

A yellow excavator bucket is shown in the process of dumping a large amount of dark, clumpy soil. The bucket is tilted downwards, and a significant amount of dust and debris is being thrown into the air, creating a hazy, yellowish atmosphere. The excavator's arm and part of its cab are visible on the left side of the frame. The overall color palette is dominated by yellows and oranges, suggesting a bright, sunny day or a dusty environment.

**LIQUI
MOLY**

**PRODUCTS FOR CONSTRUCTION
AND MINING EQUIPMENT**



ABOUT LIQUI MOLY	4
GLOSSARY	6
ONLINE-OIL GUIDE	9
FAQ	10
ADDITIVES	13
MOTOR OILS	20
GEAR OILS	26
HYDRAULIC OILS	38
COMPRESSOR OILS	43
MACHINE OIL	44



TURBINE OIL	44
AIR CONDITIONING OIL	44
SPECIAL PASTES	45
DRY LUBRICANT	46
FORMWORK RELEASE OILS	46
SEPARATING OIL	47
GREASES	48
COOLANTS AND BRAKE FLUIDS	54
SERVICE PRODUCTS	56
OTHER ACCESSORIES	63



YOUR ADVANTAGE IS ECONOMY

Dust, moisture, heat, cold, shocks, heavy loads – the operating conditions both above and below ground in forestry and road construction demand everything from a machine. Stoppages, waiting times and production losses are huge cost factors. LIQUI MOLY's product range for construction machinery is a true cost reducer. The additives and high-performance lubricants boost fuel economy, reduce wear and improve the operational reliability of your fleet. The result? Shorter down time and lower costs for fuel and repairs. As a system supplier we support you by keeping the product range to a minimum, saving storage space and additional costs.

QUALITY IS OUR PROMISE

LIQUI MOLY has been flying the flag for quality products from Germany since 1957. We have our own laboratories where we develop our products which are approved by international manufacturers and therefore comply with the ever higher standards in the market. Continuous quality controls are applied throughout our entire production processes. Our company is audited and certified in compliance with DIN ISO EN 9001 and 14001. Quality that counts.

SERVICE IS OUR PASSION

At LIQUI MOLY, quality means much more than just reliable products. Service is one of the key elements in every customer relationship. Personal advice, customized solutions and a comprehensive product range. Many services and one point of contact allow you to concentrate on the essentials. We focus on you and your requirements. Because you are what matters to us.



“MADE IN GERMANY” IS OUR GUARANTEE

Our products are produced exclusively in Germany and therefore have the right to bear the “Made in Germany” mark. We consistently deliver the same quality standard throughout the world – whether our customers and partners are in Europe, Asia or South America. At the same time, we always endeavor to find answers and solutions to your problems through mutual dialog. Trust underpins excellent business relationships and it supports your success in the long term.

GLOBAL AVAILABILITY IS A GIVEN FOR US

Having a presence in over 120 countries throughout the world allows us to offer a global supply of LIQUI MOLY products locally. Together with our sales partners and subsidiary companies, we will always be there to support you wherever you need us. We provide the ultimate in flexibility in response to the market’s ever-increasing requirements.

WE ARE PROUD OF OUR TOP-CLASS GERMAN WORKMANSHIP

As an owner-managed company in the finest German SME tradition, we support our partners and customers closely. Our lean decision-making processes help both you and us to form partnerships which are as efficient as possible. Our 750 or more highly motivated employees work day in day out to make sure you are satisfied with our service. You can rely on us.

THE CONCISE ABCs OF LUBRICANTS

The development of ultra-modern engine technology and oil change intervals of up to 150,000 km in the modern truck sector would be inconceivable without advanced high performance lubricants. The lubricant "engine oil" is an integral component of the engines currently costing between 10,000 and 20,000 Euros. This fact alone should be reason enough to make a decision based on quality. The operating life of an engine depends substantially on the base oil and additive package used, as well as on the viscosity of the engine oil. You, the owner of a vehicle, need to play your part in keeping any wear in the engine down to a minimum.

Advantages of high performance engine oils:

- "Easier starting, better flow properties at low temperatures
- "Superior wear protection behavior
- "Greater stability at high temperatures
- "Lower fuel consumption
- "Lower oil consumption

API Service categories			
American Petroleum Institute www.api.org/eolcs			
Gasoline Engines			
Categorie	Introduced		for Engines
SN	2010		2011 >
SM	2004	valid	> 2010
SL	2001		> 2004
SJ	1997		> 2001
SH	1994		> 1996
SG	1989		> 1993
SF	1980	obsolete	> 1988
SE	1972		> 1979
SD	1968		> 1971
SC	1964		> 1967
Higher categories includes lower categories.			
Diesel Engines			
Categorie	Introduced		replaces
CJ-4	2007		CI-4
CI-4	2002	valid	CD:::CH-4
CH-4	1998		CD:::CG-4
CG-4	1995		CD:::CF-4
CF-4	1990		CD, CE
CF-2 ¹⁾	1994	obsolete	CD-II
CF	1994		CD
CE	1985		²⁾
CD-II ¹⁾	1985		²⁾
CD	1955		²⁾

1) only for Two-Stroke Diesel-Engines

2) not for engines built after 1994

Source: *trans aktuell* SPEZIAL 22 / DEKRA BETRIEBSSTOFF-LISTE 2016

Viscosity and Viscosity Index

Viscosity is the best known variable according to which lubricating oils are classified. It expresses the degree of internal friction of an oil as it flows. When an oil is cold, its internal friction is high (high viscosity). The warmer the oil becomes, the lower its internal friction (low viscosity). The change in viscosity along with the change in temperature may vary from one grade of oil to the next; this is denoted by the viscosity index (VI), a non-dimensional numerical value. The higher the VI, the lower the change in viscosity as the temperature rises. As a rule, mineral oils have a VI of 90 – 100, hydrocrack oils a VI of 120 – 140, and synthetic oils a VI of 140 – 160.

SAE Categories

Engine and transmission oils are described by means of SAE categories (SAE = Society of Automotive Engineers). They are used as a form of viscosity designation and are carried out in two series. The letter "W" stands for Winter. Figures such as 0W, 5W, 10W, 15W, 20W, and 25W for engine oils, and 70W, 75W, 80W, and 85W for transmission oils describe a specified flow behavior based on the maximum low-temperature viscosity, the borderline pumping temperature, and the minimum viscosity at 100 °C. The second figure after the "W", such as 20, 30, 40, 50, 60 for engine oils, and 80, 85, 90, 140 for transmission oils denotes the viscosity of engine and transmission oils at a temperature of 100 °C. As these temperatures do not adequately reflect the conditions in which engine oils are used, the high temperature viscosity HTHS, (high temperature high shear) at 150 °C at high shear and high engine speed is calculated. The purpose of determining the limit values of HTHS is that multigrade oils with VI improvers likewise assure the necessary degree of lubricating reliability at high oil temperatures and high engine speeds.

Performance categories

There are numerous test specifications and testing methods for determining the performance of engine oils in realistic test runs. Various vehicle engines are used for test purposes.

The US classifications of the API (American Petroleum Institute), the European specifications of the ACEA committee (Association des Constructeurs Européens d'Automobiles) and the specifications of the individual vehicle manufacturers are in common use worldwide.

API

The "American Petroleum Institute" divides engine oils into two performance categories: the classification for gasoline or spark-ignition engines denoted by the letter "S" (Service), and the classification for diesel engines denoted by the letter "C" (Commercial). A further letter, from an ascending alphabetical sequence, is then appended to the initial "S" or "C" to indicate the performance level. The highest classification currently in use for spark-ignition engines is API SN. In the case of diesel engines, API CJ-4 represents the highest performance level.

The currently valid performance categories:

API SN, SM, SL, SJ

API CJ-4, CI-4 PLUS, CI-4, CH-4

ACEA

The ACEA specifications describe the minimum requirements for present-day, ultramodern engine oils for motor vehicles. These are the toughest in the world. The ACEA committee comprises European vehicle manufacturers, the European Association of Lubricant Manufacturers, additive manufacturers and test developers.

Engine oils are divided into four performance categories in this case:

ACEA A =	for spark-ignition or gasoline engines
ACEA B =	for diesel engines in passenger cars and light commercial vehicles
ACEA C =	Gasoline Engines and Diesel Engines with exhaust gas aftertreatment system (three-way catalysts or diesel particulate filters)
ACEA E =	for diesel engines in heavy commercial vehicles

The letters "A", "B", "C" or "E" are then followed by a digit, e.g. 1, 2, 3, 4, 5, 6, 7, 9, which serves as an indication of the oil's performance. It is not necessarily the case that the higher the digit, the higher the quality. In addition, the digit indicating the performance level for the oil industry is followed by the year of introduction and possibly by the issue reference.

Vehicle manufacturers' specifications

Many European vehicle manufacturers consider the generally established oil specifications to be inadequate. The lubricant

"engine oil" may have to satisfy additional requirements, e.g. for problem lubricating scenarios or extended maintenance intervals. The vehicle manufacturers want to know more about the composition of each oil, and this naturally means extra costs for the mineral oil industry.

If the lubricant satisfies the requirements of the vehicle manufacturer, the oil company's product is approved by name for a specified period. The oil manufacturer may then use the specific vehicle manufacturer's standard for promotional purposes on its containers.

Miscibility of engine oils

As a general principle, all conventional engine oils, whether fully synthetic, partly synthetic, hydrocrack or mineral, may be combined. However, the performance of engine oil is determined by the weakest link in the chain. In other words, the quality of brand oil is significantly impaired by incorporating inferior or different base oils.

You should therefore always carry a container of the same grade of oil for topping up whenever necessary.

Low-viscosity oils

The designation "low-viscosity oil" depends not on the grade of base oil used (fully synthetic or partly synthetic), but solely on the low-temperature viscosity.

Low-viscosity oils are year-round oils with a low-temperature viscosity of SAE 0W-XX, 5W-XX and 10W-XX.

Low-viscosity engine oils reduce the friction in the engine, thus saving fuel. In addition, the engine becomes fully lubricated more rapidly, significantly reducing wear and extending its operating life.

ACEA Ex Truck & Bus

				Low SAPS ⁴⁾	ACEA E4	ACEA E 6
				ACEA E7 (E3, E5) ²⁾	ACEA E9	extended intervals
				API CG-4...CJ-4	API CJ-4	
				ACEA (E2) ³⁾		
				API CF-4...CH-4		
				ACEA (E1) ¹⁾		
API CD	API CE/CF/CF-4					

ACEA are basic, OEM, additional special tests

	MB 227.1	MB 228.1	MB 228.3	MB 228.31	MB 228.5	MB 228.51
		MAN 271	MAN 3275	MAN 3575	MAN 3277	MAN 3677
		VOLVO VDS	Renault Truck RD2	VOLVO VDS-4	MAN 3277 CRT ⁵⁾	MTU Type 3.1
		MTU Type 1	Renault Truck RLD2	Deutz DQC II-10-LA	Renault Truck RXD	Deutz DQC IV-10-LA ⁶⁾
		Deutz DQC I-02	VOLVO VDS-2/3	Deutz DQC III-LA ⁴⁾	DAF HP 1/2	
			DAF HP 3		MTU Type 3	
			MTU Type 2		Deutz DQC IV-10	
			Deutz DQC III-10			

OEM = Original Equipment Manufacturer • 1) (E1) => 2001 obsolete • 2) (E3 & E5) => 2004 withdrawn • 3) (E2) => 2008 withdrawn => 2008 new • 4) Low-SAPS-oils => Sulphated ash, Phosphor & Sulphur limited => for Diesel-Particulate-Filter (DPF) • 5) Ash reduced for CRT™ particulate filter systems • 6) Pay attention to owners service literature

© 2015 ETM / Hartmut Spelsberg

Source: trans aktuell SPEZIAL 22 / DEKRA BETRIEBSSTOFF-LISTE 2016

HD engine oils

HD engine oils were developed for highest loads (Heavy Duty). Therefore, these oils use a high amount of additives.

As virtually all modern engine oils include additives, the designation "HD" is obsolete and is now only rarely seen on oil containers.

Additives

Additives are oil soluble additions that are mixed with base stocks. Professionals say, the oil gets alloyed. Thereby oil features are achieved which were not present in the base stocks. The following features are influenced through additives: cleaning capability, wear protection, corrosion protection, friction, aging, foaming characteristics, viscosity and viscosity index, low temperature flow characteristics and elastomer care. The proportion of additives in modern engine oils is 15 – 30 %.

Mineral engine oils

Engine oils are conventionally made from mineral oils. However, these oils are limited in terms of their performance capability due to increasing requirements such as extended oil change intervals, high engine output and demands for low-viscosity properties. Typical viscosities: 15W-40 or 20W-50.

Hydrocrack oils

Hydrocrack oils are mineral base oils which are further processed at the refinery, using elaborate processes. In addition to this, they contain a small percentage of synthetic components. Typical viscosities: SAE 5W-40, 5W-30 or 10W-40.

Partly synthetic engine oils

Partly synthetic engine oils are a blend of mineral and synthetic base oils. They improve cold-starting properties, keep the engine clean, and afford excellent protection against wear. Typical viscosity: SAE 10W-40.

Fully synthetic engine oils

Synthetic base oils nowadays serve as the required base for advanced engine technologies, in order to meet the ever increasing emission standards. Typical viscosities: SAE 0W-40, 0W-30, 5W-40, 5W-30.



**Saves fuel and
reduces emissions**



**Environmentally
friendly product**



**Minimizes
wear**



**Prolongs
operating hours**



**Suitable for
cold climates**



**Suitable for
hot climates**



**Suitable for
hot and cold climates**



**Smart
problem-solver**



**Suitable for a
humid environment**



**Suitable for
heavy loads**



**Suitable for high
rotational speeds**

Key to icons

HOW TO IDENTIFY THE CORRECT OIL FOR YOUR CONSTRUCTION MACHINE:

www.liqui-moly.com → Service → Oil Guide

1 Select the icon for construction machines

2 Select the brand, model and type

3 All available products for engine, transmission, hydraulic system and cooling system will be displayed including filling capacities and change intervals.

If you would like to receive advice based on your individual needs, we would be delighted to assist – please call us on our Technical Hotline

Western USA: +1 562 760-7023
 Eastern USA: +1 619 227-2729
 Western Canada: +1 604 805-4756
 Eastern Canada: +1 514 963-2985

In Germany, you can also call us free of charge on our Service Hotline: 0800 8 32 32 30

Or simply scan the QR code and access our oil guide online.



ADDITIVES

What are additives?

Additives are added to products (such as oil and fuel) in minimal quantities to achieve or improve certain properties. All oils and fuels are always supplied with an additive package.

How do you know how much additive to use?

Only when additives are added to the oil or fuel in the correct ratio will they have an optimum effect. This is why LIQUI MOLY specifies the dose you need to use for all our additives.

Can several additives be used at the same time?

Depending on the application or the problem, it is possible to use two additives at the same time in oil and fuel systems. For example, for a diesel-powered vehicle fitted with a diesel particulate filter, Super Diesel Additive can be used to clean and maintain the injectors, while at the same time Diesel Particulate Filter Protection reduces soot formation and therefore the load on the particulate filter.

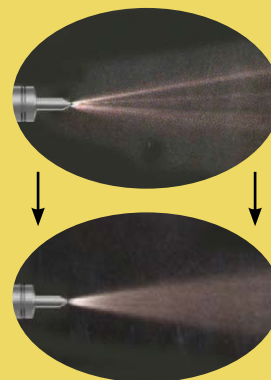
Pro-Line Diesel System Cleaner K

Problem:

When poor quality fuel is used, such as fuel with bio or high sulfur content, more and more deposits build up on the drillings of the injection nozzles. The fuel is no longer injected properly. Consequently, the engine needs more fuel than necessary, as it would with clean nozzles, to deliver the same performance.

Solution:

LIQUI MOLY's Pro-Line Diesel System Cleaner K cleans the nozzle drillings – and in particular the rims of the orifices. As a result, fuel consumption is optimized.



Technical comment

MOTOR OILS

How long are the oil change intervals with LIQUI MOLY motor oils?

The length of the oil change intervals for different vehicles is not specified by LIQUI MOLY but is based on the specifications issued by the various vehicle manufacturers. It isn't just the oil which dictates the length of interval, it's the oil filter and the relevant filter system as well. The vehicle manufacturer checks these three key components and works out the length of interval between oil changes, taking into account the quality of the applicable engine oil. Due to external factors, such as different vehicle loads and the sulfur content in the diesel fuel, interval lengths can vary.

Can you mix motor oils?

In general, different motor oils can be mixed. Even different viscosities can be mixed. You need to make sure that the oils you wish to mix comply with vehicle manufacturers' approvals. To guarantee optimum performance, LIQUI MOLY oil should be used unmixed.

Pro-Line Engine Flush

Problem:

As a result of the increasing bio content of fuel and its high sulfur content in some countries, oil sludge increasingly builds up due to fuel ingress in the oil. The engine is then no longer lubricated correctly due to the oil sludge and as a result suffers greater wear.

Solution:

LIQUI MOLY's Pro-Line Engine Flush cleans the entire oil circuit before an oil change and ensures that the engine stays clean, which in turn leads to less engine wear. The engine needs to be clean if the exhaust gas aftertreatment downstream of the engine is to function reliably.



Technical comment

HYDRAULIC OILS

What is the difference between an HLP, HVLP, and HVLDP hydraulic oil?

HLP is a standard single-grade hydraulic oil. HVLP is a multigrade hydraulic oil that offers a more stable performance than an HLP hydraulic oil at wide fluctuations in the ambient temperature. This in turn allows energy savings to be made. HVLDP hydraulic oils are able to absorb a certain amount of water without losing their lubricity. This means they are ideal for use in humid or wet conditions. All hydraulic oils are available in different classes of viscosity.

What is the difference between HLP 22 and HLP 46 hydraulic oil?

These are hydraulic oils which are of the same quality but have different viscosities. The 22 and 46 designations represent the ISO VG-compliant viscosity class in mm²/s. The lower the number, the lower the viscosity of the hydraulic oil.

Can you use an HLP 22 hydraulic oil for the power steering system?

Steering gear oils must work at a minimum temperature of -40°C. The flow properties of a conventional industrial hydraulic oil cannot be ensured at such low temperatures. That means an HLP 22 oil is not suitable for power steering systems.

ISO VG/SAE

A number of different standards are used to identify the viscosity of oils. Industrial lubricants are normally identified according to the European ISO-VG standard (VG = viscosity grade), the figure given being the average viscosity at 40°C. In contrast, SAE classes have now been established in the US for vehicle lubricants (SAE = Society of Automotive Engineers). Motor oils are classified from 0W (very low viscosity) to 60 (very high viscosity). The number range 70W to 140 has been created for gear oils.

GEAR OILS

Is a gear oil designated as GL 5 better than a GL 4 gear oil?

The GL designation represents the pressure stability of the gear oil. The higher the GL number, the greater the pressure stability offered by the gear oil. However, for manual transmissions you need to check which GL standard is required, since a GL standard that is too high may have a detrimental effect on the gear shift synchronization system. This is why GL 4 oil is used for most manual transmissions and GL 5 oil is used for most hypoid transmissions.

What does it mean when gear oils are designated with the abbreviation LS?

LS stands for "limited slip". In this case, a friction coefficient is required as specified by the manufacturer for a limited slip differential which is controlled via a multiplate clutch pack. An LS gear oil can also be used for limited slip differentials with electronically or mechanically controlled lock, without having a detrimental effect.

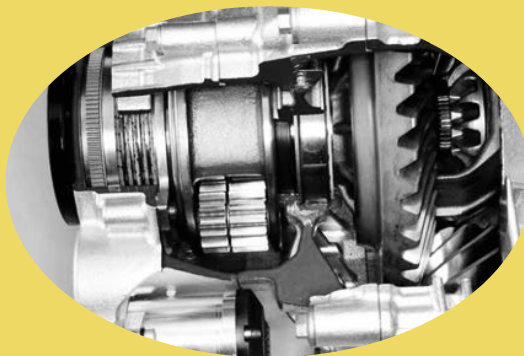
Pro-Line Gear Oil Additive

Problem:

Transmission temperatures that are too high can result in increased wear in the gears and axle drives. Moreover, if the temperature of the gear oil is 10 °C too high, it will reduce the useful life of the oil by up to 50 %.

Solution:

LIQUI MOLY's Pro-Line Gear Oil Additive reduces friction and therefore wear. This results in a lower operating temperature in the transmission.



Technical comment

GREASES

What is an EP2 grease?

Previously, mineral-based lithium saponified multipurpose greases with an extra EP (extreme pressure) and an NLGI Class 2 consistency, were described as EP2 greases. Although this description is inadequate as a technically correct classification. To classify grease in a manner which is technically correct, a set of data is required which includes the following: base oil, type of saponification and range of operating temperatures.

Are LIQUI MOLY grease products acid- and silicone-free?

Yes, all LIQUI MOLY grease products are acid- and silicone-free.

Why are some types of grease dark gray in color (e.g. drive shaft grease)?

If the grease is dark gray in color, the base grease was blended with molybdenum disulfide. This solid lubricant additive allows the grease to function to optimum effect under extreme operating conditions. A solid lubricant prevents metal-on-metal contact in bearings which in turn reduces wear and friction.

VI

Viscosity index

The change in viscosity along with the change in temperature may vary from one grade of oil to the next; this is denoted by the viscosity index (VI), a non-dimensional numerical value. The higher the VI, the lower the change in viscosity as the temperature rises. As a rule, mineral oils have a VI of 90 – 100, while synthetic technology oils have a VI of 120 – 140 and synthetic oils a VI of 140 – 160.

ASSORTMENT SUMMARY GEAR OIL ADDITIVES

Product name	Pro-Line Gear Oil Additive	LM 41 MoS ₂ -Suspension
Part-No.	5198	4051
see page	16	16
Smooths the surface properties in transmissions	●	
Fills in rough surfaces	●	●●
Reduces friction and wear	●●	●
Reduces oil and fuel consumption	●●	●
Increases operational reliability under continuous high loads	●●●	●●
Provides for emergency running properties thanks to MoS ₂	●	●●
Keeps metals apart effectively	●	●
Reduces temperature peaks	●●	●
Prevents development of pitting	●●●	●
Slows down ongoing development of pitting	●●●	●
Reduces gearshift resistance	●●●	●
Eliminates unwanted noise	●●●	●
Increases service life	●●●	●●

● = good
 ●● = very good
 ●●● = excellent



Fuel additives for Diesel

Cont.	Part-No.
5 l	5140
50 l	5145
205 l	5146

Pro-Line Super Diesel Additiv

Cont.	Part-No.
1 l	5176

Pro-Line Super Diesel Additiv K

Cont.	Part-No.
20 l	2336



Super Diesel Additiv

Combination of agents with cleansing, dispersing, material-protecting, and cetane number increasing properties. The product was specifically designed for use with the latest diesel fuels (e.g. low-sulfur diesel fuels with portions of biodiesel). The lubricity improver provides better lubricity for diesel fuels low in sulfur. The increase in ignition performance improves the combustion of the fuel. This, in turn, reduces exhaust emissions. A high portion of corrosion protection additives reliably protects the entire fuel system from the formation of rust and corrosion. The exceptional cleansing effect keeps components clean, prevents deposits from forming and maintains engine performance at a consistently high level.

Area of use

Added to diesel fuel for all diesel engines, including those with pumped-jet and common rail injection systems. Also suited for use in stationary engines. Enables fuel oil to be used in stationary engines.

Feature	Standard	Value
Base:		additive mixture in carrier fluid
Color/appearance:		light brown, clear
Density at 15 °C:		0,842 g/cm ³
Hazard class as per German VbF:		A III
Flash point:		63 °C
Pour point:		-36 °C
Dosage Part-No. 5140/5145/5146/5176:		1:300
Dosage Part-No. 2336:		1:500

Cont.	Part-No.
1 l	5144



Pro-Line Diesel System Cleaner K | Pro-Line Diesel-System-Reiniger K

Highly effective combination of additives for cleaning and maintenance. It is formulated for rapid and cost-effective cleaning of disruptive deposits in the fuel system of diesel engines. The additives ensure optimal corrosion protection and increased ignition performance.

Area of use

Suitable for all diesel engine vehicles including those with Common Rail and pumped-jet injection systems.

Feature	Standard	Value
Base:		additive, carrier fluid
Color/appearance:		light brown, clear
Viscosity at 40 °C:		< 7,0 mm ² /s
Density at 15 °C:		0,869 g/cm ³
Flash point:		63 °C
Dosage:		1:300

Cont.	Part-No.
1 l	5035



Pro-Line Diesel Stabilizer | Pro-Line Diesel Stabilisator

Preserves and protects the fuel against aging and oxidation while at the same time cleaning the entire fuel system. Prevents corrosion throughout the entire fuel system. Boosts the cetane number. Ensures that diesel operated vehicles and engines can be shut down and restarted without any problem. Increases operational reliability. The product has a lasting effect.

Area of use

Suitable for all diesel engines – particularly for preventive use. Tested for use with turbochargers, catalytic converters and DPF.

Feature	Standard	Value
Base:		additive combination in carrier liquid
Color/appearance:		brown
Viscosity at 40 °C:		84,5 mm ² /s
Density at 15 °C:		0,888 g/cm ³
Flash point:		< 61 °C
Dosage:		1:500

Anti-Bacterial Diesel-Additive | Anti-Bakterien-Diesel-Additiv

Anti-Bacterial Diesel-Additive contains a highly active biocide with a wide activity spectrum against bacteria, yeasts and moulds. The biocide does not form any corrosive combustion products and has been tested by leading engine manufacturers. The contained additives contribute significantly to a strong cleaning effect, corrosion protection and increased ignition properties. Use biocides safely. Always read the label and product information before use.

Area of use

For preventive use in diesel-powered vehicles which are decommissioned for long periods of time such as construction machinery, commercial vehicles, mobile homes, passenger motor vehicles, in storage tanks or for disinfection of contaminated tank systems.

Feature	Standard	Value
Base:		biocide, detergent and cetan number enhancer
Color/appearance:		brown, clear
Viscosity at 40 °C:		< 7 mm ² /s
Density at 15 °C:		0,895 g/cm ³
Flash point:		63 °C
Dosage:		1:1000 preventative use 1:200 problem-related

Cont.	Part-No.
1 l	5150
5 l	5121
60 l	5157



Diesel Anticide

Diesel Anticide contains a highly active biocide with a wide activity spectrum against bacteria, yeasts and moulds. The biocide does not form any corrosive combustion products and has been tested and approved by leading engine manufacturers. Use biocides safely. Always read the label and product information before use.

Area of use

For preventive use in diesel-powered vehicles which are decommissioned for long periods such as construction machinery, commercial vehicles, mobile homes, boats, passenger motor vehicles, in storage tanks or for disinfection of contaminated tank systems. The effectiveness of the product against the following germs has been verified: Bacteria: *Alcaligenes faecalis*, *Enterobacter cloacae*, *Escherichia coli*, *Proteus vulgaris*, *Pseudomonas aeruginosa*, *Pseudomonas fluorescens*, *Pseudomonas putida*, *Staphylococcus aureus*, *Legionella pneumophila* (prEN 13623), *Proteus mirabilis*, *Klebsiella pneumoniae*. Fungi: *Aspergillus niger*, *Fusarium oxysporum*, *Penicillium funiculosum*, *Hormoconis resinae*

Feature	Standard	Value	Specifications and approvals
Base:		biocide	MTU, Detroit Diesel Cooperation DDC (engines series 2000/4000)
Color/appearance:		colourless, clear	
Viscosity at 40 °C:		< 7 mm ² /s	
Density at 15 °C:		0,861 g/cm ³	
Flash point:		63 °C	
Dosage:		1:5000 preventative use 1:100 problem-related	

Cont.	Part-No.
5 l	1761*
200 l	1763*



Diesel Flow Fit K | Diesel Fließ-Fit K

This product controls the growth of paraffin crystals caused by the cold. It significantly improves the filtration properties and setting point of diesel fuel in cold weather. The effectiveness of the flow improver is dependent on the type of paraffin and the paraffin content of the medium distillates. Depending on diesel quality the Cold Filter Plugging Point (CFPP) can be improved by up to -10 °C.

Area of use

Used for all grades of diesel fuel and heating oil to secure winter operation which would otherwise be affected by the cold. For use in passenger and commercial motor vehicle diesel engines as well as buses, construction machinery and stationary diesel engines.

