



H&R Group



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## SRS Lubricants

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Motor Oils  
Gear Oils  
Industrial Oils  
Marine Oils



# SRS LUBRICANTS

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# SRS AUTOMOTIVE LUBRICANTS

## Motor Oils

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# Motor Oils

June 2021

Universal multigrade engine oils	ACEA (CCMC*) API Class	Brand	SAE Grade
Heavy-duty, smooth running engine oil for the mixed vehicle fleet	CI-4/SL	SRS Cargolub TFX	10W-40
High-performance low friction engine oil	E7, A3/B4	SRS Cargolub TFE	10W-40
Universal multigrade engine oil for diesel and gasoline engines	A2/B3, E2 SJ/CH-4	SRS Multi-Rekord	10W-40
High performance, all purpose engine oil for the mixed vehicle fleet	A3/B3 SL/CG-4	SRS Multi-Rekord Plus	15W-40
High Performance universal engine oil for mixed vehicle fleets	E7 SL/CI-4	SRS Multi-Rekord Top	15W-40
Universal engine oil for mixed fleets	E7, A3/B3 SL/CI-4	SRS Multi-Rekord Top	20W-50
Multigrade engine oil for use in diesel and gasoline engines	SJ/CF-4	SRS Rekord 15/40	15W-40
Universal multigrade engine oil for diesel and gasoline engines	A3/B4, E2 SL/CG-4	SRS Primalub	15W-40
Universal multigrade engine oil for gasoline and diesel engines, including turbo versions	A3/B4 CG-4/SL	SRS Primalub	20W-50
Multi-grade multi-purpose oil (STOU) for highest loads. Applicable in motors, transmissions, hydraulics and wet brakes of agricultural machines	E3 CG-4/SF (engines) GL4 (gears)	SRS Primanol	10W-30 10W-40
Multigrade engine oil for passenger car gasoline and diesel engines	(G4/D4/PD2*) SG/CF-4	SRS MAGNUM SL	15W-40
Multigrade engine oil for passenger car gasoline and diesel engines	A3/B3/E2 SJ/CF-4/CF	SRS MAGNUM SL	10W-40
Multigrade engine oil for passenger car gasoline and diesel engines	SG/CF-4	SRS MAGNUM SL	20W-50
Multigrade engine oil for gasoline and diesel engines for commercial and passenger cars	(G4/D4/PD2*) SG/CF-4	SRS MAGNUM SUPER	15W-60
Low friction engine oil	SP/RC	SRS MAGNUM NG	5W-20
Low friction engine oil	SP/RC	SRS MAGNUM NG	5W-30
Multigrade engine oil		Wiolamit 10W-40	10W-40
Multigrade engine oil	SF/CD	Wiolamit 15W-40	15W-40
Multigrade engine oil	SF/CD	Wiolamit 20W-50	20W-50
Multigrade engine oil	SF/CC	Wiolamit FC 15W-40	15W-40
Multigrade engine oil for gasoline and diesel engines including the turbo versions	SG/CD	Wiolamit GD 15W-40	15W-40
Multigrade engine oil for gasoline and diesel engines including the turbo versions	SG/CD	Wiolamit GD 20W-50	20W-50

Multigrade engine oils for passenger cars	ACEA (CCMC*) API Class	Brand	SAE Grade
Ultra-high-performance longlife engine oil	C3 SP/SN PLUS	SRS ViVA 1 SLV top	5W-30

# Motor Oils

October 2020

Multigrade engine oils for passenger cars	ACEA (CCMC*) API Class	Brand	SAE Grade
Heavy-duty smooth running engine oil with lowered high-temperature viscosity	A5/B5 SL/CF	SRS ViVA 1 special F plus	5W-30
Fully synthetic high performance low friction engine oil	A3/B4 SN/CF	SRS ViVA 1 ecosynth plus	0W-40
Fuel saving heavy-duty smooth running engine oil	A3/B4 SM/CF	SRS ViVA 1 ecosynth	0W-40
High-performance low friction engine oil	C1	SRS ViVA 1 special LS	5W-30
High-performance low friction engine oil	C2 SM/CF	SRS ViVA 1 special MS	5W-30
Low SAPS passenger car low friction engine oil	C1	SRS ViVA 1 special LMS	5W-30
Special high-performance low friction engine oil	C3/C4	SRS ViVA 1 special R	5W-30
High-performance low friction engine oil	C5 SN	SRS ViVA 1 special F eco	5W-20
Mid-SAPS high-performance low friction engine oil	C5/C6 SP,SN(RC), SN PLUS	SRS ViVA 1 ecosynth FE	0W-20
Special high-performance low friction engine oil	C2	SRS ViVA 1 special F top	0W-30
Special high-performance low friction engine oil	C5	SRS ViVA 1 special V eco	0W-20
Low SAPS high performance low friction engine oil	C5	SRS ViVA 1 special LL-FE	0W-20
High performance low friction engine oil	A3/B4 SL	SRS ViVA 1 longlife	5W-30
High-performance multigrade engine oil	A3/B3 SL/CF	SRS ViVA 1 synth	15W-50
Synthetic high-performance low friction engine oil	A3/B4 SN/CF	SRS ViVA 1 topsynth	5W-30
Heavy-duty smooth running engine oil	A3/B4 SN/CF	SRS ViVA 1 topsynth	5W-40
High-performance low-friction engine oil	A3/B4 SM/SL/CF	SRS ViVA 1 topsynth alpha	5W-30
Heavy-duty engine oil	C2/C3 SN	SRS ViVA 1 topsynth alpha LA	5W-30
Longlife high-performance engine oil	C3 SN/CF	SRS ViVA 1 topsynth alpha LS	5W-40
High performance low friction engine oil	A3/B4 SN/CF	SRS ViVA 1 topsynth plus	5W-40
High performance low friction engine oil	A3/B4 SN	SRS ViVA 1 topsynth plus FE	5W-30
Heavy-duty smooth running engine oil	A3/B4 SN/CF	SRS ViVA 1	10W-40
High performance low-friction engine oil	A3/B3 SL/CF	SRS ViVA 1	10W-50
High performance engine oil	A3/B4 SL/CF	SRS ViVA 1	10W-60
Smooth running engine oil	SL/CF	SRS Primalub alpha	10W-40
High performance engine oil	A3/B4 SM/CF	SRS ViVA 1 synth racing	5W-50
High performance engine oil	SN	SRS MAGNUM NF	10W-60

# Motor Oils

September 2022

Multigrade engine oils for commercial vehicles	ACEA (CCMC*) API Class	Brand	SAE Grade
UHPD-low friction engine oil for commercial vehicles	E4, E7 CI-4	SRS Cargolub TFG	10W-40

Multigrade engine oils for commercial vehicles	ACEA (CCMC*) API Class	Brand	SAE Grade
USHPD-smooth running engine oil for commercial vehicles with optimised exhaust-emission	E6, E7 CI-4	SRS Cargolub TLS	5W-30
USHPD-smooth running engine oil for Euro V und VI motors	E6, E7, E9 CJ-4/SN	SRS Cargolub TLS plus	5W-30
Premium Low SAPS engine oil	E9, E7, E6 CK4/SN	SRS Cargolub TLS top	5W-30
UHPD low friction engine oil for commercial vehicles with Low SAPS additive technology	E6, E7 CI-4	SRS Cargolub Leichtlaufmotorenöl LA	10W-40
Engine oil for turbocharged diesel engines	E7 CI-4/SL	SRS Turbo-Rekord NG	15W-40
SHPD-oil for turbo diesel engines with extremely long oil retention times	E9 CJ-4/SN	SRS Turbo-Rekord plus	15W-40
Premium low SAPS engine oil for modern Euro V and Euro VI engines	E9, E7 CK-4/CJ-4/SN	SRS Turbo-Rekord ultra	15W-40
Premium low SAPS engine oil for modern Euro V and Euro VI engines	E9, E7, E6 CK-4/CJ-4/SN	SRS Turbo-Rekord ultra FE	10W-40
Premium low SAPS engine oil for modern Euro V and Euro VI engines	E7, E9 CK-4/CJ-4	SRS Turbo-Rekord ultra V	10W-30
Premium low SAPS engine oil for modern Euro V and Euro VI engines	E9, E7, E6 CJ-4	SRS Turbo-Rekord top FE	10W-40
SHPD-smooth running engine oil for commercial vehicles with Euro V and VI	E9 CJ-4/SN	SRS Turbo-Rekord plus FE	10W-40
High performance low friction engine oil for commercial vehicles	E4, E7 CI-4	SRS Cargolub TFG ultra	10W-40
USHPD-smooth running engine oil for longest oil retention times. Applicable year-round	E4, E7 CI-4	SRS Cargolub TFG plus	10W-40
USHPD-smooth running engine oil for longest oil retention times. High fuel savings	E4, E7 CI-4	SRS Cargolub TFL	5W-30
Premium low SAPS engine oil for commercial vehicles	E6, E7, E8, E9, E11 CK-4, CI-4 plus	SRS Cargolub TLA plus	10W-40

Monograde engine oils	ACEA (CCMC*) API Class	Brand	SAE Grade
Single-grade engine oil for Diesel- and Otto motors	CF/CF-2/SF	SRS Rekord	10W to 50
Heavy duty single-grade engine oils also for highly stressed ship engines	E7 CI-4	SRS Rekord plus	30, 40
Oil for first operation and corrosion protection	SF/CC	SRS Antikorrol	10W, 20W-20, 30 and 50
Single-grade engine oil with very high corrosion protection. For emergency generators or for internal conservation	E7 CI-4	SRS Antikorrol M plus	30
Monograde engine oil for diesel and gasoline engines	SF/CD	SRS Rekord E	30, 40, 50, 60

# Motor Oils

September 2021

Four Stroke engine oils	ACEA (CCMC*) API Class	Brand	SAE Grade
Heavy-duty motor-cycle oil with very good high-temperature stability. JASO MA	SG	SRS Magnum 4T	20W-50
Heavy-duty motor-cycle oil. JASO MA2	SL	SRS Magnum 4T plus	10W-40
High performance 4-stroke-motorcycle engine oil. JASO MA2	SN	SRS Magnum 4T top	10W-40

Two Stroke engine oils	JASO API Class	Brand	SAE Grade
Two-cycle motor oil for blended- and separate lubrication, self-mixing	FB TC	SRS Bitaktol KX	
Heavy duty low smoke two-cycle motor oil, self-mixing also for fresh-oil automatic operation	FD TC	SRS Bitaktol KS plus	
Heavy duty two-cycle motor oil for outboard motors, self-mixing	NMMA TC-W3 TD	SRS Bitaktol Super 3	
Low smoke two-cycle motor oil, self-mixing	FC TC	SRS Bitaktol KS	

Gas Motor Oils	ACEA (CCMC*) API Class	Brand	SAE Grade
Gas engine oils for heavy duty 2-stroke and 4-stroke gas engines. Long Oil drain intervals even with use of bio, landfill and sewage gas		SRS Mihagrun	40
Gas engine oil for higher stressed 2-stroke and 4-stroke gas engines, also for gas engines with catalyser operation	CF	SRS Mihagrun LA	40
High-performance gas engine oil, specifically designed for use in modern low emission high-performance gas engines an extended oil change intervals	CF	SRS Mihagrun LAX	40
High-performance gas engine oil specifically designed for use with sewage oil, biogas and landfill gas and extended oil change intervals.		SRS Mihagrun X 40	40
High-performance medium ash gas engine oil specifically designed for use with sewage gas, biogas and landfill gas and extended oil change intervals		SRS Mihagrun XB 40	40
High-performance gas engine oil specifically designed for use with sewage gas, biogas and landfill gas with extended oil change intervals		SRS Mihagrun XBB 40	40

German Army Oils	ACEA (CCMC*) API Class	Brand	SAE Grade
Multigrade engine oil with German Army approval	E7/CI-4	SRS Motor Oil O-236	15W-40

# SRS Cargolub TFX

Universal Fuel-Economy Motor Oil

February 2019

## Characteristics

SRS Cargolub TFX is high performance low friction 10W-40 engine oil. Base oil components and modern adapted additives for the high service requirements ensure the compliance with the properties listed below.

### SRS Cargolub TFX

- applicable throughout the year
- ensures trouble free cold-starts
- reduces cold start wear by short oil supply times
- offers high temperature wear protection
- reduces fuel and oil consumption, thus reduces environmental detrimental emissions
- high dispersancy
- prevents sludge development
- extends service life of engines
- allows extended oil drain intervals

## Application

SRS Cargolub TFX as an universal low friction engine oil is the perfect product for mixed vehicle fleet, e.g. for freight forwarding, urban services and the construction industry. One engine oil for all vehicles excludes the possibility of a mix up of lubricants, and guarantees economic supply inventory. Due to its very high diesel performance SRS Cargolub TFX is applicable in all types of commercial and construction vehicles, including those with turbocharged engines, as well as in passenger car gasoline and diesel engines with and without turbochargers. SRS Cargolub TFX can also be used in older vehicles, where engine oils according to the earlier ACEA A3/B4 and E7 are recommended.

## Specifications

SAE Grade 10W-40  
API CI-4/SL  
Global DHD-1

## Approvals

Mercedes-Benz sheet 228.3, 229.1 and 235.28  
MAN M 3275-1  
Volvo VDS-3 (STD 417-0002)  
Renault VI RLD/RLD-2  
Mack EO-N, EO-M Plus  
MTU MTL 5044 Type 2  
MTU DDC BR 2000/4000  
Deutz DQC III-10  
Voith Retarder Type A

## Recommendations

Caterpillar ECF-1a and ECF-2  
Cummins CES 20071, 20072, 20076, 20077, 20078  
DAF

Typical data		Test method	SRS Cargolub TFX
SAE Grade		SAE J 300	10W-40
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,873
Viscosity at -25°C (CCS)	mPa s	ASTM D 5293	6.650
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	98,6
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	14,6
Viscosity Index (VI)		DIN ISO 2909	154
Flash point COC	°C	DIN ISO 2592	230
Pour point	°C	DIN ISO 3016	- 36
Total base number	mgKOH/g	DIN ISO 3771	10,6

SRS Cargolub TFX is a product of the H&R ChemPharm GmbH



# SRS Cargolub TFE

## Universal Fuel-Economy Engine Oil

September 2020

### Characteristics

SRS Cargolub TFE is a highperformancelowfriction engine oil. Selected base oils using synthetic technology and innovative additives achieve the year round viscosity grade SAE 10W-40. At low temperature SAE 10W assures excellent cold starting (low cold start wear) and quickest possible oil supply of all engine lubricating points. Extreme conditions are safely controlled by SAE 40 high-temperature viscosity. Friction losses and wear are reduced. The cost effectiveness is improved notably due to lower lubricant and fuel consumption as well as longer engine endurance.

### Application

SRS Cargolub TFE as s an universal low friction engine oil is the perfect product for mixed vehicle fleets. One engine oil for all vehicles excludes the possibility of a mix up of lubricants, and guarantees economic supply inventory. Due to its very high diesel performance SRS Cargolub TFE is applicable in all types of commercial and construction vehicles, including those with turbo-charged engines, as well as in passenger car gasoline and diesel engines with and without turbochargers.

### Specifications

SAE Grade 10W-40  
API CI-4  
ACEA E7, A3/B4  
Global DHD-1  
Jaso DH-1

### Recommendations

Cummins CES 20076, 20077, 20078  
DAF  
Detroit Diesel DDC 93 K 215  
Allison C-4

### Approval

Mercedes-Benz sheet 228.3, 229.1, 235.27  
MAN M 3275-1  
Volvo VDS-3 (STD 417-0002)  
Renault VI RLD2  
Mack EO-N, EO-M Plus  
MTU MTL 5044 Type 2  
Voith Retarder Type A

Typical data		Test method	SRS Cargolub TFE
SAE Grade		SAE J 300	10W-40
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,871
Viscosity at -30°C (CCS)	mPa s	ASTM D 5293	5.950
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	96,7
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	14,7
Viscosity Index (VI)		DIN ISO 2909	159
Flash point COC	°C	DIN ISO 2592	230
Pour point	°C	DIN ISO 3016	- 42
Total base number	mgKOH/g	DIN ISO 3771	10,6

SRS Cargolub TFE is a product of the H&R ChemPharm GmbH

# SRS Multi-Rekord 10W-40

## Universal Multigrade Engine Oil

November 2018

### Characteristics

SRS Multi-Rekord 10W-40 is a smooth-running engine oil for diesel and gasoline engines. The viscosity range SAE 10W-40 ensures reliable cold start and high temperature resistance all year round, even under extreme conditions. The combination of high-quality base oils and additives ensures very good wear protection and excellent engine cleanliness; the formation of black mud is prevented.

### Application

SRS Multi-Rekord 10W-40 was developed for the economic supply of diesel and gasoline engines, even under extreme conditions. SRS Multi-Rekord 10W-40 covers all the conditions that are placed on a modern smooth-running engine oil for commercial vehicles and for the mixed vehicle and construction machinery park and meets the requirements of the earlier ACEA A2/B3 and E2.

### Specifications

SAE Grade 10W-40  
API SJ/CH-4  
ACEA A2/B3, E2

### Approvals / Recommendations

Mercedes-Benz sheet 228.1  
MAN spec. 271  
Mack EO-M Plus  
Cummins CES 20071, 20076  
Caterpillar ECF-1

Typical data		Test method	SRS Multi-Rekord
SAE Grade		SAE J 300	10W-40
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,868
Viscosity at -25°C	mPa s	ASTM D 5293	6700
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	93,5
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	14
Viscosity Index (VI)		DIN ISO 2909	153
Flash point COC	°C	DIN ISO 2592	230
Pour point	°C	DIN ISO 3016	-39
Total base number	mgKOH/g	DIN ISO 3771	9,7

SRS Multi-Rekord 10W-40 is a product of the H&R ChemPharm GmbH

# SRS Multi-Rekord Plus

## High-Performance Universal Engine Oil

February 2019

### Characteristics

SRS Multi-Rekord plus is a mineral oil based, high performance universal engine oil of SAE 15W-40 viscosity grade. Base oils produced with the most modern refinery techniques, together with innovative, adapted additives, ensure that the today's requirements are met. Its outstanding qualities include its excellent lubrication at high temperatures and the exceptional wear protection under all operating conditions. Cleaning additives prevent the formation of deposits, pistons and valves stay clean, the formation of oil-sludge is averted. Engine cleanliness and low friction reduce both energy losses and maintenance costs.

### Application

SRS Multi-Rekord plus is a top-quality oil for universal, year-round application in mixed fleets. A single engine oil for all vehicles excludes the possibility of confusion, and guarantees economic stock maintenance. SRS Multi-Rekord plus is a high-performance universal engine oil for extended oil-change intervals even under extreme load conditions. The range of application covers the requirements of all commercial vehicle and passenger car diesel engines of many well known manufacturers. The high demands from modern, fuel economy engines for the compliance of the tight EU standards for exhausts are more than satisfied.

### Specifications

SAE Grade 15W-40  
API SL/CG-4  
ACEA A3/B3

### Approvals

MB-Approval 229.1  
MAN M 3275-1  
MTU MTL 5044 Type 2  
MTU DDC BR 2000/4000

### Recommendations

Volvo VDS  
Mack EO-L  
MB 228.3  
Allison C-4

Typical data		Test method	SRS Multi-Rekord Plus
SAE Grade		SAE J 300	15W-40
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,883
Viscosity at -20°C (CCS)	mPa s	ASTM D 5293	6,380
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	102
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	13,8
Viscosity Index (VI)		DIN ISO 2909	133
Flash point COC	°C	DIN ISO 2592	236
Pour point	°C	DIN ISO 3016	- 39

SRS Multi-Rekord plus is a product of the H&R ChemPharm GmbH

# SRS Multi-Rekord Top

## High Performance Universal Engine Oil

February 2019

### Characteristics

SRS Multi-Rekord top is a mineral oil based, high performance universal engine oil of SAE 15W-40 viscosity grade. Base oils produced with the most modern refinery techniques, together with innovative, adapted additives, ensure that the today's requirements are met. Its outstanding qualities include its excellent lubrication security at high temperatures and the exceptional wear protection under all operating conditions.

### Application

SRS Multi-Rekord top is a top-quality oil for universal, year-round application in mixed fleets. Single engine oil for all vehicles excludes the possibility of a mix up of lubricants, and guarantees economic supply inventory. SRS Multi-Rekord top is high-performance universal engine oil for extended oil-change intervals. The range of application covers the requirements of all commercial vehicles and passenger car diesel engines of many well known manufacturers. The high demands of modern, fuel economy engines to comply with the tight EU standards for exhaust gases (Euro III) are more than satisfied. SRS Multi-Rekord top corresponds to the earlier ACEA A3/B3.

### Specifications

SAE Grade 15W-40  
API SL/CI-4  
ACEA E7

### Approvals

Mercedes Benz approval 228.3 and 229.1  
MAN M 3275-1  
Volvo VDS-3 (STD 417-0002)  
Renault VI RLD/RLD-2  
Mack EO-N, EO-M Plus  
MTU MTL 5044 Typ 2  
MTU DDC BR 2000 / 4000

### Recommendations

Cummins CES 20071, 20072, 20076, 20077  
John Deere JDQ 78A  
Caterpillar ECF-1a and ECF-2  
ZF TE-ML 07C

Typical data		Test method	SRS Multi-Rekord Top
SAE Grade		SAE J 300	15W-40
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,882
Viscosity at -20°C (CCS)	mPa s	ASTM D 5293	6,800
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	106
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	14,3
Viscosity Index (VI)		DIN ISO 2909	138
Flash point COC	°C	DIN ISO 2592	235
Pour point	°C	DIN ISO 3016	- 33
Total base number	mgKOH/g	DIN ISO 3771	9,0

SRS Multi-Rekord Top is a product of the H&R ChemPharm GmbH

# SRS Multi-Rekord Top

## High Performance Universal Engine Oil

August 2016

### Characteristics

SRS Multi-Rekord top 20W-50 is a mineral oil based, high performance universal engine oil of SAE 20W-50 viscosity grade. Base oils produced with the most modern refinery techniques, together with innovative, adapted additives, ensure that the today's requirements are met. Its outstanding qualities include its excellent lubrication security at high temperatures and the exceptional wear protection under all operating conditions.

### Application

SRS Multi-Rekord top 20W-50 is a top-quality oil for universal, year-round application in mixed fleets. Single engine oil for all vehicles excludes the possibility of a mix up of lubricants, and guarantees economic supply inventory. SRS Multi-Rekord top 20W-50 is high-performance universal engine oil for extended oil-change intervals. The range of application covers the requirements of all commercial vehicles and passenger car diesel engines of many well-known manufacturers and can be used according to the manufacturer's instructions.

### Specifications

SAE Grade 20W-50  
API SL/CI-4  
ACEA E7, A3/B3

### Approvals / Recommendations

Mercedes Benz approval 228.3 and 229.1  
MAN M 3275-1  
Renault VI RLD/RLD-2  
MTU MTL 5044 Type 2  
MTU DDC BR 2000 and 4000  
Volvo VDS-3 (STD 417-0002)  
Mack EO-N, EO-M Plus  
Cummins CES 20071, 20072, 20076, 20077  
John Deere JDQ 78A  
Caterpillar ECF-1a and ECF-2  
ZF TE-ML 07C

Typical data		Test method	SRS Multi-Rekord Top
SAE Grade		SAE J 300	20W-50
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,887
Viscosity at -20°C (CCS)	mPa s	ASTM D 5293	8,500
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	157
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	17.5
Viscosity Index (VI)		DIN ISO 2909	122
Flash point COC	°C	DIN ISO 2592	236
Pour point	°C	DIN ISO 3016	- 30
Total base number	mgKOH/g	DIN ISO 3771	9,5
Sulphated ash	g/100 g	DIN 51 575	1,1

SRS Multi-Rekord Top 20W-50 is a product of the H&R ChemPharm GmbH

# SRS Rekord 15/40

## Multigrade Engine Oil

February 2019

### Characteristics

SRS Rekord 15/40 is a multigrade engine oil for use in diesel and gasoline engines. The all season 15W-40 viscosity grade provides easy starting in winter high temperature stability even at extreme stress. Shear stable viscosity index improvers are responsible for the stay-in-grade characteristic throughout the entire oil drain interval. High quality base oils together with selected additives will assure excellent antiwear protection and engine cleanliness. The formation of black sludge will be avoided.

### Application

SRS Rekord 15/40 was developed as universal engine oil for mixed vehicle fleets and construction industry. The performance meets the requirements of all commercial and passenger car diesel engines as well as of all gasoline engines with or without turbochargers. SRS Rekord 15/40 corresponds to the earlier ACEA A2/B2 and E2

### Specifications

SAE Grade 15W-40  
API SJ/CF-4

### Approvals

MB-Approval 228.1

### Recommendations

MAN 271  
Volvo VDS  
MTU MTL 5044 Type 1  
MB 229.1  
Allison C-4

Typical data		Test method	SRS Rekord 15/40
SAE Grade		SAE J 300	15W-40
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,882
Viscosity at -20°C	mPa s	ASTM D 5293	6,520
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	105
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	14,1
Viscosity Index (VI)		DIN ISO 2909	136
Flash point COC	°C	DIN ISO 2592	250
Pour point	°C	DIN ISO 3016	- 24
Total base number	mgKOH/g	DIN ISO 3771	7,7

SRS Rekord 15/40 is a product of the H&R ChemPharm GmbH

# SRS Primalub 15W-40

## Universal Multigrade Engine Oil

June 2008

### Characteristics

SRS Primalub 15W-40 is an universal multigrade engine oil for use in diesel and gasoline engines. The 15W-40 viscosity range ensures good fluidity and an easy starting in winter and high-temperature stability even at extreme loads. Selected viscosity improver are responsible for the stay-in-grade-characteristic. High-quality base oils together with selected additives will assure properties excellent anti-wear and engine cleanliness. The development of black sludge will be avoided.

### Application

SRS Primalub 15W-40 was developed for universal use suitable for mixed fleets and construction industry. The performance of this multigrade engine oil meets the requirements of all commercial and passenger car diesel engines as well as for all gasoline engines with or without turbochargers.

### Specifications

SAE Grade 15W-40  
API SL/CG-4  
ACEA A3/B4, E2

### Approvals / Recommendations

Mercedes-Benz sheet 228.1 and 229.1  
MAN spec. 271  
MTU Type 1  
Volvo VDS

Typical data		Test method	SRS Primalub 15W-40
SAE Grade		SAE J 300	15W-40
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,882
Viscosity at -20°C	mPa s	DIN 51 377	6700
Viscosity at 40°C	mm <sup>2</sup> /s	DIN 51 562	105
Viscosity at 100°C	mm <sup>2</sup> /s	DIN 51 562	14,0
Viscosity Index (VI)		DIN ISO 2909	136
Flash point COC	°C	DIN ISO 2592	230
Pour point	°C	DIN ISO 3016	- 33
Total base number	mgKOH/g	DIN ISO 3771	8,9
Sulphate ash	g/100 g	DIN 51 575	1,1

SRS Primalub 15W-40 is a product of the H&R ChemPharm GmbH

# SRS Primalub 20W-50

## Multigrade Engine Oil

May 2011

### Characteristics

SRS Primalub 20W-50 is an universal engine oil composed according to the latest state of the art for gasoline and diesel engines, including the turbo versions. The more stringent requirements for new generation engines due to lean mixture and catalytic converter concepts are amply satisfied, even when unleaded fuels are used.

### Application

SRS Primalub 20W-50 satisfies the SAE Grade 20W-50 requirements. This viscosity setting ensures a proper oil film even at high ambient temperature. This viscosity setting is particularly suitable for engines with high operating loads.

### Specifications

SRS Primalub 20W-50 can be used in engines with the requirements ACEA A2/B2/E2. It corresponds to the requirements for engine oils in accordance with

SAE Grade 20W-50  
ACEA A3/B4  
API CG-4/SL

### Approvals / Recommendations

Mercedes-Benz sheet 228.3  
MAN M 3275-1  
Volvo VDS

Typical data		Test method	SRS Primalub 20W-50
SAE Grade		SAE J 300	20W-50
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,889
Viscosity at -15°C (CCS)	mPa s	DIN 51 377	9,070
Viscosity at 40°C	mm <sup>2</sup> /s	DIN 51 562	157
Viscosity at 100°C	mm <sup>2</sup> /s	DIN 51 562	17,5
Viscosity Index (VI)		DIN ISO 2909	122
Flash point COC	°C	DIN ISO 2592	240
Pour point	°C	DIN ISO 3016	- 33
Total base number	mgKOH/g	DIN ISO 3771	8,8
Sulphated ash	g/100 g	DIN 51 575	1,15

SRS Primalub 20W-50 is a product of the H&R ChemPharm GmbH



# SRS Primanol

## Super Tractor Oil Universal (STOU)

January 2020

### Characteristics

SRS Primanol are Super Tractor Oils Universal (STOU) for uniform supply of agricultural equipments like tractors and construction engines. The viscosity grades SAE 10W-30 and SAE 10W-40 allow all-year operation, ensure good cold engine starting and an instant response in the hydraulic systems. SRS Primanol 10W-30 corresponds to the viscosity grade SAE 80W-85 and Primanol 10W-40 to the grade 80W-90 for gear oils and covers ISO VG 46, 68 and 100 for hydraulic oils.

### Application

SRS Primanol is applicable in diesel and gasoline engines, including turbocharged diesel engines, in hydraulic systems and transmissions with combined oil systems. SRS Primanol is also used in axle drives where API GL-5 oil is not prescribed. The particular additives in SRS Primanol prevent noises and "stick-slip" phenomena in oil immersed power shift clutches and wet brakes.

### Performance / Specifications

STOU	
SAE Grade	10W-30 and 10W-40
SAE	80W-85 and 80W-90
ISO VG	46 to 100
API	CG-4/SF (engines)
API	GL 4 (gears)
	HLP, HLPD, HVLP (hydraulics)

### Approvals / Recommendations

ACEA E3-Performance  
 ZF Approval Number TF 001695 / ZF001696  
 ZF TE-ML 06B\* (includes 06C/06R), 07B  
 John Deere JDM J20C, J20D, J27  
 Ford M2C 86 B/C, 134 D, 159 B/C  
 Ford New Holland 82009201, 2, 3  
 Case MS 1204, 1206, 1207, 1209  
 CNH MAT 3525, 3526  
 Massey Ferguson MF CMS M 1135, -39, -43, -44, -45  
 Fendt Vario  
 Allison C-4  
 Caterpillar TO-2  
 Sperry Vickers Eaton I-280-S, Eaton M2950S  
 Sauer Sunstrand Danfoss Hydrostatic Trans Fluid  
 ZF TE-ML 06F

\* Except for transmissions T7000 from the year of construction 09/2011

Typical data		Test method	SRS Primanol	
			10W-30	10W-40
SAE Grade (engine)		SAE J 300	10W-30	10W-40
SAE Grade (gear)		SAE J 306	80W-85	80W-90
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,870	0,869
Viscosity at -25°C (CCS)	mPa s	ASTM D 5293	6100	6000
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	74,4	87,7
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	11,4	13,3
Viscosity Index (VI)		DIN ISO 2909	146	152
Flash point COC	°C	DIN ISO 2592	237	241
Pour point	°C	DIN ISO 3016	- 42	- 42
Total base number	mgKOH/g	DIN ISO 3771	11,1	11

SRS Primanol is a product of the H&R ChemPharm GmbH

# SRS Magnum SL 15W-40

Multigrade Engine Oil

May 2004

May 2004

## Characteristics

SRS Magnum SL is a multigrade engine oil composed according to the latest state of the art for passenger car gasoline and diesel engines, including the turbo versions.

The more stringent requirements for new generation engines due to lean mixture and catalytic converter concepts are amply satisfied, even when unleaded fuels are used.

SRS Magnum SL satisfies the SAE Grade 15W-40 requirements. This viscosity setting ensures both good cold starting and reliable lubrication safety at high operating and ambient temperatures in moderate climatic areas such as Central Europe.

## Specifications

SAE Grade 15W-40  
API SG/CF-4  
CCMC\*) G4/D4/PD2

\* According to operating instructions for aggregates until 12/96

## Approvals / Recommendations

Mercedes-Benz sheet 227.1

Typical data		Test method	SRS Magnum SL 15W-40
SAE Grade		SAE J 300	15W-40
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,882
Viscosity at -20°C	mPa s	DIN 51 377	6700
Viscosity at 40°C	mm <sup>2</sup> /s	DIN 51 562	96
Viscosity at 100°C	mm <sup>2</sup> /s	DIN 51 562	12,8
Viscosity Index (VI)		DIN ISO 2909	130
Flash point COC	°C	DIN ISO 2592	228
Pour point	°C	DIN ISO 3016	- 33
Total base number	mgKOH/g	DIN ISO 3771	6,7
Sulphate ash	g/100 g	DIN 51 575	1,03

SRS Magnum SL 15W-40 is a product of the H&R ChemPharm GmbH

# SRS Magnum SL 10W-40

## Multigrade Engine Oil

April 2005

### Characteristics

SRS Magnum SL is a multigrade engine oil composed according to the latest state of the art for passenger car gasoline and diesel engines, including the turbo versions.

The more stringent requirements for new generation engines due to lean mixture and catalytic converter concepts are amply satisfied, even when unleaded fuels are used.

SRS Magnum SL satisfies the SAE Class 10W-40 requirements. This viscosity setting ensures both good cold starting and reliable lubrication safety at high operating and ambient temperatures in moderate climatic areas, such as Central Europe.

### Specifications

SAE Grade	10W-40
API	SJ/CF-4/CF
ACEA	A3/B3/E2

Typical data		Test method	SRS Magnum SL 10W-40
SAE Grade		SAE J 300	10W-40
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,867
Viscosity at -25°C	mPa s	DIN 51 377	6750
Viscosity at 40°C	mm <sup>2</sup> /s	DIN 51 562	91
Viscosity at 100°C	mm <sup>2</sup> /s	DIN 51 562	13,8
Viscosity Index (VI)		DIN ISO 2909	155
Flash point COC	°C	DIN ISO 2592	230
Pour point	°C	DIN ISO 3016	- 30
Total base number	mgKOH/g	DIN ISO 3771	8,2
Sulphate ash	g/100 g	DIN 51 575	1,0

SRS Magnum SL 10W-40 is a product of the H&R ChemPharm GmbH

# SRS Magnum SL 20W-50

## Multigrade Engine Oil

October 2009

### Characteristics

SRS Magnum SL 20W-50 is a multigrade engine oil composed according to the latest state of the art for passenger car gasoline and diesel engines, including the turbo versions. The more stringent requirements for new generation engines due to lean mixture and catalytic converter concepts are amply satisfied, even when unleaded fuels are used.

### Application

SRS Magnum SL 20W-50 satisfies the SAE Class 10W-40 requirements. This viscosity setting ensures both good cold starting and reliable lubrication safety at high operating and ambient temperatures in moderate climatic areas, such as Central Europe.

### Specifications

SAE Grade 20W-50  
API SG/CF-4

### Approvals / Recommendations

MIL-L-46152  
Mercedes Benz sheet 227.1

Typical data		Test method	SRS Magnum SL 20W-50
SAE Grade		SAE J 300	20W-50
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,887
Viscosity at - 20°C	mPa s	DIN 51 377	9170
Viscosity at 40°C	mm <sup>2</sup> /s	DIN 51 562	151
Viscosity at 100°C	mm <sup>2</sup> /s	DIN 51 562	16,5
Viscosity Index (VI)		DIN ISO 2909	116
Flash point COC	°C	DIN ISO 2592	240
Pour point	°C	DIN ISO 3016	- 30
Total base number	mgKOH/g	DIN ISO 3771	1,0
Sulphated ash	g/100 g	DIN 51 575	6,8

SRS Magnum SL 20W-50 is a product of the H&R ChemPharm GmbH

# SRS Magnum Super 15W-60

## Multigrade Engine Oil

November 1999

### Characteristics

SRS Magnum Super 15W-60 is a multigrade engine oil for gasoline and diesel engines, including the turbo versions.

The more stringent requirements for new generation engines due to lean mixture and catalytic converter concepts are amply satisfied, even when unleaded fuels are used. SRS Magnum Super 15W-60 satisfies the SAE Class 15W-60 requirements. This viscosity setting ensures reliable lubrication safety at high operating and ambient temperatures in warm climatic areas.

SRS Magnum Super 15W-60 can be used in conformity with manufacturer's instructions.

### Specifications

API SG/CF-4  
CCMC\*) G4/D4/PD2

### Approvals / Recommendations

MIL-L-21 04 E

\* According to the operating instructions for aggregates until 12/96

Typical data		Test method	SRS Magnum Super 15W-60
SAE Grade		SAE J 300	15W-60
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,873
Viscosity at -15°C	mPa s	DIN 51 377	3200
Viscosity at 40°C	mm <sup>2</sup> /s	DIN 51 562	175
Viscosity at 100°C	mm <sup>2</sup> /s	DIN 51 562	23
Viscosity Index (VI)		DIN ISO 2909	158
Flash point COC	°C	DIN ISO 2592	230
Pour point	°C	DIN ISO 3016	- 27
Total base number	mgKOH/g	DIN ISO 3771	10,6
Sulphate ash	g/100 g	DIN 51 575	1,3

SRS Magnum Super 15W-60 is a product of the H&R ChemPharm GmbH

# SRS Magnum NG 5W-20

## Low-Friction Engine Oil

January 2021

### Characteristics

SRS MAGNUM NG 5W-20 is a smooth-running engine oil based on modern synthesis technology. It can be used wherever smooth running properties of engine oils of the viscosity grade SAE 5W-20 are required. By using SRS Magnum NG 5W-20, LSPI (Low Speed Pre-Ignition) and related engine damages are avoided.

### Application

SRS MAGNUM NG 5W-20 satisfies the SAE Grade 5W-20 requirements. This viscosity setting ensures both good cold starting and reliable lubrication safety at high operating and external temperatures. SRS Magnum NG 5W-20 is suitable for year round use in modern gasoline and diesel engines as well as for extended oil change intervals. Even under poor operating conditions, there is a high level of safety against corrosion and contamination of the engine. SRS Magnum NG 5W-30 contributes to environmental protection by reducing emissions (CO<sub>2</sub> reduction). The operating instruction of the manufacturers must be observed.

### Specifications

SAE Grade 5W-20  
API SP/RC  
ILSAC GF-6A

### Recommendations

Chrysler MS-6395	Hyundai
Ford WSS-M2C 945-A	KIA
Ford WSS-M2C 945-B1	Mazda
Ford WSS-M2C 930-A	Mitsubishi Dia Queen
GM 6094 M	Nissan
GM dexos 1 gen. 2	Toyota
Honda	

Typical data		Test method	SRS Magnum NG 5W-20
SAE Grade		DIN 51 511	5W-30
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,848
Viscosity at -35°C	mPa s	ASTM D 5293	3640
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	46,7
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	8,57
Viscosity Index (VI)		DIN ISO 2909	163
Pour point	°C	DIN ISO 3016	- 42

SRS Magnum NG 5W-20 is a product of the H&R ChemPharm GmbH

# SRS Magnum NG 5W-30

## Low-Friction Engine Oil

February 2021

### Characteristics

SRS MAGNUM NG 5W-30 is a smooth-running engine oil based on modern synthesis technology for gasoline engines including turbo charged- and direct injection engines. It can be used wherever smooth running properties of engine oils of the viscosity grade SAE 5W-30 are required. By using SRS Magnum NG 5W-30, LSPI (Low Speed Pre-Ignition) and related engine damages are avoided.

### Application

SRS MAGNUM NG 5W-30 satisfies the SAE Grade 5W-30 requirements. This viscosity setting ensures both good cold starting and reliable lubrication safety at high operating and external temperatures. SRS Magnum NG 5W-30 is suitable for year round use in modern gasoline and diesel engines as well as for extended oil change intervals. Even under poor operating conditions, there is a high level of safety against sludge, coking, laking, corrosion, as well as contamination and clogging of the catalyst. Because of very high fuel savings, SRS Magnum NG 5W-30 contributes to environmental protection by reducing emissions (CO<sub>2</sub> reduction).

SRS Magnum NG 5W-30 can be used in engines, where engine oils according to the General Motors specification GM dexos1 gen. 2 are required. Engine oils according to GM dexos1 gen. 2 prevent LSPI and protect the turbocharger in TGD engines. The operating instruction of the manufacturers must be observed.

