

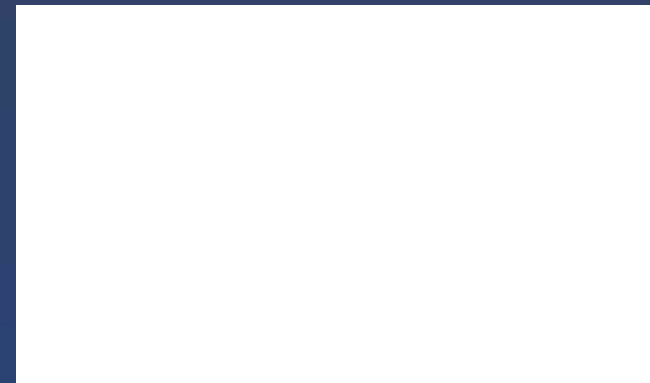
FUCHS Industrial Oils

Innovative Lubricants Need Experienced Application Engineers

Consultation with an experienced Application Engineer should precede every lubricant change-over. This guarantees that the optimum lubricant system is selected. Our experienced engineers can not only offer advice on application but also inform you about our comprehensive range of lubricants.



Please contact:



FUCHS Industrial Oils

RENOLIN

A Complete Product Line



Hydraulic oils

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We are a German company whose over 500 employees manufacture and market a wide range of lubricants and derived specialties.

The company, which was founded in 1931 as RUDOLF FUCHS, is located in Mannheim and is a 100 % subsidiary of FUCHS PETROLUB AG.

With approximately 4.000 employees in 69 operating companies, FUCHS PETROLUB AG is the world's largest independent manufacturer of lubricants.

Our company's degree of specialization and innovation is way above the industrial average for this field. The full product line includes in excess of one thousand lubricants and derived specialties for all walks of life, industrial processes and applications.



DIN EN ISO 9001:2000
ISO/TS 16949:2002
DIN EN ISO 14001
REG.NR. 2476



First Class Partner

Our customer's success is also our success. Because partnership to us means passing-on benefits.

The benefits of a strong market position: FUCHS is the world's largest independent manufacturer of lubricants.

The benefit of premium, innovative products: As the most important OEM lubricants supplier to the German automotive industry, FUCHS is the pace-setter for performance.

The benefits of a full-line manufacturer: With a complete product line as well as tailor-made special solutions, FUCHS has a product for every application.

The benefits of reliability: Certified according to DIN EN ISO 9001:2000 and ISO/TS 16949:2002, FUCHS has been continuously upgrading its highly specialized lubricants for decades.

And naturally, partnership for us also means providing our customers with competent support. With comprehensive marketing. With high-performance logistics. With the development of successful service concepts. And qualified consulting. Because together, we can achieve more.

We Promote Progress



A Complete Line of High-Performance Hydraulic Oils

We come across hydraulic fluids everywhere in our daily lives. Almost every machine uses hydraulics. And the hydraulic fluid is an important design and construction element in the planning, realization and commissioning of hydraulic equipment. The performance of a hydraulic fluids has a major influence on the reliability and performance of hydraulic components.

In Germany, hydraulic fluids make up about 13-14 % of total lubricant consumption and are thus an important group of lubricants. FUCHS has a leading market position and satisfies all areas of application and hydraulic fluid groups with a complete product portfolio which includes:

- Mineral oil-based hydraulic fluids
- Fire-resistant hydraulic fluids
- Synthetic hydraulic fluids
- Special fluids.

Mineral Oil-Based Hydraulic Fluids

This group of fluids includes, above all, our tried and tested multifunctional (problem-solvers) RENOLIN MR and RENOLIN MR MC oils which contain zinc, protect against corrosion and wear and have powerful detergent properties.

The use of hydrocracked base oils together with the well-proven RENOLIN MR additives result in extraordinarily high performance characterized by