Feature	Standard	Value
Color/appearance:		cloudy
Viscosity at 40 °C:		< 7 mm ² /s
Density at 15 °C:		0,841 g/cm ³
Flash point:		63 °C
Pour point:		-9 °C
Improvement in filterability:		-10 °C
Dosage:		1:1000

Cont.	Part-No.
1 l	5131
5 l	5132
20 l	5133
205 l	1879



Cont.	Part-No.
1 l	5123
20 l	5126



Pro-Line Diesel Particulate Filter Protection | Pro-Line Dieselpartikelfilter-Schutz

Highly effective additive that reduces the build-up of particulates and improves the operational reliability of diesel particulate filters. Vehicles used for short trips and city traffic are especially affected by problems with clogged diesel particulate filters. The special, catalytically-effective substances reduce the soot's ignition temperature from 600 °C without additive to 450 °C and this clearly supports the filter's passive regeneration during normal engine running. Regular use keeps the diesel particulate filter clean, avoiding expensive repairs and down times. Starts working on the build-up of particulates even on combustion, and therefore also reduces the load on the particulate filter. As a result, the additive also contributes to reducing emissions.

Area of use

Suitable for diesel vehicles with diesel particulate filters, provided these have not already been equipped with an electronically controlled additive tank system for filter regeneration (as used by Citroen and Peugeot, for example). Also suitable for trucks and buses.

Feature	Standard	Value
Base:		additive combination in carrier liquid
Color/appearance:		orange, clear
Viscosity at 40 °C:		< 7 mm ² /s
Density at 15 °C:		0,807 g/cm ³
Flash point:		58 °C
Dosage:		1:300

Oil additives

Cont.	Part-No.
1 l	2425
5 l	2428



Pro-Line Engine Flush | Pro-Line Motorspülung

The highly effective detergent and dispersant additives in association with the carrier fluid have been tested in the laboratory and in practical field trials for their ability to dissolve sludge and lacquer formers. All types of oil-soluble and oil-insoluble residues are brought into suspension and removed during the following oil change. An engine, which has been cleaned of deposits and contamination and is then filled with fresh oil that is not contaminated with old impurities can develop its full performance characteristics.

Area of use

Cleaning and flushing out the oil systems of petrol and diesel engines.

Feature	Standard	Value
Base:		additive, carrier liquid
Color/appearance:		yellow, brown
Form:		liquid
Density at 20 °C:	DIN 51 757	0,81 g/cm ³
Flash point:	DIN ISO 2592	63 °C
Pour point:	DIN ISO 3016	-45 °C
Dosage:		1:10

Cont.	Part-No.
1 l	5197



Pro-Line Engine Wear Protection | Pro-Line Motor Verschleiß Schutz

Colloidal solid lubricant suspension based on molybdenum disulfide [MoS₂] in mineral oil. The product forms a high-load lubricating film on all rubbing and sliding surfaces. This in turn reduces friction, providing for smoother operation of assemblies and greater engine economy. Tested for turbochargers and catalytic converters.

Area of use

Added to lubricating oil of gasoline and diesel engines in passenger cars, commercial vehicles, buses, agricultural vehicles, construction machinery, compressors and pumps. Mixable with all commercially available motor oils.

Feature	Standard	Value
Base:		MoS ₂ mineral oil
Color/appearance:		black
Density at 20 °C:	DIN 51 757	0,9 g/ml
Viscosity at 40 °C:		95 mPas
Flash point:		201 °C

Pro-Line TBN-Booster

Pro-Line TBN-Booster has been specially developed in order to extend the oil change intervals in countries with a high sulphur content in the fuel. Maintenance and vehicle servicing times can be significantly reduced due to the increase in neutralisation capacity of the oil.

Area of use

For petrol and diesel vehicles in countries with a high sulphur content in the fuel.

Feature	Standard	Value
Color/appearance:		brown, viscous liquid
Viscosity at 40 °C:	DIN 51562	77,8 mm ² /s
Viscosity at 100 °C:	DIN 51562	12,28 mm ² /s
Density at 15 °C:	DIN 51757	1,005 g/cm ³
Flash point:	DIN ISO 2592	218 °C
Total base number:	DIN ISO 3771	200 mg KOH/g
Dosage of petrol engines with fuel sulphur content		> 50 ppm: 2%
Dosage of diesel engines with fuel sulphur content		> 50 – 500 ppm: 2%
		> 500 ppm: 4%

Cont. Part-No.

1 l 2516*



Pro-Line Oil Loss Stop | Pro-Line Öl-Verlust-Stop

Pro-Line Oil Loss Stop rejuvenates rubber and plastic seals in the engine and reduces oil consumption via piston rings and valve guides. It counteracts the loss in viscosity of motor oils and puts an end to environmentally problematic oil patches on the road and in the garage. Compatible with all commercial motor oils.

Area of use

Suitable for all gasoline and diesel engines.

Feature	Standard	Value
Color/appearance:		yellow, clear
Viscosity at 20 °C:	DIN 51398	1299 mPa*s
Density at 20 °C:	DIN 51757	0,896 g/cm ³
Flash point:	DIN ISO 2592	76 °C
Pour point:	DIN ISO 3016	-5 °C
Dosage:		1:15

Cont. Part-No.

1 l 5182



LM 41 MoS₂-Suspension

The colloidal MoS₂ solid lubricant suspension in mineral oil reduces running-in wear and general wear. Improved high pressure loading capability ensures optimum anti-seizure performance and increases reliability. The MoS₂ solid lubricant minimizes oil and power consumption by reducing friction.

Area of use

Added to the lubricating oils of engines, compressors, pumps, hydraulic plants, and industrial transmissions.

Feature	Standard	Value
Base:		solvent raffinate
Color/appearance:		black
Density at 20 °C:		0,92 g/ml
Solids content:		5 %
Operating temperature range:		as with other mineral, MoS ₂ : > 400 °C
MoS ₂ -Specification:		correspond to MIL-L 7866 B, DEF 2304, CS 2819
Dosage:		3 – 5 %, 10 % under extreme load

Cont. Part-No.

1 l 4051



Pro-Line Gear Oil Additive | Pro-Line Getriebeöl Additiv

An additive specifically developed for manual transmissions and differential gears. It significantly reduces wear and decreases temperature peaks and overall heat build-up. The transmission runs more quietly, with softer gear shifts. Even old transmissions realize quieter running and increased performance through the smoothing of the tooth flanks. It increases reliability and provides antifriction properties through MoS₂.

Area of use

Exceptionally well-suited for use in manual, transfer and differential transmissions. Also suitable for use in mechanical steering systems. Not suitable for use with transmissions with wet clutches, fully automatic transmissions, self-locking differential gears and wet brakes!

Feature	Standard	Value
Color/appearance:		black
Viscosity at 20 °C:	DIN 51398	380 mPa*s
Flash point:	DIN ISO 2592	> 200 °C
Pour point:	DIN ISO 3016	-15 °C
Operating temperature range:		> 400 °C
Dosage:		1:100 up to 1:50

Cont. Part-No.

150 ml 5198
5 l 5201



*not available in Germany and Austria

Cont. Part-No.

500 ml 5199



Pro-Line Gear Oil Leak Stop | Pro-Line Getriebeöl-Verlust-Stop

Pro-Line Gear Oil Leak Stop rejuvenates hardened seals made of rubber or plastic. Stops oil leakage in transmissions that drip. No more environmentally problematic oil patches. Prevents oil leaking onto clutches and prevents lubrication deficiency and transmission damage due to an insufficient amount of oil.

Area of use

For all manual, auxiliary, and differential transmissions.

Feature	Standard	Value
Base:		combination of additives
Color/appearance:		blue
Viscosity at 40 °C:	DIN 51562	642 mm ² /s
Density at 20 °C:		0,92 g/ml
Flash point:	DIN ISO 2592	66 °C
Dosage:		1:20

Hydraulic additives

Cont. Part-No.

1 l 5116



Hydraulic System Additive | Hydraulik System Additiv

Hydraulic System Additive contains substances which protect and maintain hydraulic systems. Sealing materials, e.g. o-rings, are optimally maintained. Hydraulic System Additive reduces the friction and thus stops the stick-slip effect. Thereby, the oil temperature is reduced, the oil aging process is slowed down, and the components of the hydraulic system, e.g. the pumps, are optimally protected against wear and tear. In addition, this additive protects the hydraulic system against corrosion and the formation of foam, sludge, and deposits. Hydraulic System Additive reduces the repair risk, down time, and the operating costs.

Area of use

For industrial hydraulic systems in the field of construction and commercial vehicles as well as for mechanical components used in agriculture and forestry.

Feature	Standard	Value
Color/appearance:		light brown
Viscosity at 40 °C:	DIN 51562	37 mm ² /s
Density at 20 °C:	DIN 51757	0,905 g/cm ³
Flash point:		110 °C
Dosage:		2 – 4 % preventative use 4 – 8 % problem-related

Cont. Part-No.

500 ml 3404



Fluorescent Leak Detector for hydraulic systems | Fluoreszierender Lecksucher für Hydraulikanlagen

Fluorescent Leak Detector for hydraulic systems is an oil additive designed to quickly and accurately locate leaks in hydraulic systems. With the addition of the product, the hydraulic oil becomes highly fluorescent. By illuminating with an indicator lamp (UV flashlight) leaks can be located exactly and the exact extent of the oil loss can be determined.

Area of use

Fluorescent Leak Detector for hydraulic systems is used as a fluorescent indicator for mineral hydraulic oils.

Feature	Standard	Value
Color/appearance:		colourless/ blue fluorescent in UV light
Form:		liquid
Odor:		neutral
Dosage:		1:100 1:20 for very small leakages

Radiator additives

Pro-Line Radiator Cleaner | Pro-Line Kühler-Reiniger

A concentrated solution developed specifically for all kinds of cooling systems. Dissolves contaminants containing lime and oil in radiators, heating systems, pipes and in engines. Modern formula containing complexants with active cleaning agents.

Area of use

Suitable for all water cooling systems in motor vehicles, buses, commercial vehicles, and industrial applications.

Feature	Standard	Value
Color/appearance:		light yellow
Form:		liquid
Density at 20 °C:		1,029 g/cm ³
Hazard class as per German VbF:		none
pH value:		~8,7
Solubility in water:		mixable
Dosage:		1:50

Cont. 1 l Part-No. 5189



Pro-Line Radiator Stop Leak K | Pro-Line Kühler-Dichter K

Pro-Line Radiator Stop Leak K is a dispersion for sealing leaks in water cooling systems. The product reliably seals hairline cracks and small leaks. Pro-Line Radiator Stop Leak K can also prevent the need for repair work on the cooling system. The solids dispersion is stabilized in a carrier fluid.

Area of use

Used for sealing small leaks in water cooling circuits of passenger motor vehicles, commercial vehicles, buses, and industrial applications. Also suited for cooling circuits equipped with water filters.

Feature	Standard	Value
Color/appearance:		white
Form:		liquid
Viscosity:		71 s
Density at 20 °C:		1,098 g/cm ³
Solubility in water:		mixable
Dosage:		1:160

Cont. 250 ml Part-No. 5178



ASSORTMENT SUMMARY MOTOR OILS

SPECIFICATIONS, CLASSIFICATIONS, RELEASES AND RECOMMENDATIONS

Product name	Top Tec Truck 4350	Top Tec Truck 4050	HGV Low Viscosity Motor Oil	Top Tec Truck 4450	Touring High Tech Super SHPD	Touring High Tech Super SHPD TBN20	Touring High Tech SHPD-Motor Oil	Touring High Tech SHPD-Motor Oil TBN20	Touring High Tech	Touring High Tech
Viscosity	5W-30	10W-40	10W-40	15W-40	15W-40	15W-40	15W-40	15W-40	15W-40 ¹ 20 W-50 ²	20W-20
Part-No.	3786	3794	4743	3778	1121	3175	1061	3297	1298/1257	6965
see page	20	20	20	21	21	21	22	22	23	23
ACEA A3/B4, E2									●	
ACEA A3/B4, E7			●		●	●	●	●		
ACEA E2										●
ACEA E6/E7		●								
ACEA E6/E7/E9	●									
ACEA E7/E9				●						
API CF-4										
API CI-4		●								
API SF/CF										●
API SL/CF/CG-4									●	
API SL/CH-4							●	●		
API SL/CI-4			●		●	●				
API SM/CF, CI-4/CJ-4				●						
API SN/CJ-4	●									
Allison C-4					●	○			●	
Caterpillar ECF-1a		○	○		○	○				
Caterpillar ECF-2			○	○	○	○				
Caterpillar ECF-3	○			○						
Caterpillar T0-2									●	
Cummins CES 20071/20072/20076/20077/20078			○							
Cummins CES 20076/20077		○			○	○	○	○		
Cummins CES 20078					○	○				
Cummins CES 20081	○			○						
DAF HP2		○								
DETROIT DIESEL DDC 93K215					●	○				
DETROIT DIESEL DDC 93K218				○						
Deutz DQC III-10			○		○	○				
Deutz DQC III-10 LA		●								
Deutz DQC IV-10 LA	○									
Global DHD-1			●	○	●					
Iveco 18-1809										
JASO DH1					●	○				
JASO DH2	●			○						
John Deere JDQ 78 A					○	○				
John Deere JDQ 78 X				○						
Mack E0-L									● ¹	
Mack E0-M Plus	○	○	●		○	○	●	○		
Mack E0-N		●			●					

= Synthetic technology
 = mineral-based

Product name	Top Tec Truck 4350	Top Tec Truck 4050	HGV Low Viscosity Motor Oil	Top Tec Truck 4450	Touring High Tech Super SHPD	Touring High Tech Super SHPD TBN20	Touring High Tech SHPD-Motor Oil	Touring High Tech SHPD-Motor Oil TBN20	Touring High Tech	Touring High Tech
Viscosity	5W-30	10W-40	10W-40	15W-40	15W-40	15W-40	15W-40	15W-40	15W-40 ¹ 20 W-50 ²	20W-20
Part-No.	3786	3794	4743	3778	1121	3175	1061	3297	1298/1257	6965
see page	20	20	20	21	21	21	22	22	23	23
Mack E0-N Plus	○									
Mack E0-0 Premium Plus	●			●						
MAN 270										○
MAN 271									○ ²	
MAN M3575				●						
MAN M3275-1			●		●	○	●	○	● ¹	
MAN M3271-1	○	○								
MAN M3477	●	●								
MAN M3677	●									
MB 226.9		○								
MB 228.0										○
MB 228.3			●		●	○	●	○	● ¹ ○ ²	
MB 228.31	○			●						
MB 228.51	●	●								
MB 229.1			○		○				○ ¹	
MIL-L 2104 E									● ²	
MTU Typ 2			○		○	○	●	○	○ ¹	
MTU Typ 2.1				○						
MTU Typ 3.1	○	○								
PSA B71 2295									○ ¹	
Renault Truck RD-2							●	○		
Renault Truck RGD	○	●								
Renault Truck RLD	○		○		○					
Renault Truck RLD-2	○	●	○		●	○				
Renault Truck RLD-3	●			●						
Renault Truck RXD	●	●								
Scania Low Ash	○									
Scania Standart Drain			○							
Volvo CNG	○	●								
Volvo VDS									● ¹	
Volvo VDS 2							●	○		
Volvo VDS 3	○	●	●		●	○				
Volvo VDS 4	●			●						

¹ > Depending on viscosity class

● Specifications and approvals by name

○ LIQUI MOLY also recommends this product for vehicles for which the following specifications or original replacement part nos. are required.

Effective date : 07. 2016

Cont. Part-No.

20 l	3786
60 l	3787
205 l	3788

Top Tec Truck 4350 5W-30

All-year engine oil based on synthesis technology and high-quality additives. This high-tech engine oil enables an extremely wide range of applications and fulfils the demands of commercial vehicle manufacturers from around the world. The formulation has been tailored according to the latest exhaust emission standards. It ensures excellent wear protection and a high lubricating film stability in all operating conditions. The excellent shear and aging stability enable long oil change intervals. The low viscosity results in a significant reduction in fuel consumption.

Area of use

Specifically developed for heavy-duty commercial vehicle diesel engines according to emission classes Euro IV, V and VI with diesel particulate filters (DPF) and exhaust gas after-treatment systems. Depending on the manufacturer's specifications, Top Tec Truck 4350 can also be used unmixed in some older commercial vehicles with emission classes Euro II and III. Recommended usage is for diesel engines only.

Feature	Standard	Value
SAE class (engine oils):	SAE J300	5W-30
Viscosity at 40 °C:	ASTM D 7042-04	69,0 mm ² /s
Viscosity at 100 °C:	ASTM D 7042-04	11,8 mm ² /s
Viscosity index:	DIN ISO 2909	168
Density at 15 °C:	DIN 51757	0,855 g/cm ³
Flash point:	DIN ISO 2592	226 °C
Pour point:	DIN ISO 3016	-48 °C

Specifications and approvals

ACEA E6/E7/E9; API SN/CJ-4; JASO DH-2; Mack EO-O Premium Plus; MAN M 3477/M 3677; MB-Approval 228.51; Renault Trucks RLD-3/Trucks RXD; Volvo VDS-4

Recommendations

Caterpillar ECF-3; Cummins CES 20081; Deutz DQC IV-10 LA; Mack EO-N Plus/EO-M Plus; MAN M 3271-1; MB 228.31; MTU Typ 3.1; Renault Trucks RGD/Trucks RLD/Trucks RLD-2; Scania Low Ash; Volvo CNG/VDS-3

Cont. Part-No.

20 l	3794
60 l	3795
205 l	3798

Top Tec Truck 4050 10W-40

All-season motor oil, specifically formulated for the latest emission standards. The combination of unconventional base oils using synthetic technology, together with the latest additives, ensures a motor oil that provides exceptional protection against wear and optimal engine cleanliness. Even under critical operating conditions, it assures optimum oil pressure and a stable lubricating film. Allows longer oil change intervals, reduces oil consumption, and exceeds the highest testing requirements of well-known vehicle manufacturers. Assures reliable operation and maximizes the operating life of the diesel particulate filter (DPF).

Area of use

Specifically designed for high-load commercial vehicle diesel engines in compliance with the Euro IV and Euro V emission standards with exhaust gas after-treatment system and diesel particulate filter (DPF/CRT). Top Tec Truck 4050 is downwards compatible and thus can to some extent also be used unmixed in older commercial vehicles in compliance with the Euro II or Euro III emission standards. Recommended for use in diesel engines only.

Feature	Standard	Value
SAE class (engine oils):	SAE J300	10W-40
Viscosity at 40 °C:	ASTM D 7042-04	89 mm ² /s
Viscosity at 100 °C:	ASTM D 7042-04	14 mm ² /s
Viscosity index:	DIN ISO 2909	162
Density at 15 °C:	DIN 51757	0,86 g/cm ³
Flash point:	DIN ISO 2592	240 °C
Pour point:	DIN ISO 3016	-33 °C

Specifications and approvals

ACEA E6/E7; API CI-4; MB-Approval 228.51; MAN M 3477; Renault Trucks RXD, RGD; Renault Trucks RLD-2; Volvo VDS 3, CNG; Mack EO-N; Deutz DQC III-10 LA

Recommendations

MAN M 3271-1; Mack EO-M Plus; MB 226.9; Cummins CES 20076/20077; Caterpillar ECF-1-a; MTU Typ 3.1; DAF HP2

Cont. Part-No.

20 l	4743
60 l	4744
205 l	4747

HGV Low Viscosity Motor Oil 10W-40 | LKW-Leichtlauf-Motoröl 10W-40

Low-friction motor oil produced with synthesis technology. Reduces oil thickening caused by drag-in of soot. Keeps oil consumption low. Even under critical operating conditions, it assures optimum oil pressure and a stable lubricating film. Due to state-of-the-art additive technology together with unconventional base oils, this motor oil ensures outstanding low-friction and wear protection properties while facilitating the maximum length of time between oil changes.

Area of use

Used for all diesel engines with and without exhaust-gas turbocharging and with and without intercooling. Especially suitable where there are long intervals between oil changes and heavy duty engine requirements. It is also suitable as a universal engine oil for the mixed vehicle fleet.

Feature	Standard	Value
SAE class (engine oils):	SAE J300	10W-40
Viscosity at 40 °C:	ASTM D 7042-04	95 mm ² /s
Viscosity at 100 °C:	ASTM D 7042-04	14,5 mm ² /s
Viscosity index:	DIN ISO 2909	160
Density at 15 °C:	DIN 51757	0,875 g/cm ³
Flash point:	DIN ISO 2592	230 °C
Pour point:	DIN ISO 3016	-30 °C

Specifications and approvals

APISL/CI-4; ACEA A3/B4/E7; MB-Approval 228.3; MAN M3275-1; Volvo VDS-3; Mack EO-M Plus; Global DHD-1

Recommendations

MB 229.1; MTU Typ 2; Renault Trucks RLD, RLD-2; Cummins CES 20071/20072/20076/20077/20078; Caterpillar ECF-2, ECF-1-a; Scania Reduced Drain – max. 60.000 km; Deutz DQC III-10

Top Tec Truck 4450 15W-40

In the class of standard engine oils, Top Tec Truck 4450 is among the high performance lubricants. Due to the new additive technology with improved wear protection characteristics and oxidation stability, this lubricant meets the requirements of state-of-the-art engine concepts. In addition, the ash-reduced formulation enables an improved compatibility with catalytic converters and diesel particle filters (DPF). The chosen viscosity provides excellent protection for the engine, even in extreme situations such as under high thermal and mechanical loads. Protects the exhaust after-treatment system.

Area of use

Meets the requirements of state-of-the-art, low-emission engine concepts. Ideal for trucks, short- and long-distance buses, as well as for forestry, agricultural, and construction machinery. Due to its good performance, this product is ideally suitable for use in state-of-the-art engines according to Euro IV, V and VI emission standards. Recommended for use in vehicles with diesel particle filter (DPF). Top Tec Truck 4450 15W-40 can be used in many vehicles without any limitations and is backwards compatible. Can be used in engines of older Euro II and III emission standards, if manufacturers' specifications are observed.

Feature	Standard	Value
SAE class (engine oils):	SAE J300	15W-40
Viscosity at 40°C:	ASTM D 7042-04	102 mm²/s
Viscosity at 100°C:	ASTM D 7042-04	14,3 mm²/s
Viscosity index:	DIN ISO 2909	144
Density at 15°C:	DIN 51757	0,878 g/cm³
Flash point:	DIN ISO 2592	230 °C
Pour point:	DIN ISO 3016	-36 °C

Specifications and approvals

ACEA E9/E7; API CJ-4/CI-4, SM/CF; MB-Approval 228.31; MAN M 3575; Volvo VDS-4; Mack EO-O Premium Plus; Renault Trucks RLD-3

Recommendations

MTU Typ 2.1; Cummins CES 20081; Caterpillar ECF-2, ECF-3; Detroit Diesel DDC 93K218; Global DHD-1; JASO DH2; John Deere JDQ 78X

Cont.	Part-No.
20 l	3778
60 l	3779
205 l	3780



Touring High Tech Super SHPD 15W-40

State-of-the-art multigrade motor oil developed for mixed fleet operations. High quality base oils and the latest additive technology ensure the ultimate in performance reserves and outstanding anti-wear properties over extremely long intervals between oil changes. Tested on engines with catalytic converters and ideal for vehicles with and without turbochargers.

Area of use

Suitable for universal use in modern diesel engines in mixed fleets.

Feature	Standard	Value
SAE class (engine oils):	SAE J300	15W-40
Viscosity at 40°C:	ASTM D 7042-04	103 mm²/s
Viscosity at 100°C:	ASTM D 7042-04	14,5 mm²/s
Viscosity index:	DIN ISO 2909	145
Density at 15°C:	DIN 51757	0,880 g/cm³
Flash point:	DIN ISO 2592	226 °C
Pour point:	DIN ISO 3016	-30 °C

Specifications and approvals

ACEA A3/B4/E7; Allison C4; API SL; API CI-4; Global DHD-1; JASO DH-1; MAN M 3275-1; Mack EO-N; MB-Freigabe 228.3; Renault Trucks RLD-2; Volvo VDS-3

Recommendations

Caterpillar ECF-1-a/ECF-2; Cummins CES 20076; Cummins CES 20077; Cummins CES 20078; Deutz DQC III-10; John Deere JDQ 78 A; Mack EO-M Plus; MB 229.1; MTU Typ 2; Renault Trucks RLD

Cont.	Part-No.
20 l	1121
60 l	1122
205 l	1088

Touring High Tech Super SHPD-Motor Oil 15W-40 TBN20

Touring High Tech Super SHPD-Motoröl 15W-40 TBN20

The modern multigrade motor oil is made from high-quality base oils and the latest additive technology. These provide the ultimate in performance reserves as well as outstanding wear protection. Designed for extended oil change intervals in areas with high sulphur content in the fuel.

Area of use

Suitable for universal use but especially for modern diesel engines. Also suitable for mixed fleets. Tested on engines with catalytic converters and ideal for vehicles with and without turbochargers. Particularly suitable for use with fuels with high sulfur content.

Feature	Standard	Value
SAE class (engine oils):		15W-40
Viscosity at 40°C:	DIN 51562	104 mm²/s
Viscosity at 100°C:	DIN 51562	14,5 mm²/s
Viscosity index:	DIN ISO 2909	143
Density at 15°C:	DIN 51757	0,885 g/cm³
Flash point:	DIN ISO 2592	214 °C
Pour point:	DIN ISO 3016	-39 °C

Specifications and approvals

API SL/CI-4; ACEA E7/B4/A3

Recommendations

Allison C4; Caterpillar ECF-1-a, ECF-2; Cummins CES 20076, CES 20077, CES 20078; Detroit Diesel DDC 93K215; Deutz DQC III-10; JASO DH-1; John Deere JDQ 78 A; MAN M 3275-1; MB 228.3; MTU Typ 2; Mack EO-M Plus; Renault Trucks RLD-2; Volvo VDS-3

Cont.	Part-No.
20 l	3175*
60 l	3178*
205 l	8863*



*not available in Germany and Austria

Cont. Part-No.

20 l	1061
60 l	1062
205 l	1063

Touring High Tech SHPD-Motor Oil 15W-40 | Touring High Tech SHPD-Motoröl 15W-40

Multigrade diesel engine oil with maximum performance reserves. Suitable when there are long periods between oil changes and prevents "bore polishing". Due to advanced wear protection technology, a maximum lubricating reliability and an optimum oil pressure in all operating conditions are ensured.

Area of use

Universally suitable for all diesel engines (aspirated and turbocharged). Also suitable for use in a mixed fleet.

Feature	Standard	Value
SAE class (engine oils):	SAE J300	15W-40
Viscosity at 40 °C:	ASTM D 7042-04	105 mm ² /s
Viscosity at 100 °C:	ASTM D 7042-04	14,5 mm ² /s
Viscosity index:	DIN ISO 2909	142
Density at 15 °C:	DIN 51757	0,880 g/cm ³
Flash point:	DIN ISO 2592	228 °C
Pour point:	DIN ISO 3016	-36 °C

Specifications and approvals

API CH-4/SL; ACEA E7/B4/A3; MB-Approval 228.3; MAN M 3275-1; Volvo VDS 2; Mack EO-M Plus; Renault Trucks RD-2; MTU Typ 2

Recommendations

Cummins CES 20076/20077

Cont. Part-No.

20 l	3297*
60 l	8896*
205 l	8899*

Touring High Tech SHPD-Motor Oil 15W-40 TBN20 | Touring High Tech SHPD-Motoröl 15W-40 TBN20

Multigrade diesel engine oil with a high level of performance reserves. Developed for high performance diesel engines with and without turbochargers. Designed for extended oil change intervals in areas with high sulphur content in the fuel.

Area of use

Suitable for universal use but especially for modern diesel engines. Also suitable for mixed fleets. Tested on engines with catalytic converters and ideal for vehicles with and without turbochargers. Particularly suitable for use with fuels with high sulfur content.

Feature	Standard	Value
SAE class (engine oils):	SAE J300	15W-40
Viscosity at 40 °C:	ASTM D 7042-04	102 mm ² /s
Viscosity at 100 °C:	ASTM D 7042-04	14,0 mm ² /s
Viscosity index:	DIN ISO 2909	139
Density at 15 °C:	DIN 51757	0,885 g/cm ³
Flash point:	DIN ISO 2592	220 °C
Pour point:	DIN ISO 3016	-39 °C

Specifications and approvals

API CH-4/SL; ACEA E7/B4/A3

Recommendations

MB 228.3; MAN M 3275-1; Volvo VDS-2; Mack EO-M Plus; Renault Trucks RD-2; MTU Typ 2; Cummins CES 20076/20077

*not available in Germany and Austria

Total Base Number (TBN) The TBN is of key relevance for motor oils. By identifying the TBN and comparing it with the new oil value, you can identify the current alkalinity of the lubricating oil which largely indicates whether the motor oil can continue to be used. When fuels combust, sulfuric acids are formed which are neutralized by the alkaline additives in the lubricating oil. Fuel contains different concentrations of sulfur in different parts of the world. Fuels which have a sulfur content of >50 ppm are said to have a high sulfur content. Where fuels have a sulfur content of >500 ppm, they are said to have an extremely high sulfur content.