### Specifications

SAE Grade 5W-30  
API SP/RC  
ILSAC GF-6A

### Recommendations

GM dexos 1 gen. 2  
Ford WSS-M2C 946-A  
Ford WSS-M2C 946-B1  
Chrysler MS-6395  
GM 6094 M  
Honda

Hyundai  
Mazda  
Mitsubishi Dia Queen  
Nissan  
Toyota

Typical data		Test method	SRS Magnum NG 5W-30
SAE Grade		DIN 51 511	5W-30
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,850
Viscosity at -35°C	mPa s	ASTM D 5293	4110
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	63,7
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	11,2
Viscosity Index (VI)		DIN ISO 2909	171
Pour point	°C	DIN ISO 3016	- 42

SRS Magnum NG 5W-30 is a product of the H&R ChemPharm GmbH

# SRS Wiolamit 10W-40

## Multigrade Engine Oil

June 2016

### Characteristics

SRS Wiolamit 10W-40 is a multigrade engine oil with high wear and corrosion protection characteristics.

### Application

SRS Wiolamit 10W-40 is suitable for diesel and gasoline engines in accordance with the manufacturer's instructions.

The SAE Grade 10W-40 guarantees all-year use in Central Europe.

### Specifications

SAE Grade 10W-40  
API SF/CD

Typical data		Test method	SRS Wiolamit 10W-40
SAE Grade		SAE J 300	10W-40
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,871
Viscosity at -25°C	mPa s	DIN 51 377	5.900
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	96,1
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	14,1
Viscosity index (VI)		DIN ISO 2909	151
Flash point COC	°C	DIN ISO 2592	236
Pour point	°C	DIN ISO 3016	- 39

SRS Wiolamit 10W-40 is a product of the H&R ChemPharm GmbH



# SRS Wiolamit 15W-40

## Multigrade Engine Oil

February 2019

### Characteristics

SRS Wiolamit 15W-40 is a multigrade engine oil with high wear and corrosion protection characteristics.

### Application

SRS Wiolamit 15W-40 is suitable for diesel and gasoline engines in accordance with the manufacturer's instructions.

The SAE Grade 15W-40 guarantees all-year use in Central Europe.

### Specifications

SAE Grade 15W-40  
API SF/CD

Typical data		Test method	SRS Wiolamit 15W-40
SAE Grade		SAE J 300	15W-40
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,880
Viscosity at -20°C	mPa s	ASTM D 5293	5.460
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	96
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	13,3
Viscosity index (VI)		DIN ISO 2909	144
Flash point COC	°C	DIN ISO 2592	232
Pour point	°C	DIN ISO 3016	- 39
Total base number	mgKOH/g	DIN ISO 3771	6.0

SRS Wiolamit 15W-40 is a product of the H&R ChemPharm GmbH

# SRS Wiolamit 20W-50

## Multigrade Engine Oil

February 2009

### Characteristics

SRS Wiolamit 20W-50 is a multigrade engine oil with high wear and corrosion protection characteristics.

### Application

SRS Wiolamit 20W-50 is suitable for diesel and gasoline engines in accordance with the manufacturer's instructions.

### Specifications

SAE Grade 20W-50  
API SF/CD

Typical data		Test method	SRS Wiolamit 20W-50
SAE Grade		SAE J 300	20W-50
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,886
Viscosity at -15°C	mPa s	DIN 51 377	8600
Viscosity at 40°C	mm <sup>2</sup> /s	DIN 51 562	154
Viscosity at 100°C	mm <sup>2</sup> /s	DIN 51 562	17,1
Flash point COC	°C	DIN ISO 2592	245
Pour point	°C	DIN ISO 3016	- 30
Total base number	mgKOH/g	DIN ISO 3771	6,0

SRS Wiolamit 20W-50 is a product of the H&R ChemPharm GmbH

The above values may vary within the commercial limits (mm<sup>2</sup>/s = cSt)

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# SRS Wiolamit FC 15W-40

## Multigrade Engine Oil

May 2004

### Characteristics

SRS Wiolamit FC 15W-40 is a multigrade engine oil with high wear and corrosion protection characteristics. Base oils of the SRS and matched additives prevent the formation of deposits and guarantee engine cleanliness.

### Application

SRS Wiolamit FC 15W-40 is suitable for diesel and gasoline engines in accordance with the manufacturer's instructions. The SAE Grade 15W-40 guarantees all-year use.

### Performance / Specifications

SAE Grade 15W-40  
API SF/CC

Typical data		Test method	SRS Wiolamit FC 15W-40
SAE Grade		SAE J 300	15W-40
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,881
Viscosity at - 20°C	mPa s	DIN 51 377	6800
Viscosity at 40°C	mm <sup>2</sup> /s	DIN 51 562	97
Viscosity at 100°C	mm <sup>2</sup> /s	DIN 51 562	12,7
Flash point COC	°C	DIN ISO 2592	230
Pour point	°C	DIN ISO 3016	- 27
Total base number	mgKOH/g	DIN ISO 3771	5,8

SRS Wiolamit FC 15W-40 is a product of the H&R ChemPharm GmbH

# SRS Wiolamit GD 15W-40

## Multigrade Engine Oil

May 2004

### Characteristics

SRS Wiolamit GD 15W-40 is a multigrade engine oil for gasoline and diesel engines, including the turbo versions.

The more stringent requirements for new generation engines due to lean mixture and catalytic converter concepts are amply satisfied, even when unleaded fuels are used.

SRS Wiolamit GD 15W-40 satisfies the SAE Grade 15W-40 requirements. This viscosity setting ensures both good cold starting and reliable lubrication safety at high operating and ambient temperatures in moderate climatic areas such as Central Europe.

SRS Wiolamit GD 15W-40 can be used in conformity with manufacturer's instructions.

### Specifications

API                      SG/CD

Typical data		Test method	SRS Wiolamit GD 15W-40
SAE Grade		SAE J 300	15W-40
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,882
Viscosity at -20°C	mPa s	DIN 51 377	6800
Viscosity at 40°C	mm <sup>2</sup> /s	DIN 51 562	95
Viscosity at 100°C	mm <sup>2</sup> /s	DIN 51 562	12,6
Viscosity Index		DIN ISO 2909	131
Flash point COC	°C	DIN ISO 2592	230
Pour point	°C	DIN ISO 3016	- 33
Total base number	mgKOH/g	DIN ISO 3771	6,6
Sulphated ash	g/100 g	DIN 51 571	1,1

SRS Wiolamit GD 15W-40 is a product of the H&R ChemPharm GmbH

# SRS Wiolamit GD 20W-50

## Multigrade Engine Oil

May 2004

### Characteristics

SRS Wiolamit GD 20W-50 is a multigrade engine oil for gasoline and diesel engines, including the turbo versions.

The more stringent requirements for new generation engines due to lean mixture and catalytic converter concepts are amply satisfied, even when unleaded fuels are used.

SRS Wiolamit GD 20W-50 satisfies the SAE Grade 15W-40 requirements. This viscosity setting ensures both good cold starting and reliable lubrication safety at high operating and ambient temperatures in moderate climatic areas such as Central Europe.

SRS Wiolamit GD 20W-50 can be used in conformity with manufacturer's instructions.

### Specifications

API                      SG/CD

Typical data		Test method	SRS Wiolamit GD 20W-50
SAE Grade		SAE J 300	20W-40
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,887
Viscosity at -15°C	mPa s	DIN 51 377	9200
Viscosity at 40°C	mm <sup>2</sup> /s	DIN 51 562	150
Viscosity at 100°C	mm <sup>2</sup> /s	DIN 51 562	16,5
Viscosity Index		DIN ISO 2909	118
Flash point COC	°C	DIN ISO 2592	240
Pour point	°C	DIN ISO 3016	- 30
Total base number	mgKOH/g	DIN ISO 3771	6,8
Sulphated ash	g/100 g	DIN 51 571	1,1

SRS Wiolamit GD 20W-50 is a product of the H&R ChemPharm GmbH

# SRS ViVA 1 SLV top

## Ultra-High-Performance-Longlife Engine Oil

August 2022

### Characteristics

SRS ViVA 1 SLV top is an ultra-high-performance-longlife engine oil for passenger cars of the newest technology. Excellent cold start behavior ensures optimum lubrication safety in the cold start phase. Extreme loads and high temperatures are safely handled under all operating conditions. SRS ViVA 1 SLV top ensures very high wear protection, significantly reduced friction losses and is extremely shear stable. With the highest demands on fuel savings, SRS ViVA 1 SLV top contributes to protecting the environment by reducing emissions (CO<sub>2</sub> reduction).

Minimal evaporation tendency reduces oil consumption and enables longest oil change intervals according to the respective manufacturer's instructions. The use of SRS ViVA 1 SLV top prevents premature fuel ignition LSPI (Low Speed Pre-Ignition) and the associated engine damage.

### Application

SRS ViVA 1 SLV top has been especially developed for use in the latest engines such as Diesel engines with EURO 6 (DPF) and SCR exhaust aftertreatment, as well as in gasoline engines with exhaust turbocharging and GPF and can be used in engines of the Volkswagen group with extended drain intervals (WIV). Oil change intervals up to 50.000 km or 2 years are possible. SRS ViVA 1 SLV top can be used in almost all long-life VW engines and is backwards compatible. The operating manuals of the OEM's must be observed.

In addition to the MB specification 229.52, SRS ViVA 1 SLV top also fulfills the MB specifications 229.51 and 229.31 and can therefore also be used in Daimler engines that require this specifications.

### Specifications

SAE Grade 5W-30  
ACEA C3  
API SP/SN PLUS

### Approvals

VW-Norm 504 00 and 507 00  
MB-Approval 229.52  
BMW Longlife-04  
Porsche C30

### Recommendations

Opel / Vauxhall OV 0401547-G30  
Opel / Vauxhall OV 0401547-D30

Typical data		Test method	SRS ViVA 1 SLV top
SAE Grade		SAE J 300	5W-30
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,851
Viscosity at - 30°C (CCS)	mPa/s	ASTM D 5293	5,590
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	67,6
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	11,8
Viscosity Index (VI)		DIN ISO 2909	172
Flash point COC	°C	DIN EN ISO 2592	233
Pour point	°C	DIN EN ISO 3016	- 42
Total base number	mgKOH/g	ASTM D 2896	8,9

SRS ViVA 1 SLV top is a product of the H&R ChemPharm GmbH

# SRS ViVA 1 special F Plus

## Special High Performance Low Friction Engine Oil

February 2019

### Characteristics

SRS ViVA 1 special F plus is a modern high performance low friction 5W-30 engine oil based on synthetic technology.

Excellent low temperature flow characteristics protect optimal the engine during the cold starting. Extreme loads and high temperatures are safely handled under all operating conditions. SRS ViVA 1 special F plus ensures very high wear protection and lower friction losses (HTHS < 3.5 mPa s). SRS ViVA 1 special F plus contributes through its high fuel economy and reduction of emissions to protect the environment.

### Application

SRS ViVA 1 special F plus is a top quality for Ford passenger car gasoline and diesel engines of the newest generation, where engine oils to Ford WSS-M2C913 C and D are required. SRS ViVA 1 special F plus is backwards compatible to Ford WSS-M2C913 A and B and can also be used in engines, where ACEA A1/B1 is required.

### Specifications

SAE Grade 5W-30  
ACEA A5/B5

### Recommendations

Ford WSS-M2C913-C  
Renault RN 0700

### Approvals

Ford WSS-M2C913-D

Typical data		Test method	SRS ViVA 1 special F plus
SAE Grade		SAE J 300	5W-30
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,854
Viscosity at -30 °C (CCS)	mPa s	ASTM D 5293	4,480
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	50,8
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	9,39
Viscosity Index (VI)		DIN ISO 2909	171
Flash point COC	°C	DIN ISO 2592	236
Pour point	°C	DIN ISO 3016	- 42
Total base number	mgKOH/g	DIN ISO 3771	11

SRS ViVA 1 special F plus is a product of the H&R ChemPharm GmbH

# SRS ViVA 1 ecosynth plus

Fully Synthetic High Performance Low Friction Engine Oil

February 2019

## Characteristics

SRS ViVA 1 ecosynth plus is a fully synthetic high performance SAE 0W-40 low-friction engine oil. The low temperature viscosity of SAE 0W guarantees both excellent cold starting and a high fuel saving up to 10% in the cold running phase. During cold start the oil is pumped quickly to the farthest lubrication points. Extreme loads and high temperatures are safely handled by the high-temperature viscosity of SAE 40.

A tailored combination of modern additives, specially tuned to the synthetic components used, ensures very high wear protection, protection from deposits and oil-sludge, as well as high engine cleanliness. SRS ViVA 1 ecosynth plus contributes through its high fuel saving and the consequent reduction in emissions to protection of the environment.

## Application

SRS ViVA 1 ecosynth plus can be used in modern passenger car gasoline and diesel engines, including the turbocharger versions. The specifications and regulations of the vehicle manufacturers must be observed.

## Specifications

SAE Grade 0W-40  
ACEA A3/B4  
API SN/CF

## Approvals

MB-Approval 229.5  
VW-Norm 502 00 and 505 00  
BMW Longlife-01  
Porsche A40

## Recommendations

Renault RN0700 and RN0710  
Ford WSS-M2C937-A  
MB 226.5

Typical data		Test method	SRS ViVA 1 ecosynth plus
SAE Grade		SAE J 300	0W-40
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,844
Viscosity at -35 °C (CCS)	mPa s	ASTM D 5293	5,800
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	77,2
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	13,6
Viscosity Index (VI)		DIN ISO 2909	181
Flash point COC	°C	DIN ISO 2592	236
Pour point	°C	DIN ISO 3016	- 54
Total base number	mgKOH/g	DIN ISO 3771	10,2

SRS ViVA 1 ecosynth plus is a product of the H&R ChemPharm GmbH



# SRS ViVA 1 ecosynth

## High Performance Low Friction Engine Oil

February 2019

### Characteristics

SRS ViVA 1 ecosynth is a high performance SAE 0W-40 low-friction engine oil. The extreme multigrade adjustment combines the advantages of a very low subzero-temperature viscosity with a high oil film at high operating temperatures. The low temperature viscosity of SAE 0W guarantees both excellent cold starting and a high fuel saving up to 10% in the cold running phase. During cold start the oil is pumped quickly to the farthest lubrication points. Extreme loads and high temperatures are safely handled by the high-temperature viscosity of SAE 40.

A tailored combination of additives of newest technology, specially tuned to the synthetic components used, ensures very high wear protection, protection from deposits and oil-sludge, as well as high engine cleanliness. SRS ViVA 1 ecosynth contributes through its high fuel saving and the consequent reduction in emissions to protection of the environment.

### Application

SRS ViVA 1 ecosynth is a top quality for modern passenger car gasoline and diesel engines, including the turbocharger versions.

### Specifications

SAE Grade 0W-40  
ACEA A3/B4  
API SN/CF

### Recommendations

MB 229.3  
VW 502 00 and 505 00  
BMW Longlife-01

Typical data		Test method	SRS ViVA 1 ecosynth
SAE Grade		SAE J 300	0W-40
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,845
Viscosity at -35°C (CCS)	mPa s	ASTM D 5293	5.180
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	81,2
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	14,2
Viscosity Index (VI)		DIN ISO 2909	183
Flash point COC	°C	DIN ISO 2592	240
Pour point	°C	DIN ISO 3016	- 48
Total base number	mgKOH/g	DIN ISO 3771	11

SRS ViVA 1 ecosynth is a product of the H&R ChemPharm GmbH

# SRS ViVA 1 special LS

## High Performance Low Friction Engine Oil

May 2014

### Characteristics

SRS ViVA 1 special LS is a high-performance low friction SAE 5W-30 engine oil with Low SAPS additive technology (low levels of Sulphated Ash, Phosphorus, Sulphur).

Excellent low temperature characteristics protect the engine optimal during the cold starting. Extreme loads and high temperatures are safely handled under all operating conditions. It ensures very high wear protection and less friction losses (HTHS < 3,5 mPa s).

SRS ViVA 1 special LS contributes through its high fuel economy and reduction of emissions to protect the environment.

### Application

SRS ViVA 1 special LS is a top quality product for the latest generation of passenger car gasoline and diesel engines.

SRS ViVA 1 special LS has been especially developed for vehicles with diesel particle filters which require ACEA C1-engine oil. It is highly recommended for modern Mazda engines, however it is also suitable for older Mazda vehicles due to its backward compatibility. The lifetime and effectiveness of the diesel particle filter is influenced in a positive way (lower levels of Sulphated Ash, Phosphorus and Sulphur).

SRS ViVA 1 special LS can be used in gasoline and diesel engines with or without particle filters, which require motor oils according to ACEA A1/B1 or A5/B5.

### Specifications

SAE Grade 5W-30  
ACEA C1  
JASO DL-1

### Recommendations

Mazda  
Mitsubishi

The manufacturers' recommendations must be followed.

Typical data		Test method	SRS ViVA 1 special LS
SAE Grade		SAE J 300	5W-30
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,847
Viscosity at -30 °C (CCS)	mPa s	DIN 51 377	3.780
Viscosity at 40°C	mm <sup>2</sup> /s	DIN 51 562	49,5
Viscosity at 100°C	mm <sup>2</sup> /s	DIN 51 562	9,4
Viscosity Index (VI)		DIN ISO 2909	177
Flash point COC	°C	DIN ISO 2592	220
Pour point	°C	DIN ISO 3016	- 39
Total base number	mgKOH/g	DIN ISO 3771	5,9
Sulphated ash	g/100 g	DIN 51 575	0,5

SRS ViVA 1 special LS is a product of the H&R ChemPharm GmbH

# SRS ViVA 1 special MS

High Performance Low Friction Engine Oil

May 2014

## Characteristics

SRS ViVA 1 special MS is a high-performance low friction SAE 5W-30 engine oil with Mid SAPS additive technology (mid levels of Sulphated Ash, Phosphorus, Sulphur).

Excellent low temperature characteristics protect the engine optimal during the cold starting. Extreme loads and high temperatures are safely handled under all operating conditions. It ensures very high wear protection and less friction losses (HTHS < 3,5 mPa s).

SRS ViVA 1 special MS contributes through its high fuel economy and reduction of emissions to protect the environment.

## Application

SRS ViVA 1 special MS is a top quality product for the latest generation of passenger car gasoline and diesel engines.

SRS ViVA 1 special MS has been especially developed for vehicles with diesel particle filters which require ACEA C2- engine oil. It is highly recommended for modern Peugeot and Citroen engines (PSA Group), however it is also suitable for a number of Japanese vehicles. The lifetime and effectiveness of the diesel particle filter is influenced in a positive way (lower levels of Sulphated Ash, Phosphorus and Sulphur).

SRS ViVA 1 special MS can be used in gasoline and diesel engines with or without particle filters, which require motor oils according to ACEA A1/B1 or A5/B5.

## Performance / Specifications

SAE Grade 5W-30  
API SM/CF  
ACEA C2

## Recommendations

Peugot  
Citroen  
Flat  
Honda  
Mitsubishi  
Toyota

The manufacturers' recommendations must be followed.

Typical data		Test method	SRS ViVA 1 special MS
SAE Grade		SAE J 300	5W-30
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,851
Viscosity at -30°C (CCS)	mPa s	DIN 51 377	5.000
Viscosity at 40°C	mm <sup>2</sup> /s	DIN 51 562	53,7
Viscosity at 100°C	mm <sup>2</sup> /s	DIN 51 562	9,63
Viscosity Index (VI)		DIN ISO 2909	166
Flash point COC	°C	DIN ISO 2592	235
Pour point	°C	DIN ISO 3016	- 42
Total base number	mgKOH/g	DIN ISO 3771	7,4
Sulphated ash	g/100 g	DIN 51 575	0,79

SRS ViVA 1 special MS is a product of the H&R ChemPharm GmbH

# SRS ViVA 1 special LMS

Low SAPS Passenger Car Low Friction Engine Oil

June 2019

## Characteristics

SRS ViVA 1 special LMS is a high performance low friction SAE 5W-30 engine oil with Low SAPS additive technology (low levels of Sulphated Ash, Phosphorus, Sulphur).

Excellent low temperature characteristics protect the engine optimal during the cold starting. Extreme loads and high temperatures are safely handled under all operating conditions. It ensures very high wear protection and less friction losses (HTHS <3.5 mPa s).

SRS ViVA 1 special LMS contributes through its high fuel economy and reduction of emissions to protect the environment.

## Application

SRS ViVA 1 special LMS is a top quality product for the latest generation of passenger car gasoline and diesel engines.

SRS ViVA 1 special LMS is highly recommended for modern Mazda-, Peugeot-, Citroen and Ford engines, however it is also suitable for older vehicles due to its backward compatibility. The lifetime and effectiveness of the diesel particle filter is influenced in a positive way. SRS ViVA 1 special LMS can be used in gasoline and diesel engines with or without particle filters and meets the requirements of the previous ACEA C2.

## Specifications

SAE Grade 5W-30  
ACEA C1

## Recommendations

Mazda  
Mitsubishi  
Ford WSS M2C934-B  
Peugot  
Citroen

## Approvals

Jaguar Land Rover STJLR.03.5005

The manufacturers' recommendations must be followed.

Typical data		Test method	SRS ViVA 1 special LMS
SAE Grade		SAE J 300	5W-30
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,847
Viscosity at -30°C (CCS)	mPa s	ASTM D 5293	4.100
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	51,9
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	9,8
Viscosity Index (VI)		DIN ISO 2909	176
Flash point COC	°C	DIN ISO 2592	237
Pour point	°C	DIN ISO 3016	- 39
Total base number	mgKOH/g	DIN ISO 3771	6,6

SRS ViVA 1 special LMS is a product of the H&R ChemPharm GmbH

# SRS ViVA 1 special R

## High-Performance Low Friction Engine Oil

February 2019

### Characteristics

SRS ViVA 1 special R is a high performance low friction 5W-30 engine oil based on synthetic technology and innovative additives.

Excellent low temperature flow characteristics protect optimal the engine during the cold starting. Extreme loads and high temperatures are safely handled under all operating conditions. It ensures very high wear protection and lower friction losses. SRS ViVA 1 special R contributes through its high fuel economy and reduction of emissions to protect the environment.

### Application

SRS ViVA 1 special R is a top quality especially for use in the latest passenger car diesel engines with diesel particulate filters (DPF), where the Renault specification RN 0720 and the Mercedes-Benz specification MB 226.51 is required. SRS ViVA 1 special R can be used in all vehicles with the engine oil specification ACEA C3 and ACEA C4, as well as the Mercedes-Benz specification MB 229.51. The modern low ash technology protects against ash deposits in the DPF and thus improves their mode of action and service life.

### Specifications

SAE Grade 5W-30  
ACEA C3/C4

### Approvals

MB-Approval 229.51

### Recommendations

MB 226.51  
Renault RN 0720

Typical data		Test method	SRS ViVA 1 special R
SAE Grade		SAE J 300	5W-30
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,849
Viscosity at -30C (CCS)	mPa s	ASTM D 5293	5,500
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	67,7
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	11,9
Viscosity Index (VI)		DIN ISO 2909	175
Flash point COC	°C	DIN ISO 2592	246
Pour point	°C	DIN ISO 3016	- 36
Total base number	mgKOH/g	DIN ISO 3771	6,7

SRS ViVA 1 special R is a product of the H&R ChemPharm GmbH

# SRS ViVA 1 special F eco

## High-Performance Low Friction Engine Oil

June 2019

### Characteristics

SRS ViVA 1 special F eco is a high performance low friction 5W-20 engine oil based on modern synthetic technology.

Excellent low temperature flow characteristics protect optimal the engine during the cold starting. Extreme loads and high temperatures are safely handled under all operating conditions. It ensures very high wear protection and lower friction losses (HTHS < 3.5 mPa s). SRS ViVA 1 special F eco contributes through its high fuel economy and reduction of emissions to protect the environment.

### Application

SRS ViVA 1 special F eco is a top quality for passenger car gasoline Ford EcoBoost engines of the Ford specification WSS-M2C948-B and corresponds to the earlier ACEA A1/B1.

### Specifications

SAE Grade 5W-20  
API SN  
ACEA C5

### Approvals

Ford WSS-M2C948-B  
Jaguar Land Rover STJLR.03.5004

Typical data		Test method	SRS ViVA 1 special F eco
SAE Grade		SAE J 300	5W-20
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,851
Viscosity at -30C (CCS)	mPa s	ASTM D 5293	3.980
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	40,7
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	7,8
Viscosity Index (VI)		DIN ISO 2909	166
Flash point COC	°C	DIN ISO 2592	230
Pour point	°C	DIN ISO 3016	- 36
Total base number	mgKOH/g	DIN ISO 3771	8,1

SRS ViVA 1 special F eco is a product of the H&R ChemPharm GmbH

# SRS ViVA 1 ecosynth FE

Mid-SAPS High-Performance Low Friction Engine Oil

August 2022

## Characteristics

SRS ViVA 1 ecosynth FE is a modern SAE 0W-20 mid-SAPS high performance low friction engine oil based on modern synthetic technology for gasoline and diesel engines with and without turbocharging and direct injection. Excellent low temperature flow characteristics protect optimal the engine during the cold starting. Extreme loads and high temperatures are safely handled under all operating conditions. It ensures extremely high wear protection, significantly reduced friction losses and is extremely shear stable. By significant fuel savings, SRS ViVA 1 ecosynth FE contributes to environmental protection by reducing emissions (CO<sub>2</sub> reduction). Minimal evaporation tendency lowers the oil consumption and enables longest oil drain intervals acc. to the manufacturer's instructions.

By using SRS ViVA 1 ecosynth FE, LSPI (Low Speed Pre-Ignition) and related engine damages are avoided.

## Application

SRS ViVA 1 ecosynth FE is designed for use in the latest engines, such as Diesel engines with Euro 6 (DPF) and SCR exhaust aftertreatment as well as gasoline engines with turbocharging and GPF.

Because of the lowered high-temperature viscosity, the use of SRS ViVA 1 ecosynth FE is only permitted in specially designed motors. SRS ViVA 1 ecosynth FE can also be used in engines, where ACEA A1/B1 is required. In addition, the BMW specification LL-14 FE+ is met, the oil-change intervals may vary depending on the fuel quality.

The specifications and regulations of the vehicle manufacturers must be observed.

## Specifications

SAE Grade 0W-20  
ACEA C5/C6  
API SP, SN (RC), SN PLUS  
ILSAC GF-6A, GF-5

## Recommendations

Opel / Vauxhall OV 0401547-A20  
Volvo VCC RBS0-2AE  
Fiat 9.55535-GSX  
Chrysler MS-12145  
Ford WSS-M2C947-B1, WSS-M2C962-A1

## Approvals

MB-Approval 229.71  
MB-Approval 229.72

BMW Longlife-17 FE+  
Jaguar Land Rover STJLR.03.5006

Typical data		Test method	SRS ViVA 1 ecosynth FE
SAE Grade		SAE J 300	5W-20
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,844
Viscosity at -35°C (CCS)	mPa s	ASTM D 5293	5.250
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	40,9
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	8,13
Viscosity Index (VI)		DIN ISO 2909	178
Flash point COC	°C	DIN ISO 2592	238
Pour point	°C	DIN ISO 3016	- 54
Total base number	mgKOH/g	ASTM D 2896	8,1

SRS ViVA 1 ecosynth FE is a product of the H&R ChemPharm GmbH

# SRS ViVA 1 special F top

## Special High-Performance Low Friction Engine Oil

February 2019

### Characteristics

SRS ViVA 1 special F top is an extremely fuel-efficient high performance low friction 0W-30 engine oil based on modern synthetic technology.

Excellent low temperature flow characteristics protect optimal the engine during the cold starting. Extreme loads and high temperatures are safely handled under all operating conditions. It ensures very high wear protection and lower friction losses. SRS ViVA 1 special F top contributes through its high fuel economy and reduction of emissions to protect the environment.

### Application

SRS ViVA 1 special F top is a top quality specially developed for the Ford specification WSS-M2C950-A in the new Ford TDCI Duratorq Euro 6 engines (from 2014) with exhaust aftertreatment and turbocharged ones.

SRS ViVA 1 special F top can be used up to 30,000 km at extended intervals, but is not backwards compatible with older Ford specifications. The specifications and regulations of the vehicle manufacturers must be observed. SRS ViVA 1 special F top can also be used in engines, where ACEA A5/B5 is required.

### Specifications

SAE Grade    0W-30  
ACEA        C2

### Recommendations

Ford WSS-M2C950-A  
Fiat 9.55535-GS1/DS1

Typical data		Test method	SRS ViVA 1 special T top
SAE Grade		SAE J 300	0W-30
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,847
Viscosity at - 35°C (CCS)	mPa s	ASTM D 5293	5.710
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	49,6
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	9,58
Viscosity Index (VI)		DIN ISO 2909	181
Flash point COC	°C	DIN ISO 2592	234
Pour point	°C	DIN ISO 3016	- 45
Total base number	mgKOH/g	DIN ISO 3771	8,0

SRS ViVA 1 special F top is a product of the H&R ChemPharm GmbH



# SRS ViVA 1 special V eco

## High-Performance Low Friction Engine Oil

February 2019

### Characteristics

SRS ViVA 1 special V eco is a high performance low friction 0W-20 engine oil based on modern synthetic technology.

Excellent low temperature flow characteristics protect optimal the engine during the cold starting. Extreme loads and high temperatures are safely handled under all operating conditions. It ensures extremely high wear protection and significantly reduced friction losses and is extremely shear-resistant.

SRS ViVA 1 special V eco contributes through its high fuel economy and reduction of emissions to protect the environment.

### Application

SRS ViVA 1 special V eco is a top quality for the latest Volvo VEA passenger car engines and is especially approved according to the Volvo specification VCC RBS0-2 AE.

### Specifications

SAE Grade 0W-20  
ACEA C5

### Approvals

Volvo VCC RBS0-2AE

Typical data		Test method	SRS ViVA 1 special V eco
SAE Grade		SAE J 300	0W-20
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,845
Viscosity at -30C (CCS)	mPa s	ASTM D 5293	5.500
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	44,0
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	8,63
Viscosity Index (VI)		DIN ISO 2909	179
Flash point COC	°C	DIN ISO 2592	238
Pour point	°C	DIN ISO 3016	- 48
Total base number	mgKOH/g	DIN ISO 3771	7,9

SRS ViVA 1 special V eco is a product of the H&R ChemPharm GmbH

# SRS ViVA 1 special LL-FE

Low-SAPS High Performance Low Friction Engine Oil

October 2017

## Characteristics

SRS ViVA 1 special LL-FE is a modern synthetic SAE 0W-20 Low-SAPS high performance low friction engine oil for state-of-the-art engines.

Synthetic base oils and a matching innovative additive system ensure that the highest practical requirements are met. Excellent cold-start behaviour ensures optimum lubrication reliability in the cold-running phase. Extreme loads and high temperatures are reliably controlled under all operating conditions.

SRS ViVA 1 special LL-FE ensures very high wear protection, significantly reduced friction losses and is extremely shear stable. Due to the low HTHS viscosity and the resulting high fuel economy, SRS ViVA 1 special LL-FE contributes to the protection of the environment by reducing emissions (CO<sub>2</sub> reduction).

A coloration of the engine oil should prevent a mix-up with other engine oils.

## Application

SRS ViVA 1 special LL-FE is suitable for use in the latest engines, such as diesel engines with Euro 6 (DPF) and SCR exhaust aftertreatment systems, as well as gasoline engines with exhaust gas turbocharging and GPF and hybrid vehicles. It is recommended for vehicles of Volkswagen, Audi, Seat and Skoda for the new Longlife IV (Longlife 4) characteristics according to VW 508 00 and 509 00.

SRS ViVA 1 special LL-FE is not backwards compatible with previous engine oil specifications of the VW group.

The respective manufacturer requirements must be observed.

## Specifications

SAE Grade 0W-20  
ACEA C5

## Approvals

VW-Norm 508 00 and 509 00

## Recommendations

Porsche C20

Typical data		Test method	SRS ViVA 1 special LL-FE
SAE Grade		SAE J 300	0W-20
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,845
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	44,1
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	8,33
Viscosity Index (VI)		DIN ISO 2909	168
Flash point COC	°C	DIN ISO 2592	232
Pour point	°C	DIN ISO 3016	- 51
Total base number	mgKOH/g	ASTM D 2896	8,6

SRS ViVA 1 special LL-FE is a product of the H&R ChemPharm GmbH

# SRS ViVA 1 longlife

## High-Performance Low Friction Engine Oil

September 2017

### Characteristics

SRS ViVA 1 Longlife is a high performance low friction engine oil of viscosity grade SAE 5W-30. Base oils using synthetic technology and innovative additives matched to them ensure that the demands of today's practice are met.

Excellent cold starting ensures optimal security of lubrication in the cold running phase.

Extreme loads and high temperatures are safely handled under all operating conditions. SRS ViVA 1 Longlife contributes to the protection of the environment through its high fuel saving and the consequent reduction in emissions.

### Application

SRS ViVA 1 Longlife is a top top quality for passenger car gasoline and diesel engines of the new generation. The highest demands currently made on automobile engine oils are satisfied with more than enough reserve even after extended oil change intervals.

### Specifications

SAE Grade 5W-30  
ACEA A3/B4  
API SL

### Approvals / Recommendations

MB-Approval 229.5  
BMW Longlife-01  
VW 502 00 and 505 00  
Renault RN 0700  
Opel GM-LL-A 025  
Opel GM-LL-B 025

Typical data		Test method	SRS ViVA 1 longlife
SAE Grade		SAE J 300	5W-30
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,854
Viscosity at -30°C	mPa s	ASTM D 5293	5,910
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	69,1
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	12,0
Viscosity Index (VI)		DIN ISO 2909	172
Flash point COC	°C	DIN ISO 2592	237
Pour point	°C	DIN ISO 3016	- 41
Total base number	mgKOH/g	DIN ISO 3771	11,4

SRS ViVA 1 longlife is a product of the H&R ChemPharm GmbH

# SRS ViVA 1 synth 15W-50

## Multigrade Engine Oil

May 2014

### Characteristics

SRS ViVA 1 synth 15W-50 is a high-performance multigrade engine oil for all modern car engines in any operating conditions and is preferred in Southern European countries.

The great performance reserve of SRS ViVA 1 synth 15W-50 is achieved by a specific combination of chemicals specially matched to the components used.

The use of these additives effectively prevents sludge development, wear and corrosion. The low-evaporation base oils and good compatibility with seals clearly reduce oil consumption.

SRS ViVA 1 synth 15W-50 is recommended for all passenger car gasoline and diesel engines.

### Specifications

API	SL/CF
ACEA	A3/B3

Typical data		Test method	SRS ViVA 1 synth 15W-50
SAE Grade		SAE J 300	15W-50
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,869
Viscosity at -20°C	mm <sup>2</sup> /s	DIN 51 562	6000
Viscosity at 40°C	mm <sup>2</sup> /s	DIN 51 562	146
Viscosity at 100°C	mm <sup>2</sup> /s	DIN 51 562	18,9
Viscosity Index		DIN ISO 2909	146
Flash point COC	°C	DIN ISO 2592	245
Pour point	°C	DIN ISO 3016	- 42
Total base number	mgKOH/g	DIN ISO 3771	9,2

SRS ViVA 1 synth 15W-50 is a product of the H&R ChemPharm GmbH

# SRS ViVA 1 topsynth 5W-30

## Synthetic High-Performance Low Friction Engine Oil

May 2016

### Characteristics

SRS ViVA 1 topsynth 5W-30 is a high performance low friction SAE 5W-30 engine oil. Synthetic base oils and adapted innovative additives ensure that the demands of today's practice are met.

### Application

SRS ViVA 1 topsynth 5W-30 is suitable as a high performance low friction engine oil for use in sophisticated new generation engines. It is recommended for all passenger car gasoline and diesel engines, including the turbocharged and direct injected engines under all operating conditions.

### Specifications

API SN/CF  
ACEA A3/B4

### Approvals / Recommendations

MB-Sheet 229.3  
VW-Norm 502 00 and 505 00  
Porsche A40  
BMW Longlife-01

Typical data		Test method	SRS ViVA 1 topsynth
SAE Grade		SAE J 300	5W-30
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,855
Viscosity at -30°C (CCS)	mPa s	ASTM D 5293	5840
Kin. Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	72,1
Kin. Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	12,1
Viscosity Index (VI)		DIN ISO 2909	165
Flash point COC	°C	DIN ISO 2592	240
Pour point	°C	DIN ISO 3016	- 42
Total base number	mgKOH/g	DIN ISO 3771	9,8
Sulphated ash	g/100 g	DIN 51 575	1,17

SRS ViVA 1 topsynth 5W-30 is a product of the H&R ChemPharm GmbH

The above values may vary within the commercial limits (mm<sup>2</sup>/s = cSt)

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# SRS ViVA 1 topsynth

## High Performance Low Friction Engine Oil

February 2019

### Characteristics

SRS ViVA 1 topsynth is a high performance low friction SAE 5W-40 engine oil. Selected base oils using synthetic technology and innovative additives ensure that the demands of today's practice are met. The distinct improved quality of SRS ViVA 1 topsynth is particularly a result of further improved anti-wear protection and engine cleanliness, even at extended oil drain intervals. The extreme low viscosity at low temperature combined with a reliable high temperature viscosity assures a high fuel economy capacity.

### Application

SRS ViVA 1 topsynth is suitable as a high performance low friction engine oil for use in sophisticated new generation engines. It is recommended for all passenger car gasoline and diesel engines, including the turbocharged and direct injected engines under all operating conditions.

SRS ViVA 1 topsynth fulfils additionally the actual requirements of VW-Norm 501 01.

### Specifications

SAE Grade 5W-40  
ACEA A3/B4  
API SN/CF  
JASO MA

### Approvals

MB-Approval 229.3  
VW-Norm 502 00 and 505 00  
Porsche A40  
BMW Longlife-01

### Recommendations

Opel GM-LL-B-025  
Renault RN 0700 and RN 0710  
MB 226.5

Typical data		Test method	SRS ViVA 1 topsynth
SAE Grade		SAE J 300	5W-40
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,854
Viscosity at -30°C (CCS)	mPa s	ASTM D 5293	6,000
Kin. Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	86,9
Kin. Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	14,2
Viscosity Index (VI)		DIN ISO 2909	168
Flash point COC	°C	DIN ISO 2592	236
Pour point	°C	DIN ISO 3016	- 42
Total base number	mgKOH/g	DIN ISO 3771	11,3

SRS ViVA 1 topsynth is a product of the H&R ChemPharm GmbH

# SRS ViVA 1 topsynth alpha

High-Performance Low Friction Engine Oil

May 2014

May 2014

## Characteristics

SRS ViVA 1 topsynth alpha is a high-performance low-friction motor oil of viscosity grade SAE 5W-30. Base oil components and innovative additives matched to them ensure that the demands of today's practice are met.

Excellent cold starting ensures optimal security of lubrication in the cold-running phase. SRS ViVA 1 topsynth alpha contributes through its high fuel saving and the consequent reduction in emissions to protection of the environment.

## Application

SRS ViVA 1 topsynth alpha is suitable as a high-performance low-friction engine oil for use in discerning new generation engines. It is recommended for all passenger car gasoline and diesel engines, including the turbocharger and direct injected engines under all operating conditions.

## Specifications

SAE Grade 5W-30  
API SM/SL/CF  
ACEA A3/B4

## Approvals / Recommendations

BMW Longlife-01  
Mercedes-Benz sheet 229.3  
Opel GM-LL-A-025  
Opel GM-LL-B-025  
VW spec. 502 00 and 505 00

Typical data		Test method	SRS ViVA 1 topsynth alpha
SAE Grade		SAE J 300	5W-30
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,856
Viscosity at -30°C	mm <sup>2</sup> /s	DIN 51 562	6150
Viscosity at 40°C	mm <sup>2</sup> /s	DIN 51 562	70
Viscosity at 100°C	mm <sup>2</sup> /s	DIN 51 562	11,8
Viscosity Index (VI)		DIN ISO 2909	165
Flash point COC	°C	DIN ISO 2592	238
Pour point	°C	DIN ISO 3016	- 42
Total base number	mgKOH/g	DIN ISO 3771	10,4
Sulphated ash	g/100 g	DIN 51 575	1,4

SRS ViVA 1 topsynth alpha is a product of the H&R ChemPharm GmbH

# SRS ViVA 1 topsynth alpha LA 5W-30

High-Performance Low Friction Engine Oil

August 2022

## Characteristics

SRS ViVA 1 topsynth alpha LA is a high performance low friction SAE 5W-30 engine oil with Low SAPS additive technology (low levels of Sulphated Ash, Phosphorus, Sulphur). Selected base oils using synthetic technology and adapted innovative additives with reduced sulphated ash fulfil the demands of today's practice. Excellent cold start behaviour assures an optimal lubricant supply and high fuel economy at low temperatures.