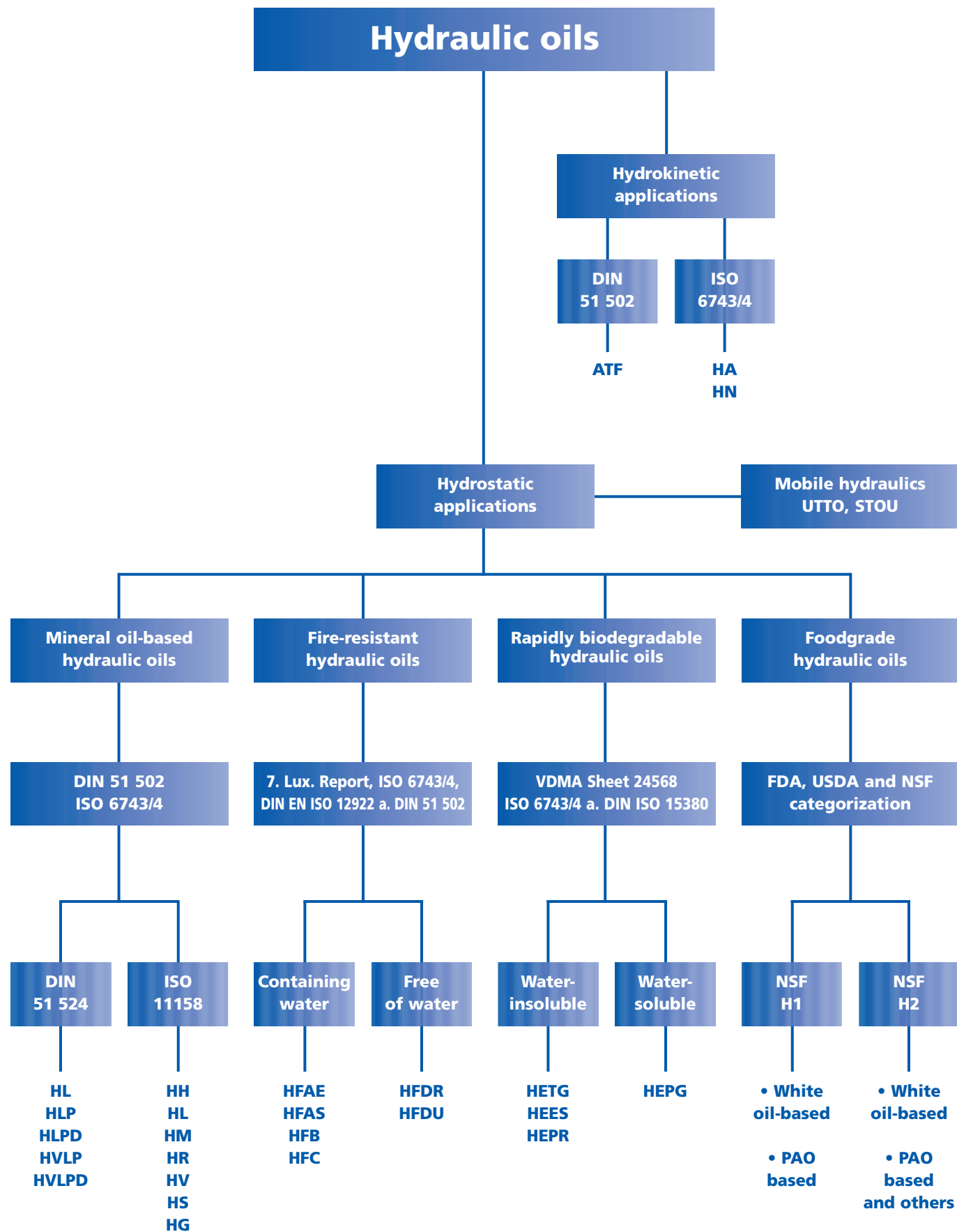
- Excellent ageing resistance
- Outstanding oxidation stability
- Optimum EP/AW properties
- Excellent detergency
- Very good corrosion protection
- Multigrade characteristics (shear stability).

Product life can be extended and grades can be rationalized. The use of these products results in lower operating costs and greater operational reliability. Nevertheless, our zinc- and ash-free products, above all the RENOLIN MWB series are worth considering. These innovative, zinc- and ash-free products are characterized by

- Excellent ageing protection
- Good detergency and
- Outstanding EP performance in boundary friction conditions (high Brugger vales).

The hydrocracked RENOLIN ZAF MC series and RENOLIN ZNF 46 MC round-off our comprehensive portfolio of zinc- and ash-free hydraulic oils.

Summary of the Various Hydraulic Oil Categories



We Combine Technology with Ecology

Fire-Resistant Hydraulic Fluids

HYDROTHERM 46 M is a well-known water-glycol fluid which complies with the 7th Luxembourg Report and has been approved by a host of component manufacturers. It offers extraordinarily long life, extremely good wear protection and high chemical stability.

