion protection offered by emulsions and synthetic metal processing fluid.
	20 L (Canister), 205 L (	Drum), 1000 L (IBC)			
I	Defoamers, Synerge	tically Matched to	ECOCOOL \	Nater-miscib	le Metal Processing Fluids
ANTIFOAM 46	Si-organic chemistry	0.0025 - 0.005	-	-	Standard defoamer for emulsions and synthetic solutions. Before use, mix 1:1 with the processing fluid in use and add slowly.
	5 L (Canister), 20 L (Ca	nister)			
ANTIFOAM 46 W	Si-organic chemistry	0.005 - 0.01	-	-	Equivalent to ANTIFOAM 46 but with solubilizers, therefore mixes well.
	5 L (Canister)				
ANTIFOAM 48	Si-organic chemistry	0.005 - 0.01	-	-	For use with emulsions and synthetic solutions. Before use, mix 1:1 with the processing fluid in use and add slowly.
	5 L (Canister)				
ANTIFOAM 1860	Si-organic chemistry	0.005 - 0.01	_	-	Standard defoamer for emulsions and synthetic solutions. Before use, mix 1:1 with the processing fluid in use and add slowly.
	5 L (Canister)				
ANTIFOAM 51 G	Si-organic chemistry	0.007 - 0.015	-	-	With solubilizers, therefore mixes well.
	5 L (Canister), 205 L (D	rum)			
ANTIFOAM LC 30 W	Si-organic chemistry	0.008 - 0.015	-	-	Mixture of various defoamers; very broad range of applications. With solubilizers; no pre-dilution is necessary.
	5 L (Canister), 20 L (Ca	nister)			
ANTIFOAM	Ca-hardness increaser	from 0.01	-	-	Component to increase water hardness; as a rule, 0.01% increases water hardness by about 1 °dH,
WS 1					to a max. of 30 °dH

### **Service Additives for Cutting Fluids**

Product name	Application concentration (of the final dilution) [%]	Fungi- cide	Bacteri- cide	pH value effect	Main application areas
Formaldehyd	e-free Bactericides and Fu	ngicides fo	r the Maint	enance of	ECOCOOL Water-miscible Metal Processing Fluids
ACTICIDE MBS	0.1 - 0.2	•	•	-	Combination of fungicide and bactericide for emulsions and synthetic solutions
	25 kg (Canister), 200 kg (Dru	um), 1000 L (I	BC)		
ACTICIDE M 20	0.1 - 0.2	•	•	-	Fungicide and bactericide for emulsions, chloride-free, AOX-free
	5 kg (Canister), 200 kg (Drui	m)			
ACTICIDE MV	0.1 - 0.2	(•)	•	-	Fast working bactericide for emulsions and synthetic solutions
	5 kg (Canister), 25 kg (Canis	ter), 1000 L (I	BC)		
Vinkocide KTL	0.1 - 0.2	•	•	-	Combination of fungicide and bactericide for emulsions and synthetic solutions
NEW					
	5 kg (Canister)				

### **Neat Cutting Fluids**

#### **ECOCUT**



Product name	Kin. visc. at 40 °C [mm²/s]	Density at 15 °C	Flash point [°C]	Steel	High- alloy steel	Alumi- nium	Copper, copper alloys	Main application areas
				ECO	CUT HFN	Series		
ECOCUT HFN 5 LE-HC	4.4	0.83	136	•	-	•	•	Multipurpose cutting oil; low evaporation and low misting; copper inactive; for
	205 L (Drur	n), 1000 L (IBC	), Tank Truck	<				grinding and cutting operations with geometrically defined cutting tools. The low
ECOCUT HFN 10 LE-HC	10.6	0.83	170	•	-	•	•	ryiscosity versions (4 and 10) are also suitable for honing; ECOCUT HFN 32 LE can also be used as hydraulic oil HLP (multifunctional
	205 L (Drur	n), 1000 L (IBC	), Tank Truck	<				oil).
ECOCUT HFN 16 LE	15.4	0.85	200	•	-	•	•	
	205 L (Drur	n), 1000 L (IBC	)					
ECOCUT HFN 22 LE	21.7	0.84	212	•	-	•	•	
	205 L (Drur	n), 1000 L (IBC	)					
ECOCUT HFN 32 LE	30	0.85	200	•	-	•	•	
	205 L (Drun	n), 1000 L (IBC)	), Tank Truck	<				

# **Neat Cutting Fluids**

Product name	Kin. visc. at 40 °C [mm²/s]	Density at 15 °C	Flash point [°C]	Steel	High- alloy steel	Alumi- nium	Copper, copper alloys	Main application areas
				ECO	CUT HFN	l Series		
ECOCUT HFN 10 LE-R NEW Advanced Circular	11.1	0.84	160	•	•	•	•	Cutting oils based on sustainable, resource-saving mineral oil for machining steel and metals. Universally applicable, also suitable for grinding. Low oil mist and low evaporation for machining with geometrically defined cutting edges.
Technologies								The ECOCUT HFN 10 LE-R can also be used for honing. Promotes the circular economy;
	1000 L (IBC	), Tank Truck						saves resources and is sustainable for the environment.
ECOCUT HFN 16 LE-R NEW Advanced Circular Technologies	15.7	0.85	190	•	-	•	•	
5 ∰	205 L (Drun	n), 1000 L (IBC	<u>.</u> )					
				ECO	CUT 500	Series		
ECOCUT 515	15	0.90	180	•	•	-	-	Neat cutting oils with high EP additive con- tent for machining operations and especially
	205 L (Drun	n), Tank Truck						thread cutting on high alloy steels (stainless steels). ECOCUT 515 is very good suitable
ECOCUT 522	24	0.89	204	•	•	_	-	<ul> <li>for deep hole drilling. The products are zinc free and low in oil mist.</li> </ul>
•	205 L (Drun	n)						
				ECO	CUT 600	Series		
ECOCUT 610 A	10	0.85	160	•	•	_	-	Neat cutting oils universally applicable for the most machining operations with geometrically definded edge in alloyed
	1000 L (IBC	), Tank Truck						steels. Special additives reduce the friction and increase the tool life.
ECOCUT 615 LE	16	0.88	210	•	•	-	-	Low misting, chlorine-free and zinc-free.
	205 L (Drun	n), 1000 L (IBC	), Tank Truck					_
ECOCUT 615 A	17	0.87	200	•	•	-	-	
	205 L (Drun	n), 1000 L (IBC	), Tank Truck					_
ECOCUT 628 LE	26	0.86	210	•	•	-	_	
	205 L (Drun	n), 1000 L (IBC	), Tank Truck	(				
ECOCUT LCF 615 LE NEW Advanced Circular Technologies	15.5	0.85	198	•	•	-	-	Cutting oil based on sustainable, resource- saving mineral oil for cutting operations with a defined cutting edge for machining alloyed steels. Polar and chemically active additives reduce friction and increase tool life. Promotes the circular economy; saves resour
	/-	n), 1000 L (IBC						ces and is sustainable for the environmer

#### **ECOCUT**

Product name	Kin. visc. at 40 °C [mm²/s]	Density at 15 °C	Flash point [°C]	Steel	High- alloy steel	Alumi- nium	Copper, copper alloys	Main application areas
				ECC	OCUT 700	Series		
ECOCUT 710 LE	10	0.85	174	•	•	-	-	High performance oils with high EP additive content and universally applicable for
8 ∰	205 L (Drun	n), 1000 L (IBC	2)					operations on high alloy steels (Cr-Ni steels) in gear machining such as gear hobbing,
ECOCUT 715 LE	16.9	0.87	200	•	•	-	-	broaching and deep hole drilling. Low misting, chlorine-free and zinc-free.
	20 L (Canist	er), 205 L (Dr	um), 1000 L	(IBC)				
ECOCUT 717 EK	18.1	0.89	196	•	•	-	(•)	
	205 L (Drun	n), 1000 L (IBC	C), Tank Trucl	<				
ECOCUT 720 LE	20.6	0.87	210	•	•	-	-	
	205 L (Drun	n), 1000 L (IBC	<b>(</b> )					
ECOCUT 732 LE	32	0.88	219	•	•	-	-	
	20 L (Canist	er), 205 L (Dr	um), Tank Tru	uck				
ECOCUT LCF 714 NEW Advanced Circular Technologies	14	0.87	180	٠	٠	·	-	High-performance oil based on sustainable, resource-saving mineral oil with high EP additivation and universally applicable for machining high-alloy steels. Universal in gea machining for hobbing, broaching and deep drilling, grinding. Zinc-free, low-foaming, low-odour. Promotes the circular economy; saves resources and is sustainable for the environment.
•	205 L (Drun	n)						
				ECO	OCUT 800	) Series		
ECOCUT 832	29.3	0.92	180	•	•	-	-	Special oils for broaching and other very difficult machining operations on high alloy
	205 L (Drun	n), 1000 L (IBC	C), Tank Trucl	<				(also stainless) steels; particularly for the vertical and horizontal broaching of gear teeth
ECOCUT 8532	32	0.94	202	•	•	-	-	<ul> <li>and keyways. Low misting; zinc free; high Ef additive content.</li> </ul>
■	205 L (Drun	n), 1000 L (IBC	<u> </u>					
ECOCUT 8536 S	39.8	0.95	200	•	•	-	_	
5	205 L (Drun	n)						

### **Neat Cutting Fluids**

Product name	Kin. visc. at 40 °C [mm²/s]	Density at 15 °C	Flash point [°C]	Steel	High- alloy steel	Alumi- nium	Copper, copper alloys	Main application areas
			Univers	al for St	eel and N	lonferrou	s Metals	
ECOCUT HFN 15 GB 1	15.4	0.85	180	•	•	-	•	High-strength cutting oil based on high- quality HC base oils with a high additive content. This special copper-inactive formu- lation is suitable for machining steel, high- alloy materials as well as nonferrous metals. Another area of application is medical technology, as described below.
	20 L (Canist	ter), 205 L (Dru	um), 1000 L	(IBC)				
ECOCUT FT 11 HP	10.8	0.83	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 (Drun	n), 1000 L (IBC	<u>.</u> )					
			EC	OCUT F1	Γ Series, I	Based on	GTL	
ECOCUT FT 7 WSO	6.5	0.80	175	•	Especial- ly for hard metal	-	•	Grinding oil formulated on GTL base oil, for grinding of carbide tools; it prevents cobalt dissolution. Further application is sharpening of HSS tools. Suitable for ultra-fine filter systems, free of aromatics.
5	205 L (Drun	n)						
ECOCUT FT 11 HP	10.8	0.83	194	•	•	•	•	High-performance cutting oil on GTL base oil for universal machining of high-alloy steels up to copper alloys. Odourless, high flash point, low evaporation, excellent foaming behavior.
	205 L (Drun	n), 1000 L (IBC	.)					

#### **ECOCUT**

Product name	Kin. visc. at 40 °C [mm²/s]	Density at 15 °C	Flash point [°C]	Steel	High- alloy steel	Alumi- nium	Copper, copper alloys	Main application areas
	EC	OCUT ACT	Series – I	Based or	n sustain	able, reso	urce-savin	ng Base Fluids
ECOCUT LCF 218 Advanced Circular Technologies	18	0.86	195	•	(•)	٠	٠	High-performance cutting oil based on sustainable, resource-saving mineral oil, for machining steel and nonferrous metals; also suitable for grinding. Universally applicable in machining centres and multi-spindle machines. Odourless, high flash point. Promotes the circular economy; saves resources and is sustainable for the environment.
	205 L (Drur	n), 1000 L (IBC	)					
ECOCUT LCF 714 Advanced Circular Technologies	14	0.87	180	•	•	•	-	High-performance oil based on sustainable, resource-saving mineral oil with high EP additivation and universally applicable for machining high-alloy steels. Universal in gear machining for hobbing, broaching and deep drilling as well as grinding. Zinc-free, low-foaming, low-odour. Supports the circular economy, is resource-saving and sustainable for the environment. Promotes the circular economy; saves resources and is sustainable for the environment.
<b>-</b>	205 L (Drur	n)						
ECOCUT HFN 10 LE-R NEW Advanced Circular Technologies	11.1	0.84	160	•	•	٠	٠	Cutting oils based on sustainable, resource-saving mineral oil for machining steel and nonferrous metals. Universally applicable, also suitable for grinding. Low oil mist and low evaporation for machining with geometrically defined cutting edges.  The ECOCUT HFN 10 LE-R can also be used for honing. Promotes the circular economy;
	1000 L (IBC	), Tank Truck						saves resources and is sustainable for the
ECOCUT HFN 16 LE-R NEW Advanced Circular Technologies	15.7	0.85	190	•	-	•	•	environment.
	205 L (Drur	n), 1000 L (IBC	)					
ECOCUT LCF 615 LE NEW Advanced Circular Technologies	15.5	0.85	198	•	•	-	-	Cutting oil based on sustainable, resource- saving mineral oil for machining operations with a defined cutting edge, for machining alloyed steels. Polar and chemically active additives reduce friction and increase tool life. Promotes the circular economy; saves resources and is sustainable for the environ- ment.
5 ∰	20E I /Drug	n), 1000 L (IBC	\					

### **Neat Cutting Fluids**

Product name	Kin. visc. at 40 °C [mm²/s]	Density at 15 °C	Flash point [°C]	Steel	High- alloy steel	Alumi- nium	Copper, copper alloys	Main application areas
		PLAN	TOCUT Se	eries – Ba	ased on r	enewable	Raw Mat	erials
PLANTOCUT 10 SR Advanced Circular Technologies	10.4	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 (Canist	ter), 205 L (Dru	ım), 1000 L	(IBC)				
PLANTOCUT 22 AC Advanced Circular Technologies	22	0.89	215	•	•	•	•	
•	205 L (Drur	n)						
PLANTOCUT 40 SR Advanced Circular Technologies	40.4	0.92	216	•	•	•	•	
3 #	205 L (Drur	n), 1000 L (IBC	)					

### **ECOCUT, PLANTO**

	Kin. visc. at 40 °C [mm²/s]	Density at 15 °C	Flash point [°C]	Steel	High- alloy steel	Alumi- nium	Copper, copper alloys	Main application areas
			Minir	num Qu	antity Lu	brication	(MQL)	
PLANTO MIKRO UNI Advanced Circular Technologies	15.1	0.88	200	•	-	•	•	Ester-based minimum quantity lubricants with high EP level, universally applicable for all materials. Suitable for all spray systems. Machine manufacturer approval: DROPSA, GROB, Knoll, TKM
	20 L (Canis	ter), 205 L (Dr	um)					
PLANTO MIKRO 30 HD Advanced Circular Technologies	30.5	0.92	211	•	•	•	-	Ester-based minimum quantity lubricant with very high EP level. Suitable for steel, steel alloys and aluminium alloys. Use of different spray systems must be taken into account. Machine manufacturer approval: DROPSA, GROB, TKM
	20 L (Canis	ter)						
ECOCUT MIKRO PLUS 20	27	0.84	188	•	-	•	•	Minimum quantity lubricant based on fatty alcohol. Suitable for machining aluminium, but also cast iron, nonferrous metals, steel and steel alloys. Evaporates very effectively. Suitable for all spraying systems. Machine manufacturer approval: DROPSA, GROB, Knoll, SKF, TKM. Customer approval: Boeing, Bombardier, Embraer.
	20 L (Canis	ter), 205 L (Dr	um), 1000 L	(IBC)				
ECOCUT MIKRO 20 D	28.1	0.84	188	•	_			Minimum quantity lubricant based on fatty
						·	•	alcohol. Suitable for machining aluminium, but also cast iron, nonferrous metals, steel and steel alloys. Evaporates very effectively. Improved cleaning. Suitable for all spray systems.  Machine manufacturer approval: DROPSA, GROB, TKM
in S	20 L (Canis	ter), 205 L (Dr	um)			·	•	alcohol. Suitable for machining aluminium, but also cast iron, nonferrous metals, steel and steel alloys. Evaporates very effectively. Improved cleaning. Suitable for all spray systems. Machine manufacturer approval:
ECOCUT MIKRO LCF 20 D Advanced Circular Technologies	20 L (Canis 28.1	ter), 205 L (Dr 0.85	um) 198	•	-	•	•	alcohol. Suitable for machining aluminium, but also cast iron, nonferrous metals, steel and steel alloys. Evaporates very effectively. Improved cleaning. Suitable for all spray systems. Machine manufacturer approval:
MIKRO LCF 20 D  Advanced Circular	28.1		198	•	-	•	•	alcohol. Suitable for machining aluminium, but also cast iron, nonferrous metals, steel and steel alloys. Evaporates very effectively. Improved cleaning. Suitable for all spray systems.  Machine manufacturer approval: DROPSA, GROB, TKM  Fatty alcohol minimum quantity lubricant (MQL) based on renewable raw materials. Suitable for machining aluminium, nonferrous metals and steel. Evaporates very well. Improved cleaning performance. Suitable for all spray systems.  Machine manufacturer approval:
MIKRO LCF 20 D  Advanced Circular	28.1	0.85	198	•	-	•	•	alcohol. Suitable for machining aluminium, but also cast iron, nonferrous metals, steel and steel alloys. Evaporates very effectively. Improved cleaning. Suitable for all spray systems.  Machine manufacturer approval: DROPSA, GROB, TKM  Fatty alcohol minimum quantity lubricant (MQL) based on renewable raw materials. Suitable for machining aluminium, nonferrous metals and steel. Evaporates very well. Improved cleaning performance. Suitable for all spray systems.  Machine manufacturer approval:

# **Neat Cutting Fluids**

Product name	Kin. visc. at 40 °C [mm²/s]	Density at 15 °C	Flash point [°C]	Hard metal	HSS steel	Main application areas
			Spec	ific Applica	ition – Too	grinding
ECOCUT FT 7 WSO	6.5	0.80	175	•	•	Grinding oil formulated on GTL base oil, for grinding of carbide tools; prevents cobalt leaching. Further application is sharpening
NEW						of HSS tools. Suitable for ultra-fine filter systems, free of aromatics.
3	205 L (Drun	n)				
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 (Drun	n), 1000 L (IBC	), Tank Trucl	<		

Product name	Kin. visc. at 40 °C [mm²/s]	Density at 15 °C	Flash point [°C]	Steel	High- alloy steel	Alumi- nium	Copper, copper alloys	Main application areas
			Speci	fic Appli	cation –	Gear Mac	hining	
ECOCUT 628 LE	26	0.86	210	•	•	-	-	High-performance cutting oil universally applicable for all gear machining operations (shaving, hobbing, shaping, etc).
	205 L (Drur	m), 1000 L (IBC	), Tank Truc	k				(snaving, hobbing, snaping, etc).
ECOCUT 720 LE	20.6	0.87	210	•	•	-	-	
	205 L (Drur	n), 1000 L (IBC	()					
ECOCUT HFN 13 LE UNI	13	0.84	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 UNI-CLP.
	205 L (Drur	n), 1000 L (IBC	·)					
ECOCUT HSG 211 LE	11.2	0.83	172	•	•	•	•	High performance grinding oil for gear grinding. It provides a high metal removal rate and reduces grinding burn through spe cial additives. Low oil mist and evaporation.
	205 L (Drur	n), 1000 L (IBC	), Tank Truc	k				
			Spec	ific App	lication -	- Spark Er	osion	
ECOCUT FE	4.4	0.81	133	•	•	•	•	Dielectric medium, especially for roughing; free of aromatics.
	205 L (Drur	n), 1000 L (IBC	·)					
ECOCUT 1520	2,4	0.82	101	•	•	•	•	Dielectric, can be used for roughing as well as for finishing. Despite lower viscosity high flash point >100 °C.
	20 L (Canis	ter), 205 L (Dru	ım), 1000 L	(IBC)				

### **ECOCUT, PLANTO**

Product name	Kin. visc. at 40 °C [mm²/s]	Density at 15 °C	Flash point [°C]	Steel	High- alloy steel	Alumi- nium	Copper, copper alloys	Main application areas
			Sp	ecific Ap	plication	n – Thread	ling	
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.
<b>5</b>	205 L (Drur	n)						
			Specifi	c Applic	ations –	Honing, F	inishing	
ECOCUT HFN 5 LE-HC	4.4	0.83	136	•	(•)	•	•	Honing oil for steel and cast iron; also suitable for super finishing and high performance honing operations.
	205 L (Drur	n), 1000 L (IBC	), Tank Trucl	k				
ECOCUT GBS 5	5	0.83	150	•	(•)	•	•	For grinding and honing of balls and races in the roller bearing industry.
<b></b>	1000 L (IBC	)						
ECOCUT FE	4.1	0.81	133	•	•	•	•	Metal processing oil for honing and finishing; based on white oils and free of aromatics.
€ #	205 L (Drun	n), 1000 L (IBC	2)					
			Specific	applicat	ions – M	edical Eng	gineering	
PLANTOCUT 10 SR	10.4	0.86	206	•	•	•	•	Rapidly biodegradable, ester based cutting oil for the use in the medical engineering. 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 (Canist	ter), 205 L (Dru	um), 1000 L	(IBC)				
ECOCUT HFN 15 GB 1	15.4	0.85	180	•	•	-	•	Cutting oil for machining of high alloy, diffi- cult-to-machine materials (titanium, CoCr and nickel alloys, medical steels) used in medical engineering. Cytotoxicity: EN ISO 10993-1, EN ISO 10993-5, EN ISO 10993-12, DMQP Medical Product.
	20 L (Canist	ter), 205 L (Dru	um), 1000 L	(IBC)				
ECOCUT 7520 LE-M	16.5	0.86	214	•	•	-	-	High performance cutting oil for tool wear reduction and for the machining of highalloy, 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.
								211 150 10555 121

### **Neat Cutting Fluids**

#### **ECOCUT**

Product name	Kin. visc. at 40 °C [mm²/s]	Density at 15 °C	Flash point [°C]	Steel	High- alloy steel	Alumi- nium	Copper, copper alloys	Main application areas
			Specifi	c Applica	ation – D	eep Hole	Drilling	
ECOCUT FT 11 HP	10.87	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 (Drun	n), 1000 L (IBC	)					
ECOCUT 618	18	0.87	200	•	•	(•)	-	Mineral oil-based, low-oil-mist machining oil with EP and AW additives for deep-hole drilling, especially hard-to-machine steel materials; also suitable for valve drilling.
	205 L (Drun	n), 1000 L (IBC	)					

### **Service Additives for Neat Cutting Fluids**

Product name	Kin. visc. at 40 °C [mm²/s]	Copper active	Application concentration [%]	Main application areas
		Adjustin	g Concentrate	for Cutting Oils
ECOCUT PLUS KWU	35	•	1 - 100	Adjusting concentrate to improve cutting performance, tool life and surface finish.
	20 L (Canister)			
ECOCUT PLUS 800	28	•	1 - 100	Adjusting concentrate to improve cutting performance, tool life and surface finish; especially for the ECOCUT 800 Series.
	20 L (Canister), 1	000 L (IBC)		
ECOCUT PLUS HK	32	-	1 - 100	Special adjusting concentrate for the PLANTOCUT Series when copper-inactivity is necessary.
	1000 L (IBC)			

# **Quenching Fluids**

#### **THERMISOL**



Product name	Kin. Visc. at 40 °C [mm²/s]	Density at 15 °C [g/ml]	Flash- point [°C]	Temperature range bath temperature [°C]	Main application area				
			Quei	nching Oils based o	n Mineral Oil				
THERMISOL QB 32			40 – 90	Quenching oils based on mineral oil are usually conventional solvates containing a relatively low level of additives.					
	205 L (Drun	n), 1000 L (IB0	C), Tank Truc	k	These oils are generally used to quench components made of high-alloy materials and with simple geometries.				
THERMISOL QB 46	43.7	0.87	230	40 – 90	<ul> <li>They are mainly used for the heat treatment of distortion-resistant components.</li> </ul>				
	205 L (Drun	n), Tank Truck							
		High	-perform	ance Quenching Oils	s based on Mineral Oil				
THERMISOL QH 10	11.9	0.85	178	40 – 80	High performance quenching oils usually contain high levels of additives and special agents which accelerate component wetting				

THERMISOL QH 10	11.9	0.85	178	40 – 80	High performance quenching oils usually contain high levels of additives and special agents which accelerate component wetting.
<b>5 #</b>	205 L (Drur	m), 1000 L (IBC	.)		High performance quenching oils are normally based on conventional solvates.
THERMISOL QH 40	45	0.86	223	40 – 100 (max. 150)	They are widely used because optimized wetting behaviour makes them suitable for warp-prone components. Depending on the viscosity and the flash point these quenching oils can also be used
	205 L (Drur	m)			as hot bath and martempering oils.