SRS ViVA 1 topsynth alpha LA contributes to environmental protection through reduction of detrimental emissions. Extreme loads and high temperatures are controlled at all operating conditions.

## Application

SRS ViVA 1 topsynth alpha LA is especially recommended for diesel engines with emission reduction systems to fulfil the emission standards Euro IV. This engine oil adheres to the extended effectiveness of emission reduction systems.

SRS ViVA 1 topsynth alpha LA can be used in gasoline and diesel engines, which require motor oils according to the earlier ACEA A5/B5 or A3/B4.

## Specifications

SAE Grade 5W-30  
ACEA C2/C3  
API SN

## Approvals /

MB-Approval 229.52  
MB-Approval 229.51  
MB-Approval 229.31  
VW norm 505 01 and 505 00  
BMW Longlife-04

## Recommendations

Opel / Vauxhall OV 0401547-D30

Typical data		Test method	SRS ViVA 1 topsynth alpha LA
SAE Grade		SAE J 300	5W-30
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,854
Viscosity at - 30°C (CCS)	mPas	ASTM D 5293	5,900
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	73,7
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	12,2
Viscosity Index (VI)		DIN ISO 2909	164
Flash point COC	°C	DIN ISO 2592	240
Pour point	°C	DIN ISO 3016	- 45
Total base number	mgKOH/g	ASTM D 2896	8.2

SRS ViVA 1 topsynth alpha LA is a product of the H&R ChemPharm GmbH



# SRS ViVA 1 topsynth alpha LS

Longfile High-Performance Engine Oil

April 2019

## Characteristics

SRS ViVA 1 topsynth alpha LS is a high performance low friction SAE 5W-40 engine oil with Low SAPS additive technology (low levels of Sulphated Ash, Phosphorus, Sulphur). Selected base oils using synthetic technology and adapted innovative additives with reduced sulphated ash fulfil the demands of today's practice. Excellent cold start behaviour assures an optimal lubricant supply and high fuel economy at low temperatures.

SRS ViVA 1 topsynth alpha LS contributes to environmental protection through reduction of detrimental emissions. Extreme loads and high temperatures are controlled at all operating conditions.

## Application

SRS ViVA 1 topsynth alpha LS is especially recommended for diesel engines with emission reduction systems to fulfil the emission standards Euro IV. This engine oil adheres to the extended effectiveness of emission reduction systems. SRS ViVA 1 topsynth alpha LS is suitable for diesel as well as gasoline engines.

We recommend SRS ViVA 1 topsynth alpha LS for cars, too, where following specifications are required: Opel GM-LL-A-025 and Opel GM-LL-B-025. SRS ViVA 1 topsynth alpha LA meets Opel GM dexos2.

SRS ViVA 1 topsynth alpha LS can be used in gasoline and diesel engines, which require motor oils according to the earlier ACEA A3/B4.

## Specifications

SAE Grade 5W-40  
ACEA C3  
API SN/CF

## Approvals

BMW Longlife-04  
MB-Approval 229.51  
VW-Norm 505 00 and 505 01

## Recommendations

Porsche A 40  
Opel GM dexos2  
Ford WSS-M2C917-A

Typical data		Test method	SRS ViVA 1 topsynth alpha LS
SAE Grade		SAE J 300	5W-40
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,853
Viscosity at -30°C (CCS)	mPa s	ASTM D 5293	5,900
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	75,0
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	13,0
Viscosity Index (VI)		DIN ISO 2909	176
Flash point COC	°C	DIN ISO 2592	236
Pour point	°C	DIN ISO 3016	- 39
Total base number	mgKOH/g	DIN ISO 3771	7,2

SRS ViVA 1 topsynth alpha LA 5W-40 is a product of the H&R ChemPharm GmbH

# SRS ViVA 1 topsynth plus

High-Performance Low Friction Engine Oil

September 2021

## Characteristics

SRS ViVA 1 topsynth plus is a high performance low friction SAE 5W-40 engine oil based on synthetic technology. Specially selected base oils and carefully selected innovative additives ensure maximum protection against performance reducing deposits. SRS ViVA 1 topsynth plus provides excellent wear protection and improved engine cleanliness for extending the engine life. The exceptional oxidation protection allows longest oil change intervals.

By the selection of modern additives an increased fuel saving potential is achieved. This is supported by a very good evaporation behaviour, simultaneously the oil consumption is reduced.

## Application

SRS ViVA 1 topsynth plus is recommended as a high-performance low-friction engine oil for demanding modern engines. It is suitable for all passenger car gasoline and diesel engines, including turbocharged and direct injected engines under all operating conditions.

## Specifications

SAE Grade 5W-40  
ACEA A3/B4  
API SN/CF

## Approvals

MB-Approval 229.5  
VW-Norm 502 00 and 505 00  
BMW Longlife-01  
Porsche A40

## Recommendations

Renault RN 0700 and RN 0710  
PSA B71 2296  
MB 226.5

Typical data		Test method	SRS ViVA 1 topsynth plus
SAE Grade		SAE J 300	5W-40
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,857
Viscosity at -30°C (CCS)	mPa s	ASTM D 5293	6,220
Kin. Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	88,9
Kin. Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	14,4
Viscosity Index (VI)		DIN ISO 2909	168
Flash point COC	°C	DIN ISO 2592	240
Pour point	°C	DIN ISO 3016	- 42
Total base number	mgKOH/g	ASTM D 2896	11,5

SRS ViVA 1 topsynth plus is a product of the H&R ChemPharm GmbH

# SRS ViVA 1 topsynth plus FE

High-Performance Low Friction Engine Oil

August 2019

## Characteristics

SRS ViVA 1 topsynth plus FE is a high performance low friction engine oil of viscosity grade SAE 5W-30. Base oils using synthetic technology and innovative additives matched to them ensure that the demands of today's practice are met. Excellent cold starting ensures optimal security of lubrication in the cold running phase. Extreme loads and high temperatures are safely handled under all operating conditions. SRS ViVA 1 topsynth plus FE contributes to the protection of the environment through its high fuel saving and the consequent reduction in emissions.

## Application

SRS ViVA 1 topsynth plus FE is a top quality for passenger car gasoline and diesel engines of the new generation. The highest demands currently made on automobile engine oils are satisfied with more than enough reserve even after extended oil change intervals.

## Specifications

SAE Grade 5W-30  
ACEA A3/B4  
API SN

## Approvals

MB-Approval 229.5  
VW-Norm 502 00 and 505 00

## Recommendations

Renault RN 0700 and RN 0710

Typical data		Test method	SRS ViVA 1 topsynth plus FE
SAE Grade		SAE J 300	5W-30
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,856
Viscosity at -30°C	mPa s	ASTM D 5293	5,120
Kin. Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	71,9
Kin. Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	12,1
Viscosity Index (VI)		DIN ISO 2909	167
Flash point COC	°C	DIN ISO 2592	230
Pour point	°C	DIN ISO 3016	- 42
Total base number	mgKOH/g	ASTM D 2896	11,3

SRS ViVA 1 topsynth plus FE is a product of the H&R ChemPharm GmbH

# SRS ViVA 1 10W-40

## High-Performance Low Friction Engine Oil

February 2019

### Characteristics

SRS ViVA 1 is a SAE 10W-40 high-performance low-friction engine oil, combining the advantages of mineral oils from modern refinery technology and synthetic components. Base oil composition and high shear-stable viscosity index improvers keep the oil throughout the entire oil drain interval in its viscosity grade (stay-ingrade). The oxidation process is well controlled at the maximum allowable oil residence time. Antioxidants and cleaning additives prevent deposits, pistons and valves remain clean and the development of cold sludge is prevented. Low friction losses in the engine produce remarkable fuel savings and thus less environmental detrimental emissions. Low evaporation losses prevent valve deposits and varnish and provide clean pistons and piston ring grooves.

### Application

SRS ViVA 1 is recommended for all passenger car gasoline and diesel engines, even for turbo-charged diesel and catalytic converter versions.

### Specifications

SAE Grade 10W-40  
ACEA A3/B4  
API SN/CF

### Approvals

MB-Approval 229.1  
VW-Norm 501 01 and 505 00

Typical data		Test method	SRS ViVA 1
SAE Grade		SAE J 300	10W-40
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,873
Dyn. Viscosity at -30°C (CCS)	mPa s	ASTM D 5293	6,400
Kin. Viscosity at -40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	101
Kin. Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	14,9
Viscosity Index (VI)		DIN ISO 2909	154
Flash point COC	°C	DIN ISO 2592	224
Pour point	°C	DIN ISO 3016	- 36

SRS ViVA 1 10W-40 is a product of the H&R ChemPharm GmbH

# SRS ViVA 1 10W-50

## Multigrade Engine Oil

April 2003

### Characteristics

SRS ViVA 1 is a viscosity class SAE 10W-50 high-performance low-friction engine oil, the basic oil composition of which combines the advantages of modern refinery technology base oils with synthetic components.

Base oil composition and highly shear-stable VI improvers ensure that the specified viscosity class is maintained throughout the entire oil service life.

The ageing process of this engine oil is properly controlled at the maximum allowable oil residence times. Antioxidants and cleaning agents prevent deposits, pistons and valves remain clean and cold sludge development is prevented.

Distinct fuel savings and thus lower environmental loads are achieved due to low friction losses in the engine. Low evaporation rates prevent valve deposits and sludging and ensure clean pistons and piston ring grooves.

SRS ViVA 1 is recommended for all gasoline and diesel engines, including turbocharged diesel and catalytic converter versions.

### Application

### Specifications

SAE Grade 10W-50  
API SL/CF  
ACEA A3/B3

Typical data		Test method	SRS ViVA 1
SAE Grade		SAE J 300	10W-50
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,867
Viscosity at -25°C	mm <sup>2</sup> /s	DIN 51 562	6400
Viscosity at 40°C	mm <sup>2</sup> /s	DIN 51 562	131
Viscosity at 100°C	mm <sup>2</sup> /s	DIN 51 562	18,6
Viscosity Index (VI)		DIN ISO 2909	159
Flash point COC	°C	DIN ISO 2592	225
Pour point	°C	DIN ISO 3016	- 39
Total base number	mgKOH/g	DIN ISO 3771	9,5
Sulphated ash	g/100 g	DIN 51 575	1,1

SRS ViVA 1 10W-50 is a product of the H&R ChemPharm GmbH

# SRS ViVA 1 10W-60

## Multigrade Engine Oil

June 2016

### Characteristics

SRS ViVA 1 10W-60 is a high performance engine oil with viscosity grade 10W-60, the basic oil composition of which combines the advantages of modern refinery technology base oils with synthetic components. Base oil composition and highly shear stable VI improvers ensure that the specified viscosity grade is maintained throughout the entire oil service life.

The ageing process of this engine oil is properly controlled at the maximum allowable oil life time. Antioxidants and cleaning agents prevent deposits, pistons and valves remain clean and cold sludge development is prevented.

Distinct fuel savings and thus lower environmental stress are achieved due to low friction losses in the engine. Low evaporation rates prevent valve deposits and sludging and ensure clean pistons and piston ring grooves.

### Application

SRS ViVA 1 10W-60 is recommended for gasoline and diesel engines, including turbocharged diesel and catalytic converter versions.

### Specifications

SAE Grade	10W-60
API	SL/CF
ACEA	A3/B4

Typical data		Test method	SRS ViVA 1
SAE Grade		DIN 51 511	10W-60
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,866
Viscosity at -25°C (CCS)	mPa s	ASTM D 5293	5.340
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	173
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	24,4
Viscosity Index (VI)		DIN ISO 2909	173
Flash point COC	°C	DIN ISO 2592	232
Pour point	°C	DIN ISO 3016	- 39
Sulphated ash	g/100 g	DIN 51 575	0,9

SRS ViVA 1 10W-60 is a product of the H&R ChemPharm GmbH

# SRS Primalub Alpha

## Low Friction Engine Oil

February 2019

### Characteristics

SRS Primalub Alpha is a low friction engine oil. The base oils from modern refinery technology in combination with components and very shear stable viscosity index improvers, result in a stay-in-grade engine oil throughout the entire oil drain interval. Reliable cold starting even at low temperatures and high temperature resistance at extreme loads are guaranteed. Dispersant additives prevent deposits, pistons and valves remain clean and ensure a maximum allowable oil drain interval. Selected additives permanently neutralize the acidic combustion products, protect the engine effectively against corrosion and wear.

### Application

SRS Primalub Alpha is recommended for all passenger car gasoline and diesel engines, even for turbocharged diesel and catalytic converter versions. SRS Primalub Alpha corresponds to the earlier ACEA A3/B3.

### Specifications

SAE Grade 10W-40  
API SL/CF

### Approvals

MB-Approval 229.1

### Recommendations

VW 501 01 / 505 00

Typical data		Test method	SRS Primalub Alpha
SAE Grade		SAE J 300	10W-40
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,874
Viscosity at -25°C (CCS)	mPa s	ASTM D 5293	6,660
Viscosity at 40°C	mm <sup>2</sup> /s	DIN 51 562	94,3
Viscosity at 100°C	mm <sup>2</sup> /s	DIN 51 562	14,0
Viscosity Index (VI)		DIN ISO 2909	152
Flash point COC	°C	DIN ISO 2592	230
Pour point	°C	DIN ISO 3016	- 30

SRS Primalub Alpha is a product of the H&R ChemPharm GmbH

# SRS ViVA 1 synth racing, SAE 5W-50

## High Performance Engine Oil

May 2014

### Characteristics

SRS ViVA 1 synth racing is a high-performance motor oil of viscosity grade SAE 5W-50.

Synthetic components and innovative additives matched to them ensure that the demands of today's practice are met.

The improved quality of SRS ViVA 1 synth racing is specially a result of further improved anti-wear and engine cleanliness, even with extended oil drain intervals.

The low cold-viscosity combined with an extreme high-temperature viscosity provide unsurpassed protection for the engines.

### Application

SRS ViVA 1 synth racing is suitable as a high-performance engine oil for use in discerning new generation engines.

It is recommended for passenger car gasoline and diesel engines, including the multivalved and for turbocharger and direct injected engines under all operating conditions.

### Specifications

SAE Grade	5W-50
API	SM/CF
ACEA	A3/B4

Typical data		Test method	SRS VIVA 1 synth racing
SAE Grade		SAE J 300	5W-50
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,857
Viscosity at - 30°C	mPa s	DIN 51 377	6.300
Viscosity at 40°C	mm <sup>2</sup> /s	DIN 51 562	102
Viscosity at 100°C	mm <sup>2</sup> /s	DIN 51 562	16,5
Viscosity Index (VI)		DIN ISO 2909	176
Flash point COC	°C	DIN ISO 2592	225
Pour point	°C	DIN ISO 3016	- 33
Total Base Number	mg/KOH/	DIN ISO 3771	10,1
Sulphate Ash	g/100 g	DIN 51 575	1,2

SRS VIVA 1 synth racing, SAE 5W-50 is a product of the H&R ChemPharm GmbH



# SRS MAGNUM NF 10W-60

## High Performance Engine Oil

October 2017

### Characteristics

SRS MAGNUM NF 10W-60 is an engine oil based on modern synthesis technology for gasoline engines including turbo charged- and direct injection engines.

### Application

SRS MAGNUM NF 10W-60 satisfies the SAE Class 10W-60 requirements. This viscosity setting ensures both good cold starting and reliable lubrication safety at high operating and external temperatures. SRS MAGNUM NF 10W-60 is suitable for use in modern gasoline engines as well as for extended oil change intervals. The low evaporation tendency ensures low oil consumption. Even under poor operating conditions, there is a high level of safety against sludge, coking, laking and corrosion.

The operating instructions of the manufacturers must be observed.

### Specifications

SAE Grade      10W60  
API              SN

Typical data		Test method	SRS MAGNUM NF 10W-60
SAE Grade		DIN 51 511	10W-60
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,854
Viscosity at - 25°C	mPa s	ASTM D 5293	5.300
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	170,6
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	24,5
Viscosity Index (VI)		DIN ISO 2909	176
Flash point COC	°C	DIN ISO 2592	248
Pour point	°C	DIN ISO 3016	- 41
Sulphate Ash	g/100 g	DIN 51 575	0,89

SRS MAGNUM NF 10W-60 is a product of the H&R ChemPharm GmbH

# SRS Cargolub TFG

## UHPD Low Friction Engine Oil

February 2019

### Characteristics

SRS Cargolub TFG is a UHPD UHPD low friction engine oil perfectly tailored for the wide range of applications in commercial vehicles. OEMs preferred viscosity range of SAE 10W-40 is met with unconventional base oils. SAE 10W guarantees both excellent cold starting (low cold start wear) and quickest possible oil supply of all engine lubricating points. Extreme conditions are safely controlled by SAE 40 high-temperature viscosity. Friction loss and wear are reduced. The economy is improved due to lower oil and fuel consumption as well as through higher engine reliability.

### Application

SRS Cargolub TFG was developed for the economic service of diesel engines of commercial vehicles even under extreme running conditions. SRS Cargolub TFG surpasses the requirements for a high performance engine oil for vehicles of different design in truck and construction fleets. SRS Cargolub TFG is a year-round high performance diesel engine oil for use in commercial vehicles and is recommended for use in Euro V and Euro VI Diesel engines.

### Specifications

SAE Grade 10W-40  
ACEA E4/E7  
API CI-4  
Global DHD-1

### Approvals

MB-Approval 228.5  
MAN M 3277, 3377  
Volvo VDS-3 (STD 417-0002)  
Renault VI RXD/RLD-2  
Mack EO-N, EO-M Plus  
MTU MTL 5044 Type 3  
MTU DDC BR 2000/4000  
Deutz DQC IV-10

### Recommendations

Cummins CES 20078  
Caterpillar ECF-1a, ECF-2  
Detroit Diesel 93K215  
DAF HP

Typical data		Test method	SRS Cargolub TFG
SAE Grade		SAE J 300	10W-40
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,865
Viscosity at -25°C (CCS)	mPa s	ASTM D 5293	6230
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	100
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	14,7
Viscosity Index (VI)		DIN ISO 2909	152
Flash point COC	°C	DIN ISO 2592	244
Pour point	°C	DIN ISO 3016	- 33
Total Base Number	mg/KOH/	DIN ISO 3771	13,7

SRS Cargolub TFG is a product of the H&R ChemPharm GmbH

# SRS Cargolub TLS

## High Performance Low Friction Engine Oil for Commercial Vehicles

May 2014

### Characteristics

SRS Cargolub TLS is a highly additivated USHPD low friction engine oil for commercial vehicles.

SRS Cargolub TLS is characterised by an innovative, low SAPS additive technology (Low SAPS = low Sulphated Ash, Phosphorus and Sulphur). Engine manufacturers prefer SAE 5W-30 as year-round viscosity grade which is achieved through the use of selected base oils. At low temperature SAE 5W assures excellent cold starting (low cold start wear) and quickest possible oil supply of all engine lubricating points. Extreme conditions are safely controlled by SAE 30 high-temperature viscosity. Friction losses and wear are reduced. The cost effectiveness is improved notably due to lower lubricant and fuel consumption as well as longer engine endurance.

### Application

SRS Cargolub TLS is especially designed for economic use in low emission controlled engines even under extreme service conditions.

SRS Cargolub TLS is year-round high-performance engine oil for use in commercial vehicles adapted to the new EU emission standards for Euro IV and V engines. Use in CNG engines of MAN busses and Daimler CNG engines is possible without any problems. This engine oil maintains the effectiveness of the exhaust gas after-treatment systems for a long time. Oil change intervals become longer. Power losses due to blocked diesel particle filter are prevented.

### Specifications

SAE Grade 5W-30  
API CI-4  
ACEA E6 / E7

### Approvals / Recommendations

ACEA E4 Performance  
MB Approval 228.51  
MAN M 3477 and MAN M 3271-1  
MTU MTL 5044 Type 3.1  
MTU DDC BR 2000 / 4000  
Renault VI RXD/RLD-2  
Volvo VDS-3 (STD 417-0002) and Volvo CNG  
Deutz DQC IV-10 LA  
Mack EO-N, EO-M Plus  
DAF

Typical data		Test method	SRS Cargolub TLS
SAE Grade		SAE J 300	5W-30
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,855
Viscosity at - 30°C (CCS)	mPa s	DIN 51 377	6,150
Viscosity at 40°C	mm <sup>2</sup> /s	DIN 51 562	66,9
Viscosity at 100°C	mm <sup>2</sup> /s	DIN 51 562	11,3
Viscosity Index (VI)		DIN ISO 2909	164
Flash point COC	°C	DIN ISO 2592	230
Pour point	°C	DIN ISO 3016	- 48
Total Base Number	mg/KOH/	DIN ISO 3771	9,6
Sulphated Ash	g/100 g	DIN 51 575	0,98

SRS Cargolub TLS is a product of the H&R ChemPharm GmbH

# SRS Cargolub TLS plus

USHPD Low Friction Engine Oil for Commercial Vehicles

February 2019

## Characteristics

SRS Cargolub TLS plus is a highly additivated USHPD low friction engine oil for commercial vehicles with or without diesel particle filter (DPF).

SRS Cargolub TLS plus is characterised by an innovative, low SAPS additive technology (Low SAPS = low Sulphated Ash, Phosphorus and Sulphur). Engine manufacturers prefer SAE 5W-30 as year-round viscosity grade which is achieved through the use of selected base oils. Because of the low SAPS additive technology friction losses are reduced and lower fuel consumption by optimized wear protection is achieved. The cost effectiveness is improved notably due to lower lubricant and fuel consumption as well as longer engine endurance.

## Application

SRS Cargolub TLS plus is especially designed for economic use in low emission controlled engines even under extreme service conditions.

SRS Cargolub TLS plus is year-round high-performance engine oil for use in commercial vehicles adapted to the new EU emission standards for Euro V and VI engines and allows extreme oil change intervals. This engine oil maintains the effectiveness of the exhaust gas after-treatment systems for a long time. Power losses due to blocked diesel particle filter are prevented by lower particle emissions.

## Specifications

SAE Grade 5W-30  
ACEA E6 / E7 / E9

API CJ-4 / SN  
Jaso DH-2

## Approvals

MB-Approval 228.31 and 228.51  
MAN M 3677, 3477  
MAN M 3271-1  
MTU MTL 5044 Type 3.1  
MTU DDC BR 2000/4000  
Deutz DQC IV-10 LA  
Volvo VDS-4 (STD 417-0001)  
Mack EO-O Premium Plus/EO-N/EO-M Plus  
Scania LDF-4  
Voith Retarder Type B

## Recommendations

MB 235.28  
Volvo CNG  
Caterpillar ECF-3/ECF-2/ECF-1a  
Cummins CES 20081  
Detroit Diesel DDC 93K218

Typical data		Test method	SRS Cargolub TLS Plus
SAE Grade		SAE J 300	5W-30
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,855
Viscosity at - 30°C (CCS)	mPa s	ASTM D 5293	6,170
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	67,9
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	11,5
Viscosity Index (VI)		DIN ISO 2909	164
Flash point COC	°C	DIN ISO 2592	232
Pour point	°C	DIN ISO 3016	- 48
Total Base Number	mg/KOH/	DIN ISO 3771	10,0

SRS Cargolub TLS Plus is a product of the H&R ChemPharm GmbH

# SRS Cargolub TLS top

Premium Low SAPS Engine Oil

October 2021

## Characteristics

SRS Cargolub TLS top is a premium low SAPS engine oil for commercial vehicles with and without diesel particle filter (DPF), EGR and SCR catalysts for NOx reduction. SRS Cargolub TLS top is characterized by its low-ash additive technology (Low SAPS= reduced Sulphated Ash, Phosphorus and Sulphur). Engine manufacturers prefer SAE 5W-30 as year-round viscosity grade which is achieved through the use of selected base oils using synthetic technology and innovative additives. SRS Cargolub TLS top enables significantly longer oil change intervals while at the same time improving engine protection. Modern low SAPS additives reduce internal friction in the engine, resulting in lower fuel economy and optimized wear protection. The economy is characterized by reduced oil consumption, reduced pollutant emissions, and lower operating costs. The improved soot bearing capacity contributes significantly to avoiding abrasive wear in the engine and best engine cleanliness.

## Application

SRS Cargolub TLS top was specially developed for the economic supply of exhaust-optimized engines, even under extreme conditions. SRS Cargolub TLS top is a year-round high-performance commercial vehicle engine oil, for Euro IV, V and VI engines and allows maximum oil change intervals. The engine oil maintains the effectiveness of the exhaust gas cleaning systems over a very long period of time. Power losses due to occupied diesel particulate filters are prevented by reduced particulate emissions. Higher efficiency is achieved. Furthermore, all Scania Low Ash requirements are met, and new Scania approvals are no longer granted.

## Specifications

SAE Grade	5W-30	API	CK-4 / SN
ACEA	E9 / E7 / E6	Jaso	DH-2

## Approvals

MB-Approval 228.51, 228.52  
 MAN M 3677  
 Volvo VDS-4.5 (STD 417-0003)  
 Renault VI RLD -3  
 Mack EOS-4.5  
 Deutz DQC IV-18 LA  
 MTU MTL 5044 Typ 3.1  
 Scania LDF-4

## Recommendations

MAN M 3477  
 Deutz TTCD  
 Caterpillar ECF-3  
 Cummins CES 20086  
 Detroit Diesel DDC 93K222  
 Ford WSS-M2C213-A1

Typical data		Test method	SRS Cargolub TLS Top
SAE Grade		SAE J 300	5W-30
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,857
Viscosity at - 20°C (CCS)	mPa s	DIN 51 377	5,970
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	72,5
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	11,9
Viscosity Index (VI)		DIN ISO 2909	160
Flash point COC	°C	DIN ISO 2592	231
Pour point	°C	DIN ISO 3016	- 45
Total Base Number	mg/KOH/	ASTM D 2896	10,2

SRS Cargolub TLS Top is a product of the H&R ChemPharm GmbH

The above values may vary within the commercial limits (mm<sup>2</sup>/s = cSt)

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# SRS Cargolub Leichtlauf-Motorenöl LA

Low Friction Engine Oil for Commercial Vehicles

November 2022

## Characteristics

SRS Cargolub Leichtlauf-Motorenöl LA is a low SAPS UHPD low friction engine oil for commercial vehicles with Low SAPS additive technology (low levels of Sulphated Ash, Phosphorus, Sulphur). Engine manufacturers prefer SAE 10W-40 as year-round grade which is achieved through the use of selected base oils. At low temperature SAE 10W assures excellent cold starting (low cold start wear) and quickest possible oil supply of all engine lubricating points. Extreme conditions are safely controlled by SAE 40 high-temperature viscosity. SRS Cargolub Leichtlauf-Motorenöl LA assures excellent oxidation and wear protection as well as excellent aging and shear stability and engine cleanliness. The economy is improved through low oil and fuel consumption as well as through higher engine reliability.

## Application

SRS Cargolub Leichtlauf-Motorenöl LA is a year-round high-performance engine oil for use in commercial vehicles, adapted to the new EU exhaust standards for Euro IV, V and VI engines. SRS Cargolub Leichtlauf-Motorenöl LA is backward compatible. This engine oil maintains the effectiveness of the exhaust after treatment systems for a long time.

## Specifications

SAE Grade 10W-40  
ACEA E6 / E7  
API CI-4

## Approvals

MTU MTL 5044 Type 3.1  
Volvo VDS-3 (STD 417-0002)  
Renault VI RLD-2/RXD/RGD  
Mack EO-N  
Deutz DQC III-18 LA

## Recommendations

MB Approval 228.51  
Caterpillar ECT-1a  
DAF  
Cummins CES 20076, 20077  
MAN M 3271-1  
MAN M 3477  
Scania Low Ash

Typical data		Test method	SRS Cargolub Leichtlauf-Motorenöl LA
SAE Grade		SAE J 300	10W-40
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,859
Viscosity at - 25°C	mPa s	DIN 51 757	6,500
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	102
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	15,0
Viscosity Index (VI)		DIN ISO 2909	154
Flash point COC	°C	DIN ISO 2592	242
Pour point	°C	DIN ISO 3016	- 36
Total base number	mgKOH/g	DIN ISO 3771	10,4

SRS Cargolub Leichtlauf-Motorenöl LA is a product of the H&R ChemPharm GmbH

# SRS Turbo-Rekord NG 15W-40

SHPD Engine Oil for Turbocharged Diesel Engines

November 2020

## Characteristics

SRS Turbo Rekord is all season multigrade engine oil. Tighter operating conditions are also easily covered by SRS Turbo-Rekord NG even for extended oil life. The SAE 15W-40 viscosity range ensures reliable cold starting at low ambient temperatures and full lubricity at high operating temperatures. The use of shearstable additives guarantees that the SAE Grade 15W-40 is maintained throughout the entire oil change interval.

## Application

SRS Turbo-Rekord is used in Euro III, Euro IV and Euro V heavy duty commercial vehicle diesel engines. The engine manufacturers recommend Engine oil of this performance category is the preferred recommendation by many vehicle and engine manufacturers, for extended oil life in turbo charged diesel engines.

## Specifications

SAE Grade 15W-40  
ACEA E7  
API CI-4/SL  
Global DHD-1  
Jaso DH-1

## Approvals

MB-Approval 228.3  
Deutz DQC III-18  
MTU MTL 5044 Type 2  
Volvo VDS-3 (STD 417-0002)  
Renault VI RLD/RLD-2  
Mack EO-N

## Recommendations

MAN M 3275-1  
Caterpillar ECF-1a and ECF-2  
Cummins CES 20076, 20077, 20078  
Detroit Diesel DDC 93K215  
DAF

Typical data		Test method	SRS Turbo-Rekord NG
SAE Grade		SAE J 300	15W-40
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,883
Viscosity at - 20°C (CCS)	mPa s	ASTM D 5293	6270
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	110
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	14,8
Viscosity Index (VI)		DIN ISO 2909	139
Flash point COC	°C	DIN ISO 2592	236
Pour point	°C	DIN ISO 3016	- 39
Total base number	mgKOH/g	ASTM D 2896	11,4

SRS Turbo-Rekord NG 15W-40 is a product of the H&R ChemPharm GmbH

# SRS Turbo-Rekord plus

SHPD Engine Oil for Turbocharged Diesel Engines

February 2019

## Characteristics

SRS Turbo-Rekord plus is a year-round multigrade engine oil. Turbocharger and intercooler set much higher mechanical and thermal requirements for engine oils. These tighter operating conditions are also easily covered by SRS Turbo-Rekord plus even for extended oil life. The SAE 15W-40 viscosity range ensures reliable cold starting at low ambient temperatures and full lubricity at high operating temperatures. The use of shearstable additives guarantees that the SAE grade 15W-40 is maintained throughout the entire oil change interval. SRS Turbo-Rekord plus is a SHPD (Super High Performance Diesel) engine oil.

## Application

SRS Turbo-Rekord plus is used in extremely heavy duty commercial vehicle diesel engines. The engine manufacturers recommend SRS Turbo-Rekord plus for extended oil drain intervals as SAE 15W-40 multigrade engine oil. Engine oil of this performance category is the preferred recommendation by vehicle and engine manufacturers who do not specify approvals by name, for extended oil life in turbo charged diesel engines.

## Specifications

SAE Grade 15W-40  
ACEA E9  
API CJ-4/SN

## Approvals

MB-Approval 228.31  
MAN M 3275-1  
MTU MTL 5044 Type 2.1  
MTU DDC BR 2000 / 4000  
Deutz DQC III-10 LA  
Volvo VDS-4 (STD 417-0001)  
Renault VI RLD-3  
Mack EO-O Premium Plus

## Recommendations

Caterpillar ECF-1a, ECF-2 and ECF-3  
Cummins CES 20081  
John Deere JDQ 78X  
Detroit Diesel 93K218

Typical data		Test method	SRS Turbo-Rekord plus
SAE Grade		SAE J 300	15W-40
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,875
Viscosity at - 20°C (CCS)	mPa s	DIN 51 377	6300
Viscosity at 40°C	mm <sup>2</sup> /s	DIN 51 562	108
Viscosity at 100°C	mm <sup>2</sup> /s	DIN 51 562	14,3
Viscosity Index		DIN ISO 2909	135
Flash point COC	°C	DIN ISO 2592	240
Pour point	°C	DIN ISO 3016	- 39
Total base number	mgKOH/g	DIN ISO 3771	8,0

SRS Turbo-Rekord plus is a product of the H&R ChemPharm GmbH



# SRS Cargolub TFG ultra

High Performance Low Friction Engine Oil for Commercial Vehicles

August 2022

## Characteristics

SRS Cargolub TFG ultra is a highly additivated low friction engine oil for commercial vehicles. Engine manufacturers prefer SAE 10W-40 as year-round viscosity grade which is achieved through the use of selected base oils using synthetic technology and innovative additives. At low temperature SAE 10W assures excellent cold starting (low coldstart wear) and quickest possible oil supply of all engine lubricating points. Extreme conditions are safely controlled by SAE 40 high-temperature viscosity. Friction losses and wear are reduced. The cost effectiveness is improved notably due to lower lubricant and fuel consumption as well as longer engine endurance.

## Application

SRS Cargolub TFG ultra is especially designed for economic use in diesel engines of commercial vehicles and stationary diesel engines, even under extreme conditions. SRS Cargolub ultra exceeds all requirements on modern high-performance engine oils of all types of vehicles.

SRS Cargolub TFG ultra is year-round high-performance engine oil for use in commercial vehicles adapted to the EU emission standards for Euro IV and V diesel engines and for Euro VI Scania engines, where Scania LDF-3 is required.

## Specifications

SAE Grade 10W-40  
ACEA E4 / E7  
API CI-4

## Approvals

Scania LDF-3  
MB-Approval 228.5, 235.28  
MAN M 3277  
Volvo VDS-3 (STD 417-0002)  
Renault VI RLD-2  
Mack EO-N, EO-N-PP-03  
MTU MTL 5044 Type 3  
Deutz DQC IV-18  
Voith Retarder Type B

## Recommendations

Cummins CES 20077 / 20078  
DAF

Typical data		Test method	SRS Cargolub TFG ultra
SAE Grade		SAE J 300	10W-40
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,865
Dyn. viscosity at - 25°C (CCS)	mPa s	ASTM D 5293	5950
Kin. viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	97,4
Kin. viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	14,4
Viscosity Index (VI)		DIN ISO 2909	152
Flash point COC	°C	DIN ISO 2592	236
Pour point	°C	DIN ISO 3016	- 45
Total base number	mgKOH/g	ASTM D 2896	15,9

SRS Cargolub TFG ultra is a product of the H&R ChemPharm GmbH

# SRS Turbo-Rekord top FE

Premium low SAPS Engine Oil

September 2022

## Characteristics

SRS Turbo-Rekord top FE is a premium low SAPS engine oil based on modern synthesis technology for use in Euro V and VI engines. The innovative additives offer maximum fuel saving over longest oil change interval due to excellent oxidation and aging stability. The viscosity range SAE 10W-40 ensures excellent cold start at low external temperatures and full lubrication at high operating temperatures. The use of shear-resistant ingredients ensures compliance with the SAE class 10W-40 during extended oil drain intervals. The oil consumption is significantly reduced by minimized evaporation loss.

## Application

SRS Turbo-Rekord top FE is especially designed for economic use in exhaust-optimized engines with exhaust after-treatment systems. SRS Turbo Rekord top FE is adapted to the Euro V and VI emission standards and is used in extremely heavy duty commercial vehicle diesel engines.

The engine manufacturers recommend SRS Turbo-Rekord top FE for extended oil drain intervals as SAE 10W-40 multigrade engine oil. Engine oil of this performance category is preferred by many vehicle and engine manufacturers, for longest oil residence time in turbocharged diesel engines. SRS Turbo-Rekord top FE can also be used in engines, where engine oils in accordance with API CI-4 and API CI-4 plus are required and is therefore also suitable as a rationalization product for use in older vehicles.

## Specifications

SAE Grade	10W-40
ACEA	E6 / E7 / E9
API	CJ-4
JASO	DH-2

## Approvals

MB-Approval 228.51, 235.28  
 MAN M 3477, M 3271-1  
 Volvo VDS-4 (STD 417-0001)  
 Renault VI RLD-3  
 Mack EO-O Premium Plus  
 Deutz DQC IV-10 LA  
 MTU MTL 5044 Type 3.1  
 Voith Retarder Type B

## Recommendations

Caterpillar ECF-3 and ECF-2  
 Cummins CES 20081  
 Detroit Diesel DDC 93K218  
 Scania Low Ash

Typical data		Test method	SRS Turbo-Rekord top FE
SAE Grade		SAE J 300	10W-40
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,863
Viscosity at - 20°C (CCS)	mPa s	DIN 51 377	6500
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	91,4
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	13,6
Viscosity Index (VI)		DIN ISO 2909	150
Flash point COC	°C	DIN ISO 2592	232
Pour point	°C	DIN ISO 3016	- 39
Total base number	mgKOH/g	DIN ISO 3771	10,3

SRS Turbo-Rekord top FE is a product of the H&R ChemPharm GmbH

The above values may vary within the commercial limits (mm<sup>2</sup>/s = cSt)

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# SRS Turbo-Rekord plus FE

SHPD Engine Oil for Turbocharged Diesel Engines

February 2019

## Characteristics

SRS Turbo-Rekord plus FE is a year-round multigrade engine oil. Turbocharger and intercooler set much higher mechanical and thermal requirements for engine oils. These tighter operating conditions are also easily covered by SRS Turbo-Rekord plus FE even for extended oil life. The SAE 10W-40 viscosity range ensures reliable cold starting at low ambient temperatures and full lubricity at high operating temperatures. The use of shearstable additives guarantees that the SAE grade 10W-40 is maintained throughout the entire oil change interval. SRS Turbo-Rekord plus FE is a SHPD (Super High Performance Diesel) engine oil.

## Application

SRS Turbo-Rekord plus FE is especially designed for economic use in exhaust-optimized engines with exhaust aftertreatment systems. SRS Turbo Rekord plus FE is adapted to the new EU exhaust standards Euro V and VI engines and is used in extremely heavy duty commercial vehicle diesel engines.

The engine manufacturers recommend SRS Turbo-Rekord plus FE for extended oil drain intervals as SAE 10W-40 multigrade engine oil. Engine oil of this performance category is preferred by many vehicle and engine manufacturers, for extended oil life in turbo charged diesel engines. SRS Turbo-record plus FE can also be used in engines, where engine oils in accordance with API CI-4, CI-4 plus or API SM are required.

## Specifications

SAE Grade 10W-40  
ACEA E9  
API CJ-4/SN

## Approvals

MB-Approval 228.31  
MAN M 3575  
Volvo VDS-4 (STD 417-0001)  
Renault VI RLD-3  
Mack EO-O Premium Plus  
Deutz DQC III-10 LA  
MTU MTL 5044 Type 2.1  
MTU DDC BR 2000/4000

## Recommendations

Caterpillar ECF-1a, ECF-2 and ECF-3  
Cummins CES 20081  
Detroit Diesel DDC 93K218

Typical data		Test method	SRS Turbo-Rekord plus FE
SAE Grade		SAE J 300	15W-40
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,860
Viscosity at - 20°C (CCS)	mPa s	DIN 51 377	6500
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	96,8
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	14,3
Viscosity Index (VI)		DIN ISO 2909	152
Flash point COC	°C	DIN ISO 2592	250
Pour point	°C	DIN ISO 3016	- 39
Total base number	mgKOH/g	DIN ISO 3771	8,7

SRS Turbo-Rekord plus FE is a product of the H&R ChemPharm GmbH

# SRS Cargolub TFG plus

## High Performance Low Friction Engine Oil

September 2021

### Characteristics

SRS Cargolub TFG plus is an UHPD low friction engine oil for commercial vehicles. Engine manufacturers prefer SAE 10W-40 as year-round grade which is achieved through the use of selected baseoils. At low temperature SAE 10W assures excellent cold starting (low cold start ear) and quickest possible oil supply of all engine lubricating points. Extreme conditions are safely controlled by SAE 40 high-temperature viscosity. Friction losses and wear are reduced. The economy is improved through low oil and fuel consumption as well as through higher engine reliability.