The PLANTOFLUX AT-S series of HFDU fluids based on selected carbonic acid esters is approved by Factory Mutual in the USA and is used with great success in the iron, steel and aluminium industries. The fire-resistant hydraulic fluid range is rounded-off with RENOSAFE TURBO 46 DR (phosphoric acid ester) and the water-based HFAE- and HFAS-SOLCENIC products which are used in mining applications.

Special Fluids

Furthermore, we offer a wide range of special hydraulic fluids which satisfy every conceivable demand.

As one of the pioneers in the area of rapidly biodegradable fluids, our product program includes

- PLANTOBYD – Partially saturated esters,
- PLANTOSYN – Saturated esters,
- PLANTOBYD S-NWG – Non-water-polluting ester products and
- PLANTOLUBE POLAR – Low-temperature synthetic ester oils.

The optimum fluid for every application – and the optimum solution for every problem

Please don't hesitate to contact our Application Engineers.



RENOLIN Hydraulic Oils – Containing zinc

Name	Corrosion protection	Ageing stability	EP/AW-Anti-wear additives	Demulsifying	Detergent	Highly dispersant	High VI
RENOLIN B	●	●	●	●			
RENOLIN B-HVI	●	●	●	●			●
RENOLIN D	●	●	●		●		
RENOLIN MR	●!	●!	●		●	●	
RENOLIN MR 310/520	●!	●!	●		●	●	●!
RENOLIN MR-MC	●!	●!!	●		●	●	●!
RENOLIN LD	●	●	●		●	●!	

! = Dominant characteristic (special additive reserves)

RENOLIN Hydraulic Oils – Zinc- and Ash-free

Name	Corrosion protection	Ageing stability	EP/AW-Anti-wear additives	Demulsifying	Detergent	Highly dispersant	High VI
RENOLIN DTA	●	●		●			
RENOLIN ZAF-B	●	●	●	●			
RENOLIN ZAF-D	●	●	●		●		
RENOLIN MWB	●	●!	●!! 1), 2)		●	●!	
RENOLIN ZAF-DT	●	●!	●!		●	●!	
RENOLIN ZAF-MC	●	●!!	●	●			●!
RENOLIN ZAF 46 HT	●	●!	●	●			

! = Dominant characteristic (special additive reserves). 1)= Bruggen Antiwear > 50 Nmm². 2)= FE8 Roller Bearing Test = Pass, excellent

Specialties for the Specialist – An Overview

RENOLIN DTA – Demulsifying General Lubricating, Spindle and Hydraulic Oils



Name	Description	Density at 15 °C kg/m ³	Flash-point Cleveland °C	Kinematic viscosity at 40 °C mm ² /s	Kinematic viscosity at 100 °C mm ² /s	Viscosity Index VI	Pour-point °C	Main application area
RENOLIN DTA 2	Spindle, hydraulic and general lubricating oils (machine oils) containing selected base oils and additives to improve ageing stability and corrosion protection. All RENOLIN DTA products are DIN 51524-1 (HL) hydraulic oils and DIN 51517-2 (CL) general lubricating oils, based on mineral oil, demulsifying (water-repellant) and free of zinc. ISO 6743/4, HL ISO 6743/6, CKB	805	100	2,2	–	–	-27	For thermally-stressed bearings and hydraulic systems with peak temperatures of approx. 120 °C.
RENOLIN DTA 5		837	120	5	1,6	106	-40	
RENOLIN DTA 7		839	155	7	2,2	103	-27	
RENOLIN DTA 10		General lubrication without specific wear protection demands (without AW/EP). (Consult Product Information 4-1292 for further details)	852	174	10	2,6	98	-27
RENOLIN DTA 15			856	195	15	3,5	99	-27
RENOLIN DTA 22			865	210	22	4,1	93	-27
RENOLIN DTA 32			874	222	32	5,5	103	-24
RENOLIN DTA 46			874	228	46	7,1	111	-24
RENOLIN DTA 68			882	250	68	8,6	99	-18
RENOLIN DTA 100			881	250	100	11,3	97	-18
RENOLIN DTA 150			886	266	150	14,5	95	-15
RENOLIN DTA 220			893	280	220	18,9	95	-12
RENOLIN DTA 320			898	280	320	24,1	95	-12
RENOLIN DTA 460			904	315	460	30,5	95	-12
RENOLIN DTA 680			913	317	680	37,6	92	-12