# **Quenching Fluids**

Product name	Kin. Visc. at 40 °C [mm²/s]	Density at 15 °C [g/ml]	Flash- point [°C]	Temperature range bath temperature [°C]	Main application area
		High-p	erformar	ice Quenching Oils I	based on Hydrocrack Oil
THERMISOL QH 10 MC	11.8	0.83	172	40 – 80	High performance quenchants based on high-quality, low evaporation and low-aromatic hydrocracked oils.
3 #	205 L (Drun	n), 1000 L (IB	C)		MC - the key is a special manufacturing process in which natural mineral oil is converted by hydrocracking, i.e. under high pressure
THERMISOL QH 30 MC	26	0.84	220	40 – 100 (max. 150)	<ul> <li>and high temperatures in the presence of H2 (hydrogen). This creates a more cost-effective base oil which is comparable to syn- thetic oils. This base oil together with high-quality additives com-</li> </ul>
	1000 L (IBC	)			bines the oxidation stability and the optimum wetting properties of high-performance quenching oils with the thermal stability and extremely low evaporation of hydrocracked oils.
THERMISOL QH 35 MC	37	0.84	236	40 – 110 (max. 150)	Universal high-performance quenching oil with best performance values and high process reliability.
	205 L (Drur	n), 1000 L (IB	<b>C</b> )		
			Synthet	ic High-performance	e Quenching Oils
THERMISOL QHY 10 Advanced Circular Technologies	11	0.87	204	40 – 80	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
3	205 L (Drun	n)			properties than their conventional counterparts. These excellent wetting properties ensure that the vapour phase over the whole
THERMISOL QHY 150 Advanced Circular Technologies	145	0.92	312	40 – 260	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 viscosity and the flash point these quenching oils can also be used as hot bath and martempering
	20 L (Canis	ter), 205 L (Dr	um)		oils.

#### **THERMISOL**

Product name	Main application	Quenching intensity	Materials	Properties
		Wate	er-miscible Quench	nants
THERMISOL PGI 2010	Quenching for induction and flame hardening	Very high	Unalloyed steel	Especially for high corrosion protection requirements.
<b>E</b>	205 L (Drum)			
THERMISOL QZS 400	Quenching for induction and flame hardening	Very high	Unalloyed steel Low alloyed steel	Limited control of the quenching process through the concentration is possible. Provides increased bath life. Reduces foaming.
	20 L (Canister), 205 L (Dru	ım), 1000 L (IBC)		
THERMISOL QZS 700 K-FF	Quenching for induction and flame hardening. Also suitable for immersion quenching	High	Unalloyed steel Low alloyed steel Higher alloyed steel	Controlled quenching behaviour possible through variation of concentration. Provides increased bath life. Offers a particularly good dissolving capacity. Reduces foaming. Especially for the highest corrosion protection requirements.
	1000 L (IBC)			
THERMISOL QZS 400-WB	Quenching for induction and flame hardening. Also suitable for immersion quenching	High	Unalloyed steel Low alloyed steel Higher alloyed steel	Controlled quenching behaviour possible through variation of concentration. Provides increased bath life. Offers a particularly good dissolving capacity. Reduces foaming. Especially for the highest corrosion protection requirements. Protects copper inductors in induction hardening systems. Machine manufacturer approval: EFD Induction
5 🕮	205 L (Drum), 1000 L (IBC	)		
THERMISOL PVM 4000	Immersion quenching of single batches	Medium	Unalloyed steel Low alloyed steel High alloyed steel	Mild to particularly mild quenching processes can be achieved. Can be used as a substitute for low-viscosity hardening oils.
■ #	205 L (Drum), 1000 L (IBC	)		
THERMISOL QZS 550 CPO	Immersion quenching of single batches	Low	Unalloyed steel Low alloyed steel High alloyed steel	Mild to particularly mild quenching processes can be achieved. Can be used as a substitute for low-viscosity hardening oils. Especially for high corrosion protection requirements.
E	205 L (Drum)			

#### **Properties water-miscible quenching fluids THERMISOL series**

#### **General characteristics**

- Controlled quenching behaviour possible through variation of concentration
- There is no fire hazard in the tank
- No oil steam will be released
- Free of Boron, Formaldehyde Phenol and Isothiazolinone

#### QZS 400 and 700 series

- Severe quenching characteristic
- Smooth transition from vapour phase to polymer film
- Good for rinsing or immersion after induction heat treatment or flame hardening

#### QZS 550 and PVM series

- Oil-like quenching characteristics possible
- Very different quenching intensities can be set with the variation of concentration
- Quenching of high-alloy materials up to tool steel possible
- Particularly recommended for large and crack-sensitive components

### Cleaner



Product name	Function	Comments	Ma- terials	Corrosion protection, chip/filter test 0/0 at x% in y °dH	pH (2%), if appli- cable	Concen- tration range in %	Tem- pera- ture range in °C	Spray pressure in bar to app.	Density at 15 °C in kg/m³					
	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 <sup>1</sup>	Temporarily, '2% / in DI-water	9.2 ± 0.4 at 3.5%	3 (1 - 5)	50 ( <u>20</u> - 80)	600	1036 ± 15					
	20 L (Canister), 2	20 L (Canister), 205 L (Drum), 1000 L (IBC)												
RENOCLEAN MTO 3002	Neutral cleaner and corrosion protection "All-in-One" for spray, pres- sure flood, high pressure clean- ing and debur- ring	Very low residue for- mation, very good temporary corrosion protection, low- foaming application from 20 °C pressure- dependent, salt-free	Fe, Cu, Ms, (Al, Mg) <sup>1</sup>	Temporarily, '2% / 10 °dH	9.4 ± 0.5	3 (2 - 5)	60 ( <u>20</u> - 80)	500 (≥ 50 °C)	1078 ± 20					
	20 L (Canister), 2	05 L (Drum)												
RENOCLEAN MSO 3012	Medium alka- line cleaner for high pressure cleaning and deburring up to approx. 500 bars	Free of Mono- and Triethanolamine	Fe, Al, Zn, Cu, Ms, Mg <sup>1</sup> , Plastics <sup>1</sup>	Temporarily, '2% / in DI water	9.4 ± 0.5	2 (1 - 5)	50 (420 - 80)	500	1027 ± 15					
	20 L (Canister), 2	05 L (Drum)												

#### **RENOCLEAN**

Product name	Function	Comments	Ma- terials	Corrosion protection, chip/filter test 0/0 at x% in y °dH	pH (2%), if appli- cable	Concentration range in %	Tem- perature range in °C	Spray pressure in bar to app.	Density at 15 °C in kg/m³				
			Ne	utral Cleaner									
RENOCLEAN MTO 3001	Multi-metal capable neutral cleaner for spray and immersion applications	Suitable for ultra- sonic, universal use, e.g. before heat treatment, sprayable from ~ 45 °C, very low residue formation, salt-free	Fe, Al, red brass, (Zn, Cu, Ms, Pla- stics) <sup>1</sup>	Temporarily, '2% / in DI water	9.5 ± 0.4	2.5 (1 - 7)	60 (30 - 80)	15	1035 ± 15				
	20 L (Canister), 2	05 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, Pla- stics <sup>1</sup>	Temporarily, '2% / in DI water	9.5 ± 0.4	3 (2 - 7)	60 (30 - 80)	300 (500 short- term)	1050 ± 15				
	20 L (Canister), 2	20 L (Canister), 205 L (Drum)											
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 <sup>1</sup>	Temporarily, '2% / in DI water	9.8 ± 0.4	2.5 (1 - 5)	60 ( <u>10</u> - 80)	500 (≥ 50 °C)	1038 ± 15				
	20 L (Canister), 2	05 L (Drum)											
RENOCLEAN MSA 3011	Neutral cleaner for spray, pres- sure flooding, high pressure cleaning and deburring	Foam-free from 20 °C, pressure and temperature dependent PSA approval wor- ldwide: MABEC- code Z 000 533 700	Fe, Al, Cu, Ms, Mg	Temporarily, '2.5 % / 10 °dH	9.8 ± 0.4	3 (1 - 5)	60 ( <u>20</u> - 80)	500 (≥ 50 °C)	1040 ± 15				
	20 L (Canister), 2	05 L (Drum)											
RENOCLEAN VR 1021 CXV	Spray cleaner for spray, pres- sure flood and high pressure cleaning up to approx. 300 bar	High pressure clean- ing (200 bar, 300 for short periods), almost foam-free from 30 °C	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				
·	201/6 ::	0976	16)										
	∠U L (Canister), 2	05 L (Drum), 1000 L (IE	SC)										

#### Cleaner

Product name	Function	Comments	Ma- terials	Corrosion protection, chip/filter test 0/0 at x% in y °dH	pH (2%), if appli- cable	Concentration range in %	Tem- pera- ture range in °C	Spray pressure in bar to app.	Density at 15 °C in kg/m³
			Neu	tral Cleaner					
RENOCLEAN VR 1021	Neutral cleaner for spray appli- cation	Residue formation very low, usable before heat treat- ment, salt-free	Fe, Mg, (Al, Cu, Ms) <sup>1</sup>	Temporarily, '2% / 10 °dH	10.2 ± 0.3	2 (1 - 5)	65 (30 - 80)	20	1040 ± 15
	20 L (Canister), 2	205 L (Drum)							
RENOCLEAN C 20 K 1427	Neutral cleaner with very good corrosion pro- tection for fer- rous metals, spray applica- tion	Low residue formation, usable before heat treatment, salt-free  VW-Approval A29 2863	Fe, Mg <sup>1</sup>	Temporarily, '1.5% / 10 °dH	10.2 ± 0.4	2 (1 - 5)	65 (40 - 80)	15	1044 ± 15
3	205 L (Drum)								

#### **RENOCLEAN**

Product name	Function	Comments	Ma- terials	Corrosion protection, chip/filter test 0/0 at x% in y °dH	pH (2%), if appli- cable	Concen- tration range in %	Tem- pera- ture range in °C	Spray pressure in bar to app.	Density at 15 °C in kg/m³
			1-Comp	onent Produc	its				
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 ± 1
	1000 L (IBC)								
RENOCLEAN MTA 3003	Multi-metal capable spray and immersion cleaner, suit- able for ultra- sonic cleaning	Universally applicable, e.g. for non-cutting formed parts or for engine reconditioning	Fe, Al, (Zn, Cu, Ms, Pla- stics) <sup>1</sup>	Temporarily, '3% / 10 °dH	9.7 ± 0.4 (3%)	3 (2 - 7)	65 (40 - 80)	15	1120 ± 1
	20 L (Canister), 2	05 L (Drum), 1000 L (IBC)							
RENOCLEAN MSA 3001	Multi-metal capable spray cleaner	Universally applicable, limited suitability for immersion, low-foa- ming from approx. 40 °C	Fe, Al, Cu, Ms, (Zn, Pla- stics) <sup>1</sup>	Temporarily, '2.5% / 10 °dH	9.7 ± 0.4 (3%)	3 (2 - 7)	60 (40 - 80)	15	1074 ± 1
	20 L (Canister), 2	05 L (Drum), 1000 L (IBC)							
RENOCLEAN MDA 4201	Multi-metal capable emul- sifying cleaner for immersion, ultrasonic and manual use	Alkaline silicate containing cleaner with very good wetting capacity, supports clean, spotless drying, also suitable for manual and floor cleaning from 20 °C	Fe, Al, Cu, Ms, (Zn, Plastics) <sup>1</sup>	-	10.7 ± 0.5	4 (2 - 7)	65 (20 - 80)	-	1058 ± 20
	20 L (Canister), 2	05 L (Drum), 1000 L (IBC)							
RENOCLEAN WSA 4002	Cleaner for spray, immer- sion, ultrasonic and manual application	For heavily soiled parts and aggregates (e.g. railway, engine and chassis parts)	Fe, Al, Cu, Ms, (Zn, Mg, Plastics) <sup>1</sup>	Temporarily, '2.5% / 20 °dH	12.0 ± 0.5 (2.5%)	3 (2 - 7)	60 (30 - 80)	15	1092 ± 1
	20 L (Canister), 2	05 L (Drum)							
RENOCLEAN FDC 4001	Cleaner for immersion, ultrasonic and manual applica- tion in medical technology	Supports stain-free drying. Silicate-free. Non-skin irritating.	Titan, Fe, Al, (Cu, Ms, Mg, Plastics) <sup>1</sup>	-	12.1 ± 0.5	5 (2 - 33)	65 (20 - 80)	-	1090 ± 1
	20 L (Canister)								
RENOCLEAN MDA 4002	Immersion and ultrasonic cleaner, spray- able	For cleaning of parts, e.g.: with difficult to remove forming lubri- cants. Sprayable up to approx. 8 bar (depending on the equipment)	Fe, Zn, Mg, (Al, Cu, Ms) <sup>1</sup>	Temporarily, '2.5 % / 20 °dH	12.2 ± 0.3	4 (1 - 7)	65 (40 - 80)	8	1145 ± 1
	20 L (Canister)								

#### Cleaner

RENOCLEAN FSA 4017	Alkaline spray cleaner for fer- rous metals	For cleaning of parts,	1-Comp	annant Durad							
	cleaner for fer-	For cleaning of parts,		oonent Produc	ts						
		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), 1000 L (IBC)										
	Spray and immersion clea- ner 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)										
			A	cid Cleaner							
RENOCLEAN FTM 1001	Derusting, decalcification phosphoric acidic for immersion, ultrasonic and manual applica- tion	Suitable for cleaning calcified and germi- nated cleaning systems. Integrated consumption indica- tor	Fe, (Al, Mg, Plastics) <sup>1</sup>	Ferrous parts must be metallically bright after treatment and immediately protected with corrosion pro- tection (RENOCLEAN or ANTICORIT product)	1.5 ± 0.5 in DI-water	10 (5 - 50)	30 (20 - 60)	5	1360 ± 15		
	20 L (Canister), 2	05 L (Drum)									
RENOCLEAN FSO 2010	Neutral derus- ter for spray- ing, immersion and ultrasonic applications	Chloride free, applicable after thermal or ECM deburring	Fe, Al, (Cu, Ms, Mg, Plastics) <sup>1</sup>	Ferrous parts must be metallically bright after treatment and immediately protected with corrosion pro- tection (RENOCLEAN or ANTICORIT product)	5.9 ± 0.5 at 5%	10 (2 - 30)	50 (20 - 70)	20 (HD 200)	1265 ± 20		
	20 L (Canister)										

## **RENOCLEAN**

Product name	Function	Comments	Ma- terials	Corrosion protection, chip/filter test 0/0 at x% in y °dH	pH (2%), if appli- cable	Concentration range in %	Tem- pera- ture range in °C	Spray pressure in bar to app.	Density at 15 °C in kg/m³
			Builde	er Component	ts				
RENOCLEAN MTA 2001	Neutral, for immer- sion, pressure flood, flood and spray application	Borate, silicate and surfactant free, micro-filter- able, *	Al, Cu, Ms, Plastics, Zn <sup>1</sup>	-	7.7 ± 0.8	4 (2 - 8)	65 (20 - 80)		1335 ± 25
	20 L (Canister)								
RENOCLEAN MTA 4001	Medium alkaline, for immersion, pres- sure flood, flood and spray applica- tion	Borate, silicate and surfactant free, micro-filter- able, *	Fe, Plastics, (Al, Zn, Cu, Ms, Mg) <sup>1</sup>	-	10.0 ± 0.6	4 (2 - 8)	65 (20 - 80)		1579 ± 25
	20 L (Canister), 145 L	. (Drum)							
RENOCLEAN FTA 4002	Highly alkaline, for dipping, pressure flooding, flooding and spraying	Borate, silicate and surfactant free, micro-filter- able, *	Fe, Mg, Plastics <sup>1</sup>	-	12.5 ± 0.5	4 (2 - 8)	65 (20 - 80)	sed	1435 ± 20
	20 L (Canister), 700 L	. (IBC)						ı hent ı	
RENOCLEAN ENTFETTER 39	Highly alkaline, silicate, for dipping, pressure flooding, flooding and spraying	Borate-free	Fe, Mg, Al, Cu, brass, plastic, Zn <sup>1</sup>	-	12.5 ± 0.5	5 (1 - 20)	65 (20 - 80)	ırfactant compor	1370 ± 15
	700 L (IBC)							:he su	
RENOCLEAN FTA 4001	Highly alkaline, for immersion, pressure flooding, ultrasonic and spray cleaning, electrolytic degrea- sing, dephosphating	Borate-free, micro-filterable, *	Fe, Mg, (Cu, Ms, Pla- stics) <sup>1</sup>	-	12.9 ± 0.6 (1 %)	5 (2 - 20)	65 (20 - 85)	Applicable spraying pressure according to the surfactant component used!	1433 ± 25
	20 L (Canister), 170 L	. (Drum), 700 L (IBC)						ng pre	
RENOCLEAN VR 3222	With corrosion pro- tection, recyclable, for immersion, pres- sure flood, flood and spray applica- tion	Free of nitrite, borate, silicate and surfactants, micro-filterable, suitable for high pressure, free of salt,*	All ma- terials <sup>1</sup>	Temporarily, '3.5% / 10 °dH	8.0 ± 0.4 (3.5%)	2 (0.5 - 5)	60 (20 - 80)	Applicable sprayir	1079 ± 15
	20 L (Canister), 205 L	. (Drum)							
RENOCLEAN VR 2729 K	With corrosion pro- tection, recyclable, salt-free, for immer- sion, pressure flood, flood and spray application	Free of nitrite, borate, silicate and surfactants, micro-filterable, *. Has a corro- sion-protecting effect in the vapour phase. Salt-free.	Fe, Mg, Plastics <sup>1</sup>	Temporarily, '3% / 10 °dH	10.8 ± 0.5 (3 %)	2 (0.5 - 5)	60 (20 - 80)		1035 ± 15
	20 L (Canister) 205 L	. (Drum), 1000 L (IBC)							

Fe – steel, iron, cast iron and stainless steel
1 – to check first
\* – Observe product information - use with appropriate surfactant components

## Cleaner

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

#### **RENOCLEAN**

Product name	Function	Comments	Materials	Corrosion protection, chip/ filter test 0/0 at x% in y °dH	pH (2%), if appli- cable	Concentration range in %	Density at 15 °C in kg/m³
		Syst	em 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), 1	000 L (IBC)					
ACTICIDE MBS / WB 200	Biocides and fungicides for system cleaning, in combina- tion with RENOCLEAN FXM 4005 for targeted application	See "Service additives for cutting fluids" under "Cutting fluids - water-miscible"	According to contamination / infestation	-	-	-	-
	20 L (Canister)						

## Cleaner

Product name	Function	Comments	Ma- terials	Evaporation number approx. Ether = 1	Flash point in °C	Boiling range in °C	Density at 15 °C in kg/m³
		Solvent	is				
RENOCLEAN MTS 7001	Cleaner based on modified alcohols	Distillable. Especially designed for closed cleaning systems!	All ma- terials, plastics <sup>1</sup>	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 ma- terials, plastics <sup>1</sup>	93	≥ 56	179 - 197	760 ± 10
	205 L (Drum)						
RENOCLEAN MVS 8019 <b>NEW</b>	Hydrocarbon cleaner based on isoparaffin, aromatic-free	Narrow boiling cut, fast drying, distillable. Especially designed for closed cleaning systems!	All materials,	115	≥ 62	184 - 206	763 ± 10
3	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 ma- terials, plastics <sup>1</sup>	900	≥ 86	217 - 255	815 ± 20
	20 L (Canister), 205 L	Drum), 1000 L (IBC)					
RENOCLEAN MVS 9014	VOC- and aromatic- free hydrocarbon cleaner with corrosi- on protection	VOC compliant. Universal application, good corrosion protection due to very thin oil film. For solvent plants without distillation	All materials,	900	≥ 86	217 - 255	814 ± 20
all 205	1000 L (IBC)						
RENOCLEAN MVS 8202 NEW Advanced Circular Technologies	Sustainable hydro- carbon cleaner, iso- paraffin-based, suitable for multi- metals	Completely bio-based on a mixture of palm oil, rapeseed oil, sunflower oil or used cooking oil.	All materials, plastics <sup>1</sup>	~130	≥ 60	180 - 218	752 ± 15
	205 L (Drum)						
RENOCLEAN MVS 8201	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 ma- terials, plastics <sup>1</sup>	120	≥ 61	180 - 330	770 ± 20
	60 L (Drum)						
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,	130	≥ 61	185 - 210	765 ± 10
	20   (Canister) 60   (C	orum), 205 L (Drum), 1000 L (IBC)					

## **RENOCLEAN**

Product name	Function	Comments	Ma- terials	Evaporation number approx. Ether = 1	Flash point in °C	Boiling range in °C	Density at 15 °C in kg/m³
		Solven	ts				
RENOCLEAN MVS 7008	Hydrocarbon cleaner, aromatics-free	Fine cleaning, fast drying. Easy application, for solvent plants without permanent distillation	All ma- terials, plastics <sup>1</sup>	200	≥ 61	160 – 245	790 ± 25
	60 L (Drum), 205 L (Dr	rum), 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 ma- terials, plastics <sup>1</sup>	-	≥ 220	-	837 ± 20
	20 L (Canister), 205 L	(Drum), 1000 L (IBC), Tank Truck					

## Cleaner

Product name	Function	Comments	Ma- terials	Corrosion protection, chip/filter test 0/0 at x% in y °dH	pH (2%), if appli- cable	Concentration range in %	Tem- pera- ture range in °C	Spray pressure in bar to app.	Density at 15 °C in kg/m³
	_		Sp	ecial Products	5				
RENOCLEAN FXM 3014	Synthetic weld release agent with corrosion protection	Ready to use solution! Forms a coherent moist film that prevents the adhesion of weld- ing beads	-	Temporarily, '100%	8.7 ± 0.5 (100%)	100	Room tem- perature (15 - 30)	-	1010 ± 15
	20 L (Canister)								
RENOCLEAN GXM 3001	Defoamer, foam regulating addi- tive especially for cleaning solutions	Immediate, long- lasting defoaming and deaerating effect	-	-	8.8 ± 1.2 (100%)	0.05 (0.01 - 0.25)	-	-	998 ± 15
	5 L (Canister)								
RENOCLEAN GXA 3004	Floor, plant and hall cleaners	For all manual and mechanical appli- cations, odourless, especially suitable for floor cleaning equipment	All ma- terials <sup>1</sup>	-	9.1 ± 0.6 (100%)	3 (1 - 20)	20 ( <u>20</u> - 90)	-	1047 ± 15
	20 L (Canister), 10	000 L (IBC)							
RENOCLEAN AKTIV DA	Demulsifier for separating emul- sified oil	Demulsifier with defoaming effect, equipment for removing demulsi- fied 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 cle- aning, for immersi- on, suitable for steam jet and floor clea- ning equipment. Specifications - FORD Tox- Number 150602 (2014) - Federal-Mogul Nürnberg GmbH, Release number R041 (2014)	Fe, Mg, (Al, Cu, Ms, Lacke, Pla- stics) <sup>1</sup>	-	10.9 ± 0.4 at 3%	5 (1 - 20)	35 ( <u>20</u> - 80)	-	1045 ± 20
	5 L (Canister), 20	L (Canister), 205 L (Dru	m), 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, Pla- stics) <sup>1</sup>	-	11.7 ± 0.5 (1%)	3 (1 - 20)	20 ( <u>20</u> - 80)	-	1036 ± 15
<b>10</b>	20 L (Canister)								

#### **RENOCLEAN**

Product name	Function	Comments	Ma- terials	Flash point in °C	pH (2%), if appli- cable	Concentration range in %	Tem- pera- ture range in °C	Spray pressure in bar to app.	Density at 15 °C in kg/m³
			As	sembly Aids					
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 tem- perature (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 tem- perature (15 - 30)	-	992 ± 10
	60 L (Drum)								
RENOCLEAN GXS 9094	Assembly aid, containing cor- rosion protec- tion, 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 tem- perature (15 - 30)	-	995 ± 10
	205 L (Drum)								