### Application

SRS Cargolub TFG plus is especially designed for economic supply of exhaust-optimized engines, even under extreme conditions. SRS Cargolub TFG plus assures excellent oxidation and rust protection and stability at high temperatures through the use of special additive systems. Deposits in the engine are avoided due to the good dispersing capacity. SRS Cargolub TFG plus is a high-performance commercial vehicle engine oil that can be used all year round and has been adapted to the new exhaust emission guidelines. It can also be used in older naturally aspirated engines or in stationary diesel engines. The manufacturer's specifications must be observed.

### Specifications

SAE Grade 10W-40  
ACEA E4/E7  
API CI-4  
Global DHD  
JASO DH-1

### Approvals

MAN M 3277  
Scania LDF-2  
MTU MTL 5044 Type 3  
Deutz DQC III-18  
Volvo VDS-3 (STD 417-0002)  
Renault VI RLD-2  
Mack EO-N  
MB-Approval 228.5

### Recommendations

DAF  
Cummins CES 20078  
Detroit Diesel 93K215

Oil change intervals according to manufacturer's instructions over 100.000 km.

Typical data		Test method	SRS Cargolub TFG plus
SAE Grade		SAE J 300	10W-40
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,869
Viscosity at -25°C (CCS)	mm <sup>2</sup> /s	DIN 51 757	5770
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	96,8
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	14,5
Viscosity Index (VI)		DIN ISO 2909	156
Flash point COC	°C	DIN ISO 2592	236
Pour point	°C	DIN ISO 3016	- 42
Total base number	mgKOH/g	ASTM D 2896	12,2

SRS Cargolub TFG plus is a product of the H&R ChemPharm GmbH. Made in Germany.

# SRS Cargolub TFL

## High Performance Low Friction Engine Oil

February 2019

### Characteristics

SRS Cargolub TFL is a highly additivated USHPD low friction engine oil for commercial vehicles. Engine manufacturers prefer SAE 5W-30 as year-round grade which is achieved through the use of selected base oils. At low temperature SAE 5W assures excellent cold starting (low cold start wear) and quickest possible oil supply of all engine lubricating points. Extreme conditions are safely controlled by SAE 30 high-temperature viscosity. Friction losses and wear are reduced.

### Application

SRS Cargolub TFL is especially designed for economic use in exhaust-optimized engines, even under extreme conditions. SRS Cargolub TFL assures excellent oxidation protection and stability at high temperatures through the use of special additive systems. It clearly improves economy through lower fuel consumption.

SRS Cargolub TFL is a year-round high performance engine oil for use in commercial vehicles, fitted with SCR (selective catalytic reduction) and EGR (exhaust gas re-circulation) for the new Euro V and Euro VI standards.

### Specifications

SAE Grade 5W-30  
ACEA E4, E7  
API CI-4  
Global DHD 1  
Jaso DH 1

### Approvals

MB-Approval 228.5  
MAN M 3277, 3377  
MTU MTL 5044 Type 3  
MTU DDC BR 2000/4000  
Volvo VDS-3 (STD 417-0002)  
Renault VI RXD, RLD-2  
MACK EO-N,EO-M Plus  
Deutz DQC IV-10

### Recommendations

Caterpillar ECF-2  
DAF  
Cummins CES 20076, 20078

Oil change intervals according to manufacturer's instructions over 100.000 km.

Typical data		Test method	SRS Cargolub TFL
SAE Grade		SAE J 300	5W-30
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,856
Viscosity at -30°C (CCS)	mPa s	DIN 51 377	6,550
Viscosity at 40°C	mm <sup>2</sup> /s	DIN ISO 3104	72,1
Viscosity at 100°C	mm <sup>2</sup> /s	DIN ISO 3104	12,1
Viscosity Index (VI)		DIN ISO 2909	141
Flash point COC	°C	DIN ISO 2592	232
Pour point	°C	DIN ISO 3016	- 45
Total base number	mgKOH/g	DIN ISO 3771	12,4

SRS Cargolub TFL is a product of the H&R ChemPharm GmbH

# SRS Cargolub TLA plus

Premium Low SAPS Engine Oil for Commercial Vehicles

September 2022

## Characteristics

SRS Cargolub TLA plus is a premium low SAPS engine oil based on modern synthesis technology for use in Euro IV, V and VI engines. The innovative additives offer maximum fuel saving over longest oil change interval due to excellent oxidation and aging stability. Lacquering and sludging are significantly reduced.

The viscosity range SAE 10W-40 ensures reliable cold start with low external and full lubricity at high operating temperatures. SRS Cargolub TLA plus is characterized by highest piston cleanliness, significantly improved shear stability and an improved air separation capacity and thus meets the current requirements of API CK-4.

## Application

SRS Cargolub TLA plus is especially developed for the economic supply of exhaust-optimized engines with exhaust aftertreatment systems. SRS Cargolub TLA plus meets the latest emission standards and is used in extremely heavy-duty commercial vehicle diesel engines. SRS Cargolub TLA plus is backward compatible and can also be used in older engines.

The requirements of API CJ-4, CI-4 and CH-4 are also met and exceeded. SRS Cargolub TLA plus can be used as a rationalization product for the mixed vehicle fleet also for use in Euro I, II, III and IV vehicles with or without exhaust aftertreatment.

The manufacturer's instructions have to be observed.

## Specifications

SAE Grade 10W-40  
ACEA E6 / E7 / E8 / E9 / E11  
API CK-4, CI-4 plus  
JASO DH-2

## Approvals

MB-Approval 228.52, 228.51, 235.28  
MAN M 3775  
Deutz DQC IV-18 LA  
Volvo VDS-4.5 (STD 417-0003)  
Renault VI RLD-3  
Mack EOS-4.5  
MTU MTL 5044 Type 3.1  
Voith Retarder Type B

## Recommendations

MB 228.31  
MAN M 3477  
Deutz TTCD  
Caterpillar ECF-3  
Cummins CES 20081 / 20086  
Detroit Diesel 93K222  
CNH Mat 3571

Typical data		Test method	SRS Cargolub TLA plus
SAE Grade		SAE J 300	10W-40
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,865
Dyn. viscosity at -25°C	mPas	ASTM D 5293	6.720
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	101
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	14,5
Viscosity Index (VI)		DIN ISO 2909	148
Flash point COC	°C	DIN ISO 2592	230
Pour point	°C	DIN ISO 3016	- 42
Total base number	mgKOH/g	ASTM D 2896	10,8

SRS CARGOLUB TLA plus is a product of the H&R ChemPharm GmbH

The above values may vary within the commercial limits (mm<sup>2</sup>/s = cSt)

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# SRS Turbo-Rekord ultra

## Premium Low SAPS Engine Oil

October 2020

### Characteristics

SRS Turbo-Rekord ultra is a premium low SAPS engine oil based on modern synthesis technology for use in Euro V and VI engines. The viscosity range SAE 15W-40 ensures excellent cold start at low external temperatures and full lubrication at high operating temperatures.

### Application

SRS Turbo-Rekord ultra is especially designed for economic use in exhaust-optimized engines with exhaust aftertreatment systems. SRS Turbo Rekord ultra is adapted to the Euro V and VI emission standards and is used in extremely heavy duty commercial vehicle diesel engines.

Engine oil of this performance category is preferred by many vehicle and engine manufacturers, for extended drain intervals in turbocharged diesel engines. SRS Turbo-Rekord ultra can also be used in engines, where engine oils in accordance with API CJ-4, CI-4, CI-4 PLUS and CH-4 PLUS are required and is therefore also suitable as a rationalization product for use in older vehicles.

### Specifications

SAE Grade 15W-40  
ACEA E9 / E7  
API CK-4 / CJ-4 / SN  
JASO DH-2

### Approvals

MB Approval 228.31  
MAN M 3775  
Volvo VDS-4.5 (STD 417-0003)  
Renault VI RLD-3  
Mack EOS-4.5  
Deutz DQC III-18 LA  
MTU MTL 5044 Type 2.1

### Recommendations

MAN M 3575  
Caterpillar ECF-3  
Ford WSS-M2C171-F1  
Detroit Diesel DFS 93K222  
Cummins CES 20086  
Allison TES 439

Typical data		Test method	SRS Turbo-Rekord ultra
SAE Grade		SAE J 300	15W-40
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,873
Dyn. viscosity at -20°C (CCS)	mPas	DIN 51 377	5.300
Kin. Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	107,7
Kin. Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	14,6
Viscosity Index (VI)		DIN ISO 2909	140
Flash point COC	°C	DIN ISO 2592	236
Pour point	°C	DIN ISO 3016	- 42
Total base number	mgKOH/g	DIN ISO 3771	10,0

SRS Turbo-Rekord ultra is a product of the H&R ChemPharm GmbH



# SRS Turbo-Rekord ultra FE

Premium Low SAPS Engine Oil

May 2022

## Characteristics

SRS Turbo-Rekord ultra FE is a premium low SAPS engine oil based on modern synthesis technology for use in Euro V and VI engines. The innovative additives offer maximum fuel saving over longest oil change interval due to excellent oxidation and aging stability. The viscosity range SAE 10W-40 ensures excellent cold start at low external temperatures and full lubrication at high operating temperatures. SRS Turbo-Rekord ultra FE has a significantly improved shear stability and an improved air separation capability, meeting the current requirements of API CK-4.

## Application

SRS Turbo-Rekord ultra FE is especially designed for economic use in exhaust-optimized engines with exhaust aftertreatment systems. SRS Turbo-Rekord ultra FE is adapted to the Euro V and VI emission standards and is used in extremely heavy duty commercial vehicle diesel engines. Engine oil of this performance category 10W-40 is preferred by many vehicle and engine manufacturers, for longest oil residence time in turbocharged diesel engines. SRS Turbo-Rekord ultra FE can also be used in engines, where engine oils in accordance with API CJ-4, CI-4, CI-4 PLUS and CH-4 are required and is therefore also suitable as a rationalization product for use in older vehicles.

## Specifications

SAE Grade 10W-40  
ACEA E9 / E7 / E6  
API CK-4 / CJ-4 / SN  
JASO DH-2

## Approvals

MB-Approval 228.51  
MB-Approval 228.52  
MAN M 3477  
Volvo VDS-4.5 (STD 417-0003)  
Renault VI RLD-3  
Mack EO-S 4.5  
Deutz DQC IV-10 LA  
Deutz TTCD  
MTU MTL 5044 Typ 3.1

## Recommendations

MAN M 3477  
Deutz DQC IV-18 LA  
Scania Low Ash  
Caterpillar ECF-3

Detroit Diesel DFS 93K218 / 93K222  
Cummins CES 20086  
CNH MAT 3571  
FPT Iveco TLS E9/TLS CK-4

Typical data		Test method	SRS Turbo-Rekord ultra FE
SAE Grade		SAE J 300	15W-40
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,868
Dyn. viscosity at -20°C (CCS)	mPas	DIN 51 377	6.400
Kin. Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	100,5
Kin. Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	14,7
Viscosity Index (VI)		DIN ISO 2909	152
Flash point COC	°C	DIN ISO 2592	234
Pour point	°C	DIN ISO 3016	- 42
Total base number	mgKOH/g	DIN ISO 3771	10,0

SRS Turbo-Rekord ultra FE is a product of the H&R ChemPharm GmbH



# SRS Turbo-Rekord ultra V

## Premium Low SAPS Engine Oil

December 2020

### Characteristics

SRS Turbo-Rekord ultra V is a premium low SAPS engine oil based on modern synthesis technology for use in modern low SAPS Euro V and VI engines. The innovative additives offer maximum fuel saving over longest oil change interval due to excellent oxidation and aging stability. The viscosity range SAE 10W-30 ensures excellent cold start at low external temperatures and full lubrication at high operating temperatures. SRS Turbo-Rekord ultra V has a significantly improved shear stability and an improved air separation capability, meeting the current requirements of API CK-4.

### Application

SRS Turbo-Rekord ultra V is especially designed for economic use in exhaust-optimized engines with exhaust aftertreatment systems. SRS Turbo-Rekord ultra V is adapted to the Euro V and VI emission standards and is used in extremely heavy duty commercial vehicle diesel engines. Engine oil of this performance category 10W-30 is preferred by many vehicle and engine manufacturers, for longest oil residence time in turbocharged diesel engines. SRS Turbo-Rekord ultra V can also be used in engines, where engine oils in accordance with API CJ-4, CI-4, CI-4 PLUS and CH-4 are required and is therefore also suitable as a rationalization product for use in older vehicles.

### Specifications

SAE Grade	10W-30
ACEA	E9 / E7
API	CK-4 / CJ-4
JASO	DH-2

### Approvals

Volvo VDS-4.5 (STD 417-0003)  
 Renault VI RLD-3  
 Mack EOS-4.5  
 MB-Approval 228.31  
 Deutz DQC III-18 LA  
 MTU MTL 5044 Typ 2.1  
 MTU DDC BR 2000/4000  
 MAN M 3775

### Recommendations

Caterpillar ECF-3  
 Cummins CES 20086  
 Detroit Diesel DFS 93K222  
 MAN M 3575  
 Ford WSS-M2C171-F1

Typical data		Test method	SRS Turbo-Rekord ultra V
SAE Grade		SAE J 300	10W-30
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,867
Dyn. viscosity at -25°C (CCS)	mPas	ASTM D 5293	6.200
Kin. Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	80,3
Kin. Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	11,7
Viscosity Index (VI)		DIN ISO 2909	139
Flash point COC	°C	DIN EN ISO 2592	240
Pour point	°C	DIN ISO 3016	- 45
Total base number	mgKOH/g	ASTM D 2896	9,7

SRS Turbo-Rekord ultra V is a product of the H&R ChemPharm GmbH

# SRS Rekord

## Monograde Engine Oils

January 2022

### Characteristics

SRS Rekord are universal applicable high performance monograde engine oils. The performance covers the requirements of diesel engines with or without turbochargers. Base oils from H&R Refineries and selected additives keep the engine clean and provide a maximum protection against wear even under extreme load conditions.

### Application

SRS Rekord engine oils are suitable for use in diesel engines of commercial and agricultural vehicles as well as construction vehicles. It can also be used as hydraulic oil and in hydraulic clutches, manual transmissions, converter transmissions and retarders. SRS Rekord engine oils are also recommended for use in heavy-duty marine and stationary industrial diesel engines. SRS Rekord corresponds to the earlier ACEA E3.

### Specifications

SAE Grade 10W to 50  
API CF/CF-2/SF

### Recommendations

MB-Approval 228.0  
MAN 270  
ZF TE-ML 04B  
Caterpillar TO-2  
Allison C-4  
Renk automatic gearbox WR-PS\*

### Approvals

MTU MTL 5044 Type 1

Typical data		Test method	SRS Rekord				
			10	20W-20	30	40	50
SAE Grade		SAE J 300	10W	20W-	30	40	50
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,881	0,887	0,891	0,898	0,903
Viscosity at - 25 °C (CCS)	mPas	DIN 51 377	6,440	-	-	-	-
Viscosity at - 15 °C (CCS)	mPas	DIN 51 377	-	4530	-	-	-
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	37,3	69,5	106	167	239
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	6,2	9,0	11,7	15,6	19,5
Viscosity Index (VI)		DIN ISO 2909	111	103	99	95	93
Flash point COC	°C	DIN ISO 2592	222	245	264	280	290
Pour point	°C	DIN ISO 3016	- 39	- 30	- 24	- 24	- 21
Total base number	mgKOH/g	DIN ISO 3771	11,5	11,5	11,7	11,7	11,8

SRS Rekord engine oil series are products of the H&R ChemPharm GmbH

# SRS Rekord plus

## High Performance Monograde Engine Oils

February 2019

### Characteristics

SRS Rekord plus are special high performance monograde engine oils. The performance covers the requirements of MTU oil category 2, MAN M 3275-2 and MB-Sheet 228.2 for monograde engine oils.

### Application

SRS Rekord plus is recommended for use in heavy duty marine engines with extended oil drain intervals. It is also suitable for use in diesel engines of agricultural and construction vehicles as well as of stationary industrial installations.

### Specifications

SAE Grade 30 and 40  
ACEA E7  
API CI-4

### Approvals

MTU MTL 5044 Type 2  
MTU DDC BR 2000 / 4000

### Recommendations

MB-Approval 228.2  
MAN M 3275-2  
Allison C-4

Typical data		Test method	SRS REKORD PLUS	
			30	40
SAE Grade		SAE J 300	30	40
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,892	0,893
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	101	129
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	11,8	13,9
Viscosity index (VI)		DIN ISO 2909	107	105
Flash point COC	°C	DIN ISO 2592	250	270
Pourpoint	°C	DIN ISO 3016	- 30	- 27
Total base number	mgKOH/g	DIN ISO 2771	10,8	10,8

SRS Rekord plus is a product of the H&R ChemPharm GmbH

# SRS Antikorrol

## Initial Operation and Corrosion Protection Oil

February 2019

### Characteristics

SRS Antikorrol is an initial operation and corrosion protection oil with numerous uses. Apart from distinctive corrosion protection for internal preservation of combustion engines, gears and auxiliary equipment with closed systems, its special engine oil properties ensure controlled running in and full-load protection up to the first specified oil change during initial operation or reuse after extended transport or storage periods.

### Application

SRS Antikorrol is particularly suitable for the preservation of both seasonally operated machinery and equipment in construction, forestry and agriculture and municipal car fleets. Its unusually high neutralization capacity also ensures reliable corrosion protection in the vicinity of aggressive media. The SRS Antikorrol oil range is also suitable for the intermediate preservation of semi finished and finished products up to further processing and installation. Application may be by dipping or spraying.

### Specifications

SAE Grade 10W, 20W-20, 30 and 50  
API SF/CC  
MIL L-21260C

Typical data		Test method	SRS Antikorrol			
			10W	20W-20	30	50
SAE Grade		SAE J 300	10W	20W-20	30	50
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,879	0,890	0,891	0,900
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	38,2	66,4	104	206
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	6,34	8,82	11,7	18,1
Viscosity Index (VI)		DIN ISO 2909	115	106	100	96
Flash point COC	°C	DIN ISO 2592	230	250	245	255
Pour point	°C	DIN ISO 3016	- 36	- 33	- 33	- 24
Seawater immersion test	Grade	DIN 51 538	1	1	1	1
Total base number	mgKOH/g	DIN ISO 3771	7,9	8,0	8,1	8,8

SRS Antikorrol is a product of the H&R ChemPharm GmbH

# SRS Antikorrol M plus

## High Performance Monograde Engine Oil

February 2019

### Characteristics

SRS Antikorrol M plus is a high performance monograde engine oil with very high corrosion protection properties. A balanced additive package guarantees wear protection and cleanliness in diesel engine operation as well as a high corrosion protection in long shutdown periods.

### Application

Due to its properties SRS Antikorrol M plus is particularly suitable for engines subjected to longer times of shutdown periods. SRS Antikorrol M plus is a full load durable engine oil of MTU oil category 2 with additional corrosion protection properties as an anti-corrosion oil for internal conservation.

SRS Antikorrol M plus can also be used for emergency power generators.

SRS Antikorrol M plus is approved by the German Army against specification TL 9150-0037/5 with the qualification certificate B-0471.

### Specifications

BW-Code	CY6050
SAE Grade	30
ACEA	E7
API	CI-4

### Approvals

MTU MTL 5044, Type 3 with special corrosion protection  
 MTU MTL 5051, corrosion protection oil for internal conservation  
 MTU DDC BR 2000 and 4000  
 Bundeswehr: TL 9150-0037/5

Typical data		Test method	SRS Antikorrol M plus
SAE Grade		SAE J300	30
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,892
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	99,9
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	11,7
Viscosity Index (VI)		DIN ISO 2909	106
Flash point COC	°C	DIN ISO 2592	245
Pour point	°C	DIN ISO 3016	- 30
Seawater Immersion Test	Grade	DIN 51 358	0
Total Base Number	mg/KOH/	DIN ISO 3771	10,9

SRS Antikorrol M plus is a product of the H&R ChemPharm GmbH

# SRS Rekord E

## Monograde Engine Oil

May 2004

### Characteristics

SRS Rekord E are monograde engine oils with high wear and corrosion protection characteristics.

### Application

SRS Rekord E is suitable for diesel and gasoline engines in accordance with the manufacturer's instructions.

### Specifications

SAE Grades 30, 40, 50 and 60  
API SF/CD

Typical data		Test method	SRS Rekord E			
			30	40	50	60
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,889	0,892	0,897	0,900
Viscosity at 40°C	mm <sup>2</sup> /s	DIN 51 562	84	124	238	301
Viscosity at 100°C	mm <sup>2</sup> /s	DIN 51 562	10,0	12,8	19,7	22,4
Flash point COC	°C	DIN ISO 2592	240	240	240	245
Pour point	°C	DIN ISO 3016	- 21	- 18	- 18	- 21
Total base number	mgKOH/g	DIN ISO 3771	6,1	6,1	6,1	6,1

SRS Rekord E is a product of the H&R ChemPharm GmbH

# SRS Magnum 4T

## 4 Stroke Motorcycle Engine Oil

February 2019

### Characteristics

SRS Magnum 4T is an engine oil specially developed for use in four-stroke motorcycle engines. It satisfies the technical demands of all motorcycle manufacturers, and is suitable for all air-cooled and water-cooled 4-stroke motorcycle engines. High engine cleanliness and wear protection increase the life of the engine. It is suitable for wet clutches. Grabbing and slipping clutches after a cold start are prevented.

### Application

SRS Magnum 4T is a mineral oil based high performance engine oil in the SAE 20W-50 viscosity range. Very good high temperature stability and high wear protection guarantee optimal lubrication even under unfavourable conditions. The engine is protected from deposits and oil-sludge, oil consumption is reduced significantly.

### Specifications

SAE Grade	20W-50
API	SG
JASO	MA

Typical data		Test method	SRS Magnum 4 T
SAE Grade		SAE J 300	20W-50
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,888
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	150
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	16,7
Viscosity Index		DIN ISO 2909	119
Flash point COC	°C	DIN ISO 2592	235
Pour point	°C	DIN ISO 3016	- 30

SRS Magnum 4T is a product of the H&R ChemPharm GmbH

# SRS Magnum 4T plus

## High Performance 4 Stroke Motorcycle Engine Oil

February 2019

### Characteristics

SRS Magnum 4T plus is an engine oil specially developed for use in four-stroke motorcycle engines. It satisfies the technical demands of all motorcycle manufacturers, and is suitable for all air-cooled and water-cooled 4-stroke motorcycle engines. High engine cleanliness and wear protection increase the life of the engine. It is suitable for wet clutches. Grabbing and slipping clutches after a cold start are prevented.

### Application

SRS Magnum 4T plus is a SAE 10W-40 high performance engine oil based on synthetic technology. Optimal lubrication at high temperatures and high engine revolutions guarantee best engine protection even under the most extreme conditions. Deposits on pistons and valves are reliably prevented, exceptional engine cleanliness is promoted. The low viscosity at low temperatures helps the oil to penetrate quickly the engine, to start without cold start wear. SRS Magnum 4T plus corresponds to the earlier ACEA A3.

### Specifications

SAE Grade	10W-40
API	SL
JASO	MA2

Typical data		Test method	SRS Magnum 4 T Plus
SAE Grade		SAE J 300	10W-40
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,873
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	95
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	14,2
Viscosity Index		DIN ISO 2909	155
Flash point COC	°C	DIN ISO 2592	225
Pour point	°C	DIN ISO 3016	- 33

SRS Magnum 4T plus is a product of the H&R ChemPharm GmbH



# SRS Magnum 4T top

## High Performance 4-Stroke Motorcycle Engine Oil

August 2021

### Characteristics

SRS Magnum 4T top is an engine oil specially developed for use in four-stroke motorcycle engines. It satisfies the technical demands of all motorcycle manufacturers, and is suitable for all air-cooled and water-cooled 4-stroke motorcycle engines. High engine cleanliness and wear protection increase the life of the engine. It is suitable for wet clutches. Grabbing and slipping clutches after a cold start are prevented.

### Application

SRS Magnum 4T top is a SAE 10W-40 high performance engine oil based on synthetic technology. Optimal lubrication at high temperatures and high engine revolutions guarantee best engine protection even under the most extreme conditions. Deposits on pistons and valves are reliably prevented, exceptional engine cleanliness is promoted. The low viscosity at low temperatures helps the oil to penetrate quickly the engine, to start without cold start wear.

### Specifications

SAE Grade	10W-40
ACEA	A3
API	SN
JASO	MA2

Typical data		Test method	SRS Magnum 4 T top
SAE Grade		SAE J 300	10W-40
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,873
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	95
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	14,9
Viscosity Index		DIN ISO 2909	154
Flash point COC	°C	DIN ISO 2592	224
Pour point	°C	DIN ISO 3016	- 36

SRS Magnum 4T tops is a product of the H&R ChemPharm GmbH

# SRS Bitaktol KX

## Two Stroke Engine Oil

February 2019

### Characteristics

SRS Bitaktol KX is self-mixing mineral oil based high performance two-stroke engine oil. The requirements for piston cleanliness, corrosion protection, ring sticking, piston seizure and pre-ignition are clearly fulfilled.

SRS Bitaktol KX is recommended in accordance with manufacturer's recommendations for mixing ratios up to 1:50 and for separate lubrication (autolube systems).

### Specifications

ISO	L-EGB
JASO	FB
API	TC

Typical data		Test method	SRS Bitaktol KX
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,878
Viscosity at 40 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	63,6
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	8,6
Viscosity index (VI)		DIN ISO 2909	108
Flash point PM	°C	DIN EN ISO 2719	141
Pour point	°C	DIN ISO 3016	- 24
Total base number	mg KOH/g	DIN ISO 3771	1,25

SRS Bitaktol KX is a product of the H&R ChemPharm GmbH

The above values may vary within the commercial limits (mm<sup>2</sup>/s = cSt)

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# SRS Bitaktol KS plus

## Fully Synthetic Two Stroke Engine Oil

February 2019

### Characteristics

SRS Bitaktol KS plus is a fully synthetic high performance self-mixing two-stroke engine oil. The requirements for piston cleanliness, corrosion protection, ring sticking, piston seizure and pre-ignition are fulfilled by far using synthetic components.

### Application

SRS Bitaktol KS plus is a low ash engine oil for heavy-duty two-stroke engines (low-smoke). Mixing ratios up to 1:100 according to manufacturer's recommendations are possible.

### Specifications

ISO	L-EGD
JASO	FD
API	TC
TISI	

### Recommendations

Husqvarna Chainsaw  
Piaggio  
Rotax Snowmobile

Typical data		Test method	SRS Bitaktol KS plus
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,894
Viscosity at 40 °C	Mm <sup>2</sup> /s	DIN EN ISO 3104	56,9
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	9,02
Viscosity index (VI)		DIN ISO 2909	137
Flash point PM	°C	DIN EN ISO 2719	115
Pour point	°C	DIN ISO 3016	< - 42
Total base number	mg KOH/g	DIN ISO 3771	2,0

SRS Bitaktol KS plus is a product of the H&R ChemPharm GmbH

# SRS Bitaktol Super 3

Two Stroke Engine Oil for Water Cooled Outboard Motors

November 2012

## Characteristics

SRS Bitaktol Super 3 is a self-mixing engine oil meeting the specific requirements of water-cooled outboard engines with high power density. Selected additives assure low-ash combustion and related high motor cleanliness, in both the intake and exhaust compartments, even under extreme loads. Mixing ratios of up to 1 : 100 are possible, depending upon manufacturer specifications.

## Specifications

NMMA TC-W 3  
API TD

## Approvals / Recommendations

These specifications include recognition by the following engine manufacturers:

Archimedes-Penta  
Chrysler  
Evinrude  
Garniti  
Johnson  
Mercury  
Monark-Crescent  
Suzuki  
Terhi (Tern)

Typical data		Test method	SRS Bitaktol Super 3
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,870
Viscosity at 40 °C	mm <sup>2</sup> /s	DIN 51 562	38,1
Viscosity at 100 °C	mm <sup>2</sup> /s	DIN 51 562	6,22
Viscosity index (VI)		DIN ISO 2909	122
Flash point PM	°C	DIN EN 22 719	108
Pour point	°C	DIN ISO 3016	- 33
Sulphated ash	wt. %	DIN 51 575	< 0,01
Total base number	mg KOH/g	DIN ISO 3771	3,7

SRS Bitaktol Super 3 is a product of the H&R ChemPharm GmbH

# SRS Bitaktol KS

## Two Stroke Engine Oil

February 2019

### Characteristics

SRS Bitaktol KS is a low smoke two-stroke engine oil.

Mineral oils produced with the most modern refinery techniques, synthetic components and special additives guarantee optimal lubrication and a high degree of engine cleanliness. Deposits in the combustion chamber and the exhaust system are prevented, smoke development is clearly reduced.

### Application

SRS Bitaktol KS is self-mixing and can be used in blend ratios up to 1:50 and for separate lubrication (autolube systems).

SRS Bitaktol KS two-stroke engine oil meets the highest specifications for the Asian and European markets.

### Specifications

ISO	L-EGD
JASO	FC
API	TC
TISI	

### Recommendations

Husqvarna Chainsaw

Typical data		Test method	SRS Bitaktol KS
Density at 15 °C	g/cm <sup>3</sup>	DIN 51 757	0,872
Viscosity at 40 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	67,5
Viscosity at 100 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	9,53
Viscosity index (VI)		DIN ISO 2909	121
Flash point PM	°C	DIN EN ISO 2719	123
Pour point	°C	DIN ISO 3016	- 33
Total base number	mg KOH/g	DIN ISO 3771	1,1

SRS Bitaktol KS is a product of the H&R ChemPharm GmbH

# SRS Mihagrun 40

## Gas Engine Oils

September 2022

### Characteristics

SRS Mihagrun 40 gas engine oil has been developed for application in highly stressed gasoline and diesel gas engines, including turbo charged units. High neutralisation potential guarantees reliable protection against corrosion and wear in operation with combustion gases containing large amounts of sulphur and hydrogen sulphides, such as sewer, bio gases and untreated natural gases. Ash-containing well-balanced detergent and dispersant additives prevent undesirable build-up of sludge and varnish in the crankcase and combustion chambers. SRS Mihagrun corresponds to the requirements of leading gas engine manufacturers and is also suitable for operation with catalytic converters.

### Application

SRS Mihagrun is approved by Jenbacher for the series 2 and 3, MAN and by Hagl for the operation with special gases. In addition to this SRS Mihagrun corresponds to the requirements of leading gas engine manufacturers and is suitable for the operation of gas engines with catalytic converters, too.

### Specifications

SAE Grade 40  
API CF

### Recommendations

MWM/Caterpillar  
Waukesha  
Wärtsilä  
Perkins  
Ruston  
MDE Dezentralenergiesysteme

### Approvals

MAN Approval 3271-4  
GE Jenbacher Approval TA 1000-1109 for Gas Class B (Biogas) Model series 2 and 3

Typical data		Test method	SRS Mihagrun 40
SAE Grade		SAE J 300	40
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,890
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	132
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	13,5
Viscosity index (VI)		DIN ISO 2909	97
Flash point COC	°C	DIN ISO 2592	272
Pour point	°C	DIN ISO 3016	- 21
Total base number	mgKOH/g	DIN ISO 3771	8,8
Sulphated ash	g/100 g	DIN 51 575	0,88

SRS Mihagrun 40 is a product of the H&R ChemPharm GmbH

# SRS Mihagrun LA

## Gas Engine Oil

September 2022

### Characteristics

SRS Mihagrun LA 40 gas engine oil is manufactured for use in gas-powered spark ignition engines. It is recommended for gas engines which are subject to higher thermal stresses and which can not be dealt with by ash-free gas engine oils.

It is also qualified for use in gas engines operating on low sulphur natural and refinery gases, propane, butane, and propane / butane blends.

### Application

SRS Mihagrun LA 40 corresponds to the requirements of leading gas engine manufacturers and is also suitable for operation with catalytic converters.

### Specifications

SAE Grade 40  
API CF

### Approvals

MWM/Caterpillar Approval TR 0199-99-2105  
Deutz Approval TR 0199-99-01213/5  
MTU Approval MTL 5074 gas engines

### Recommendations

MAN M 3271-2  
GE Jenbacher  
Waukesha

Typical data		Test method	SRS Mihagrun LA 40
SAE Grade			40
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,8894
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	150
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	14,5
Flash point COC	°C	DIN ISO 2592	276
Pour point	°C	DIN ISO 3016	- 21
Total base number	mgKOH/g	DIN ISO 3771	5,3
Sulphated ash	wt. %	DIN 51 575	0,45

SRS Mihagrun LA 40 is a product of the H&R ChemPharm GmbH

# SRS Mihagrun LAX 40

## High-Performance Gas Engine Oil

February 2019

### Characteristics

SRS Mihagrun LAX 40 is a high-performance gas engine oil, specifically designed for use in modern low emission highperformance gas engines. High quality unconventional base oils and advanced additive technology provide extended oil change intervals, a high wear protection, high neutralization capacity and a high thermal stability.

With the low sulphate ash content, SRS Mihagrun LAX 40 is suitable for natural gas and special gases (e.g. biogas), if a low-ash gas engine oil is required. It is also preferred in engines with modern exhaust after-treatment systems.

The excellent detergent and dispersant properties reduce sludge, deposits in the combustion chamber and the exhaust system are avoided.

Due to the latest additive technology, SRS Mihagrun LAX 40 contributes to engine cleanliness, extended drain intervals, lower oil consumption and therefore a higher efficiency because of the reduced oil changes and less downtime is reached. Due to the excellent wear protection, less wear of the engine components and therefore higher component life and lower maintenance costs is ensured.

### Application

SRS Mihagrun LAX 40 is approved for all MWM TCG and Caterpillar CG gas engines and corresponds to the requirements of leading gas engine manufacturers.

### Specifications

SAE Grade 40  
API CF

### Recommendations

Waukesha

### Approvals

MWM/Caterpillar Approval (TR 0199-99-(1) 2105)

Deutz Approval TR 01999-99-01213/1 DE

GE Jenbacher Approval TA 1000-1109 for Gas Class B (Biogas) and C (Landfill gas) Model series 2 and 3, series 4 version A and B, series 6 version C and E

Typical data		Test method	SRS Mihagrun LAX 40
SAE Grade		SAE J 300	40
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,875
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	123
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	13,6
Viscosity index (VI)		DIN ISO 2909	107
Flash point COC	°C	DIN ISO 2592	276
Pour point	°C	DIN ISO 3016	- 30
Total base number	mgKOH/g	DIN ISO 3771	5,0
Sulphated ash	g/100 g	DIN 51 575	0,50

SRS Mihagrun LAX 40 is a product of the H&R ChemPharm GmbH



# SRS Mihagrun X 40

## High-Performance Gas Engine Oil

October 2019

### Characteristics

SRS Mihagrun X 40 is a gas engine oil, specifically designed for use in modern high-performance gas engines. High quality base oils and advanced additive technology provide extended oil change intervals, a high wear protection, high neutralization capacity and a high thermal stability.

SRS Mihagrun X 40 is suitable for use with sewage gas, biogas and landfill gas and can also be used in engines with modern exhaust aftertreatment systems.

Due to the latest additive technology, SRS Mihagrun X 40 contributes to engine cleanliness, extended drain intervals, lower oil consumption and therefore a higher efficiency because of the reduced oil changes and less downtime is reached. The excellent detergent and dispersant properties reduce sludge, deposits in the combustion chamber and the exhaust system are avoided.

### Application

SRS Mihagrun X 40 specially designed for modern gas engines with the use of aggressive gases such as sewage gases, biogases and landfill gases.

SRS Mihagrun X 40 can be filled in Jenbacher gas engines of the series 2, 3, 4 and 6, gas class B (Biogas) and C (Landfill gas). Also for use in naturally aspirated and turbocharged stationary MAN gas engines with or without 3-way catalyst or oxidation catalyst. SRS Mihagrun X 40 is released for use with sewage gas, biogas, or landfill gas.

### Specifications

SAE Grade 40

### Approvals / Recommendations

MWM/Caterpillar Approval TR 0199-99-(1)2105  
 GE Jenbacher TA 1000-1109 for Gas class B (Biogas) and C (Landfill gas)  
 Model series 2 and 3, series 4 version A and B, series 6 version C and E  
 MAN M 3271-4  
 MAN M 3271-5

Typical data		Test method	SRS Mihagrun X 40
SAE Grade		SAE J 300	40
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,874
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	120
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	13,4
Viscosity index (VI)		DIN ISO 2909	107
Flash point COC	°C	DIN ISO 2592	288
Pour point	°C	DIN ISO 3016	- 30
Total base number	mgKOH/g	DIN ISO 3771	4,8
Sulphated ash	g/100 g	DIN 51 575	0,55

SRS Mihagrun X 40 is a product of the H&R ChemPharm GmbH

# SRS Mihagrun XB 40

## High-Performance Gas Engine Oil

February 2019

### Characteristics

SRS Mihagrun XB 40 is a medium ash gas engine oil, specifically designed for use in modern high- performance gas engines. High quality base oils and advanced additive technology provide extended oil change intervals, a high wear protection, high neutralization capacity and a high thermal stability.

SRS Mihagrun XB 40 is suitable for use with sewage gas, biogas and landfill gas and can also be used in engines with modern exhaust aftertreatment systems.

Due to the latest additive technology, SRS Mihagrun XB 40 contributes to engine cleanliness, extended drain intervals, lower oil consumption and therefore a higher efficiency because of the reduced oil changes and less downtime is reached. The excellent detergent and dispersant properties reduce sludge, deposits in the combustion chamber and the exhaust system are avoided.

### Application

SRS Mihagrun XB 40 is specially designed for modern gas engines with the use of aggressive gases such as sewage gases, biogases and landfill gases. The ash content corresponds to the requirements of the latest engine technology. Through a trial run in MAN biogas engines best results were confirmed in terms of change intervals.

### Specifications

SAE Grade 40

### Recommendations

MAN Biogas  
MWM/Caterpillar high Ash  
GE Jenbacher type 2 and 3, Gas class B (Biogas) and C (Landfill gas).

Typical data		Test method	SRS Mihagrun XB 40
SAE Grade		SAE J 300	40
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,878
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	123
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	14,1
Viscosity index (VI)		DIN ISO 2909	113
Flash point COC	°C	DIN ISO 2592	279
Pour point	°C	DIN ISO 3016	- 27
Total base number	mgKOH/g	DIN ISO 3771	7,5
Sulphated ash	g/100 g	DIN 51 575	0,9

SRS Mihagrun XB 40 is a product of the H&R ChemPharm GmbH

# SRS Mihagrun XBB 40

## High-Performance Gas Engine Oil

March 2016

### Characteristics

SRS Mihagrun XBB 40 is specifically designed for use in modern high- performance gas engines. High quality base oils and advanced additive technology provide extended oil change intervals, a high wear protection, high neutralization capacity and a high thermal stability.

SRS Mihagrun XBB 40 is suitable for use with sewage gas, biogas and landfill gas and can also be used in engines with modern exhaust aftertreatment systems.

Due to the latest additive technology, SRS Mihagrun XBB 40 contributes to engine cleanliness, extended drain intervals, lower oil consumption and therefore a higher efficiency because of the reduced oil changes and less downtime is reached. The excellent detergent and dispersant properties reduce sludge, deposits in the combustion chamber and the exhaust system are avoided.

### Application

SRS Mihagrun XBB 40 is specially designed for modern gas engines with the use of aggressive gases such landfill gases. The good acid-neutralizing ability reliably protects the engine against corrosion. SRS Mihagrun XBB 40 can be used in engines, where a higher ash content is required.

### Specifications

SAE Grade 40

### Approvals / Recommendations

MAN Biogas  
MWM/Caterpillar high Ash  
GE Jenbacher type 2 and 3, Gas class B (Biogas) and C (Landfill gas).

Typical data		Test method	SRS Mihagrun XBB 40
SAE Grade		SAE J 300	40
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,876
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	122
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	13,6
Viscosity index (VI)		DIN ISO 2909	108
Flash point COC	°C	DIN ISO 2592	276
Pour point	°C	DIN ISO 3016	- 30
Total base number	mgKOH/g	DIN ISO 3771	8,1
Sulphated ash	g/100 g	DIN 51 575	0,96

SRS Mihagrun XBB 40 is a product of the H&R ChemPharm GmbH

# SRS Lubricating Oil, Engine (O-236)

## Multigrade Engine Oil

July 2021

### Characteristics

SRS Motorenöl O-236 is composed of premium base oils produced with the most modern refinery techniques and accurately adapted additives. Excellent lubrication at all temperatures and exceptional wear protection under all operating conditions are outstanding properties of SRS Motorenöl O-236.