RENOLIN B – Demulsifying AW/EP Hydraulic and General Lubricating Oils



Name	Description	Density at 15 °C kg/m ³	Flash-point Cleveland °C	Kinematic viscosity at 40 °C mm ² /s	Kinematic viscosity at 100 °C mm ² /s	Viscosity Index VI	Pour-point °C	Main application area
RENOLIN B 3 VG 10	General lubricating and hydraulic oils with good ageing resistance and additives to improve corrosion protection. Good viscosity-temperature behaviour, good wear protection, demulsifying, good air release, contain zinc.	852	178	10	2,7	93	-30	As lubricating oils but also as hydraulic oils if good ageing resistance, wear protection and demulsifying properties are required. Universal hydraulic oils for all systems, even if thermally-stressed. (Consult Product Information 4-1207 for further details)
RENOLIN B 5 VG 22		863	180	22	4,3	100	-27	
RENOLIN B 10 VG 32		876	205	32	5,3	96	-24	
RENOLIN B 15 VG 46		875	210	46	7,0	108	-24	
RENOLIN B 20 VG 68		878	224	68	8,9	100	-24	
RENOLIN B 30 VG 100		881	232	100	11,1	96	-18	
RENOLIN B 40 VG 150		887	224	150	14,5	94	-15	
	The RENOLIN B series of oils fulfil and surpass the minimum demands on HLP hydraulic oils according to DIN 51 524-2. ISO 6743/4, HM ISO 6743/6, CKC							

RENOLIN B HVI – Demulsifying AW/EP Hydraulic Oils with a High Viscosity Index



Name	Description	Density at 15 °C kg/m ³	Flash-point Cleveland °C	Kinematic viscosity at 40 °C mm ² /s	Kinematic viscosity at 100 °C mm ² /s	Viscosity Index VI	Pour-point °C	Main application area
RENOLIN B 15 HVI	Hydraulic and general lubricating oils (machine oils) with a high Viscosity Index and additives to improve ageing resistance, corrosion protection and wear protection. Mineral oil-base and containing zinc, RENOLIN B-HVI oils are HVLP hydraulic and general lubricating oils according to DIN 51 524-3. ISO 6743/4, HV	855	180	15	3,8	152	-45	RENOLIN B-HVI oils are suitable for all hydraulic systems, especially when a high Viscosity Index is specified or if excess viscosity during start-ups or insufficient viscosity at operating temperatures is a problem. High VI provides multigrade characteristics. (Consult Product Information 4-1222 for further details)
RENOLIN B 32 HVI		876	178	32	6,3	153	-45	
RENOLIN B 46 HVI		875	186	46	7,9	148	-42	
RENOLIN B 68 HVI		885	210	68	11,0	154	-39	

RENOLIN D – Detergent AW/EP Hydraulic and General Lubricating Oils



Name	Description	Density at 15 °C kg/m ³	Flash-point Cleveland °C	Kinematic viscosity at 40 °C mm ² /s	Kinematic viscosity at 100 °C mm ² /s	Viscosity Index VI	Pour-point °C	Main application area	
RENOLIN D 2	Detergent hydraulic and general lubricating oils with additives to improve ageing resistance, corrosion protection and wear protection. Favourable viscosity-temperature behaviour. Contain zinc. RENOLIN D products fulfil and surpass the minimum demands on HLPD hydraulic oils according to DIN 51 524-2.	846	155	7	–	–	-27	RENOLIN D oils are used as lubricating oils but especially as hydraulic oils when good ageing resistance, good wear protection, detergency and demulsifying properties are required. Universal hydraulic oils for all systems, even if thermally-stressed. (Consult Product Information 4-1010 for further details)	
RENOLIN D 3		852	178	10	2,7	98	-30		
RENOLIN D 5		863	200	22	4,3	100	-27		
RENOLIN D 10		872	210	32	5,4	102	-24		
RENOLIN D 15		875	224	46	6,8	100	-27		
RENOLIN D 20		878	232	68	8,7	100	-24		
RENOLIN D 30		882	253	100	11,2	97	-21		

Specialties for the Specialist – An Overview

RENOLIN MR – Detergent AW/EP General Lubricating and Hydraulic Oils with Excellent Corrosion Protection