The greater the sulfur content, the faster the oil's alkaline reserves are depleted and the sooner the oil will need to be changed. When the neutralization capability of the used oil has been exhausted, there is the risk of engine wear due to corrosion. Therefore, the value of the TBN should not fall below 40% of its original value.

Pro-Line TBN Booster supplied by LIQUI MOLY is a specifically developed additive which extends the oil-change intervals in countries where the sulfur content of fuels is high or extremely high.

Pro-Line TBN Booster can be mixed and is compatible with all commercially available 4-stroke motor oils and can be used in both gasoline and diesel vehicles. There is no problem mixing it together with other additives, such as Oil Additive, Cera Tec, etc. Pro-Line TBN Booster can be added at any time. After it has been added, let the engine run for a short while so that the product is mixed with the motor oil. **For optimum effectiveness, we recommend adding this product when the oil is changed.** The dosing ratio depends on the sulfur content of the diesel fuel in a concentration of 2% to 4% (1 liter for 50 liters or 25 liters at maximum concentration). A 2% addition increases the TBN by approx. 4 mg KOH/g, while a 4% addition increases the TBN by approx. 8 mg KOH/g. TBN Booster itself in undiluted form has a TBN of 200 mg KOH/g.

Recommended dose

Gasoline engines with a sulfur content of >50 ppm, add 2%.

Diesel engines with a sulfur content of 50 to 500 ppm, add 2%.

Diesel engines with a sulfur content of >500 ppm, add 4%.

Note

Avoid overdosing. Since the agent forms ash, deposits may form in the engine. For this reason, we recommend using Pro-Line TBN Booster for gas-powered vehicles, dual fuel vehicles and vehicles with diesel particulate filters only after you have carried out a thorough risk-benefit assessment.

Determining the TBN

A laboratory TBN test can determine whether an oil has a sufficiently high neutralisation capability.



Touring High Tech 15W-40

All-season high-performance motor oil with selected base oils in conjunction with new future-oriented additive technology. Prevents from oil sludge. The formulation has a beneficial effect on sealing materials and thus on the leaktightness of engines. Ensures low oil consumption. High lubricating film stability ensures reliable operation.

Area of use

For engines with high mileage. Universal engine oil for petrol and diesel engines (with and without exhaust-gas turbocharging and with and without intercooling). Especially suitable where there are long intervals between oil changes and extreme running conditions.

Feature	Standard	Value	Specifications and approvals
SAE class (engine oils):	SAE J300	15W-40	API SL/CF/CG-4; ACEA A3/B4/E2; MB-Approval 229.1; MB-Approval 228.3; MAN M 3275-1; Volvo VDS; Allison C4; Caterpillar TO-2; Mack EO-L
Viscosity at 40°C:	ASTM D 7042-04	102 mm ² /s	
Viscosity at 100°C:	ASTM D 7042-04	14,5 mm ² /s	
Viscosity index:	DIN ISO 2909	147	Recommendations MTU Typ 2; Peugeot Citroen (PSA) B71 2295
Density at 15°C:	DIN 51757	0,880 g/cm ³	
Flash point:	DIN ISO 2592	224 °C	
Pour point:	DIN ISO 3016	-30 °C	

Cont.	Part-No.
5 l	1096
20 l	1298
60 l	1296
205 l	1240

Touring High Tech 20W-50

Suitable for vehicles with high mileage. Mineral motor oil. Provides especially good dirt-suspending and cleaning power. Ensures the greatest lubricating film stability, ideal oil pressure and maximum wear protection even under critical conditions. For vehicles with tried and tested engine technology.

Area of use

All-year oil for petrol and diesel engines. Can be used on all vehicles without diesel particulate filters – also in mixed fleets. Tested safe with catalytic converters and turbochargers.

Feature	Standard	Value	Specifications and approvals
SAE class (engine oils):	SAE J300	20W-50	ACEA A3/B4/E2; API SL/CF/CG-4; Allison C4; Caterpillar TO-2; MIL-L 2104 E
Viscosity at 40°C:	ASTM D 7042-04	152 mm ² /s	
Viscosity at 100°C:	ASTM D 7042-04	17,6 mm ² /s	
Viscosity index:	DIN ISO 2909	127	Recommendations MB 228.3; MAN 271
Density at 15°C:	DIN 51757	0,890 g/cm ³	
Flash point:	DIN ISO 2592	240 °C	
Pour point:	DIN ISO 3016	-30 °C	

Cont.	Part-No.
5 l	1255
20 l	1257
60 l	1254
205 l	1260



Touring High Tech 20W-20

Mineral single-grade motor oil with selected base oils and a high additive content ensure optimum lubrication under extreme operating conditions. Corrosion in the engine is also reliably prevented, even with the use of diesel fuels with a high sulfur content, due to the high alkaline reserve. Tested for use with catalytic converters and turbochargers.

Area of use

For older gasoline and diesel vehicles as well as for retarder and hydraulic systems that require a lubricant of this performance level. Tested for use with catalytic converters and turbochargers.

Feature	Standard	Value	Specifications and approvals
SAE class (engine oils):	SAE J300	20W-20	API SF/CF; ACEA E2
Viscosity at 40°C:	ASTM D 7042-04	62 mm ² /s	
Viscosity at 100°C:	ASTM D 7042-04	8,5 mm ² /s	
Viscosity index:	DIN ISO 2909	108	Recommendations MAN 270; MB 228.0
Density at 15°C:	DIN 51757	0,885 g/cm ³	
Flash point:	DIN ISO 2592	230 °C	
Pour point:	DIN ISO 3016	-33 °C	

Cont.	Part-No.
5 l	6964
20 l	6965
60 l	6966
205 l	3167

ASSORTMENT SUMMARY GEAR OILS

SPECIFICATIONS, CLASSIFICATIONS, RELEASES AND RECOMMENDATIONS

Product name	Fully Synthetic Hypoid-Gear Oil Truck	Truck Gear Oil HC (GL 4)	Hypoid Gear Oil TDL	Gear Oil (GL 4)	Gear Oil (GL 4)	Multipurpose Gear Oil (GL 4)
Viscosity	SAE 75W-90	SAE 75W-80	SAE 75W-90	SAE 80W	SAE 85W-90	SAE 140
Part-No.	1182	1202	1408	1033	1045	4772
see page	30	32	30	32	32	33
Manual gearshift	●	●	●	●	●	
Differential/final drive	●		●			
Limited slip						
Transfer case	●	●	●	●	●	
Slewing gear					●	●
Hydraulics						
Allison C4						
API GL 3+						
API GL 4	●	●	●	●	●	●
API GL 4+						
API GL 5	●		●			
API MT-1	●		●			
Arvin Meritor Axles						
BMW Rear axle gear oil						
Caterpillar FD-1 (FDA0)						
Caterpillar TO-4						
DAF		○	○			
Eaton			○			
Eaton Extended Drain (300.000 km)		○				
Ford WSL-M2C192-A						
Ford ESD M2C175-A						
GM B 040 1010						
Iveco		○				
Komatsu						
Liebherr						
MAN M 3343 Typ S	○					
MAN 3343 Typ M			○			
MAN 341 Typ Z2	●		○	●	●	
MAN 341 Typ E1				●	●	
MAN 341 Typ E2						
MAN 341 Typ E3	●	●				
MAN 341 Typ M3	●					
MAN 341 Typ Z3						
MAN 341 Typ Z4		●				
MAN 342 Typ M1						
MAN 342 Typ M2			○			
MAN 342 Typ M3	●					
MB 235.0						
MB 235.1				●		
MB 235.4		○				
MB 235.6						
MB 235.8	●					
MB 235.20						
MIL-L 2105 B						

= fully synthetic = Synthetic technology
 = semi synthetic = mineral-based

● Specifications and approvals by name ○ LIQUI MOLY also recommends this product for vehicles for which the following specifications or original replacement part nos. are required.

Hypoid Gear Oil (GL 5)	Hypoid Gear Oil Truck LD	Hypoid Gear Oil (GL 5)	Hypoid Gear Oil (GL 5)	Hypoid Gear Oil Plus (GL 5) LS	Hypoid Gear Oil (GL 5)	Gear Hydraulic Oil TO-4	Truck Gear Oil AFD
SAE 80W-90	SAE 80W-90	SAE 85W-90	SAE 85W-140	SAE 85W-90	SAE 140W	SAE 10, 30, 50	SAE 60
1048	3594	1047	1027	1215	1055	4447, 4059, 4098	3302
30	31	31	31	31	32	33	34
●	●	●	●	●	●		
				●			
●	●	●					
●	●	●	●	●	●	●	●
						●	
						○	
●	●	●	●	●	●		
	●						
	○						
							●
						○	
				○			
				○			
○		●					
	●						
○	○	●					
	○						
	●						

Product name	Fully Synthetic Hypoid-Gear Oil Truck	Truck Gear Oil HC (GL 4)	Hypoid Gear Oil TDL	Gear Oil (GL 4)	Gear Oil (GL 4)	Multipurpose Gear Oil (GL 4)
Viscosity	SAE 75W-90	SAE 75W-80	SAE 75W-90	SAE 80W	SAE 85W-90	SAE 140
Part-No.	1182	1202	1408	1033	1045	4772
see page	30	32	30	32	32	33
MIL-L 2105 C						
MIL-L 2105				●	●	●
MIL-L 2105 D			●			
MIL- PRF 2105 E	●		●			
PSA B71 2330						
Renault Truck		○				
Scania ST0 1:0	○		○			
VME						
Volvo Achsen (Limited slip)						
Volvo 97305 90000 km		○				
Volvo 97310 90000 km			○			
Volvo 97312	●					
VW 501.50 (G50)						
ZF TE-ML 16B, 17B, 19B, 21A						
ZF TE-ML 05A, 07A, 08, 12E, 16B, 16C, 16D, 17B, 19B, 21A						
ZF TE-ML 12E, 16B, 17B, 19B			○			
ZF TE-ML 17A				●		
ZF TE-ML 16A, 17A, 19A					○	
ZF TE-ML 02D						
ZF TE-ML 08						
ZF TE-ML 16D, 21A						
ZF TE-ML 05C, 12C, 21C						
ZF TE-ML 05C, 21C						
ZF TE-ML 05D, 12D, 16G, 21D						
ZF TE-ML 16C, 17B, 19B, 21A						
ZF TE-ML 02B, 05A, 12L, 12M, 16B, 17B, 19B, 21A						
ZF TE-ML 17B						
ZF TE-ML 02B, 05B, 12L, 12N, 16F, 17B, 19C, 21B	●					
ZF TE-ML 02L, 08, 16K		●				



Hypoid Gear Oil (GL 5)	Hypoid Gear Oil Truck LD	Hypoid Gear Oil (GL 5)	Hypoid Gear Oil (GL 5)	Hypoid Gear Oil Plus (GL 5) LS	Hypoid Gear Oil (GL 5)	Gear Hydraulic Oil TO-4	Truck Gear Oil AFD
SAE 80W-90	SAE 80W-90	SAE 85W-90	SAE 85W-140	SAE 85W-90	SAE 140W	SAE 10, 30, 50	SAE 60
1048	3594	1047	1027	1215	1055	4447, 4059, 4098	3302
30	31	31	31	31	32	33	34
●			●				
●		●		●	●		
	●						
	○						
				○			
●							
	○						
			●				
				●			
		●					

● Specifications and approvals by name

○ LIQUI MOLY also recommends this product for vehicles for which the following specifications or original replacement part nos. are required.

Effective date : 07.2016



ASSORTMENT SUMMARY

CENTRAL HYDRAULIC SYSTEM OILS

SPECIFICATIONS, CLASSIFICATIONS, RELEASES AND RECOMMENDATIONS

Product name	Central Hydraulic System Oil	Top Tec ATF 1700	Top Tec ATF 1100	ATF Dexron IID	
Part-No.	1147	3695	3653	4424	
see page	39	29	29	29	
Manual gearshift		●	●	●	
Automatic gearbox		●	●	●	
Transfer case		●	●	●	
Central hydraulic	●				
Power steering	●	●	●	●	
Hydropneumatic suspension, damping	●				
Allison C-4		●	●	●	
Allison TES 389			●		
BMW 81 22 9 407 758	○				
Caterpillar TO-2			●	●	
Denison				●	
Dexron III H			●		
Dexron III G			●		
Dexron II E			●		
Dexron II D			●	●	
Dexron TASA (Typ A, Suffix A)			●		
Fiat 9.55550-AG3	○				
Ford ESW-M2C 33F					
Ford WSS-M2C166-H				●	
Ford WSS-M2C204-A	○				
Ford Mercon			●	●	
MAN M 3289	●				
MAN 339 Typ V1			●	●	
MAN 339 Typ V2		○			
MAN 339 Typ Z1			●	●	
MAN 339 Typ Z3		○			
MAN 339 Typ L1			●		
MAN 339 Typ L2				●	
MB 236.1			●		
MB 236.6			○	○	
MB 236.81		○			
MB 345.0	○				
Opel 1940 766	○				
Opel GM-Dexron				●	
Voith 55.6336.XX (G 1363 before)		●			
Voith 55.6335.XX (G 607 old)			●	●	
Volvo 97341			○		
VW G002 000/G004 000 (TL 52146)	○				
ZF TE-ML 02F, 03D, 09, 11A, 11B, 14B			○		
ZF TE-ML 02F, 03D, 04D, 14C, 16M, 17C, 20C		○			
ZF TE-ML 03D, 04D, 11A, 14A, 17C				●	
ZF TE-ML 04D, 14A, 17C			●		
ZF TE-ML 02K	○				
ZF TE-ML 09 (GM 6137M)				○	

■ = fully synthetic
 ■ = Synthetic technology
 ■ = mineral-based

Top Tec ATF 1700

Full synthetic automatic transmission oil with extremely high performance reserves. Provides high thermal stability, ensuring ideal aging resistance. Secures maximum transmission performance. Excellent wear protection and favorable friction behavior. Ensures maximum performance even with the longest oil-change intervals.

Area of use

For automatic transmissions in vans and commercial vehicles from various vehicle manufacturers. Hydraulic systems, axle lifts and retarders sometimes require a lubricant with this specification. Use according to the prescribed specifications from the unit or vehicle manufacturer.

Feature	Standard	Value	Specifications and approvals
Viscosity at 40 °C:	ASTM D 7042-04	37 mm²/s	Voith H 55.6336.XX (before G 1363); Allison C4
Viscosity at 100 °C:	ASTM D 7042-04	7,5 mm²/s	
Viscosity index:	DIN ISO 2909	175	Recommendations MB 236.81; MAN 339 Typ V2, MAN 339 Typ Z3; ZF TE-ML 02F, 03D, 04D, 14C, 16M, 17C, 20C
Density at 15 °C:	DIN 51757	0,850 g/cm³	
Flash point:	DIN ISO 2592	230 °C	
Pour point:	DIN ISO 3016	-48 °C	

Cont.	Part-No.
1 l	3663
20 l	3695
60 l	3671
205 l	3697



Top Tec ATF 1100

Synthetic technology automatic transmission oil with high performance reserves. Provides high thermal stability, ensuring ideal aging resistance. Excellent wear protection, favorable friction behavior, high safety reserves through modern additive technology, and with improved formula for long transmission life. Compatible with all sealing materials.

Area of use

For automatic transmissions, manual transmissions, power steering systems, hydraulic systems and auxiliary drives both in passenger vehicles and commercial vehicles as well as in industrial applications. Use according to the prescribed specifications from the unit or vehicle manufacturer.

Feature	Standard	Value	Specifications and approvals
Viscosity at -40 °C:	ASTM D 2983-09	<20000 mPa*s	Allison C4; Allison TES 389; Caterpillar TO-2; Dexron II D; Dexron II E; Dexron III G; Dexron III H; Dexron TASA (Typ A/Suffix A); Ford Mercon; MAN 339 Typ V1; MAN 339 Typ Z1; MAN 339 Typ L1; MB-Approval 236.1; Voith H55.6335.XX (G 607); ZF TE-ML 04D, 14A, 17C
Viscosity at 40 °C:	ASTM D 7042-04	36 mm²/s	
Viscosity at 100 °C:	ASTM D 7042-04	7,7 mm²/s	
Viscosity index:	DIN ISO 2909	191	
Density at 15 °C:	DIN 51757	0,855 g/cm³	
Flash point:	DIN ISO 2592	200 °C	Recommendations MB 236.6; ZF-TE ML 02F, 03D, 09, 11A, 11B, 14B; Volvo 97341
Pour point:	DIN ISO 3016	-48 °C	

Cont.	Part-No.
1 l	3651
5 l	3652
20 l	3653
60 l	3654
205 l	3655



ATF Dexron II D

Automatic transmission fluid with excellent aging stability. Prevents the build-up of troublesome deposits. For vehicles with proven transmission technology. Maximum protection against wear and good friction characteristics. Good seal compatibility. Provides optimum protection against corrosion.

Area of use

ATF Dexron IID is used in numerous mechanic manual transmissions, automatic transmissions, in torque converters and in numerous power steering systems in accordance with the specifications and operating instructions specified by the motor vehicle and transmission manufacturers.

Feature	Standard	Value	Specifications and approvals
Viscosity at 40 °C:	ASTM D 7042-04	45 mm²/s	Denison; Dexron II D; Ford ESP-M2C166 H; Ford Mercon; GM-Dexron; MAN 339 Typ V1; MAN 339 Typ Z1; Voith H55.6335.XX (G 607); ZF TE-ML 03D, 04D, 11A, 14A, 17C
Viscosity at 100 °C:	ASTM D 7042-04	8,2 mm²/s	
Viscosity index:	DIN ISO 2909	160	
Density at 15 °C:	DIN 51757	0,875 g/cm³	
Flash point:	DIN ISO 2592	196 °C	
Pour point:	DIN ISO 3016	-42 °C	Recommendations MB 236.6; ZF-TE-ML 09

Cont.	Part-No.
20 l	4424*
205 l	4430*



*not available in Germany and Austria



Cont. Part-No.

20 l	1182
60 l	1183
205 l	1184



Fully Synthetic Hypoid-Gear Oil Truck 75W-90 | Vollsynthetisches Hypoid-Getriebeöl Truck 75W-90

Fully synthetic high-pressure TDL (total drive line) gear oil formulation. Exceeds the highest test requirements of well-known vehicle manufacturers. Ensures mechanical components function perfectly, even under extreme operating conditions and when exposed to large temperature fluctuations. The synthetic base oils ensure excellent viscosity and temperature stability as well as a high degree of load-bearing capacity and wear reduction.

Area of use

For heavy-duty motor vehicle transmissions, particularly axle drives with hypoid gearing for which an API GL 4/5 type gear oil is specified as well as for manual, transaxle, and auxiliary transmissions.

Feature	Standard	Value
SAE class (gear oils):	SAE J306	75W-90
Viscosity at 40 °C:	ASTM D 7042-04	106 mm ² /s
Viscosity at 100 °C:	ASTM D 7042-04	15,5 mm ² /s
Viscosity index:	DIN ISO 2909	155
Density at 15 °C:	DIN 51757	0,870 g/cm ³
Flash point:	DIN ISO 2592	200 °C
Pour point:	DIN ISO 3016	-45 °C

Specifications and approvals

API GL 4/5; API MT 1; MB-Approval 235.8; MAN 341 Typ Z2; MAN 341 Typ E3; MAN 341 Typ M3; MIL-PRF-2105 E; ZF TE-ML 02B, 05B, 12L, 12 N, 16F, 17B, 19C, 21B

Recommendations

MAN M 3343 Typ S; Scania STO 1:0; Volvo 97312

Cont. Part-No.

1 l	1407
20 l	1408
60 l	4708
205 l	4709



Hypoid Gear Oil TDL SAE 75W-90 | Hypoid-Getriebeöl TDL SAE 75W-90

Semi-synthetic hypoid gear oil with extremely high performance reserves. Excellent aging stability. Even under the most difficult conditions and during large temperature fluctuations, it ensures flawless functioning of mechanical components. Minimizes wear, enables long oil change intervals, and complete with a high viscosity index.

Area of use

Specifically developed for use in commercial vehicles. Universal total drive line oil (TDL) for application in shift, auxiliary and differential transmissions without limited-slip differentials. Use according to the prescribed specifications from the unit or vehicle manufacturer.

Feature	Standard	Value
SAE class (gear oils):	SAE J306	75W-90
Viscosity at 40 °C:	ASTM D 7042-04	80 mm ² /s
Viscosity at 100 °C:	ASTM D 7042-04	14,1 mm ² /s
Viscosity index:	DIN ISO 2909	183
Density at 15 °C:	DIN 51757	0,880 g/cm ³
Flash point:	DIN ISO 2592	180 °C
Pour point:	DIN ISO 3016	-48 °C

Specifications and approvals

API GL 4, GL 5; API MT-1; MIL-L-2105 D; MIL-PRF-2105 E

Recommendations

DAF; Eaton; MAN M 3343 Typ M; MAN 341 Typ Z2; MAN 342 Typ M2; Scania STO 1:0; Volvo 97310; ZF TE-ML 12E, 16B, 17B, 19B

Cont. Part-No.

1 l	4406
20 l	1048
60 l	3592
205 l	1049

Hypoid Gear Oil (GL 5) SAE 80W-90 | Hypoid-Getriebeöl (GL 5) SAE 80W-90

Mineral low-viscosity hypoid gear oil. For vehicles with tried and tested transmission technology. Even under the most difficult conditions and during large temperature fluctuations, it ensures flawless mechanical component functioning. Provides a stable lubrication film. Provides great lubrication security along with ideal wear protection.

Area of use

For heavy-duty motor vehicle transmissions, particularly axle drives with hypoid gearing.

Feature	Standard	Value
SAE class (gear oils):	SAE J306	80W-90
Viscosity at 40 °C:	ASTM D 7042-04	125 mm ² /s
Viscosity at 100 °C:	ASTM D 7042-04	15 mm ² /s
Viscosity index:	DIN ISO 2909	123
Density at 15 °C:	DIN 51757	0,900 g/cm ³
Flash point:	DIN ISO 2592	210 °C
Pour point:	DIN ISO 3016	-33 °C

Specifications and approvals

API GL 5; ZF TE-ML 16B, 17B, 19B, 21A; MIL-L 2105 C/D

Recommendations

MAN 342 Typ M1; MB 235.0



Hypoid Gear Oil Truck LD 80W-90 | Hypoid-Getriebeöl Truck LD 80W-90

Hypoid Gear Oil Truck LD SAE 80W-90 is an extreme pressure gear oil that has been designed for use with prolonged oil change intervals in commercial vehicle axle transmissions and construction machinery without a locking differential. This base oil and additive package with its outstanding EP properties and low friction coefficient results in low operational wear. Hypoid Gear Oil Truck LD SAE 80W-90 meets the high requirements made of modern commercial vehicles and construction machinery.

Area of use

Specially developed for axle drives exposed to extremely high loads in commercial vehicles and construction machinery without a locking differential, as well as for auxiliary components. Use according to the prescribed specifications from the unit or vehicle manufacturer.

Feature	Standard	Value	Specifications and approvals
SAE class (gear oils):	SAE J306	80W-90	API GL 5; API MT-1; MB-Approval 235.20; MIL-PRF 2105 E
Viscosity at 40°C:	ASTM D 7042-04	140 mm²/s	Recommendations MB 235.0; MB 235.6; ZF TE-ML 05A, 07A, 08, 12E, 16B, 16C, 16D, 17B, 19B, 21A; Scania STO 1.0; ARVIN MERITOR AXLES
Viscosity at 100°C:	ASTM D 7042-04	14,6 mm²/s	
Viscosity index:	DIN ISO 2909	103	
Density at 15°C:	DIN 51757	0,900 g/cm³	
Pour point:	DIN ISO 3016	-30°C	



Cont.	Part-No.
20 l	3594
60 l	3598
205 l	3599

Hypoid Gear Oil (GL 5) SAE 85W-90 | Hypoid-Getriebeöl (GL 5) SAE 85W-90

Mineral based low-viscosity hypoid gear oil. For vehicles with tried and tested transmission technology. Even under the most difficult conditions and during large temperature fluctuations, it ensures flawless component operation. Provides a stable lubricating film, great lubrication security along with ideal wear protection.

Area of use

For high-load motor vehicle transmissions, particularly axle drives with hypoid gearing.

Feature	Standard	Value	Specifications and approvals
SAE class (gear oils):	SAE J306	85W-90	API GL 5; MAN 342 Typ M1; MB-Approval 235.0; MIL-L 2105 D; ZF-TE-ML 16C, 17B, 19B, 21A
Viscosity at 40°C:	ASTM D 7042-04	194 mm²/s	Recommendations DAF; Volvo (Achsen, Limited slip); GM B 040 1010; LIEBHERR
Viscosity at 100°C:	ASTM D 7042-04	17,5 mm²/s	
Viscosity index:	DIN ISO 2909	97	
Density at 15°C:	DIN 51757	0,900 g/cm³	
Flash point:	DIN ISO 2592	210°C	
Pour point:	DIN ISO 3016	-18°C	

Cont.	Part-No.
1 l	1035
20 l	1047
60 l	1031
205 l	2165

Hypoid Gear Oil Plus (GL 5) SAE 85W-90 LS | Hypoid-Getriebeöl Plus (GL 5) SAE 85W-90 LS

This hypoid transmission oil is used for extreme operational demands. The oil contains selected additives that change the friction coefficient between the clutch discs that avoids stick-slip with subsequent vibrations. It also has excellent EP properties. Meets the high requirements of renowned vehicle manufacturers.

Area of use

For manual transmissions and differentials under extremely heavy loads (with and without retarders or intarders), and auxiliary transmissions where a lubricant of this quality is required.

Feature	Standard	Value	Specifications and approvals
Viscosity class:	DIN 51512	85W-90	API GL 5; MIL-L-2105 D; ZF TE-ML 05C, 12C, 21C
Viscosity at 40°C:	DIN 51562	196 mm²/s	Recommendations DAF; Volvo (Achsen, Limited slip); GM B 040 1010; LIEBHERR
Viscosity at 100°C:	DIN 51562	17,4 mm²/s	
Viscosity index:	DIN ISO 2909	96	
Density at 15°C:	DIN 51757	0,905 g/cm³	
Flash point:	DIN ISO 2592	220°C	
Pour point:	DIN ISO 3016	-18°C	

Cont.	Part-No.
20 l	1215
60 l	3597
205 l	1216

Hypoid Gear Oil (GL 5) SAE 85W-140 | Hypoid-Getriebeöl (GL 5) SAE 85W-140

Mineral based low-viscosity hypoid gear oil. For vehicles with tried and tested transmission technology. Even under the most difficult conditions and during large temperature fluctuations, it ensures flawless mechanical component operation. Greatest lubrication security and maximum wear protection are achieved through its large viscosity bandwidth. Reduces transmission noise.

Area of use

For heavy-duty motor vehicle transmissions, particularly with Hypoid gearing for which an API GL 5 type gear oil is specified.

Feature	Standard	Value	Specifications and approvals
SAE class (gear oils):	SAE J306	85W-140	API GL 5; ZF-TE-ML 16D, 21A; MIL-L 2105C
Viscosity at 40°C:	ASTM D 7042-04	382 mm²/s	Recommendations DAF; Volvo (Achsen, Limited slip); GM B 040 1010; LIEBHERR
Viscosity at 100°C:	ASTM D 7042-04	27,5 mm²/s	
Viscosity index:	DIN ISO 2909	98	
Density at 15°C:	DIN 51757	0,910 g/cm³	
Flash point:	DIN ISO 2592	224°C	
Pour point:	DIN ISO 3016	-12°C	

Cont.	Part-No.
20 l	1027
60 l	3595
205 l	1028

Cont.	Part-No.
20 l	1055
60 l	3122
205 l	3387

Hypoid Gear Oil (GL 5) SAE 140W | Hypoid-Getriebeöl (GL 5) SAE 140W

Hypoid Gear Oil GL 5 SAE 140W is a high-performance, high-pressure gear oil manufactured from carefully selected base oils and multifunctional extreme pressure additives. This hypoid gear oil is suitable for axle drives – especially for heavy-duty hypoid transmissions.

Area of use

For heavy-duty axle drives with hypoid gearing for which an API GL 5 gear oil is specified.