### Application

SRS Motorenöl O-236 is a multigrade engine oil for the lubrication of all kind of combustion engines in land and sea vehicles and stationary equipment. Hydraulic systems, torque converter and clutches can be serviced by this lubricant just as well as gear boxes and steering gears of wheel vehicles and tracked vehicles at high ambient temperatures.

SRS Motorenöl O-236 is designed for use in temperature ranges of – 20 °C up to 40 °C.

SRS Motorenöl O-236 is a full load durable engine oil of MTU oil category 2 with additional corrosion protection properties as anti-corrosion oil for internal conservation.

SRS Motorenöl O-236 is approved by the German Army against specification TL 9150-0063/7 with the qualification certificate B-0486.

### Specifications

SAE Grade	15W-40
ACEA	E7
API	CI-4
NATO-Code	O-236
BW-Code	OY1145

### Approvals

MTU Type 2  
 MTU MTL 5044, type 2 with special corrosion protection  
 MTU MTL 5051, corrosion protection oil for internal conservation  
 Bundeswehr: TL 9150 – 0063/7

Typical data		Test method	SRS Lubricating Oil, Engine (O-236)
SAE-Grade		SAE J 300	15W-40
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,885
Viscosity at –20°C (CCS)	mPas	ASTM D 5293	6600
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	114
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	14,8
Viscosity Index (VI)		DIN ISO 2909	135
Flash point COC	°C	DIN ISO 2592	234
Pour point	°C	DIN ISO 3016	– 36
Total base number	mgKOH/g	ASTM D 2896	10,9

SRS Lubricating Oil Engine (O-236) is a product of the H&R ChemPharm GmbH

# SRS AUTOMOTIVE LUBRICANTS

## SRS Gear Oils

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# Gear Oils

July 2019

Multi-purpose gear oils	API	Brand	SAE Grade
Multi-purpose transmission oil for standard transmissions, transaxle systems and conventionally stressed drive axles	GL 4	SRS Violin Mehrzweck-Getriebeöl 80	80W-85
Multi-purpose transmission oil for standard transmissions, transaxle systems and conventionally stressed drive axles	GL 4	SRS Violin Mehrzweck-Getriebeöl 90	85W-90
Multi-purpose transmission oil for standard transmissions, transaxle systems and conventionally stressed drive axles	GL 4	SRS Violin Mehrzweck-Getriebeöl 80W-90	80W-90
Multi-purpose transmission oil for standard transmissions, transaxle systems and conventionally stressed drive axles	GL 4	SRS Violin Mehrzweck-Getriebeöl 85W-140	85W-140
EP-multi purpose transmission oils for supplying standard transmissions	GL-4	SRS Violin ML 4	80W-85 85W-90 80W-90
EP-multi purpose transmission oils for supplying standard transmissions	GL-4	SRS Violin ML 4 Plus	80W 80W-90 85W-90

Hypoid gear oils	API	Brand	SAE Grade
Hypoid-transmission oil for heavy-duty drive axles in utility vehicles and passenger cars	GL 5	SRS Violin Hypoid-Getriebeöl 80	80W-85
Hypoid-transmission oil for heavy-duty drive axles in utility vehicles and passenger cars	GL 5	SRS Violin Hypoid-Getriebeöl 90	85W-90
Hypoid-transmission oil for heavy-duty drive axles in utility vehicles and passenger cars	GL 5	SRS Violin Hypoid-Getriebeöl 80W-90	80W-90
Hypoid-transmission oil for heavy-duty drive axles in utility vehicles and passenger cars	GL 5	SRS Violin Hypoid-Getriebeöl 85W-140	85W-140

Special gear oils	API	Brand	SAE Grade
Fully synthetic standard transmission oil for VW/Audi passenger cars and other transaxle systems with longitudinally built in motors	GL4 Plus	SRS Getriebefluid 5L	75W-90
Fully synthetic multi purpose gear oil	GL4, GL5 MT-1	SRS Getriebefluid SXL	75W-90
Special-hypoid transmission oil for drive axles with limited-slip differential	GL5/LS	SRS Getriebefluid BMS Plus	75W-90
Smooth running transmission oil for heavy duty differential- and standard transmissions – extreme oil change intervals	GL5	SRS Getriebefluid AFS	75W-90
Heavy-duty standard transmission oil for prolonged oil change intervals	GL4	SRS Violin RSG 80	80W
Special hypoid transmission oil for drive axles with limited-slip differential	GL5/ LS	SRS Violin RSH	85W-90

# Gear Oils

January 2020

Special gear oils	API	Brand	SAE Grade
Multipurpose gear oil	GL4, GL5, MT-1	SRS Getriebefluid SML 75W-90	75W-90
High-performance multi-function gear oil	GL4, GL5, MT-1	SRS Getriebefluid SML 80W-90	80W-90
Smooth running standard transmission oil for extreme oil change intervals	GL4	SRS Getriebefluid MTS	75W-80W
Hypoid-transmission oil	GL5	SRS Getriebefluid HGS	75W-90
Multipurpose transmission oil for heavily loaded manual transmissions	GL4	SRS Getriebefluid MGS Plus	75W-90
Heavy-duty power transmission oils for construction vehicles	CF	SRS Violin 410 SRS Violin 430 SRS Violin 450	10W 30 50
Transmission oils for very highly stressed hypoid-teethed drive axles	GL5	SRS Violin HL 5	80W-90 85W-90 85W-140
Heavy-duty power transmission oil for agricultural vehicles		SRS ZFC	10W-30

ATF oils	Specification	Brand
Hydraulic transmission oil for automatic- and manual transmissions as well as power steering	Type A, Suffix A	SRS Violin ATF 2543 A
Multifunctional Automatic Transmission oil suitable for use in continuous variable transmissions (CVT)	CVT Transmission Oil	SRS Violin ATF CVT
Automatic transmission fluid (ATF)	Dexron II D Ford Mercon	SRS Violin ATF D
Automatic transmission fluid (ATF)	Dexron III H Ford Mercon	SRS Violin ATF III
Automatic transmission fluid (ATD)	Dexron II E Ford Mercon	SRS Violin ATF Dexron S
Multifunctional automatic transmission oil (ATD)	1-A	SRS Violin ATF III MV
High performance transmission oil for stepped automatic transmissions and hydraulic steering systems	Dexron IV Ford Mercon LV	SRS Violin ATF VI
High performance Dual Clutch transmission fluid	DSG Transmission Oil	SRS Violin Getriebefluid DCT

# Gear Oils

January 2020

Hydraulic gear oils	Type	API	Brand	ISO-VG
Hydraulic-transmission fluid (UTTO) for supplying tractors and construction vehicles	UTTO	GL4	SRS Hydrofluid A	46 to 68, 80W, 10W-30
Hydraulic-transmission fluid (UTTO) for supplying tractors and construction vehicles. Applicable in transmissions and hydraulics	UTTO	GL4, GL5	SRS Hydrofluid N	46 to 100
Hydraulic-transmission fluid (UTTO) for supplying tractors and construction vehicles. Applicable in transmissions and hydraulics	UTTO	GL4	SRS Hydrofluid NB	46 to 100, 80W-85
Special-hydraulic-transmission fluid for use in automatic CVT transmissions in agricultural machines	UTTO	GL4	SRS Hydrofluid NC	80W



# Gear Oils

July 2019

German Army oils	BW Code	API	Brand	SAE Grade
Hypoid gear oil with special corrosion protection for the preservation of gears		GL 5	Lubricating oil, Gear, (corrosion preventive), SAE 85W-90	85W-90

# SRS Wiolin Mehrzweck-Getriebeöl 80

Multipurpose Gear Oil for Manual Transmissions

February 2019

## Characteristics

SRS Wiolin Mehrzweck-Getriebeöl 80 multi-purpose gear oil is made of selected base oils with specially selected additives. Its viscosity is chosen to ensure no channelling at low temperatures and high lubrication safety at high temperatures.

## Application

SRS Wiolin Mehrzweck-Getriebeöl 80 is an EP multi-purpose gear oil which can be used for all gear boxes (with and without synchromesh), transfer gear boxes, various steering gears and normally loaded drive axles – particularly passenger car transaxle systems – insofar as hypoid gear oils in accordance with MIL-L-2105 B/C or API GL-5 are not stringently prescribed.

## Specifications

SAE Grade 80W-85  
API GL-4  
MIL L-2105

## Approvals

MB-Approval 235.1  
ZF Approval Number ZF000446  
ZF TE-ML 17A

## Recommendations

Ford SQM-2C-9008 A

Typical data		Test method	SRS Mehrzweck-Getriebeöl 80
SAE Grade		SAE J 306	80W-85
Density at 15 °C	g/cm <sup>3</sup>	DIN 51 757	0,897
Viscosity at – 26 °C	mPa s	DIN 51 398	129,000
Viscosity at – 12 °C	mPa s	DIN 51 398	-
Viscosity at 40 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	114
Viscosity at 100 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	11,9
Viscosity index (VI)		DIN ISO 2909	92
Flash point COC	°C	DIN ISO 2592	220
Pour point	°C	DIN ISO 3016	- 30
FZG-Test A/8.3/90	Fail stage	DIN ISO 14 635	> 12

SRS Wiolin Mehrzweck-Getriebeöl 80 is a product of the H&R ChemPharm GmbH

# SRS Wiolin Mehrzweck-Getriebeöl 90

## Multipurpose Gear Oil for Manual Transmissions

February 2019

### Characteristics

SRS Wiolin Mehrzweck-Getriebeöl 90 multi-purpose gear oil is made of selected base oils with specially selected additives. Its viscosity is chosen to ensure no channelling at low temperatures and high lubrication safety at high temperatures.

### Application

SRS Wiolin Mehrzweck-Getriebeöl 90 is an EP multi-purpose gear oil which can be used for all gear boxes (with and without synchromesh), transfer gear boxes, various steering gears and normally loaded drive axles – particularly passenger car transaxle systems – insofar as hypoid gear oils in accordance with MIL-L-2105 B/C or API GL-5 are not stringently prescribed.

### Specifications

SAE Grade 85W-90  
API GL-4  
MIL L-2105

### Approvals

MB-Approval 235.1  
ZF Approval Number ZF000445  
ZF TE-ML 16A, 17A, 19A

Typical data		Test method	SRS Mehrzweck-Getriebeöl 90
SAE Grade		SAE J 306	85W-90
Density at 15 °C	g/cm <sup>3</sup>	DIN 51 757	0,896
Viscosity at – 26 °C	mPa s	DIN 51 398	-
Viscosity at – 12 °C	mPa s	DIN 51 398	< 150,000
Viscosity at 40 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	207
Viscosity at 100 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	17,4
Viscosity index (VI)		DIN ISO 2909	90
Flash point COC	°C	DIN ISO 2592	220
Pour point	°C	DIN ISO 3016	- 21
FZG-Test A/8.3/90	Fail stage	DIN ISO 14 635	> 12

SRS Wiolin Mehrzweck-Getriebeöl 90 is a product of the H&R ChemPharm GmbH

# SRS Wiolin Mehrzweck-Getriebeöl 80W-90

## Multipurpose Gear Oil for Manual Transmissions

February 2019

### Characteristics

SRS Wiolin Mehrzweck-Getriebeöl 80W-90 multi-purpose gear oil is made of selected base oils with specially selected additives. Its viscosity is chosen to ensure no channelling at low temperatures and high lubrication safety at high temperatures.

### Application

SRS Wiolin Mehrzweck-Getriebeöl 80W-90 is an EP multi-purpose gear oil which can be used for all gear boxes (with and without synchromesh), transfer gear boxes, various steering gears and normally loaded drive axles – particularly passenger car transaxle systems – insofar as hypoid gear oils in accordance with MIL-L-2105 B/C or API GL-5 are not stringently prescribed.

### Specifications

SAE Grade 80W-90  
API GL-4  
MIL L-2105

### Approvals

ZF Approval Number ZF000440  
ZF TE-ML 16A, 17A, 19A

Typical data		Test method	SRS Mehrzweck-Getriebeöl 80W-90
SAE Grade		SAE J 306	80W-90
Density at 15 °C	g/cm <sup>3</sup>	DIN 51 757	0,891
Viscosity at – 26 °C	mPa s	DIN 51 398	137,000
Viscosity at – 12 °C	mPa s	DIN 51 398	-
Viscosity at 40 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	141
Viscosity at 100 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	14
Viscosity index (VI)		DIN ISO 2909	99
Flash point COC	°C	DIN ISO 2592	224
Pour point	°C	DIN ISO 3016	- 27
FZG-Test A/8.3/90	Fail stage	DIN ISO 14 635	> 12

SRS Wiolin Mehrzweck-Getriebeöl 80W-90 is a product of the H&R ChemPharm GmbH

# SRS Violin Mehrzweck-Getriebeöl 85W-140

## Multipurpose Gear Oil for Manual Transmissions

February 2019

### Characteristics

SRS Violin Mehrzweck-Getriebeöl 85W-140 multi-purpose gear oil is made of selected base oils with specially selected additives. Its viscosity is chosen to ensure no channelling at low temperatures and high lubrication safety at high temperatures.

### Application

SRS Violin Mehrzweck-Getriebeöl 85W-140 is an EP multi-purpose gear oil which can be used for all gear boxes (with and without synchromesh), transfer gear boxes, various steering gears and normally loaded drive axles – particularly passenger car transaxle systems – insofar as hypoid gear oils in accordance with MIL-L-2105 B/C or API GL-5 are not stringently prescribed.

### Specifications

SAE Grade 85W-140  
API GL-4  
MIL L-2105

Typical data		Test method	SRS Mehrzweck-Getriebeöl 85W-140
SAE Grade		SAE J 306	85W-140
Density at 15 °C	g/cm <sup>3</sup>	DIN 51 757	0,902
Viscosity at – 12 °C	mPa s	DIN 51 398	118,000
Viscosity at 40 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	399
Viscosity at 100 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	26,6
Viscosity index (VI)		DIN ISO 2909	90
Flash point COC	°C	DIN ISO 2592	285
Pour point	°C	DIN ISO 3016	– 18
FZG-Test A/8.3/90	Fail stage	DIN ISO 14 635	> 12

SRS Violin Mehrzweck-Getriebeöl 85W-140 is a product of the H&R ChemPharm GmbH

# SRS Wiolin ML 4

## EP Multipurpose Gear Oils

February 2019

February 2019

### Characteristics

SRS Wiolin ML 4 gear oils are blends of selected base oils with load carrying additives and oxidation inhibitors. Multigrade characteristics of Wiolin ML 4 ensure good low temperature fluidity and high wear protection at high temperature.

### Application

SRS Wiolin ML 4 are EP multipurpose gear oils which can be used for all gear boxes (with and without synchronization, transfer gearboxes, various steering gears and normal loaded drive axles – as far as API GL 5 hypoid gear oils are not mandatory required).

### Specifications

SAE Grade 80W-85, 80W-90 and 85W-90  
API GL-4

Typical data		Test method	SRS WIOLIN ML 4		
			SAE 80W-85	SAE 80W-90	SAE 85W-90
SAE Grade		SAE J 306	80W-85	80W-90	85W-90
Density at 15 °C	g/cm <sup>3</sup>	DIN 51 757	0,892	0,890	0,894
Viscosity at – 26 °C	mPa s	DIN 51 398	< 150.000	140.000	-
Viscosity at – 12 °C	mPa s	DIN 51 398	-	-	< 150.000
Viscosity at 40 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	113	140	206
Viscosity at 100 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	12,2	14,1	17,4
Viscosity index (VI)		DIN ISO 2909	98	98	90
Flash point COC	°C	DIN ISO 2592	230	230	230
Pour point	°C	DIN ISO 3016	- 30	- 30	- 21

SRS Wiolin ML 4 multipurpose gear oils are products of the H&R ChemPharm GmbH

# SRS Wiolin ML 4 plus

## EP Multipurpose Gear Oils

April 2022

### Characteristics

SRS Wiolin ML 4 plus gear oils are blends of selected base oils with load carrying additives and oxidation inhibitors. Multigrade characteristics of SRS Wiolin ML 4 plus ensure good low temperature fluidity and high wear protection at high temperature.

### Application

SRS Wiolin ML 4 plus are EP multipurpose gear oils which can be used for all gear boxes (with and without synchronization, transfer gearboxes, various steering gears and normal loaded drive axles – as far as API GL 5 hypoid gear oils are not mandatory required. SRS Wiolin ML 4 plus gear oils are suitable according to MAN 341 Z2 for extended drain intervals up to 160.000 km and can also be used in gearboxes, where transmission oils according to MAN 341 type E2 are required.

### Specifications

SAE Grade 80W, 80W-90 and 85W-90  
API GL-4

### Approvals

MAN 341 Type Z2  
ZF Approval Number ZF001914<sup>1</sup>  
ZF TE-ML 02B, 16T, 17A  
ZF Approval Number ZF001914 / ZF001915 / ZF001916  
ZF TE-ML 02B, 17<sup>a</sup>

<sup>1</sup> for SRS Wiolin ML 4 plus SAE 80W

Typical data		Test method	SRS WIOLIN ML 4 plus		
			SAE 80W	SAE 80W-90	SAE 90
SAE Grade		SAE J 306	80W-85	80W-90	85W-90
Density at 15 °C	g/cm <sup>3</sup>	DIN 51 757	0,881	0,888	0,899
Viscosity at – 26 °C	mPa s	DIN 51 398	< 150.000	130.000	-
Viscosity at – 12 °C	mPa s	DIN 51 398	-	-	< 150.000
Viscosity at 40 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	68,0	138	165
Viscosity at 100 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	8,76	14,2	15,5
Viscosity index (VI)		DIN ISO 2909	101	100	95
Flash point COC	°C	DIN ISO 2592	224	254	228
Pour point	°C	DIN ISO 3016	- 30	- 30	- 21

SRS Wiolin ML 4 multipurpose gear oils are products of the H&R ChemPharm GmbH

# SRS Violin Hypoid-Getriebeöl 80

Gear Oil for Drive Axles

November 2011

## Characteristics

SRS Violin Hypoid-Getriebeöl 80 is blended from selected base oils with carefully adapted additives. Its viscosity is chosen to ensure both no channelling at low temperatures and high lubrication safety at high temperatures.

## Application

SRS Violin Hypoid-Getriebeöl 80 is intended for very high loaded hypoid meshed axles, bevel and spur gears, steering gears and not synchronized gear boxes in vehicles and machines.

## Specifications

SAE Grade 80W-85  
API GL-5  
MIL L-2105 C/D

## Approvals / Recommendations

MAN 342 Type E1  
Volvo 97310

Typical data		Test method	SRS Hypoid-Getriebeöl 80
SAE Grade		SAE J 306	80W-85
Density at 15 °C	g/cm <sup>3</sup>	DIN 51 757	0,897
Viscosity at - 26 °C	mPa s	DIN 51 398	130,000
Viscosity at 40 °C	mm <sup>2</sup> /s	DIN 51 562	117
Viscosity at 100 °C	mm <sup>2</sup> /s	DIN 51 562	12,3
Viscosity index (VI)		DIN ISO 2909	95
Flash point COC	°C	DIN ISO 2592	220
Pour point	°C	DIN ISO 3016	- 27
FZG-Test A/8.3/90	Fail stage	DIN ISO 14 635	> 12

SRS Violin Hypoid-Getriebeöl 80 is a product of the H&R ChemPharm GmbH



# SRS Violin Hypoid-Getriebeöl 90

Gear Oil for Drive Axles

February 2019

## Characteristics

SRS Violin Hypoid-Getriebeöl 90 is blended from selected base oils with carefully adapted additives. Its viscosity is chosen to ensure both no channelling at low temperatures and high lubrication safety at high temperatures.

## Application

SRS Violin Hypoid-Getriebeöl 90 is intended for very high loaded hypoid meshed axles, bevel and spur gears, steering gears and not synchronized gear boxes in vehicles and machines.

## Specifications

SAE Grade 85W-90  
API GL-5  
MIL L-2105 C/D

## Approvals

MB-Approval 235.0  
ZF Approval Number ZF000444  
ZF TE-ML 16C, 17B, 19B, 21A  
Voith 132.00374400

## Recommendations

Volvo 97310  
MAN 342 Type E1  
Ford SQM-2C-9002 AA  
DAF

Typical data		Test method	SRS Hypoid-Getriebeöl 90
SAE Grade		SAE J 306	85W-90
Density at 15 °C	g/cm <sup>3</sup>	DIN 51 757	0,902
Viscosity at - 12 °C	mPa s	DIN 51 398	20,000
Viscosity at 40 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	198
Viscosity at 100 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	17,6
Viscosity index (VI)		DIN ISO 2909	95
Flash point COC	°C	DIN ISO 2592	216
Pour point	°C	DIN ISO 3016	- 24
FZG-Test A/8.3/90	Fail stage	DIN ISO 14 635	> 12

SRS Violin Hypoid-Getriebeöl 90 is a product of the H&R ChemPharm GmbH

# SRS Violin Hypoid-Getriebeöl 80W-90

Gear Oil for Drive Axles

February 2019

## Characteristics

SRS Violin Hypoid-Getriebeöl 80W-90 is blended from selected base oils with carefully adapted additives. Its viscosity is chosen to ensure both no channelling at low temperatures and high lubrication safety at high temperatures.

## Application

SRS Violin Hypoid-Getriebeöl 80W-90 is intended for very high loaded hypoid meshed axles, bevel and spur gears, steering gears and not synchronized gear boxes in vehicles and machines.

## Specifications

SAE Grade 80W-90  
API GL-5  
MIL L-2105 C/D

## Approvals

ZF Approval Number ZF000441  
ZF TE-ML 16B, 17B, 19B, 21A

## Recommendations

MAN 342 Type E1  
DAF  
Renault

Typical data		Test method	SRS Hypoid-Getriebeöl 80W-90
SAE Grade		SAE J 306	80W-90
Density at 15 °C	g/cm <sup>3</sup>	DIN 51 757	0,897
Viscosity at - 26 °C	mPa s	DIN 51 398	130,000
Viscosity at 40 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	140
Viscosity at 100 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	13,9
Viscosity index (VI)		DIN ISO 2909	98
Flash point COC	°C	DIN ISO 2592	210
Pour point	°C	DIN ISO 3016	- 33
FZG-Test A/8.3/90	Fail stage	DIN ISO 14 635	> 12

SRS Violin Hypoid-Getriebeöl 80W-90 is a product of the H&R ChemPharm GmbH

# SRS Violin Hypoid-Getriebeöl 85W-140

Gear Oil for Drive Axles

February 2019

## Characteristics

SRS Violin Hypoid-Getriebeöl 85W-140 is blended from selected base oils with carefully adapted additives. Its viscosity is chosen to ensure both no channelling at low temperatures and high lubrication safety at high temperatures.

## Application

SRS Violin Hypoid-Getriebeöl 85W-140 is intended for very high loaded hypoid meshed axles, bevel and spur gears, steering gears and not synchronized gear boxes in vehicles and machines.

## Specifications

SAE Grade 85W-140  
API GL-5  
MIL L-2105 C/D

## Approvals

ZF Approval Number ZF000443  
ZF TE-ML 16D, 21A

## Recommendations

Volvo 97310  
DAF

Typical data		Test method	SRS Hypoid-Getriebeöl 85W-140
SAE Grade		SAE J 306	85W-140
Density at 15 °C	g/cm <sup>3</sup>	DIN 51 757	0,906
Viscosity at - 12 °C	mPa s	DIN 51 398	89,000
Viscosity at 40 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	337
Viscosity at 100 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	24,7
Viscosity index (VI)		DIN ISO 2909	95
Flash point COC	°C	DIN ISO 2592	220
Pour point	°C	DIN ISO 3016	- 21
FZG-Test A/8.3/90	Fail stage	DIN ISO 14 635	> 12

SRS Violin Hypoid-Getriebeöl 85W-140 is a product of the H&R ChemPharm GmbH

# SRS Getriebefluid 5L

## Fully Synthetic Manual Transmission Oil

February 2019

### Characteristics

SRS Getriebefluid 5L is fully synthetic gear oil with tailor made additives to fulfil the requirements of manual transmissions. It is designed for both perfect synchronisation function and high wear protection. The viscosity of SAE 75W-90 reduces stiffness at low temperatures, particularly in 5-speed gear boxes. At the same time its distinctive high temperature viscosity prevents noise at high operating temperatures.

### Application

SRS Getriebefluid 5 L is suitable for use in all passenger car transaxle blocks with longitudinally mounted gear boxes. The hypoid gears with minor axle offsets which are usually used in these gear boxes are also effectively protected through its high wear protection.

### Specifications

SAE Grade 75W-90  
API GL-4 plus

### Recommendations

VW 501 50

Typical data		Test method	SRS Getriebefluid 5L
SAE Grade		SAE J 306	75W-90
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,850
Dyn. viscosity at - 40°C (CCS)	mPa s	DIN 51 398	29,700
Kin. viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	88,3
Kin. viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	15,1
Viscosity Index (VI)		DIN ISO 2909	180
Flash point COC	°C	DIN ISO 2592	212
Pour point	°C	DIN ISO 3016	- 61

SRS Getriebefluid 5L is a product of the H&R ChemPharm GmbH

# SRS Getriebefluid SXL 75W-90

Fully Synthetic Multi Purpose Gear Oil

February 2019

## Characteristics

SRS Getriebefluid SXL 75W-90 is based on fully synthetic base oils and carefully adapted additives. The viscosity adjustment SAE 75W-90 guarantees both good low temperatures fluidity and a strong lubricating film at high temperatures. A high fuel saving is achieved by the special low friction properties of SRS Getriebefluid SXL 75W-90.

## Application

SRS Getriebefluid SXL 75W-90 is for universal application in gearboxes, auxiliary drives and rear axles, including heavily loaded hypoid meshed drive axles. The requirements of API GL-4 and GL-5 are met with great reserve; oil changing intervals up to 500.000 km depending on the manufacturer's specifications are possible. Therefore the maintenance costs are reduced and the economy increases.

SRS Getriebefluid SXL 75W-90 can be used in commercial vehicles, agricultural machinery, construction machinery and passenger cars. SRS Getriebefluid SXL 75W-90 can also be used in gearboxes, where transmission oils according to MAN 341 type E3 and MAN 342 type M3 are required.

## Specifications

SAE Grade	75W-90
API	GL-4, GL-5
API	MT-1
SAE	J 2360 (MIL-PRF-2105 D/E)

## Approvals

MB-Approval 235.8  
 MAN 341 Type Z2  
 MAN 342 Type S1  
 Scania STO 1:0  
 Scania STO 2:0A FS  
 ZF Approval Number ZF001655  
 ZF TE-ML 02B, 05A, 12L, 12N, 16F, 17B, 19C, 21A Renault

## Recommendations

Volvo Transmission Oil 97 312  
 Mack GO-J  
 Arvin Meritor 076-N  
 Eaton Transmissions (Europe)  
 DAF  
 Iveo  
 Renault

Typical data		Test method	SRS Getriebefluid SXL
SAE Grade		SAE J 306	75W-90
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,869
Dyn. viscosity at - 40°C	mPa s	DIN 51 398	77.000
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	107
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	15,7
Viscosity Index (VI)		DIN ISO 2909	157
Flash point COC	°C	DIN ISO 2592	200
Pour point	°C	DIN ISO 3016	< - 51

SRS Getriebefluid SXL 75W-90 is a product of the H&R ChemPharm GmbH

# SRS Getriebefluid BMS plus

Fully Synthetic Special Hypoid Gear Oil

March 2012

## Characteristics

SRS Getriebefluid BMS Plus is a fully synthetic hypoid gear oil for heavy duty axle drives. The additives are adapted for increased loads of axle drive oils. SRS Getriebefluid BMS Plus has excellent oxidation stability, extremely high load carrying capacity (EP behaviour) and high shear stability. Synthetic base fluids have inherently excellent low-temperature fluidity, low pour points with an optimal viscosity at high temperature (high VI).

## Application

SRS Getriebefluid BMS Plus facilitates product rationalization because it can be used as API GL-5 first fill and service top-up lubricant in all drive axles of mixed vehicle fleets. SRS Getriebefluid BMS Plus is a "limited slip oil" namely approved by BMW for all limited-slip differentials. Due to its excellent antiwear properties and noise reduction in limited slip differentials the use in off-road vehicles (SUV) is recommended.

## Specifications

SAE Grade 75W-140  
API GL 5/LS

## Approvals / Recommendations

MB-Sheet 235.61  
BMW  
ZF TE-ML 05D, 12D, 16G, 21D

Typical data		Test method	SRS Getriebefluid BMS plus
SAE Grade		SAE J 306	75W-140
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,857
Viscosity at - 40 °	mPa s	DIN 51 398	120,000
Viscosity at 40°C	mm <sup>2</sup> /s	DIN 51 562	179
Viscosity at 100°C	mm <sup>2</sup> /s	DIN 51 562	24,7
Viscosity index (VI)		DIN ISO 2909	170
Flash point COC	°C	DIN ISO 2592	228
Pour point	°C	DIN ISO 3016	- 54

SRS Getriebefluids BMS plus is a product of the H&R ChemPharm GmbH

# SRS Getriebefluid AFS

Fully Synthetic Special Hypoid Gear Oil

January 2017

## Characteristics

SRS Getriebefluid AFS is a fully synthetic fuel-economy gear oil especially for heavily loaded axle drives and manual transmissions. Synthetic base oils and tailor made additives surpass requirements of today's practice. SRS Getriebefluid AFS provides exceptional protection against mechanical and thermal loads even at extended oil drain intervals.

## Application

SRS Getriebefluid AFS is a high performance gear oil suitable for commercial vehicle rear axles as well as final drives, manual transmissions and steering gears. Extreme oil drain intervals (up to 500,000 km) reduce maintenance costs and increase the economy.

## Specifications

SAE Grade 75W-90  
API GL-5  
SAE J 2360 MIL-PRF-2105E

## Approvals / Recommendations

MB-Approval 235.8  
MAN 342 Type S1  
Scania STO 1:0  
ZF Approval Number ZF000826  
ZF TE-ML, 05A, 12B, 16F, 17B  
Volvo Transmission oil 97312

DAF  
Voith Turbo 132.00374401  
Voith Turbo 132.00374402  
Flender BA 7302 - Railway Gear Drives  
TATRA  
Meritor - Europe (Extended drain)

Typical data		Test method	SRS Getriebefluid AFS
SAE Grade		SAE J 300	75W-90
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,867
Viscosity at -40°C	mPas	DIN 51 562	115.000
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	115
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	16,8
Viscosity Index (VI)		DIN ISO 2909	160
Flash point COC	°C	DIN ISO 2592	220
Pour point	°C	DIN ISO 3016	- 48
FZG-Test A/8,3/90	Fail stage	CEC L-84-02	> 12

SRS Getriebefluid AFS is a product of the H&R ChemPharm GmbH

# SRS Violin RSG 80

## High Performance Transmission Oil

February 2019

### Characteristics

SRS Violin RSG 80 is a high performance transmission oil for gear boxes for extended oil drain intervals. It is blended from a tailored combination of base oils and selected additives. Their viscosities are chosen to ensure both no channelling at low temperatures and a high lubricant film at high temperatures.

### Application

SRS Violin RSG 80 is a EP multi-purpose gear oil which can be used for all gear boxes (with and without synchromesh), transfer gear boxes, various steering gears and normal duty drive axles – particularly passenger car transaxle systems. SRS Violin RSG 80 is also used in wheel set gearboxes of Deutsche Bahn. SRS Getriebefluid SML 80W—90 can also be used in gearboxes, where transmission oils according to MAN 341 type E2 are required.

### Specifications

SAE Grade 80W  
API GL-4

### Approvals

MAN 341 Type Z2  
ZF Approval Number ZF000452  
ZF TE-ML 17A

### Recommendations

MB 235.5

Typical data		Test method	SRS Violin RSG 80
SAE Grade		SAE J 306	80W
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,884
Viscosity at -26°C	mPa s	DIN 51 398	70.000
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	71,7
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	9,4
Viscosity index (VI)		DIN ISO 2909	100
Flash point COC	°C	DIN ISO 2592	220
Pour point	°C	DIN ISO 3016	- 27

SRS Violin RSG 80 is a product of the H&R ChemPharm GmbH



# SRS Violin RSH

## Hypoid Gear Oil LS

April 2022

### Characteristics

SRS Violin RSH is prescribed for highly loaded drive axles with hypoid meshed gears and limited slip differentials (selflocking). SRS Violin RSH contains specially adapted additives to limit slip (Limited Slip = LS) and to prevent noise development during cornering.

### Application

SRS Violin RSH satisfies all performance requirements set for hypoid gears with multi disk locking differentials. Combined gear boxes and axle drives can be lubricated as well as vehicles with transfer gear boxes, preferably used in agriculture. SRS Violin RSH can also be used in mixed fleets in all drive axles with API GL-5 requirements for product rationalization.

### Specifications

SAE	85W-90
API	GL-5 / LS
MIL	L-2105B/C/D

### Approvals

ZF Approval Number ZF000442  
ZF TE-ML 05C, 16E, 21C

### Recommendations

Ford M2C 104 A Performance

Typical data		Test method	SRS Violin RSH
SAE Grade		SAE J 306	85W-90
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,902
Viscosity at -12°C	mPa s	DIN 51 398	27,000
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	215
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	17,9
Viscosity index (VI)		DIN ISO 2909	90
Flash point COC	°C	DIN ISO 2592	205
Pour point	°C	DIN ISO 3016	- 30
FZG-Test A/8,3/90	Fail stage	DIN ISO 14635	> 12

SRS Violin RSH is a product of the H&R ChemPharm GmbH

# SRS Getriebefluid SML 75W-90

Hypoid Gear Oil LS

April 2014

## Characteristics

SRS Getriebefluid SML 75W-90 is based on fully synthetic base oils and carefully adapted additives. The viscosity adjustment SAE 75W-90 guarantees both good low temperatures fluidity and a strong lubricating film at high temperatures. A high fuel saving is achieved by the special low friction properties of SRS Getriebefluid SML 75W-90.

## Application

SRS Getriebefluid SML 75W-90 is a fully synthetic multi purpose gear oil for universal application in gearboxes, auxiliary drives and rear axles, including heavily loaded hypoid meshed drive axles. The requirements of API GL-4 and GL-5 are met with great reserve; oil changing intervals up to 500.000 km depending on the manufacturer`s specifications are possible.

SRS Getriebefluid SML 75W-90 can be used in commercial vehicles, agricultural machinery, construction machinery and passenger cars.

## Specifications

SAE Grade 75W-90  
API GL-4 / GL-5 / MT-1  
SAE J 2360 (MIL-PRF-2105 D/E)

## Approvals / Recommendations

MB-Sheet 235.8	Arvin Meritor 076-N
MAN 341 Type Z2/E3	Eaton Transmissions (Europe)
MAN 432 Type M3	DAF
Scania STO 1:0	Iveco
ZF TE-ML 02B, 05B, 07A, 08, 16F, 17B, 19C, 21B	Renault
Mack GO-J	

Typical data		Test method	SRS Getriebefluid SML
SAE Grade		SAE J 306	75W-90
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0.869
Viscosity at -26°C	mPas	DIN 51 398	77,000
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	107
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	15.7
Viscosity index (VI)		DIN ISO 2909	157
Flash point COC	°C	DIN ISO 2592	200
Pour point	°C	DIN ISO 3016	< - 51

SRS Getriebefluid SML 75W-90 is a product of the H&R ChemPharm GmbH

# SRS Getriebefluid SML 80W-90

High Performance Multi-Function Gear Oil LS

February 2019

## Characteristics

SRS Getriebefluid SML 80W-90 is blended with selected mineral oils and carefully adapted additives. The viscosity adjustment SAE 80W-90 guarantees both good low temperatures fluidity and a strong lubricating film at high temperatures.

## Application

SRS Getriebefluid SML 80W-90 is a high performance multi purpose gear oil for universal application in commercial vehicle gearboxes, auxiliary drives and rear axles, including heavily loaded hypoid meshed drive axles.

SRS Getriebefluid SML 80W-90 can also be used in gearboxes, where transmission oils according to MAN 341 type E2 are required.

## Specifications

SAE Grade	80W-90
API	GL-4 and GL-5
API	MT-1
SAE	J 2360 (MIL-PRF-2105 D/E)

## Approvals

MB-Approval 235.0  
 MAN 341 Type Z2  
 MAN 342 Type M2  
 ZF Approval Number ZF000447  
 ZF TE-ML 02B, 05A, 12L, 12M, 16B, 17H, 19B, 21A

## Recommendations

Scania STO 1:0  
 Robert Bosch TE ML 08  
 Mack GO-J  
 Arvin Meritor Transmission 076-D  
 Volvo 97321  
 DAF  
 Iveco

Typical data		Test method	SRS Getriebefluid SML 80W-90
SAE Grade		SAE J 306	80W-90
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,898
Viscosity at -26°C	mPa s	DIN 51 398	130.000
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	139
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	14,1
Viscosity index (VI)		DIN ISO 2909	98
Flash point COC	°C	DIN ISO 2592	225
Pour point	°C	DIN ISO 3016	- 27
FZG-Test A/8,3/90	Fail stage	DIN ISO 14 635	> 12

SRS Getriebefluid SML 80W-90 is a product of the H&R ChemPharm GmbH

# SRS Getriebefluid MTS

## Fully Synthetic Manual Transmission Oil

February 2019

### Characteristics

SRS Getriebefluid MTS is a fully synthetic fuel economy gear oil especially for heavily loaded manual transmissions. Synthetic base oils and tailor made innovative additives are used to satisfy the requirements of today's practice. SRS Getriebefluid MTS provides exceptional protection against mechanical and thermal loads even at extended oil drain intervals.

### Application

SRS Getriebefluid MTS is a high performance gear oil suitable for synchronized manual transmissions (with interarder / retarder) of commercial vehicles. The shift comfort is clearly increased. Extremely long oil drain intervals reduce maintenance costs and increase economy.

SRS Getriebefluid MTS can be used as service oil for manual transmissions in commercial vehicles and busses, equipped with or without Interarder. Oil change intervals according to manufacturer's instructions up to 500,000 km. SRS Getriebefluid MTS can also be used in gearboxes, where transmission oils according to MAN 341 type E4 are required.

### Specifications

SAE Grade 75W-80  
API GL-4

### Approvals

MAN 341 Type VR  
Voith Retarder Type C

### Recommendations

MB 235.29  
DAF with Eaton transmissions  
Eaton Manual Transmission  
Volvo Transmission Oil 97307

Typical data		Test method	SRS Getriebefluid MTS
SAE Grade		SAE J 306	75W-80
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,856
Viscosity at -40°C	mPa s	DIN 51 398	31.700
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	65,9
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	10,5
Viscosity Index (VI)		DIN ISO 2909	147
Flash point COC	°C	DIN ISO 2592	235
Pour point	°C	DIN ISO 3016	- 55

SRS Getriebefluid MTS is a product of the H&R ChemPharm GmbH

# SRS Getriebefluid HGS

## Hypoid Gear Oil

February 2019

### Characteristics

SRS Getriebefluid HGS 75W-90 is a hypoid gear oil especially for heavily loaded axle drives. Selected base oils using synthetic technology and innovative additives are adapted to fulfil the increased load conditions of modern gear oils. SRS Getriebefluid HGS 75W-90 provides exceptional oxidation stability, particularly high load capacity, optimal viscositytemperature behaviour with good low temperature fluidity and high shear stability.

### Application

SRS Getriebefluid HGS 75W-90 are intended for very high loaded hypoid meshed axles, bevel and spur gears, steering gears and not synchronized gear boxes in vehicles and machines.