Name	Description	Density at 15 °C kg/m ³	Flash-point Cleveland °C	Kinematic viscosity at 40 °C mm ² /s	Kinematic viscosity at 100 °C mm ² /s	Viscosity Index VI	Pour-point °C	Main application area
RENOLIN MR 0 VG 2	RENOLIN MR products are special HLPD lubricating and hydraulic fluids according to DIN 51 502 with outstanding corrosion protection, powerful cleaning and sludge transportation properties. Contain zinc as well as being detergent and dispersant. RENOLIN MR oils are used in a number of hydraulic systems as problem solvers, especially when standard oils cannot fulfil all the requirements. RENOLIN MR products fulfil and surpass the minimum demands on HLPD hydraulic oils according to DIN 51 524-2.	817	75	2	–	–	-42	RENOLIN MR 3: For machine tool spindles and bobbin bearings in the textile industry. RENOLIN MR 5, 10 and 20: Heavy-duty hydraulic oils with good corrosion protection up to continuous temperatures of 100 °C. RENOLIN 5, 10 and 20: For smaller gearboxes, especially when fitted with electromagnetic clutches. RENOLIN MR 30: For larger gearboxes. Running-in and corrosion protection oil. RENOLIN MR series allows oil changes to be extended. (Consult Product Information 4-1249 for further details)
RENOLIN MR 1 VG 5		837	85	5	1,6	80	-36	
RENOLIN MR 3 VG 10		856	166	10	2,6	90	-30	
RENOLIN MR 5 VG 22		872	165	22	4,3	105	-30	
RENOLIN MR 10 VG 32		874	210	32	5,4	102	-30	
RENOLIN MR 15 VG 46		877	220	46	6,9	105	-27	
RENOLIN MR 20 VG 68		881	225	68	8,9	105	-24	
RENOLIN MR 30 VG 100		883	248	100	11,4	100	-18	
RENOLIN MR 40 VG 150		889	250	150	14,9	98	-18	
RENOLIN MR 90 VG 320		903	265	320	24,8	99	-12	

RENOLIN MR 310/520/1030 – Detergent AW/EP Hydraulic and Lubricating Oils with an Extremely High Viscosity Index



Name	Description	Density at 15 °C kg/m ³	Flash-point Cleveland °C	Kinematic viscosity at 40 °C mm ² /s	Kinematic viscosity at 100 °C mm ² /s	Viscosity Index VI	Pour-point °C	Main application area
RENOLIN MR 310	Hydraulic and lubricating oils with extremely high Viscosity Index and outstanding cleaning and sludge transportation properties. HVLDP according to DIN 51 502 together with DIN 51 524. ISO 6743/4, HV	855	120	15	5,4	360	-48	RENOLIN MR 310, 520 and 1030: For all hydraulic systems which are subject to larger temperature fluctuations or which are operated outdoors (e.g. canal locks and weir machinery). (Consult Product Information 4-1054 for further details)
RENOLIN MR 520		867	170	38	9,0	270	-56	
RENOLIN MR 1030		871	214	68	11,0	154	-33	

RENOLIN MR MC – Shear-stable AW/EP Hydraulic and Lubricating Oils Containing Special Base Oils – High Viscosity Index



Name	Description	Density at 15 °C kg/m ³	Flash-point Cleveland °C	Kinematic viscosity at 40 °C mm ² /s	Kinematic viscosity at 100 °C mm ² /s	Viscosity Index VI	Pour-point °C	Main application area
RENOLIN MR 22 MC	Universal lubricating and hydraulic oils containing high Viscosity Index (shear-stable) MC base oils. Excellent oxidation stability and powerful cleaning and sludge-transportation properties. HVLDP according to DIN 51 524-3. MR 22 MC: HVLP (HV) 22 MR 32 MC: HVLP (HV) 32 MR 46 MC: HVLP (HV) 46 MR 68 MC: HVLP (HV) 68 ISO 6743/4, HV	855	200	22	5,0	180	-36	RENOLIN MR MC: The same applications as for RENOLIN MR in addition to those which require detergent oils with very high shear stability. Allow oil change intervals to be extended, grades to be rationalized. Multigrade characteristics. Very wide temperature range. (Consult Product Information 4-1249 for further details)
RENOLIN MR 32 MC		858	220	32	6,6	150	-36	
RENOLIN MR 46 MC		865	234	46	8,3	150	-36	
RENOLIN MR 68 MC		870	253	68	11,2	158	-33	

RENOLIN LD – Functional Fluid with Cleaning and Flushing Properties



Name	Description	Density at 15 °C kg/m ³	Flash-point Cleveland °C	Kinematic viscosity at 40 °C mm ² /s	Kinematic viscosity at 100 °C mm ² /s	Viscosity Index VI	Pour-point °C	Main application area
RENOLIN LD 10	Specially refined oil with additives to increase ageing resistance, corrosion protection, EP performance and wear protection. Excellent cleaning and sludge transportation.	877	215	46	7,0	106	-27	A functional fluid with cleaning and flushing properties for general lubrication and hydraulic systems. Eliminates gumming caused by dragged-in cutting fluids. Machines can continue to run normally during cleaning and flushing. However, an oil change is recommended as soon as all contaminants are dislodged.