## Cleaner

Product name	Function	Comments	Ma- terials	Corrosion protection, chip/filter test 0/0 at x% in y °dH	pH (2%), if appli- cable	Concentration range in %	Tem- pera- ture range in °C	Spray pressure in bar to app.	Density at 15 °C in kg/m³
			Corros	ion Protection	1				
RENOCLEAN VR 3222	Synthetic, mineral oil-free corrosion pro- tection	Nitrite- and borate free, suitable for vib- ratory grinding. For dipping, flooding, pressure flooding and spray application.	All ma- terials <sup>1</sup>	Temporarily, '3.5% / 10 °dH	8.0 ± 0.4 (3.5%)	2 (0.5 - 5)	60 (20 - 80)	100	1079 ± 15
	20 L (Canister), 2	05 L (Drum)							
RENOCLEAN MTO 3002	Corrosion protection and neutral cleaner "All-in-One" for spray, pres- sure flood and high pressure application	Very low residue for- mation, very good temporary corrosion protection, low-foa- ming application from 20 °C, pressure dependent	All ma- terials <sup>1</sup>	Temporarily, '2% / 10 °dH	9.4 ± 0.4	3 (2 - 5)	60 ( <u>20</u> - 80)	500 at 50 °C	1090 ± 15
	20 L (Canister), 2	05 L (Drum)							
ANTICORIT SKR 40	Synthetic hydraulic water and corrosion protection concentrate	Immersion and filling application, especially for press water appli- cations. Not approved for drinking water!	Fe	Temporarily, '4% / 20 °dH	9.4 ± 0.3 (10%)	7 (3 - 10)	20 (10 - 40)	10	1038 ± 15
3	205 L (Drum)								
ANTICORIT SKR 42	Synthetic hydraulic water and corrosion protection concentrate	Stable against salt and alkali entrain- ment, 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), 2	05 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 materi- als <sup>1</sup>	Temporarily, '2% / 20 °dH	9.8 ± 0.4	3 (0.5 - 5)	60 (10 - 80)	2	1033 ± 15
<b>ia</b> 5	20 L (Canister), 2	05 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), 2								

### **RENOCLEAN**

Product name	Function	Comments	Ma- terials	Corrosion protection, chip/filter test 0/0 at x% in y °dH	pH (2%), if appli- cable	Concentration range in %	Tem- pera- ture range in °C	Spray pressure in bar to app.	Density at 15 °C in kg/m³
			Corros	ion Protection	1				
RENOCLEAN MTE 3001	Emulsion cleaner, water miscible corrosion protec- tion concentrate	Emulsion cleaner and corrosion pro- tection emulsion for immersion, flush and spray applica- tion. Free of barium and boron com- pounds, contains no monoethanola- mine	All materi- als <sup>1</sup>	Temporarily, '3% / 10 °dH	8.8 ± 0.5	4 (3 - 20)	20 (20 - 60)	5	995 ± 20
	205 L (Drum)								

## **Corrosion Preventives**



Product name	Description	Kin. visc. at 40 °C [mm²/s] DIN 51562	Density at 15 °C [KG/m³]	Consumption	Film weight [g/m²]	Shed stor- age [Mon.]	Hall stor- age [Mon.]	FP [°C]	Thix- otro- pic	VCI	Lubri- cating proper- ties
			Corrosio	n Protec	tion Oils						
ANTICORIT RPO 1001	Conventional corrosion protection oil with low viscosity	8	839	0.002	2	2-4	4-8	146	_	_	-
5	205 L (Drum)										
ANTICORIT RPO 2001	Conventional corrosion protection oil with medium viscosity	15	839	0.005	4	2-4	4-8	194	-	-	-
5	205 L (Drum)										
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 (Dru	um)									
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 (Dru	um)									
ANTICORIT RPO 3003	Conventional corrosion protection oil with high viscosity	30	871	0.010	9	3-5	5-8	226	-	-	-
8	205 L (Drum)										

## **ANTICORIT**

Product name	Description	Kin. visc. at 40 °C [mm²/s] DIN 51562	Density at 15 °C [KG/m³]	Consumption	Film weight [g/m²]	Shed stor- age [Mon.]	Hall stor- age [Mon.]	FP [°C]	Thix- otro- pic	VCI	Lubri- cating proper- ties
			Corrosic	n Protec	tion Oils						
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	.)									
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	-	-	•
8	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	-	-	-
	Tank Truck										
ANTICORIT RP 4107 A	Mid-viscous, non thix- otropic modification of ANTICORIT RP 4107 S	15	870	0.010	9	3-6	6-9	130	-	-	-
	20 L (Canister), 205 L (Dru	um), 1000 L (IB0	C), Tank Trucl	<							
ANTICORIT PL 3802 39 LV 8	Low-viscous blank washing oil with ad- vanced lubrication, non thixotropic	8	890	0.002	2	3-6	6-9	110	-	-	•
5 ⊞	205 L (Drum), 1000 L (IBC	<u>.</u> )									
ANTICORIT PL 3802 39 NT	Non thixotropic modifi- cation of ANTICORIT PL 3802 39 S	26	880	0.009	8	3-6	6-9	n/a	_	-	•
5	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	-	-	•
8	205 L (Drum)										

## **Corrosion Preventives**

Product name	Description	Kin. visc. at 40 °C [mm²/s] DIN 51562	Density at 15 °C [KG/m³]	Consumption	Film weight [g/m²]	Shed stor- age [Mon.]	Hall stor- age [Mon.]	FP [°C]	Thix- otro- pic	VCI	Lubri- cating proper- ties
		Oily Co	orrosion P	reventati	ve Conce	ntrates					
ANTICORIT RPC 5000	Corrosion protection concentrate, successor of ANTICORIT OHK	85	887	De- pends on conc.	De- pends on conc.	De- pends on conc.	De- pends on conc.	248	-	-	-
	20 L (Canister), 205 L (Dr	um), 1000 L (IB	C)								
ANTICORIT MPC 5000	Corrosion protection concentrate, advanced corrosion protection and lubrication perfor- mance, compatible with chlorinated sol- vents	90	890	De- pends on conc.	De- pends on conc.	De- pends on conc.	De- pends on conc.	240	-	-	-
	20 L (Canister), 205 L (Dr	um), 1000 L (IB	C), Tank Truc	:k							
ANTICORIT 03 W C	High-viscous, thixotro- pic corrosion protection concentrate; suitable for bearings	160	912	De- pends on conc.	De- pends on conc.	De- pends on conc.	De- pends on conc.	150	•	_	-
	20 L (Canister), 205 L (Dr	um)									

### **ANTICORIT**

Product name	Description	Kin. visc. at 40 °C [mm²/s] DIN 51562	Density at 15 °C [KG/m³]	Consumption	Film weight [g/m²]	Shed stor- age [Mon.]	Hall stor- age [Mon.]	FP [°C]	Thix- otro- pic	VCI	Opti- mized lubri- cating proper- ties
		Thix	otropic Co	orrosion	Protection	n Oils					
ANTICORIT BGO 15 X	Thixotropic corrosion protection oil with very good corrosion protection and lubrication properties, suitable for bearings	14	860	0.006	5	12-24	12-36	130	•	-	•
	205 L (Drum), 1000 L (IBC	2)									
ANTICORIT TX 11	Thixotropic corrosion protection oil with very good lubrication proper- ties; suitable for bea- rings	40	883	0.034	30 at 60 °C	6-12	12-24	160	•	_	•
E	205 L (Drum)										
ANTICORIT TW 16	High-viscous corrosion protection oil for hot applications	32 at 50 °C	883	0.012	11 at 85 °C	6-12	12-24	170	•	-	-
	205 L (Drum), Tank Truck										
ANTICORIT RP 4107 S	Thixotropic corrosion protection oil for still mill application on body-in-white strips, meets VDA 230-213	35	887	0.012	11	6-12	12-20	210	•	_	-
	205 L (Drum), 1000 L (IBC	), Tank Truck									
ANTICORIT RP 4107 LV	Low-viscous modifica- tion of ANTICORIT RP 4107 S, meets VDA 230-213	12	865	0.002	2	4-8	8-16	150	•	=	-
	20 L (Canister), 205 L (Dru	um), 1000 L (IB	C)								
ANTICORIT PL 3802 39 S	First generation thixotro- pic prelube, meets VDA 230-213	60	910	0.012	11	6-12	12-20	180	•	_	•
	205 L (Drum), 1000 L (IBC	), Tank Truck									
ANTICORIT PLS 100 T	Second generation thixotropic prelube, meets VDA 230-213	100	910	0.012	11	6-12	12-20	180	•	_	-
	205 L (Drum), 1000 L (IBC	<u>.</u> )									
ANTICORIT PL 3802 39 LV	Low-viscous modifica- tion of ANTICORIT PL 3802 39 S, suitable as blank washing oil, meets VDA 230-213	15	891	0.007	6	4-8	8-16	150	•	_	-
5 ∰	205 L (Drum), 1000 L (IBC	<u>.</u> )									
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	•	_	•
<b>=</b>	205 L (Drum)										

## **Corrosion Preventives**

Product name	Description	Kin. visc. at 40 °C [mm²/s] DIN 51562	Density at 15 °C [KG/m³]	Consumption	Film weight [g/m²]	Shed stor- age [Mon.]	Hall stor- age [Mon.]	FP [°C]	Thix- otro- pic	VCI	Opti- mized lubri- cating proper- ties
		Mineral O	il-free Co	rrosion F	rotection	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	-	-	_
<b>i</b> 3 #	20 L (Canister), 205 L (Dru	m), 1000 L (IBC)	)								
ANTICORIT SYNTH	Fully synthetic, high viscous multipurpose oil, good lubrication properties	102	834	-	-	3-6	6-12	150	-	_	•
	20 L (Canister)										
		Solvent k	ased Co	rrosion P	otection	Products					
ANTICORIT 04 W 2	Pre-diluted corrosion pro- tection oil, 75% evapo- ration residue, isoparaf- fin, suitable for bearings	32 at 20 °C	906	De- pends on conc.	De- pends on conc.	6-12	12-20	>60	-	_	-
5	205 L (Drum)										
ANTICORIT 04 W 2 VOC kon.	Pre-diluted corrosion pro- tection oil, 75% evapo- ration residue, VOC-free according to 31. BImSchV, suitable for bearings	47 at 20 °C	920	De- pends on conc.	De- pends on conc.	6-12	12-20	>90	-	-	-
8	205 L (Drum)										

### **ANTICORIT**

Product name	Description	Kin. visc. at 40 °C [mm²/s] DIN 51562	Density at 15 °C [KG/m³]	Consumption	Film weight [g/m²]	Shed stor- age [Mon.]	Hall stor- age [Mon.]	FP [°C]	Thix- otro- pic	VCI	Opti- mized lubri- cating proper- ties
		Water Di	splacing (	Corrosion	Protection	n Produ	cts				
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 (D	rum)									
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 (D	rum)									
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 (D	rum), 1000 L (I	BC)								
ANTICORIT DFO 9101	Dewatering fluid, leaving a thin, oily protection layer, VOC- free acc. to 31. BImSchV	4.4 at 20 °C	820	0.012	1	3-6	6-12	>90	-	_	-
<b>i</b> 3	20 L (Canister), 205 L (D	)rum), 1000 L (I	BC)								
ANTICORIT DFO 9301	Dewatering fluid, leaving a thick, oily protection layer, VOC- free acc. to 31. BImSchV	7.2 at 20 °C	835	0.012	2.5	6-12	12-24	>90	_	-	-
	20 L (Canister), 205 L (D	rum), 1000 L (I	BC)								
ANTICORIT DFO 9401 NEW Advanced Circular Technologies	Dewatering fluid, leaving a thick, oily protection layer, VOC free according to 31.  BImSchV, no H304	10.9	865	0.012	2.5	6-12	12-24	>90	-	_	-
	20 L (Canister), 205 L (D	rum)									
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 (D	rum), 1000 L (I	BC)								
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 (D	rum)									

## **Corrosion Preventives**

Product name	Description	Kin. visc. at 40 °C [mm²/s] DIN 51562	Density at 15 °C [KG/m³]	Consumption	Film weight [g/m²]	Shed stor- age [Mon.]	Hall stor- age [Mon.]	FP [°C]	Thix- otro- pic	VCI	Opti- mized lubri- cating proper- ties
		Water Di	splacing (	Corrosion	Protectio	n Produc	ts				
ANTICORIT DFW 8101	Dewatering fluid, leaving a thin, waxy protection layer, iso- paraffin	3.5 at 20 °C	780	0.013	1	3-6	6-12	>60	•	-	-
	20 L (Canister), 205 L (D	rum), 1000 L (II	BC)								
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	•	_	-
<b>i</b> 3 #	20 L (Canister), 205 L (D	rum), 1000 L (II	BC)								
ANTICORIT DFW 9101	Dewatering fluid, leaving a thin, waxy protection layer, VOC-free acc. to 31. BImSchV	4.2 at 20 °C	820	0.012	1	3-6	6-12	>90	•	-	-
<b>1</b> 3 8	20 L (Canister), 205 L (D	rum), 1000 L (II	3C)								
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	•	-	-
<b>1</b> 3 <b>1</b>	20 L (Canister), 205 L (D	rum), 1000 L (II	BC)								
ANTICORIT DFW 9201	Dewatering fluid, leaving a thick, soft waxy protection layer, VOC free according to 31. BIMSchV	5.5 at 20 °C	830	0.012	1.8	6-9	12-18	>90	•	_	-
	1000 L (IBC)										
ANTICORIT DFO 8191  NEW  Advanced Circular Technologies	Sustainable dewate- ring fluid, leaving a thin, oily protection layer	3 at 20 °C	780	0.013	1	3-6	6-12	>60	-	-	-
	20 L (Canister)										

### **ANTICORIT**

Product name	Description	Kin. visc. at 40 °C [mm²/s] DIN 51562	Density at 15 °C [KG/m³]	Con- sump- tion [I/m²]	Film weight [g/m²]	Shed stor-age [Mon.]	Hall stor- age [Mon.]	FP [°C]	Thix- otro- pic	VCI	Opti- mized lubri- cating proper- ties
		Water-mi	scible, Oi	ly Corros	ion Prote	ction Prod	ucts				
ANTICORIT WMC 7000	Emulsifiable corrosion protection oil with good corrosion protection	60	922	De- pends on conc.	De- pends on conc.	De- pends on conc.	De- pends on conc.	>175	-	-	_
	20 L (Canister), 205 L (I	Orum), 1000 L (	IBC)								
ANTICORIT WMC 9000	Emulsifiable corrosion protection oil with high corrosion protection	100	942	De- pends on conc.	De- pends on conc.	De- pends on conc.	De- pends on conc.	>175	_	-	-
<b>ia</b> 5	20 L (Canister), 205 L (I	Orum), 1000 L (	IBC)								
ANTICORIT WMC 9002	Emulsifiable oil with high corrosion protection on steel and zinc, supports forming processes	100	910	De- pends on conc.	De- pends on conc.	De- pends on conc.	De- pends on conc.	>150	-	-	-
	20 L (Canister)										
ANTICORIT WMD 9200 NEW  Advanced Circular Technologies	Emulsion with out- standing corrosion protection like a dewatering. VOC- free, fast drying	50	980	0.04	2	3-6	6-12	>150	-	-	-
	20 L (Canister), 205 L (I	Orum)									
ANTICORIT MKR 10	Emulsifiable corrosion protection oil with high corrosion protection and thixo- tropic characteristics	128	931	De- pends on conc.	De- pends on conc.	De- pends on conc.	De- pends on conc.	>150	•	-	-
	205 L (Drum), 1000 L (I	BC)									
		Water-misc	ible, Synt	hetic Co	rosion Pr	otection P	roduct				
ANTICORIT SKR 3001	Mineral oil-free (synthetic) corrosion protection concentrate	_	1030	De- pends on conc.	De- pends on conc.	-	<1	-	-	•	-
h s	20 L (Canister), 205 L ([	)									

## **Corrosion Preventives**

Product name	Description	Kin. visc. at 40 °C [mm²/s] DIN 51562	Density at 15 °C [KG/m³]	Con- sump- tion [I/m²]	Film weight [g/m²]	Shed storage [Mon.]	Hall stor- age [Mon.]	FP [°C]	Thix- otro- pic	VCI	Opti- mized lubri- cating proper- ties
			Corrosi	on Prote	ction Coat	ings					
ANTICORIT BW 366	Solvent containing corrosion protection wax, leaves a brow- nish touch dry film with very high corro- sion protection pro- perties	FT - 4mm nozzle = 60s	885	0.311	50	12-36	12-36	>60	•	-	_
2 m 3	8 kg (Pail), 20 L (Canis	ster), 205 L (Dru	m)								
ANTICORIT HKW 6501	Solvent-based, high performance corrosi- on 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 corros- ion protection coa- ting with thixotropy; curing oxidatively	dyn. visc. at 300 1/s = 350mPas	1050	0.048	75	>36	>36	>135	•	_	-
	1 L (Metal Can), 20 L	(Canister), 205 l	_ (Drum), 10	00 L (IBC)							
ANTICORIT CPX 3373 VW LV	Solvent-free, high performance corros- ion protection coa- ting with lower thixotropy; curing oxidatively	dyn. visc. at 300 1/s = 170mPas	1050	0.048	30	>24	>24	>220	•	-	-
	29 kg (Hobbock), 205	L (Drum)									
ANTICORIT CPX 3230	Solvent-free, high performance corros- ion protection coa- ting with very high thixotropy; curing oxidatively; suitable for underbody appli- cation	dyn. visc. at 300 1/s = 2000mPas	1080	0.139	150	>36	>36	>130	•	_	-
3	205 L (Drum)										
DECORDYN 350	Solvent-based, high performance corro- sion protection wax, excellent multi-metal adhesion	FT - 4mm nozzle = 20s	920	-	30	12-36	12-36	-	-	-	-
1 <b>m</b> 5	1 L (Can), 25 L (Canist	ter), 205 L (Drur	n)								
ANTICORIT CPX 3320	Solvent-free, high performance corros- ion protection coa- ting with thixotropy; curing oxidatively; low odour	dyn. visc. at 300 1/s = 250mPas	1090	0.046	50	>36	>36	>130	•	-	-
	29 kg (Hobbock), 205	L (Drum)									

#### **ANTICORIT**

Product name	Description	Iron, Steel	Copper	Alumi- nium	Film weight [g/m²]	Shed storage [Mon.]	Hall stor- age [Mon.]	FP [°C]	Thixo- tropic	VCI	Opti- mized lubri- cating proper- ties
			Volati	le Corros	ion Inhib	itor					
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 (Dru	m)									
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	٠	٠	•	-	≤6	≤24	>60	-	•	-
	20 L (Canister), 205 L (Dru	m)									
ANTICORIT VCI UNI S	Corrosion protection for easy application in alrea- dy existing packaging solutions	•	•	•	-	≤6	≤24	-	-	•	-
	600 x 25 g (Sachets of pov	vder per b	ox)								
ANTICORIT VCI F P	VCI film for corrosion protection during shipping and storage (available as gusseted bags, flat films and others)	•	•	•	-	≤6	≤24	-	-	•	-
	On request										
ANTICORIT VCI P	VCI paper for protection during shipping and storage	•	•	•	_	≤6	≤24	-	-	•	-
	On request										

## **Corrosion Preventives**

Product name	Description	Kin. visc. at 40 °C [mm²/s] DIN 51562	Density at 15 °C [KG/m³]	Con- sump- tion [I/m²]	Film weight [g/m²]	Shed storage [Mon.]	Hall stor- age [Mon.]	FP [°C]	Thix- otro- pic	VCI	Opti- mized lubri- cating proper- ties
		Maint	enance Fl	uids for I	Dewateri	ng Product	S				
ANTICORIT DF 9000	Water displacement, leaving no residues, D90 solvent, VOC- free according to 31. BlmSchV	2.8 at 20 °C	810	-	-	-	-	>90	-	_	-
	205 L (Drum), 1000 L (	IBC)									
ANTICORIT DFC 1001	Additive to enhance water displacement properties	6.2 at 20 °C	953 at 20 °C	-	-	-	-	>105	-	-	-
	20 L (Canister), 205 L (	Drum)									

#### **ANTICORIT**

Product name	Description	Kin. visc. at 40 °C [mm²/s] DIN 51562	Density at 15 °C [KG/m³]	Con- sump- tion [I/m²]	Film weight [g/m²]	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
f	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
f	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
f	12 x 400 ml						
ANTICORIT RPC	Classic anti-corrosive oil and contact spray, multipurpose	84	887	_	5	6-12	6-24
f	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
f	12 x 400 ml						
ANTICORIT SYNTH	Synthetic multipurpose oil	102	834	-	15	3-6	6-12
f	12 x 400 ml						
ANTICORIT RP 4107 S	Thixotropic corrosion protection oil, meets VDA 230-213	35	887	-	11	6-12	12-20
f	12 x 400 ml						
DECORDYN 350	Solvent-based, high performance corrosion protection wax, excellent multi-metal adhesion	FT - 4mm nozzle = 20s	920	_	50	12-36	12-36
f	12 x 400 ml						

## **Cold Forming Lubricants**



Product name	Description	Kin. visc. at 40 °C [mm²/s] DIN 51562	Density at 15 °C [g/ml]	Flash point [°C]	Steel (a. alloyed, zinc plated)	Steel, stainless	Aluminum	Copper alloys
	Non Water-mise	cible Cold Fo	orming L	ubricants	for Deep Dra	wing		
RENOFORM ZO 3107/22	Low-viscosity high-performance lubricant for nonferrous metals	21	0.87	200	•0	•0	••	•
<b>-</b> 3 #	20 L (Canister), 205 L (Drum), 1000	L (IBC)						
RENOFORM DMO 3027	Low-viscosity, mineral oil based forming lubricant for drawing and stamping operations	29	0.93	190	••	•	• 0	0
	205 L (Drum), 1000 L (IBC)							
RENOFORM 96	Classic, powerful multi-purpose lubricant	39	0.92	182	••	•	• 0	0
	205 L (Drum), 1000 L (IBC), Tank Tru	uck						
RENOFORM ZO 3408	Based upon synthetic ingredients high performance forming lubri- cant. Suitable for all common metals, including metals.	45	0.96	180	••	•	••	••
	20 L (Canister), 205 L (Drum)							
RENOFORM DSO 5005	Based upon synthetic ingredients highest performance forming lubricant. Especially suitable for difficult deep drawing of steel including stainless steel.	97	0.96	>180	••	••	•0	0
	205 L (Drum), 1000 L (IBC), Tank Tru	uck						

#### **RENOFORM**

Product name	Description	Kin. visc. at 40 °C [mm²/s] DIN 51562	Density at 15 °C [g/ml]	Flash point [°C]	Steel (a. alloyed, zinc plated)	Steel, stainless	Aluminum	Copper alloys
	Non Water-mise	cible Cold Fo	orming Lu	ubricants	for Deep Dra	wing		
RENOFORM PLUS 93 B	Mineral oil based forming lubricant with EP agents and high lubricity	110	0.94	>200	••	•	• 0	0
	205 L (Drum), 1000 L (IBC)							
RENOFORM ZO 3180	Classic, powerful multi-purpose forming lubricant at higher visco- sity level	117	0.98	180	••	•	• 0	0
	20 L (Canister), 205 L (Drum), 1000	L (IBC), Tank Tr	uck					
RENOFORM DSO 5012	Highest-performance forming lubricant especially for stainless steel applications. Based upon synthetic ingredients and EP agents	167	1.03	>180	٠	••	•0	0
	205 L (Drum), 1000 L (IBC)							
RENOFORM DYO 5007	High-performance, mineral oil based forming lubricant for non-ferrous-metals, especially designed for aluminium deep drawing.	171	0.91	>200	• 0	• 0	••	•
5	205 L (Drum)							
RENOFORM DSO 5015	Based upon synthetic ingredients highest performance forming lubricant. Especially suitable for difficult deep drawing of steel including stainless steel.	175	1.00	>180	••	••	•0	0
8	205 L (Drum)							
RENOFORM ZO 3107/180	High viscous, high-performance lubricant for nonferrous metals	180	0.90	200	• 0	• 0	••	•
•	205 L (Drum)							
RENOFORM 19 B	High-performance forming lubricant for deep drawing of steel and aluminium	205	0.97	200	••	•	•	0
5	205 L (Drum)							
RENOFORM DSO 7006	Based upon synthetic ingredients high performance forming lubri- cant. Especially suitable for stain- less steel grades	570	0.98	>150	••	••	•	0
	20 L (Canister)							
RENOFORM HBO 3212	High-viscosity, high-performance lubricant for deep drawing of different kind of steel	840	0.97	200	••	••	•	0
<b>5</b>	205 L (Drum)							