### Specifications

SAE Grade 75W-90  
API GL-5

### Recommendations

MAN 342 type M1/M2  
ZF TE-ML 05B, 16B, 17B, 21A

Typical data		Test method	SRS Getriebefluid HGS 75W-90
SAE Grade		SAE J 306	75W-90
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,879
Viscosity at -40°C	mPas	DIN 51 398	92.000
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	75,8
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	13,6
Viscosity Index (VI)		DIN ISO 2909	190
Flash point COC	°C	DIN ISO 2592	210
Pour point	°C	DIN ISO 3016	- 45

SRS Getriebefluid HGS 75W-90 is a product of the H&R ChemPharm GmbH

# SRS Getriebefluid MGS plus 75W-90

## Multipurpose Gear Oil

February 2019

### Characteristics

SRS Getriebefluid MGS Plus 75W-90 is a transmission oil for heavily loaded manual transmissions. Selected base oils using synthetic technology and innovative additives are balanced for the specific requirements of manual transmissions.

SRS Getriebefluid MGS Plus 75W-90 provides excellent oxidation stability particularly high load capacity, optimal viscosity-temperature behavior with very good low temperature fluidity and high shear stability. Excellent cold start behavior ensures optimum lubrication safety during the cold start phase. Extreme demands can be safely controlled under all temperatures and conditions.

### Application

SRS Getriebefluid MGS 75W-90 is intended for high loaded manual transmissions (with and without synchronizing) transfer box gears and steering gears in vehicles and engines. It can be used as initial and service fills of manual transmissions and automatic transmissions in commercial vehicles according to ZF TE-ML 02B. In addition, the SRS Getriebefluid MGS plus 75W-90 can be used in transmissions and axles for lift trucks, where gear oils according to ZF TE-ML 17A are required.

### Specifications

SAE Grade 75W-90  
API GL-4

### Recommendations

MAN 341 Z2  
ZF TE-ML 02B, 17A

Typical data		Test method	SRS Getriebefluid MGS plus 75W-90
SAE Grade		SAE J 306	75W-90
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,877
Viscosity at -40°C	mPas	DIN 51 398	97.300
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	78,7
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	14,6
Viscosity Index (VI)		DIN ISO 2909	195
Flash point COC	°C	DIN ISO 2592	206
Pour point	°C	DIN ISO 3016	- 42

SRS Getriebefluid MGS plus 75W-90 is a product of the H&R ChemPharm GmbH

# SRS Violin 410, 430 and 450

## Power Transmission Oils

October 2018

### Characteristics

SRS Violin 410, 430 and 450 are special power transmission oils for agricultural equipments and construction engines.

SRS Violin 410, 430 and 450 fulfil the increased requirements of Caterpillar TO-4 specification and are suitable for use in transmissions, final drives, hydraulic systems, wet brakes and clutches requiring Caterpillar TO-4.

### Application

SRS Violin 410, 430 and 450 guarantee highest wear protection in different transmissions as lateral drives and differentials, optimise the friction coefficient in power shift gear boxes, wet brakes and clutches and maximize the lifetime of engines and equipment.

### Specifications

SAE Grade 10W, 30 and 50  
API CF

### Approvals / Recommendations

Caterpillar TO-4  
Caterpillar TO-2  
ZF Approval Number ZF001931  
SRS Violin 410: ZF TE-ML 03C  
ZF Approval Number ZF001932  
SRS Violin 430: ZF TE-ML 03C, 07  
Allison C-4  
Komatsu KES 07.868.1  
Sperry Vickers / Eaton M2950S  
Sperry Vickers / Eaton I-280-S

Typical data		Test method	410	SRS Violin 430	450
SAE Grade		SAE J 300	10W	30	50
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,887	0,892	0,897
Dyn. Viscosity at – 35 °C	mPa s	DIN 51 398	79,400	-	-
Dyn. Viscosity at – 26 °C	mPa s	DIN 51 398	-	126.000	-
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	36,8	97,7	220
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	6,26	10,8	18,4
Viscosity index (VI)		DIN ISO 2909	119	94	92
Flash point COC	°C	DIN ISO 2592	228	247	282
Pour point	°C	DIN ISO 3016	- 33	- 30	- 24

SRS Violin 410, 430 and 450 are products of the H&R ChemPharm GmbH

# SRS Violin HL 5 SAE 80W-90

Gear Oil for Drive Axles

February 2019

## Characteristics

SRS Violin HL 5 SAE 80W-90 gear oil is a blend of selected base oils with load carrying additives and oxidation inhibitors. Multigrade characteristics of SRS Violin HL 5 SAE 80W-90 ensure good low temperature fluidity and high wear protection at high temperature.

## Application

SRS Violin HL 5 SAE 80W-90 gear oil is suitable for highly loaded hypoid drive axles, as well as for bevel and spur gears, steering gears and for not synchronized gearboxes of motor vehicles and working machines without synchromesh, insofar as gear oils in accordance with API GL-5 are prescribed.

## Specifications

SAE Grade 80W-90  
API GL-5  
MIL PRF-2105 D

## Approvals

MAN 342 type M2  
ZF Approval Number ZF001911  
ZF TE-ML 05A, 12E, 16B, 17B, 19B, 21A

Typical data		Test method	SRS Violin HL 5 SAE 80W-90
SAE Grade		SAE J 306	80W-90
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,892
Dyn. Viscosity at - 26 °C	mPa s	DIN 51 398	140.000
Dyn. Viscosity at - 12 °C	mPa s	DIN 51 398	-
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	140
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	14,1
Viscosity index (VI)		DIN ISO 2909	98
Flash point COC	°C	DIN ISO 2592	230
Pour point	°C	DIN ISO 3016	- 30
FZG-Test A/8,3/90	SKS	DIN ISO 14 635	> 12

SRS Violin HL 5 SAE 80W-90 gear oil is a product of the H&R ChemPharm GmbH



# SRS Violin HL 5 SAE 85W-90

## Gear Oil for Drive Axles

February 2019

### Characteristics

SRS Violin HL 5 85W-90 gear oil is a blend of selected base oils with load carrying additives and oxidation inhibitors. Multigrade characteristics of SRS Violin HL 5 SAE 85W-90 ensure good low temperature fluidity and high wear protection at high temperature.

### Application

SRS Violin HL 5 85W-90 gear oil is suitable for highly loaded hypoid drive axles, as well as for bevel and spur gears, steering gears and for not synchronized gearboxes of motor

### Specifications

SAE Grade 85W-90  
API GL-5  
MIL PRF-2105 D

### Approvals

MAN 342 Type M2  
ZF Approval Number ZF001912  
ZF TE-ML 05A, 12E, 16C, 17B, 19B, 21A

Typical data		Test method	SRS Violin HL 5 SAE 85W-90
SAE Grade		SAE J 306	85W-90
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,898
Dyn. Viscosity at - 26 °C	mPa s	DIN 51 398	–
Dyn. Viscosity at - 12 °C	mPa s	DIN 51 398	21.000
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	198
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	17,6
Viscosity index (VI)		DIN ISO 2909	96
Flash point COC	°C	DIN ISO 2592	230
Pour point	°C	DIN ISO 3016	- 21
FZG-Test A/8,3/90	SKS	DIN ISO 14 635	> 12

SRS Violin HL 5 SAE 80W-90 gear oil is a product of the H&R ChemPharm GmbH

# SRS Violin HL 5 SAE 85W-140

## Gear Oil for Drive Axles

February 2019

### Characteristics

SRS Violin HL 5 SAE 85W-140 gear oil is a blend of selected base oils with load carrying additives and oxidation inhibitors. Multigrade characteristics of SRS Violin HL 5 SAE 80W-90 ensure good low temperature fluidity and high wear protection at high temperature.

### Application

SRS Violin HL 5 SAE 85W-140 gear oil is suitable for highly loaded hypoid drive axles, as well as for bevel and spur gears, steering gears and for not synchronized gearboxes of motor vehicles and working machines without synchromesh, insofar as gear oils in accordance with API GL-5 are prescribed.

### Specifications

SAE Grade	85W-140
API	GL-5
MIL	PRF-2105 D

Typical data		Test method	SRS Violin HL 5 SAE 85W-140
SAE Grade		SAE J 306	85W-140
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,906
Dyn. Viscosity at - 26 °C	mPa s	DIN 51 398	-
Dyn. Viscosity at - 12 °C	mPa s	DIN 51 398	74.600
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	384
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	26,1
Viscosity index (VI)		DIN ISO 2909	91
Flash point COC	°C	DIN ISO 2592	234
Pour point	°C	DIN ISO 3016	- 18

SRS Violin HL 5 SAE 85W-140 gear oil is a product of the H&R ChemPharm GmbH

# SRS Getriebefluid ZFC

## Transmission and Axle Drive Oil

January 2020

### Characteristics

SRS Getriebefluid ZFC is a high performance power transmission oil especially for agricultural machinery and equipment as well as for construction engines.

Selected molecular converted mineral base oils are blended carefully with adapted additives to control the mechanical and thermal loads even at long oil drain intervals.

It fulfils the strict requirement of ZF TE-ML 06H and is namely recommended by ZF as initial fill and service oil for tractor engines of the series ECCOM 3.5 and S-Matic without installed rear axle and without front wheel drive. Comprehensive bench and field tests were conducted.

### Approvals / Recommendations

SAE Grade 10W-30  
 ZF Approval Number ZF000584  
 ZF TE-ML 03C, 06H, 06M  
 CLAAS Eccom 3.5 (CSE)  
 Komatsu KES 07.868.1  
 Caterpillar TO-4  
 Allison C-4

Typical data		Test method	SRS Getriebefluid ZFC
SAE Grade		SAE J 300	10W-30
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,876
Din. Viscosity at - 25 °C	mPa s	DIN 51 398	6.000
Din. Viscosity at - 10°C	mPa s	DIN 51 398	1450
Viscosity at 40 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	70,7
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	11,5
Viscosity index (VI)		DIN ISO 2909	158
Pour point	°C	DIN ISO 3016	- 45
FZG-Test A/8, 3/90	Fail stage	DIN ISO 14 635	> 12

SRS Getriebefluid ZFC is a product of the H&R ChemPharm GmbH

# SRS Violin ATF 2543 A

## Automatic Transmission Fluid

February 2019

### Characteristics

SRS Violin ATF 2543 A corresponds to the former General Motors Specification ATF Type A Suffix A (TASA).

### Application

SRS Violin ATF 2543 A is used in automatic and manual transmissions, power shift, torque converters and power assisted steering gears. For all these applications different coefficients of friction are prescribed, wherefore different ATF are used. The OEM manuals have to be followed.

SRS Violin ATF 2543 A possesses all typical characteristics of ATF: low viscosity, excellent low temperature viscosity, high viscosity index, EP-performance, high oxidation stability, and special properties of friction. It prevents scratching at low ambient temperatures.

### Specifications

General Motors ATF Type A Suffix A (TASA)

### Recommendations

MB 236.2  
MAN 339 Type A  
Renk Doromat  
Allison C-3

Typical data	Test method		SRS Violin ATF 2543 A
Colour			red
Density at 15 °C	g/cm <sup>3</sup>	DIN 51 757	0,866
Viscosity at – 40 °C (CCS)	mPa s	DIN 51 398	42.600
Viscosity at 40 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	34,1
Viscosity at 100 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	7,2
Viscosity index (VI)		DIN ISO 2909	182
Flash point COC	°C	DIN ISO 2592	210
Pour point	°C	DIN ISO 3016	- 45

SRS Violin ATF 2543 is a product of the H&R ChemPharm GmbH

# SRS Violin ATF CVT

## ATF for Continuously Variable Transmission (CVT)

February 2019

### Characteristics

SRS Violin ATF CVT is a transmission oil for continuously variable transmission made from selected base oils and a high performance additive package based on modern synthetic technology. SRS Violin ATF CVT is suitable for use in continuous variable transmissions with steel-steel thrust belts or chains. It offers very good wear, corrosion and oxidation protection for reliable operation and longest life and a high friction stability.

### Application

SRS Violin ATF CVT is suitable for use in most passenger cars fitted with push belt transmissions.

SRS Violin ATF CVT is not suitable for use in hybrid CVT's (Honda/Ford), DCT (Dual Clutch Transmission) or automatic stages.

### Recommendations

Audi Multitronic	Nissan NS-1, NS-2, NS-3
BMW Mini Cooper EZL799	Punch CVT
Daihatsu Ammix CVT DFE	Shell Green 1V
Daihatsu Ammix CVT Fluid DC	Subaru iCVT
Daihatsu Ammix CVT Fluid DFC	Subaru iCVT FG
Dodge / Jeep / Chrysler NS-2	Subaru ECVT
Dodge / Chrysler / Jeep Mopar CVT+4	Subaru Lineartronic chain CVT and CVT II Fluid
GM / Saturn DEX-CVT	Subaru Lineartronic High Torque (HT) CVT Fluid
Honda HMMF (without starting clutch)	Suzuki CVTF TC
Honda HCF2	Suzuki CVTF 3320
Honda Z-1 (CVT model, without starting clutch, not SFU for 2001 – 2007 Honda Fit & Jazz)	Suzuki NS-2
Hyundai / KIA SP III (CVT model)	Suzuki CVT Green 1&2
Idemitsu CVTS-EX1	Toyota CVTF TC
Mazda JWS 3320	Toyota CVTF FE
MB 236.20	VW TL 521 16 (G 052 516)
Mitsubishi Diaqueen CVTF-J1	VW TL 521 80 (G 052 180)
Mitsubishi Diaqueen CVTF-J4 and J4+	
Mitsubishi Diaqueen SP-III (CVT model only)	

Typical data	Test method		SRS Violin ATF CVT
Colour			red
Density at 15 °C	g/cm <sup>3</sup>	DIN 51 757	0,848
Viscosity at – 40 °C	mPa s	ASTM D 2983	8.500
Viscosity at 40 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	32,6
Viscosity at 100 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	6,99
Viscosity index (VI)		DIN ISO 2909	183
Flash point COC	°C	DIN ISO 2592	212
Pour point	°C	DIN ISO 3016	- 48

SRS Violin ATF CVT is a product of the H&R ChemPharm GmbH

# SRS Wiolin ATF D

## Automatic Transmission Oil

February 2019

### Characteristics

SRS Wiolin ATF D is intended for automatic gears and is used also as hydraulic fluid in different applications. High shifting comfort is given by tailor made special additives for friction linings of gears.

SRS Wiolin ATF D corresponds to the former GM specification Dexron II D and is specified by all major car manufacturers who install automatic transmissions designed to operate with Dexron II D fluids. It can also be used without problems in automatic transmissions requiring MB-Approval 236.5, 236.6 and 236.7.

### Application

Automatic transmissions, power shift transmissions and torque converters need different ATF due to different requirements for the coefficient of friction. The OEM manuals have to be followed.

### Specifications

General Motors Dexron II D  
Ford Mercon

### Approvals

MB-Approval 236.1  
MAN 339 Type V1  
MAN 339 Type Z1  
MAN 339 Type L2  
ZF Approval Number ZF00038  
ZF TE-ML 04D, 14A  
Voith H55.6335.XX (G 607)

### Recommendations

Caterpillar TO-2  
Allison C-4

Typical data		Test method	SRS Wiolin ATF D
Colour			red
Density at 15 °C	g/cm <sup>3</sup>	DIN 51 757	0,871
Dyn. Viscosity at - 40 °C (CCS)	mPa s	DIN 51 398	48.000
Viscosity at 40 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	36,1
Viscosity at 100 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	7,20
Viscosity index (VI)		DIN ISO 2909	168
Flash point COC	°C	DIN ISO 2592	210
Pour point	°C	DIN ISO 3016	- 48

SRS Wiolin ATF oils are products of the H&R ChemPharm GmbH

# SRS Wiolin ATF III

## Automatic Transmission Oil

February 2019

February 2019

### Characteristics

SRS Wiolin ATF III is an red coloured automatic transmission fluid made from selected base oils and a high performance additive package. SRS Wiolin ATF III has very good wear-, corrosion- and oxidation protection and a high friction stability.

### Application

SRS Wiolin ATF III is an automatic transmission fluid for automatic and manual transmissions, auxiliary drives, clutch-, steering- and hydraulic systems. SRS Wiolin ATF III can also be used without problems in automatic transmissions requiring Ford MERCON, General Motors ATF DEXRON III E and MB-Specification 236.5, 236.6 or 236.7.

### Specifications

General Motors ATF Dexron III H  
Ford Mercon

### Approvals

MB-Approval 236.1  
MAN 339 Type Z1  
MAN 339 Type V1  
MAN 339 Type L1  
ZF Approval Number ZF000439  
ZF TE-ML 04D, 14A  
Voith H55.633.XX (G 607)

### Recommendations

Volvo 97340  
Volvo 97341  
Caterpillar TO-2  
Allison C-4  
Allison TES 389

Typical data		Test method	SRS Wiolin ATF III
Colour		DIN ISO 2049	red
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,860
Viscosity at -40°C	mm <sup>2</sup> /s	DIN 51 398	18.500
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	35,7
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	7,4
Viscosity index (VI)		DIN ISO 2909	180
Flash point COC	°C	DIN ISO 2592	215
Pour point	°C	DIN ISO 3016	< - 50

SRS Wiolin ATF III is a product of the H&R ChemPharm GmbH

# SRS Violin ATF Dexron S

## Fully Synthetic Automatic Transmission Oil

November 2011

### Characteristics

SRS Violin ATF Dexron S is a fully synthetic automatic transmission fluid. It is formulated with high quality synthetic base oils and tailor made additives for the different gear components. It corresponds to the specification GM Dexron II E.

### Application

Due to the different requirements for the coefficient of friction various ATF types are specified for servicing the automatic transmissions, torque converters and power shift gear boxes fitted in motor vehicles. The manufacturer's instructions must therefore be followed.

### Specifications

GM Dexron II E  
Ford Mercon

### Approvals / Recommendations

MB-Approval 236.8  
MAN 339 type Z2  
MAN 339 type V2  
Voith H55.633640 (G 1363)  
ZF TE-ML 04D, 09X, 14B, 16L  
Allison C-4

Typical data	Test method		SRS Violin ATF Dexron S
Colour			red
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,835
Viscosity at - 40 °C (CCS)	mPa s	DIN 51 398	40,000
Viscosity at 40 °C	mm <sup>2</sup> /s	DIN 51 562	32
Viscosity at 100 °C	mm <sup>2</sup> /s	DIN 51 562	7,5
Viscosity index (VI)		DIN ISO 2909	214
Flash point COC	°C	DIN ISO 2592	200
Pour point	°C	DIN ISO 3016	- 51

SRS Violin ATF Dexron S is a product of the H&R ChemPharm GmbH



# SRS Violin ATF III MV

## Multifunctional Automatic Transmission Oil

February 2021

### Characteristics

SRS Violin ATF III MV is an automatic transmission fluid made from selected base oils and a high performance additive package based on modern synthetic technology. SRS Violin ATF III MV can be used in modern passenger cars and commercial vehicles automatic transmissions and steering systems. It has very good wear-, corrosion- and oxidation protection and a high friction stability.

### Application

SRS Violin ATF III MV is a multifunctional automatic transmission fluid which meets the requirements of many European, American and Asian manufacturers. It is suitable for use in automatic transmissions that are equipped with or without the slip locking clutch. SRS Violin ATF III MV can also be used in automatic transmissions requiring the MB-Specification MB 236.1, 236.2, 236.3, 236.5, 236.6, 236.7, 236.9, 236.10, 236.11, 236.12, 236.14, 236.15, 236.41, 236.81 or 236.91. Because of the backward compatibility to older models, SRS Violin ATF III MV can reduce product storage. It can also be used in vehicles in which the MAN specification MAN Type 339 V1 / Z1 required. SRS Violin ATF III MV is not suitable for use in DCT / DSG or CVT transmissions.

### Specifications

JASO 1-A

### Approvals

MB-Approval 236.9  
ZF Approval Number ZF002061  
ZF TE-ML 04D, 14B, 20B, 25B

Voith H55.6336.XX  
Voith-DIWA H59.633648  
MAN 339 Type V2/Z2 and Z11

### Recommendations

GM Dexron IIIH, IIIG, IID  
Ford Mercon V  
VW G 052 162, G 052 990, G 055 025  
VW G 055 005, G 055 162, G 052 540  
PSA AL-4  
Saab 3309  
Honda ATF Z-1  
Idemitsu K17 (JATCO)  
Aisin Warner JWS3309  
Chrysler ATF +3, +4, MOPAR ASRC  
Mazda ATF-M III, ATF-MV  
21L  
Mitsubishi Diaqueen ATF J3, SP-II, SP-III  
Nissan 402, Nissan Matic-D, J, K

Volvo 97340, 97341  
Volvo 4 speed (P/N 1161621), (PIN 1161540)  
Isuzu NPR ECO MAX, NPR HD, NPR XD, NQR und NRR-SCS  
Renault DP-0  
BMW 7045E, 8072B, LA 2634, LT 71141, M1375.4  
Hyundai/KIA SP-II, SP-III, JWS 3314, JWS 3317  
KIA Red-1 / Red-1K  
Suzuki 3314, 3317  
Toyota T, T-II, T-III, T-IV  
Subaru ATF, ATF-HP  
ZF TE-ML 03D, 05L, 09, 11A, 11B, 14A, 16L, 16R, 17C,  
Allison TES-295 / -389, Allison C-4

Typical data		Test method	SRS Violin ATF III MV
Colour		DIN ISO 2049	red
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,851
Viscosity at - 40 °C (CCS)	mPa s	DIN 51 398	< 20,000
Viscosity at 40 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	36,0
Viscosity at 100 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	7,49
Viscosity index (VI)		DIN ISO 2909	182
Flash point COC	°C	DIN ISO 2592	210
Pour point	°C	DIN ISO 3016	- 54

SRS Violin ATF III MV is a product of the H&R ChemPharm GmbH

# SRS Violin ATF VI

Automatic Transmission Oil

September 2022

## Characteristics

SRS Violin ATF VI is a high performance transmission oil made from selected base oils and a high performance additive package based on modern synthetic technology. SRS Violin ATF VI is suitable for use in modern stepped automatic transmissions and hydraulic steering systems in passenger cars and commercial vehicles. It offers very good wear, corrosion and oxidation protection for reliable operation and longest life. SRS Violin ATF VI ensures not only an outstanding performance and stability of the friction coefficient, but also an optimal shifting under all operating conditions.

## Application

SRS Violin ATF VI meets the latest GM specification DEXRON VI and is suitable for use in modern stepped automatic transmissions and steering systems. It is backward compatible and can be used, where the former DEXRON specifications IIH, IIIG, IIIE etc. and where products according to GM Type A Suffix A (TASA) are required. It is suitable for use for ZF-automatic transmissions type ZF 3HPXX, ZF 4HPXX, ZF 5HPXX, ZF 6HP19/21/26/28/32, ZF 8HP45/50/55/65/70/75/90/95 and ZF 9HP48 in passenger cars of Audi, BMW, Jaguar, PSA, Saab, Volvo, VW and other. SRS Violin ATF VI is not suitable for DCT (Dual Clutch Transmission) or CVT (continuously variable or non-stepped automatic) drives.

## Specifications

General Motors ATF Dexron VI  
Ford Mercon LV

## Recommendations

Aisin Warner JWS 3309, JWS 3324, AW-1, AW-2  
Audi 5 HP LT 71141  
Audi / VW G 052 025-A2, G 053 025-A2  
Audi / VW G 052 162-A1/A2, G 055 025-A2  
Audi / VW G 052 162, G 055 162-A2, -A6  
Audi / VW G 060 162, G 052 990  
Audi / VW G 055 540 (A2), G 052 055  
BMW JWS 3309 (T-IV), LA 2634, LT 71141  
BMW 7045E, ETL 8072B, M 1375.4, ATF 3+  
BMW ZF 5HP18FL, 5HP24, 5HP30  
Chrysler ATF+, +2, +3  
Fiat T-IV Typ, JWS 3309, 9.55550-AV5 / -AV6  
Ford Mercon, FNR5  
Ford M2C138-CJ, M2C166-H  
Ford WSS M2C 922 A1, 924 A (XT-8-QAW)  
Honda ATF 3.1, DW-1

Isuzu BESCO ATF-II, ATF-III, ATF SP  
Jaguar ATF 3403 M115, JLM 20238  
Jaguar ATF LT 71141, ZF 5HP 24  
Kia SP-II, SP-III, SP-IV, SP-IVM, Red 1  
Mazda ATF D-II, M-III, M-V, FZ  
MB ZF 4HP20  
Mitsubishi Diaqueen ATF-PA  
Nissan Matic Fluid C, D, K, J, P, S, W  
Opel / GM 19 40 700, 19 40 767  
Opel / GM 2217466, 889200925, 9986195  
Peugeot / Citroen Z 000169756  
Peugeot / Citroen (PSA) AL4  
Porsche ATF 3403 M115  
Porsche 000 043 205 09, -28  
Porsche 99917 547 00 (A2)  
Porsche Z 000196756

PSA B71 2340  
Suzuki ATF AW-1, 2326, 2384 K  
Suzuki ATF 3309, 3314, 3317  
Toyota ATF D-II, D-III  
Toyota ATF T-III, T-IV, WS  
Voith 55.6336.XX (G607)  
Volvo CE 97340  
Volvo 97325, 97335  
Volvo PN 116 1521, -1540  
Volvo PN 116 1640, -1621  
VW 5 HP (ZF 5 HP 30)  
W 5 HP (18FL, 19FL, 24A, 30)  
VW TL 521 62  
ZF all 3&4 speed Transmissions  
ZF 6, 8 & 9 speed Transmissions  
F TE-ML 05L, 09, 11A, 11B, 21L

### e-mobility:

Ford Escape Hybrid eCVT  
Honda e:HEV, iMMD  
• Jatco JR712E • Tesla Model S, Model 3, Model X

Mazda SKYACTIVE HYBRID  
Nissan Altima Hybrid

Toyota THSII/Toyota Prius  
Toyota THS 5th Gen.

Typical data		Test method	SRS Violin ATF VI
Colour			red
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,845
Viscosity at - 40 °C	mPa s	ASTM D 2983	10,000
Viscosity at 40 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	27,6
Viscosity at 100 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	5,66
Viscosity index (VI)		DIN ISO 2909	151
Flash point COC	°C	DIN ISO 2592	208
Pour point	°C	DIN ISO 3016	- 51

SRS Violin ATF VI is a product of the H&R ChemPharm GmbH

# SRS Violin Getriebefluid DCT

Automatic Transmission Oil for Dual Clutch Transmissions

June 2022

## Characteristics

SRS Violin Getriebeöl DCT is a high performance dual clutch transmission fluid made from selected base oils and a high performance additive package based on modern synthetic technology. SRS Violin Getriebefluid DCT is specially tailored to the specific wear and friction requirements in modern dual clutch transmissions with high torques. It offers very good wear, corrosion and oxidation protection for reliable operation and longest life and a high friction stability

## Application

SRS Violin Getriebeöl DCT meets the requirements of modern dual clutch transmission oils. The high friction stability ensures slip-free transmission, even at very high torques. SRS Violin Getriebeöl DCT provides a constant friction coefficient level and maximum wear protection, even at lowest ambient temperatures as well as in extreme heat and under excessive loads.

SRS Violin Getriebefluid DCT is not suitable for use in "stepped" automatic transmissions and CVT drives.

## Recommendations

BMW DCTF-1, DCTF-1+, DCTF-2	PSA 9734 S2
BMW Drivelogic 7-speed (Getrag)	Porsche 999.917.080.01
BMW 6-speed DCT	Renault ECD 6-speed (Getrag), EDC-7
BMW MTF LT-5	Renault 77 11 785 243 (DWS)
Borg Warner	Volvo Powershift 6-speed (GFT)
Bugatti Veyron	Volvo 1161838, 1161839
Chrysler 68044345 EA & GA	VW G 052 536, 055 536
Chrysler Powershift 6-speed (Getrag)	VW (Audi, Seat, Skoda) 6-speed
Ferrari 7-speed (Getrag)	VW/Audi TL 52 182 / G052 182 A2 or A6 (fluid)
Ferrari TF DCT-3	VW TL 52 529 / G052 529 A2 or A6 (fluid) /
Fiat 9.5555-MZ6	DSG7 = S-Tronic 7
Ford/Nissan Powershift 6-speed (GFT)	VW (Audi, Seat, Skoda) 7-speed
Ford WSS-M2C 936 A	VW/Audi G 055 529
Ford WSS-M2C 200-D2/XT-11-QDC	VW/Audi G 055 512
Ford WSS-M2C 218-A1, Ford F-DC	ZF / Porsche Oil #999.917.080.00
Mitsubishi TC-SST 6-speed (GFT)	VW Golf GTE DQ400E
Mitsubishi MZ320065 Dia-Queen SSTF-1	
Peugeot/Citroen DCS 6-speed (GFT)	

Typical data		Test method	SRS Violin Getriebefluid DCT
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,847
Viscosity at -40°C	mPa s	ASTM D 2983	< 20.000
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	34,1
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	7,02
Viscosity index (VI)		DIN ISO 2909	174
Flash point COC	°C	DIN ISO 2592	222
Pour point	°C	DIN ISO 3016	- 45

SRS Violin Getriebefluid DCT is a product of the H&R ChemPharm GmbH

The above values may vary within the commercial limits (mm<sup>2</sup>/s = cSt)

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# SRS Hydrofluid A

## Hydraulic Transmission Fluid (UTTO)

December 2020

### Characteristics

SRS Hydrofluid A is a Universal Tractor Transmission Oil (UTTO) for farm tractors and construction vehicles with common oil circuits for gear boxes / axle drives and hydraulic systems.

SRS Hydrofluid A is ideally suited for wet brakes in power shift clutches and power take-offs. High-quality base oils and selected additives guarantee trouble-free operation of all units in every season.

### Application

SRS Hydrofluid A satisfies the requirements of major tractor manufacturers.

In applications with the requirement NH 410 B the product can be used without any problem. SRS Hydrofluid A has a very good cold flow behaviour and, due to its flat viscosity-temperature curve, is ideally suited as HLP hydraulic oil of viscosity class ISO VG 46 to 68 for hydraulic systems in construction machinery. SRS Hydrofluid A exceeds the requirements of API GL-4 and can be used in manual transmissions of agricultural machines.

### Performance / Specifications

UTTO	
SAE Grade	10W-30
SAE Grade	80W
ISO VG	46 to 68
API	GL-4

### Recommendations

ZF Approval Number ZF004867  
 ZF TE-ML 03E, 05F, 06K, 17E, 21F  
 Massey Ferguson MF CMS M 1145  
 Case MS 1206, 1207, 1209, 1210, 1230  
 Case New Holland CNHA MAT 3505, 3506, 3509, 3525, 3526  
 John Deere JDM J 20 C, J 20 D  
 SAME – Deutz – Fahr  
 CLAAS / Renault  
 Massey Ferguson MF CMS M 1135, 1141, 1143  
 New Holland FNHA 2-C-200.00, 201.00  
 Ford M2C 86 B/C, 134-D  
 AGCO Q-186 (White farm)  
 AGCO Powerfluid 821 XL  
 Allison C-4  
 Caterpillar TO-2  
 Volvo WB 101  
 Fendt Vario  
 Komatsu (Wet Brake Axle)  
 Kubota UDT  
 Landini  
 ZF TE-ML 06K

Typical data		Test method	SRS Hydrofluid A
SAE Class		SAE J 306 / J 300	80W / 10W-30
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,882
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	55
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	9,44
Viscosity index (VI)		DIN ISO 2909	155
Flash point COC	°C	DIN ISO 2592	225
Pour point	°C	DIN ISO 3016	- 48

SRS Hydrofluid A is a product of the H&R ChemPharm GmbH

# SRS Hydrofluid N

## Hydraulic Transmission Fluid (UTTO)

March 2017

### Characteristics

SRS Hydrofluid N is a Universal Tractor Transmission Oil (UTTO) for farm tractors and construction vehicles with common oil circuits for gear boxes / axle drives and hydraulic systems. With SRS Hydrofluid N hydraulic systems instantly respond at low ambient temperatures and power transmission systems are lubricated for sure even at extreme loads. The coefficient of friction has been adapted to the special requirements of wet brakes, particularly with asbestos free brake pads and power shift clutches for auxiliary drives.

### Application

SRS Hydrofluid N satisfies the requirements of major tractor manufacturers (CLAAS / Renault, Deutz-Fahr, Fendt, Landini, Same, etc). In applications with the requirement NH 410 B the product can be used without any problem. The use of this product is also recommended if the specifications listed below are prescribed or recommended. SRS Hydrofluid N features excellent cold flow. Its excellent viscosity index makes it extremely suitable for HLP hydraulic oil applications where ISO VG 46, 68 or 100 are required. When used for transmissions SRS Hydrofluid N exceeds the requirements according to API GL-4 and can be used in manual transmissions and hypoid gear assemblies of agricultural equipment with the specification API GL-5.

### Specifications

UTTO  
SAE Grade 80W-85  
SAE Grade 10W-30  
ISO VG 46 to 100  
API GL-4  
API GL-5 in agricultural equipment

### Approvals / Recommendations

ZF Approval Number ZF000827  
ZF TE-ML 03E, 05F, 17E, 21F  
CLAAS / Renault  
Massey Ferguson MF CMS M 1135, 1141, 1143, 1145  
New Holland FNHA 2-C-200.00, 201.00  
Ford M2C 86 B/C, 134-D  
AGCO Q-186 (White farm)  
AGCO Powerfluid 821 XL  
Allison C-4  
Caterpillar TO-2  
Volvo WB 101  
Fendt Vario  
Komatsu (Wet Brake Axle)  
Kubota UDT  
Landini

### Approvals / Recommendations

Case MS 1206, 1207, 1209, 1210, 1230, 1317  
Case New Holland CNHA MAT 3505, 3506, 3509, 3510, 3525, 3526  
John Deere JDM J 20 C, J 20 D  
SAME – Deutz – Fahr

Typical data		Test method	SRS Hydrofluid N
SAE Class		SAE J 306 / J 300	80W-85 / 10W-30
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,880
Viscosity at -20°C (CCS)	mPa s	ASTM D 5293	3200
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	68
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	11,4
Viscosity index (VI)		DIN ISO 2909	161
Flash point COC	°C	DIN ISO 2592	230
Pour point	°C	DIN ISO 3016	- 36
FZG-Test A/8,3/90 (damaged load)	SKS	DIN ISO 14 635	> 12

SRS Hydrofluid N is a product of the H&R ChemPharm GmbH

# SRS Hydrofluid NB

## Hydraulic Transmission Fluid (UTTO)

February 2015

### Characteristics

SRS Hydrofluid NB is a Universal Tractor Transmission Oil (UTTO) for farm tractors and construction vehicles with common oil circuits for gear boxes/axle drives and hydraulic systems.

SRS Hydrofluid NB instantly responds to hydraulic systems at low ambient temperatures and guarantees the lubrication of power transmission systems even at extreme loads. The fluid exceeds the strengthened requirements of constructors of wet brakes, regarding the reduction and prevention of squawks.

### Application

SRS Hydrofluid NB satisfies the requirements of major tractor manufacturers (Claas, Deutz, Fendt, Fiat, Landini, Renault, Same, etc). The application is also recommended if the specifications given below are prescribed or recommended.

SRS Hydrofluid NB features excellent cold flowing characteristics and its high viscosity index makes it extremely suitable for HLP hydraulic oil applications where ISO VG 46, 68 or 100 is required. SRS Hydrofluid NB exceeds the requirements according to API GL-4.

### Specifications

UTTO	
SAE Grade	80W-85
SAE	10W-30
API	GL-4
ISO VG	46 to 100

### Approvals / Recommendations

Case MS 1206, 1207, 1209, 1210, 1230, 1317  
 Case New Holland CNHA MAT 3505, 3506,  
 3509, 3150, 3525, 3526  
 John Deere JDM J 20 C, J 20 D  
 SAME- Deutz – Fahr  
 Fendt (non Vario)  
 Caterpillar TO-2  
 Massey Ferguson MF CMS M 1135, 114  
 Ford M2C 86 B/C  
 New Holland FNHA 2-C-200.00, 201.00  
 CLAAS / Renault  
 Allison C-4

Typical data		Test method	SRS Hydrofluid NB
SAE Grade (gear)		SAE J 306	80W-85
SAE Grade (engine)		SAE J 300	10W-30
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,879
Viscosity at -20°C (CCS)	mPa s	ASTM D 5293	3,850
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	77
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	11,5
Viscosity index (VI)		DIN ISO 2909	141
Flash point COC	°C	DIN ISO 2592	230
Pour point	°C	DIN ISO 3016	- 36
FZG-Test A/8,3/90	Fail stage	DIN ISO 14 635	> 12

SRS Hydrofluid NB is a product of the H&R ChemPharm GmbH

# SRS Hydrofluid NC

Special-Hydraulic Transmission Fluid for CVT Gearboxes

July 2019

## Characteristics

SRS Hydrofluid NC is a transmission oil for farm tractors and construction vehicles with common oil circuits for gear boxes / axle drives and hydraulic systems and is developed for use in automatic CVT transmissions. SRS Hydrofluid NC ensures maximum wear protection in gearboxes that are exposed to very high loads.

The coefficient of friction was adjusted to the special requirements of wet brakes, particularly with asbestos free brake pads and power-shift clutches for auxiliary drives as well as in CVT's.

## Application

SRS Hydrofluid NC satisfies the requirements of major tractor manufacturers. The use of this product is also recommended if the specifications listed below are prescribed or recommended.

SRS Hydrofluid NC features excellent cold flow. Its excellent viscosity index makes it extremely suitable for HLP hydraulic oil applications in agricultural and in construction machines, where ISO VG 46, 68 or 100 are required. SRS Hydrofluid NC can be used i.a. in gearboxes with API-4 requirements in a 10W-30 or 80W viscosity grade.

## Specifications

UTTO  
API GL-4

## Approvals / Recommendations

CNH MAT 3505, 3525, 3540  
John Deere JDM J 20 C  
ZF TE-ML 03E, 05F, 06K, 06N, 17E, 21F  
Massey Ferguson MF CMS M 1135, 1145  
Allison C-4  
NH 410 B  
Ford M2C 134 C / 159 C  
Caterpillar TO-2  
Volvo WB 101  
Fendt Vario  
Kubota UDT  
Valtra G2-08  
New Holland FN iA  
Landini

Typical data		Test method	SRS Hydrofluid NC
SAE Grade		SAE J 306 / J 300	80W
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,877
Viscosity at -20°C (CCS)	mPa s	ASTM D 5293	3.920
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	61,4
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	10,2
Viscosity index (VI)		DIN ISO 2909	153
Flash point COC	°C	DIN ISO 2592	246
Pour point	°C	DIN ISO 3016	- 45

SRS Hydrofluid NC is a product of the H&R ChemPharm GmbH



# Lubricating Oil, Gear, SAE 85W-90

Lubricating Oils (Corrosion Preventive)

February 1998

## Characteristics

Schmieröl, Getriebe-, (Korrosionsschutz), SAE 85W-90 (O-226 K) is a hypoid gear oil, with special corrosion protection for the preservation of gears. It can stay in the machinery when operation is restarted.