Specialties for the Specialist – An Overview

RENOLIN ZAF-B – Demulsifying, AW/EP, Zinc- and Ash-free Hydraulic Oils



Name	Description	Density at 15 °C kg/m³	Flash-point Cleveland °C	Kinematic viscosity at 40 °C mm²/s	Kinematic viscosity at 100 °C mm²/s	Viscosity Index VI	Pour-point °C	Main application area
RENOLIN ZAF 5 B	Zinc- and ash-free lubricating and hydraulic oils with good ageing resistance. They contain additives which reduce wear and inhibit corrosion. HLP according to DIN 51 524-2 HM according to ISO 6743/4	847	160	5	1,6	95	-39	Demulsifying, zinc- and ash-free hydraulic and general lubricating oils with good ageing resistance for all hydraulic drives even if thermally stressed. Reduce environmental pollution and waste water treatment costs.
RENOLIN ZAF 10 B		852	170	10	2,6	100	-30	
RENOLIN ZAF 22 B		865	212	22	4,3	102	-30	
RENOLIN ZAF 32 B		872	215	32	5,4	102	-30	
RENOLIN ZAF 46 B		785	234	46	6,8	101	-27	
RENOLIN ZAF 68 B		879	230	68	8,7	100	-21	
RENOLIN ZAF 100 B		882	240	100	11,2	97	-18	

RENOLIN MBW – Zinc- and Ash-free, EP/AW Hydraulic Oils with Excellent Wear Protection (High Brugger Values) and Good Oxidation Stability



Name	Description	Density at 15 °C kg/m³	Flash-point Cleveland °C	Kinematic viscosity at 40 °C mm²/s	Kinematic viscosity at 100 °C mm²/s	Viscosity Index VI	Pour-point °C	Main application area
RENOLIN MWB 46	Selected solvent extracts with additives to improve oxidation and ageing resistance. Excellent corrosion and wear protection, good EP performance, lower coefficient of friction. Excellent protection against wear. High performance reserves. HLPD according to DIN 51 524-2	882	218	46	6,3	105	-24	Heavy-duty, hydraulic and lubricating oils for all highly-stressed hydraulics. Excellent wear protection. Good EP performance. High Brugger values (>50 N/mm²).
RENOLIN MWB 68		879	224	68	8,7	100	-18	

RENOLIN ZAF-D – Detergent, AW/EP, Zinc- and Ash-free Hydraulic Oils



Name	Description	Density at 15 °C kg/m³	Flash-point Cleveland °C	Kinematic viscosity at 40 °C mm²/s	Kinematic viscosity at 100 °C mm²/s	Viscosity Index VI	Pour-point °C	Main application area
RENOLIN ZAF 22 D	Zinc- and ash-free lubricating and hydraulic oils with detergent and dispersant additives. Good ageing resistance. Reduce wear and inhibit corrosion. HLPD according to DIN 51 524-2	868	200	22	4,3	100	-27	Detergent, zinc- and ash-free hydraulic and general lubricating oils for all hydraulic drives even if thermally stressed. Reduce environmental pollution and waste water treatment costs.
RENOLIN ZAF 32 D		878	220	32	5,3	100	-30	
RENOLIN ZAF 46 D		882	230	48	6,9	98	-27	
RENOLIN ZAF 68 D		884	235	68	8,8	102	-21	

RENOLIN ZAF-DT – Highly Detergent, Zinc- and Ash-free, EP/AW Hydraulic Oils with Excellent Wear Protection