# **Cold Forming Lubricants**

Product name	Description	Kin. visc. at 40 °C [mm²/s] DIN 51562	Density at 15 °C [g/ml]	Flash point [°C]	Steel (a. alloyed, zinc plated)	Steel, stainless	Aluminum	Copper alloys
	Water-miscib	le Cold Forr	ning Lub	ricants fo	r Deep Draw	ing		
RENOFORM MBW 677/6	Mineral oil based, water-miscible high-performance lubricant. Boron free. Concentrate for emul- sion	165	0.98	200	••	•	•0	0
	205 L (Drum), 1000 L (IBC)							
RENOFORM MBW 2055	Mineral oil based, water-miscible forming lubricant, concentrate for emulsion	300	0.97	200	••	•	••	0
	205 L (Drum), 1000 L (IBC)							
RENOFORM MBW 2815	Mineral oil based, water-miscible high performance forming lubri- cant, concentrate for emulsion	390	0.99	>150	••	•	• 0	0
	205 L (Drum)							
RENOFORM DSW 2012	Synthetic, water-based forming lubricant for a wide range of forming processes (drawing, stamping and bending processes) with a large variety of material compatibility	3	1.03	-	••	•	•	•0
	205 L (Drum), 1000 L (IBC)							
RENOFORM DSW 5301	Water-miscible, synthetic forming lubricant for a wide range of forming processes (drawing, stamping and bending processes).	6	1.02	-	••	•	0	0
	205 L (Drum), 1000 L (IBC)							
RENOFORM DSW 4005 <b>NEW</b>	Water-miscible, synthetic forming lubricant for a wide range of forming processes (drawing, stamping and bending processes). Especially usable for titanium. Concentrate for solution	79	1.09	-	••	••	•	•0
	205 L (Drum), 1000 L (IBC)							

#### **RENOFORM**

Product name	Description	Kin. visc. at 40 °C [mm²/s] DIN 51562	Density at 15 °C [g/ml]	Flash point [°C]	Steel (a. alloyed, zinc plated)	Steel, stainless	Aluminum	Copper alloys
	Pasty, Non Water-r	miscible Col	d Formin	g Lubrica	nts for Deep	Drawing		
RENOFORM HBT 581/3	Mineral oil containing, non water- miscible and pigmented paste	_	0.97	-	••	•	•	0
•	180 kg (Drum)							
	Pasty, Water-mis	scible Cold F	orming L	ubricants	for Deep Dr	awing		
RENOFORM PRESSALIN	Water-miscible and pigmented forming paste for various demanding deep-drawing operations	-	1.00	_	••	••	•	0
8 8	25 kg (Hobbock), 160 kg (Drum)							
RENOFORM HAP 801/6	Water-miscible and pigmented paste, especially for stainless steel and as alternative for chlorine containing lubricants	-	1.05	-	•	••	• 0	0
	180 kg (Drum)							

# **Cold Forming Lubricants**

Product name	Description	Kin. visc. at 40 °C [mm²/s] DIN 51562	Density at 15 °C [g/ml]	Flash point [°C]	Steel (a. alloyed, zinc plated)	Steel, stainless	Aluminum	Copper alloys
	Cold For	ming Lubric	ants with	out Solv	ents for Blan	king		
RENOFORM DMO 2003	Low-viscosity stamping oil for steel	8.3	0.85	170	••	• 0	•	0
	205 L (Drum), 1000 L (IBC)							
RENOFORM AK 3080	Synthetic forming lubricant for blanking, stamping, bending and drawing processes. Especially for metals	20	0.84	172	•	•	••	••
	20 L (Canister), 205 L (Drum)							
RENOFORM ZO 3107/22	Low-viscosity forming lubricant for metals	21	0.87	200	•0	•0	••	•
	20 L (Canister), 205 L (Drum), 10	00 L (IBC)						
RENOFORM DMO 3027	Low-viscosity, mineral oil based forming lubricant for drawing and stamping operations	29	0.93	190	••	•	•	0
8 8	205 L (Drum), 1000 L (IBC)							
RENOFORM 96	Low-viscosity, mineral oil based forming lubricant for drawing and stamping operations	39	0.92	182	••	•	• 0	0
3 II 🚛	205 L (Drum), 1000 L (IBC), Tank	Truck						
RENOFORM DMO 3038	Low-viscosity, mineral oil based forming lubricant for drawing and stamping operations. Especially for metals.	40	0.90	>180	•	• 0	••	••
3 #	205 L (Drum), 1000 L (IBC)							
RENOFORM ZO 3368	High-performance blanking oil of medium viscosity for processing a wide range of materials	51	0.98	180	••	••	••	0
	20 L (Canister), 205 L (Drum)							
RENOFORM DMO 4034	Low viscosity, versatile forming lubricant, especially for stainless steel grades	52	0.93	180	••	••	•	0
	20 L (Canister), 205 L (Drum)							
RENOFORM HBO 2222	High-performance stamping lubricant for all kinds of steel, also suitable for fine blanking	58	1.03	186	••	•	• 0	0
■ #	205 L (Drum), 1000 L (IBC)							
RENOFORM HBO 962/2	All purpose forming lubricant for stamping and drawing	80	0.94	230	••	•	• 0	0
	20 L (Canister), 205 L (Drum), 10	00 L (IBC), Tank	Truck					
RENOFORM FSO 4001	Based upon synthetic ingredients high performance forming lubricant. Suitable for all common metals, including metals	93	0.95	180	•	••	•	••
3	205 L (Drum)							

### **RENOFORM**

Product name	Description	Kin. visc. at 40 °C [mm²/s] DIN 51562	Density at 15 °C [g/ml]	Flash point [°C]	Steel (a. alloyed, zinc plated)	Steel, stainless	Aluminum	Copper alloys
	Cold Fo	orming Lubr	icants wi	ith Solve	nts for Blanki	ng		
RENOFORM SVO/SP	Almost completly fast vanishing forming lubricant for easy application	1.3	0.75	47	••	•	••	••
•	205 L (Drum)							
RENOFORM UBO 377/1	Almost completely vanishing forming lubricant for easy applications	1.7	0.79	61	••	•	••	••
	205 L (Drum), 1000 L (IBC)							
RENOFORM DMV 1011	Almost residue-free vanishing forming lubricant for light-duty applications	1.2	0.79	62	••	•	••	••
<b>5</b>	205 L (Drum)							
RENOFORM UBO 377/5	Vanishing forming lubricant with less residue	2	0.80	62	••	•	••	••
	20 L (Canister), 205 L (Drum), 10	00 L (IBC)						
RENOFORM AK 3085	Vanishing forming lubricant with less residue. Especially for aluminium and nonferrous metals	2	0.80	65	•	•	••	••
	20 L (Canister), 205 L (Drum)							
RENOFORM DMV 1009	Vanishing forming lubricant with low residue	1.6	0.80	63	••	•	••	••
	20 L (Canister), 205 L (Drum), 10	00 L (IBC)						
RENOFORM AK 3099 CF/1	Vansihing forming lubricant with low residue. Especially for nonferrous metals	2.5	0.79	61	•	•	••	••
	20 L (Canister), 205 L (Drum), 10	00 L (IBC)						
RENOFORM AK 3107	Vansihing forming lubricant with low residue especially for aluminium applications	3	0.81	65	•	•	••	••
•	205 L (Drum)							
RENOFORM ZO 3107/5	Primarily vanishing forming lubricant, particularly for alu- minum	5	0.83	65	•	•	••	••
	205 L (Drum), 1000 L (IBC)							
RENOFORM DMV 1012	Partly vanishing forming lubricant for sophisticated applications	4	0.82	62	••	••	••	••
	20 L (Canister), 205 L (Drum), 10	00 L (IBC)						
RENOFORM LVO 377/1	Almost residue-free vanishing forming lubricant for light-duty applications. VOC-free	4	0.82	101	••	•	••	••
	205 L (Drum), 1000 L (IBC)							

# **Cold Forming Lubricants**

Product name	Description	Kin. visc. at 40 °C [mm²/s] DIN 51562	Density at 15 °C [g/ml]	Flash point [°C]	Steel (a. alloyed, zinc plated)	Steel, stainless	Aluminum	Copper alloys
RENOFORM LVO 1518	Partly vanishing forming lubricant for sophisticated applica-	7.4	0.84	101	ets for Blanki	••	•	0
3 #	tions. VOC-free 205 L (Drum), 1000 L (IBC)							

#### **RENOFORM**

Product name	Description	Kin. visc. at 40 °C [mm²/s] DIN 51562	Density at 15 °C [g/ml]	Flash point [°C]	Steel (a. alloyed, zinc plated)	Steel, stainless	Aluminum	Copper alloys
	Co	old Forming	Lubrican	ts for Fir	ne Blanking			
RENOFORM 96	Classic, powerful multi-purpose forming lubricant	39	0.92	182	•	•	• 0	0
	205 L (Drum), 1000 L (IBC), Tank	Truck						
RENOFORM FMO 4007	Fine blanking lubricant for steel	80	0.97	192	••	•	• 0	0
NEW								
	205 L (Drum), 1000 L (IBC)							
RENOFORM FMO 5029	Fine blanking lubricant with high performance for steel	102	1.01	>190	••	•	• 0	0
	205 L (Drum)							
RENOFORM FMO 5020	High-performance lubricant for various forming technologies, especially fine blanking, with special FEINTOOL approval	110	0.96	200	••	•	• 0	0
ē # <del>;</del>	205 L (Drum), 1000 L (IBC), Tank	Truck						
RENOFORM ZO 3180	Classic, powerful multi-purpose forming lubricant at higher vis- cosity level	117	0.98	180	••	•	• 0	0
	20 L (Canister), 205 L (Drum), 10	00 L (IBC), Tank	Truck					
RENOFORM HBO 2222 HV	Classic fine blanking lubricant with high performance for steel grades	120	1.03	190	••	•	• 0	0
=	205 L (Drum)							
RENOFORM ZSB 120 JBM	Fine blanking lubricant for all kinds of steel	134	0.97	>160	••	•	• 0	0
	205 L (Drum), 1000 L (IBC), Tank	Truck						
RENOFORM DSO 5012	Highest-performance forming lubricant especially for stainless steel. Based upon synthetic ingredients and EP agents. Special FEINTOOL approval.	167	1.03	>180	•	••	• 0	0
5 🖩	205 L (Drum), 1000 L (IBC)							
RENOFORM FMO 5010	High-performance lubricant for various forming technologies, especially fine blanking. With special FEINTOOL approval	170	0.94	200	••	•	•0	0
8	205 L (Drum)							
RENOFORM FMO 5022	High-performance fine blan- king oil of the latest generation	183	0.97	>180	••	•	• 0	0
5 🕮	205 L (Drum), 1000 L (IBC)							

# **Cold Forming Lubricants**

Product name	Description	Kin. visc. at 40 °C [mm²/s] DIN 51562	Density at 15 °C [g/ml]	Flash point [°C]	Steel (a. alloyed, zinc plated)	Steel, stainless	Aluminum	Copper alloys
	Cold Forming L	ubricants fo	r Cold Ex	trusion F	orging – Heav	vy Forming		
RENOFORM FSO 4001	Based upon synthetic ingredients high-performance forming lubricant. Suitable for all common metals, including nonferrous metals	93	0.95	180	•	••	•	••
8	205 L (Drum)							
RENOFORM MBO 369/2	Classic, heavy duty cold extrusion oil	126	0.95	220	••	•	•	0
8 #	205 L (Drum), 1000 L (IBC)							
RENOFORM DMO 7001	Forming lubricant for cold extrusion of fasteners and screws. Especially for stainless steel	633	0.97	200	••	••	0	0
3	205 L (Drum), 1000 L (IBC)							
RENOFORM ZO 3373	Universal high-performance lubricant for cold forging even at elevated temperatures	127	0.93	200	••	•	••	0
	205 L (Drum), 1000 L (IBC)							
	Cold Forming	Lubricants f	or Cold F	orging –	for Circular L	ubrication		
RENOFORM EMO 4020	Powerful forming lubricant for cold extrusion, especially steel	93	0.95	>180	••	•	•	0
3	205 L (Drum)							

#### **RENOFORM**

Product name	Description	Kin. visc. at 40 °C [mm²/s] DIN 51562	Density at 15 °C [g/ml]	Flash point [°C]	Steel (a. alloyed, zinc plated)	Steel, stainless	Aluminum	Copper alloys
	Non Water-miscible C	old Forming	Lubricar	nts for W	TB Drawing (	Wire - Tube	e - Bar)	
RENOFORM DSO 7006	Based upon synthetic ingredients high performance forming lubricant. Especially suitable for stainless steel grades	570	0.98	>150	•	••	•	0
	20 L (Canister)							
RENOFORM HBO 3014	High-performance lubricant for drawing of round and cantilever steel rods	320	1.01	190	••	•	•	0
	205 L (Drum), 1000 L (IBC)							
	Non Water-r	niscible Colo	d Forming	<b>Lubrica</b>	nts for Hydro	forming		
RENOFORM MBO 2907	Synthetic demulsifying external lubricant for hydroforming	122	0.96	200	••	•	• 0	•0
	205 L (Drum)							
RENOFORM HMO 7001	Mineral oil based external lubricant for hydroforming	630	0.92	>200	••	•	• 0	0
	205 L (Drum)							
E	. ,	scible Cold F	orming L	ubricants	for Hydrofo	rming		
RENOFORM DSW 2004	. ,	scible Cold F	orming L	ubricants –	••	rming •	•	•

# **Cold Forming Lubricants**



Product name	Description	Kin. visc. at 40 °C [mm²/s] DIN 51562	Density at 15 °C [g/ml]	Flash point [°C]	Steel (a. alloyed, zinc plated)	Steel, stainless	Aluminum	Copper alloys
		VDA	Forming	Lubrican	ts			
RENOFORM MCO 3802 SN	Spot lubricant in the car body shop for light to medium for- ming and stamping operations, fulfills the requirements of VDA 201-213	100	0.92	142	••	•	••	• 0
	205 L (Drum)							
RENOFORM MCO 3802	Spot lubricant in the body shop for medium and heavy forming operations, fulfills the require- ments of VDA 201-213	130	0.92	155	••	•	••	•0
	205 L (Drum), 1000 L (IBC), Tank	Truck						
RENOFORM MCO 3802 LV	Predominantly fast evaporating forming lubricant for stamping, bending and light drawing operations. Film corresponds to RENOFORM MCO 3028	2.5 at 20 °C	0.78	260	••	•	••	•0
	205 L (Drum), 1000 L (IBC)							
RENOFORM MCO 3802 MV	Spot lubricant in the car body shop for light to medium forming and stamping opera- tions	7	0.85	100	••	•	••	•0
•	205 L (Drum)							

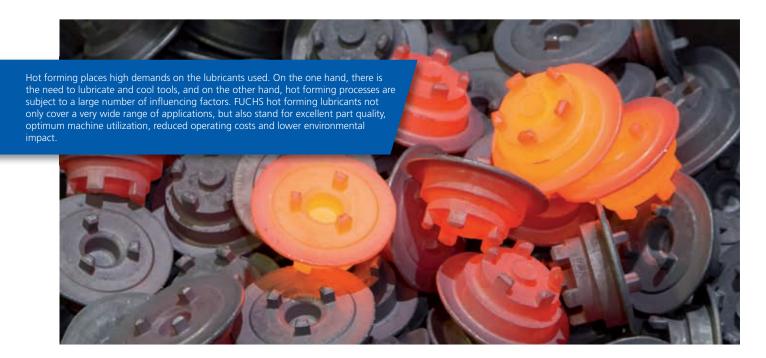
## **Rolling Oils**

### **RENOFORM**



Product name	Description	Kin. visc. at 40 °C [mm²/s] DIN 51562	Density at 15 °C [g/ml]	Flash point [°C]	Steel (a. alloyed, zinc plated)	Steel, stainless	Aluminum	Copper alloys
		Non Wa	ter-miscib	ole Rolling	g Oils			
RENOFORM WO 52 B	Cold rolling oil and skin pass oil with excellent corrosion protection	6	0.85	>100	••	•	• 0	• 0
	205 L (Drum), 1000 L (IBC), Tank	Truck						
RENOFORM WO 79 A	Cold rolling oil with additional EP additives	9	0.85	>170	••	•	• 0	•0
	205 L (Drum)							
RENOFORM CCO 40	Cold rolling for nonferrous metals	5	0.83	148	••	•	•0	••
·	Tank Truck							

## **Hot Forming Lubricants**



Product name	Description	Dry residue [%]	RF- value [%]	Visc. [mPas]	Density [g/cm³]	Water- miscible	Solids	Material recommen- dation
	Hot Formin	g Lubricaı	nts for D	rop Forgir	ng			
GRASINOL 10 %	Dispersion of graphite in mineral oil for forging of complex aluminum components	-	-	600	1.01	0	Graphite	Aluminium
	180 kg (Drum)							
HYKOGEEN 217	Oil-graphite dispersion for forging of complex steel components	-	-	6500	1.00	0	Graphite	Steel
9 5	25 kg (Bucket), 190 kg (Drum)							
HYKOGEEN 87/3	Graphite-containing forming lubricant for forging of complex brass components	-	-	2000	0.91	0	Graphite	Brass
	25 kg (Pail), 180 kg (Drum)							
HYKOGEEN 87/43	Forming lubricant for long extrusion paths, e.g. in the forging of car valves	-	-	5500	-	0	Graphite	Steel
<u> </u>	25 kg (Bucket)							
HYKOGEEN G 30	Dispersion of highly ground, chemically pure graphite in mineral oil for hot forming of steel and metals	-	-	>15000	1.10	0	Graphite	Steel
<b>3</b>	185 kg (Drum)							
HYKOGEEN G 60	Highly concentrated dispersion of graphite in mineral oil for hot forming of steel and metals	-	-	-	1.30	0	Graphite	Steell
<b>=</b>	25 kg (Bucket)							
HYKOGEEN MB 1000	Graphite-containing forming lubricant for forging of complex brass components	_	-	2000	0.94	0	Graphite	Brass
5 5	25 kg (Pail), 180 kg (Drum)							

## HYKOGEEN, LUBRODAL

Product name	Description	Dry residue [%]	RF- value [%]	Visc. [mPas]	Density [g/cm³]	Water- miscible	Solids	Material recommendation
	Hot Formi	ng Lubrica	nts for D	Prop Forgi	ng			
HYKOGEEN UMD 2/1	Versatile graphite dispersion for hot forming of steel and metals	-	-	-	1.10	0	Graphite	Steel
	25 kg (Pail), 200 kg (Drum)							
LUBRODAL A 127 N	Graphite containing forming lubricant for isothermal forging of most complex aluminium parts	11.5	-	800	0.95	0	Graphite	Aluminium
	25 kg (Pail), 180 kg (Drum)							
LUBRODAL F 105	Water-graphite dispersion for steel for- ging with a wide wetting temperature range and excellent lubrication properties	25	-	1200	-	•	Graphite	Steel
₽ 3 #	25 kg (Bucket), 200 kg (Drum), 1000 kg (IB	C)						
LUBRODAL F 18/24 W - AF	Graphite-containing emulsion for forging of highly complex aluminum components	46	-	3500	1.05	•	Graphite	Aluminium
₽ 3 #	25 kg (Bucket), 200 kg (Drum), 1000 kg (IB	C)						
LUBRODAL F 20 CH	Economical water-graphite dispersion for steel forging with high active agent concentration	42	-	3000	1.30	•	Graphite	Steel
₽ 3 #	25 kg (Bucket), 220 kg (Drum), 1200 kg (IB	C)						
LUBRODAL F 21 A SET	Hot forming lubricant for forging of steel providing highest process stability and plant availability	32	-	950	1.22	•	Graphite	Steel
<b>7</b> 3 <b>1</b>	25 kg (Bucket), 200 kg (Drum), 1000 kg (IB	C)						
LUBRODAL F 2336	Graphite-containing forming lubricant for isothermal forging of highly complex aluminum components	-	-	600	-	0	Graphite	Aluminium
1 5	25 kg (Pail), 180 kg (Drum)							
LUBRODAL F 24 W	Graphite-containing emulsion, particularly suitable for semi-hot forging of complex steel components	50	_	3500	1.05	•	Graphite	Steel
₹ 3 #	25 kg (Bucket), 200 kg (Drum), 1000 kg (IB	C)						
LUBRODAL F 25 AL	Emulsion concentrate for forging aluminum components with the highest demands on surface quality	22	-	<50	0.98	•	-	Aluminium
	10 kg (Canister), 25kg (Canister), 200 kg (E	rum)						
LUBRODAL F 25 D	Water-graphite dispersion for precision forging of steel components	25	-	300	1.15	•	Graphite	Steel
<b>₽</b>	25 kg (Bucket), 1000 kg (IBC)							
LUBRODAL F 25 PLE	Versatile water-graphite dispersion for forging of steel	28	-	2000	1.15	•	Graphite	Steel
<b>7</b> 8 <b>#</b>	25 kg (Bucket), 210 kg (Drum), 1000 kg (IB	C)						

# **Hot Forming Lubricants**

Product name	Description	Dry residue [%]	RF- value [%]	Visc. [mPas]	Density [g/cm³]	Water- miscible	Solids	Material recommen- dation
	Hot Formir	ng Lubrica	nts for D	rop Forgi	ng			
LUBRODAL F 27 AL	Graphite-, wax- and solid-free forming lubricant for forging of complex aluminum components	20.5	-	1500	-	•	-	Aluminium
	25 kg (Canister), 200 kg (Drum)							
LUBRODAL F 29/2 - TB	Forming lubricant for forging turbine blades from titanium or nickel-based alloys	36.5	-	-	1.22	•	Graphite	Titanium Nickel-base
<b>78</b>	25 kg (Bucket), 220 kg (Drum), 1000 kg (IB	C)						
LUBRODAL F 31 EB	Economical water-graphite dispersion for forging of steel	32	-	2200	1.20	•	Graphite	Steel
₽ #	25 kg (Bucket), 1000 kg (IBC)							
LUBRODAL F 318	Economical, graphite-free forming lubricant for forging of steel components	_	26.5	400	1.11	•	-	Steel
	25 kg (Canister), 220 kg (Drum), 1000 kg (I	BC)						
LUBRODAL F 318 N - HV	Graphite-free forming lubricant for forging of complex steel components	26	32	500	1.16	•	_	Steel
<b>#</b>	1000 kg (IBC)							
LUBRODAL F 327	Graphite-free forming lubricant for forging of steel with elevated tool temperatures	-	35	800	-	•	-	Steel
<b>ia</b> 5 #	25 kg (Canister), 220 kg (Drum), 1000 kg (I	BC)						
LUBRODAL F 33 AL	Water-graphite dispersion with emulsified ester content for forging of complex aluminum components	30	-	2000	1.12	•	Graphite	Aluminium
	25 kg (Pail), 210 kg (Drum), 1000 kg (IBC)							
LUBRODAL F 36	Graphite-containing, mineral oil-free emulsion for isothermal forging of highly complex aluminum components	23.25	-	1400	-	•	Graphite	Aluminium
	25 kg (Pail), 200 kg (Drum), 1000 kg (IBC)							
LUBRODAL F 3629	Water-graphite dispersion for highest wetting temperatures	19	-	350	-	•	Graphite	Steel
9	25 kg (Bucket)							
LUBRODAL F 3670	High-performance lubricant for the iso- thermal forging of complex aluminum components	-	-	450	-	٥	Graphite	Aluminium
	25 kg (Pail), 180 kg (Drum), 900 kg (IBC)							
LUBRODAL F 37	Graphite-containing, mineral oil-free emulsion for isothermal forging of highly complex aluminum components with improved lubrication performance	23.25	-	1400	-	•	Graphite	Aluminium
<b>.</b> .	25 kg (Pail), 200 kg (Drum)							

### LUBRODAL, ZONAL

Product name	Description	Dry residue [%]	RF- value [%]	Visc. [mPas]	Density [g/cm³]	Water- miscible	Solids	Material recommen- dation
	Hot Formir	ng Lubrica	nts for D	rop Forgi	ng			
LUBRODAL F 40 S	Graphite-free emulsion for forging of metals	40	-	-	0.99	•	-	Brass
	25 kg (Canister), 200 kg (Drum), 1000 kg (I	BC)						
LUBRODAL F 41 G	Hot and semi-hot forming of steel on fully automated forging lines	32.5	-	1300	-	•	Graphite	Steel
₽ #	25 kg (Bucket), 1000 kg (IBC)							
LUBRODAL F 442	Water-graphite dispersion for very high wetting temperatures and long flow paths	40	_	1150	-	•	Graphite	Steel
<b>7</b> 3 <b>8</b>	25 kg (Bucket), 230 kg (Drum), 1000 kg (IB	C)						
LUBRODAL F 475 E	Dispersion of highly ground graphite in water for forging of steel, particularly suitable for fast-running forging presses with high tool temperatures	25	-	750	1.15	•	Graphite	Steel
<b>73</b>	25 kg (Bucket), 200 kg (Drum), 1000 kg (IB	C)						
LUBRODAL F 53/40	Graphite-free forming lubricant for forging of very complex steel components	33	37	1400	1.18	•	-	Steel
	25 kg (Canister), 220 kg (Drum), 1000 kg (I	BC)						
LUBRODAL F 645 AFE	Forging of complex steel components on fully automated forging lines with circulation lubrication	18	-	1250	1.10	•	Graphite	Steel
¥ 3 <b>#</b>	25 kg (Bucket), 200 kg (Drum), 1000 kg (IB	C)						
LUBRODAL F70M - 40 LV	Highly concentrated water-graphite dis- persion for forging of large steel compo- nents with long contact times	50	_	3500	1.40	•	Graphite	Steel
<b>7</b> 3 <b>8</b>	25 kg (Bucket), 230 kg (Drum), 1000 kg (IB	C)						
LUBRODAL W 27 F	Water-graphite dispersion for precision forging of steel	27	-	1500	-	•	Graphite	Steel
¥ 8 #	25 kg (Bucket), 210 kg (Drum), 1000 kg (IB	C)						
ZONAL 1000	Dispersion of highly ground graphite in mineral oil	-	-	1000	-	0	Graphite	Steel
	20 kg (Canister), 200 kg (Drum)							
ZONAL 1002	Dispersion of highly ground graphite in mineral oil	-	-	330	-	0	Graphite	Steel
	20 kg (Canister), 180 kg (Drum)							