Feature	Standard	Value	Specifications and approvals
Viscosity at 40 °C:	ASTM D 7042-04	420 mm ² /s	API GL 5; MIL-L 2105 D
Viscosity at 100 °C:	ASTM D 7042-04	28 mm ² /s	
Viscosity index:	DIN ISO 2909	92	
Density at 15 °C:	DIN 51757	0,910 g/cm ³	
Flash point:	DIN ISO 2592	222 °C	
Pour point:	DIN ISO 3016	-12 °C	

Cont.	Part-No.
20 l	1202
60 l	1203
205 l	1210

Truck Gear Oil HC (GL4) 75W-80 | Truck Getriebeöl HC (GL 4) 75W-80

Our high-performance, high-pressure gear oil is made from high-quality base oils based on HC synthetic technology and modern additive technology. It ensures a broad application range and optimum transmission lubrication under extreme conditions with long oil-change intervals up to 320 000 km. Due to the low-viscosity characteristics this product can be used where shifting difficulties exist e.g. because of the use of a high viscosity single grade API GL 4 gear oil.

Area of use

For manual transmissions under extremely heavy loads (with and without retarders or intarders) and auxiliary transmissions where a lubricant of this specification is required.

Feature	Standard	Value	Specifications and approvals
SAE class (gear oils):	SAE J306	75W-80	API GL 4; MAN 341 Typ Z4; MAN 341 Typ E3; ZF TE-ML 02L, 08, 16K
Viscosity at 40 °C:	ASTM D 7042-04	55,8 mm ² /s	
Viscosity at 100 °C:	ASTM D 7042-04	9,5 mm ² /s	
Viscosity index:	DIN ISO 2909	154	
Density at 15 °C:	DIN 51757	0,860 g/cm ³	
Flash point:	DIN ISO 2592	240 °C	Recommendations DAF; IVECO; MB 235.4; Renault Trucks; Volvo 97305; Eaton Extended Drain (300.000 km)
Pour point:	DIN ISO 3016	-36 °C	

Cont.	Part-No.
1 l	1020
20 l	1033
60 l	1039
205 l	4718

Gear Oil (GL 4) SAE 80W | Getriebeöl (GL 4) SAE 80W

High-performance high-pressure gear oil made from carefully selected base oils and multifunctional additives for vehicles with tried and tested transmission technology. Provides a stable lubricating film and minimizes wear. Provides extremely good lubrication properties and outstanding corrosion protection. Enables smoother shifting.

Area of use

For transmissions, manual transmissions, and axle drives with normal to high loading for which an API GL 4 gear oil is required.

Feature	Standard	Value	Specifications and approvals
SAE class (gear oils):	SAE J306	80W	API GL 4; MAN 341 Typ Z2; MAN 341 Typ E1; MB-Approval 235.1; ZF TE-ML 17A; MIL-L 2105
Viscosity at 40 °C:	ASTM D 7042-04	96 mm ² /s	
Viscosity at 100 °C:	ASTM D 7042-04	11,4 mm ² /s	
Viscosity index:	DIN ISO 2909	106	
Density at 15 °C:	DIN 51757	0,890 g/cm ³	
Flash point:	DIN ISO 2592	212 °C	
Pour point:	DIN ISO 3016	-24 °C	

Cont.	Part-No.
1 l	1030
20 l	1045
60 l	1034
205 l	1038

Gear Oil (GL 4) SAE 85W-90 | Getriebeöl (GL 4) SAE 85W-90

Mineral based transmission oil for vehicles with tried and tested transmission technology. Provides a stable lubricating film and minimizes wear. Provides extremely good lubrication properties and outstanding corrosion protection. Enables smoother shifting.

Area of use

For transmissions, manual transmissions, and axle drives with normal to high loading for which an API GL 4 gear oil is required.

Feature	Standard	Value	Specifications and approvals
SAE class (gear oils):	SAE J306	85W-90	API GL 4; MAN 341Typ Z2; MAN 341Typ E1; MIL-L 2105; ZF-TE-ML 16A, 17A, 19A
Viscosity at 40 °C:	ASTM D 7042-04	200 mm ² /s	
Viscosity at 100 °C:	ASTM D 7042-04	17,5 mm ² /s	
Viscosity index:	DIN ISO 2909	94	
Density at 15 °C:	DIN 51757	0,900 g/cm ³	
Flash point:	DIN ISO 2592	214 °C	
Pour point:	DIN ISO 3016	-15 °C	

Multipurpose Gear Oil (GL 4) SAE 140 | Mehrzweck-Getriebeöl (GL 4) SAE 140

High performance gear oil with a wide range of applications when high stress across the tooth face is present. Contains top quality mineral base oil with the addition of a balanced combination of agents. This ensures a high load-bearing capability, protection against wear, and oxidation stability in accordance with API classification GL 4.

Area of use

Gear oils of this type are recommended by automotive and transmission manufacturers for use in synchronized and non-synchronized manual transmissions, engines in construction equipment, agricultural machinery, tractor units and axle drives in standard applications, where an API GL 4-compliant gear oil is required.

Feature	Standard	Value	Specifications and approvals
SAE class (gear oils):	SAE J306	140	API GL 4; MIL-L-2105
Viscosity at 40 °C:	ASTM D 7042-04	378 mm ² /s	
Viscosity at 100 °C:	ASTM D 7042-04	28,4 mm ² /s	
Viscosity index:	DIN ISO 2909	103	
Density at 15 °C:	DIN 51757	0,905 g/m ³	
Flash point:	DIN ISO 2592	222 °C	
Pour point:	DIN ISO 3016	-12 °C	

Cont.	Part-No.
20 l	4772
60 l	4840
205 l	4852

Gear Hydraulic Oils TO-4 | Getriebe-Hydrauliköle TO-4

High performance multipurpose oil made from high-quality raffinates. Due to the high thermal stability of the base oils, the aging process is significantly reduced even at elevated temperatures. This decisively helps reduce the formation of sludge, improves cleanliness, and promotes the reliability of the transmission and hydraulic systems. Excellent oxidation resistance allows longer oil change intervals. The outstanding wear protection technology is effective in both, low and high load conditions. Specifically developed additives ensure a longer service life for wet clutches and ensure wet brakes work safely.

Area of use

Developed for construction equipment according to the high requirements of CATERPILLAR, ALLISON and KOMATSU. For power shift transmissions, transfer cases, final drives and hydraulic systems for which the manufacturer has stipulated a lubricant of this specification.

Feature	Standard	Value			Recommendations
		SAE 10 W	SAE 30	SAE 50	
SAE class (gear oils):	SAE J306	10	30	50	Caterpillar TO-4; Allison C4; Komatsu
Viscosity at 40 °C:	ASTM D 7042-04	46 mm ² /s	106 mm ² /s	205 mm ² /s	
Viscosity at 100 °C:	ASTM D 7042-04	6,9 mm ² /s	11,6 mm ² /s	18 mm ² /s	
Viscosity index:	DIN ISO 2909	105	96	96	
Density at 15 °C:	DIN 51757	880 kg/m ³	893 kg/m ³	900 kg/m ³	
Flash point:	DIN ISO 2592	224 °C	250 °C	254 °C	
Pour point:	DIN ISO 3016	-33 °C	-30 °C	-21 °C	

Gear Hydraulic Oil TO-4 SAE 10 W

Cont.	Part-No.
20 l	4447
60 l	4450
205 l	4493



Gear Hydraulic Oil TO-4 SAE 30

Cont.	Part-No.
20 l	4059
60 l	4060
205 l	4062



Gear Hydraulic Oil TO-4 SAE 50

Cont.	Part-No.
20 l	4098
60 l	4388
205 l	4389





Cont.	Part-No.
20 l	3302
60 l	3564
205 l	1211



Truck Gear Oil AFD SAE 60 | Truck Getriebeöl AFD SAE 60

Truck Gear Oil AFD SAE 60 was developed and tested for use in Caterpillar vehicles. The lubricant possesses improved wear protection as well as low foam formation and exceeds the high standards applicable to the respective machines. Oil with this specification is used by Caterpillar for initial filling at the factory and subsequent services. Depending on the application, the oil change intervals can be doubled compared to oils of the Caterpillar TO-4 specification.

Area of use
Specifically for Caterpillar axles, differential and final drives without wet clutches or locks in off-road trucks or tipping lorries, pipe laying units, crawler loaders, etc. (except for machines with steel crawlers with elevated final drives of types D5M, D6M and 561M). Alternatively, the lubricant can also be used in axles and final drives where a lubricant of the Caterpillar TO-4 specification was previously used.

Feature	Standard	Value	Specifications and approvals
Viscosity at 40 °C:	DIN 51562	320 mm²/s	Caterpillar FD-1 (FDA0)
Viscosity at 100 °C:	DIN 51562	25 mm²/s	
Viscosity index:	DIN ISO 2909	100	
Density at 15 °C:	DIN 51757	0,900 g/cm³	
Flash point:	DIN ISO 2592	280 °C	
Pour point:	DIN ISO 3016	-12 °C	

Gear Oil CLP 150

Cont.	Part-No.
20 l	4116
60 l	4495
205 l	4117

Gear Oils CLP | Getriebeöle CLP

This mineral based gear lubricant offers excellent lubrication and wear-prevention properties. Made of high quality base oils and the latest sulphur phosphorus additives.

Area of use
Suitable for use in industrial gearboxes, roller and plain bearings that are exposed to high loads, and in particular also for large systems with circulation lubrication systems.

Gear Oil CLP 220

Cont.	Part-No.
20 l	4778
60 l	4759
205 l	4757

Feature	Standard	Value		
		CLP 150	CLP 220	CLP 320
ISO viscosity class:	DIN 51819	VG 150	VG 220	VG 320
Viscosity at 40 °C:	ASTM D 7042-04	150 mm²/s	220 mm²/s	320 mm²/s
Viscosity at 100 °C:	ASTM D 7042-04	15,0 mm²/s	18,8 mm²/s	24 mm²/s
Viscosity index:	DIN ISO 2909	100	95	95
Density at 15 °C:	DIN 51757	890 kg/m³	895 kg/m³	900 kg/m³
Flash point:	DIN ISO 2592	246 °C	248 °C	244 °C
Pour point:	DIN ISO 3016	-18 °C	-21 °C	-21 °C

Specifications and approvals
CLP 150
Müller-Weingarten; Lubricating Oil DIN 51517 CLP 150;
Lubricating Oil SEB 181 226 CLP 150

CLP 220
Lubricating Oil DIN 51517 CLP 220;
Lubricating Oil SEB 181 226 CLP 220

CLP 320
Lubricating Oil DIN 51517 - CLP 320;
Lubricating Oil SEB 181 226 - CLP 320

Gear Oil CLP 320

Cont.	Part-No.
20 l	1057
60 l	3565
205 l	4119



Gear Oils Synth ISO VG | Getriebeöle Synth ISO VG

Fully synthetic high performance gear oil based on polyalphaolefins/esters. Due to the excellent oxidation resistance and thermal stability of the base oils, the aging process even at elevated temperatures is significantly reduced and the oil-change intervals can be extended. A high pressure and wear protection technology has been specially selected for this product to provide reliable protection even under heavy loads and to prolong the service life of the equipment. Outstanding corrosion protection behavior even with water and other forms of contamination present. The reduction in downtime for maintenance and stoppages increases equipment efficiency.

Area of use

Suitable for application in industrial transmissions, where roller and plain bearings are subjected to high pressure and also for large plants with pressure-feed lubrication systems.

Feature	Standard	Value	
		ISO VG 150	ISO VG 220
ISO viscosity class:	DIN 51819	VG 150	VG 220
Viscosity at 40°C:	ASTM D 7042-04	150 mm ² /s	220 mm ² /s
Viscosity at 100°C:	ASTM D 7042-04	21,5 mm ² /s	27,7 mm ² /s
Viscosity index:	DIN ISO 2909	169	162
Density at 15°C:	DIN 51757	860 kg/m ³	860 kg/m ³
Flash point:	DIN ISO 2592	240 °C	235 °C
Pour point:	DIN ISO 3016	-39 °C	-42 °C

Specifications and approvals

AGMA 9005 – D94 (EP); Cincinnati Machine P-74; David Brown; Lubricating Oil DIN 51517 CLP XXX; Lubricating Oil SEB 181 226 CLP XXX; U.S. Steel 224

Gear Oil Synth ISO VG 150

Cont.	Part-No.
20 l	4855
60 l	4856
205 l	4995



Gear Oil Synth ISO VG 220

Cont.	Part-No.
20 l	3566
60 l	3569
205 l	3570



Special UTTO SAE 10W-30

Special UTTO SAE 10W-30 is a modern multi-purpose oil, which meets the newest requirements of latest drive systems (transmission/hydraulic systems), including wet brakes. Carefully selected additives ensure a wear-protective, oxidation- and shear-resistant multi-grade oil, which is suitable for a wide range of applications.

Area of use

For agriculture and forestry vehicles and machines, as well as for vehicles and machines which are used in mining and require an all-purpose transmission and hydraulic oil with this specification.

Feature	Standard	Value	
		10W-30 (80W)	
ISO viscosity class:	DIN 51 511	10W-30 (80W)	
Viscosity at 40°C:	DIN 51562	63,7 mm ² /s	
Viscosity at 100°C:	DIN 51562	11,7 mm ² /s	
Viscosity index:	DIN ISO 2909	182	
Density at 15°C:	DIN 51757	0,870 g/cm ³	
Flash point:	DIN ISO 2592	230 °C	
Pour point:	DIN ISO 3016	-33 °C	

Specifications and approvals

API GL 4; Allison C4; Caterpillar TO-2; ZF TE-ML 03E, 05F, 17E

Recommendations

AGCO Q-1826; Case (IHC) MS 1204, MS 1205, MS 1206, MS 1207, MS 1209, B6; Deutz; Fendt; Ford New Holland M2C41-B, M2C48-B, M2C53-A, M2C86-B, M2C86-C, M2C134-A, M2C134-B, M2C134-C, M2C134-D; John Deere J20C, J20D; Landini; Massey-Ferguson M1135, M1141, M1143, M1145; Renault; SAME-Lamborghini; Schlüter; Volvo BM WB 101

Cont. Part-No.

20 l	1258
60 l	3145
205 l	1259



ASSORTMENT SUMMARY HYDRAULIC OILS

	HyPER SG1-32	HyPER SG1-46	HyPER SG1-68	HLP 15	HLP 22	HLP 32	HLP 46
Viscosity class	VG 32	VG 46	VG 68	VG 15	VG 22	VG 32	VG 46
Pour point	-39 °C	-36 °C	-36 °C	-30 °C	-36 °C	-33 °C	-24 °C
Biodegradable in accordance with VDMA 24568	-	-	-	-	-	-	-
Absorbs a certain amount of water without clouding	-	-	-	-	-	-	-
For thermal loads of up to approx. 80 °C (oil temperature)	●	●	●	●	●	●	●
Specially designed for wide fluctuations in temperature with ambient temperatures	-	-	-	-	-	-	-
Viscosity index	108	105	107	112	109	102	109
Resistant to aging	●	●	●	●	●	●	●
Resistant to corrosion	●	●	●	●	●	●	●
DIN 51524-2	●	●	●	●	●	●	●
Bosch Rexroth RDE 90235	●	●	●				
Parker Denison HF-0, HF-1, HF-2	●	●	●				
Eaton E-FDGN-TB002-E	●	●	●				
Eaton Brochure 03-401-2010	●	●	●				
Fives-Cincinnati P-68, P-69, P-70	●	●	●				

	HLP 68	HLP 100	HLP 150	HVLP 32	HVLP 46	HVLPD 46
Viscosity class	VG 68	VG 100	VG 150	VG 32	VG 46	VG 46
Pour point	-27 °C	-18 °C	-15 °C	-36 °C	-36 °C	-36 °C
Biodegradable in accordance with VDMA 24568	-	-	-	-	-	-
Absorbs a certain amount of water without clouding	-	-	-	-	-	●
For thermal loads of up to approx. 80 °C (oil temperature)	●	●	●	●	●	●
Specially designed for wide fluctuations in temperature with ambient temperatures	-	-	-	-30 °C to 90 °C	-30 °C to 90 °C	-30 °C to 90 °C
Viscosity index	97	95	96	157	164	164
Resistant to aging	●	●	●	●	●	●
Resistant to corrosion	●	●	●	●	●	●
DIN 51524-2	●	●	●			
DIN 51524-3				●	●	●
DIN 51524 HLP 32 – 68					●	●

	Arctic HVLP 46	Super Arctic Oil HVLP 32	HLP 46 SG-Z	HEES 46	TO-4 SAE 10 W	TO-4 SAE 30	TO-4 SAE 50
Viscosity class	VG 46	VG 32	VG 46	VG 46	VG 46	VG 100	VG 220
Pour point	< -48 °C	< -60 °C	-30 °C	-45 °C	-33 °C	-30 °C	-21 °C
Biodegradable in accordance with VDMA 24568	-	●	-	●	-	-	-
Absorbs a certain amount of water without clouding	-	-	-	-	●	●	●
For thermal loads of up to approx. 80 °C (oil temperature)	●	●	●	●	●	●	●
Specially designed for wide fluctuations in temperature with ambient temperatures	-40 °C to 90 °C	-50 °C to 90 °C	-	-40 °C to 90 °C	-	-	-
Viscosity index	184	168	105	194	105	96	96
Resistant to aging	●	●	●	●	●	●	●
Resistant to corrosion	●	●	●	●	●	●	●
DIN 51524-2			●				
DIN 51524-3	●	●		●			
ARBURG injection moulding machines			●				
Krauss Maffei injection moulding machines			●				
Putzmeister WN022521			●				
DIN 51524 HLP 32 – 68	●	●*		●*			
Caterpillar TO-4; Allison C4; Komatsu					●	●	●
The Blue Angel				●			

*= do not mix with mineral-based hydraulic oils

Hydraulic Oils HyPER SG1 | Hydrauliköle HyPER SG1

Extremely powerful hydraulic oil, made from Group II base oils, used in combination with a premium additive package. Distinguished by its extreme purity and increased oxidation protection as well as high thermal and hydrolytic stability. **It contains modern agents for increasing resistance to aging, corrosion protection and the EP properties. Best possible sealing compatibility. Clearly reduces wear rates for hydraulic components as compared to standard HLP hydraulic oils.** This results in considerably fewer hydraulic system breakdowns. **The hydraulic oil has a considerably longer service lifetime than a standard HLP hydraulic oil. It causes less leaks and defective hydraulic hoses thanks to the optimized elastomer compatibility.**

Area of use

For stationary and mobile use in hydraulic systems fitted in construction, forestry and agricultural machinery such as excavators, tractors, etc., lifts, industrial and machine tools, wood splitters, lifting platforms and presses, etc. The exceptionally high material compatibility means that this hydraulic oil can be used in virtually all pumping systems fitted in hydraulic systems. Furthermore, this hydraulic oil can also be used with all mineral-oil-compatible sealing materials and coatings. The premium additive package with increased protection against wear makes the hydraulic oil superbly suitable for use in hydraulic systems made by well-known manufacturers such as Bosch Rexroth, Parker Hannifin, Eaton, Linde, Hydac, Danfoss and Poclain.

Feature	Standard	Value		
		SG1-32	SG1-46	SG1-68
ISO viscosity class:	DIN 51519	32	46	68
Viscosity at 40 °C:	ASTM D 7042-04	32 mm²/s	46 mm²/s	68 mm²/s
Viscosity at 100 °C:	ASTM D 7042-04	5,5 mm²/s	6,9 mm²/s	9,0 mm²/s
Viscosity index:	DIN ISO 3016	108	105	107
Density at 15 °C:	DIN 51757	0,86 g/cm³	0,865 g/cm³	0,865 g/cm³
Flash point:	DIN ISO 2592	216 °C	230 °C	250 °C
Pour point:	DIN ISO 3016	-39 °C	-36 °C	-36 °C
Purity level:	ISO 4406	18/16/12	18/16/12	18/16/12

Specifications and approvals

Bosch Rexroth RDE 90235
Parker Denison HF-0, HF-1, HF-2
Eaton E-FDGN-TB002-E
Eaton Brochure 03-401-2010
Fives-Cincinnati P-68, P-69, P-70
Hydraulic Oil DIN 51524 Part 2 HLP 32/46/68

Hydraulic Oil HyPER SG1-32

Cont.	Part-No.
20 l	20636
60 l	20637
205 l	20638

Hydraulic Oil HyPER SG1-46

Cont.	Part-No.
20 l	20639
60 l	20640
205 l	20641

Hydraulic Oil HyPER SG1-68

Cont.	Part-No.
20 l	20642
60 l	20643
205 l	20644



Hydraulic Oils HLP | Hydrauliköle HLP

High-performance hydraulic oil made from high-quality raffinates. Because of the high thermal stability of the base oils, the aging process is significantly reduced even at elevated temperatures. This decisively helps to reduce the formation of sludge, improve cleanliness, and promote the reliability of the hydraulic systems. Excellent oxidation resistance permits extended oil change intervals. The outstanding wear-protection technology is effective in both, low and high load conditions. Maintains good corrosion protection behavior even if water is present. The hydraulic components are thus optimally protected in all operating conditions.

Area of use

For stationary and mobile applications in hydraulic systems in construction, forestry and agricultural machinery such as excavators, tractors etc., hoists, industrial machinery and machine tools, wood splitters, lifting platforms and presses, etc. Due to its good compatibility with materials, this LIQUI MOLY hydraulic oil can be used in the most common pump systems in hydraulic units. This hydraulic oil can also be used with all mineral-oil-compatible sealing materials and coatings.

Feature	Standard	Value			
		HLP 15	HLP 22	HLP 32	HLP 46
ISO viscosity class:	DIN 51519	VG 15	VG 22	VG 32	VG 46
Viscosity at 40 °C:	ASTM D 7042-04	15 mm²/s	55 mm²/s	32 mm²/s	46 mm²/s
Viscosity at 100 °C:	ASTM D 7042-04	3,5 mm²/s	4,4 mm²/s	5,4 mm²/s	7 mm²/s
Viscosity index:	DIN ISO 2909	112	109	102	109
Density at 15 °C:	DIN 51757	0,855 g/cm³	0,860 g/cm³	0,875 g/cm³	0,880 g/cm³
Flash point:	DIN ISO 2592	180 °C	210 °C	220 °C	240 °C
Pour point:	DIN ISO 3016	-30 °C	-36 °C	-33 °C	-24 °C

Feature	Standard	Value		
		HLP 68	HLP 100	HLP 150
ISO viscosity class:	DIN 51519	VG 68	VG 100	VG 150
Viscosity at 40 °C:	ASTM D 7042-04	68 mm²/s	100 mm²/s	150 mm²/s
Viscosity at 100 °C:	ASTM D 7042-04	8,6 mm²/s	11,1 mm²/s	14,6 mm²/s
Viscosity index:	DIN ISO 2909	97	95	96
Density at 15 °C:	DIN 51757	0,885 g/cm³	0,890 g/cm³	0,890 g/cm³
Flash point:	DIN ISO 2592	230 °C	260 °C	260 °C
Pour point:	DIN ISO 3016	-27 °C	-18 °C	-15 °C

Specifications and approvals

HLP 15
Hydraulic Oil DIN 51524-2 HLP 15

HLP 22
Hydraulic Oil SEB 181 222 HLP 22
Hydraulic Oil DIN 51524 Part 2 HLP 22

HLP 32
Hydraulic Oil SEB 181 222 HLP 32
Hydraulic Oil DIN 51524 Part 2 HLP 32

HLP 46
Hydraulic Oil SEB 181 222 HLP 46
Hydraulic Oil DIN 51524 Part 2 HLP 46

HLP 68
Hydraulic Oil DIN 51524-2 HLP 68;
Hydraulic Oil SEB 181 222 HLP 68

HLP 100
Hydraulic Oil DIN 51524-2 – HLP 100;
Hydraulic Oil SEB 181 222 – HLP 100

HLP 150
Hydraulic Oil DIN 51524-2 – HLP 150

Hydraulic Oil HLP 15

Cont.	Part-No.
20 l	4790
60 l	4780
205 l	4791

Hydraulic Oil HLP 22

Cont.	Part-No.
20 l	4719
205 l	4131

Hydraulic Oil HLP 32

Cont.	Part-No.
20 l	1107
60 l	1108
205 l	1109

Hydraulic Oil HLP 46

Cont.	Part-No.
20 l	1110
60 l	1111
205 l	1112

Hydraulic Oil HLP 68

Cont.	Part-No.
20 l	1113
60 l	1114
205 l	1115

Hydraulic Oil HLP 100

Cont.	Part-No.
20 l	4132
60 l	3300
205 l	4133

Hydraulic Oil HLP 150

Cont.	Part-No.
20 l	4134
60 l	3301
205 l	4135

Hydraulic Oil HVLP 32

Cont.	Part-No.
20 l	4156
60 l	4710
205 l	4711



Hydraulic Oil HVLP 46

Cont.	Part-No.
20 l	1116
60 l	4712
205 l	4713



Hydraulic Oils HVLP | Hydrauliköle HVLP

High-performance hydraulic oil made from high-quality raffinates. Because of the high thermal stability of the base oils, the aging process is significantly reduced even at elevated temperatures. This decisively helps to reduce the formation of sludge, improve cleanliness, and promote the reliability of the hydraulic systems. Excellent oxidation resistance permits extended oil change intervals. The outstanding wear-protection technology is effective in both, low and high load conditions. **Special additives ensure consistent viscosity even at high temperature fluctuations as well as a swift and precise response of the hydraulic system.** Maintains good corrosion protection behavior even if water is present. The hydraulic components are thus optimally protected in all operating conditions.

Area of use

Specially for mobile applications in hydraulic systems in construction, forestry and agricultural machinery such as excavators, tractors etc. where high temperature fluctuation cycles are the norm. Due to its good compatibility with materials, this LIQUI MOLY hydraulic oil can be used in the most common pump systems in hydraulic units. This hydraulic oil can also be used with all mineral-oil-compatible sealing materials and coatings.

Feature	Standard	Value		Specifications and approvals
		HVLP 32	HVLP 46	
ISO viscosity class:	DIN 51819	32	46	HVLP 32 Hydraulic Oil DIN 51524-3 – HVLP 32
Viscosity at 40 °C:	ASTM D 7042-04	32 mm ² /s	46 mm ² /s	
Viscosity at 100 °C:	ASTM D 7042-04	6,4 mm ² /s	8,5 mm ² /s	HVLP 46 Hydraulic Oil DIN 51524-3 – HVLP 46
Viscosity index:	DIN ISO 2909	157	164	
Density at 15 °C:	DIN 51757	870 kg/m ³	875 kg/m ³	
Flash point:	DIN ISO 2592	200 °C	204 °C	
Pour point:	DIN ISO 3016	-36 °C	-36 °C	

Cont. Part-No.

20 l	6950
60 l	6951
205 l	6952



Hydraulic Oil HVLPD 46 | Hydrauliköl HVLPD 46

High-performance hydraulic oil made from high-quality raffinates. Because of the high thermal stability of the base oils, the aging process is significantly reduced even at elevated temperatures. This decisively helps to reduce the formation of sludge, improve cleanliness, and promote the reliability of the hydraulic systems. Excellent oxidation resistance permits extended oil change intervals. The outstanding wear-protection technology is effective in both, low and high load conditions. **Special additives ensure consistent viscosity even at high temperature fluctuations and a swift and precise response of the hydraulic system as well as the absorption of a certain amount of water without clouding.** Maintains good corrosion protection behavior even if water is present. The hydraulic components are thus optimally protected in all operating conditions.

Area of use

Specially for mobile applications in hydraulic systems in construction, forestry and agricultural machinery such as excavators, tractors etc. where drag-in of water, dirt and abraded material and/or high temperature fluctuation cycles are the norm. Due to its good compatibility with materials, this LIQUI MOLY hydraulic oil can be used in the most common pump systems in hydraulic units. This hydraulic oil can also be used with all mineral-oil-compatible sealing materials and coatings.

Feature	Standard	Value	Specifications and approvals
ISO viscosity class:	DIN 51819	46	Hydraulic Oil DIN 51524 HVLPD 46
Viscosity at 40 °C:	ASTM D 7042-04	46 mm²/s	
Viscosity at 100 °C:	ASTM D 7042-04	8,5 mm²/s	
Viscosity index:	DIN ISO 2909	164	
Density at 15 °C:	DIN 51757	0,875 g/cm³	
Flash point:	DIN ISO 2592	210 °C	
Pour point:	DIN ISO 3016	-36 °C	



Hydraulic Oil Arctic HVLP 46 | Hydrauliköl Arctic HVLP 46

High-performance hydraulic oil made from high-quality raffinates. Because of the high thermal stability of the base oils, the aging process is significantly reduced even at elevated temperatures. This decisively helps to reduce the formation of sludge, improve cleanliness, and promote the reliability of the hydraulic systems. Excellent oxidation resistance permits extended oil change intervals. The outstanding wear-protection technology is effective in both, low and high load conditions. **Specially selected base oils and additives ensure systems run reliably, even at very low external temperatures, and provide consistent viscosity at large temperature fluctuations and a swift and precise response of the hydraulic system.** Maintains good corrosion protection behavior even if water is present. The hydraulic components are thus optimally protected in all operating conditions.