Name	Description	Density at 15 °C kg/m³	Flash-point Cleveland °C	Kinematic viscosity at 40 °C mm²/s	Kinematic viscosity at 100 °C mm²/s	Viscosity Index VI	Pour-point °C	Main application area
RENOLIN ZAF 5 DT	Selected solvent extracts with special additives to improve corrosion and wear protection. Good EP and Brugger performance. Detergent and dispersant formulations. Fulfil and surpass DIN 51 524-2.	847	116	5	1,7	99	-40	Heavy-duty, hydraulic and lubricating oils with outstanding detergent and dispersant properties. Very good ageing resistance, good corrosion protection and excellent EP performance. (Consult Product Information 4-1125 for further details)
RENOLIN ZAF 10 DT		848	154	10	2,7	108	-27	
RENOLIN ZAF 22 DT		866	198	22	4,4	109	-27	
RENOLIN ZAF 32 DT		876	210	32	5,4	102	-24	
RENOLIN ZAF 46 DT		876	218	47	6,8	101	-24	
RENOLIN ZAF 68 DT		879	224	69	8,9	104	-18	
RENOLIN ZAF 100 DT		882	220	99	11,3	99	-18	
RENOLIN ZAF 150 DT		887	222	150	14,6	96	-15	

Specialties for the Specialist – An Overview

RENOLIN ZAF-MC – Zinc- and Ash-free, Shear-stable, AW/EP Hydraulic Oils Containing Selected Base Oils, Excellent Oxidation Stability and a High Viscosity Index



Name	Description	Density at 15 °C kg/m³	Flash-point Cleveland °C	Kinematic viscosity at 40 °C mm²/s	Kinematic viscosity at 100 °C mm²/s	Viscosity Index VI	Pour-point °C	Main application area
RENOLIN ZAF 32 MC	Lubricating and hydraulic oils containing MC base oils and selected additives. Very good oxidation and ageing stability, very good corrosion protection and good wear protection. High Viscosity Index (shear-stable). Fulfil and surpass DIN 51 524-3. ZAF 32 MC: HVLP 32 ZAF 46 MC: HVLP 46 ZAF 68 MC: HVLP 68	845	246	33	6,3	152	-30	Shear-stable, zinc- and ash-free hydraulic and general lubricating oils with a high Viscosity Index. These products contain MC base oils. Allow oil change intervals to be extended and grades to be rationalized (multigrade characteristics). (Consult Product Information 4-1055 for further details)
RENOLIN ZAF 46 MC		849	238	45	8,1	150	-33	
RENOLIN ZAF 68 MC		854	235	65	10,7	150	-33	

PLANTOHYD N – Vegetable Oil-Based, Environmentally Harmless Hydraulic Fluids



Name	Description	Density at 15 °C kg/m³	Flash-point Cleveland °C	Kinematic viscosity at 40 °C mm²/s	Kinematic viscosity at 100 °C mm²/s	Viscosity Index VI	Pour-point °C	Main application area
PLANTOHYD 32 N	Vegetable oil-based hydraulic fluids with additives to increase oxidation and ageing stability. Rapidly biodegradable, > 90 % in 14 days.	922	>270	32	7,4	213	-39	Universally applicable in hydraulic systems from -27 °C to 70 °C VDMA Change-over guidelines 24 569 should be observed. (Consult Product Information 4-1102 for further details)
PLANTOHYD 40 N		922	>306	42	9,6	215	-36	
PLANTOHYD 68 N		927	>270	70	13,9	207	-36	