## **Hot Forming Lubricants**

Product name	Description	Dry residue [%]	RF- value [%]	Visc. [mPas]	Density [g/cm³]	Water- miscible	Solids	Material recommen- dation
	Hot Forming	Lubricant	s for Ha	mmer For	ging			
LUBRODAL C 38 N	Hammer forging of steel components. High propulsive effect and good lubrica- tion properties	35	-	-	1.17	•	-	Steel
<b>a</b> 5 <b>#</b>	25 kg (Canister), 220 kg (Drum), 1000 kg (I	BC)						
LUBRODAL F 185	Graphite-containing forming lubricant with increased release power and propulsive effect	25	-	1750	-	•	Graphite	Steel
¥ 8 #	25 kg (Bucket), 200 kg (Drum), 1000 kg (IB	C)						
LUBRODAL F 64 GM Advanced Circular Technologies	Forming lubricant for hammer forging of complex steel components with very high propulsive effect	35	-	100	1.16	•	-	Steel
	25 kg (Canister), 220 kg (Drum)							
	Hot Forming L	.ubricants	for High	-speed Fo	rging			
LUBRODAL C 102	Start-up additive for circulation baths in high-speed forging	40	-	-	0.99	•	-	Steel
	25 kg (Canister)							
LUBRODAL C 48 PM Advanced Circular Technologies	High-speed forging of highly complex steel components (hot and semi-hot)	35	-	900	1.15	•	-	Steel
	25 kg (Canister), 220 kg (Drum), 1000 kg (I	BC)						
LUBRODAL F 270 EP	EP additive for circulation baths in high- speed forging	24.5	25	-	-	•	-	Steel
	25 kg (Canister)							
LUBRODAL F 318 H	Graphite-free forming lubricant for high- speed forging of steel components	-	39	500	1.17	•	-	Steel
	220 kg (Drum), 1000 kg (IBC)							

#### **LUBRODAL**

Product name	Description	Dry residue [%]	RF- value [%]	Visc. [mPas]	Density [g/cm³]	Water- miscible	Solids	Material recommen- dation
	Hot Forming Lubric	cants for R	otatory	Forming C	peration	s		
LUBRODAL F 400	Graphite-free hot forming lubricant for forging of steel or especially for flow forming processes as in the production of aluminum rims	-	38	375	1.17	•	-	Aluminium
	25 kg (Canister), 220 kg (Drum), 1000 kg (IBo	C)						
LUBRODAL F 53/318	Graphite-free hot forming lubricant, particularly suitable for ring rolling of steel	_	37	500	1.16	•	-	Steel
	200 kg (Drum), 1000 kg (IBC)							
LUBRODAL F 70 B	Graphite-containing mandrel bar lubricant for seamless tube production	50	-	7000	1.40	•	Graphite	Steel
3 #	230 kg (Drum), 1000 kg (IBC)							
LUBRODAL F 95	Graphite-containing emulsion, particularly suitable for rotary forging of large aluminum components	50	-	4500	1.25	•	Graphite	Aluminium
3	200 kg (Drum)							
LUBRODAL ST 500 V	Graphite-free mandrel bar lubricant for seamless tube production	44	-	20	1.45	•	-	Steel
	1400 kg (IBC)							
	Hot Forming	Lubricants	for Bille	t Pretreati	ment			
LUBRODAL FC 331	Pre-graphiting agent for semi-hot forming of steel	30	-	4000	1.20	•	Graphite	Steel
<b>9</b> 8	25 kg (Bucket), 220 kg (Drum)							
LUBRODAL FC 441	Pre-graphiting agent for hot forming of steel	41	-	4500	1.29	•	Graphite	Steel
₽ 8	25 kg (Bucket), 230 kg (Drum)							
LUBRODAL RV 20	Billet coating to prevent sticking during heating	22	-	250000	-	•	white	Steel
$\supseteq$	25 kg (Bucket)							
LUBRODAL SR 300	Scale minimization agent for hot forming of steel	27	22	-	-	•	-	Steel
- 5 <u>-</u>	5 kg (Canister), 25 kg (Canister), 220 kg (Dru	m), 1000 kg	(IBC)					
LUBRODAL SR 900	Scale minimization and reduction of skin decarburization for large steel billets	42	_	600	-	•	weiß	Steel
₽ 5	25 kg (Bucket), 250 kg (Drum)							
LUBRODAL TROMMEL- GRAPHIT	Pre-graphiting of small billets by tumbling	65	-	-	-	٠	Graphite	Brass
	10 kg (Bucket)							
LUBRODAL ZG 600	Scale reduction agent for semi-hot forming of steel	44	35	-	-	•	-	Steel
	5 kg (Canister), 25 kg (Canister), 1200 kg (IBC	<b>-</b> \						

## **Hot Forming Lubricants**

Product name	Description	Dry residue [%]	RF- value [%]	Visc. [mPas]	Density [g/cm³]	Water- miscible	Solids	Material recommen- dation
	Release Agents and A	uxiliary M	aterials 1	for Pressu	re Die Cas	sting		
HYKOGEEN EP 10	Ejector lubricant	-	-	-	0.90	0	Graphite	Aluminium
	1 kg (Can), 15 kg (Bucket)							
HYKOGEEN LS 50	Burn-in paste for casting ladles and related tools in metal casting	-	-	-	1.30	0	white	Aluminium
	1 kg (Can), 5 kg (Bucket), 25 kg (Bucket)							
HYKOGEEN LS 507	Facing for casting ladles, tools, funnels and spouts in aluminium pressure die casting	-	_	-	1.20	0	Graphite	Aluminium
	1 kg (Can), 25 kg (Bucket)							
HYKOGEEN P 550	Graphite-free, liquid plunger lubricant for pressure die casting machines	-	-	2000	0.91	0	-	Aluminium
i I	5 kg (Canister), 25 kg (Pail)							
HYKOGEEN P 770	Graphite-containing, liquid plunger lubricant for pressure die casting machines	_	-	1700	0.93	0	Graphite	Aluminium
	25 kg (Pail)							
HYKOGEEN RLP 100 Advanced Circular	Minimum quantity lubricant for aluminum pressure die casting	-	-	200	-	0	-	Aluminium
Technologies								
	180 kg (Drum)							
HYKOGEEN ZN 10	Water-free die casting release agent for zinc pressure die casting	_	_	-	0.77	0	-	Zinc
	20 kg (Canister), 150 kg (Drum)							
LUBRODAL AL 100/21	Emulsion concentrate for pressure die casting of highly complex components made of aluminum or magnesium	-	-	< 50	0.99	•	-	Aluminium
	25 kg (Canister), 200 kg (Drum), 1000 kg (IBo	<b>(</b> )						
LUBRODAL C 35/40	Mineral oil-based emulsion for pressure die casting of metals	40	-	-	0.99	•	-	Aluminium
<b>b</b> 5 #	25 kg (Canister), 200 kg (Drum), 1000 kg (IBo	<b>C</b> )						

#### HYKOGEEN, LUBRODAL

Product name	Description	Dry residue [%]	RF- value [%]	Visc. [mPas]	Density [g/cm³]	Water- miscible	Solids	Material recommen dation
	Other	Products 1	or Hot F	orming				
HYKOGEEN 821	Dispersion of white solid lubricants in mineral oil for hot forming with improved flowability				0.95	0	white	Steel
	1 kg (Can), 5 kg (Canister), 25 kg (Pail)							
HYKOGEEN KS 706 Advanced Circular Technologies	Biodegradable mold facing for continuous aluminium casting			600		0	-	Aluminium
	55 kg (Drum)							
HYKOGEEN PASTE 712	Graphite-containing paste with very good adhesion for lubricating very critical areas in hot forming					0	Graphite	Steel
¥ 3	5 kg (Bucket), 25 kg (Bucket), 190 kg (Drum)							
LUBRODAL C 120	Versatile graphite dispersion that forms a very smooth, polishable layer	36		15000		•	Graphite	Steel
i i	10 kg (Canister), 30 kg (Pail)							
LUBRODAL C 52 C	White mold facing for nonferrous metal casting	52		2000	1.45	•	white	Aluminium
9	10 kg (Bucket)							
LUBRODAL F 30 DS	Versatile graphite dispersion with very good adhesion even on cold surfaces	40		6000		•	Graphite	Steel
<b>8</b> 8	25 kg (Bucket), 220 kg (Drum)							
LUBRODAL SQC/1	Mold facing for squeeze casting of aluminum with high release and lubricating effect	23		3200	1.20	•	white	Aluminium
	30 kg (Pail)							
LUBRODAL W 27 F - ES	Coating of anode stubs in aluminum production	22		2000		•	Graphite	Aluminium
¥ 5	25 kg (Bucket), 210 kg (Drum)							
WAGRAS ZZ 20	Graphite-containing mold facing	21.5			1.17	•	Graphite	Aluminium
1 <b>2</b> E	1 kg (Bottle), 10 kg (Bucket), 25 kg (Bucket), 20	00 ka (Drum)						





## **Special Application Lubricants**

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### **FUCHS** Special Applications

## **Concrete Release Agents**



Product name	Description	Visc. at 20 °C [mm²/s]	Flash point [°C]	Bio- degradability [% after 28 d]	Water pollu- tion category (German regulation)	GISCODE	Shelf life [months]
	Solvent-based Con	crete Rele	ase Agen	ts for Precast P	lants		
RENOCAST RA 1280 (Formerly: SOK 128)	Ready-to-use concrete release agent for all common types of formwork. Particularly well suited for e.g. exposed concrete, slabs, beams, special elements.	≤ 4.5	28	n/a	1	BTM 50	24
RENOCAST RA 1270		≤ 4.5	28	n/a	1	BTM 50	24
(Formerly: SOK ULTRA)							
RENOCAST RA 1290		≤ 4.5	28	n/a	1	BTM 50	24
(Formerly: SOK 912)							
RENOCAST RA 1830 (Formerly: SOK SI)		3.0 ± 0.5	28	n/a	1	BTM 50	24
	20 L (Canister), 200 L (Drum), 1000 L (IBC)						
RENOCAST RA 1470 (Formerly: SOK BTM UP/4)	Odor-reduced and ready-to-use concrete release agent for all common types of formwork based on isoparaffin. Particularly well suited for pigmented concrete.	≤ 4.5	28	n/a	1	BTM 50	24
	20 L (Canister), 200 L (Drum), 1000 L (IBC)						

#### **RENOCAST**

Product name	Description	Visc. at 20 °C [mm²/s]	Flash point [°C]	Bio- degradability [% after 28 d]	Water pollu- tion category (German regulation)	GISCODE	Shelf life [months]
	Solvent-based Cor	ncrete Rele	ase Agen	ts for Precast P	lants		
RENOCAST RA 1273 (Formerly: SOK U/K 105)	Ready-to-use concrete release agent with increased corrosion protection. Particularly well suited for e.g. TT ceilings.	≤ 4.5	28	n/a	1	BTM 50	24
RENOCAST RA 1293		≤ 4.5	ca. 30	n/a	1	BTM 50	24
(Formerly: SOK 2/K 105)							
<b>i</b> 8	20 L (Canister), 200 L (Drum), 1000 L (IBC)						
RENOCAST RA 1276 (Formerly: SOK U/K 115)	Ready-to-use concrete release agent with very strong corrosion protection for short-term use in case of acute corrosion problems.	≤ 4.5	ca. 32	n/a	1	BTM 50	24
	20 L (Canister), 200 L (Drum), 1000 L (IBC)						
	Mineral oil-based C	oncrete Re	lease Age	ents for Precast	Plants		
RENOCAST RA 2360 (Formerly: SOK STG)	Ready-to-use concrete release agent for garage production as well as steel stopoff formwork elements for filigree ceiling production.	70.0 ± 1.0	> 140	n/a	1	BTM 10	24
	20 L (Canister), 200 L (Drum), 1000 L (IBC)						
RENOCAST RA 2930 (Formerly: SOK C/K 100)	Ready-to-use concrete release agent for all common formwork types with increased corrosion protection. Particularly suitable for e.g. exposed correte,	≤ 5.5	64	n/a	1	BTM 30	24
RENOCAST RA 2830 (Formerly: SOK C/K LP)	filigree ceiling, slabs, beams, special elements.	4.5 ± 1.0	74	n/a	1	BTM 30	24
	20 L (Canister), 200 L (Drum), 1000 L (IBC)						
RENOCAST RA 2280 (Formerly: SOK BTM C 8)	Ready-to-use concrete release agent for all common types of formwork. Particu- larly well suited for e.g. exposed con- crete, slabs, beams, special elements.	≤ 7.0	64	n/a	1	BTM 30	24
	20 L (Canister), 200 L (Drum), 1000 L (IBC)						
RENOCAST RA 2935 (Formerly: SOK C/K 115)	Ready-to-use concrete release agent with very strong corrosion protection for short-term use in case of acute corrosion problems.	≤ 7.5	63	n/a	1	BTM 30	24
	20 L (Canister), 200 L (Drum), 1000 L (IBC)						

### **FUCHS** Special Applications

## **Concrete Release Agents**

Product name	Description	Visc. at 20 °C [mm²/s]	Flash point [°C]	Bio- degradability [% after 28 d]	Water pollu- tion category (German regulation)	GISCODE	Shelf life [months]
	Concrete Relea	se Agent E	mulsions	for Precast Plan	ts		
RENOCAST RA 5075 AQUA (Formerly: SOK AQUA Z PLUS) Advanced Circular Technologies	Ready-to-use concrete release agent for all common types of formwork. Particularly well suited for e.g. exposed concrete, slabs, beams, TT ceilings, special elements.	< 4.5	n/a	n/a	1	BTM 05	6
	20 L (Canister), 200 L (Drum), 1000 L (IBC)	)					
RENOCAST RA 5055 AQUA (Formerly: SOK AQUA 55 ES) Advanced Circular Technologies	Ready-to-use concrete release agent for all common types of formwork. Particularly well suited for e.g. garages, L-shaped stones, slabs, ceilings and walls.	< 4.5	n/a	n/a	1	BTM 05	6
	20 L (Canister), 200 L (Drum), 1000 L (IBC)	)					
RENOCAST RA 5001 AQUA (Formerly: SOK AQUA TB 1) Advanced Circular Technologies	Ready-to-use concrete release agent for all common types of formwork. Particularly well suited for tubbing production.	5.0 ± 0.5	n/a	n/a	1	BTM 05	6
	20 L (Canister), 200 L (Drum), 1000 L (IBC)	)					
RENOCAST RA 4810 AQUA (Formerly: SOK AQUA) Advanced Circular Technologies	Ready-to-use concrete release agent for all common types of formwork. Particularly well suited for e.g. ceilings and walls.	< 4.5	n/a	n/a	1	BTM 05	6
	20 L (Canister), 200 L (Drum), 1000 L (IBC)	)					
RENOCAST RA 5070 AQUA (Formerly: SOK AQUA Z) Advanced Circular Technologies	Ready-for-use concrete release agent for all common types of formwork. Particularly well suited for self-compacting concrete (SCC).	< 4.5	n/a	n/a	1	BTM 05	6
<b>ii</b>	20 L (Canister), 200 L (Drum), 1000 L (IBC)	)					
RENOCAST RA 4090 AQUA (Formerly: SOK AQUA G PLUS)	Ready-to-use concrete release agent for all common types of formwork. Particularly well suited for large pipes, ceilings and walls.	5.5 - 6.0	n/a	n/a	1	BTM 05	6
	20 L (Canister), 200 L (Drum), 1000 L (IBC)	)					
RENOCAST RA 4830 AQUA (Formerly: SOK AQUA KS)	Ready-to-use concrete release agent with increased corrosion protection. Particularly well suited for filigree ceiling production and shake compaction.	< 4.5	n/a	n/a	1	BTM 05	6
in 5 m	20 L (Canister), 200 L (Drum), 1000 L (IBC)	)					

#### **RENOCAST**

Product name	Description	Visc. at 20 °C [mm²/s]	Flash point [°C]	Bio- degradability [% after 28 d]	Water pollu- tion category (German regulation)	GISCODE	Shelf life [months]
	Concrete Relea	ase Agent E	mulsions	for Precast Plar	nts		
RENOCAST RA 4470 AQUA (Formerly: SOK AQUA HF)	Ready-to-use concrete release agent for all common types of formwork. Particularly well suited for e.g. slabs, beams, ceilings and walls.	< 4.5	n/a	n/a	1	BTM 05	6
	20 L (Canister), 200 L (Drum), 1000 L (	IBC)					
	Ester oil-based Co	oncrete Rele	ase Ager	nts for Precast P	lants		
RENOCAST RA 3107* (Formerly: SOK ECO 107) Advanced Circular Technologies	EU Ecolabel certified concrete release agent for e.g. ceilings and walls - ready to use.	45.0 ± 4.0	210	> 80	awg	BTM 10	24
	20 L (Canister), 200 L (Drum), 1000 L (	IBC)					
RENOCAST RA 3911 (Formerly: SOK ECO 911) Advanced Circular Technologies	Label-free concrete release agent for spun concrete and the production of concrete sleepers produced with curing process - ready to use.	8.0 ± 1.0	175	n/a	1	BTM 10	24
	20 L (Canister), 200 L (Drum), 1000 L (	IBC)					
RENOCAST RA 3840 (Formerly: SOK MULTITRENN) Advanced Circular Technologies	Blue colored concrete release agent especially for polystyrene stopp-off formwork elements e.g. in the production of filigree ceilings - ready to use.	49.0 - 59.0	208	n/a	1	BTM 10	24
	20 L (Canister), 200 L (Drum), 1000 L (	IBC)					
RENOCAST RA 3904 (Formerly: PLANTO Schalungsoel S) Advanced Circular Technologies	Label-free concrete release agent for L-shaped stone production - ready to use.	7.3	190	n/a	1	BTM 10	24
	1000 L (IBC)						
RENOCAST RA 3105* (Formerly: PLANTO Schalungsoel-N) Advanced Circular Technologies	EU Ecolabel certified concrete release agent e.g. for ceiling and wall production - ready-for-use.	21.7	190	> 60	1	BTM 10	24
	20 L (Canister), 205 L (Drum), 1000 L (	IBC)					



#### **FUCHS** Special Applications

## **Concrete Release Agents & Mixer Protection Agents**

Product name	Description	Visc. at 20 °C [mm²/s]	Flash point [°C]	Bio- degradability [% after 28 d]	Water pollu- tion category (German regulation)	GISCODE	Shelf life [months]
		Pasty Form	work Wa	(es			
RENOCAST RA 3670 WAX (Formerly: SOK WAX ECO) Advanced Circular Technologies	Pasty ester oil-based concrete release agent wax with a stiff consistency for complex formwork elements, chamfer strips, etc. Particularly well suited for high outside temperatures.	n/a	n/a	n/a	awg	BTM 10	24
$\Theta$	9 kg (Bucket)						
RENOCAST RA 2650 WAX (Formerly: SOK WAX 1)	Pasty mineral oil-based concrete release agent wax with soft consistency for complex formwork elements, chamfer strips, etc.	n/a	n/a	n/a	1	BTM 10	24
9	5 kg (Bucket), 15 kg (Bucket), 25 kg (Buck	et)					
RENOCAST RA 3630 WAX (Formerly: SOK WAX ECO S) Advanced Circular Technologies	Pasty ester oil-based concrete release agents wax with a very soft consistency for door and window recesses as well as trowel cutting in filigree ceilings.	n/a	n/a	n/a	awg	BTM 10	24
¥	9 kg (Bucket)						
	Concrete Relea	ase Agents	for Imme	diate Demoldin	g		
RENOCAST RA 2530 (Formerly: SOK BTM HU 3)	Mineral oil-based concrete release agent for universal use for immediate demolding processes like slatted floors, cable ducts or concrete sleepers etc. Suitable for all water-cement ratios.	6.3 ± 0.3	ca. 101	n/a	1	BTM 30	24
<b>ia</b> 3 #	20 L (Canister), 200 L (Drum), 1000 L (IBC	)					
RENOCAST RA 2520 (Formerly: SOK BTM HU 2)	Mineral oil-based concrete release agent for universal use for immediate demolding processes like slatted floors, cable ducts or concrete sleepers etc. Particularly suitable for water-cement ratios < 0.41.	4.0 ± 0.4	ca. 101	n/a	1	BTM 30	24
<b>ii</b> 3 <b>i</b> i	20 L (Canister), 200 L (Drum), 1000 L (IBC	)					
RENOCAST RA 3210 (Formerly: SOK HU ECO)	Label-free concrete release agent based on ester oils for universal use for immediate demolding processes like slatted floors, cable ducts or concrete sleepers etc. Suitable for all water-cement ratios.	7.8 ± 0.4	ca. 153	n/a	1	BTM 10	24
Circular Technologies							



#### **RENOCAST**

Product name	Description	Visc. at 20 °C [mm²/s]	Flash point [°C]	Bio- degradability [% after 28 d]	Water pollu- tion category (German regulation)	GISCODE	Shelf life [months]
	Concrete Re	lease Agen	ts for Sto	one Production			-
RENOCAST RA 5100 C (Formerly: SOK AQUA 100) Advanced Circular Technologies	Particularly economical ester oil-based concrete release agent concentrate for universal use in stone production. The mixing ratio can be individually adjusted from 1:1 to 1:5. Suitable for boards made of steel, plastic and wood.	14.0 - 17.5	n/a	n/a	1	BTM 05	9
	5 L (Canister), 10 L (Canister), 200 L (Drur	n), 1000 L (IBC	<u> </u>				
RENOCAST RA 4470 AQUA (Formerly: SOK AQUA HF)	Ready-for-use mineral oil-based concrete release emulsion with high release effect for stone production. Suitable for steel and plastic boards.	< 4.5	n/a	n/a	1	BTM 05	6
	20 L (Canister), 200 L (Drum), 1000 L (IBC	)					
RENOCAST RA 4090 AQUA (Formerly: SOK AQUA G PLUS)	Ready-to-use mineral oil-based concrete release emulsion with very high release effect for stone production. Suitable for steel and plastic boards.	5.5 - 6.0	n/a	n/a	1	BTM 05	6
	200 L (Drum), 1000 L (IBC)						
	Concrete Relea	se Agents	for Struc	tural Engineerin	ıg		
RENOCAST RA 2350 (Formerly: SOK BTM E)	Mineral oil-based structural release agent for universal use on the construction site - ready to use.	21.0 ± 2.5	145	n/a	1	BTM 20	24
	20 L (Canister), 200 L (Drum), 1000 L (IBC	)					
RENOCAST RA 2072 (Formerly: SOK 72 S)	Mineral oil based concrete release agent especially for the use of rough cutted wooden formwork - ready to use.	23.0 ± 1.0	82	n/a	1	BTM 20	24
	20 L (Canister), 200 L (Drum), 1000 L (IBC	)					
RENOCAST RA 3911 (Formerly: SOK ECO 911) Advanced Circular Technologies	Ester oil-based structural release agent for universal use on the construction site - ready to use.	8.0 - 1.0	175	n/a	1	BTM 10	24
	20 L (Canister), 200 L (Drum), 1000 L (IBC	)					
RENOCAST RA 3105* (Formerly: PLANTO Schalungsoel N) Advanced Circular Technologies	EU Ecolabel certified concrete release agent for universal use on the construction site - ready-for-use.	21.7	190	> 60	1	BTM 10	24
	20 L (Canister), 205 L (Drum), 1000 L (IBC						