Area of use

Specially for mobile applications in hydraulic systems in construction, forestry and agricultural machinery such as excavators, tractors etc., which are also used in very low external temperatures and where high temperature fluctuation cycles are the norm. Due to its good compatibility with materials, this LIQUI MOLY hydraulic oil can be used in the most common pump systems in hydraulic units. This hydraulic oil can also be used with all mineral-oil-compatible sealing materials and coatings.

Feature	Standard	Value	Specifications and approvals
ISO viscosity class:	DIN 51519	VG 46	In accordance with classification DIN 51524-3: HVLP 46
Viscosity at 40 °C:	DIN 51562	46 mm²/s	
Viscosity at 100 °C:	DIN 51562	9,1 mm²/s	
Viscosity index:	DIN ISO 2909	184	
Density at 15 °C:	DIN 51757	0,875 g/cm³	
Flash point:	DIN ISO 2592	176 °C	
Pour point:	DIN ISO 3016	< -48 °C	

Cont.	Part-No.
20 l	6947*
60 l	6967*
205 l	6957*



Hydraulic Oil Super Arctic Oil HVLP 32 | Hydrauliköl Super Arctic Oil HVLP 32

High-performance hydraulic oil made from high-quality raffinates. Thanks to the high thermal stability of the PAO base oil, the aging process is significantly reduced even at elevated temperatures. This decisively helps reduce the formation of sludge, improves cleanliness and promotes the reliability of the hydraulic systems. Excellent oxidation resistance allows oil to be used for longer periods (changing intervals). The outstanding wear-protection technology is effective in both low and high load conditions. Specially selected base oils and additives ensure systems run reliably, even at extremely low external temperatures, and provide constant viscosity with large fluctuations in temperature and a rapid and precise response from the hydraulics. Good corrosion protection behavior even if water is present. This ensures that the hydraulic components are optimally protected in all operating conditions.

Area of use

Specially developed for mobile applications in hydraulic systems in construction, forestry and agricultural machinery such as excavators, tractors, etc., which are also used in extremely low external temperatures and where high temperature fluctuation cycles are the norm. Thanks to its good compatibility with materials, this LIQUI MOLY hydraulic oil can be used in the most common pump systems in hydraulic systems.

Feature	Standard	Value	Specifications and approvals
ISO viscosity class:	DIN 51519	VG 32	In accordance with classification DIN 51524: HVLP
Viscosity at 40 °C:	ASTM D 7042-04	32 mm²/s	
Viscosity at 100 °C:	ASTM D 7042-04	6,6 mm²/s	
Viscosity index:	DIN ISO 2909	168	
Density at 15 °C:	DIN 51757	0,850 g/cm³	
Flash point:	DIN ISO 2592	172 °C	
Pour point:	DIN ISO 3016	< -60 °C	

Cont.	Part-No.
20 l	7545*
205 l	7546*



Hydraulic Oil HLP 46 SG-Z | Hydrauliköl HLP 46 SG-Z

High-performance hydraulic oil made from high-quality raffinates. Because of the high thermal stability of the base oils, the aging process is significantly reduced even at elevated temperatures. This decisively helps to reduce the formation of sludge, improve cleanliness, and promote the reliability of the hydraulic systems. Excellent oxidation resistance permits extended oil change intervals. The **first-class wear-protection technology** is effective in both, high and very high load conditions. Maintains good corrosion protection behavior even if water is present. The hydraulic components are thus optimally protected in all operating conditions.

Area of use

For stationary and mobile applications in hydraulic systems in construction, forestry and agricultural machinery, industrial and machine tools such as injection molding machines, punching machines, presses, excavators etc., which are subject to extreme pressure loads. Due to its good compatibility with materials, this LIQUI MOLY hydraulic oil can be used in the most common pump systems in hydraulic units. This hydraulic oil can also be used with all mineral-oil-compatible sealing materials and coatings.

Feature	Standard	Value	Specifications and approvals
ISO viscosity class:	DIN 51519	VG 46	In accordance with classification DIN 51524: HLP 46 Hydraulic Oil SEB 181 222 – HLP 46; ARBURG injection moulding machines; Krauss Maffei injection moulding machines; Engel injection moulding machines; Putzmeister WN022521
Viscosity at 40 °C:	ASTM D 7042-04	46 mm²/s	
Viscosity at 100 °C:	ASTM D 7042-04	6,9 mm²/s	
Viscosity index:	DIN ISO 2909	105	
Density at 15 °C:	DIN 51757	880 kg/m³	
Flash point:	DIN ISO 2592	208 °C	
Pour point:	DIN ISO 3016	-30 °C	

Cont.	Part-No.
20 l	3298
60 l	3299
205 l	4217



*not available in Germany and Austria

Cont. Part-No.

20 l	4737
60 l	4740
205 l	4726



Hydraulic Oil HEES 46 | Hydrauliköl HEES 46

High-performance hydraulic oil based on synthetic esters, **rapidly biodegradable** and toxicologically harmless. Because of the high thermal stability of the base oils, the aging process is significantly reduced even at elevated temperatures. This decisively helps to reduce the formation of sludge, improve cleanliness, and promote the reliability of the hydraulic systems. Excellent oxidation resistance permits extended oil change intervals. The outstanding wear-protection technology is effective in both, low and high load conditions. **Special additives ensure consistent viscosity even at high temperature fluctuations as well as a swift and precise response of the hydraulic system.** Maintains good corrosion protection behavior even if water is present. The hydraulic components are thus optimally protected in all operating conditions.

Area of use

Specially for mobile applications in hydraulic systems in construction, forestry and agricultural machinery such as dredgers, hydraulic locks, snowcats etc. where high temperature fluctuation cycles are the norm and/or for use in environmentally sensitive areas (water protection areas and watercourses). As usual in the case of rapidly biodegradable hydraulic oils, it is necessary to clarify material compatibility in advance with the manufacturer.

Feature	Standard	Value
ISO viscosity class:	DIN 51819	VG 46
Viscosity at 40 °C:	ASTM D 7042-04	46 mm ² /s
Viscosity at 100 °C:	ASTM D 7042-04	9,4 mm ² /s
Viscosity index:	DIN ISO 2909	194
Density at 15 °C:	DIN 51757	0,920 g/cm ³
Flash point:	DIN ISO 2592	280 °C
Pour point:	DIN ISO 3016	-45 °C

Specifications and approvals

Hydraulic Oil VDMA 24568 HEES 46; Hydraulic Oil DIN 51524 HVLP 46; RAL-UZ 178

Cont. Part-No.

1 l	1127
20 l	1147
60 l	1148
205 l	1188



Central Hydraulic System Oil | Zentralhydraulik-Öl

Synthetic hydraulic fluid that was developed to meet the highest requirements of numerous vehicle and mechanical component manufacturers. Based on synthetic and mineral base oils with ash-free additives for improved viscosity, friction, wear-protection, oxidation, foam and corrosion protection behavior. It provides optimal performance as a central hydraulic oil in power steering, level control, hydraulic power brakes, and hydropneumatic suspension. This oil also has exceptional low temperature properties and is therefore suitable for application in cold climates.

Area of use

For use in the following central hydraulic systems: electrohydraulic convertible top mechanism, power door locks, stability and traction control systems, hydrostatic drives, level control systems, hydropneumatic suspensions as well as damping and steering systems.

Feature	Standard	Value
Viscosity at 40 °C:	ASTM D 7042-04	19,6 mm ² /s
Viscosity at 100 °C:	ASTM D 7042-04	6,4 mm ² /s
Viscosity index:	DIN ISO 2909	322
Density at 15 °C:	DIN 51757	0,825 g/cm ³
Flash point:	DIN ISO 2592	150 °C
Pour point:	DIN ISO 3016	-72 °C

Specifications and approvals

MAN M 3289

Recommendations

BMW 81 22 9 407 758; CHF 11S; Fiat 9.55550-AG3; Ford WSS-M2C 204-A; MB 345.0; Opel 1940 766; VW G 002 000; VW G 004 000; ZF TE-ML 02K



LM 901 Compressor Oil SAE 5W-20 | LM 901 Kompressorenöl SAE 5W-20

Synthetic polyalphaolefin-based compressor oil, which has been formulated for use in rotary-screw compressors. Tested and approved by well-known compressor manufacturers. Extremely high self-ignition temperature of 400 °C.

Cont.	Part-No.
10 l	4451
201 l	4452


Area of use

Suitable for all rotary-screw compressors and especially where conventional mineral oils do not provide the optimum machine performance.

Feature	Standard	Value
Viscosity SAE class:		5W-20
ISO viscosity class:	DIN 51519	VG 46
Viscosity at 40 °C:	DIN 51562	46 mm²/s
Viscosity at 100 °C:	DIN 51562	7,7 mm²/s
Density at 15 °C:	DIN 51757	0,84 g/cm³
Flash point:	DIN ISO 2592	245 °C
Pour point:	DIN ISO 3016	-45 °C

LM 497 Compressor Oil SAE 20W-20 | LM 497 Kompressorenöl SAE 20W-20

Synthetic compressor oil on di-ester basis. Tested and approved by well-known compressor manufacturers. Extremely high self-ignition temperature of 400 °C. High oxidation stability and optimal lubrication.

Cont.	Part-No.
10 l	4402
201 l	4409


Area of use

For use in rotary and displacement compressors and for lubricating cylinders and power trains. Also suitable for breathing apparatuses used for diving. Specially developed for applications where mineral oils do not deliver optimum machine performance. Follow manufacturer's instructions.

Feature	Standard	Value
Viscosity SAE class:		20W-20
ISO viscosity class:	DIN 51519	VG 68
Viscosity at 40 °C:	DIN 51562	65 mm²/s
Density at 20 °C:		0,974 g/ml
Pour point:	DIN ISO 3016	-37 °C

LM 500 Compressor Oil SAE 30 | LM 500 Kompressorenöl SAE 30

Synthetic compressor oil on di-ester basis. Tested and approved by well-known compressor manufacturers. Extremely high self-ignition temperature of 410 °C. High oxidation stability and optimal lubrication.

Cont.	Part-No.
10 l	4076
199 l	4077


Area of use

For use in rotary and displacement compressors and for lubricating cylinders and power trains. Also suitable for breathing apparatuses used for diving. Specially developed for applications where mineral oils do not deliver optimum machine performance. Follow manufacturer's instructions.

Feature	Standard	Value
Viscosity SAE class:		30
ISO viscosity class:		VG 100
Viscosity at 40 °C:		95 mm²/s
Density at 20 °C:		0,956 g/cm³

LM 750 Compressor Oil SAE 40 | LM 750 Kompressorenöl SAE 40

Synthetic compressor oil on tri-ester basis. Tested and approved by well-known compressor manufacturers. Extremely high self-ignition temperature of 400 °C. High oxidation stability and optimal lubrication.

Cont.	Part-No.
5 l	4414
10 l	4419
195 l	4416


Area of use

For use in rotary and displacement compressors and for lubricating cylinders and power trains. Also suitable for breathing apparatuses used for diving. Specially developed for applications where mineral oils do not deliver optimum machine performance. Follow manufacturer's instructions.

Feature	Standard	Value
Viscosity SAE class:		40
ISO viscosity class:	DIN 51519	VG 150
Viscosity at 40 °C:	DIN 51562	145 mm²/s
Density at 20 °C:		0,965 g/ml
Pour point:	DIN ISO 3016	-40 °C

Compressor Oils VDL | Kompressorenöle VDL

A high-quality compressor oil made from specially selected, tried and tested additives and solvent-refined products with outstanding aging resistance.

Area of use

Suitable for use in all air compressors with compression temperatures up to 220 °C.

Feature	Standard	Value	Recommendations
		VDL 100	VDL 150
ISO viscosity class:	DIN 51819	VG 100	VG 150
Viscosity at 40 °C:	ASTM D 7042-04	100 mm²/s	150 mm²/s
Viscosity at 100 °C:	ASTM D 7042-04	11 mm²/s	14,5 mm²/s
Viscosity index:	DIN ISO 2909	94	94
Density at 15 °C:	DIN 51757	890 kg/m³	890 kg/m³
Flash point:	DIN ISO 2592	246 °C	260 °C
Pour point:	DIN ISO 3016	-21 °C	-21 °C

Lubricating Oil DIN 51506 – VDL

**Compressor Oil
VDL 100**

Cont.	Part-No.
20 l	4172
60 l	6600
205 l	4173

**Compressor Oil
VDL 150**

Cont.	Part-No.
20 l	4174
60 l	6608
205 l	4209

MACHINE OIL



Cont. Part-No.

20 l	4159
205 l	4160

Lubricating Oil AN 46 | Schmieröl AN 46

Aging-resistant mineral based oil without added agents.

Area of use

Suitable for use in all air compressors with compression temperatures up to 140°C.

Feature	Standard	Value	Specifications and approvals
ISO viscosity class:	DIN 51519	VG 46	In accordance with classification
Viscosity at 40 °C:	ASTM D 7042-04	46 mm ² /s	- DIN 51501: Lubricating Oil L – AN 46
Viscosity at 100 °C:	ASTM D 7042-04	6,8 mm ² /s	- DIN 51517: Lubricating Oil C – 46
Viscosity index:	DIN ISO 2909	102	- DIN 51506: Lubricating Oil VB – 46
Density at 15 °C:	DIN 51757	875 kg/m ³	Heat transfer oil Q 40
Flash point:	DIN ISO 2592	224 °C	
Pour point:	DIN ISO 3016	-30 °C	

TURBINE OIL

Cont. Part-No.

20 l	1660
60 l	6643
205 l	6647

Turbine Oil TDL 46 | Turbinenöl TDL 46

Turbineoils TDL are mineral oils that contain active ingredients to increase ageing resistance, anti-corrosive properties.

Area of use

Used as lubricant and/or control fluid in stationary gas turbines, steam turbines as well as machines, generators, compressors, pumps, and gears that are electrical or steam turbine powered.

Feature	Standard	Value
ISO viscosity class:	DIN 51519	VG 46
Viscosity at 40 °C:	ASTM D 7042-04	46 mm ² /s
Viscosity at 100 °C:	ASTM D 7042-04	6,9 mm ² /s
Viscosity index:	DIN ISO 2909	105
Density at 15 °C:	DIN 51757	880 kg/m ³
Flash point:	DIN ISO 2592	220 °C
Pour point:	DIN ISO 3016	-33 °C

AIR CONDITIONING OIL

Cont. Part-No.

250 ml	4089
--------	-------------

**PAG Air Conditioning Oil 100 | PAG Klimaanlageöl 100**

PAG Air Conditioning Oil 100 is a fully synthetic, polyalkylene glycol (PAG)-based oil which is used for the lubrication, sealing and cooling of refrigerant compressors or refrigerant circuits in passenger or commercial vehicles air conditioning systems. It has been formulated so that it can be mixed with Type R 134a refrigerants and is therefore outstandingly suitable for this purpose. PAG Air Conditioning Oil 100 is hygroscopic and absorbs moisture from the surrounding air. This oil is therefore filled under nitrogen. This product complies with the requirements of standard refrigerant compressors and refrigeration system manufacturers. Due to the fluorescent color, leakages can be found easily with an UV flashlight.

Area of use

PAG Air Conditioning Oil 100 is used to wet the seals of refrigerant circuits before installation, as well as to supplement the refrigerant oil used in the workshop during repairs. It is also used when refilling the air conditioning systems of passenger and commercial vehicles using Refrigerant Type R 134a.

Feature	Standard	Value
Base:		Polyalkyleneglycol (PAG)
Color/appearance:		light yellow
Viscosity at 40 °C:		107 mm ² /s
Viscosity at 100 °C:		20,0 mm ² /s
Viscosity index:		216
Density at 20 °C:		0,999 g/cm ³
Flash point:		> 200 °C
Pour point:		-43 °C

LM 48 Installation Paste | LM 48 Montagepaste

High performance MoS₂-paste for extreme demands. It adheres even to apparently smooth surfaces. When applied to bearings and sliding guides it avoids running-in damage and seizure marks during the assembly of components with tight clearances.

Area of use

For assembly, repair, and maintenance in all areas of engineering. For basic lubrication and to prevent running-in damage and seizure marks when press-fitting bolts and bushings as well as installing roller bearing rings. For lifetime lubrication of joints and small components and for reducing wear on sliding machine components.

Feature	Standard	Value
Base:		mineral oil
Color/appearance:		black
Density at 20 °C:		1 g/ml
Additives:		MoS ₂ : 33 % graphite: 6 %
Pressfit-Test (no stick slip):		0,12
Thread friction:		0,09
Operating temperature range:		-35 to +450 °C

Cont. Part-No.

50 g **3010**
1 kg **4096**



LM 145 Lubricant Compound | LM 145 Schmierstoff-Compound

Soft and extremely adherent lubricant for open drive elements. The film, which dries thoroughly, is especially suitable for open drives which are exposed to dust, water or the weather.

Area of use

Used for all lubrication points which are directly exposed to environmental conditions. Lubrication of gearwheels, pivoted bogies or live rings, threaded spindles, chains, wire ropes, skids, and bearings. Used for agricultural machinery, crane and conveyor plants, and in shipping and transport companies.

Feature	Standard	Value
Color/appearance:		black
Base:		high-viscosity mineral oil
Lubricants according to DIN 3536:		MoS ₂
Operating temperature range:		-30 to +110 °C

Cont. Part-No.

300 ml **4020**



Copper Paste | Kupfer-Paste

Release agent and lubricant made from ultra-fine copper particles for use with machine elements subject to high thermal stress. Makes dismantling easy after long running times. Copper Paste is used at extreme temperatures for bolted connections and interfaces exposed to high temperatures, pressures, and corrosive elements.

Area of use

Used for lubrication, separation, and as a corrosion inhibitor for components exposed to high thermal load. Chemical and petrochemical industry, power stations, ceramic industry, engineering and motor vehicle construction - particularly for bolted connections on exhaust manifolds, silencers, chassis components, and brake systems.

Feature	Standard	Value
Viscosity at 40 °C:	ASTM D 7042-04	110 mm ² /s
Flash point:	DIN ISO 2592	220 °C
Pour point:	DIN ISO 3016	-24 °C
Worked penetration:	DIN ISO 2137	270-290 1/10 mm
Dropping point:	DIN ISO 2176	180 °C
NLGI number:	DIN 51818	2

Cont. Part-No.

0,25 kg **3081**
0,5 kg **1829**
1 kg **4061**



DRY LUBRICANT



Cont.	Part-No.
300 ml	4032
1 kg	4033



LM 203 MoS₂ Anti-Friction Lacquer | LM 203 MoS₂-Gleitlack

Rapid drying, resin-bound MoS₂ anti-friction lacquer dispersed in solvent. Produces a solid adherent film of dry lubricant with low friction values.

Area of use

Used as a pre-treatment for drive elements under heavy loading such as gearwheels, racks, profiled shafts, and joints. Lubrication during the assembly of press fittings, treatment of work pieces and tools for metal forming and metal processing.

Feature	Standard	Value
Base:		MoS ₂
Color/appearance:		black/grey film, matt
Coating thickness:		5 – 15 µm
Operating temperature range:		permanent temperature up to +340 °C short term up to +400 °C
Spreading rate (cover):		7 m ² /kg of 12,5 µm coating thickness
Dehydration:		dry (at 20 °C) in 10 Min. Max. hardness (at 20 °C) after 1 to 2 hours

Cont.	Part-No.
1 l	3211

Thinner for LM 203 MoS₂ Anti-Friction Lacquer | Verdünner für LM 203 MoS₂-Gleitlack

Thinner for LM 203 MoS₂ Anti-Friction Lacquer is used to control the drying time, lacquer coat and coat thickness of the anti-friction lacquer. The choice of solvents guarantees rapid drying.

Area of use

Used for thinning LM 203 MoS₂ Anti-Friction Lacquer and for cleaning the spray gun.

Feature	Standard	Value
Base:		alcohols/ketones
Color/appearance:		water clear
Flash point:		-15 °C
Density at 20 °C:		0,786 g/cm ³

FORMWORK RELEASE OILS

Cont.	Part-No.
20 l	8563
60 l	8564
205 l	8568

Special Forming Oil FS 7 | Schalöl Spezial FS 7

A highly effective, non-emulsifying forming oil for undiluted use. Applied by spraying or with a brush. The formwork can be coated with oil just before concreting or a few days beforehand. Ensures clean and easy demolding, good curing, smooth surfaces with sharp-profiled edges, and is economic to use.

Area of use

For use in undiluted form for metal and timber formwork in the concrete products and precast stone industry, as well as prestressed concrete production.

Feature	Standard	Value
Color according to ASTM:	DIN ISO 2049	0,5
Viscosity at 40 °C:	ASTM D 7042-04	7,3 mm ² /s
Density at 15 °C:	DIN 51757	835 kg/m ³
Flash point:	DIN ISO 2592	120 °C
Pour point:	DIN ISO 3016	- 33 °C
Ash, oxide:	DIN EN ISO 6245	< 0,01 g/100 g
Neutralization number:	DIN 51558 T1	6,9 mg KOH/g
Saponification number:	DIN 51559 T1	7,0 mg KOH/g

Water-Soluble Forming Oil | Schalöl wasserlöslich

Water-soluble, emulsifiable demolding oil. Only of limited suitability for use on metal formwork. This should then be left to set in the mold in a vapor bath and must not be demolded immediately. It is applied by spray or brush as soon as possible before concreting. Clean and easy demolding, good setting, and smooth surfaces. Extremely sparingly in use.

Area of use

Mainly used for wood lagging in building construction, civil engineering, and in the concrete products industry.

Feature	Standard	Value
Color according to ASTM:	DIN ISO 2049	1,0
Density at 15°C:	DIN 51757	895 kg/m ³
Flash point:	DIN ISO 2592	160°C
Pour point:	DIN ISO 3016	-27°C
Ash, oxide:	DIN EN ISO 6245	0,03 g/100g
Water content:	DIN ISO 3733	0,1 g/100g
Neutralization number:	DIN 51558 T1	5,1 mg KOH/g
Saponification number:	DIN 51559 T1	2,8 mg KOH/g
pH value:		6,1

Cont.	Part-No.
20 l	8577
205 l	8583

SEPARATING OIL

Separating Oil WT01 S | Trennöl WT01 S

Biodegradable universal mold release agent with outstanding non-stick properties for low and high operating temperatures from -15°C up to +95°C. Keep out of strong sunlight.

Area of use

WT01 S Separating Oil can be used for separating asphalt, as a cleaning agent, and as forming oil.

Feature	Standard	Value
Color/appearance:		yellow
Viscosity at 20°C:	ASTM D 7042-04	29,3 mm ² /s
Viscosity at 40°C:	ASTM D 7042-04	15,8 mm ² /s
Density at 15°C:	DIN 51757	905 kg/m ³

Cont.	Part-No.
20 l	8588
205 l	8589



ASSORTMENT SUMMARY GREASES

Product name	Part-No.	Composition Consistency grade	Operating temperature range [°C]																	
			-60	-50	-40	-30	-20	+60	+70	+80	+90	+100	+110	+120	+130	+140	+150	+160	+170	+180

Calcium greases

Longtime greases																				
Longtime Grease C2LP	6628	special Ca-Soap/ EP/Mineral oil/ PM NLGI: 2				-30							+110							
Anticorrosion greases																				
Lubricating Grease C2S	6642	special Ca-Soap/ Cl/Mineral oil NLGI: 2					-20					+100								

Lithium greases / Complex greases

Multipurpose greases																				
Multipurpose Grease	3554	Li-Soap Mineral oil NLGI: 2				-30							+120							
Roller bearing greases with EP-additives																				
Roller Bearing Grease KP2K-30	4192	Li-Ca/EP/ Mineral oil NLGI: 2				-30							+130							
Long-term greases																				
HGV Long-term Grease KP2K-35	6637	Li-Ca/EP/ Mineral oil/PM NLGI: 2				-35							+130							
Heavy duty greases																				
Heavy Duty Grease KPF2N-20	4185	Li-Soap/EP/ F/Mineral oil/ PM NLGI: 2					-20							+140						
Universal shaft greases																				
LM 47 Long-Life Grease + MoS ₂	3540	Li-Soap/F/ Mineral oil NLGI: 2				-30							+130							
Viscous greases																				
Viscous Grease ZS K00K-40	4714	Li-Soap/EP/ Mineral oil NLGI: 00			-40								+120							
High-temperatures greases																				
LM 50 Litho HT	3400	Li-complex/ EP/Mineral oil NLGI: 2				-30											+160			
Litho HT + MoS ₂	2340	Li-complex/F/ EP/Mineral oil NLGI: 2				-30											+160			

Polyurea greases

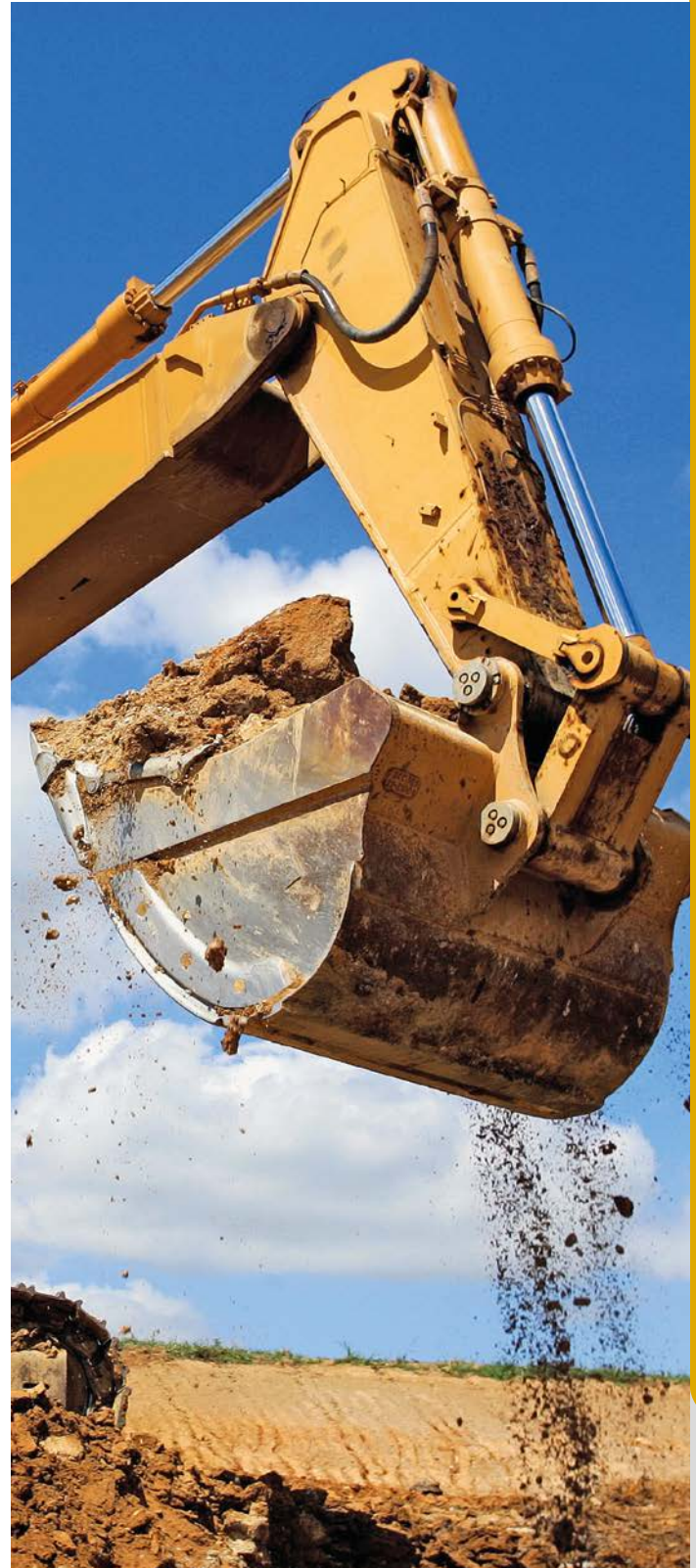
High Temperature Grease PU2EP	6620	Polyurea/EP/ Mineral oil/ synthetic esters NLGI: 2					-20											+180		
-------------------------------	------	---	--	--	--	--	-----	--	--	--	--	--	--	--	--	--	--	------	--	--

Loads						rpm			Resistance					
low	normal	high	extreme	vibration	impact	low	normal	high	cold water	hot water	steam	seawater	diluted acids	diluted alkalis

•	•	•	•	•	•	•	•		•	•				
•	•						•		•	•		•		

•	•						•	•	•	•				
•	•	•			•	•	•		•	•				
•	•	•		•	•	•	•		•	•				
•	•	•	•	•	•	•	•		•	•				
•	•	•					•	•	•	•				
•	•						•	•	•					
•	•	•			•		•	•	•	•	•			
•	•	•	•	•	•	•	•		•	•	•			

•	•	•	•	•	•	•			•	•	•		•	•
---	---	---	---	---	---	---	--	--	---	---	---	--	---	---



Key to abbreviations:

EP → High pressure additives

PM → Polymers [VI improver]

F → Solid lubricants [graphite, MoS₂]

CI → Protects against corrosion

Cont. Part-No.