PLANTOHYD S – Ester-Based, Environmentally Harmless Hydraulic Fluids



Name	Description	Density at 15 °C kg/m³	Flash-point Cleveland °C	Kinematic viscosity at 40 °C mm²/s	Kinematic viscosity at 100 °C mm²/s	Viscosity Index VI	Pour-point °C	Main application area
PLANTOHYD 10 S	Synthetic ester oils with additives to increase ageing stability. Rapidly biodegradable, > 90 % in 14 days. PLANTOHYD S and PLANTOSYN offer excellent natural wear protection (FZG Stage 12). According to VDMA Sheet 24 568, ISO 15380: 10 S: HEES 10 15 S: HEES 15 22 S: HEES 22 32 S: HEES 32 46 S: HEES 46 68 S: HEES 68	930	198	10	3,0	125	-65	Universally applicable as hydraulic or general lubricating oils. Especially in situations where environmental protection is a priority. Temperature range: -35 °C to 90 °C VDMA Change-over guidelines 24 569 should be observed. PLANTOSYN HVI products are recommended when temperature range, ageing stability and material compatibility are priorities. PLANTOHYD and PLANTOSYN oils out-perform mineral oil-based hydraulic oils in a number of areas. (Consult Product Information 4-1101 for further details)
PLANTOHYD 15 S		927	270	15	3,8	161	-51	
PLANTOHYD 22 S		925	267	22	5,1	183	-36	
PLANTOHYD 32 S	PLANTOHYD S-NWG: synthetic ester oils which are not classified as water-polluting according to German law.	921	246	32	7,1	188	-60	PLANTOSYN HVI: fully-saturated synthetic ester oil offering the highest performance. According to VDMA Sheet 24 568, ISO 15380: HEES 46.
PLANTOHYD 46 S		921	304	48	9,6	184	-42	
PLANTOHYD 68 S		928	304	69	12,2	177	-48	
PLANTOHYD 22 S NWG	PLANTOHYD S-NWG: synthetic ester oils which are not classified as water-polluting according to German law.	905	195	22	5,5	191	-36	
PLANTOHYD 46 S NWG		922	290	46	9,6	192	-36	
PLANTOSYN 46 HVI	PLANTOSYN HVI: fully-saturated synthetic ester oil offering the highest performance. According to VDMA Sheet 24 568, ISO 15380: HEES 46.	905	> 250	47	8,1	145	-30	

PLANTOLUBE POLAR – Ester-Based, Environmentally Harmless, Low-Temperature Hydraulic Fluids



Name	Description	Density at 15 °C kg/m³	Flash-point Cleveland °C	Kinematic viscosity at 40 °C mm²/s	Kinematic viscosity at 100 °C mm²/s	Viscosity Index VI	Pour-point °C	Main application area
PLANTOLUBE POLAR 15 S	PLANTOLUBE POLAR S oils are environmentally harmless, rapidly biodegradable and have an extremely low pourpoint. With their very high VI, they cover a wide range of temperatures and can be used as all-season oils. POLAR S oils offer outstanding corrosion and wear protection.	900	156	15	4,1	200	<-60	PLANTOLUBE POLAR S oils are recommended for gearboxes, bearings and adjusting mechanisms which are subject to extremely low temperatures (e.g. in polar regions, refrigerated warehouses, etc.) and for hydraulic systems operated in similar conditions. (Consult Product Information 4-1098 for further details)
PLANTOLUBE POLAR 22 S		908	145	22	5,7	200	<-60	

Further Specialties

RENOLIN Unisyn OL series - Fully-synthetic compressor and hydraulic oils based on PAO (polyalphaolefins) with excellent hydraulic performance. Multigrade characteristics, high natural VI (shear-stable), outstanding low temperature properties, good ageing stability, good wear protection.

RENOLIN Lift series - Friction-reducing fluids. Mineral-based hydraulic oils containing special additives to avoid stick-slip. Low coefficients of friction, good detergency and good sludge transportation.

RENOLIN HLP 46 Alu - Special, synthetic hydraulic oil with excellent aluminium compatibility. Non-staining oil, good wear protection, good ageing stability.

RENOLIN MRX series - Cleaning and corrosion protection oils. Special hydraulic oils with improved cleaning and corrosion protection characteristics.

RENOLIN ZAF 46 HT - Zinc- and ash-free, high-temperature HLP hydraulic oil. Good demulsification (water-separation) and good oxidation stability.

HYDROTHERM 46 M - Fire-resistant, water-glycol, Type HFC hydraulic oil. Conforms to the demands of the 7th Luxembourg Report. Excellent corrosion and wear protection. BOSCH REXROTH approved for high-pressure applications. (Flushing and protection oil – Hydrotherm PK).

RENOSAFE DU 46 - Fire-resistant, water-free hydraulic oil. Type HFDU, polyol ester, suitable for use in VOITH converters.

PLANTOFLUX AT-S series - Fire-resistant, water-free hydraulic oils. Type HFDU, polyol ester, rapidly biodegradable, Factory Mutual Approved (USA). Conforms to the demands of the 7th Luxembourg Report.

RENOSAFE Turbo 46 DR - Fire-resistant, water-free hydraulic oil. Type HFDR, phosphoric acid ester, hydrolytically-stable. Control circuit fluid for steam and gas turbines.

FUCHS – Lubricants and Hydraulic Oils for the Foodstuff and Pharmaceutical Industries (NSF-H1 approved)
A comprehensive range of hydraulic and lubricating oils based on special white oils or synthetic components (PAO).
Just call us!

Viscosity-Temperature Diagram