## Specifications

SAE Grade 85W-90  
API GL-5  
TK BA 16-9150-027

Typical data		Test method	Lubricating Oil, Gear, SAE 85W-90 (corrosion preventive)
Colour		DIN ISO 2049	3,0
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0.9000
Viscosity at -12°C	mm <sup>2</sup> /s	DIN 51 562	17.600
Viscosity at 40°C	mm <sup>2</sup> /s	DIN 51 562	190
Viscosity at 100°C	mm <sup>2</sup> /s	DIN 51 562	17.3
Flash point COC	°C	DIN ISO 2592	214
Pour point	°C	DIN ISO 3016	-24
Testing of corrosion protection:			
Hydrobromic acid immersion	result	DIN 51 357	6 x 0
Seawater immersion test	result	DIN 51 358	6 x 0
Humidity cabinet test	result	DIN 51 359	6 x 0
FZG-test A/8.3/90 (damaged load)		DIN 51 354	> 12

SRS Lubricating Oil, Gear (Corrosion Preventive) is a product of the H&R ChemPharm GmbH



# SRS INDUSTRIAL LUBRICANTS

## SRS Industrial Oils

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# Industrial Oils

February 2019

Industrial gear oils	DIN 51 502	Brand	ISO-VG
Industrial transmission oils with corrosion and oxidation protection	CL	SRS Wiolan CN	5 to 680
Transmission/circulating oils, according to Morgoil specification	CL	SRS Wiolan CM	150 to 680
Heavy duty EP industry transmission oils	CLP	SRS Ersolan	68 to 460
High performance synthetic gear oils for use in thermal high loaded industrial gear boxes	CLP	SRS Ersolan synth GF	68 to 460
EP industrial transmission oils blended with MoS <sub>2</sub>	CLPF	SRS Wiolan MO	46, 100 and 220 to 1200
Power transmission fluid for hydrodynamic transmissions e.g. in locomotives and railway applications	CLP/HLP	SRS Wiolan HF 32 DB	32
Fully-synthetic hydrodynamic transmission oil for hydrodynamic power transmissions	CLP/HLP	SRS Wiolan HF 32 synth	32

Hydraulic fluids	DIN 51 502	Brand	ISO-VG
Zinc-free Hydraulic oils with good corrosion and oxidation protection	HL	SRS Wiolan HN	5 to 100
EP-hydraulic oils with wear protection and high ageing resistance	HLP	SRS Wiolan HS	5 to 150
Zinc-free heavy duty EP hydraulic oils with good demulsifying performance	HLP	SRS Wiolan HX	22 to 100
Premium HLP hydraulic oils for use in high developed hydraulic systems	HLP	SRS Wiolan HB	32 to 68
High-VI-EP hydraulic oils with good viscosity temperature performance (multi-grade characteristics)	HVLP	SRS Wiolan HV	15 to 68
Zinc-free High-VI-EP hydraulic oils with good viscosity temperature performance (multi-grade characteristics)	HVLP	SRS Wiolan HVX	32 to 68
Zinc-free EP-hydraulic oils with deterging and dispersing characteristics	HLPD	SRS Wiolan HG	10 to 100
High-VI-EP hydraulic oil with good viscosity-temperature performance and deterging, dispersing characteristics	HVLPD	SRS Wiolan HVG	46
Hydraulic fluid approved namely by German Army	HVLP	SRS Wiolan H-540	
Environmentally friendly hydraulic fluid, biologically degradable, fully synthetic	HEES	SRS Wiolgan HE 46	46

Turbine, circulating and compressor oils	DIN 51 502	Brand	ISO-VG
Turbine oils for gas- and steam-turbines with excellent ageing-resistance and good corrosion protection	L-TD/L-TG	SRS Wiolan GT	32, 46 and 68
Cycle oils, paraffinic solvates, good air- and water separation ability. Also suitable for vacuum pumps and as hardening oil	C/VB/VC	SRS Wiolan CA	46 to 460
Compressor oils, especially for screw compressors	VCL	SRS Wiolan WT	32 to 68

# Industrial Oils

February 2019

Turbine, circulating and compressor oils	DIN 51 502	Brand	ISO-VG
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Compressor oils with very low residue accumulation for high compression end-temperatures	VDL	SRS Wiolan CD	22 to 320
Especially ageing resistant refrigeration machine oils of high purity grade	KAA/KC	SRS Wiolan KF	22 to 68
High-performance ethylene compressor oil for lubrication of ethylene hyper compressors		SRS Wiolan CE	220

Metal Working Oils	DIN 51 502	Brand	ISO-VG
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All purpose oils for light and medium heavy working processes	S/HLP/CLP	SRS Wintal UG	22 to 46
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Slide way, transformer, heat transfer and moulding oils	DIN 51 502	Brand	ISO-VG
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Slideway oils with good sliding characteristics and low adhesion loss value	CGLP	SRS Wiolan TH	32 to 100 and 220
Heat-transfer oils with excellent thermal stability and low viscosity with high seething	Q	SRS Mihatherm WU	10 to 46
Transformer- respectively insulation oil, oxidation stable	J	SRS Wiolan IF 10	10
Moulding release oils for different materials and construction materials	FS	SRS Mihagran FO 2320 3 KOR	10

Specialities, others	DIN 51 502	Brand	ISO-VG
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Testing oil for calibrating Diesel injection pumps		SRS Calibration fluid	
Calibration fluid for diesel injectors		SRS Calibration fluid CV	
Chainsaw oil		SRS Wiolit Sägekettentaftöl	
Environmentally friendly, synthetic and biodegradable chainsaw oil		SRS Wiolit BIOLUB SYNTH 68	68
Spray- and corrosion protection oil for different applications	R	SRS Wiolan BF 10	10

The above values may vary within the commercial limits (mm<sup>2</sup>/s = cSt)

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# SRS Wiolan CN

## Industrial Gear Oils

February 2020

### Characteristics

SRS Wiolan CN series are highly solvent refined paraffinic neutral mineral oils, which respond very effectively to selected antioxidants and corrosion inhibitors to surpass the requirements for circulating oils.

### Application

In practice, SRS Wiolan CN circulating oils are used wherever the application of CLP oils is not necessarily required, but where high thermal stresses can occur.

### Specifications

CL according to DIN 51 517 Part 2 (ISO VG 32 – 680)

CKB according to ISO 12925 – 1 (ISO VG 32 – 680)

CKB according to ISO 6743 – 6 (ISO VG 32 – 680)

HL according to DIN 51 524 Part 1 (ISO VG 10 – 150)

VB/VBL according to DIN 51 506 (ISO VG 22 – 460)

Typical data		Test method	SRS Wiolan CN					
			5	10	22	32	46	68
Designation		DIN 51 502	CL 5	CL 10	CL 22	CL 32	CL 46	CL 68
Colour		DIN ISO 2049	0,5	0,5	1,0	1,0	2,0	2,5
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,84	0,854	0,868	0,872	0,878	0,881
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	4,97	10,1	22,2	32,1	46,1	68,1
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	1,69	2,63	4,26	5,35	6,65	8,56
Flash point COC	°C	DIN ISO 2592	137	194	210	226	237	241
Pour point	°C	DIN ISO 3016	- 42	- 33	- 27	- 27	- 27	- 27
Steel corrosion	Grade	DIN 51 585	0-B	0-B	0-B	0-B	0-B	0-B

Typical data		Test method	SRS Wiolan CN					
			100	150	220	320	460	680
Designation		DIN 51 502	CL 100	CL 150	CL 220	CL 320	CL 460	CL 680
Colour		DIN ISO 2049	2,0	2,5	3,0	3,5	3,5	4,0
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,883	0,888	0,890	0,896	0,901	0,901
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	101	153	219	310	459	667
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	10,7	14,4	17,9	22,4	29,3	37,3
Flash point COC	°C	DIN ISO 2592	260	270	270	270	275	300
Pour point	°C	DIN ISO 3016	- 21	- 12	- 12	- 12	- 12	- 12
Steel corrosion	Grade	DIN 51 585	0-B	0-B	0-B	0-B	0-B	0-B

SRS Wiolan CN oils are products of the H&R ChemPharm GmbH

# SRS Wiolan CM

## Gear Oils

September 2020

### Characteristics

SRS Wiolan CM series are developed to meet the special requirements of the steel industry. Only highly solvent refined paraffinic neutral base oils are blended with well-balanced additives. The outstanding exceptional properties of SRS Wiolan CM oils are:

- excellent demulsibility
- very high resistance to oxidation (oxidation stability)

### Application

SRS Wiolan CM oils are primarily used in steel rolling mills with Morgan bearings. Ingressed water is not emulsified and can be continuously removed from the system at suitable points.

### Specifications

The following requirements are met and many data are outperformed by far:

- Morgoil
- DIN 51 517 part 1 and 2
- ISO 12925-1 type CKB
- ISO 6743-6 type CKG

### Approvals

VDEh-Approval SEB 181 225 (CL)

Typical data		Test method	SRS Wiolan CM				
			150	220	320	460	680
Designation		DIN 51 502	CL 150	CL 220	CL 320	CL 460	CL 680
Colour		ASTM D 6045	1,0	1,0	L 3,5	1,5	2,0
Density at 15 C	g/cm <sup>3</sup>	DIN 51 757	0,886	0,890	0,893	0,896	0,899
Viscosity at 40 C	mm <sup>2</sup> /s	DIN EN ISO 3104	150	218	322	462	666
Viscosity at 100 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	14,2	18,3	23,2	30,2	38,3
Flash point COC	°C	DIN ISO 2592	287	294	290	313	320
Pour point	°C	DIN ISO 3016	-15	-9	-9	-12	-9
Demulsibility at 82°C	min	ASTM D 1401	10	15	15	20	25

SRS Wiolan CM oils are products of the H&R ChemPharm GmbH

# SRS Ersolan

## Industrial Gear Oils

February 2018

### Characteristics

SRS Ersolan are zinc-free, industrial gear oils blended exclusively from highly solvent refined paraffinic base oils from Salzbergen and Hamburg refineries. SRS Ersolan industrial gear oils ensure maximum wear protection, oxidation stability, protection against corrosion, good thermal stability, prevention of pitting, excellent demulsibility, compatibility with seals and non-ferrous metals, negligible foam tendency.

### Application

SRS Ersolan gear oils, available in different viscosity grades, are recommended for a wide variety of industrial gear drives. They have proven themselves in operation in numerous transmissions from many different manufacturers. SRS Ersolan industrial gear oils have shown their excellent performance characteristics in a particularly impressive manner in thermally-stressed gear drives and under difficult operating conditions in mining and steel industry.

### Specifications

The requirements for CLP gear oils as described in DIN 51 517 Part 3 and SEB 181 226 are met. Many of the requirements of these two standards are outperformed by far. SRS Ersolan is approved by VDEh. SRS Ersolan industrial gear oils meet the requirements of ISO 12925 part 1/ISO 6743 part 6 L-CKC. Key Accounts have more stringent requirements than those defined by DIN and SEB. These demands like FE 8-test are also met.

### Approvals / Recommendations

VDEh-Approval SEB 181 226  
ZF Approval Number ZF003462 / ZF003463  
ZF TE-ML 04H<sup>1</sup>

<sup>1</sup> for SRS Ersolan 100 and SRS Ersolan 150

Typical data		Test method	SRS Ersolan						
			68	100	150	220	320	460	680
Designation		DIN 51 502	CLP68	CLP100	CLP150	CLP220	CLP320	CLP460	CLP680
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,879	0,883	0,887	0,892	0,896	0,898	0,901
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	69	102	154	223	321	449	686
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	8,5	11,2	14,3	18,8	23,7	29,2	39
Flash point COC	°C	DIN ISO 2592	235	245	250	285	290	295	300
Pour point	°C	DIN ISO 3016	- 24	- 21	- 21	- 21	- 18	- 15	- 15
FZG-Test A/16,6/140	Fail	DIN ISO 14635	> 12	> 12	> 12	> 12	> 12	> 12	> 12

SRS Ersolan oils are products of the H&R ChemPharm GmbH

# SRS Ersolan synth GF

## Synthetic Industrial Gear Oils

January 2017

### Characteristics

SRS Ersolan synth GF industrial gear oils are high performance synthetic gear oils. Synthetic base oils (PAO) and exclusive tailored additives ensure the use in thermal high loaded industrial gear boxes with extended drain intervals and in wind turbine gear boxes. SRS Ersolan synth GF gear oils ensure maximum wear protection, oxidation stability, protection against corrosion, good thermal stability, prevention of pitting, excellent demulsibility, compatibility with seals and non-ferrous metals.

### Application

SRS Ersolan synth GF gear oils, available in different viscosity grades, are recommended for a wide variety of industrial gear drives. They SRS Ersolan synth GF industrial gear oils have shown their excellent performance characteristics in a particularly impressive manner in thermally-stressed gear drives and under difficult operating conditions for example in wind turbine gear boxes.

### Specifications

Gear Oil CLP acc. DIN 51 517 part 3  
 Gear Oil CKC – CKD acc. ISO 12925 part 1  
 FZG pitting test > level 10  
 Siemens – Flender iNdustry Gear Revision 15  
 SKF and FAG requirements of wind turbine gear boxes  
 U.S. Steel 224  
 AGMA 9005-E02

Typical data		Test method	SRS Ersolan					
			68	100	150	220	320	460
Designation		DIN 51 502	CLP68	CLP100	CLP150	CLP220	CLP320	CLP460
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,849	0,850	0,853	0,855	0,857	0,859
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	67,6	106	156	219	321	466
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	11,1	16,2	22,8	30,3	42,5	57,9
Viscosity index (VI)		DIN ISO 2909	157	165	173	180	189	194
Flash point COC	°C	DIN ISO 2592	250	257	260	262	267	278
Pour point	°C	DIN ISO 3016	- 54	- 51	- 47	- 45	- 42	- 39

SRS Ersolan synth GF oils are products of the H&R ChemPharm GmbH

# SRS Wiolan MO

## Industrial Gear Oils

November 2011

### Characteristics

SRS Wiolan MO are gear oils blended with solid additives. They contain neutral EP additives and also extremely fine molybdenum disulfide (MoS<sub>2</sub>) in stable suspension. SRS Wiolan MO gear oils have good viscosity temperature behaviour and good low temperature fluidity. SRS Wiolan MO do not affect metals and seals.

### Application

EP additives and MoS<sub>2</sub> retard and hinder pitting; the surfaces of the tooth flanks of the gears are smoothed. Rupture of the lubricating film is prevented, even at start-up or lubricant starvation, due to the high surface adhesion of the additives, which causes metal-metal separation of the contact asperities. SRS Wiolan MO gear oils are used as break-in and long term operation lubricants in heavily loaded industrial gears of every size. With particular success they are applied in cement and steel industry facilities and in mining operations.

### Specifications

SRS Wiolan MO gear oils are designated CLPF gear oils in accordance with DIN 51 502. The fail stage in FZG-test A/8.3/90 exceeds 12 for all viscosity grades.

Typical data		Test method	SRS Wiolan MO						
			46	100	220	320	460	680	1200
Designation		DIN 51 502	CLPF46	CLPF100	CLPF220	CLPF320	CLPF460	CLPF680	-
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,878	0,887	0,892	0,895	0,900	0,903	0,917
Viscosity at 40°C	mm <sup>2</sup> /s	DIN 51 562	46	98	215	323	466	692	1240
Viscosity at 100°C	mm <sup>2</sup> /s	DIN 51 562	6,9	10,9	19	23,8	30	38	59
Flash point COC	°C	DIN ISO 2592	205	225	230	265	270	285	260
Pour point	°C	DIN ISO 3016	- 33	- 27	- 24	- 12	- 9	- 6	- 9
FZG-Test A/8, 3/90	Fail stage	DIN ISO 14635	< 12	< 12	< 12	< 12	< 12	< 12	< 12

SRS Wiolan MO oils are products of the H&R ChemPharm GmbH



# SRS Wiolan HF 32 DB

## Hydrodynamic Transmission Oil

March 2012

### Characteristics

SRS Wiolan HF 32 DB was specifically developed for hydrodynamic power transmissions in high loaded hydrodynamic railway gearboxes. Due to optimal formulation of high refined base oils and specific additives, SRS Wiolan HF 32 DB shows superior anti-wear-characteristics, even more essential than standard hydraulic fluids. SRS Wiolan HF 32 DB is also characterized by good foaming characteristics, optimal air release properties, high oxidation stability, effective corrosion protection, enhanced compatibility with non-ferrous metals and a higher thermic-oxidative resistance.

### Application

SRS Wiolan HF 32 DB is a special power transmission fluid used for high loaded hydrodynamic transmissions, amongst others in locomotives and specific applications e. g. hydrodynamic clutches, torque converters, electronic regulated turbo transmissions and other industrial plants. SRS Wiolan HF 32 DB is recommended by well-known manufacturers of hydrodynamic transmissions.

### Performance

CLP 32  
HLP 32

### Approvals

German Railways  
Voith Turbo  
Voith Turbo 120.00059010, Index 1

Typical data		Test method	SRS Wiolan HF 32 DB
Designation		DIN 51 502	CLP / HLP 32
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,870
Viscosity at 40°C	mm <sup>2</sup> /s	DIN 51 562	31,6
Viscosity at 100°C	mm <sup>2</sup> /s	DIN 51 562	5,5
Viscosity index (VI)		DIN ISO 2909	109
Flash point	°C	DIN ISO 2592	220
Pour point	°C	DIN ISO 3016	- 42
Air release property at 50 °C	min	DIN 51 381	3
FZG-Test A/8,3/90	Fail stage	DIN ISO 14 635	> 12

SRS Wiolan HF 32 DB is a product of the H&R ChemPharm GmbH

# SRS Wiolan HF 32 synth

## Hydrodynamic Transmission Oil

March 2014

### Characteristics

SRS Wiolan HF 32 synth is a fully-synthetic hydrodynamic transmission oil for hydrodynamic power transmissions in high loaded hydrodynamic railway gearboxes with a high oxidation stability, optimal air release properties and effective corrosion protection. Specially selected additives improve the load carrying capacity and ensure an optimum wear protection.

SRS Wiolan HF 32 synth is particularly characterized by the low temperature properties down to - 40°C. The efficiency of transmission is significantly improved by the fully synthetic transmission oil.

### Application

SRS Wiolan HF 32 synth is a fully-synthetic hydrodynamic transmission oil with very high thermal and oxidative stability used for high loaded hydrodynamic transmissions, amongst others in locomotives and other rail-specific applications. SRS Wiolan HF 32 synth is particularly used for operating at extended oil change intervals (up to 20.000 h) and is officially approved for use in Voith turbo transmissions.

### Performance

CLP 32  
HLP 32

### Approvals

Voith Turbo 120.00059010, Index 3

Typical data		Test method	SRS Wiolan HF 32 synth
Designation		DIN 51 502	CLP / HLP 32
Density at 15 °C	g/cm <sup>3</sup>	DIN 51 757	0,841
Dyn. Viscosity at - 35 °C	mPas	DIN 51 398	3,950
Viscosity at 40 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	29,8
Viscosity at 100 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	5,67
Viscosity index (VI)		DIN ISO 2909	133
Flash point	°C	DIN ISO 2592	245
Pour point	°C	DIN ISO 3016	< - 60
Air release property at 50 °C	min	DIN 51 381	1
FZG-Test A/8,3/90	Fail stage	DIN ISO 14 635	> 12

SRS Wiolan HF 32 synth is a product of the H&R ChemPharm GmbH

# SRS Wiolan HN

HL-Hydraulic Fluids – zinc free

February 2020

## Characteristics

SRS Wiolan HN hydraulic fluids are blended with highly solvent refined paraffinic base oils offering excellent corrosion and oxidation protection. They withstand substantial thermal stresses and possess excellent air release properties and good low temperature fluidity.

## Application

SRS Wiolan HN hydraulic fluids have impressively demonstrated their suitability in applications where EP properties are not permitted due to the requirements for the coefficient of friction. In addition, the use of SRS HN hydraulic fluids is recommended for all small manual hydraulic systems with only moderate wear protection demands like clamping, straightening, bending tools, lifting cylinders, hydraulic vehicle jacks etc.

## Specifications

The requirements for HL hydraulic fluids prescribed by DIN 51 524, Part 1 and ISO 11158 are met and even outperformed in many quality characteristics.

## Approvals

Hydraulic oil HL according to DIN 51524 Part 1  
Hydraulic oil HL according to ISO 11158

Typical data		Test method	SRS Wiolan HN						
			5	10	22	32	46	68	100
Designation		DIN 51 502 DIN EN ISO 6743/4	-	HL 10	HL 22	HL 32	HL 46	HL 68	HL 100
Density at 15°C	g/cm <sup>3</sup>	DIN 51 575	0,84	0,854	0,868	0,872	0,878	0,881	0,883
Viscosity at 40°C	mm <sup>2</sup> /s	DIN ISO 3104	4,97	10,1	22,2	32,1	46,1	68,1	101
Viscosity at 100°C	mm <sup>2</sup> /s	DIN ISO 3104	1,69	2,63	4,26	5,35	6,65	8,56	10,7
Flash point COC	°C	DIN ISO 2592	137	194	210	226	237	241	245
Pour point	°C	DIN ISO 3016	-42	-33	-27	-27	-27	-27	-21

SRS Wiolan HN oils are products of the H&R ChemPharm GmbH

# SRS Wiolan HS

## HLP Hydraulic Fluids

May 2020

### Characteristics

SRS Wiolan HS hydraulic fluids are based on highly solvent refined paraffinic neutral mineral oils from Salzbergen refinery blended with high performance additives. The additives are specially selected to optimize the performance with these base oils.

SRS Wiolan HS offers the optimum in wear and corrosion protection even under maximum mechanical loads. The oxidation inhibitors provide the greatest possible oxidation stability and enable longer oil retention periods and thus lower maintenance costs. Easy filterability of SRS Wiolan HS hydraulic fluids is required condition for current hydraulic units, filter clogging is prevented.

### Application

SRS Wiolan HS hydraulic fluids can be used universally in all hydraulic systems. Verification of suitability in numerous facilities and hydraulic systems is demonstrated.

SRS Wiolan HS is recommended for thermally stressed high pressure pumps of all design, for sensitive governor systems, for the supply of small transmission units and for application in circulating systems.

### Specifications

The requirements for HLP hydraulic fluids prescribed by DIN 51 524, Part 2 are met and even outperformed in many quality characteristics.

### Approvals

Hydraulic oil HLP acc. DIN 51524 Part 2  
Hydraulic oil HM acc. ISO 11158  
Hydraulic oil HM acc. ASTM D 6158  
ZF Approval Number ZF003456 / ZF003457  
ZF TE-ML 04K<sup>2</sup>  
Arburg<sup>1</sup>  
SEB 181 222

Cincinnati P-68, P-69, P-70  
Parker Denison HF-0, HF-1, HF-2  
Eaton E-FDGN-TB002-E, M-2950-S  
ANSI/AGMA 9005-E02-RO  
JCMAS P041 HK Hydraulic Specification  
US Steel 126, 127

<sup>1</sup> for SRS Wiolan HS 46

<sup>2</sup> for SRS Wiolan HS 32 and SRS Wiolan HS 46

Typical data		Test method	SRS Wiolan HS							
			5	10	22	32	46	68	100	150
Designation		DIN 51 502 DIN EN ISO 6743/4	-	HLP 10	HLP 22	HLP 32	HLP 46	HLP 68	HLP 100	HLP 150
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,853	0,857	0,869	0,874	0,878	0,881	0,885	0,889
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	4,84	9,93	22,1	32,1	46,3	69,6	103	153
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	1,65	2,60	4,25	5,34	6,68	8,71	11,2	14,4
Flash point COC	°C	DIN ISO 2592	133	172	200	224	227	245	257	266
Pour point	°C	DIN ISO 3016	- 39	- 30	- 27	- 27	- 27	- 27	- 27	- 21
FZG-Test A/8.3/90	Fail stage	DIN ISO 14635				10	12	12	12	12

SRS Wiolan HS oils are products of the H&R ChemPharm GmbH

# SRS Wiolan HX

HLP Hydraulic Fluids – zinc-free

February 2018

## Characteristics

SRS Wiolan HX hydraulic fluids are based on highly solvent refined paraffinic neutral mineral oils from Salzbergen refinery. The EP additives used are free of zinc. SRS Wiolan HX hydraulic fluids protect excellent against wear and corrosion even at high mechanical stress and have exceptionally good demulsibility. Oxidation inhibitors give high oxidation stability, thereby reducing maintenance costs through longer oil change intervals.

## Application

SRS Wiolan HX hydraulic fluids have impressively demonstrated their suitability in the hydraulic systems of rolling mills. Thanks to the good demulsibility of SRS Wiolan HX fluids, ingressed water can continuously be drawn off at suitable points within the system. SRS Wiolan HX fluids are universally applicable in all hydraulic equipment, wherever a high level of protection against wear and oxidation is required. Easy filterability of SRS Wiolan HX hydraulic fluids is required condition for current hydraulic units, filter clogging is prevented.

## Specifications

The requirements for HLP hydraulic fluids described in DIN 51 524, Part 2, ISO 11158 (HM), SEB 181 222 and DBL 6713 are met. Many of the requirements are outperformed by far. SRS Wiolan HX oils meet the steel industry's requirements for HLP hydraulic oils.

## Approvals / Recommendations

Hydraulic oil HLP acc. DIN 51524 Part 2	Voith 3625-006026 <sup>1</sup>
Hydraulic oil HM acc. DIN 11158	Airburg <sup>2</sup>
VDEh-approval according to SEB 181 222	ENGEL <sup>2</sup>
Voith 3625-006058 <sup>1</sup>	KraussMaffei <sup>2</sup>
Voith 3625-006072 <sup>1</sup>	ZF Approval Number ZF003458 / ZF003459
Voith 3625-006073 <sup>1</sup>	ZF TE-ML 04K <sup>1, 2</sup>

<sup>1</sup> for SRS Wiolan HX 32

<sup>2</sup> for SRS Wiolan HX 46

Typical data		Test method	SRS Wiolan HX				
			HX 22	HX 32	HX 46	HX 68	HX 100
Designation		DIN 51 502 DIN EN ISO 6743/4	HLP 22 HM22	HLP 32 HM32	HLP 46 HM46	HLP 68 HM68	HLP 100 HM100
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,873	0,877	0,881	0,883	0,882
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	22,1	32,4	46,4	70,7	104
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	4,3	5,3	6,6	8,8	11,2
Flash point COC	°C	DIN ISO 2592	200	210	225	230	250
Pour point	°C	DIN ISO 3016	- 30	- 27	- 24	- 24	- 24
FZG-Test A/16,6/140	Fail stage	DIN ISO 14 635	11	12	>12	>12	>12

SRS Wiolan HX is a product of the H&R ChemPharm GmbH

# SRS Wiolan HB

Premium HLP Hydraulic Fluids

August 2019

## Characteristics

SRS Wiolan HB hydraulic fluids are high quality hydraulic fluids based on modern base oils and innovative additives.

SRS Wiolan HB hydraulic fluids provide excellent wear and corrosion protection even under maximum mechanical loads, as well as an excellent oxidation stability. Longest oil change intervals signify lower maintenance costs and high profitability. The improved thermal and hydrolytic stability, excellent seal compatibility, and optimum cleanliness of the hydraulic system distinguish the SRS Wiolan HB hydraulic oils. Significant reduction of wear values of hydraulic components compared to standard HLP hydraulic oil and a long service life of the oil filling are achieved by the used of SRS Wiolan HB hydraulic oils.

## Application

SRS Wiolan HB hydraulic oils have been developed specifically for use in high developed hydraulic systems where the new stricter Bosch Rexroth RDE 90235 specification is recommended. The specification includes a new practice relevant pump / engine durability test, as well as specific seal test. SRS Wiolan HB hydraulic oils are claimed under a high load over several hundred hours of operation at high temperatures as well as low viscosities in different cycles.

## Specifications

The requirements for HLP hydraulic fluids described in DIN 51 524, Part 2 are met and even outperformed in many quality characteristics.

## Approvals / Recommendations

Bosch Rexroth Fluid Rating List RDE 90245  
 Bosch Rexroth RDE 90235  
 Hydraulic oil HLP acc. DIN 51524 Part 2  
 Hydraulic oil HM acc. ISO 11158  
 Hydraulic oil HM acc. ASTM D 6158  
 Parker Denison HF-0  
 US Steel 126, 127, 136  
 Eaton Brochure 03-401-2010  
 Fives-Cincinnati P-68, P-69, P-70

Typical data		Test method	SRS Wiolan		
			HB 32	HB 46	HB 68
Designation		DIN 51 502 DIN EN ISO 6743/4	HLP 32 HM 22	HLP 46 HM 46	HLP 68 HM 68
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,869	0,873	0,877
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	31,8	46,6	68,1
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	5,3	6,8	8,6
Flash point COC	°C	DIN ISO 2592	232	242	260
Pour point	°C	DIN ISO 3016	- 30	- 27	- 24

SRS Wiolan HB are products of the H&R ChemPharm GmbH

# SRS Wiolan HV

## HVLP Hydraulic Fluids

June 2020

### Characteristics

SRS Wiolan HV are mineral oil based high-VI hydraulic fluids with particularly good viscosity temperature behaviour. Highly solvent refined paraffinic neutral base stocks are used exclusively. SRS Wiolan HV provides maximum efficiency and smooth hydraulic system operation, even with extreme temperature fluctuations or starts at sub-zero temperatures. Optimal wear, corrosion and oxidation protection properties ensure a maximum in operating reliability of hydraulic systems along with increased oil retention times and reduced maintenance costs.

Easy filterability of SRS Wiolan HV hydraulic fluids is required condition for current hydraulic units, filter clogging is prevented.

### Application

SRS Wiolan HV is especially appropriate to use in hydraulic systems which are exposed to extreme temperature fluctuations. This includes the entire range of mobile hydraulics as well as all outdoor stationary units (scrap metal presses, lock gates, loading equipment, marine hydraulics etc.). The multigrade character of SRS Wiolan HV allow for an extensive product rationalization, to prevent confusion and incorrect use. Ordering and storage within the operation are simplified. SRS Wiolan HV can be used everywhere where HLP or HVLP hydraulic fluids are prescribed.

### Specifications

SRS Wiolan HV hydraulic fluids are shear stable and outperform the requirements for HVLP hydraulic fluids described in DIN 51 524 Part 3 and by ISO 11158 HV.

### Approvals

Hydraulic oil HVLP acc. DIN 51524 Part 3  
 Hydraulic oil HV acc. ISO 11158  
 ZF Approval Number ZF003460 / ZF003461  
 ZF TE-ML 04R<sup>1</sup>  
 Arburg<sup>2</sup>

Typical data		Test method	SRS Wiolan HV			
			HV 15	HV 32	HV 46	HV 68
Designation		DIN 51 502 DIN ISO 6743/4	HVLP 15 HV 15	HVLP 32 HV 32	HVLP 46 HV 46	HVLP 68 HV 68
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,877	0,869 ± 7	0,871	0,876
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	15	32,2	45,6	67,9
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	3,7	6,24	8,08	10,8
Viscosity Index (VI)		DIN ISO 2909	146	147	151	150
Flash point COC	°C	DIN ISO 2592	172	210	235	244
Pour point	°C	DIN ISO 3016	- 42	- 33	- 39	- 39
FZG-Test A/8.3/90	Fail stage	DIN ISO 14635		10	12	12

SRS Wiolan HV oils are products of the H&R ChemPharm GmbH

# SRS Wiolan HVX

## Zinc-free HVLP Hydraulic Fluids

November 2016

### Characteristics

SRS Wiolan HVX are zinc-free mineral oil based high-VI hydraulic fluids with particularly good viscosity temperature behaviour. Highly solvent refined paraffinic neutral base stocks are used exclusively. SRS Wiolan HVX provides maximum efficiency and smooth hydraulic system operation, even with extreme temperature fluctuations or starts at sub-zero temperatures. Optimal wear, corrosion and oxidation protection properties ensure a maximum in operating reliability of hydraulic systems along with increased oil retention times and reduced maintenance costs.

Easy filterability of SRS Wiolan HVX hydraulic fluids is required condition for current hydraulic units, filter clogging is prevented.

### Application

SRS Wiolan HVX is especially appropriate to use in hydraulic systems which are exposed to extreme temperature fluctuations. This includes the entire range of mobile hydraulics as well as all outdoor stationary units (scrap metal presses, lock gates, loading equipment, marine hydraulics etc.). The multigrade character of SRS Wiolan HVX allow for an extensive product rationalization, to prevent confusion and incorrect use. Ordering and storage within the operation are simplified. SRS Wiolan HVX can be used everywhere where HLP or HVLP hydraulic fluids are prescribed.

### Specifications

SRS Wiolan HVX hydraulic fluids are shear stable and outperform the requirements for HVLP hydraulic fluids described in DIN 51 524 Part 3 and by ISO 11158 HV.

### Approvals

Hydraulic oil HVLP acc. DIN 51524 Part 3

Hydraulic oil HV acc. ISO 11158

Typical data		Test method	SRS Wiolan HVX		
			HV 32	HV 46	HV 68
Designation		DIN 51 502 DIN ISO 6743/4	HVLP 32 HV 32	HVLP 46 HV 46	HVLP 68 HV 68
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,869	0,873	0,878
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	32,1	45,7	67,8
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	6,28	8,13	10,9
Viscosity Index (VI)		DIN ISO 2909	150	152	152
Flash point COC	°C	DIN ISO 2592	212	232	240
Pour point	°C	DIN ISO 3016	- 30	- 35	- 35

SRS Wiolan HVX oils are products of the H&R ChemPharm GmbH



# SRS Wiolan HG

Detergent HLPD-Hydraulic Fluids – zinc free

July 2021

## Characteristics

SRS Wiolan HG are mineral oil based hydraulic fluids with detergent and dispersant additives. Adhering particles and deposits are removed (detergent) and held intentionally in suspension (dispersant), along with contaminants which may have entered the system. SRS Wiolan HG emulsifies water and water based cutting fluids without any substantial adverse effects on the excellent lubrication and anticorrosion properties. Polar additives in SRS Wiolan HG improve friction behaviour and prevent stickslip, even under extremely unfavourable operating conditions.

## Application

SRS Wiolan HG is suitable for all hydraulic systems for which normal HLP fluids are prescribed. The main field of application are mobile hydraulics (excavators, bulldozers, wheel loaders, truck hydraulic systems, especially F.X. Meiller). From experience SRS Wiolan HG has shown its qualification in hydraulic control units and precision hydraulic systems. SRS Wiolan HG is also particularly well suited for use in hydraulic systems of machine tools with integrated slideway lubrication, and maintenance units of pneumatic compressors for the lubrication of air tools. Operating problems in hydraulic systems caused by contamination and wear can be largely avoided by using SRS Wiolan HG

## Specifications

The requirements for HLP hydraulic fluids prescribed by DIN 51 524, Part 2 and the requirements for HM hydraulic fluids prescribed by ISO 11158 (except demulsibility) are met and even outperformed in many quality characteristics.

SRS WIOLAN HG is also applicable where lead containing bearings are fitted.

## Approvals / Recommendations

Hydraulic oil HLP acc. DIN 51524 Part 2  
Hydraulic oil HM acc. ISO 11158  
Lubricating oil DLP acc. DIN 51 502  
Arburg<sup>1</sup>

<sup>1</sup>For WIOLAN HG 46

Typical data		Test method	SRS Wiolan HG					
			HG 10	HG 22	HG 32	HG 46	HG 68	HG100
Designation		DIN 51 502 DIN EN ISO 6743/4	HLPD10 HM 10	HLPD22 HM 22	HLPD32 HM 32	HLPD46 HM 46	HLPD68 HM 68	HLPD100 HM100
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,855	0,865	0,873	0,880	0,882	0,887
Viscosity at 40°C	mm <sup>2</sup> /s	DIN 51 562	10	22	32	45	68	102,4
Viscosity at 100°C	mm <sup>2</sup> /s	DIN 51 562	2,7	4,3	5,4	6,7	8,6	10,9
Flash point COC	°C	DIN ISO 2592	165	195	205	210	225	264
Pour point	°C	DIN ISO 3016	- 30	- 30	- 27	- 27	- 24	- 27
FZG-Test A/8.3/90	Fail stage	DIN ISO 14635	12	> 12	> 12	> 12	> 12	> 12

SRS Wiolan HG oils are products of the H&R ChemPharm

# SRS Wiolan HVG 46

HVLDPD Detergent Hydraulic Fluid

January 2016

## Characteristics

SRS Wiolan HVG 46 is a detergent and dispersant containing hydraulic fluid with extremely good viscosity temperature behaviour (high VI and multigrade hydraulic fluids) SRS Wiolan HVG 46 emulsifies water and water soluble cutting fluids without any real adverse effect on the excellent lubrication and anticorrosion properties. Sticky residues and deposits in the system are mobilized (detergent), transported to filters and removed from the system when the filter is changed. Contaminates entering the system are held in suspension (dispersion) and filtered off. Oil change intervals are increased substantially without the risk of malfunction or increasing wear.

## Application

SRS Wiolan HVG 46 can be universally employed in all mobile hydraulic equipment (excavators, wheel loaders, bulldozers, truck hydraulic systems etc.) and in stationary machine tools and production machinery. SRS Wiolan HVG 46 provides substantial advantages over conventional hydraulic fluids in all applications where maximum operating reliability, lowest wear, high system cleanliness and steady motion at varying working temperatures are required. In actual practice, SRS Wiolan HVG 46 is a problem solver for minimizing slip stick phenomena, even at extremely unfavourable starting and stopping feed and finest feed.

## Specifications

SRS Wiolan HVG 46 exceeds the requirements for hydraulic fluids as described in DIN 51 524 Part 3 and the requirements for HV hydraulic fluids prescribed by ISO 11158 (except demulsibility) in important quality characteristics.

## Approvals / Recommendations

Hydraulic oil HV acc. DIN 51524 Part 3  
Hydraulic oil HV acc. ISO 11158

Typical data		Test method	SRS Wiolan HVG 46
Designation		DIN 51 502	HVLDPD 46
		DIN ISO 6743/4	HV 46
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,874
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	45,6
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	8,11
Viscosity Index (VI)		DIN ISO 2909	152
Flash point COC	°C	DIN ISO 2592	228
Pour point	°C	DIN ISO 3016	- 42
FZG-Test A/8.3/90	Fail stage	DIN ISO 14635	12

SRS Wiolan HVG oils are products of the H&R ChemPharm GmbH

# SRS Wiolan H-540

HVLP-Hydraulic Oil

August 2018

## Characteristics

SRS Wiolan H-540 is a standard hydraulic fluid for military equipment, i. e. rescue tanks, tanks for launching bridges bridge laying tanks, flail tanks mine clearing tanks/vehicles, cranes with power steering, hydraulic actuators lifting hydraulics and similar applications.

It guarantees very good wear- and corrosion protection even at high mechanical loads and offers extremely good oxidation behaviour. The excellent viscosity index of more than 270 keeps the operational characteristics steady even under extreme temperature fluctuations. Furthermore, SRS Wiolan H-540 is characterized by a very high shear stability.

## Application

SRS Wiolan H 540 is intended for use in hydraulic equipment such as power assisted steering, lifting hydraulics for loading and salvage devices and similar applications. Best cold start performance at low temperatures, and the use at high operating temperatures ensure a wide operating temperature range of - 30 ° C to + 100 ° C.

## Specifications

NATO-Code H 540  
 BW-Code HY5025  
 Hydraulic oil HVLP according to DIN 51524 Part 3

## Approvals

SRS Wiolan H-540 is approved namely by Bundeswehr with quality certificate B-0279 according to the specification TL 9150-0035/8.

Typical data		Test method	SRS Wiolan Hydraulic Fluid H 540
Designation		DIN 51 502	HVLP
Colour		DIN ISO 2049	L 2,0
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,891
Viscosity at -40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	7.100
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	36,9
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	10,0
Viscosity index (VI)		DIN ISO 2909	272
Flash point COC	°C	DIN ISO 2592	130
Pour point	°C	DIN ISO 3016	- 57
FZG-Test A/8,3/90	Fail stage	DIN ISO 14635	11
Corrosion protection:			
Seawater immersion test	result	DIN 51 358	Note: 0

SRS Wiolan Hydraulic Fluid H 450 is a product of the H&R ChemPharm GmbH

# SRS Wiolgan HE 46

Environmentally Friendly HEES-Hydraulic Fluid

February 2021

## Characteristics

SRS Wiolgan HE 46 is a fully synthetic, rapidly biodegradable hydraulic fluid on TMP ester with additives for maximum performance. SRS Wiolgan HE 46 is miscible with conventional mineral oil based hydraulic fluids in all ratios and at all temperatures with no adverse effects for an oil change to this eco-friendly product. The outstanding high temperature stability, together with very good low temperature fluidity, prevents deposits and sticky residuals caused by oxidation products.

## Application

SRS Wiolgan HE 46 contains highly effective additives to protect against the corrosion and wear of all materials present in hydraulic systems. It is especially recommended for use in all hydraulic systems of the construction, agriculture and forestry equipment, for example, excavators, bulldozers, wheel loaders, forestry machinery, lock hydraulics, etc. as well as wherever the risk of leakage into the environment can not be excluded.

SRS Wiolgan HE 46 is essentially compatible with varnishes, paints, gaskets and seal. □

## Specifications

SRS Wiolgan HE 46 exceeds the requirements of type HEES hydraulic oils described in VDMA 24 568. According to OECD 301 F, SRS Wiolgan HE 46 has a biodegradability of greater than 60 %.

Typical data		Test method	SRS Wiolgan HE 46
Designation		DIN EN ISO 6743/4	HEES 46
Colour		DIN ISO 2049	L 1,0
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,921
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	47
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	9,4
Viscosity index (VI)		DIN ISO 2909	188
Flash point COC	°C	DIN ISO 2592	287
Pour point	°C	DIN ISO 3016	- 51
LAV at 50 °C	min	DIN ISO 9120	1,4

SRS Wiolgan HE 46 is a product of the H&R ChemPharm GmbH

# SRS Wiolan GT

## Turbine Oils

December 2019

### Characteristics

SRS Wiolan GT gas turbine oils are manufactured on a basis of highly solvent refined, hydrogenated technical white oils. Their out-standing properties are the exceptional thermal and oxidation stability, very good air release properties, low foaming tendency and excellent corrosion protection. The well-balanced combination of additives allows SRS Wiolan GT turbine oils to meet all requirements from manufacturers of steam and gas turbines and turbo-compressors with substantial reserves.