25 kg 6628

**Longtime Grease C2LP | Langzeitfett C2LP**

The Longtime Grease offers an excellent lubrication effect as a result of its special additive technology. The grease is resistant to aging and has very good wear and corrosion protection properties. Good low temperature properties.

Area of use

For lubricating high-loaded roller and plain bearings, particularly when moisture is present. Thanks to the excellent adhesive strength of the lubricating film and its water-repellent effect, it is particularly suitable for machines and vehicles used in the construction industry and in agriculture.

Feature	Standard	Value
Viscosity at 40 °C:	ASTM D 7042-04	930 mm ² /s
Viscosity at 100 °C:	ASTM D 7042-04	40,0 mm ² /s
Flash point:	DIN ISO 2592	230 °C
Pour point:	DIN ISO 3016	-30 °C
Worked penetration:	DIN ISO 2137	265-280 1/10 mm
Dropping point:	DIN ISO 2176	145 °C
NLGI number:	DIN 51818	2
Brief description:	DIN 51502	KP2G-30

Cont. Part-No.

25 kg 6642

**Lubricating Grease C2S | Schmierfett C2S**

The Lubricating Grease contains an adhesion enhancer as well as specially selected active ingredients to protect against oxidation, rust, and corrosion. Its water resistance and adhesive properties have been tested in a special rinsing and washing-out test with saltwater.

Area of use

It can be used on external parts of ships, in industry, trade and agriculture to lubricate and protect machines, joints, wires, etc., which are exposed to water.

Feature	Standard	Value
Viscosity at 40 °C:	ASTM D 7042-04	100 mm ² /s
Viscosity at 100 °C:	ASTM D 7042-04	9,5 mm ² /s
Flash point:	DIN ISO 2592	232 °C
Pour point:	DIN ISO 3016	-24 °C
Worked penetration:	DIN ISO 2137	265-295 1/10 mm
Dropping point:	DIN ISO 2176	140 °C
NLGI number:	DIN 51818	2
Brief description:	DIN 51502	KF2G-20

Cont. Part-No.

400 g 3552

1 kg 3553

5 kg 3554

25 kg 3555

50 kg 3556

180 kg 3557

**Multipurpose Grease | Mehrzweckfett**

High-performance Multipurpose grease for lubricating plain and roller bearings under normal and high loads. Suitable as a universal grease for motor vehicles and for general machine lubrication. Multipurpose Grease ensures long-term lubrication, has good sealing properties, is resistant to damp and dusty environments and moves well in central lubrication systems. Cold and hot water resistant, friction and wear reducing, high pressure and oxidation resistant, work stable as well as protecting from corrosion.

Area of use

Used for motor vehicles, construction, agricultural machinery, and used in industry. The wide operating temperature range and the high resistance to water reduce the diversity of products required.

Feature	Standard	Value
Viscosity at 40 °C:	ASTM D 7042-04	100 mm ² /s
Viscosity at 100 °C:	ASTM D 7042-04	10,5 mm ² /s
Flash point:	DIN ISO 2592	240 °C
Pour point:	DIN ISO 3016	-24 °C
Worked penetration:	DIN ISO 2137	275-290 1/10 mm
Dropping point:	DIN ISO 2176	190 °C
NLGI number:	DIN 51818	2
Brief description:	DIN 51502	K2K-30

Roller Bearing Grease KP2K-30 | Wälzlagerfett KP2K-30

High-quality, lithium-calcium soap grease for lubricating roller and plain bearings at increased temperatures and under extreme loads. As well as anti-corrosion and anti-oxidant additives, this grease also contains EP additives which give it optimum lubrication properties. The product is still fully effective in the presence of up to 20% water.

Area of use

For the assembly, maintenance, and repair of motor vehicles, machine tools, construction machinery and presses. For high loaded bearings and joints, splined shafts, threads, and guides.

Feature	Standard	Value
Viscosity at 40 °C:	ASTM D 7042-04	200 mm ² /s
Flash point:	DIN ISO 2592	242 °C
Pour point:	DIN ISO 3016	-24 °C
Worked penetration:	DIN ISO 2137	275-295 1/10 mm
Dropping point:	DIN ISO 2176	190 °C
NLGI number:	DIN 51818	2
Brief description:	DIN 51502	KP2K-30

Cont.	Part-No.
15 kg	4192
25 kg	4193
50 kg	4194
180kg	4195



HGV Long-term Grease KP2K-35 | LKW Langzeitfett KP2K-35

Extremely high-performance roller bearing grease, which has been specially developed to meet the difficult demands set by machines and devices used in commercial vehicles, construction machinery, agriculture, and forestry. It contains highly effective additives for corrosion/oxidation protection and extreme pressure, which ensure optimal lubrication even under the most extreme conditions and high pressures. The lubrication intervals can be extended due to the extremely adhesive lubricating film.

Area of use

For use in difficult conditions and under high pressure loads, including dusty and damp ambient conditions. For the lubrication of heavy-duty roller bearings and plain bearings in machines and devices used in commercial vehicles, construction machinery, agriculture, and forestry.

Feature	Standard	Value
Viscosity at 40 °C:	ASTM D 7042-04	150 mm ² /s
Flash point:	DIN ISO 2592	240 °C
Pour point:	DIN ISO 3016	-24 °C
Worked penetration:	DIN ISO 2137	275-295 1/10 mm
Dropping point:	DIN ISO 2176	190 °C
NLGI number:	DIN 51818	2
Brief description:	DIN 51502	KP2K-35

Cont.	Part-No.
400 g LS	3348
5 kg	6637
25 kg	6638



Heavy Duty Grease KPF2N-20 | Schwerlastfett KPF2N-20

Lithium soap grease is resistant to aging and has excellent corrosion and wear protection properties as well as containing extreme pressure additives. The high proportion of solid lubricant provides very good emergency running properties, particularly with loss lubrication. Due to the proportions of solid lubricants, extreme pressure and adhesive additives it contains, it is also very good to use in plain and roller bearings in the most extreme conditions.

Area of use

Specifically developed for use in roller bearings in heavy industry (e.g. mining and cranes), which are subject to heavy loads with low to normal engine speeds, even in humid and dusty conditions.

Feature	Standard	Value
Viscosity at 40 °C:	ASTM D 7042-04	205 mm ² /s
Viscosity at 100 °C:	ASTM D 7042-04	16,0 mm ² /s
Flash point:	DIN ISO 2592	248 °C
Pour point:	DIN ISO 3016	-18 °C
Worked penetration:	DIN ISO 2137	275-295 1/10 mm
Dropping point:	DIN ISO 2176	190 °C
NLGI number:	DIN 51818	2
Brief description:	DIN 51502	KPF2N-20

Cont.	Part-No.
25 kg	4185



Cont. Part-No.

400 g	3520
1 kg	3530
5 kg	3540
25 kg	3550
50 kg	3551

LM 47 Long-Life Grease + MoS₂ | LM 47 Langzeitfett + MoS₂

High quality special grease. The MoS₂ content provides the selected base grease with outstanding lubricity and high performance properties that normal grease simply does not have. During operation, a permanently adhering, ultra-thin molybdenum disulfide film forms on the sliding points. This film retains its lubricating action for a long time even after the grease supply completely fails. Extremely long lasting lubricity, transportable in central lubrication systems.

Area of use

For general use under extreme conditions. For the assembly, maintenance and repair of motor vehicles, machine tools, construction machinery and presses. For high loaded bearings and joints, splined shafts, threads and guides. Suitable for constant velocity (CV) joints.

Feature	Standard	Value
Viscosity at 40 °C:	ASTM D 7042-04	105 mm ² /s
Flash point:	DIN ISO 2592	220 °C
Pour point:	DIN ISO 3016	-24 °C
Worked penetration:	DIN ISO 2137	280-300 1/10 mm
Dropping point:	DIN ISO 2176	190 °C
NLGI number:	DIN 51818	2
Brief description:	DIN 51502	KPF2K-30



Cont. Part-No.

5 kg	4714
25 kg	4715

Viscous Grease ZS K00K-40 | Fließfett ZS K00K-40

Lithium soap grease made from carefully selected raw materials and additives. It is characterized by its ideal lubricity, water resistance, adhesiveness, and high-pressure resistance.

Area of use

Especially suited for truck central lubrication systems. As normal in viscous greases, comply with the transmission and bearing manufacturers' operating instructions.

Feature	Standard	Value
Viscosity at 40 °C:	ASTM D 7042-04	50 mm ² /s
Viscosity at 100 °C:	ASTM D 7042-04	6,5 mm ² /s
Flash point:	DIN ISO 2592	184 °C
Pour point:	DIN ISO 3016	-36 °C
Worked penetration:	DIN ISO 2137	430-460 1/10 mm
Dropping point:	DIN ISO 2176	170 °C
NLGI number:	DIN 51818	00/000
Brief description:	DIN 51502	K00/000K-40



LM 50 Litho HT

LM 50 Litho HT is a work stable, water-resistant, oxidation and corrosion resistant, high-performance lithium-complex soap grease. It ensures a very high standard of wear protection and a high load-carrying capacity.

Area of use

Used for lubricating high loaded plain and roller bearings such as release bearings, clutches and wheel hubs or grease-lubricated industrial transmissions.

Feature	Standard	Value
Viscosity at 40°C:	ASTM D 7042-04	150 mm²/s
Viscosity at 100°C:	ASTM D 7042-04	13,0 mm²/s
Flash point:	DIN ISO 2592	246°C
Pour point:	DIN ISO 3016	-24°C
Worked penetration:	DIN ISO 2137	275-290 1/10 mm
Dropping point:	DIN ISO 2176	290°C
NLGI number:	DIN 51818	2
Brief description:	DIN 51502	KP2P-30

Cont.	Part-No.
400 g	3406
1 kg	3407
5 kg	3400
25 kg	3405



Litho HT + MoS₂

Litho HT + MoS₂ is a work stable, water-resistant, oxidation and corrosion resistant, high-performance lithium-complex soap grease. It ensures a very high standard of wear protection and a high load carrying capacity. During operation, a permanently adhering, ultra-thin molybdenum disulfide film forms on the sliding points. This film retains its lubricating action for a long time even after the grease supply completely fails.

Area of use

For lubrication of mechanically high loaded plain and roller bearings such as clutch bearings, couplings, or industrial gearboxes.

Feature	Standard	Value
Color/appearance:		grey-black
Thickener:		lithium-complex soap
Operating temperature range:		-30 to +160°C short term +200°C
NLGI number:	DIN 51818	2
Worked penetration:	DIN 51804	275 - 290 1/10 mm
Dropping point:	DIN ISO 2176	290°C
Base oil Viscosity +40°C:	DIN 51562	320 mm²/s
Brief description:	DIN 51502	KPF2P-30

Cont.	Part-No.
1 kg	2340



High Temperature Grease PU2EP | Hochtemperaturfett PU2EP

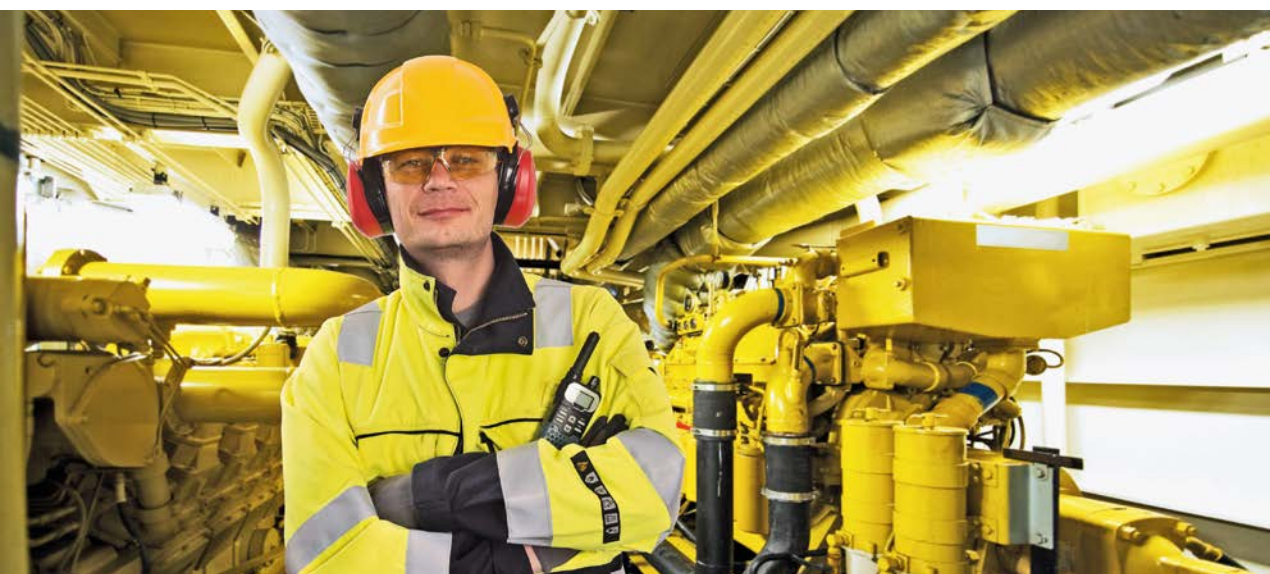
The proportion of synthetic base oils gives High Temperature Grease PU2EP outstanding thermal stability and excellent lubricating properties over a wide temperature range. The use of selected additives greatly enhances its resistance to aging as well as its protection against wear and corrosion. Its chemically active extreme pressure additives are effective even under extreme loads. In addition, it is resistant to diluted aqueous acids and alkalis.

Area of use

Particularly suitable for long-term lubrication with low and extremely high operating temperatures of high-loaded plain and roller bearings, joints, slide sections, hinges, and guides.

Feature	Standard	Value
Viscosity at 40°C	ASTM D 7042-04	360 mm²/s
Viscosity at 100°C	ASTM D 7042-04	24,5 mm²/s
Flash point	DIN ISO 2592	306°C
Pour point	DIN ISO 3016	-12°C
Worked penetration:	DIN ISO 2137	275-295 1/10 mm
Dropping point:	DIN ISO 2176	265°C
NLGI number	DIN 51818	2
Brief description:	DIN 51502	KEP2R-20

Cont.	Part-No.
25 kg	6620



Cont.	Part-No.
1 l	6932
5 l	6933
60 l	8847*
200 l	8848*



Radiator Antifreeze RAF 11 | Kühlerfrostschutz KFS 11

Radiator Antifreeze RAF 11 is a combination of active agents which is formulated using a selection of inhibitors to provide outstanding protection against frost, corrosion and overheating. Radiator Antifreeze RAF 11 is an amine-, nitrite- and phosphate-free radiator antifreeze based on ethylene glycol. Adding the correct amount to the coolant water provides reliable vehicle performance all year round.

Area of use

Used for all cooling systems and engines (including aluminum engines) in cars, commercial vehicles, buses, agricultural machines as well as stationary engines and equipment that require a radiator antifreeze of this quality.

Feature	Standard	Value
Base:		Ethylene glycol with inhibitors
Color/appearance:		blue
Density at 20°C:		1,06 – 1,14 g/cm ³
Flash point:		< 109°C
Freezing point for mixing ratio with water:	1:0,6	-50°C
	1:1	-40°C
	1:1,5	-27°C
	1:2	-20°C

Recommendations

Behr; BMW GS 94000; CUMMINS 85T8-2; MB 325.0; MB 325.2; Alfa Romeo 9.55523; Chrysler MS-7170; Fiat 9.55523; Lanca 9.55523; Iveco Standard 18-1830; Volvo Cars 128 6083/002; Opel/GM GME L1301; Saab 6901 599; Saturn; JI Case JIC-501; Lada TTM VAZ 1.97.717-97; MAN 324 Typ NF; MTU MTL 5048; Perkins; Porsche TL-774 C; Toyota Motor Corporation; Volvo Construction 128 6083/002; Volvo Trucks 128 6083/002; VW-Bezeichnung G11; Audi TL-774 C; Seat TL-774 C; Skoda TL-774 C; VW TL-774 C

Cont.	Part-No.
1 l	6934
5 l	6935
60 l	8842*
200 l	8843*



Radiator Antifreeze RAF 12 Plus | Kühlerfrostschutz KFS 12 Plus

Radiator Antifreeze RAF 12 Plus is a combination of active agents based on ethylene glycol with an ingenious OAT inhibitor formulation which has been specially developed for modern aluminum, high-performance engines. Radiator Antifreeze RAF 12 Plus provides outstanding protection against frost, corrosion, and overheating and does not contain amines, nitrites, phosphates, borates, or silicates. Adding the correct amount to the coolant water provides reliable vehicle performance all year round.

Area of use

Used for all cooling systems and engines, particularly aluminum high-performance engines in cars, commercial vehicles, buses, agricultural machines as well as stationary engines and equipment that require a radiator antifreeze of this quality.

Feature	Standard	Value
Base:		Ethylene glycol with inhibitors
Color/appearance:		red
Density at 20°C:		1,113 g/cm ³
Flash point:		115°C
Freezing point for mixing ratio with water:	1:0,6	-50°C
	1:1	-40°C
	1:1,5	-27°C
	1:2	-20°C

Recommendations

Caterpillar/MAK A4.05.09.01; Claas; Cummins IS series u N14; MB 325.3; Detroit Diesel Power Cool Plus; Deutz 0199-99-1115/6; Deutz-MWM 0199-99-2091/8; Fendt; Case New Holland MAT3624; Ford WSS-M97B44-D; Chevrolet; Opel/GM GMW 3420; Saab GM 6277M/B040 1065; Saturn; Vauxhall GME L 1301; Vauxhall GM 6277M/B040 1065; Hitachi; Isuzu; Jenbacher TA 1000-0201; John Deere JDM H5; Irisbus Karosa; Kobelco; Komatsu 07.892 (2009); Liebherr MD1-36-130; MAN 324 Typ SNF; MAN B&W AG D36 5600; MAN Semt Pielstick; Mazda MEZ MN 121 D; MG-Motors Rover; Mitsubishi Heavy Industry (MHI); MTU MTL 5048; DAF 74002; Leyland Trucks DW03245403; Renault-Nissan Renault RNUR 41-01-001/- -S Type D; Suzuki; Santana Motors; Jaguar CMC 8229; Jaguar WSS-M97B44-D; Land Rover WSS-M97B44-D; Thermo King; Ulstein Bergen 2, 13.01; Mack 014 GS 17009; Volvo Penta 128 6083/002; Renault Trucks 41-01-001/- - S Type D; Volvo Construction 128 6083/002; VW-Bezeichnung G12/G12+; Audi TL-774D/F; Seat TL-774D/F; Skoda TL-774D/F; Skoda 61-0-0257; VW TL-774D/F; Wärtsilä SAMC Diesel DLP799861; Wärtsilä 32-9011; Waukesha; Yanmar

Cont.	Part-No.
200 l	8819*



Coolant Ready Mix

Coolant Ready Mix is a substance combination with components that protect against freezing and corrosion. It allows reliable vehicle operation as it prevents the coolant system from freezing or overheating throughout the entire year.

Area of use

Used for all cooling systems and engines, particularly aluminum high-performance engines in cars, commercial vehicles, buses, agricultural machines as well as stationary engines and equipment that require a radiator antifreeze of this quality.

Feature	Standard	Value
Base:		ethylene glycol, water
Color/appearance:		blue
Density at 20°C:		1,05 g/cm ³
Freezing point:		-12°C
Solubility:		soluble in water

*not available in Germany and Austria



Coolant Ready Mix RAF11

Coolant Ready Mix RAF11 is a ready-to-use mixture based on ethylene glycol. The antifreeze agent contains no amines, nitrites or phosphates and offers excellent protection against freezing, corrosion and overheating thanks to its special inhibitors. This results in reliable vehicle operation throughout the entire year.

Area of use

Suitable for all cooling systems and engines (including aluminium engines) in passenger vehicles, commercial motor vehicles, buses, agricultural machinery and stationary engines/machines where coolant system protection of this quality is required.

Feature	Standard	Value	Recommendations
Base:		Ethylene glycol with inhibitors	Behr; BMW GS 94000; CUMMINS 85T8-2; MB 325.0; MB 325.2; Alfa Romeo 9.55523; Chrysler MS-7170; Fiat 9.55523; Lanca 9.55523; Iveco Standard 18-1830; Volvo Cars 128 6083/002; Opel/GM GME L1301; Saab 6901 599; Saturn; JI Case JIC-501; Lada TTM VAZ 1.97.717-97; MAN 324 Typ NF; MTU MTL 5048; Perkins; Porsche TL-774 C; Toyota Motor Corporation; Volvo Construction 128 6083/002; Volvo Trucks 128 6083/002; VW-Bezeichnung G11; Audi TL-774 C; Seat TL-774 C; Skoda TL-774 C; VW TL-774 C
Color/appearance:		blue	
Density at 20 °C:		1,05 g/cm ³	
Flash point:		> 100 °C	
Frost and overheating protection:		-20 to +104 °C	

Cont.	Part-No.
5 l	8809*
20 l	8822*
200 l	8823*



Universal Radiator Antifreeze GTL 11 | Universal Kühlerfrostschutz GTL 11

Universal Radiator Antifreeze GTL 11 is a ready-to-use mixture based on ethylene glycol. The antifreeze contains no amines, nitrites or phosphates and offers ideal protection from frost, rust and overheating through its special inhibitor formulation. It consequently provides reliable vehicle operation for use during the whole year.

Area of use

Used for all cooling systems and engines (including aluminum engines) in cars, commercial vehicles, buses, agricultural machines as well as stationary engines and equipment that require a cooling system protectant of this quality.

Feature	Standard	Value	Recommendations
Base:		Ethylene glycol with inhibitors	Behr; BMW GS 94000; CUMMINS 85T8-2; MB 325.0; MB 325.2; Alfa Romeo 9.55523; Chrysler MS-7170; Fiat 9.55523; Lanca 9.55523; Iveco Standard 18-1830; Volvo Cars 128 6083/002; Opel/GM GME L1301; Saab 6901 599; Saturn; JI Case JIC-501; Lada TTM VAZ 1.97.717-97; MAN 324 Typ NF; MTU MTL 5048; Perkins; Porsche TL-774 C; Toyota Motor Corporation; Volvo Construction 128 6083/002; Volvo Trucks 128 6083/002; VW-Bezeichnung G11; Audi TL-774 C; Seat TL-774 C; Skoda TL-774 C; VW TL-774 C
Color/appearance:		blue	
Density at 20 °C:		1,0 g/cm ³	
Flash point:		> 100 °C	
Frost and overheating protection:		-40 to +109 °C	

Cont.	Part-No.
200 l	8850



BRAKE FLUID

Brake Fluid DOT 4 | Bremsflüssigkeit DOT 4

Brake Fluid DOT 4 is a synthetic brake fluid based on glycol ethers, alkyl polyglycols and glycol ether esters. It contains inhibitors to prevent the corrosion of metallic brake components and to reduce oxidation at increased temperatures. This means that no acid-containing decomposition products are able to form. Brake Fluid DOT 4 was specially developed to extend the operating life of components in the hydraulic brake and clutch systems of motor vehicles. It has a high wet and dry boiling point, thus ensuring safe braking even after the absorption of some moisture over an extended period of use. Special moisture scavengers help to prevent against the formation of steam bubbles. Brake Fluid DOT 4 is also ideally suited for use in ABS brake systems.

Area of use

Ideally suited for use with all disk and drum brake systems, as well as motor vehicle clutch systems for which a synthetic brake fluid is prescribed. The specifications from the automobile manufacturer must be followed!

Feature	Standard	Value
Color/appearance:		amber, colourless
ERBP:	ISO 4925.6.1	> 260 °C
ERBP, wet:	ISO 4925.6.1	> 155 °C

Cont.	Part-No.
250 ml	3091*
500 ml	3093*

Cont. Part-No.
400 ml 5168



Pro-Line Intake Cleaner Diesel | Pro-Line Ansaug System Reiniger Diesel

Special active solvent with a high-tech additive combination for removing typical contamination and deposits found in the diesel intake and throttle valve areas. Dissolves and removes all greasy deposits and contaminants such as oil, resins, adhesive residues, etc. Ensures operability of all moving parts and reduces fuel consumption. Increases the reliability of diesel-powered engines. Recommended for preventative use during an inspection. Suitable for vehicles with EGR (exhaust gas recirculation) valve and DPF (diesel particulate filter).

Area of use

For cleaning the entire intake system. Use of the cleaner is recommended during every inspection in order to prevent heavy deposits. Only suitable for use in diesel engines.

Feature	Standard	Value
Base:		mixture of solvents
Color/appearance:		amber/cloudy
Form:		liquid/aerosol
Density:		0,831 g/ml

Cont. Part-No.
1 l 5169



Pro-Line Diesel Particulate Filter Cleaner | Pro-Line Dieselpartikelfilter-Reiniger

Highly effective fluid for cleaning clogged passenger car diesel particulate filters when installed. Dissolves contaminants in diesel particulate filters. Secures optimum vehicle handling, engine performance and low fuel consumption. Regular cleaning in combination with flushing can help avoid expensive repair costs.

Area of use

For cleaning the diesel particulate filter (DPF / FAP) in installed condition.

Feature	Standard	Value
Base:		cleaning, carrier liquid
Color/appearance:		blue, clear
Form:		liquid
Density at 15 °C:		1,005 g/ml

Cont. Part-No.
500 ml 5171



Pro-Line Diesel Particulate Filter Purge | Pro-Line Dieselpartikelfilter-Spülung

Highly effective cleaning and neutralization fluid required after cleaning the diesel particulate filter with Pro-Line Diesel Particulate Filter Cleaner. Pro-Line Diesel Particulate Filter Purge washes out the soot dissolved by the cleaner and distributes it in the diesel particulate filter so that it can be burned off with normal regeneration. The cleaner is neutralized by the Purge. This product is also used with the diesel particulate filter installed. Problems with clogged diesel particulate filters mostly affect vehicles driven short distances. That means the interval for cleaning with Pro-Line Diesel Particulate Filter Cleaner and Purge is very much dependent on the use of the vehicle. Regular cleaning can help reduce running costs. No more need for the usual and costly business of replacing the diesel particulate filter.

Area of use

For rinsing the diesel particulate filter (DPF / FAP) in installed condition after cleaning with Pro-Line Diesel Particulate Filter Cleaner.

Feature	Standard	Value
Base:		flushing, carrier liquid
Color/appearance:		blue, clear
Form:		liquid
Density at 15 °C:		1,000 g/cm³

Pro-Line Truck Diesel Particulate Filter Cleaner | Pro-Line Truck Dieselpartikelfilter-Reiniger

Soiled diesel particulate filters increase the exhaust back pressure. As a result, the engine performance is reduced and the fuel consumption increases. The highly effective additive combination supports the cleaning of the diesel particulate filter when removed. Soiling in the diesel particulate filter is released, thereby sparing you the usual exchange. The operating costs can hereby be reduced.

Area of use

For commercial vehicle diesel engines with removed diesel particulate filter.

Feature	Standard	Value
Solubility in water:		miscible
Color/appearance:		light yellow
Form:		liquid
Density at 20 °C:		1,029 g/cm ³

Cont. Part-No.

5 l 5037



Antifreeze for Pneumatic Brakes | Frostschutz für Druckluftbremsen

Antifreeze for pneumatic brakes is a combination of active agents consisting of aliphatic alcohols and corrosion inhibitors. Ethanol-free. Prevents condensation water from freezing in the pneumatic brake system. Protects the brake system against corrosion and improves the lubrication of the valves. Prevents hardening of the rubber components. Ensures the function of the brake system even at low temperatures.

Area of use

Antifreeze for pneumatic brakes is used to protect and care for the pneumatic brake system. Suitable for all pneumatic brake systems that have a tank for filling the antifreeze installed in the brake system.

Feature	Standard	Value
Color/appearance:		colourless, clear
Form:		liquid
Flash point:		12 °C
Density at 15 °C:		0,798 g/cm ³
Solubility in water:		miscible

Cont. Part-No.

1 l 1828



THE VERY NEW ACTUATOR FOR ALL PRO-LINE SERVICE PRODUCTS

Simple to apply, they offer high coverage yet are economical thanks to the new spray head, which allows both extensive and precise spot application. Sprays overhead.