#### **FUCHS** Special Applications

## **Concrete Release Agents & Mixer Protection Agents**

Product name	Description	Visc. at 20 °C [mm²/s]	Flash point [°C]	Bio- degradability [% after 28 d]	Water pollu- tion category (German regulation)	GISCODE	Shelf life [months]
	Concrete Rele	ase Agents	for Struct	tural Engineerin	g		
RENOCAST RA 5100 C (Formerly: SOK AQUA 100) Advanced Circular Technologies	Particularly economical concrete release agent concentrate based on ester oil for universal use on the construction site. The 10 L and 20 L canister are each supplied half-filled and are filled-up with water on site in a mixing ratio of 1:1.	14.0 - 17.5	n/a	n/a	1	BTM 05	9
	5 L (Canister), 10 L (Canister), 200 L (Drur	m), 1000 L (IBC)					
RENOCAST RA 4005 C (Formerly: SOK C 5)	Highly economical, water-free, mineral oil-based concrete release agent concentrate for universal use on the construction site. The 1 L bottle is mixed with water in a ratio of 1:4 on site in an empty 10 L canister and shaken for 30 seconds to create a stable emulsion.	80 ± 5	146	n/a	1	BTM 10	24
ı	1 L (Bottle)						
RENOCAST RA 4090 AQUA (Formerly: SOK AQUA G PLUS)	Ready-to-use mineral oil-based concrete release emulsion for universal use on the construction site.	5.5 - 6.0	n/a	n/a	1	BTM 05	6
	20 L (Canister), 200 L (Drum), 1000 L (IBC	<u>.</u> )					
RENOCAST RA 3904 (Formerly: PLANTO Schalungsoel-S) Advanced Circular Technologies	Particularly economical concrete release agent based on ester oils for universal use on the construction site – ready to use.	7.3	190	n/a	1	BTM 10	24
## ##	1000 L (IBC)						

#### **RENOCAST**

Product name	Description	Visc. at 20 °C [mm²/s]	Flash point [°C]	Bio- degradability [% after 28 d]	Water pollu- tion category (German regulation)	GISCODE	Shelf life [months]				
Mixer Protection Agents											
RENOCAST MP 3480* (Formerly: BETONEX ECO) Advanced Circular Technologies	EU Ecolabel-certified mixer protection based on ester oil. Particularly well sui- ted for concrete mixers, transport slides, concrete pumps. Reduces foam forma- tion during the first concrete mixing.	45.0	217	> 80	awg	BTM 10	24				
	20 L (Canister), 200 L (Drum), 1000 L (IBC	<u> </u>									
RENOCAST MP 2810 (Formerly: BETONEX E)	Universally applicable mixer protection based on mineral oil. Particularly well suited for concrete mixers, transport slides, concrete pumps, etc.	21.0 ± 2.5	145	n/a	1	BTM 20	24				
RENOCAST MP 2870 (Formerly: BETONEX SP-1)		19.0 ± 23.5	125	n/a	1	BTM 30	24				
RENOCAST MP 2850 (Formerly: BETONEX PLUS)		22.0 ± 1.0	160	n/a	1	BTM 20	24				
	20 L (Canister), 200 L (Drum), 1000 L (IBC	2)									

### **FUCHS** Special Applications

## **Asphalt Release Agents & Bitumen Cleaners**



Product name	Description	Visc. at 20 °C [mm²/s]	Flash point [°C]	Bio- degradability [% after 28 d]	Water pollution category (German regulation)	GISCODE	Shelf life [months]
	Asphalt Re	elease Agen	ts & Bitu	men Cleaners			
RENOCAST AP 2001 (Formerly: BITEEREX 1)	Universally applicable mineral oil-based asphalt release agent. Particularly well suited for e.g. asphalt mixers, transport trucks and road pavers - ready to use. Test report of the Technical University of Kaiserslautern confirms compatibility with asphalt.	21.0 ± 2.5	145	n/a	1	n/a	24
	20 L (Canister), 200 L (Drum), 1000 L (IB	C)					
RENOCAST AP 3485* (Formerly: BITEEREX ECO) Advanced Circular Technologies	EU Ecolabel-certified ester oil-based asphalt release agent. Particularly well suited for asphalt mixers, asphalt trucks and road pavers.	ca. 45	217	> 70	awg	n/a	24
	20 L (Canister), 200 L (Drum), 1000 L (IB	C)					
RENOCAST AP 2690 (Formerly: BITEEREX 2690) Advanced Circular Technologies	Particularly low-viscosity asphalt release agent especially for rubber wheeled road rollers and asphalt feeder conveyor belts - ready-for-use.	11.8 ± 1.0	110	n/a	1	n/a	24
	20 L (Canister), 200 L (Drum), 1000 L (IB	C)					



#### **RENOCAST**

Product name	Description	Visc. at 20 °C [mm²/s]	Flash point [°C]	Bio- degradability [% after 28 d]	Water pollu- tion category (German regulation)	GISCODE	Shelf life [months]
	Asphalt Re	lease Agen	ts & Bitu	men Cleaners			
RENOCAST AP 4815 AQUA (Formerly: BITEEREX AQUA) Advanced Circular Technologies	Ready-to-use asphalt release agent emulsion for loading areas of asphalt trucks, conveyor belts of asphalt feeders and rubber-wheeled road rollers.	< 4.5	n/a	n/a	1	n/a	6
	20 L (Canister), 200 L (Drum), 1000 L (IBC	)					
RENOCAST AP 5150 C (Formerly: BITEEREX C 1) Advanced Circular Technologies	Particularly economical asphalt release agent concentrate for loading areas of asphalt trucks, conveyor belts of asphalt feeders and rubber-wheeled road rollers. The 20 L small canister is delivered half-filled and is filled-up with water on site in a mixing ratio of 1:1.	14.0 - 17.5	n/a	n/a	1	n/a	9
	10 L (Canister), 200 L (Drum), 1000 L (IBC	)					
RENOCAST CL 1020 (Formerly: BITEEREX CLEANER)	Solvent-based cleaner in a liquid form for surfaces contaminated with bitumen or asphalt.	1.7 - 2.4	са. 61	n/a	1	n/a	24
	20 L (Canister)						
RENOCAST CL 1020 SPRAY (Formerly: BITEEREX CLEANER SPRAY)	Solvent-based cleaner as a spray for surfaces contaminated with bitumen and asphalt.	n/a	> 61	n/a	1	n/a	36
ſ	400 ml (Spray can)						

# **FUCHS** Special Applications Coatings



Product name	Description	Thinner	pH Value	Color	Temperature range [°C]	Coefficient of friction <sup>1</sup>	Applications
				HMP Films			
GLEITMO 300 (also available as GLEITMO 300 SPRAY)	Solvent-based universal lubricant for industry and household use	-	-	colorless, transparent	-40/50	0.08	For calibration, for switches and mechanisms of any kind. For plastics, elastomers, zippers, screws etc.
	1 L (Bottle), 5 L (Canist	er), 25 L (Car	n), 400 ml (S	pray can)			
GLEITMO 602	Dry film lubricant for bulk part coating	Water	8.5 - 9.5	colorless, transparent	-40/80	0.13 - 0.15	Nuts and bolts in the automotive industry. To obtain friction coefficients with small deviation at an elevated level of friction coefficients.
168	1 kg (Bottle), 25 kg (Ca	an), 150 kg (E	Orum)				
GLEITMO 605	Dry film lubricant for bulk part coating	Water	8.5 - 9.5	colorless, shiny	-40/110	0.11 - 0.12	Fasteners such as screws and nuts in the automotive industry with friction value range according to VDA as well as chipboard screws, sheet metal screws, clamping screws, union nuts.
1 2 3 8	1 kg (Bottle), 25 kg (Ca	an), 150 kg (E	Orum), 1000	kg (IBC)			
GLEITMO 615	Dry film lubricant for bulk part coating	Water	5.0 - 6.0	colorless, matt	-40/110	0.09	To achieve low coefficients of friction in screw connections, avoid seizure in stainless steel screw connections, achieve low forming torques in thread-forming screws.
189	1 kg (Bottle), 25 kg (Ca	an), 150 kg (E	Orum)				

#### **GLEITMO**

Product name	Description	Thinner	pH Value	Color	Temperature range [°C]	Coefficient of friction <sup>1</sup>	Applications
				HMP Films			
GLEITMO 625	Dry film lubricant for bulk part coating	Water	5.0 - 6.0	colorless, matt	-40/110	0.09	To achieve low coefficients of friction in screw connections, avoid seizure in stainless steel screw connections, achieve low forming torques in thread-forming screws.
1 2 5	1 kg (Bottle), 5 kg (Buc	ket), 25 kg (0	Can), 150 kg	(Drum)			
GLEITMO 627	Dry film lubricant for bulk part coating	Water	5.0 - 6.0	colorless, matt	-40/110	0.09	To achieve low coefficients of friction in screw connections, avoid seizure in stainless steel screw connections, achieve low forming torques in thread-forming screws.
175 #	1 kg (Bottle), 25 kg (Ca	ın), 150 kg ([	Orum), 1000	kg (IBC)			
GLEITMO HMP 8040	Dry film lubricant for bulk part coating	Water	5.0 - 6.0	colorless, matt	-40/110	0.09	To achieve low coefficients of friction in screw connections, achieve low forming torques in thread-forming screws.
	1000 kg (IBC)						
GLEITMO 2345V	Dry film lubricant	Water	8.5 - 9.5	colorless, matt	-40/70	-	Assembly lubrication of elastomers (O-rings, profile gaskets), metal sleeves and bolts, lubricants for chipless metal forming.
	1 kg (Tin), 5 kg (Bucket	:), 25 kg (Car	n), 110 kg (D	rum)			
GLEITMO HMP 8420 NF	Dry film lubricant with anti-corrosion sealer for bulk part coating	Water	8.5 - 9.5	colorless, shiny	-40/110	0.10 - 0.11	For screws and nuts in the automotive industry. To achieve very uniform friction values according to VDA requirement. Excellent corrosion protection on zinc alloy coatings.
1 2 5	1 kg (Bottle), 25 kg (Ca	ın), 150 kg ([	Orum)				
GLEITMO HMP 9020	MoS <sub>2</sub> -containing dry film for bulk part coating	Water	n/a	dark grey-black	-70/350	0.12 - 0.14 (K-value M20)	Coating of bolts and nuts. Can be used on hot-dip galvanized nuts to achieve the friction values required in DIN 14399.
195	1 kg (Flasche), 25 kg (K	anne), 150 k	g (Fass)				
GLEITMO HMP 9020 K	MoS <sub>2</sub> -containing dry film for bulk part coating	Water	8.0 - 8.6	dark grey-black	-70/250	0.14 - 0.15 (K-value M20)	Coating of bolts and nuts. Can be used on hot-dip galvanized nuts to achieve the friction values required in DIN 14399. Very good corrosion protection properties.
196	1 kg (Bottle), 25 kg (Ca	ın), 150 kg ([	Orum)				
GLEITMO HMP 9030	MoS <sub>2</sub> -containing dry film for bulk part coating	Water	n/a	dark grey-black	-70/200	0.12 - 0.13 (K-value M20)	Coating of bolts and nuts. Can be used on hot-dip galvanized nuts to achieve the friction values required in DIN 14399. Very good corrosion protection properties.  New development with very good moisture resistance.
<b>=</b>	150 kg (Drum)						

# **FUCHS** Special Applications Coatings

Product name	Description	Thinner	Solids	Binder	Color	Temperature range	Applications
			So	lid Film Lub	ricants		
GLEITMO 900 (also available as GLEITMO 900 SPRAY)	Air drying molybdenum disulfide solid film lubricant	META- BLANC V901	MoS₂, Graphite	inorganic	dark grey-black	-180/400	Generally used at low sliding speeds and high loads. High temperature resistance. Application in spherical bearings, screws and nuts, machine parts run-in.
	1 L (Tin), 5 L (Bucke	t), 400 ml (Sp	oray can)				
GLEITMO 905	Air drying water based molyb- denum disulfide solid film lubricant	Water	MoS <sub>2</sub> , Graphite	inorganic	dark grey-black	-180/400	Generally used at low sliding speeds and high loads. High temperature resistance. Water- based alternative to GLEITMO 900
1 🗑	1 kg (Bottle), 5 kg (	Bucket)					
GLEITMO 920	Air drying molybdenum disulfide solid film lubricant	GLEITMO 920V	MoS <sub>2</sub> , Graphite	organic	dark grey-black	-180/250	Generally used at low sliding speeds and high loads. Can be used in combination with oils and greases. Dry lubrication of screw bolts, spindles, slide rails, adjusting screws and adjusting mechanisms.
	1 kg (Tin), 5 kg (Bud	cket)					
<b>GLEITMO</b> 960 (also available as GLEITMO 961 SPRAY)	Air drying graphite solid film lubricant	META- BLANC V901	Graphite	inorganic	dark grey-black	-180/350	For dry lubrication where oils and greases cannot be used due to excessively high temperatures. For forming ferritic and austenitic materials (e.g. cold extrusion, reducing). Can be used up to 600 °C for short periods.
	1 L (Tin), 5 L (Bucke	t), 40 ml (Spr	ay can)				
<b>GLEITMO</b> 980 (also available as GLEITMO 980 SPRAY)	Air drying PTFE solid film lubricant	META- BLANC V901	PTFE	inorganic	colorless, matt	-180/250	Dry lubrication of a wide variety of material combinations (metals, plastics, rubber, wood, etc.). Clean sliding layer for goods at risk of contamination, initial lubrication of plastic injection-molded parts. Assembly facilitation of seals.
	1 L (Tin), 5 L (Canist	ter), 400 ml (9	Spray can)				
GLEITMO 2332V	High temperature resistant water based solid film lubricant	Water	Special HT-Com- bination	inorganic- organic	dark grey	-180/1200	Especially for coating bolts and nuts for the high temperature range (e.g. exhaust system). Produces reproducible friction values, avoids seizure and enables screw connections to be loosened after thermal stress.
18	1 kg (Bottle), 25 kg	(Hobbock)					
GLEITMO SFL 9025	Water based molybdenum disulfide solid film lubricant	Water	MoS <sub>2</sub> , Graphite	organic	dark grey-black	-180/250	Dry lubrication of screws and nuts (stainless steel, aluminum), prevention of seizure (stainless steel), dry lubrication of slide rails, joints and bolts as well as running-in lubrication of highly loaded components.
1 2 3 5	1 kg (Bottle), 5 kg (	Bucket), 25 k	g (Hobbock),	180 kg (Drum)			

#### **GLEITMO**

Product name	Description	Thinner	Solids	Binder	Color	Temperature range [°C]	Applications
			So	lid Film Lub	ricants		
GLEITMO SFL 9065	Thermosetting PTFE solid film lubricant	Water	PTFE	organic	dark grey-black	-180/250	Creates an oil- and solvent-resistant sliding layer with low coefficient of friction. For lifetime lubrication of components with high wear resistance requirements in combination with good corrosion protection. Suitable for coating bulk parts (e.g. bolts, screws, disc springs, etc.)
1	1 kg (Bottle)						
GLEITMO SFL 9070	Air drying PTFE solid film lubricant	Water	Fluorpo- lymeres	organic	colorless milky	-70/180	For dry lubrication of a wide variety of material pairings, in particular plastics, rubber and leather with or among each other. Particularly for preventing squeaking noises in plastic pairings in automotive interiors.
i 🗑	30 g (Dabomatic), 1	1 kg (Bottle), 5	kg (Bucket)				
GLEITMO SFL 9085	Air drying water based PTFE solid film lubricant	Water	PTFE	organic	colorless matt	-180/250	For dry lubrication of a wide variety of material pairings, such as metals, plastics, rubber and leather with or among each other. Enables smooth running, wear protection and the prevention of squeaking noises in plastic pairings in automotive interiors. For the lubrication of connecting elements as well as facilitating the assembly of elastomer seals.
1 10 1	1 kg (Bottle), 5 kg (	(Canister), 25	kg (Hobbock	)			
GLEITMO SFL 9524	Rapid air drying molybdenum disulfide solid film lubricant	Alcohols, e.g. ethanol	MoS <sub>2</sub>	organic	dark grey	-70/300	For run-in improvement of metallic components. GLEITMO SFL 9524 produces a very fast drying, firmly adhering dry lubricant coating with good abrasion resistance and a wide temperature application range. For coating rotors of clawand rotary lobe pumps.
<b>9</b>	5 kg (Bucket)						
GLEITMO SFL 9540	Thermosetting molybdenum disulfide solid film lubricant	GLEITMO 9540 V	MoS <sub>2</sub> , Graphite	organic	dark grey-black	-180/300	For dry lubrication of gears, bearing bushes, bearing bolts, rollers, spindles, axles for sliding bearings, sliding parts at high temperatures.
	1 kg (Tin), 5 kg (Bu	icket)					
GLEITMO SFL 9550	Thermosetting molybdenum disulfide solid film lubricant	GLEITMO 950 V	MoS <sub>2</sub> , Graphite	organic	dark grey-black	-180/300	Run-in improvement as well as lifetime lubrication of components with high demands on wear resistance and corrosion protection. Application for bolts, levers, door lock parts etc.
	1 kg (Tin), 5 kg (Bu	icket)					

# **FUCHS** Special Applications Coatings

Product name	Description	Thinner	Solids	Binder	Color	Temperature range [°C]	Applications
			So	lid Film Lubr	icants		
GLEITMO SFL 9560	Thermosetting, white PTFE solid film lubricant	GLEITMO 950 V	PTFE	organic	white	-70/130	Lifetime lubrication on metallic materials at medium and high pressures, slow sliding speed and for emergency lubrication. Good corrosion protection. Application for adjusting mechanisms (spindles and slide rails) or machine elements.
	1 kg (Tin)						
GLEITMO SFL 9563	Thermosetting PTFE solid film lubricant with molybdenum disulfide	GLEITMO 950 V	PTFE, MoS <sub>2</sub>	organic	dark grey-black	-70/180	Lifetime lubrication on metallic materials at medium and high pressures and slow sliding speeds as well as for running-in lubrication on highly loaded components. Good corrosion protection. For example, lubrication of adjustment mechanisms (levers, spindles and slide rails) or machine elements.
	1 kg (Tin), 5 kg (Bud	ket), 30 kg (H	Hobbock)				
GLEITMO SFL 9680 K1	Three-component solvent-based solid film lubricant - main component	META- BLANC V901	Poly- siloxane	inorganic- organic	colorless transpa- rent	-70/180	Dry lubrication of elastomers. Significantly facilitates the assembly of components due to very low assembly forces.
151	1 kg (Bottle), 5 L (Bu	ucket), 30 L (F	Hobbock)				_
GLEITMO SFL 9680 K2	Crosslinking component for three-component solid film lubricant	META- BLANC V901	-	-	colorless transpa- rent	-70/180	
1	1 L (Bottle)						
GLEITMO SFL 9680 K3	Curing catalyst for three-component solid film lubricant	META- BLANC V901	-	-	-	-70/180	
	1 L (Can)						
GLEITMO SFL 9680 K3 TF	Curing catalyst for three-component solid film lubri- cant, tin-free	META- BLANC V901	-	-	-	-70/180	
1	100 ml (Bottle), 500	) ml (Bottle)					
GLEITMO RLC 3000	Thermosetting PTFE solid film lubricant	Water	PTFE	organic	colorless matt	-70/250	Dry lubrication of a wide variety of material combinations of elasto- mers, plastics, metals
i 🖁	1 kg (Bottle), 5 kg (l	Bucket)					

#### **GLEITMO**

Product name	Description	Thinner	Solids	Binder	Color	Temperature range [°C]	Applications
			So	lid Film Lubri	cants		
GLEITMO RLC 3100 K1	Two-component PTFE solid film lubricant, main component	Water	PTFE	organic	colorless matt	-70/250	For dry lubrication of elastomers and polymers. Dyeable with GLEITMO COLOUR products.
1 2 6	1 kg (Bottle), 5 kg (l	Bucket), 25 kg	g (Hobbock)				
GLEITMO RLC 3100 K2	Crosslinking component for two-component PTFE solid film lubricant	Water	-	-	-	-	
1	1 kg (Bottle)						
GLEITMO RLC 4000	Water-based thermosetting polysiloxane solid film lubricant	Water	Polysi- loxane	inorganic- organic	colorless transpa- rent	-70/250	Dry lubrication of elastomers. Significantly facilitates the assembly of components due to very low assembly forces.
126	1 kg (Bottle), 5 kg (l	Bucket), 25 kg	g (Hobbock)				
GLEITMO RLC 4300	Water-based PTFE solid film lubricant	Water	PTFE	organic	colorless matt	-70/180	Solid film lubricant concentrate with outstanding lubricating performance for plastics, elastomers and metals. Facilitates the assembly of hard-to-move plug-in connections.
	1 kg (Bottle), 5 kg (l	PE-Canister)					

# **FUCHS** Special Applications Coatings

Product name	Description	Carrier	Color	Applications
	Ad	dditives for Solid	l Film Lubricants	
GLEITMO 920 V	Thinner for solid film lubricants	Solvent	colorless	See PI of respective solid film lubricant
	5 L (Canister)			
GLEITMO 950 V	Thinner for solid film lubricants	Solvent	colorless	See PI of respective solid film lubricant
	1 L (Can), 5 L (Canister)			
GLEITMO 9540 V	Thinner for solid film lubricants	Solvent	colorless	See PI of respective solid film lubricant
	1 L (Bottle), 5 L (Canister)			
METABLANC V 901	Thinner for solid film lubricants	Solvent	colorless	See PI of respective solid film lubricant
	5 L (Canister), 200 L (Drum)			
GLEITMO 1992 V	Defoamer	Water	-	For foam reduction in GLEITMO Coating Baths
<b>1 2</b>	1 kg (Bottle), 5 kg (Bucket)			
GLEITMO HMP Cleaner	Cleaner for dry HMP films	Water	colorless	Removal of GLEITMO 605, 615 and othe GLEITMO films
<b>9</b>	1 kg (Bottle), 5 kg (Bucket), 25 kg	(Can)		
GLEITMO Colour BL 01	Black dye concentrate for water-based solid film lubricants	Water	black	Coloring of GLEITMO water-based solid film lubricants (e.g. GLEITMO RLC 3100, GLEITMO HMP 8420 NF)
1	1 kg (Bottle)			
GLEITMO Colour BU 01	Blue dye concentrate for water-based solid film lubricants	Water	blue	Coloring of GLEITMO RLC 3100
Ì	1 kg (Bottle)			
GLEITMO Colour GN 01	Green dye concentrate for water-based solid film lubricants	Water	green	Coloring of GLEITMO RLC 3100
1	1 kg (Bottle)			
GLEITMO Colour RD 01	Red dye concentrate for water- based solid film lubricants	Water	red	Coloring of GLEITMO RLC 3100
ì	1 kg (Bottle)			
GLEITMO Colour WH 01	White dye concentrate for water-based solid film lubricants	Water	white	Coloring of GLEITMO RLC 3100
<u> </u>	1 kg (Bottle)			
GLEITMO Colour YE 01	Yellow dye concentrate for water-based solid film lubricants	Water	yellow	Coloring of GLEITMO RLC 3100
<u> </u>	1 kg (Bottle)			
UV-Verstärker- Konzentrat	Additive to enhance UV activity	Water	yellowish	Addition to water-based GLEITMO films (e.g. GLEITMO 605, 615, etc.) to improve visibility under UV light
	1 kg (Bottle)			, , , , , , , , , , , , , , , , , , , ,

#### **GLEITMO**

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

# **FUCHS** Special Applications Coatings



Product name	Description	Dyn. visc. at 20 °C [mPas]	Color	Applications
		Refr	actory Indus	try
GLEITMO SRC 900	Coating for ceramic, refractory materials	> 15000	grey-black	For application by brush, sponge or roller. Fills superficial porosities of ceramic materials and adjusts surface irregularities Improves the sliding behaviour of ceramic slide plates used in sliding valve systems. Suitable for the use on any ceramic product versions and combinations.
<b>8</b>	1 kg (Tin), 4 kg (Bucket)	, 20 kg (Hobbock)		
GLEITMO SRC 900/50	Coating for ceramic, refractory materials	n/a	grey-black	For application by brush, sponge or roller. Adjusts small surface roughnesses and improves the sliding behavior of ceramic slide plates used in sliding valve systems. Suitable for the use on any ceramic product version and combination.
9	5 kg (Bucket)			
GLEITMO SRC 912	Coating of rotary valve closing plates	> 5000	grey-black	Apply on cold or hot (up to 200 °C) surface with brush or roller Fills cracks and other surface defects, reduces surface wear and frictional resistance at the closing plates.
	1 kg (Tin)			
GLEITMO SRC 919	Coating for ceramic, refractory materials	> 15000	grey-black	For application by brush, sponge or roller. Reduces the surface porosity and adjusts surface imperfections. Improves the sliding behavior of the ceramic slide plates used in mechanical sliding valve systems. Suitable for the use on any ceramic product version and combination.
	1 kg (Tin), 4 kg (Bucket)	, 20 kg (Hobbock)		
GLEITMO SRC 930	Coating for ceramic materials and mold release agent	500 - 1000	grey-black	Coating agent for spray application. Suitable for use on refractory materials in the steel industry and as a release agent in the nonferrous casting industry. Shows low friction and reduces the surface porosity of ceramics. Good lubricity, high abrasion resistance and oxidation resistance.
	1 kg (Tin), 4 kg (Bucket)	, 12,5 kg (Canister)		