### Application

SRS Wiolan GT turbine oils are specially developed for the operation of highly loaded industrial gas turbines and turbo compressors with connected gears and common oil circuit. Selected additives ensure maximum oil retention times even at unfavourable oxidative and thermal conditions. SRS Wiolan GT oils are also used for lubrication in transmissions as well as in hydraulic and recirculating systems in cases where the manufacturer has specified turbine oils properties.

### Specifications

DIN 51 515 part 1 L-TD  
DIN 51 515 part 2 L-TG  
DIN 51 524 part 1 HL

ISO 8068 L-TSA  
ISO 8068 L-TGA  
ISO 8068 L-TGB  
ISO 8068 L-TGSB

### Recommendations

Siemens TLV 90 13 04  
ABB HTGD 90117  
ABB-Stal-VTI 3200-3, 9812108  
BS 489  
MIL-L-17672-D  
MIL-L-17331-G  
MIL-L-17331-B  
AFNOR E-48600 HL  
Solar ES9-224U  
Mitsubishi Heavy Industries E00-87182

MAN Turbomachinen  
GE GEK 28143A  
GE GEK 32568H  
GE GEK 107395A  
GE GEK 46506D  
US Steel 120  
CEGB Standard 207001  
Cincinnati Machine P-38 (32), P-45, P-54 (68),  
P-55 (46)  
Westinghouse 21T0591 and 55125Z3

Typical data		Test method	SRS Wiolan		
			GT 32	GT 46	GT 68
Designation		DIN 51 502	L-TD/L-TG	L-TD/L-TG	L-TD/L-TG
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,863	0,868	0,871
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	32,2	45,7	67,8
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	5,5	6,8	8,7
Flash point COC	°C	DIN ISO 2592	223	244	269
Pour point	°C	DIN ISO 3016	- 6	- 9	- 9
Neutralization number	mgKOH/g	DIN ISO 6618	0,06	0,06	0,06
Air release property at 50°C	min	DIN ISO 9120	3	3	4
Water separation ability	s	DIN 51 389	80	50	80

SRS Wiolan GT is a product of the H&R ChemPharm GmbH

The above values may vary within the commercial limits (mm<sup>2</sup>/s = cSt)

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# SRS Wiolan CA

## Circulation Oils

March 2012

### Characteristics

SRS Wiolan CA circulation oils are paraffinic solvent neutrals base oils with a high natural viscosity index. They possess excellent air release and water separation properties, good oxidation and corrosion resistance and a high flash point.

### Application

SRS Wiolan CA circulation oils are used by industry as universal lubricating oils. SRS Wiolan CA oils are suitable as bearing lubricants and in gearboxes and hydraulic systems with low or moderate loads without EP requirements. SRS Wiolan CA oils are successfully used in variable ratio gearboxes (observe manufacturer's specifications) and are well suited for vacuum pumps and compressors. Low viscous SRS Wiolan CA oils are applicable for bright annealing.

### Specifications

SRS Wiolan CA meets the requirements for C Class lubricating oils according to DIN 51 517, Part 1, as well as DIN 51 506, Groups VB and VC.

SRS Wiolan CA circulation oils meet the requirements of ISO 6743 part 3 DVA and DVC.

Typical data	Test method	SRS Wiolan CA							
		46	68	100	150	220	320	460	
Designation		DIN 51 502	C 46 VB 46 VC 46	C 68 VB 68 VC 68	C 100 VB 100 VC 100	C 150 VB 150 VC 150	C 220 VB 200 -	C 320 VB 320 -	C 460 VB 460 -
Colour		DIN ISO 2049	1,0	1,5	2,5	2,5	2,5	2,5	2,5
Density at 15°C	g/cm³	DIN 51 757	0,872	0,878	0,880	0,887	0,887	0,895	0,898
Viscosity at 40°C	mm²/s	DIN 51 562	46	68	100	150	220	320	460
Viscosity at 100°C	mm²/s	DIN 51 562	6,7	8,7	11	14,5	18,5	23,5	30
Viscosity Index (VI)		DIN ISO 2909	95	95	95	95	93	>90	>90
Flash point COC	°C	DIN ISO 2592	225	235	245	255	260	270	285
Pour point	°C	DIN ISO 3016	-12	-12	-12	-12	-9	-9	-9

SRS Wiolan CA oils are products of the H&R ChemPharm GmbH

# SRS Wiolan WT

## Compressor Oils

May 2014

### Characteristics

SRS Wiolan WT compressor oils are blended with high VI highly solvent refined paraffinic base oils and specially selected additives. High thermal loads and continuous close contact with air require the best possible protection against oxidation. The inevitable condensation of water during the cooling of compressed air implies a danger of corrosion. Sliding parts in contact with each other are subject to friction and resulting wear. Dirt in the oil circulation system affects the operational condition of the compressor and the oil filling. The additive content of SRS Wiolan WT oils is specifically designed to control these difficult service conditions for the best operating results in practice.

### Application

SRS Wiolan WT oils are suitable for all compressors for which VCL oils are prescribed by the manufacturer. SRS Wiolan WT oils are especially recommended for oil flooded screw compressors.

### Specifications

SRS Wiolan WT compressor oils are in compliance with all standards for VCL compressor oils according to DIN 51 506. The requirements of this standard are even exceeded in certain major characteristics.

As VCL quality SRS Wiolan WT oils also exceed the standards for the VBL group.

SRS Wiolan WT compressor oils meet the requirements of ISO 6743 part 3 DAA.

Typical data		Test method	SRS Wiolan		
			WT 32	WT 46	WT 68
Designation		DIN 51 506	VCL 32	VCL 46	VCL 68
Colour Index		DIN ISO 2049	1,0	1,5	L 2,0
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,875	0,878	0,881
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	32	46	69
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	5,5	6,8	8,8
Flash point COC	°C	DIN ISO 2592	222	245	250
Pour point	°C	DIN ISO 3016	- 27	- 27	- 24
Conradson carbon residue	wt.%	DIN 51 551	0,07	0,08	0,17
Ageing characterist. Delta CCT	wt.%	DIN 51 352/1	0,43	0,5	0,97

SRS Wiolan WT oils are products of the H&R ChemPharm GmbH

# SRS Wiolan CD

## Air Compressor Oils

August 2014

### Characteristics

SRS Wiolan CD compressor oils are manufactured from highly solvent refined paraffinic base oils with high natural VI and flash point. Due to the high thermal load found in many compressors, excellent oxidation stability and minimal residue formation are indispensable requirements, which are met from SRS Wiolan CD. Its good temperature viscosity characteristics, ensures good lubrication at high and low temperature. This contributes substantially to prevent wear. Excellent demulsibility and low foaming tendency are further outstanding characteristics of SRS Wiolan CD.

### Application

SRS Wiolan CD compressor oils have proven themselves particularly well in thermally-stressed reciprocating and rotary compressors. Further potential applications are thermally-stressed plain and roller bearings in circulating oil systems, e.g., plastics and rubber calenders, paper machinery, rotary kilns, etc. The Unfallverhütungsvorschrift (accident prevention regulation) VBG 16 should be observed for compressor operation.

### Specifications

SRS Wiolan CD compressor oils conform to the most stringent requirements of DIN 51 506. Because they fulfil the requirements of Group VDL, they meet also the requirements for Group VBL and VCL.

SRS Wiolan CD compressor oils meet the requirements of ISO 6743 part 3 DAA, DAG and DAH and can also be used in screw compressors.

Typical data		Test method	SRS Wiolan CD						
			32	46	68	100	150	220	320
Designation		DIN 51 502	VDL32	VDL46	VDL68	VDL100	VDL150	-	-
Colour		DIN ISO 2049	L 1,0	1,0	L 1,5	L 2,0	2,5	L 3,0	3,5
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,872	0,873	0,877	0,881	0,886	0,892	0,894
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	32	45	68	99	150	222	322
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	5,5	6,6	8,7	11,1	14,3	18,3	23,5
Viscosity index (VI)		DIN ISO 2909	107	97	99	97	92	90	92
Flash point COC	°C	DIN ISO 2592	210	235	250	260	265	280	290
Pour point	°C	DIN ISO 3016	-12	-12	-12	-12	-12	-12	-9

SRS Wiolan CD oils are products of the H&R ChemPharm GmbH



# SRS Wiolan KF

## Refrigerator Oils

October 2011

### Characteristics

SRS Wiolan KF refrigerator oils are highly refined naphthenic base oils, resistant against oxidation with a high purity. The distinctive low temperature fluidity guarantees a trouble free operation. Precipitations and the risk of clogging of governor systems as well as deposits in the evaporator are avoided. The excellent thermal stability prevents residue formation and associated malfunctions even at high compression temperatures.

### Application

SRS Wiolan KF refrigerator oils can be used in refrigerator equipments operating with refrigerants of Group KAA (NH<sub>3</sub> or CO<sub>2</sub>) or Group KC (halogenated hydrocarbons). SRS Wiolan KF refrigerator oils have favourable miscibility characteristics with halogenated refrigerants as well as excellent stability against refrigerants.

### Specifications

SRS Wiolan KF refrigerator oils exceed the requirements of DIN 51 503 as well as of the groups KAA and KC.

Typical data		Test method	SRS Wiolan KF			
			KF 22	KF 32	KF 46	KF 68
Designation			KAA/KC	KAA/KC	KAA/KC	KAA/KC
Colour		DIN ISO 2049	0,5	L 1,0	L 1,0	L 1,5
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,902	0,906	0,910	0,914
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	22	32	46	68
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	3,7	4,8	5,8	7,3
Flash point COC	°C	DIN ISO 2592	175	180	190	215
Pour point	°C	DIN ISO 3016	- 51	- 45	- 42	- 39
Neutralization number	mgKOH/g	DIN 51 558/2	0,01	0,01	0,01	0,01
Refrigerant resistance	h	DIN 51 593	> 96	> 96	> 96	> 96
R12-insoluble	%	DIN 51 590/1	0,02	0,02	0,02	0,03

SRS Wiolan KF is a product of the H&R ChemPharm GmbH

# SRS Wiolan CE

## Special Ethylene Gas Compressor Oil

May 2014

### Characteristics

SRS Wiolan CE 220 is a high-performance ethylene compressor oil of ISO viscosity grade 220. It is specially developed for the lubrication of ethylene hyper compressors.

SRS Wiolan CE 220 compressor oil is manufactured using medicinal white oil components and polymer thickener. Selected additives ensure good lubrication of the compressor cylinders. The out-standing properties are the excellent thermal and chemical stability. The compressor oil is compatible with the polyethylene process.

### Application

SRS Wiolan CE 220 is suitable for applications where incidental food contact is possible.

Typical data		Test method	SRS Wiolan CE 220
Colour ASTM		DIN ISO 2049	< 0,5
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,876
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	220
Viscosity at 100°C	mm <sup>2</sup> /s	DIN EN ISO 3104	20,4
Flash point COC	°C	DIN ISO 2592	262
Pour point	°C	ASTM D 5985	- 15
Neutralization number	mgKOH/g	DIN 51 558/2	0,64
Viscosity index (VI)	-	DIN ISO 2909	100

SRS Wiolan CE 220 is a product of the H&R ChemPharm GmbH

# SRS Wintal UG

## Metal Processing Oils

October 2011

### Characteristics

SRS Wintal UG oils are chlorine-free, low mist multipurpose lubricants with polar and extreme pressure additives. In their preferred application as a cooling lubricant, the additives react with the materials of tool and chip during machining operations, as a result friction is reduced. The tendency of the tool and the chip to weld together is minimized where SRS Wintal UG Oils are used. In general the following advantages result from the use of SRS Wintal UG oils: Longer tool life with high dimensional accuracy, high surface quality and high machining performance.

SRS Wintal UG oils are not copper corrosive, non-ferrous (yellow) metals and steel of up to middle hardness can be processed. In addition to their application in metal chipping, SRS Wintal UG oils are very suitable as gear and hydraulic oils. They can be successfully applied wherever HLP or CLP oils are prescribed, including in hydraulic equipment with attached slideways.

### Application Areas - Cutting Oil

#### Working Processes

Turning, drilling, milling, automatic works, threading, gear shaping, thread milling.

#### Working Materials

Carbon steels, free cutting steel, structural steel, grey and malleable iron, yellow and light metals.

Typical data		Test method	SRS Wintal		
			UG 22	UG 32	UG 46
Designation		DIN 51 502	S/HLP/CLP	S/HLP/CLP	S/HLP/CLP
Density at 15 °C	g/cm <sup>3</sup>	DIN 51 757	0,869	0,877	0,881
Viscosity at 40 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	21,9	32,8	45,6
Viscosity at 100 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	4,9	5,49	6,65
Viscosity index (VI)		DIN ISO 2909	109	102	97
Flash point COC	°C	DIN ISO 2592	210	225	235
Neutralization number	mgKOH/g	DIN 51 558	0,3	0,3	0,3
Pour point	°C	DIN ISO 3016	- 12	- 9	- 12
Copper corrosion test		DIN ISO 2160	1	1	1

SRS Wintal UG oils are products of the H&R ChemPharm GmbH

# SRS Wiolan TH

## Slide Way Oils

March 2012

### Characteristics

SRS Wiolan TH slide way oils provide a low coefficient of friction associated with a constant sliding performance without stick slip even at fine feed with lowest feed motions. Highest dimensional accuracy is the effect. Good demulsibility gives highest functionality also at use of low-maintenance cooling lubricants. During long downtime the most-feared formation of sticky deposits from the reaction of cooling lubricants and slide way oils is prevented. SRS Wiolan TH slide way oils offer high corrosion protection. Fretting corrosion is avoided even in narrow fit clearances. Yellow metals are not attacked.

Highest film strength and excellent tackiness are guaranteed - an essential prerequisite for the lubrication of vertical slide ways. Additivation is well-tuned with modern water-soluble cooling lubricants to enable best surface quality and dimensional accuracy of the work pieces even at the most difficult production conditions.

### Application

SRS Wiolan TH oils are designed mostly to lubricate slide ways of different material combinations in machine tools including plastic coatings like epoxy resins and Teflon, and for machine tool slide ways where contamination with watersoluble cooling lubricants are unavoidable. SRS Wiolan TH oils have also given outstanding performance in the textile, paper and packaging industries.

### Specifications

The requirements for CGLP lubricants are fulfilled and surpassed in essential points. Examinations of SRS Wiolan TH oils, carried out by SKC Gleittechnik GmbH, Rödental, passed off with excellent results.

SRS Wiolan TH slide way oils meet the requirements of ISO 6743 part 13 GA and GB.

Typical data		Test method	SRS Wiolan TH				
			TH 32	TH 48	TH 68	TH 100	TH 220
Designation		DIN 51 502	CGLP 32	CGLP 46	CGLP 68	CGLP 100	CGLP 220
Density at 15 °C	g/cm <sup>3</sup>	DIN 51 757	0,874	0,878	0,880	0,884	0,894
Viscosity at 40 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	32,1	45,8	67,1	102	214
Viscosity at 100 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	5,3	6,7	8,5	11,1	17,9
Flash point COC	°C	DIN ISO 2592	215	240	245	265	270
Pour point	°C	DIN ISO 3016	- 24	- 12	- 27	- 9	- 15
Copper corrosion (3h/100 °C)	Grade	DIN ISO 2160	1	1	1	1	1
Steel corrosion	Grade	DIN 51 355	0 - B	0 - B	0 - B	0 - B	0 - B
FZG-Test A/8,3/90	SKS	DIN ISO 14635	12	12	12	12	12

SRS Wiolan TH oils are products of the H&R ChemPharm GmbH

# SRS Mihatherm WU 10

## Heat Transfer Oil

March 2016

### Characteristics

SRS Mihatherm WU 10 is a heat transfer oil with excellent thermal and oxidation stability in a viscosity range, ideal for heat transfer operations. A low viscosity product in a high boiling range guarantees turbulent flow associated with good heat transfer at relatively low flow velocity. Operations safety and reliability result from compliance with DIN 4754, UVV (accident prevention regulation), VGB 17 and VDI Richtlinie (Guideline) 3033.

The SRS base oils allow the development of heat transfer oils in a convenient viscosity grade with excellent thermal stability and good oxidation stability. A low viscosity in a high boiling range guarantees turbulent flow associated with good heat transfer at relatively low flow velocity.

### Application

SRS Mihatherm WU 10 as low viscous product allows operation in plants with film wall temperature in the range between -30°C and 270°C. Good low temperature fluidity provides trouble free start -ups even at low temperatures.

Contact between oil and air should be avoided, because air (oxygen) can cause accelerated oxidation of hydrocarbon products.

SRS Mihatherm WU 10 is a heat transfer oil with designation Q, DIN 51 502 and is in compliance with the DIN 51 522. The requirements of this standard are even exceeded in certain major characteristics.

Typical data		Test method	SRS Mihatherm WU 10
Designation		DIN 51 502	Q
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,889
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	10,2
Flash point COC	°C	DIN ISO 2592	154
Pour point	°C	DIN ISO 3016	< - 50
Carbon residue	wt. %	DIN 51 551	< 0,01
Initial boiling point	°C	ASTM 1160	> 280
Flow temperature	°C		up to 250

Temperature °C	Viscosity mm <sup>2</sup> /s	Density g/cm <sup>3</sup>	Specific heat capacity kJ/kg K	Thermal conductivity w/m K	Prandtl number
SRS Mihatherm WU 10					
-20	298	0,912	1.718	0,134	3460
0	65	0,899	1.790	0,132	783
20	22,3	0,886	1.862	0,131	279
50	7,45	0,866	1.969	0,129	99
100	2,44	0,834	2.148	0,125	35
200	0,76	0,769	2.507	0,117	12,6
300	0,55	0,736	2.686	0,113	9,6

SRS Mihatherm WU 10 oil is a product of the H&R ChemPharm GmbH

# SRS Mihatherm WU 32

## Heat Transfer Oil

March 2016

### Characteristics

SRS Mihatherm WU 32 is a heat transfer oil with excellent thermal and oxidation stability in a viscosity range, ideal for heat transfer operations. A low viscosity product in a high boiling range guarantees turbulent flow associated with good heat transfer at relatively low flow velocity. Operations safety and reliability result from compliance with DIN 4754, UVV (accident prevention regulation), VGB 17 and VDI Richtlinie (Guideline) 3033.

The SRS base oils allow the development of heat transfer oils in a convenient viscosity grade with excellent thermal stability and good oxidation stability. A low viscosity in a high boiling range guarantees turbulent flow associated with good heat transfer at relatively low flow velocity.

### Application

SRS Mihatherm WU 32 is recommended for plants with film wall temperature in the range between -10°C and 320°C.

Contact between oil and air should be avoided, because air (oxygen) can cause accelerated oxidation of hydrocarbon products.

SRS Mihatherm WU 32 is a heat transfer oil with designation Q, DIN 51 502.

Typical data		Test method	SRS Mihatherm WU 32
Designation		DIN 51 502	Q
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,86
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	30
Flash point COC	°C	DIN ISO 2592	230
Pour point	°C	DIN ISO 3016	- 15
Carbon residue	wt. %	DIN 51 551	0,01
Initial boiling point	°C	DIN 51 751/ASTM 1160	350
Flow temperature	°C		up to 300

Temperature °C	Viscosity mm <sup>2</sup> /s	Density g/cm <sup>3</sup>	Specific heat capacity kJ/kg K	Thermal conductivity w/m K	Prandtl number
SRS Mihatherm WU 32					
0	297	0,876	1,812	0,136	3462
50	20,0	0,844	1,994	0,133	254
100	5,05	0,812	2,176	0,129	69
200	1,27	0,749	2,541	0,122	19
300	0,63	0,685	2,906	0,115	10

SRS Mihatherm WU 32 oil is a product of the H&R ChemPharm GmbH

# SRS Mihatherm WU 46

## Heat Transfer Oil

March 2016

### Characteristics

SRS Mihatherm WU 46 is a heat transfer oil with excellent thermal and oxidation stability in a viscosity range, ideal for heat transfer operations. A low viscosity product in a high boiling range guarantees turbulent flow associated with good heat transfer at relatively low flow velocity. Operations safety and reliability result from compliance with DIN 4754, UVV (accident prevention regulation), VGB 17 and VDI Richtlinie (Guideline) 3033.

The SRS base oils allow the development of heat transfer oils in a convenient viscosity grade with excellent thermal stability and good oxidation stability. A low viscosity in a high boiling range guarantees turbulent flow associated with good heat transfer at relatively low flow velocity.

### Application

SRS Mihatherm WU 46 is recommended for plants with film wall temperature in the range between -10°C and 350°C.

Contact between oil and air should be avoided, because air (oxygen) can cause accelerated oxidation of hydrocarbon products.

SRS Mihatherm WU 46 is a heat transfer oil with designation Q, DIN 51 502 and is in compliance with the DIN 51 522. The requirements of this standard are even exceeded in certain major characteristics.

Typical data		Test method	SRS Mihatherm WU 46
Designation		DIN 51 502	Q
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,870
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	43,7
Flash point COC	°C	DIN ISO 2592	225
Pour point	°C	DIN ISO 3016	- 12
Carbon residue	wt. %	DIN 51 551	0,01
Initial boiling point	°C	ASTM 1160	390
Flow temperature	°C		up to 320

Temperature °C	Viscosity mm <sup>2</sup> /s	Density g/cm <sup>3</sup>	Specific heat capacity kJ/kg K	Thermal conductivity W/m K	Prandtl number
SRS Mihatherm WU 46					
0	535	0,879	1.864	0,134	6543
50	28.6	0,848	2.078	0,131	385
100	6.5	0,816	2.293	0,127	96
200	1.5	0,750	2.721	0,120	26
300	0.7	0,685	3.151	0,113	13.4
320	0.6	0,672	3.236	0,111	11.8

SRS Mihatherm WU 46 is a product of the H&R ChemPharm GmbH

# SRS Wiolan IF 10

## Transformer Oil

October 2013

### Characteristics

SRS Wiolan IF 10 has excellent oxidation stability due to its high purity. This means longer life for the oil filling. The low viscosity allows rapid oil circulation and ensures good cooling. The extremely low dielectric loss factor qualifies it for application as insulating or dielectric oil.

### Application

SRS Wiolan IF 10 is insulating oil which has been specially developed for use in transformers and switches. It has been proving itself under extreme operating conditions for a number of years. Due to its excellent low temperature behaviour, it is as trouble free at very low temperatures as it is at the high operating temperatures as a result of overload.

### Specifications

SRS Wiolan IF 10 fulfils the stringent requirements for transformer oils as described in the following specifications:

IEC 60296 edition 4.0

VDE 0370-1

DIN 51 535

IEC 62535

ASTM D 1275-B

SRS Wiolan IF 10 meets the requirements of major transformer manufacturer's.

Typical data		Test method	SRS Wiolan IF 10
Designation		DIN 51 502	J 10
Colour		DIN ISO 2049	L 0,5
Density at 15°C	g/cm <sup>3</sup>	DIN 51 757	0,870
Viscosity at -30°C	mm <sup>2</sup> /s	DIN EN ISO 3104	1.000
Viscosity at 20°C	mm <sup>2</sup> /s	DIN EN ISO 3104	22,4
Viscosity at 40°C	mm <sup>2</sup> /s	DIN EN ISO 3104	10,0
Flash point PM	°C	DIN ISO 2719	152
Pour point	°C	DIN ISO 3016	- 48
Neutralization number	mgKOH/h	DIN 51 558/2	< 0,01
Corrosive sulphur	g/100g	DIN 51 353	none
Water content	mg/kg	IEC 60814	< 20
Breakdown voltage	kV	IEC 60156	40-60
		IEC 60156	> 70
Dielectric loss factor at 90 °C		IEC 60247	< 0,001
Oxidation stability at 164h/120 °C		IEC 61125 C	
Neutralization number	mgKOH/g		0,50
Sludge content	wWt. %		0,15
Dielectric loss factor at 90 °C			0,080

SRS Wiolan IF 10 is a product of the H&R ChemPharm GmbH



# SRS Mihagran FO 2320/3 K

## Mould Release Oil

October 2011

### Characteristics

Mould release oils can vary in their composition greatly. Various requirements in practice demand different levels of viscosity. The addition of active ingredients can vary also with regard to chemistry and concentration.

Mihagran FO 2320 / 3 KOR is a low viscous mould release oil with additives to improve the release effect and corrosion protection. It is suitable for use in steel and plastic moulds with smooth surfaces. The product can be applied with a brush, manually or by spraying in a very thin release oil film.

Typical data		Test method	SRS Mihagran FO 2320/3 KOR
Designation		DIN 51 502	FS
Colour		DIN ISO 2049	L 1,0
Density at 15 °C	g/cm <sup>3</sup>	DIN 51 757	0,870
Viscosity at 20 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	18,5
Viscosity at 40 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	8,6
Flash point COC	°C	DIN ISO 2592	150
Pour Point	°C	DIN ISO 3016	- 15
Neutralization number	mgKOH/g	DIN 51 558	8,9
Ash (oxide)	wt. %	DIN EN 6245	0,03
Steel corrosion	Grade	DIN 51 585	0-A

SRS Mihagran FO 2320 3 KOR is a product of the H&R ChemPharm GmbH

# SRS Calibration Fluid

## Calibration Fluid

March 2013

### Characteristics

SRS Calibration Fluid is a test oil for the calibration of diesel injection pumps. It is characterized by its high antiwear capability, corrosion protection and low foaming tendency.

### Specifications

SRS Calibration Fluid meets ISO standard 4113.

Furthermore it is approved by MTU as a corrosion protection oil for inside preservation or conservation of fuel systems.

### Approvals / Recommendations

Bosch Norm VS 15665-OL

ISO standard 4113

MTU Approval as a corrosion protection oil for inside preservation or conservation of fuel systems

Typical data		Test method	SRS Calibration Fluid
Density at 15 °C	g/cm <sup>3</sup>	DIN 51 757	0,824
Viscosity at 40 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	2,48
Flash point PM	°C	DIN EN 22 719	105
Cloud point	°C	ASTM D 2500	- 28
Initial boiling point	°C	DIN 51 751	232
Final boiling point	°C	DIN 51 751	265
Steel corrosion test	Grade	DIN 51 585	0-A
Copper corrosion test	Grade	DIN 51 ISO 2160	1
Corrosion protection:			
Humidity cabinet test	Grade	DIN 51 359	6 x 0

SRS Calibration Fluid is a product of the H&R ChemPharm GmbH

# SRS Calibration Fluid CV

Calibration Fluid for diesel injectors

November 2014

## Characteristics

SRS Calibration Fluid CV is a low viscosity test-oil for the calibration of diesel injection pumps with a very close viscosity tolerance. It is noted for its excellent wear-, corrosion-protection and low foaming tendency.

## Specifications

SRS Calibration Fluid CV meets the ISO standard 4113-CV-AW. SRS Calibration fluid CV is recommended by Bosch (VS 15665-OL), MTU, MAN and Volkswagen. Further it is approved by MTU as a corrosion preventive oil for internal preservation of fuel systems.

## Approvals / Recommendations

ISO-standard 4113-CV-AW

Bosch-standard VS 15665-OL-CV

Bosch-Approval

MTU-Approval as a corrosion protection oil for inside preservation or conservation of fuel systems

MAN-Approval

Typical data		Test method	SRS Calibration Fluid CV
Density at 15 °C	g/cm <sup>3</sup>	DIN 51 757	0,824
Viscosity at 20 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	3,85
Viscosity at 40 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	2,52
Flash point PM	°C	DIN EN 22 719	115
Cloud point	°C	ASTM D 2500	- 28
Initial boiling point	°C	DIN 51 751	232
Final boiling point	°C	DIN 51 751	265
Steel corrosion test	Grade	DIN ISO 7120	0-A
Copper corrosion test	Grade	DIN 51 ISO 2160	1
Corrosion protection:			
Humidity cabinet test	Grade	ASTM D 1748	6 x 0

SRS Calibration Fluid CV is a product of the H&R ChemPharm GmbH

# SRS WIOLIT Sägekettenhaftöl

Chainsaw oil

April 2013

## Characteristics

SRS Wiolit Sägekettenhaftöl is a mineral oil based chainsaw oil. Excellent adhesion and lubricating characteristics and antiwear additives guarantee an optimal lubrication of the chain, the rail and the chain wheel.

## Specifications

SRS Wiolit Sägekettenhaftöl is versatile usable for all types of chainsaws, even at low temperatures in winter.

Typical data		Test method	SRS Wiolit Sägekettenhaftöl
ISO Viscosity grade		DIN 51 519	100
Colour		DIN ISO 2049	> 8,0
Density at 15 °C	g/cm <sup>3</sup>	DIN 51 757	0,893
Kin. Viscosity at 40 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	110
Kin. Viscosity at 100 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	11,5
Flash point COC	°C	DIN ISO 2592	220
Pour point	°C	DIN ISO 30116	- 24
Neutralization number	mgKOH/g	DIN 51 558	0,4

SRS Wiolit Sägekettenhaftöl is a product of the H&R ChemPharm GmbH

# SRS Biolub Synth 68

## Synthetic chainsaw oil

February 2017

### Characteristics

SRS Biolub Synth 68 is an environmentally friendly, synthetic and biodegradable chainsaw oil. The use of toxicologically safe, synthetic esters ensures good environmental compatibility (water contaminating class = 1).

SRS Biolub synth 68 has very good adhesion and lubrication properties as well as high wear and corrosion protection.

### Application

SRS Biolub Synth 68 is s universally applicable for all types of chainsaws, even at extremely low outdoor temperatures in winter (up to - 30 ° C). It is very stable to oxidation, special additives prevent resins and adhesions, even during prolonged operating interruptions.

### Specifications

SRS Biolub Synth 68 is biodegradable according to OECD 301 F (manometric respiration test).

SRS Biolub synth 68 is certified by the german army and under the B-0389 qualification certificate according to the specification TL 9150-0089, part 3; BW Code OY 1180; approved.

Typical data		Test method	SRS Biolub Synth 68
Colour		DIN ISO 2049	L 1,0
Density at 15 °C	g/cm <sup>3</sup>	DIN 51 757	0,935
Kin. Viscosity at 40 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	68
Kin. Viscosity at 100 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	12,7
Flash point COC	°C	DIN ISO 2592	306
Pour point	°C	DIN ISO 3016	< - 40
Neutralization number	mgKOH/g	DIN 51 558	0,7
Cooper corrosion	grade	DIN EN ISO 2160	1b
Steel corrosion	grade	DIN ISO 7120	0

SRS Biolub Synth 68 is a product of the H&R ChemPharm GmbH

# SRS Wiolan BF 10

## Corrosion Protection Oil

October 2011

### Characteristics

SRS Wiolan BF 10 is a spray and corrosion protection oil for spraying onto truck chassis and underbodies, and for the preservation of seasonally operated vehicles such as machines for winter road maintenance and agricultural equipment.

SRS Wiolan BF 10 shows, in addition to the good wet ability resulting from polar active materials, an outstanding capacity to prevent chemical corrosion. Reliable protection against corrosion and rust is offered even under exposure to aggressive atmospheric humidity moisture and salty road waste water. Paints are not attacked.

SRS Wiolan BF 10 is also suitable for the preservation and temporary storage of sheets of metal and semi-finished products over a number of weeks.

Typical data		Test method	SRS Wiolan BF 10
Designation		DIN 51 502	R
Colour		DIN ISO 2049	L 1,0
Density at 15 °C	g/cm <sup>3</sup>	DIN 51 757	0,870
Viscosity at 20 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	18,5
Viscosity at 40 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	8,6
Flash point COC	°C	DIN ISO 2592	14
Pour point	°C	DIN ISO 3016	- 15
Steel corrosion	Grade	DIN ISO 7120	0-A

SRS Wiolan BF 10 is a product of the H&R ChemPharm GmbH

# SRS Marine Oils

# Marine Oils

February 2019

Marine oils	ACEA (CCMC*) API Class	Brand	SAE Grade
Marine diesel engine lubricant (TBN 40) for plunger motors with operating sulphurous heavy oil and middle speed	CF	SRS MA-HDS-40	40
Marine diesel engine oil (TBN 16) for plunger motors with middle speed	CF	SRS MA-MDO 40	40
Motor oil (TBN 11) for lubrication of combustion engines of naval vessels and equipment German army code: TL 9150-0031/4	E7 CI-4	SRS Motor Oil O-278	40
Single-grade engine oil for Diesel- and Otto motors	CF / CF-2 / SF	SRS Rekord <i>Please see page 58)</i>	10W to 50
Heavy duty single-grade engine oils also for highly stressed ship engines	E7 CI-4	SRS Rekord plus <i>(Please see page 59)</i>	30, 40
SHPD-oil for turbo diesel engines with extremely long oil retention times	E7 CI-4	SRS Turbo-Rekord <i>(Please see page 51)</i>	15W-40
Gear oil for lubrication of highly-stressed gear drives German army code: TL 9150-0105/3		SRS Wiolan O-262	80W ISO VG-100



# SRS MA-HDS 40

Marine Diesel Engine Lubricant

February 2019

## Characteristics

SRS MA-HDS 40 is a medium alkaline motor oil for all medium-speed trunk piston engines that are operating with heavy fuel and a high sulfur content (up to 3.5%).

High quality base oils and optimally adapted additives ensure an excellent neutralizing capacity, high wear protection, a high anti-oxidation-stability and an excellent engine cleanliness.

## Application

SRS MA-HDS 40 can be used in 4-stroke medium-speed trunk piston engines, where high engine cleanliness is required.

SRS MA-HDS 40 is also used as circulating oil for auxiliary diesel engines.

## Specifications

API CF

## Recommendations

Wärtsilä  
MAN Diesel & Turbo  
Daihatsu & HHI (HIMSEN)  
Yanmar

Typical data		Test method		SRS MA-HDS 40
SAE Grade		SAE J 300		40
Density at 15 °C	g/cm <sup>3</sup>	DIN 51 757		0,911
Kin. Viscosity at 100 °C	mm <sup>2</sup> /s	DIN EN ISO 3104		14,0
Flash point COC	°C	DIN ISO 2592		255
Pour point	°C	DIN ISO 3016		- 9
Total Base number TBN	mgKOH/g	DIN ISO 3771		40,0

SRS MA-HDS 40 is a product of the H&R ChemPharm GmbH

# SRS MA-MDO 40

## Marine Diesel Engine Oil

February 2019

### Characteristics

SRS MA-MDO 40 is a marine diesel engine oil for medium-speed trunk piston engines. High quality base oils and optimally adapted additives ensure high wear and oxidation protection and a high thermal stability. Detergents provide a excellent engine cleanliness. Laking of cylinder liners is avoided.

### Application

SRS MA-MDO 40 can be used in 4-stroke medium-speed trunk piston engines, where high engine cleanliness is required.

### Specifications

API CF

### Recommendations

Caterpillar / MaK  
Daihatsu & HHI (HIMSEN)  
Yanmar

Typical data		Test method	SRS MA-MDO 40
SAE Grade		SAE J 300	40
Density at 15 °C	g/cm <sup>3</sup>	DIN 51 757	0,898
Kin. Viscosity at 100 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	14
Flash point COC	°C	DIN ISO 2592	276
Pour point	°C	DIN ISO 3016	- 18
Total Base number TBN	mgKOH/g	DIN ISO 3771	16

SRS MA-MDO 40 is a product of the H&R ChemPharm GmbH

# SRS Motor Oil O-278

Motor Oil

February 2019

## Characteristics

SRS Motorenöl O-278 is designed for the lubrication of all types of combustion engine in marine vehicles and machinery. The lubrication oil is also suitable for hydraulic converters and main couplings, shift gear boxes and other gearing in marine vehicles.

## Application

SRS Motorenöl O-278 with the viscosity grade SAE 40 is determined for use in a temperature range from +5° to +50°C. It can be used in aggregates, where an engine oil with the specification MTU type 2 is required.

SRS Motorenöl O-278 is approved by the German Army against specification TL 9150-0031/5 with the qualification certificate B-0431.

## Specifications

SAE Grade	40
ACEA	E7
API	CI-4
NATO Code	O-278
Bw-Code	OY1160

## Approvals

Bundeswehr: TL 9150-0031/5  
 MTU MTL 5044 Type 2  
 MTU DDC BR 2000/4000

Typical data		Test method	SRS Motor Oil O-278
SAE Grade		SAE J 300	40
Density at 15 °C	g/cm <sup>3</sup>	DIN 51 757	0,893
Kin. Viscosity at 40 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	128
Kin. Viscosity at 100 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	13,9
Flash point COC	°C	DIN ISO 2592	270
Pour point	°C	DIN ISO 3016	- 27
Sulphated ash	wt. %	DIN 51 575	1,4
Total base number	mgKOH/g	DIN ISO 3771	10,9

SRS Motor Oil O-278 is a product of the H&R ChemPharm GmbH

# SRS Wiolan O-262

Gear Oil

February 2019

## Characteristics

SRS Wiolan O-262 gear oil is used for the lubrication of highly loaded gear drives, especially for gearing with high susceptibility to seizure due to high sliding speed and high Hertzian stress, such as in marine propulsion systems (circulating lubrication) used.

SRS Wiolan O-262 corresponds to the viscosity class ISO VG 100 to ISO 3448 and SAE Viscosity Grade 80W to SAE J 306. It can be used in an operating temperature range of - 20 ° C to + 100 ° C.

SRS Motorenöl O-262 is approved by the German Army against specification TL 9150-0105/3 with the qualification certificate B-0409.

## Specifications

ISO VG	100
SAE Grade	80W
Nato Code	O-262
Bw-Code	OY1155

## Approvals

Bundeswehr TL 9150-0105/3

Typical data		Test method	SRS Motor Oil O-262
Density at 15 °C	g/cm <sup>3</sup>	DIN 51 757	0,882
Kin. Viscosity at 0 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	1570
Kin. Viscosity at 40 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	93,5
Kin. Viscosity at 100 °C	mm <sup>2</sup> /s	DIN EN ISO 3104	10,7
Viscosity index (VI)		DIN ISO 2909	982
Flash point COC	°C	DIN ISO 2592	250
Pour point	°C	DIN ISO 3016	- 30
Steel corrosion	Note	DIN ISO 7120	0-B
Cooper corrosion	Note	DIN EN ISO 2160	1a
FZG-Test A/16, 6/90	Fail stage	DIN ISO 14 635	> 12

SRS Motor Oil O-262 is a product of the H&R ChemPharm GmbH

# Packaging Information

March 2019

## Available Packages

SRS Lubricants are available in the following packages\*:

Drum, new	208 Liters
Drum, new	60 Liters
Pail	20 Liters
5 Liter bottle	4 x 5 L in cardboard box
4 Liter bottle	4 x 4 L in cardboard box
1 Liter bottle	12 x 1 L in cardboard box

\* Not all products are available in every package.  
Please ask for availability.

## Packing scheme – Truck

Package	Package / Pallet	Layers / Pallet	Height (Pallet)
208 L	4 Drums / Pallet	1 layer à 4 drums	102,0 cm
60 L	6 Drums / Pallet		74,0 cm
20 L	26 Pails / EUR-Pallet	2 layers à 13 pails	97,0 cm
4 x 5 L	35 Cardboard boxes / EUR-Pallet	5 layers à 7 cardboard boxes	172,0 cm
4 x 4 L	40 Cardboard boxes / EUR-Pallet	4 layers à 10 cardboard boxes	133,0 cm
12 x 1 L	50 Cardboard boxes / EUR-Pallet	5 layers à 10 cardboard boxes	133,5 cm

## Packing scheme – FCL 20'

Package	Package/FCL	Weight (KG)	Weight (Total KG/FCL)
208 L	80 Drums	197,00 / Drum	15.760
60 L	270 Drums	53,80 / Drum	14.526
20 L	941 Pails *	19,10 / Pail	18.336
4 x 5 L	618 Boxes *	19,35 / Box	13.951
4 x 4 L	940 Boxes	15,65 / Box	14.711
12 x 1 L	1.278 Boxes *	11,94 / Box	15.259

\* (+/- 5) New cardboard box, no empirical values exist at this stage.

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