Cont. 400 ml Part-No. 7390



Pro-Line Rapid Rust Solvent | Pro-Line Schnell-Rostlöser

Extra fast acting rust remover with excellent penetration qualities. Loosens seized bolts and nuts in no time. It penetrates even the closest tolerances and loosens rust by capillary action. Other unsolvable rusted bolts are loosened in no time. Dissolves dirt and protects against corrosion by water displacement. The rapid creeping, low friction and excellent penetrating properties support the loosening of the components.

Area of use

The excellent properties offer a wide range of applications in operation, workshop, motor vehicles and all appliances in household and hobby.

Feature	Standard	Value
Base:		combination of oils, agents
Color/appearance:		colourless
Density at 20°C:	DIN 51757	0,829 – 0,86 g/ml
Operating temperature range:		-40 to +140 °C

Cont. 400 ml Part-No. 7388



Pro-Line Tacky Lube Spray | Pro-Line Haftschrmer Spray

High-quality synthetic, thermally stable, extremely adherent and centrifuge-resistant lubricant compound. After evaporation of the solvent an extremely adherent lubricant film remains. Due to the special formulation, ideal corrosion protection and excellent sealing characteristics are ensured. The high load carrying capacity and the long-term effect provides all components with the optimal protection even under extreme conditions.

Area of use

For preventive interval lubrication of components in the automotive and industrial sector, such as hinges, joints, linkages, levers, bolts, guides, slide rails, door bolts, bearings and spring balancers.

Feature	Standard	Value
Base:		synthetic oil, mixed polymers
Color/appearance:		pale yellow
Propellant:		Propane, Butane
Protects against corrosion:		5 cycles of condensation water in alternating climate, no corrosion

Pro-Line Ceramic Spray | Pro-Line Keramik-Spray

Covers about 90 % of all standard paste applications. Extremely high temperature and high pressure resistant lubrication, release resistant and anti-corrosion paste. Prevents running-in damage, stick-slip (stick-slip effect), wear and seizing or cold welding. Particularly suitable for low-speed and/or oscillating movements. Has an excellent hot and cold water resistance, as well as a very good resistance to acids and alkalis. Temperature resistant up to 1400 °C. Metal-free.

Area of use

For the lubrication of highly loaded sliding surfaces of all kinds e.g. screw, plug and bayonet connections of steel and non-ferrous metals. For the separation of temperature-stressed components e.g. of combustion engines, turbines and motor vehicle brake systems. Corrosion protection on screws, pins, bolts, flanges, spindles, and fittings.

Feature	Standard	Value
Base:		mineral oil, solid lubricants
Color/appearance:		grey
Density at 20 °C:		0,64 g/ml
Operating temperature range:		-30 to +250 °C

Cont. Part-No.

400 ml **7385**



Pro-Line PTFE Powder Spray | Pro-Line PTFE-Pulver-Spray

Greaseless lubricant and release agent based on PTFE (Teflon or Polytetrafluorethylene). The dry lubricant does not attract dirt and dust. It eliminates squeaks, creaks and stiffness, and provides long-lasting protection against wear.

Area of use

Used for lubrication of moving parts like slide rails, hinges, closing parts, belt mechanics, etc., as a release agent or for noise removal of panelling made from nearly all materials. Particularly suitable in applications where oil and silicone containing lubricants disturb the post-processing.

Feature	Standard	Value
Base:		PTFE
Color/appearance:		white
Density:		0,58 g/ml
Operating temperature range:		-40 to +250 °C

Cont. Part-No.

400 ml **7384**



Pro-Line Silicone Spray | Pro-Line Silikon-Spray

Silicone spray is a mineral oil and grease-free release agent, lubricant and preservative, which is silicone-based. Suitable for indoor and outdoor applications. Protects, lubricates, maintains and insulates. Does not stain. Acts anti-static (dust repellent). It eliminates squeaks, creaks and stiffness and provides long-lasting protection against wear. Versatile, especially in work areas where oil or grease containing lubricants are undesirable, or interfere with the subsequent post-processing.

Area of use

Versatile use such as for plastics, rubber, metal, wood, etc. Eliminates squeaks, creaks and stiffness and provides long-lasting protection. Serves as an assembly aid, e.g. for hose connections and seals.

Feature	Standard	Value
Base:		silicone oil, special petrol
Color/appearance:		colourless
Density:		0,58 g/cm³

Cont. Part-No.

400 ml **7389**



Pro-Line Electronic-Spray | Pro-Line Electronic-Spray

Fully synthetic, plastic-compatible electronic spray designed for cleaning and maintaining dirty electrical parts. Protects electronic parts such as contacts from corrosion by displacing moisture and water. The oxide and sulphide build-ups are infiltrated, this reduces contact resistances, the electronic parts are protected and the operational safety ensured. Plastic and rubber parts are not affected. The quick-drying formula leaves no residue and is silicone free.

Area of use

Used for maintenance and care (clean and protect) of all electrical components on a vehicle, such as plug and terminal connections, lamp sockets, cable distributors, switching elements, relays, distributors, breakers, starters, alternators, fuses, battery terminals, antennas and lubrication of fine-mechanical parts.

Feature	Standard	Value
Base:		synthetic oil
Density at 20 °C:	DIN 51 757	0,89 g/cm³
Flash point:	DIN ISO 2592	201 °C
Pour point:	DIN ISO 3016	-53 °C
Specific electrical volume resistance at 20 °C:		1,6 • 10 ⁹ Ohm • cm

Cont. Part-No.

400 ml **7386**



Cont. Part-No.

400 ml 3379

**Pro-Line Injector Dismantling Aid | Pro-Line Injektorenlöser**

Special heavy-duty solvent for seized injectors, glow and spark plugs. The solvent undermines the dirt or corrosion and enables easy removal. The outstanding cleaning properties allow stubborn oil residues, resinification and encrusted dirt on these components to be removed easily.

Area of use

For dismantling seized injectors, glow and spark plugs. Undermines dirt and corrosion. Outstandingly suitable for removing caked oil residues, resinification and encrusted dirt.

Feature	Standard	Value
Base:		mixture of solvents
Color/appearance:		yellow
Form:		liquid /aerosol
Density:		0,87 g/cm ³
Flash point:		-19°C

Cont. Part-No.

20 g 3381

**Pro-Line Injector and Glow Plug Grease | Pro-Line Injektoren- und Glühkerzenfett**

Partly synthetic, metal-free special grease for lubricating injectors and glow plugs before installation in the engine. Blocks the ingress of moisture and so prevents corrosion of the injector and glow plug. The special grease also makes disassembly much easier.

Area of use

For the lubrication of all kinds of high-load sliding surfaces and separating components subject to heat stress such as injectors, glow plugs, pins and bolts.

Feature	Standard	Value
Base:		synthetic oil, mineral oil
Color/appearance:		white
Form:		paste
Density at 20°C:		1,09 g/cm ³
Operating temperature range:		-40 to +1400°C

Cont. Part-No.

400 ml 3391
5 l 3395**LM-40 Multi-Purpose Spray | LM 40 Multi-Funktions-Spray**

LM-40 Multi-Purpose Spray is a combination of different agents with excellent corrosion protection, rust removing, and water-displacement properties as well as an outstanding lubricating effect. In addition to this, LM-40 Multi-Purpose Spray also improves electrical conductivity at contacts and removes dirt and stubborn oil and grease residues. Due to the combination of agents in the product, moving parts can be kept operational in all areas. The product gives off a pleasant aroma due to the coconut fragrances contained in the formulation.

Area of use

The outstanding multifaceted properties of LM-40 Multi-Purpose Spray make it suitable for thousands of applications in the home, hobby, workshop, and industry.

Feature	Standard	Value
Color/appearance:		brown
Form:		liquid
Density at 20°C:		0,84 g/cm ³
Flash point:		62°C
Solubility in water:		soluble

Cont. Part-No.

400 ml 1540

**Zinc Spray | Zink-Spray**

Top-grade primer made from 99% pure zinc to prepare for final painting. Zinc Spray is highly resistant and flexible, and actively protects metal parts by means of electrochemical processes. With active corrosion protection and temperature-resistant up to approx. 500°C. Extremely high zinc content, attractive appearance.

Area of use

Protects iron and steel components, especially weld seams, from rust and corrosion. For repairing damaged galvanised surfaces. Base coat and protection of vehicle-body components and exhaust systems.

Feature	Standard	Value
Color/appearance:		grey
Zinc purity:		> 99 %
Proportion of zinc:		> 99 % (as a dry film)
Operating temperature range:		up to +500°C
Drying time:		8 min (dust dry) 20 – 30 min (touch dry)
Through-drying:		48 h

Start Fix

Assists reliable starting in cold or damp conditions when the spark plugs are wet and battery charge is low. Start Fix consists of a combination of particularly highly flammable substances and is ideal for all gasoline and diesel engines. Helps internal combustion engines to fire, even at very low temperatures. Preserves the battery and is economic to use.

Area of use

For all four- and two-stroke petrol and diesel engines. For difficulties in starting due to humid weather conditions, cold, weak battery; fault in the system or wet spark plugs. Start Fix is used in passenger vehicles, heavy goods vehicles and buses; motorbikes, boat engines, construction machinery, forklift trucks and other floor conveyors; tractors, small agricultural implements, lawnmowers, snow ploughs, motor saws, pumps, and all types of mobile units for drives, compressed air or electrical power generation etc.

Feature	Standard	Value
Base:		ether, anticorrosive additive
Propellant:		propane, butane under nitrogen

Cont. Part-No.

200 ml **1085**



Rapid Cleaner | Schnell-Reiniger

Rapid Cleaner is a combination of selected acetone-free solvents for rapid and efficient cleaning and degreasing of structural components in motor vehicles and industrial applications. The low surface tension of this product means that Rapid Cleaner has excellent penetration properties and therefore easily dissolves oil, grease, resin, tar residues and contaminants, even in hidden areas. After the solvent has evaporated, the remaining surface is free from grease and residues.

Area of use

Because of its universal application, Rapid Cleaner has many areas of use in industry, workshop, agriculture, and for hobbies etc. Brakes: Drum and disc brakes, linings, shoes, cylinders, springs and pads. Clutches: Clutch linings, pressure plates, and clutch components in general. Transmissions: Automatic gear change, planet-wheel carriers, oil pumps, brake bands, couplings, and gearwheels. Assembly and repair: Carburetors, petrol pumps, engine components, electrical systems such as controllers, generators/alternators, starters. Removes oil and grease spots from floor coverings, materials and linings.

Feature	Standard	Value
Base:		solvent-mixture, acetone-free
Color/appearance:		colourless
Form:		liquid
Density:	DIN 51757	0,72 g/cm ³
Flash point:		< 21 °C
Propellant:		CO ₂

Cont. Part-No.

500 ml **3318**

5 l **3319**

60 l **3333**

196 l **4013**

Universal-Cleaner Extreme | Universal-Reiniger extrem

Universal-Cleaner Extreme is a high-alkaline, phosphate-free, quick-separating high-performance cleaning concentrate for very contaminated areas on alkaline-resistant surfaces. Due to the biodegradability of the ingredients and its quick-separating characteristics, Universal Cleaner Extreme is particularly environmentally friendly and waste water compatible.

Area of use

For quick and easy removal of stubborn organic dirt, such as graphite dust, brake and rubber particles, oils, greases, polymers, bird droppings, dead insects etc. For use in the following market segments: Industrial production facilities, bodywork and automotive construction, plastic and stone industry, shipping and shipbuilding, breweries and beverage trade, metal industry and mechanical engineering, storage and transportation, road construction and hydraulic engineering, agriculture, and domestic use.

Feature	Standard	Value
Base:		nonionic tensides, solubility promoters, complexing agents, anti-corrosion agents, scents, alkalis
Color/appearance:		green
Form:		liquid
Odor:		fruity
Density at 20 °C:		1,05 g/cm ³
Boiling point:		> 97 °C
Solubility in water:		mixable

Cont. Part-No.

11 kg **8190**

35 kg **8191**



Cont. Part-No.

11 kg 8192
35 kg 8193**Acid Rim Cleaner | Felgen-Reiniger sauer**

Acid Rim Cleaner is an acidic special cleaning agent for quickly removing heavy inorganic contamination. Even the most extreme contamination on rims (such as burned-in brake particles and stubborn environmental pollution) is removed quickly, thoroughly and with minimal contact thanks to the strong mineral acid base with no added hydrofluoric acids. Acid Rim Cleaner **reduces the work needed for rim cleaning** to an absolute minimum. Acid Rim Cleaner is suitable for use in **biological industrial water treatment facilities**, when used according to the applicable discharge conditions. Acid Rim Cleaner also removes even the most extreme contamination from tiles, machines, vehicles etc., such as cement residue, lime and boiler scale.

Area of use

Specially designed for cleaning and maintaining the value of acid-resistant coated alloy wheel rims, steel wheel rims and hubcaps etc. Acid Rim Cleaner can also be used to remove even the most extreme contamination in washing facilities, on construction vehicles and in industrial areas, such as cement residue, lime and boiler scale.

Feature	Standard	Value
Base:		hydrochloric acid, non-ionic tensides, scents
Color/appearance:		red
Form:		liquid
Density at 20 °C:	DIN 51757	1,09 g/cm ³
Solubility in water:		soluble in water

Cont. Part-No.

12,5 l 3363

Hand Cleaning Paste | Handwaschpaste

LIQUI MOLY Hand Cleaning Paste is a mild wood-flour-based cleaning agent containing substances to protect the skin. This product is neutral to the skin and does not contain solvents. The pH has been adjusted to be slightly acidic but is still within the range of neutrality for skin – a fact which has been confirmed by numerous dermatological tests. This product is based on materials taken from renewable resources. LIQUI MOLY Hand Cleaning Paste thoroughly removes even the heaviest contamination such as oils, greases, tar, bitumen and printing inks without any harm to the skin.

Area of use

For cleaning dirty hands.

Feature	Standard	Value
Color/appearance:		beige
Viscosity:		pastelike
pH value		ca. 6,5 – 7,5
Density:		0,90 g/cm ³



DPF-Probe with 5 interchangeable tips

Specially developed probe with 5 different adjustable and articulating tips made from stainless steel for application of Pro-Line Diesel Particulate Filter Cleaner and Pro-Line Diesel Particulate Filter Purge. The probe has a flexible hose connection with a length of 1 m that fits the DPF Pressurized Tank Spray Gun (part no. 7946).

Area of use

Depending on the type of vehicle, enables ideal access for cleaning Diesel Particulate Filters (DPF) of passenger car, light truck, and small commercial vehicles when the DPF is installed.

Cont.	Part-No.
1 Piece	7945

DPF Spray Probe, long (30 cm)

Straight probe with a length of 30 cm as complementary accessory to the DPF gun (part no. 7945).

Area of use

Enables access among others to vehicles of the Volkswagen Group based on the MQB platform introduced in 2013.

Cont.	Part-No.
1 Piece	20630

DPF Pressurized Tank Spray Gun

Powder-coated aluminum tank with commercially available compressed air connection and non-return valve. Filling capacity 1 liter. By means of a control valve, the amount of liquid applied can be manually adjusted. The air fed into the spray stream atomizes the liquid very finely.

Area of use

For the application of Pro-Line Diesel Particulate Filter Cleaner and Pro-Line Diesel Particulate Filter Purge with the specially developed DPF-Probe with 5 interchangeable tips (part no. 7945).

Cont.	Part-No.
1 Piece	7946

Manual Dosing Syringe 1,000 ml

Manual metering syringe with a transparent hard PVC outer tube and scale for accurate metering. Filling hard-to-access transmissions is easier with the PVC flexible tubing and bent outlet.

Area of use

For direct filling of transmissions and differentials with oils and additives.

Cont.	Part-No.
1 Piece	7989

Oil Filling Unit for Transmissions

Specially developed oil-filling unit with a 7 liter capacity. A variety of transmissions can be easily filled using the adapters. The adapters are also suitable for use with dual-clutch transmissions. The 1.6 m long filling hose makes filling easy and hassle-free.

Area of use

For accurate manual filling of transmissions and differentials with oil.

Cont.	Part-No.
1 Piece	7941

TABLE OF CONTENTS, NUMERIC



Part-No.	Description	Content	Page	Part-No.	Description	Content	Page
1020	Gear Oil (GL 4) SAE 80W	1 l	34	3299	Hydraulic Oil HLP 46 SG-Z	60 l	41
1027	Hypoid Gear Oil (GL 5) SAE 85W-140	20 l	33	3300	Hydraulic Oil HLP 100	60 l	39
1028	Hypoid Gear Oil (GL 5) SAE 85W-140	205 l	33	3301	Hydraulic Oil HLP 150	60 l	39
1030	Gear Oil (GL 4) SAE 85W-90	1 l	34	3302	Truck Gear Oil AFD SAE 60	20 l	36
1031	Hypoid Gear Oil (GL 5) SAE 85W-90	60 l	33	3318	Rapid Cleaner	500 ml	61
1033	Gear Oil (GL 4) SAE 80W	20 l	34	3319	Rapid Cleaner	5 l	61
1034	Gear Oil (GL 4) SAE 85W-90	60 l	34	3333	Rapid Cleaner	60 l	61
1035	Hypoid Gear Oil (GL 5) SAE 85W-90	1 l	33	3348	HGV Long-term Grease KP2K-35	400 g	51
1038	Gear Oil (GL 4) SAE 85W-90	205 l	34	3363	Hand Cleaning Paste	12,5 l	62
1039	Gear Oil (GL 4) SAE 80W	60 l	34	3379	Pro-Line Injector Dismantling Aid	400 ml	60
1045	Gear Oil (GL 4) SAE 85W-90	20 l	34	3381	Pro-Line Injector and Glow Plug Grease	20 g	60
1047	Hypoid Gear Oil (GL 5) SAE 85W-90	20 l	33	3387	Hypoid Gear Oil (GL 5) SAE 140W	205 l	34
1048	Hypoid Gear Oil (GL 5) SAE 80W-90	20 l	32	3391	LM-40 Multi-Purpose Spray	400 ml	60
1049	Hypoid Gear Oil (GL 5) SAE 80W-90	205 l	32	3395	LM-40 Multi-Purpose Spray	5 l	60
1055	Hypoid Gear Oil (GL 5) SAE 140W	20 l	34	3400	LM 50 Litho HT	5 kg	53
1057	Gear Oil CLP 320	20 l	36	3404	Fluorescent Leak Detector for hydraulic systems	500 ml	18
1061	Touring High Tech SHPD-Motor Oil 15W-40	20 l	24	3405	LM 50 Litho HT	25 kg	53
1062	Touring High Tech SHPD-Motor Oil 15W-40	60 l	24	3406	LM 50 Litho HT	400 g	53
1063	Touring High Tech SHPD-Motor Oil 15W-40	205 l	24	3407	LM 50 Litho HT	1 kg	53
1085	Start Fix	200 ml	61	3520	LM 47 Long-Life Grease + MoS ₂	400 g	52
1088	Touring High Tech Super SHPD 15W-40	205 l	23	3530	LM 47 Long-Life Grease + MoS ₂	1 kg	52
1096	Touring High Tech 15W-40	5 l	25	3540	LM 47 Long-Life Grease + MoS ₂	5 kg	52
1107	Hydraulic Oil HLP 32	20 l	39	3550	LM 47 Long-Life Grease + MoS ₂	25 kg	52
1108	Hydraulic Oil HLP 32	60 l	39	3551	LM 47 Long-Life Grease + MoS ₂	50 kg	52
1109	Hydraulic Oil HLP 32	205 l	39	3552	Multipurpose Grease	400 g	50
1110	Hydraulic Oil HLP 46	20 l	39	3553	Multipurpose Grease	1 kg	50
1111	Hydraulic Oil HLP 46	60 l	39	3554	Multipurpose Grease	5 kg	50
1112	Hydraulic Oil HLP 46	205 l	39	3555	Multipurpose Grease	25 kg	50
1113	Hydraulic Oil HLP 68	20 l	39	3556	Multipurpose Grease	50 kg	50
1114	Hydraulic Oil HLP 68	60 l	39	3557	Multipurpose Grease	180 kg	50
1115	Hydraulic Oil HLP 68	205 l	39	3564	Truck Gear Oil AFD SAE 60	60 l	36
1116	Hydraulic Oil HVLP 46	20 l	40	3565	Gear Oil CLP 320	60 l	36
1121	Touring High Tech Super SHPD 15W-40	20 l	23	3566	Gear Oil Synth ISO VG 220	20 l	37
1122	Touring High Tech Super SHPD 15W-40	60 l	23	3569	Gear Oil Synth ISO VG 220	60 l	37
1127	Central Hydraulic System Oil	1 l	42	3570	Gear Oil Synth ISO VG 220	205 l	37
1147	Central Hydraulic System Oil	20 l	42	3592	Hypoid Gear Oil (GL 5) SAE 80W-90	60 l	32
1148	Central Hydraulic System Oil	60 l	42	3594	Hypoid Gear Oil Truck LD 80W-90	20 l	33
1182	Fully Synthetic Hypoid-Gear Oil Truck 75W-90	20 l	32	3595	Hypoid Gear Oil (GL 5) SAE 85W-140	60 l	33
1183	Fully Synthetic Hypoid-Gear Oil Truck 75W-90	60 l	32	3597	Hypoid Gear Oil Plus (GL 5) SAE 85W-90 LS	60 l	33
1184	Fully Synthetic Hypoid-Gear Oil Truck 75W-90	205 l	32	3598	Hypoid Gear Oil Truck LD 80W-90	60 l	33
1188	Central Hydraulic System Oil	205 l	42	3599	Hypoid Gear Oil Truck LD 80W-90	205 l	33
1202	Truck Gear Oil HC (GL4) 75W-80	20 l	34	3651	Top Tec ATF 1100	1 l	31
1203	Truck Gear Oil HC (GL4) 75W-80	60 l	34	3652	Top Tec ATF 1100	5 l	31
1210	Truck Gear Oil HC (GL4) 75W-80	205 l	34	3653	Top Tec ATF 1100	20 l	31
1211	Truck Gear Oil AFD SAE 60	205 l	36	3654	Top Tec ATF 1100	60 l	31
1215	Hypoid Gear Oil Plus (GL 5) SAE 85W-90 LS	20 l	33	3655	Top Tec ATF 1100	205 l	31
1216	Hypoid Gear Oil Plus (GL 5) SAE 85W-90 LS	205 l	33	3663	Top Tec ATF 1700	1 l	31
1240	Touring High Tech 15W-40	205 l	25	3671	Top Tec ATF 1700	60 l	31
1254	Touring High Tech 20W-50	60 l	25	3695	Top Tec ATF 1700	20 l	31
1255	Touring High Tech 20W-50	5 l	25	3697	Top Tec ATF 1700	205 l	31
1257	Touring High Tech 20W-50	20 l	25	3778	Top Tec Truck 4450 15W-40	20 l	23
1258	Special UTTO SAE 10W-30	20 l	37	3779	Top Tec Truck 4450 15W-40	60 l	23
1259	Special UTTO SAE 10W-30	205 l	37	3780	Top Tec Truck 4450 15W-40	205 l	23
1260	Touring High Tech 20W-50	205 l	25	3786	Top Tec Truck 4350 5W-30	20 l	22
1296	Touring High Tech 15W-40	60 l	25	3787	Top Tec Truck 4350 5W-30	60 l	22
1298	Touring High Tech 15W-40	20 l	25	3788	Top Tec Truck 4350 5W-30	205 l	22
1407	Hypoid Gear Oil TDL SAE 75W-90	1 l	32	3794	Top Tec Truck 4050 10W-40	20 l	22
1408	Hypoid Gear Oil TDL SAE 75W-90	20 l	32	3795	Top Tec Truck 4050 10W-40	60 l	22
1540	Zinc Spray	400 ml	60	3798	Top Tec Truck 4050 10W-40	205 l	22
1660	Turbine Oil TDL 46	20 l	44	4013	Rapid Cleaner	196 l	61
1761	Diesel Anticade	5 l	15	4020	LM 145 Lubricant Compound	300 ml	45
1763	Diesel Anticade	200 l	15	4032	LM 203 MoS ₂ Anti-Friction Lacquer	300 ml	46
1828	Antifreeze for Pneumatic Brakes	1 l	57	4033	LM 203 MoS ₂ Anti-Friction Lacquer	1 kg	46
1829	Copper Paste	0,5 kg	45	4051	LM 41 MoS ₂ -Suspension	1 l	17
1879	Diesel Flow Fit K	205 l	15	4059	Gear Hydraulic Oil TO-4 SAE 30	20 l	35
2165	Hypoid Gear Oil (GL 5) SAE 85W-90	205 l	33	4060	Gear Hydraulic Oil TO-4 SAE 30	60 l	35
2336	Pro-Line Super Diesel Additiv K	20 l	14	4061	Copper Paste	1 kg	45
2340	Litho HT + MoS ₂	1 kg	53	4062	Gear Hydraulic Oil TO-4 SAE 30	205 l	35
2425	Pro-Line Engine Flush	1 l	16	4076	LM 500 Compressor Oil SAE 30	10 l	43
2428	Pro-Line Engine Flush	5 l	16	4077	LM 500 Compressor Oil SAE 30	199 l	43
2516	Pro-Line TBN-Booster	1 l	17	4089	PAG Air Conditioning Oil 100	250 ml	44
3010	LM 48 Installation Paste	50 g	45	4096	LM 48 Installation Paste	1 kg	45
3081	Copper Paste	0,25 kg	45	4098	Gear Hydraulic Oil TO-4 SAE 50	20 l	35
3091	Brake Fluid DOT 4	250 ml	55	4116	Gear Oil CLP 150	20 l	36
3093	Brake Fluid DOT 4	500 ml	55	4117	Gear Oil CLP 150	205 l	36
3122	Hypoid Gear Oil (GL 5) SAE 140W	60 l	34	4119	Gear Oil CLP 320	205 l	36
3145	Special UTTO SAE 10W-30	60 l	37	4131	Hydraulic Oil HLP 22	205 l	39
3167	Touring High Tech 20W-20	205 l	25	4132	Hydraulic Oil HLP 100	20 l	39
3175	Touring High Tech Super SHPD-Motor Oil 15W-40 TBN20	20 l	23	4133	Hydraulic Oil HLP 100	205 l	39
3178	Touring High Tech Super SHPD-Motor Oil 15W-40 TBN20	60 l	23	4134	Hydraulic Oil HLP 150	20 l	39
3211	Thinner for LM 203 MoS ₂ Anti-Friction Lacquer	1 l	46	4135	Hydraulic Oil HLP 150	205 l	39
3297	Touring High Tech SHPD-Motor Oil 15W-40 TBN20	20 l	24	4156	Hydraulic Oil HVLP 32	20 l	40
3298	Hydraulic Oil HLP 46 SG-Z	20 l	41	4159	Lubricating Oil AN 46	20 l	44