#### **GLEITMO**

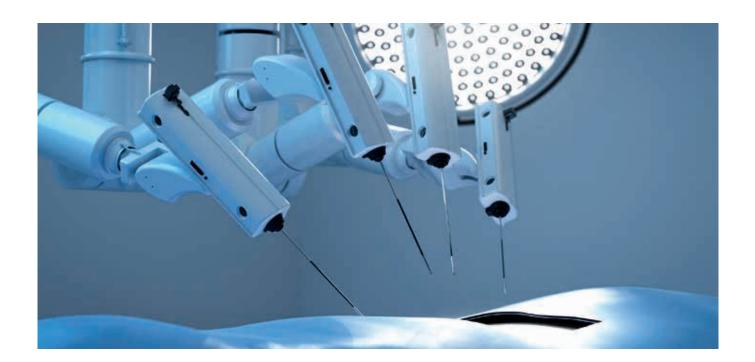
Product name	Description	Dyn. visc. at 20 °C [mPas]	Color	Applications
		Refr	actory Industr	у
GLEITMO SRC 942	Coating for ceramic, refractory materials	n/a	grey-black	Pasty coating agent for application with scraper or spatula. Reduces the surface porosity of ceramic surfaces and fills surface imperfections effectively. Based on its reduced shrinking effect it is especially suitable for recycled slide plates and as primer coat prior to a subsequent solid lubricant coating.
	4 kg (Bucket)			
GLEITMO SRC 959	Release agent for casting molds	n/a	cream colored	Non-curing liquid emulsion, designed for the use as a mold release agent on wooden, laminate, plastic, metal and composite-material molds. Can be used in combination with any conventional refractory material, binding agent and filler.
•	18 kg (Hobbock)			
GLEITMO SRC 994	Spray coating for refractory surfaces	400 - 800	grey-black	Specially designed for spraying on hot surfaces. Suitable as a release agent for mortar release, slide nozzle links, joint compound surfaces, and as a spray guard for mechanical aggregate parts.
□ <b>2 p</b> i	1 kg (Tin), 4 kg (Bucket)	), 12,5 kg (Canister), 11 x	570 g (Tube + Cle	eaner)
GLEITMO SRC 750	Release and lubricant coating for casting molds	1000 - 3500	grey-black	Primarily used as a casting release agent by direct application to the inner surfaces of the casting mold. Forms a continuous dry film on the surface. Can be used as a starting aid for the dummy bar in continuous casting.
<b>9</b> 1	4 kg (Bucket), 20 kg (Ho	obbock)		
GLEITMO SRC 783	Mold lubricant for continuous casting plants	n/a	black	Pasty solid lubricant for application with brush, roller or sponge. Is used to pre-treat molds of continuous casting plants in the iron and steel industry for an initial protection before or during a casting sequence.
abla	12.5 kg (Bucket)			



Product name	Thickener Base oil	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tempe- rature range [°C]	Approvals, recommendations	Main application area
				Vacuum	/ Clean Room	
NYETORR 5200	PTFE / MAC	1	108	-45 / +150	-	A soft, PTFE thickened, medium viscosity cyclopentane grease intended for high vacuum and clean room applications and semiconductor manufacturing equipment.  Benefits include very low vapor pressure.
	10 cc (White	Syringe), 30 cc	(White Syri	nge), 0.055 kg	g (EFD Syringe), 500	g (Tin)
NYETORR 6200	PTFE / MAC	1	108	-45 / +150	-	A soft, PTFE thickened, medium viscosity cyclopentane grease intended for high vacuum and clean room applications and semiconductor manufacturing equipment. Benefits include very low vapor pressure.
	0.01 kg (Whi	te Syringe), 500	g (Tin)			
NYETORR 6350EL	PTFE / PFPE	2	186	-80 / +250	-	-
	30 g (White S	Syringe), 50 g (	Tin)			
NYETORR 6200-FL	PTFE / MAC	-	108	-45 / +150	-	A very soft, PTFE thickened, medium viscosity cyclopentane grease intended for high vacuum and clean room applications and semiconductor manufacturing equipment. Benefits include ultra low vapor pressure and torque.
	10 cc (White	Syringe), 0,03	kg (Syringe)			
NYETORR 6370EL	PTFE / PFPE	2	456	-90 / +250	-	-
	0.01 kg (Whit	e Syringe)				

Product name	Thickener Base oil	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Temperature range [°C]	Approvals, recommendations	Main application area
				Vacuum	/ Clean Room	
NYETORR 6201	MAC	-	108	-45 / +150	-	A medium viscosity, multiply-alkylated cyclopentane oil intended for precision applications or high vacuum environments.
ı	30 ml (Bottle)					
NYETORR 5300XP	PTFE / PFPE	2	140	-65 / +200	-	A PTFE thickened, heavy viscosity, perfluoropolyether grease intended for high vacuum and clean room applications and semiconductor manufacturing equipment.  Benefits include very low vapor pressure and outgassing
	50 g (Tin)					
NYETORR 5201	MAC	-	108	-45 / +125	-	A medium viscosity, cyclopentane oil intended for high vacuum and clean room applications and semiconductor manufacturing equipment. Benefits include very low vapor pressure.
	30 cc (Glas V	ial)				
NYETORR 6300	PTFE / PFPE	2	186.8	-65 / +250	-	A PTFE thickened, heavy viscosity, perfluoropolyether grease intended for high vacuum and clean room applications and semiconductor manufacturing equipment.  Benefits include very low vapor pressure.
	30 cc (Syringe	<u>=</u> )				
NYETORR 6301	PFPE	_	186.8	-75 / +250	-	-
İ	30 ml (Bottle)					
NYETORR 6300S	PTFE / PFPE	1	188.3	-75 / +250	-	A PTFE thickened, heavy viscosity, NLGI Grade 1, perfluo- ropolyether grease intended for high vacuum and clean room applications and semiconductor manufacturing equipment. Benefits include very low vapor pressure.
	500 g (Tin)					
NYETORR 5300	PTFE / PFPE	1,5	140	-65 / +250	-	A PTFE thickened, heavy viscosity, perfluoropolyether grease intended for high vacuum and clean room applications and semiconductor manufacturing equipment.  Benefits include very low vapor pressure.
	30 cc (White	Syringe)				
SYNTHETIC OIL 2001	MAC	_	106.7	-45 / +125	-	A multiply alkylated cyclopentane oil intended for bearings, disk drives. Fortified for reduced friction and ultrafiltered for precision applications.
ı	30 ml (Bottle)	, 60 ml (Bottl	e)			
SYNTHETIC OIL 2001A	MAC	-	108	-45 / +125	-	A medium viscosity, multiply-alkylated cyclopentane oil intended for precision applications or high vacuum environments.
ı	30 ml (Bottle)	, 125 ml (Bott	le)			
NYEVAC 9724	PTFE / Ester	0	61	-40 / +150	-	A very soft PTFE thickened, polyolester grease originally developed for use in turbo-molecular pumps.
<b>≠</b> 1	0.055 kg (Cle	ar Syringe), 1	35 g (EFD Ca	rtridge)		

Product name	Thickener Base oil	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tempe- rature range [°C]	Approvals, recommendations	Main application area
				Vacuum	/ Clean Room	
NYEVAC 9721	Lithium / Ester	-	149	-40 / +150	-	A lithium soap thickened, light viscosity, polyolester grease intended for vacuum pumps and high speed bearings. Benefits include low evaporation.
Ţ	100 g (Tube)					
NYEVAC 9720	Ester	-	61	-40 / +150	-	A light viscosity polyolester oil originally developed for use in turbo-molecular pumps. Benefits include low outgassing.
1	1 L (Bottle)					
NYECLEAN 5057	PTFE / PFPE	2	192	-50 / +250	-	Recommended for use in vacuum environments. Formulated specifically for bearings within semiconductor manufacturing equipment that require a durable and clean lubricant.
	30 cc (Syringe	e), 1 kg (Tin)				
RHEOLUBE 2000	Sodium / MAC	2	110	-45 / +125	-	A sodium complex soap thickened, medium viscosity, multiply-alkylated cyclopentane grease intended for instruments and bearings and vacuum applications.
<b>!</b>	25 g (Syringe)	, 25 g (Tube), 5	0 g (Tube), 1	00 g (Tube)		
RHEOLUBE 1000	Sodium / MAC	2	56	-50 / +150	-	A sodium complex soap thickened, low viscosity, multiply- alkylated cyclopentane grease intended for instruments and bearings and vacuum applications.
	0.03 kg (Syrir	nge)				



Product name	Thickener Base oil	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tempe- rature range [°C]	Approvals, recommendations	Main application area
				Medica	l Technology	
NYEMED 7325	PTFE / Silikon	-	-	-40 / +200	Biocompatibility evaluated against ISO 10993-5, 10993-10, 10993-11	A UV-dyed, silicone-based grease with a narrow viscosity specification, appropriate for both motion control and lubrication in medical applications.
<b>*</b>	0.03 kg (Syrir	nge)				
NYEMED 7560	Silica / Hydro- carbon	-	-	-40 / +120	Biocompatibility evaluated against ISO 10993-5, 10993-10 and 10993-11	A multi-purpose UV-dyed, synthetic hydrocarbon grease that is proven to protect electrical contacts and reduce mating force in connectors.
	0.03 kg (Syrir	nge)				
NYEMED 7630	Polyurea / Hydro- carbon	-	-	-50 / +175	Biocompatibility evaluated against 10993-5, 10993-10 and 10993-11	A paste-like, synthetic hydrocarbon grease. Benefits include corrosion protection and wear reduction for sliding and rolling metal components, even at high temperatures and speeds.
	30 cc (Syring	e)				
NYEMED 7571	Melamine Cyanurate / PFPE	-	-	-70 / +225	Biocompatibility evaluated against ISO 10993-5, 10993-10 and 10993-11	A very smooth, paste-like grease which provides lubricity and environmental protection for both plastic and metal substrates, including electrical contacts and connectors.
<b>*</b>	50 g (Syringe	•)				

Product name	Thickener Base oil	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tempe- rature range [°C]	Approvals, recommendations	Main application area
				Medica	l Technology	
NYEMED 7471	PFPE	-	-	-50 / +250	Biocompatibility evaluated against 10993-5, 10993-10 and 10993-11	A completely fluorinated, inert fluid, exhibiting low solubility in most materials and liquids encountered in the medical industry.
1	60 ml (Bottle)	)				
NYEMED 7477	PTFE / PFPE	-	-	-50 / +250	Biocompatibility evaluated against ISO 10993-5, 10993-10 and 10993-11	A completely fluorinated, inert lubricating grease with broad utility, exhibiting low solubility in most materials and liquids encountered in the medical industry.
<b>≠</b>	100 g (Syring	e)				



Product name	Thickener Base oil	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tempe- rature range [°C]	Approvals, recommendations	Main application area				
				Electri	cal Contacts					
NYOGEL 760G	Silica / PAO	2	400	-40 / +135	-	A silica thickened, medium viscosity, synthetic hydrocarbon grease for lubrication and protection of electrical contacts. Benefits include good water resistance.				
<b>≠!</b>  □₽		, 30 cc (White 500 g (EFD Cart				(Tube), 150 g (EFD Cartridge), 300 g (EFD Cartridge), 400 g				
RHEOTEMP 768G	Polyurea / PAO-AN	1.5	193	-40 / +175	-	Rheotemp ™ 768G is a polyurea thickened, medium viscosity, synthetic hydrocarbon grease fortified with a copper passivator and UV tracer for use in electrical contacts. This grease was designed to meet the insertion force and resistance requirements of SAE/USCAR-2, revision 6, the performance standard for automotive electrical connection systems.				
1 🗆 🗸	100 g (Tube),	, 1 kg (Tin), 15	.88 kg (Buck	et)						
RHEOTEMP 769G	Polyurea / PAO-AN	2	66	-40 / +175	-	A polyurea thickened, medium viscosity, synthetic hydrocarbon grease specially fortified for the protection of electrical contacts. Benefits include insertion force reduction, fretting corrosion protection and high temperature performance.				
<b>≠</b> ₹	30 cc (Syring	30 cc (Syringe), 15.88 kg (Bucket)								
RHEOTEMP 763G	Polyurea / PAO-AN	-	43	-54 / +175	-	A Polyurea thickened, medium viscosity synthetic hydro- carbon grease designed for high speed and temperature applications.				
<b>✓</b> 🗆 🗑	0.055 kg (Syr	ringe), 200 g (T	in), 15.88 k	g (Bucket)						

Product name	Thickener Base oil	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tempe- rature range [°C]	Approvals, recommendations	Main application area
				Electri	cal Contacts	
NYETACT 568J-50-UV	Polyurea / PAO-AN	-	193	-40 / +175	-	A dispersion of a urea thickened, medium viscosity, synthetic hydrocarbon grease for lubrication and protection of electrical contacts. Benefits include high temperature performance and insertion force reduction.
달	18.93 L (Buck	cet)				
NYETACT 571T-10	Kieselsäure / PFPE	-	150	-50 / +225	-	A dispersion of a perfluoroether lubricant dispersed in a perfluoro ethers solvent intended for electrical contact protection. Excellent high temperature performance and material compatibility.
1	60 ml (Bottle)	, 1000 ml (Bott	tle)			



Product name	Thickener Base oil	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tempe- rature range [°C]	Approvals, recommendations	Main application area
				Moti	on Control	
PG-44LS	Silica / PAO / Polybutene	2	33110	+10 / +120	-	A silica thickened synthetic hydrocarbon blend oil intended for very heavy damping.
	1 kg (Tin), 15	.88 kg (Bucket)	)			
PG-44A	Silica / Polybutene	-	192000	+20 / +120	-	An extremely stiff, silica soap thickened, heavy viscosity, synthetic hydrocarbon grease intended for applications requiring a very high degree of mechanical damping
	1 kg (Tin)					
NYOGEL 774VL	Silica / PAO	2	903	-50 / +120	-	A silica thickened, light viscosity, synthetic hydrocarbon grease intended for mechanical components requiring a light amount of damping. Benefits include good water resistance.
	1 kg (Tin)					
FLUORO- CARBON GEL 880FG	PTFE / Dimethyl Silicone	2	18407	-40 / +200	-	A PTFE-thickened, heavy viscosity dimethyl silicone grease with excellent water resistance and mechanical stability under a wide temperature range. Suitable for use on machinery and instrumentation where incidental contact with food is possible.
i 🗆 🗸	100 g (Tube),	1 kg (Tin), 3.6	3 kg (Bucke	t)		
UNIFLOR 8322	PTFE / PFPE	3	800	-20 / +225	-	A PTFE thickened, heavy viscosity, completely fluorinated grease intended for applications where plastic and elastomer compatibility and resistance to aggressive chemicals is required.
Ţ	10 g (Tube)					



Product name	Thickener Base oil	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tempe- rature range [°C]	Approvals, recommenda- tions	Main application area
					Other	
NYOGEL 758G	Lithium / Ester	3	36	-40 / +150	-	A stiff, lithium soap thickened, light viscosity, synthetic ester grease intended for demanding bearing applications. Specially developed for electrical conductivity.
•	100 g (Tube)					
UNIFLOR 8512	PTFE / PFPE	-	65	-50 / +225	-	A PTFE thickened, medium viscosity, completely fluorinated grease for use in high temperature applications exposed to fuels or aggressive chemicals. It possesses excellent thermo-oxidative stability and low vapor pressure characteristics.
	1 kg (Tin)					
UNIFLOR 8951	PTFE / PFPE	2	18	-90 / +200	-	A PTFE thickened, light viscosity, completely fluorinated grease for use in wide temperature applications exposed to fuels or aggressive chemicals. It possesses excellent thermo-oxidative stability.
! <b>-</b>	50 g (Tube), 2	200 g (Tube), 1	kg (Tin)			
UNIFLOR 8980	PFPE	-	140	-65 / +250	-	A medium viscosity, completely fluorinated oil intended for precision instruments, sensors, potentiometers, actuators and bearings where ultra-low temperature and low torque are critical design parameters.
1	60 ml (Bottle)					

Product name	Thickener Base oil	NLGI grade	Base oil visc. at 40 °C [mm²/s]	Tempe- rature range [°C]	Approvals, recommenda- tions	Main application area
					Other	
UNIFLOR 8511	PTFE / PFPE	-	65	-50 / +225	-	A PTFE thickened, medium viscosity, completely fluorinated grease for use in high temperature applications exposed to fuels or aggressive chemicals. It possesses excellent thermo-oxidative stability and low vapor pressure characteristics.
□i	100 g (Tin), 2	270 g (EFD Cart	ridge)			
UNIFLOR 8931	PTFE / PFPE	2	310	-70 / +250	+	A PTFE thickened, heavy viscosity, perfluoropolyether grease for use in high temperature applications exposed to fuels or aggressive chemicals. It possesses excellent thermo-oxidative stability and low vapor pressure characteristics.
	50 g (EFD Syr	inge), 50 g (EFI	) Man. Syrir	nge)		





### **FUCHS Smart Services**

#### Modules

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Laboratory Management |
Fluidmanagement |
Order Management |
Stock Management |
Open Gear Service | Lubricant Change

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**Understand** 

Assess and Analyze



Develop

Plan and Set-Up



Manage

Implement and Operate



**Optimize** 

Finetune and Reuse

## Holistic and future minded

At the very core of everything we do is a promise of reliability. We move your world – not just to keep things running at all times, but to improve your whole production process. To do so, we constantly look ahead and at the big picture. A holistic approach that encompasses ecological, social and economic aspects.

### **FUCHS** Smart Services Modules







#### **Service Measurements on-site**

On-site-service for regular measurements (On-Site). For the sustainable and legally compliant handling of water-mixed cooling lubricants and cleaners and for optimizing their use.

Minimum one time per week. Implementation by qualified service technicians. Full documentation in FUCHS' own FluidsConnect database. Handling instructions

#### **Advantages:**

- Full utilization of the performance potential of cooling lubricants and cleaners through optimized control, evaluation and maintenance
- Optimization of consumption and service-life
- Ensuring compliance with all statutory occupational health and safety regulations.
   TRGS 611-compliant. Auditable overall concept

#### **Titration Analytics**

Sample analysis service (Off-Site). Service package for the sustainable and legally compliant handling of water-mixed cooling lubricants and for optimizing their use.

Pre-assembled sampling sets for weekly execution. Labeled sample kits per machine, sampling by customer, wipe, place in pre-franked shipping cartons, automatic collection, results 1-2 days later with instructions for action. Complete documentation in FUCHS' own FluidsConnect database.

#### **Advantages:**

- Full utilization of the performance potential of cooling lubricants and cleaners through optimized control, evaluation and maintenance
- Optimization of consumption and service-life
- Simple processing (just take samples, wipe and pack)
- Ensuring compliance with all statutory occupational health and safety regulations.
   TRGS 611-compliant. Auditable overall concept
- Additional assessment of overall stability by titration

#### **Laboratory Analytics**

Detailed assessment of lubricants in use with high priority. Regular status analysis as well as single problem analysis or optimization projects.

Analysis of samples in the state-ofthe-art lubricant technology center in Mannheim. Depending on the lubricant type and objective, various analysis scopes are available, which are selected by specialized application engineers. They are also responsible for evaluating the results, commenting on them and defining measures.

#### **Advantages:**

- Process reliability through continuous detailed analysis. Ensuring compliance with all statutory occupational health and safety regulations. TRGS 611-compliant. Auditable overall concept
- Optimization of consumption and service-life
- Highest level of quality and analytics in implementation and assessment. Based on that, result relevance, problem solving and project development are at highest standards.

### **FUCHS** Smart Services Modules







#### **Laboratory Management**

Safe operation or establishment of laboratories on campus at customer's premises at highest quality levels.

Transfer of the highest level of quality and organization of FUCHS-Quality-and Service laboratories on site in customer laboratories. Setup and operation. Deployment of qualified laboratory staff. High level of organization. Flexible adaptation to local requirements to deliver results as needed.

#### Advantages:

- Clearly defined and safe operation of laboratories on site
- Highest quality level.
   Auditable processing
- Simple and transparent processing.
   Minimum effort for the customer
- Consideration of all relevant legal parameters
- Support in the definition of key figures and relevant process parameters
- Fastest response and communication through on-site analysis

#### **Fluidmanagement**

Support in sub-areas or overall responsibility for all processes of lubricant use in customer's plant. Reduction of costs with simultaneous increase in quality. Clear strategy for improving the sustainable use of lubricants.

Holistic service concept for the provision of services along the entire process chain of lubricant use in the plant. The key features: Refilling, changing, maintenance measures, data acquisition and evaluation, documentation via FluidsConnect, evaluation, monitoring of key figures, use of digital solutions, organization, communication, reporting, optimization projects. - Always flexibly designed and precisely adapted to requirements.

#### Advantages:

- Consumption savings through coordinated maintenance
- Optimal selection of the lubricant
- Optimized monitoring and trend detection
- Reduction of machine downtimes
- Cost reduction and increased efficiency
- Audit-proof documentation at any time

#### **Order Management**

Streamlining the customer's purchasing process by switching to FUCHS as general supplier. For all lubricants in the plant.

Planning, implementation and control of procurement processes for lubricants and related products for the customer. Management of all suppliers. Only one contact person for the customer. Flexible adaptation of communication and data exchange to the needs of the plant. Individual billing models. Organization of all information (safety data sheets, etc.).

#### Advantages:

- Significant effort- and cost savings in purchasing
- Optimization through variety rationalization







#### **Stock Management**

Planning, implementation and organization of warehouse processes on site at customer's premises.

Relief of customer's operation by taking over all warehouse activities, documentation and the organization of restocking. Supply to the point of use. Total stock of lubricants in consignment. Optimum combination with FUCHS order management. Different, flexibly adaptable forms of invoicing.

#### **Advantages:**

- Process improvement: Only one central contact person in the warehouse. This improves processes by bundling responsibilities and reducing interfaces
- Conservation of resources due to fewer unplanned processes
- Individual billing models reduce costs (e.g. consumption-based billing only when used)
- Reduction in capital commitment costs

#### **Open Gear Service**

Special service for customers in the raw materials industry with open gears (e.g. cement or paper plants, chemical industry, etc.).

Regular maintenance for open gears by specially trained experts. Required equipment is brought along. Creation of a maintenance plan. Optimization check and demand-oriented recommendation of measures. Digital documentation in a specially

#### **Advantages:**

designed FUCHS database.

- Increased process reliability through regular inspection and maintenance of critical lubrication points (e.g. tooth flanks)
- Full transparency through digital access to all test reports and condition diagrams
- Effort- and cost savings thanks to specific optimization suggestions from our application specialists

#### **Lubricant Change**

Planning and implementation of changes to all lubricant systems on site at customer's plant. Single activities or regular implementation.

Professional assessment and execution to avoid contamination in refilling with fresh product. Objective: Coordinated, safe and sustainable execution to achieve the best possible starting position for fresh refilling.