Part-No.	Description	Content	Page	Part-No.	Description	Content	Page
4160	Lubricating Oil AN 46	205 l	44	6620	High Temperature Grease PU2EP	25 kg	53
4172	Compressor Oil VDL 100	20 l	43	6628	Longtime Grease C2LP	25 kg	50
4173	Compressor Oil VDL 100	205 l	43	6637	HGV Long-term Grease KP2K-35	5 kg	51
4174	Compressor Oil VDL 150	20 l	43	6638	HGV Long-term Grease KP2K-35	25 kg	51
4185	Heavy Duty Grease KPF2N-20	25 kg	51	6642	Lubricating Grease C2S	25 kg	50
4192	Roller Bearing Grease KP2K-30	15 kg	51	6643	Turbine Oil TDL 46	60 l	44
4193	Roller Bearing Grease KP2K-30	25 kg	51	6647	Turbine Oil TDL 46	205 l	44
4194	Roller Bearing Grease KP2K-30	50 kg	51	6932	Radiator Antifreeze RAF 11	1 l	54
4195	Roller Bearing Grease KP2K-30	180 kg	51	6933	Radiator Antifreeze RAF 11	5 l	54
4209	Compressor Oil VDL 150	205 l	43	6934	Radiator Antifreeze RAF 12 Plus	1 l	54
4217	Hydraulic Oil HLP 46 SG-Z	205 l	41	6935	Radiator Antifreeze RAF 12 Plus	5 l	54
4388	Gear Hydraulic Oil TO-4 SAE 50	60 l	35	6947	Hydraulic Oil Arctic HVLP 46	20 l	41
4389	Gear Hydraulic Oil TO-4 SAE 50	205 l	35	6950	Hydraulic Oil HVLPD 46	20 l	40
4402	LM 497 Compressor Oil SAE 20W-20	10 l	43	6951	Hydraulic Oil HVLPD 46	60 l	40
4406	Hypoid Gear Oil (GL 5) SAE 80W-90	1 l	32	6952	Hydraulic Oil HVLPD 46	205 l	40
4409	LM 497 Compressor Oil SAE 20W-20	201 l	43	6957	Hydraulic Oil Arctic HVLP 46	205 l	41
4414	LM 750 Compressor Oil SAE 40	5 l	43	6964	Touring High Tech 20W-20	5 l	25
4416	LM 750 Compressor Oil SAE 40	195 l	43	6965	Touring High Tech 20W-20	20 l	25
4419	LM 750 Compressor Oil SAE 40	10 l	43	6966	Touring High Tech 20W-20	60 l	25
4424	ATF Dexron II D	20 l	31	6967	Hydraulic Oil Arctic HVLP 46	60 l	41
4430	ATF Dexron II D	205 l	31	7384	Pro-Line PTFE Powder Spray	400 ml	59
4447	Gear Hydraulic Oil TO-4 SAE 10 W	20 l	35	7385	Pro-Line Ceramic Spray	400 ml	59
4450	Gear Hydraulic Oil TO-4 SAE 10 W	60 l	35	7386	Pro-Line Electronic-Spray	400 ml	59
4451	LM 901 Compressor Oil SAE 5W-20	10 l	43	7388	Pro-Line Tacky Lube Spray	400 ml	58
4452	LM 901 Compressor Oil SAE 5W-20	201 l	43	7389	Pro-Line Silicone Spray	400 ml	59
4493	Gear Hydraulic Oil TO-4 SAE 10 W	205 l	35	7390	Pro-Line Rapid Rust Solvent	400 ml	58
4495	Gear Oil CLP 150	60 l	36	7545	Hydraulic Oil Super Arctic Oil HVLP 32	20 l	41
4708	Hypoid Gear Oil TDL SAE 75W-90	60 l	32	7546	Hydraulic Oil Super Arctic Oil HVLP 32	205 l	41
4709	Hypoid Gear Oil TDL SAE 75W-90	205 l	32	7941	Oil Filling Unit for Transmissions	1 Piece	63
4710	Hydraulic Oil HVLP 32	60 l	40	7945	DPF-Probe with 5 interchangeable tips	1 Piece	63
4711	Hydraulic Oil HVLP 32	205 l	40	7946	DPF Pressurized Tank Spray Gun	1 Piece	63
4712	Hydraulic Oil HVLP 46	60 l	40	7989	Manual Dosing Syringe 1,000 ml	1 Piece	63
4713	Hydraulic Oil HVLP 46	205 l	40	8190	Universal-Cleaner Extreme	11 kg	61
4714	Viscous Grease ZS KOOK-40	5 kg	52	8191	Universal-Cleaner Extreme	35 kg	61
4715	Viscous Grease ZS KOOK-40	25 kg	52	8192	Acid Rim Cleaner	11 kg	62
4718	Gear Oil (GL 4) SAE 80W	205 l	34	8193	Acid Rim Cleaner	35 kg	62
4719	Hydraulic Oil HLP 22	20 l	39	8563	Special Forming Oil FS 7	20 l	46
4726	Hydraulic Oil HEES 46	205 l	42	8564	Special Forming Oil FS 7	60 l	46
4737	Hydraulic Oil HEES 46	20 l	42	8568	Special Forming Oil FS 7	205 l	46
4740	Hydraulic Oil HEES 46	60 l	42	8577	Water-Soluble Forming Oil	20 l	47
4743	HGV Low Viscosity Motor Oil 10W-40	20 l	22	8583	Water-Soluble Forming Oil	205 l	47
4744	HGV Low Viscosity Motor Oil 10W-40	60 l	22	8588	Separating Oil WT01 S	20 l	47
4747	HGV Low Viscosity Motor Oil 10W-40	205 l	22	8589	Separating Oil WT01 S	205 l	47
4757	Gear Oil CLP 220	205 l	36	8809	Coolant Ready Mix RAF11	5 l	55
4759	Gear Oil CLP 220	60 l	36	8819	Coolant Ready Mix	200 l	54
4772	Multipurpose Gear Oil (GL 4) SAE 140	20 l	35	8822	Coolant Ready Mix RAF11	20 l	55
4778	Gear Oil CLP 220	20 l	36	8823	Coolant Ready Mix RAF11	200 l	55
4780	Hydraulic Oil HLP 15	60 l	39	8842	Radiator Antifreeze RAF 12 Plus	60 l	54
4790	Hydraulic Oil HLP 15	20 l	39	8843	Radiator Antifreeze RAF 12 Plus	200 l	54
4791	Hydraulic Oil HLP 15	205 l	39	8847	Radiator Antifreeze RAF 11	60 l	54
4840	Multipurpose Gear Oil (GL 4) SAE 140	60 l	35	8848	Radiator Antifreeze RAF 11	200 l	54
4852	Multipurpose Gear Oil (GL 4) SAE 140	205 l	35	8850	Universal Radiator Antifreeze GTL 11	200 l	55
4855	Gear Oil Synth ISO VG 150	20 l	37	8863	Touring High Tech Super SHPD-Motor Oil 15W-40 TBN20	205 l	23
4856	Gear Oil Synth ISO VG 150	60 l	37	8896	Touring High Tech SHPD-Motor Oil 15W-40 TBN20	60 l	24
4995	Gear Oil Synth ISO VG 150	205 l	37	8899	Touring High Tech SHPD-Motor Oil 15W-40 TBN20	205 l	24
5035	Pro-Line Diesel Stabilizer	1 l	14	20630	DPF Spray Probe, long (30 cm)	1 Piece	63
5037	Pro-Line Truck Diesel Particulate Filter Cleaner	5 l	57	20636	Hydraulic Oil HyPER SG1-32	20 l	39
5116	Hydraulic System Additive	1 l	18	20637	Hydraulic Oil HyPER SG1-32	60 l	39
5121	Anti-Bacterial Diesel-Additive	5 l	15	20638	Hydraulic Oil HyPER SG1-32	205 l	39
5123	Pro-Line Diesel Particulate Filter Protection	1 l	16	20639	Hydraulic Oil HyPER SG1-46	20 l	39
5126	Pro-Line Diesel Particulate Filter Protection	20 l	16	20640	Hydraulic Oil HyPER SG1-46	60 l	39
5131	Diesel Flow Fit K	1 l	15	20641	Hydraulic Oil HyPER SG1-46	205 l	39
5132	Diesel Flow Fit K	5 l	15	20642	Hydraulic Oil HyPER SG1-68	20 l	39
5133	Diesel Flow Fit K	20 l	15	20643	Hydraulic Oil HyPER SG1-68	60 l	39
5140	Super Diesel Additiv	5 l	14	20644	Hydraulic Oil HyPER SG1-68	205 l	39
5144	Pro-Line Diesel System Cleaner K	1 l	14				
5145	Super Diesel Additiv	50 l	14				
5146	Super Diesel Additiv	205 l	14				
5150	Anti-Bacterial Diesel-Additive	1 l	15				
5157	Anti-Bacterial Diesel-Additive	60 l	15				
5168	Pro-Line Intake Cleaner Diesel	400 ml	56				
5169	Pro-Line Diesel Particulate Filter Cleaner	1 l	56				
5171	Pro-Line Diesel Particulate Filter Purge	500 ml	56				
5176	Pro-Line Super Diesel Additiv	1 l	14				
5178	Pro-Line Radiator Stop Leak K	250 ml	19				
5182	Pro-Line Oil Loss Stop	1 l	17				
5189	Pro-Line Radiator Cleaner	1 l	19				
5197	Pro-Line Engine Wear Protection	1 l	16				
5198	Pro-Line Gear Oil Additive	150 ml	17				
5199	Pro-Line Gear Oil Leak Stop	500 ml	18				
5201	Pro-Line Gear Oil Additive	5 l	17				
6600	Compressor Oil VDL 100	60 l	43				
6608	Compressor Oil VDL 150	60 l	43				

TABLE OF CONTENTS, ALPHABETIC



Part-No.	Description	Content	Page	Part-No.	Description	Content	Page
8192	Acid Rim Cleaner	11 kg	62	6967	Hydraulic Oil Arctic HVLP 46	60 l	41
8193	Acid Rim Cleaner	35 kg	62	4726	Hydraulic Oil HEES 46	205 l	42
5121	Anti-Bacterial Diesel-Additive	5 l	15	4737	Hydraulic Oil HEES 46	20 l	42
5150	Anti-Bacterial Diesel-Additive	1 l	15	4740	Hydraulic Oil HEES 46	60 l	42
5157	Anti-Bacterial Diesel-Additive	60 l	15	3300	Hydraulic Oil HLP 100	60 l	39
1828	Antifreeze for Pneumatic Brakes	1 l	57	4132	Hydraulic Oil HLP 100	20 l	39
4424	ATF Dexron II D	20 l	31	4133	Hydraulic Oil HLP 100	205 l	39
4430	ATF Dexron II D	205 l	31	4780	Hydraulic Oil HLP 15	60 l	39
3091	Brake Fluid DOT 4	250 ml	55	4790	Hydraulic Oil HLP 15	20 l	39
3093	Brake Fluid DOT 4	500 ml	55	4791	Hydraulic Oil HLP 15	205 l	39
1127	Central Hydraulic System Oil	1 l	42	3301	Hydraulic Oil HLP 150	60 l	39
1147	Central Hydraulic System Oil	20 l	42	4134	Hydraulic Oil HLP 150	20 l	39
1148	Central Hydraulic System Oil	60 l	42	4135	Hydraulic Oil HLP 150	205 l	39
1188	Central Hydraulic System Oil	205 l	42	4131	Hydraulic Oil HLP 22	205 l	39
4172	Compressor Oil VDL 100	20 l	43	4719	Hydraulic Oil HLP 22	20 l	39
4173	Compressor Oil VDL 100	205 l	43	1107	Hydraulic Oil HLP 32	20 l	39
6600	Compressor Oil VDL 100	60 l	43	1108	Hydraulic Oil HLP 32	60 l	39
4174	Compressor Oil VDL 150	20 l	43	1109	Hydraulic Oil HLP 32	205 l	39
4209	Compressor Oil VDL 150	205 l	43	1110	Hydraulic Oil HLP 46	20 l	39
6608	Compressor Oil VDL 150	60 l	43	1111	Hydraulic Oil HLP 46	60 l	39
8819	Coolant Ready Mix	200 l	54	1112	Hydraulic Oil HLP 46	205 l	39
8809	Coolant Ready Mix RAF11	5 l	55	3298	Hydraulic Oil HLP 46 SG-Z	20 l	41
8822	Coolant Ready Mix RAF11	20 l	55	3299	Hydraulic Oil HLP 46 SG-Z	60 l	41
8823	Coolant Ready Mix RAF11	200 l	55	4217	Hydraulic Oil HLP 46 SG-Z	205 l	41
1829	Copper Paste	0,5 kg	45	1113	Hydraulic Oil HLP 68	20 l	39
3081	Copper Paste	0,25 kg	45	1114	Hydraulic Oil HLP 68	60 l	39
4061	Copper Paste	1 kg	45	1115	Hydraulic Oil HLP 68	205 l	39
1761	Diesel Anticid	5 l	15	4156	Hydraulic Oil HVLP 32	20 l	40
1763	Diesel Anticid	200 l	15	4710	Hydraulic Oil HVLP 32	60 l	40
1879	Diesel Flow Fit K	205 l	15	4711	Hydraulic Oil HVLP 32	205 l	40
5131	Diesel Flow Fit K	1 l	15	1116	Hydraulic Oil HVLP 46	20 l	40
5132	Diesel Flow Fit K	5 l	15	4712	Hydraulic Oil HVLP 46	60 l	40
5133	Diesel Flow Fit K	20 l	15	4713	Hydraulic Oil HVLP 46	205 l	40
7946	DPF Pressurized Tank Spray Gun	1 Piece	63	6950	Hydraulic Oil HVLPD 46	20 l	40
20630	DPF Spray Probe, long (30 cm)	1 Piece	63	6951	Hydraulic Oil HVLPD 46	60 l	40
7945	DPF-Probe with 5 interchangeable tips	1 Piece	63	6952	Hydraulic Oil HVLPD 46	205 l	40
3404	Fluorescent Leak Detector for hydraulic systems	500 ml	18	20636	Hydraulic Oil HyPER SG1-32	20 l	39
1182	Fully Synthetic Hypoid-Gear Oil Truck 75W-90	20 l	32	20637	Hydraulic Oil HyPER SG1-32	60 l	39
1183	Fully Synthetic Hypoid-Gear Oil Truck 75W-90	60 l	32	20638	Hydraulic Oil HyPER SG1-32	205 l	39
1184	Fully Synthetic Hypoid-Gear Oil Truck 75W-90	205 l	32	20639	Hydraulic Oil HyPER SG1-46	20 l	39
4447	Gear Hydraulic Oil TO-4 SAE 10 W	20 l	35	20640	Hydraulic Oil HyPER SG1-46	60 l	39
4450	Gear Hydraulic Oil TO-4 SAE 10 W	60 l	35	20641	Hydraulic Oil HyPER SG1-46	205 l	39
4493	Gear Hydraulic Oil TO-4 SAE 10 W	205 l	35	20642	Hydraulic Oil HyPER SG1-68	20 l	39
4059	Gear Hydraulic Oil TO-4 SAE 30	20 l	35	20643	Hydraulic Oil HyPER SG1-68	60 l	39
4060	Gear Hydraulic Oil TO-4 SAE 30	60 l	35	20644	Hydraulic Oil HyPER SG1-68	205 l	39
4062	Gear Hydraulic Oil TO-4 SAE 30	205 l	35	7545	Hydraulic Oil Super Arctic Oil HVLP 32	20 l	41
4098	Gear Hydraulic Oil TO-4 SAE 50	20 l	35	7546	Hydraulic Oil Super Arctic Oil HVLP 32	205 l	41
4388	Gear Hydraulic Oil TO-4 SAE 50	60 l	35	5116	Hydraulic System Additive	1 l	18
4389	Gear Hydraulic Oil TO-4 SAE 50	205 l	35	1055	Hypoid Gear Oil (GL 5) SAE 140W	20 l	34
1020	Gear Oil (GL 4) SAE 80W	1 l	34	3122	Hypoid Gear Oil (GL 5) SAE 140W	60 l	34
1033	Gear Oil (GL 4) SAE 80W	20 l	34	3387	Hypoid Gear Oil (GL 5) SAE 140W	205 l	34
1039	Gear Oil (GL 4) SAE 80W	60 l	34	1048	Hypoid Gear Oil (GL 5) SAE 80W-90	20 l	32
4718	Gear Oil (GL 4) SAE 80W	205 l	34	1049	Hypoid Gear Oil (GL 5) SAE 80W-90	205 l	32
1030	Gear Oil (GL 4) SAE 85W-90	1 l	34	3592	Hypoid Gear Oil (GL 5) SAE 80W-90	60 l	32
1034	Gear Oil (GL 4) SAE 85W-90	60 l	34	4406	Hypoid Gear Oil (GL 5) SAE 80W-90	1 l	32
1038	Gear Oil (GL 4) SAE 85W-90	205 l	34	1027	Hypoid Gear Oil (GL 5) SAE 85W-140	20 l	33
1045	Gear Oil (GL 4) SAE 85W-90	20 l	34	1028	Hypoid Gear Oil (GL 5) SAE 85W-140	205 l	33
4116	Gear Oil CLP 150	20 l	36	3595	Hypoid Gear Oil (GL 5) SAE 85W-140	60 l	33
4117	Gear Oil CLP 150	205 l	36	1031	Hypoid Gear Oil (GL 5) SAE 85W-90	60 l	33
4495	Gear Oil CLP 150	60 l	36	1035	Hypoid Gear Oil (GL 5) SAE 85W-90	1 l	33
4757	Gear Oil CLP 220	205 l	36	1047	Hypoid Gear Oil (GL 5) SAE 85W-90	20 l	33
4759	Gear Oil CLP 220	60 l	36	2165	Hypoid Gear Oil (GL 5) SAE 85W-90	205 l	33
4778	Gear Oil CLP 220	20 l	36	1215	Hypoid Gear Oil Plus (GL 5) SAE 85W-90 LS	20 l	33
1057	Gear Oil CLP 320	20 l	36	1216	Hypoid Gear Oil Plus (GL 5) SAE 85W-90 LS	205 l	33
3565	Gear Oil CLP 320	60 l	36	3597	Hypoid Gear Oil Plus (GL 5) SAE 85W-90 LS	60 l	33
4119	Gear Oil CLP 320	205 l	36	1407	Hypoid Gear Oil TDL SAE 75W-90	1 l	32
4855	Gear Oil Synth ISO VG 150	20 l	37	1408	Hypoid Gear Oil TDL SAE 75W-90	20 l	32
4856	Gear Oil Synth ISO VG 150	60 l	37	4708	Hypoid Gear Oil TDL SAE 75W-90	60 l	32
4995	Gear Oil Synth ISO VG 150	205 l	37	4709	Hypoid Gear Oil TDL SAE 75W-90	205 l	32
3566	Gear Oil Synth ISO VG 220	20 l	37	3594	Hypoid Gear Oil Truck LD 80W-90	20 l	33
3569	Gear Oil Synth ISO VG 220	60 l	37	3598	Hypoid Gear Oil Truck LD 80W-90	60 l	33
3570	Gear Oil Synth ISO VG 220	205 l	37	3599	Hypoid Gear Oil Truck LD 80W-90	205 l	33
3363	Hand Cleaning Paste	12,5 l	62	2340	Litho HT + MoS ₂	1 kg	53
4185	Heavy Duty Grease KPF2N-20	25 kg	51	4020	LM 145 Lubricant Compound	300 ml	45
3348	HGV Long-term Grease KP2K-35	400 g LS	51	4032	LM 203 MoS ₂ Anti-Friction Lacquer	300 ml	46
6637	HGV Long-term Grease KP2K-35	5 kg	51	4033	LM 203 MoS ₂ Anti-Friction Lacquer	1 kg	46
6638	HGV Long-term Grease KP2K-35	25 kg	51	4051	LM 41 MoS ₂ -Suspension	1 l	17
4743	HGV Low Viscosity Motor Oil 10W-40	20 l	22	3520	LM 47 Long-Life Grease + MoS ₂	400 g	52
4744	HGV Low Viscosity Motor Oil 10W-40	60 l	22	3530	LM 47 Long-Life Grease + MoS ₂	1 kg	52
4747	HGV Low Viscosity Motor Oil 10W-40	205 l	22	3540	LM 47 Long-Life Grease + MoS ₂	5 kg	52
6620	High Temperature Grease PU2EP	25 kg	53	3550	LM 47 Long-Life Grease + MoS ₂	25 kg	52
6947	Hydraulic Oil Arctic HVLP 46	20 l	41	3551	LM 47 Long-Life Grease + MoS ₂	50 kg	52
6957	Hydraulic Oil Arctic HVLP 46	205 l	41	3010	LM 48 Installation Paste	50 g	45

Part-No.	Description	Content	Page	Part-No.	Description	Content	Page
4096	LM 48 Installation Paste	1 kg	45	3145	Special UTTO SAE 10W-30	60 l	37
4402	LM 497 Compressor Oil SAE 20W-20	10 l	43	1085	Start Fix	200 ml	61
4409	LM 497 Compressor Oil SAE 20W-20	201 l	43	5140	Super Diesel Additiv	5 l	14
3400	LM 50 Litho HT	5 kg	53	5145	Super Diesel Additiv	50 l	14
3405	LM 50 Litho HT	25 kg	53	5146	Super Diesel Additiv	205 l	14
3406	LM 50 Litho HT	400 g	53	3211	Thinner for LM 203 MoS ₂ Anti-Friction Lacquer	1 l	46
3407	LM 50 Litho HT	1 kg	53	3651	Top Tec ATF 1100	1 l	31
4076	LM 500 Compressor Oil SAE 30	10 l	43	3652	Top Tec ATF 1100	5 l	31
4077	LM 500 Compressor Oil SAE 30	199 l	43	3653	Top Tec ATF 1100	20 l	31
4414	LM 750 Compressor Oil SAE 40	5 l	43	3654	Top Tec ATF 1100	60 l	31
4416	LM 750 Compressor Oil SAE 40	195 l	43	3655	Top Tec ATF 1100	205 l	31
4419	LM 750 Compressor Oil SAE 40	10 l	43	3663	Top Tec ATF 1700	1 l	31
4451	LM 901 Compressor Oil SAE 5W-20	10 l	43	3671	Top Tec ATF 1700	60 l	31
4452	LM 901 Compressor Oil SAE 5W-20	201 l	43	3695	Top Tec ATF 1700	20 l	31
3391	LM-40 Multi-Purpose Spray	400 ml	60	3697	Top Tec ATF 1700	205 l	31
3395	LM-40 Multi-Purpose Spray	5 l	60	3794	Top Tec Truck 4050 10W-40	20 l	22
6628	Longtime Grease C2LP	25 kg	50	3795	Top Tec Truck 4050 10W-40	60 l	22
6642	Lubricating Grease C2S	25 kg	50	3798	Top Tec Truck 4050 10W-40	205 l	22
4159	Lubricating Oil AN 46	20 l	44	3786	Top Tec Truck 4350 5W-30	20 l	22
4160	Lubricating Oil AN 46	205 l	44	3787	Top Tec Truck 4350 5W-30	60 l	22
7989	Manual Dosing Syringe 1,000 ml	1 Piece	63	3788	Top Tec Truck 4350 5W-30	205 l	22
4772	Multipurpose Gear Oil (GL 4) SAE 140	20 l	35	3778	Top Tec Truck 4450 15W-40	20 l	23
4840	Multipurpose Gear Oil (GL 4) SAE 140	60 l	35	3779	Top Tec Truck 4450 15W-40	60 l	23
4852	Multipurpose Gear Oil (GL 4) SAE 140	205 l	35	3780	Top Tec Truck 4450 15W-40	205 l	23
3552	Multipurpose Grease	400 g	50	1096	Touring High Tech 15W-40	5 l	25
3553	Multipurpose Grease	1 kg	50	1240	Touring High Tech 15W-40	205 l	25
3554	Multipurpose Grease	5 kg	50	1296	Touring High Tech 15W-40	60 l	25
3555	Multipurpose Grease	25 kg	50	1298	Touring High Tech 15W-40	20 l	25
3556	Multipurpose Grease	50 kg	50	3167	Touring High Tech 20W-20	205 l	25
3557	Multipurpose Grease	180 kg	50	6964	Touring High Tech 20W-20	5 l	25
7941	Oil Filling Unit for Transmissions	1 Piece	63	6965	Touring High Tech 20W-20	20 l	25
4089	PAG Air Conditioning Oil 100	250 ml		6966	Touring High Tech 20W-20	60 l	25
44 7385	Pro-Line Ceramic Spray	400 ml	59	1254	Touring High Tech 20W-50	60 l	25
5169	Pro-Line Diesel Particulate Filter Cleaner	1 l	56	1255	Touring High Tech 20W-50	5 l	25
5123	Pro-Line Diesel Particulate Filter Protection	1 l	16	1257	Touring High Tech 20W-50	20 l	25
5126	Pro-Line Diesel Particulate Filter Protection	20 l	16	1260	Touring High Tech 20W-50	205 l	25
5171	Pro-Line Diesel Particulate Filter Purge	500 ml	56	1061	Touring High Tech SHPD-Motor Oil 15W-40	20 l	24
5035	Pro-Line Diesel Stabilizer	1 l	14	1062	Touring High Tech SHPD-Motor Oil 15W-40	60 l	24
5144	Pro-Line Diesel System Cleaner K	1 l	14	1063	Touring High Tech SHPD-Motor Oil 15W-40	205 l	24
7386	Pro-Line Electronic-Spray	400 ml	59	3297	Touring High Tech SHPD-Motor Oil 15W-40 TBN20	20 l	24
2425	Pro-Line Engine Flush	1 l	16	8896	Touring High Tech SHPD-Motor Oil 15W-40 TBN20	60 l	24
2428	Pro-Line Engine Flush	5 l	16	8899	Touring High Tech SHPD-Motor Oil 15W-40 TBN20	205 l	24
5197	Pro-Line Engine Wear Protection	1 l	16	1088	Touring High Tech Super SHPD 15W-40	205 l	23
5198	Pro-Line Gear Oil Additive	150 ml	17	1121	Touring High Tech Super SHPD 15W-40	20 l	23
5201	Pro-Line Gear Oil Additive	5 l	17	1122	Touring High Tech Super SHPD 15W-40	60 l	23
5199	Pro-Line Gear Oil Leak Stop	500 ml	18	3175	Touring High Tech Super SHPD-Motor Oil 15W-40 TBN20	20 l	23
3381	Pro-Line Injector and Glow Plug Grease	20 g	60	3178	Touring High Tech Super SHPD-Motor Oil 15W-40 TBN20	60 l	23
3379	Pro-Line Injector Dismantling Aid	400 ml	60	8863	Touring High Tech Super SHPD-Motor Oil 15W-40 TBN20	205 l	23
5168	Pro-Line Intake Cleaner Diesel	400 ml	56	1211	Truck Gear Oil AFD SAE 60	205 l	36
5182	Pro-Line Oil Loss Stop	1 l	17	3302	Truck Gear Oil AFD SAE 60	20 l	36
7384	Pro-Line PTFE Powder Spray	400 ml	59	3564	Truck Gear Oil AFD SAE 60	60 l	36
5189	Pro-Line Radiator Cleaner	1 l	19	1202	Truck Gear Oil HC (GL4) 75W-80	20 l	34
5178	Pro-Line Radiator Stop Leak K	250 ml	19	1203	Truck Gear Oil HC (GL4) 75W-80	60 l	34
7390	Pro-Line Rapid Rust Solvent	400 ml	58	1210	Truck Gear Oil HC (GL4) 75W-80	205 l	34
7389	Pro-Line Silicone Spray	400 ml	59	1660	Turbine Oil TDL 46	20 l	44
5176	Pro-Line Super Diesel Additiv	1 l	14	6643	Turbine Oil TDL 46	60 l	44
2336	Pro-Line Super Diesel Additiv K	20 l	14	6647	Turbine Oil TDL 46	205 l	44
7388	Pro-Line Tacky Lube Spray	400 ml	58	8850	Universal Radiator Antifreeze GTL 11	200 l	55
2516	Pro-Line TBN-Booster	1 l	17	8190	Universal-Cleaner Extreme	11 kg	61
5037	Pro-Line Truck Diesel Particulate Filter Cleaner	5 l	57	8191	Universal-Cleaner Extreme	35 kg	61
6932	Radiator Antifreeze RAF 11	1 l	54	4714	Viscous Grease ZS KOOK-40	5 kg	52
6933	Radiator Antifreeze RAF 11	5 l	54	4715	Viscous Grease ZS KOOK-40	25 kg	52
8847	Radiator Antifreeze RAF 11	60 l	54	8577	Water-Soluble Forming Oil	20 l	47
8848	Radiator Antifreeze RAF 11	200 l	54	8583	Water-Soluble Forming Oil	205 l	47
6934	Radiator Antifreeze RAF 12 Plus	1 l	54	1540	Zinc Spray	400 ml	60
6935	Radiator Antifreeze RAF 12 Plus	5 l	54				
8842	Radiator Antifreeze RAF 12 Plus	60 l	54				
8843	Radiator Antifreeze RAF 12 Plus	200 l	54				
3318	Rapid Cleaner	500 ml	61				
3319	Rapid Cleaner	5 l	61				
3333	Rapid Cleaner	60 l	61				
4013	Rapid Cleaner	196 l	61				
4192	Roller Bearing Grease KP2K-30	15 kg	51				
4193	Roller Bearing Grease KP2K-30	25 kg	51				
4194	Roller Bearing Grease KP2K-30	50 kg	51				
4195	Roller Bearing Grease KP2K-30	180 kg	51				
8588	Separating Oil WT01 S	20 l	47				
8589	Separating Oil WT01 S	205 l	47				
8563	Special Forming Oil FS 7	20 l	46				
8564	Special Forming Oil FS 7	60 l	46				
8568	Special Forming Oil FS 7	205 l	46				
1258	Special UTTO SAE 10W-30	20 l	37				
1259	Special UTTO SAE 10W-30	205 l	37				



LIQUI MOLY GmbH
Jerg-Wieland-Straße 4
89081 Ulm
GERMANY

Phone: +49 731 1420-0
Fax: +49 731 1420-75
E-Mail: info@liqui-moly.de
www.liqui-moly.com/mining

Technical Support:
+49 731 1420-871

No liability for misprints.
Subject to technical
modifications.

Find the right
motor oil with your
smartphone!



With best regards:

59751608