#### **Advantages:**

- Safe and fully organized process with documentation and acceptance by the customer
- Problem-free implementation by taking over all necessary planning



Product name	Description	Technical data	Advantages			
	Coolants in Use					
Coolant Combi- nation Test Strips Nitrite/pH	Suitable for the measurement of coolants	<ul> <li>Measuring range pH value: 6.0 – 9.6</li> <li>Measuring range nitrite value:         <ul> <li>1 – 80 mg/L NO2-</li> </ul> </li> <li>Package size: 100 measurements</li> <li>Packaging unit: 5 packs (5 x 100 measurements)</li> <li>Shelf life: approx. 18-24 months</li> <li>Optional:         <ul> <li>Other measurands on request</li> </ul> </li> </ul>	<ul> <li>Easy handling</li> <li>Measurement of 2 measured values at the same time possible</li> <li>Time savings for the weekly TRGS 611 measurement</li> <li>First tendency in case of problems</li> <li>Cost-effective combination determination</li> </ul>			
Digital Refractometer	Suitable for measuring liquids	<ul> <li>Measuring range 0-95 % Brix</li> <li>Resolution 0.1 % Brix</li> <li>Dimensions: 120 x 55 35 mm</li> <li>Weight: 180 g</li> <li>Packaging unit incl. batteries and storage case</li> <li>Optional:</li> <li>Pipettes for the application of coolant to the lens</li> </ul>	<ul> <li>Easy handling for measuring concentration</li> <li>Reduction of errors through automatic measurement</li> <li>Clear display of the Brix value</li> <li>Automatic temperature correction</li> <li>Waterproof housing (IP 65)</li> </ul>			
Refractometer measurement of coolants coolants		<ul> <li>Measuring range: 0-18% Brix</li> <li>Scaling: 0.1</li> <li>Package size: 1 piece</li> <li>With automatic temperature compensation</li> <li>Optional:</li> <li>Handheld refractometer 0-32% measuring range</li> </ul>	<ul> <li>Simple measuring instrument, no major training required</li> <li>Measurement of concentration via Brix measurement (refraction of light)</li> <li>Can be used with a wide range of metalworking fluids</li> </ul>			
Dip Slides	Determination of yeasts, fungi, determination of total cell count; suitable for cooling lubricants / quenching medium / water	<ul> <li>Front: Bacteria Determination</li> <li>Reverse: Determination Fungi/Yeasts</li> <li>Optional:</li> <li>Incubator for cultivation is recommended for constant temperatures and comparable results</li> </ul>	<ul> <li>Simple and cost-effective alternative to laboratory tests for initial indications</li> <li>Determination of bacteria and fungi/yeasts in one step</li> </ul>			

Product name	Description	Technical data	Advantages		
Coolants in Use					
Coolants - Test Case Compact  Suitable for the measurement of coolants		<ul> <li>Dimensions: 330 x 265 x 80 mm (L x W x H)</li> <li>1 x Refractometer 0-18%</li> <li>Measuring strips pH: 7.0 - 14.0 (100 pieces)</li> <li>Measuring strips water hardness: 0-28 °dH (100 pieces)</li> <li>Nitrite measuring strips: 0-25 mg/L (100 pieces)</li> <li>1 x Digital thermometer -50 ° - +100 °C</li> <li>3 x Glass Sample Bottle, 1 x Pipette, Maintenance plan form, Ballpoint pen, Operating instructions</li> <li>Optional:</li> <li>All parts can also be reordered individually, on request</li> </ul>	<ul> <li>Simple and cost-effective alternative to laboratory tests for initial indications</li> <li>All the utensils you need for manual measurement in a practical carrying case</li> <li>Coverage of TRGS 611 measurement parameters</li> <li>Safe storage of measuring equipment ensured</li> </ul>		
MWF Proportional Feeder 1-10 %	Suitable for coolants, incl. filter/wall bracket	<ul> <li>Water flow rate: 10-3000l/h</li> <li>Water inlet pressure: 0.5-6 bar</li> <li>Dosage adjustable from 1-10%</li> <li>Material: Housing: Polypropylene, Seal: VF</li> <li>Max. water temperature: 40°</li> <li>With by-pass switch (on/off dosing)</li> <li>Incl. 2.5m suction hose in viscous design 20x27mm Optional:</li> <li>Drum Adapter PDI 861-M or IBC Adapter PDI861-P</li> <li>Proportional feeder (0.5-5%) or (0.2-2%)</li> </ul>	<ul> <li>Robust design and technology</li> <li>Mobile, low-maintenance equipment</li> <li>Easy and accurate adjustment of the mixing ratio</li> </ul>		
Mobile pallet mixing station	Suitable for coolant handling	<ul> <li>Drip tray: 200 liters</li> <li>Flow rate: 10 l/h - 3 m³/h</li> <li>Concentrate quantity: 0.003 - 300 l/h*</li> <li>Operation without electr. current</li> <li>In FUCHS blue</li> <li>Incl. nozzle, hoses, proportional feeder 0.5-5 %</li> <li>Bracket for hose reel</li> <li>Optional:</li> <li>Proportional feeder 1-10%</li> </ul>	<ul> <li>Robust design and technology</li> <li>Mobile, low-maintenance equipment</li> <li>Easy and precise adjustment of the mixing ratio on the machine possible</li> <li>Fixation lubricant drum</li> <li>Complete offer incl. hoses</li> </ul>		
Size L of coolants • Immersi • Operatii supply) • Flow rat • 6 levels • Mountii Optional • Band sk		<ul> <li>Band width: 50 mm</li> <li>Immersion depth: 500 mm</li> <li>Operating voltage: 3-12 V (230 V plug-in power supply)</li> <li>Flow rate: up to 4 liters / hour</li> <li>6 levels adjustable</li> <li>Mounting: Magnetic base</li> <li>Optional:</li> <li>Band skimmer size M: immersion depth 250 mm</li> <li>Belt skimmer size XL: immersion depth 800 mm</li> </ul>	<ul> <li>Compact design</li> <li>Easy and quick attachment to the tank</li> <li>Flexible adjustments via two joints</li> <li>Can also be mounted at an angle</li> </ul>		
Mobile Tramp Oil Separator	Air diaphragm pump, coalescing separator, with parking brake	<ul> <li>Dimensions: 1000 x 560 x 1000 mm (L x W x H)</li> <li>Suction capacity: 250-450 L/h</li> <li>Inlet and return of 3 m hose each</li> <li>Oil tank capacity: 9 L</li> <li>Optional:</li> <li>Various extraction options available from the tank, e.g. floating or rigid</li> </ul>	<ul> <li>Robust design and technology</li> <li>Compact design</li> <li>Mobile Device</li> <li>Easy handling of tramp oil due to collection container</li> </ul>		



Product name	Description	Technical data	Advantages			
	Storage					
Spill Tray Barrel	Suitable for 2 x 205 L drums	<ul> <li>Collection volume: 205 litres</li> <li>Load capacity: 800 kg</li> <li>Material: steel, galvanized, blue powder-coated</li> <li>Dimensions: 815 x 1236 x 355 mm (L x W x H )</li> <li>Weight: 64 kg</li> <li>With grids, underneath accessible</li> <li>Optional:</li> <li>Other sizes on request</li> </ul>	<ul> <li>Space-saving, compact storage of 2 drums</li> <li>Approved for storage of all hazard classes</li> <li>Removable grids for easy cleaning</li> </ul>			
Spill Tray IBC	Suitable for 1 x 1000 L IBC	<ul> <li>Collection volume: 1000 liters</li> <li>Load capacity: 2000 kg</li> <li>Material: steel, galvanized, blue powder-coated</li> <li>Dimensions: 1650 x 1350 x 710 mm (L x W x H )</li> <li>Weight: 215 kg</li> <li>With grids, underneath accessible</li> <li>Optional:</li> <li>3-sided galvanized splash guard</li> <li>Drip tray with filling trestle</li> <li>Other sizes on request</li> </ul>	<ul> <li>Space-saving, compact storage of 1 IBC</li> <li>Approved for storage of all hazard classes</li> <li>Removable grids for easy cleaning</li> <li>Add-on parts enable individualization</li> <li>Easy to move with forklift / pallet truck</li> </ul>			
Storage Tank Fresh Oil 1,500 L	Storage Liquids >55°C flash point	<ul> <li>Curb weight: 133 kg</li> <li>Dimensions: 1630 x 760 x 1860 mm (L x W x H)</li> <li>Volume: 1500 liters</li> <li>Usable volume (95%): 1425 liters</li> <li>Material inside: HDPE</li> <li>Material: Galvanized steel sheet on the outside</li> <li>Number of openings: 4 pieces</li> <li>Optional:</li> <li>Other tanks and accessories on request</li> </ul>	<ul> <li>Compact design, also suitable through doors</li> <li>Double-walled design</li> <li>Large volume for long-term security of supply</li> </ul>			
Waste Oil Tank 1,000 L	Filler neck, suction nozzle & suction pipe, vent nozzle, content viewer	<ul> <li>Dimensions: 1135 x 737 x 1820 mm (L x W x H)</li> <li>Volume: 1000 liters</li> <li>Material inside: PE</li> <li>Material outside: sheet steel Jacket &amp; Pallet</li> <li>Number of openings: 4 pieces</li> <li>Underneath accessible</li> <li>Optional:</li> <li>Other tanks and accessories on request</li> </ul>	<ul> <li>Compact design</li> <li>Hopper for safe disposal</li> <li>Double-walled tank</li> <li>Can be moved if necessary</li> </ul>			

Product name	Description	Technical data	Advantages				
	Storage						
Digital Level Monitoring SmartLevel	Suitable for drum / IBC / stationary storage tanks	<ul> <li>Tank material: plastic, GRP, metal, IBC, drum</li> <li>Fittings: 2", 1 1/2", 1"</li> <li>Measuring interval: 2h – 24 h adjustable</li> <li>Data transmission: mobile phone / WLAN</li> <li>Operation: Battery</li> <li>Maximum tank height: 2 m or 3 m</li> <li>Optional:</li> <li>Different measuring principles depending on the application</li> <li>Drum adapter for level sensor radar available</li> </ul>	<ul> <li>Easy installation and commissioning</li> <li>No more "running dry" thanks to early alerting</li> <li>Individual settings possible online</li> <li>Digital overview of all fill levels in the warehouse</li> <li>Battery change can be done by yourself</li> </ul>				
Drum Level Indicator – Manual 60/200 L	Suitable for drums, 60 or 200 L	<ul> <li>Lubricants automotive and industry, fresh oils, used oils</li> <li>Vertical mounting – no horizontal containers</li> <li>With FUCHS logo</li> </ul>	<ul> <li>Cost-effective solution for manual monitoring</li> <li>Easy handling and installation</li> <li>Suitable for standing 60 and 210 L drums</li> </ul>				





Product name	Description	Technical data	Advantages		
	Handling of Oils and Greases				
Hand Lever Pump	Suitable for engine oils, hydraulic oil, die- sel, heating oil and Antifreeze	<ul> <li>Material: Metal</li> <li>Telescopic suction tube: 60-205 I</li> <li>Barrel fitting: 2"</li> <li>Flow rate: 0.25 I / stroke</li> </ul>	<ul> <li>Simplest handling of oil</li> <li>Manual operation, no electricity/compressed air required</li> <li>Ready for immediate use</li> </ul>		
Electric Oil Pump	Drum pump for 200 L containers	<ul> <li>Dispensing hose NW: 16 x 2,000</li> <li>With nozzle 1-35 L/min</li> <li>Electric pump: 230 V WS with cable and plug</li> <li>On/off switch</li> <li>Drum bridge for a secure hold on the container Optional:</li> <li>Also available with digital flow meter</li> </ul>	<ul> <li>Ready-to-use set</li> <li>Fast conveying for larger quantities</li> </ul>		
Electrical Barrel Pump Set/IBC	Pre-assembled for drums – tube length 1000 mm; suitable for petroleum products	■ Gasket mechanical seal, NBR ■ Flow rate: max. 80 l/min. ■ Viscosity: max. 1,000 mPas ■ Temperature: max. 80 °C ■ Conveying height: max. 10 m ■ IP 24, 230 Volt, 50 Hz, 800 Watt ■ Incl. hose 2m length ■ Incl. nozzle Optional: ■ Length 1200 mm suitable for IBC (container)	<ul> <li>Powerful pump for fast handling of media</li> <li>Complete set – get started right away</li> <li>Also suitable for higher viscosities</li> <li>Available for barrel/IBC</li> </ul>		

Product name	Decription	Technical data	Advantages			
	Handling of Oils and Greases					
Hand Lever Grease Gun	<ul> <li>Grease Hand lever grease gun with TWIN-LOCK system, with wing nut, suitable pumped medium: grease</li> <li>Cartridges: 400 g cartridge / 500 ccm loosely filled</li> <li>Press tube galvanized</li> <li>Connection thread: M10 x 1.0</li> <li>Incl. nozzle tube 140 mm, angled</li> <li>Optional:</li> <li>Various spare parts available</li> </ul>		<ul> <li>Twin-Lock system prevents an apparent supply of the lubrication point, by preventing grease leakage from the piston and causing a backflow into the the cartridge is excluded</li> <li>Simple hand lever grease gun for lubrication activities</li> <li>Robust housing; incl. nozzle tube 140 mm, ready for immediate use</li> </ul>			
Mobile Pneumatic Lubricator	Mobile by carriage, suitable for greases up to NLGI 2, high-pressure lubrica- tion gun with profes- sional Z-joint	<ul> <li>Pump 55:1 – capacity: approx. 550 g/min (free outlet and 7 bar inlet pressure)</li> <li>Riser Ø top 28 mm, bottom 41 mm</li> <li>Compressed air connection: G 1/4"i</li> <li>Air pressure: min. 3 to max. 10 bar</li> <li>Lubrication pressure: max. 400 bar</li> <li>Air consumption: 230 l/min</li> <li>Optional:</li> <li>Other versions available on request</li> </ul>	<ul> <li>Mobile device by carriage</li> <li>Efficient work with larger quantities</li> <li>Suitable for almost all greases</li> <li>High performance, high operating pressure possible</li> </ul>			
Stationary Pneumatic Lubrication Unit	Suitable for greases up to NLGI 2, high-pressure lubri- cation gun with professional Z-joint	<ul> <li>Pump 55:1 – capacity approx. 550 g/min (free outlet and 7 bar inlet pressure)</li> <li>Riser Ø top 28 mm, bottom 41 mm</li> <li>Compressed air connection: G 1/4"i</li> <li>Air pressure: min. 3 to max. 10 bar</li> <li>Lubrication pressure: max. 400 bar</li> <li>Air consumption: 230 l/min</li> <li>Optional:</li> <li>Other versions available on request</li> </ul>	<ul> <li>Efficient work with larger quantities</li> <li>Suitable for almost all greases</li> <li>High performance, high operating pressure possible</li> </ul>			
Pneumatic Grease Filling Device ZS	Suitable for greases of consistency class NLGI 000 to 0	<ul> <li>Delivery rate: 2 kg/min</li> <li>Pressure ratio: 3:1</li> <li>Air pressure: min. 2 to max. 10 bar</li> <li>Pump pipe diameter: 34 mm</li> <li>Grease hose: 2m, 2 TE, NW 16, G 3/4", ball valve</li> <li>incl. grease follower plate and dust cover</li> <li>incl. self-closing quick coupling</li> <li>Optional:</li> <li>Other versions, e.g. as a mobile device or for other grease container sizes, possible on request</li> </ul>	<ul> <li>Powerful low-pressure pump for filling centralized lubrication systems or for decanting</li> <li>Double-acting, for an even grease flow</li> <li>Pressure reducer with water separator for low-wear operation and a long service life</li> </ul>			
Manual Grease Filling Device ZS	Suitable for greases of consistency class NLGI 000 to 2	<ul> <li>Delivery rate: approx. 30 ccm/stroke</li> <li>Pump pipe diameter: 40 mm, length 775 mm</li> <li>Operating pressure: max. 35 bar</li> <li>Grease hose: 2 m PVC grease hose NW 16, nylon reinforced</li> <li>incl. grease follower plate and dust cover</li> <li>incl. self-closing quick-release coupling</li> <li>incl. trolley</li> <li>Optional:</li> <li>Other versions, e.g. as a stationary device or for other grease container sizes, possible on request</li> </ul>	<ul> <li>Works even at sub-zero temperatures down to -20° C</li> <li>Extremely powerful suction due to specially adjusted stroke and large suction and valve openings</li> <li>Robust and wear-resistant thanks to strong steel lever</li> <li>Low actuating force required (11 to 16 kp)</li> </ul>			

Product name	Decription	Technical data	Advantages		
Handling of Oils and Greases					
One-Hand Grease Gun SR  TÜV tested with GS mark		<ul> <li>Achievable pressure of up to 150 bar in one-handed operation</li> <li>Cartridge: System Reiner</li> <li>Incl. armoured hose and gripper coupling</li> <li>Flow rate: 0.8 cm³/stroke</li> <li>Connection thread: M10x1</li> <li>Optional:</li> <li>Armoured hose and gripper coupling available as spare parts</li> </ul>	<ul> <li>Easy and clean lubrication for smaller quantities</li> <li>Robust design and technology</li> <li>One-handed operation possible</li> </ul>		
HP Two-Handed Grease Gun SR	TÜV tested with GS mark, ergonomic handles for optimal service, residual emptying by means of a special piston shape	<ul> <li>Achievable pressure: 400 bar</li> <li>Lubrication quantity per stroke: approx. 1.5 cm³</li> <li>Cartridge: System Reiner</li> <li>Coupling connection: M10x1</li> <li>Protective cap against contamination of the gripper coupling</li> <li>Incl. armoured hose and gripper coupling</li> <li>Optional:</li> <li>Armoured hose and gripper coupling available as spare parts</li> </ul>	<ul> <li>Simple, clean and safe lubrication of high-quality machines with long lubrication lines</li> <li>Large quantities of lubricant and larger volumes of lubricant per stroke possible</li> <li>Twin-Lock system prevents an apparent supply of the lubrication point, by preventing grease leakage from the piston and causing a backflow into the the cartridge is excluded</li> </ul>		
Electric Battery Grease Gun (AMP)	For greases NLGI class 000 to 2 (according to DIN 51818)	■ Cartridges: 500 g System Reiner / 400 g Pull-Off / Lube Shuttle® ■ Operating pressure: up to 700 bar (overpressure valve limited) ■ Flow rate: approx. 120 g/min ■ Charging time: approx. 1 h ■ Incl. rechargeable battery 18V Li-lon, 4000 mAh AMP Share ■ Incl. hose and SR adapter ■ Incl. case and charger Optional: ■ Version also available without battery ■ Spare battery available separately ■ Charger available separately	<ul> <li>System Reiner cartridges can be easily replaced by screw connection</li> <li>Larger relubrication quantities convenient and fatigue-friendly can be applied</li> <li>Separate AMP share battery for alternating operation possible</li> </ul>		
Compressed Air Press Grease	Convenient one- handed operation, controlled fat release by single print	<ul> <li>Cartridges: 500 g System Reiner</li> <li>Inlet pressure: 2-6 bar (max. pressure peak: 10 bar)</li> <li>Flow rate: approx. 1 cm³/stroke</li> <li>Gear ratio: 1:30</li> <li>Connection thread: M10x1</li> <li>Incl. safety rubber armoured hose</li> <li>Incl. 4-jaw professional mouthpiece</li> </ul>	<ul> <li>Lubrication of machines of all kinds, commercial vehicles and construction machinery</li> <li>Controlled fat release possible</li> <li>Suitable for larger lubrication quantities</li> </ul>		
HD Grease Gun CASSIDA	For use in the food sector, TÜV tested with GS marks, ergonomic handles for optimal operation	<ul> <li>Achievable pressure: up to 5,800 psi</li> <li>Lubrication quantity per stroke: approx. 1.5 cm³</li> <li>Connection thread: M10x1</li> <li>The Twin-Lock system protects the piston from wear and prevents that grease comes out of the piston</li> <li>Protective cap against contamination of the gripper coupling</li> <li>Flexible armoured hose for optimum accessibility of lubrication points</li> </ul>	<ul> <li>Efficient, clean and safe lubrication of your machines</li> <li>Also due to long lubrication lines, large quantities of lubricant and large amounts of lubricant per stroke</li> <li>Easy handling due to the use of SR cartridge with screw cap lubricated with food-grade grease</li> </ul>		
Central Lubrication Systems Filling System	Important: Please order coupling plugs separately!	<ul> <li>Cartridges: SR Cartridge</li> <li>Only for Beka Max lubrication systems with coupling plug</li> <li>Coupling plug (M20x1.5)</li> <li>Optional:</li> <li>Filling system for 400g pull-off cartridges</li> </ul>	<ul> <li>Easy and fast filling of central lubrication systems with SR cartridges</li> <li>Simple and energy-saving operation</li> <li>Secure connection through coupling plug</li> </ul>		

Product name	Decription	Technical data	Advantages			
	Handling of Oils and Greases					
Easy Spray Gun 260 mm	For the application of fluids containing solids, or free-flowing greases	<ul> <li>Air connection: female thread: ¼"</li> <li>Required air pressure: 6-12 bar</li> <li>Filling capacity: 0.75 I</li> <li>Storage container: Not pressurized</li> <li>Spray nozzle on the 260 mm long spray tube is adjustable</li> </ul>				
Grease Spray Gun LUBE-JET ECO	TÜV tested with GS mark, ergonomic handles for optimal service, residual emptying by means of a special piston shape	<ul> <li>Operation: pneumatic</li> <li>Operating pressure: max. 5 bar</li> <li>Cartridges: Lube-Shuttle® screw-in cartridges</li> </ul>	<ul> <li>Saves time by precise spraying larger surfaces</li> <li>Perfect for applying grease to larger surfaces such as telescopic arms or chains</li> <li>Can be used without additives such as propellant gas or solvents</li> </ul>			



Product name	Decription	Technical data				
	Small Parts / Accessories					
VCI Rapid Test Kit 4 Tests	Suitable for testing the remaining VCI active ingredient in RENOLIN CLP VCI oils	<ul> <li>Content: 4 test kits</li> <li>Incl. syringe 5ml per test</li> <li>Instructions and comparison scale included</li> </ul>				
Sample Bottle 250 ml	Suitable for e.g. hydraulic oils, coolants, antifreeze	<ul> <li>Content 250 ml</li> <li>Packing unit 5 pieces as a package</li> <li>Incl. lid, sample label, unstamped stamp</li> <li>Optional:</li> <li>Larger quantities available on request</li> </ul>				
Sample Bottle 1 L	Suitable for e.g. hydraulic oils, coolants, antifreeze	<ul> <li>Content 1,000 ml</li> <li>Incl. Lid</li> <li>Optional:</li> <li>Larger quantities available on request</li> </ul>				
Sample Bottle 2.5 L	Suitable for e.g. hydraulic oils, coolants, antifreeze	<ul> <li>Content 2,500 ml</li> <li>Incl. Lid</li> <li>Optional:</li> <li>Larger quantities available on request</li> </ul>				
Barrel Key Steel	Opening of sealing caps and drum closures	<ul><li>Material: galvanized steel</li><li>For 3/4" and 2" screw connections</li></ul>				
Drum Transport Lifter	Suitable for containers with a capacity of up to 200 litres	<ul> <li>Dimensions 690 x 660 x 1520 mm (L x W x H)</li> <li>Weight 26 kg</li> <li>Can be set down to a height of 360 mm</li> </ul>				
Jug Set 2L/5L	Set consisting of 2L and 5L jug	<ul><li>With flexible spout</li><li>With lid against contamination</li></ul>				
Funnel Set	6 funnels, rigid spout	■ Sizes: Ø 50, 75, 100, 120, 150 and 160 mm				
Outlet Nozzle IBC	Suitable for IBC (Greif)					
Outlet Tap for Canister	Can be used for canisters	• Opening 50 mm or 60 mm different items				

Product name	Decription	Technical data
Small Parts / Accessories		
Spout Tap Barrel Cast Iron	Can be used for drums/barrels	<ul><li>Material cast iron</li><li>2" and 3/4" available</li></ul>
Spout Tap Barrel Plastic	Can be used for drums/barrels	<ul><li>Material plastic, brown</li><li>2" and 3/4" available</li></ul>

### **Industry Brochures**



Lubricant Solutions for the Aerospace Industry



Specialty Lubricants and Release Agents for Asphalt Processing



Lubricants and solutions for all applications of the cement industry



Lubricant Solutions for the Medical Technology



Lubricant Solutions for the Railway Industry



Specialty Lubricants for Forging Industry



Specialty Lubrication Solutions for the Semiconductor Industry



Product Range Food Grade Products



Lubricant Solutions for Wind Turbines



Reliable Lubricants for Main Gearboxes in Wind Turbines

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Industrial Chain Oils and Sprays



Refrigeration Oils



**Product Group Pastes** 



Service Cartridge for easy and safe Relubrication of Wind Turbines



Specialty Lubricants for Mobile Teleskopic Cranes



SYSTEM REINER – Safe and Clean Lubrication of your Machines



Water-miscible and Neat Cutting Fluids



VCI Corrosion Protection



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Lubricants in spray cans



SUPERLA® – Food Grade Qualities of the highest Purity



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### **Brochures – Products and Applications**



Concrete Release Agents for the Construction Industry



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Solid Film Lubricants – the Dry Lubrication



Solid Film Lubricants for Elastomer Products



Solid Lubricants for the Iron, Steel and Refractory Industry



Specialty Lubrication Solutions for Electrical Contacts and Battery Terminals



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

#### Note

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

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

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

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### **Videos**





Hydraulic oil RENOLIN Xtreme Temp in the field test





The high efficiency of RENOLIN Xtreme Temp





Cavity conservation in practice – ANTICORIT CPX®





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





Application of concrete release agents





Concrete release agents





Application of mixer protection





Setting new standards in safe food lubrication solutions





#### **FUCHS Lubricants**

# Innovative lubricants need experienced application engineers

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

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