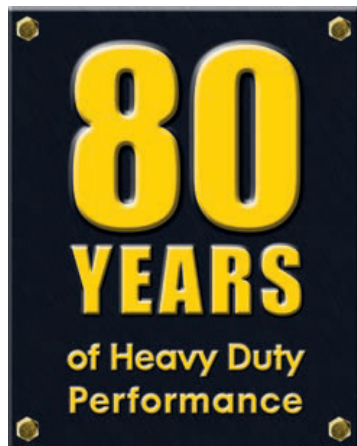


Mobil's range of agricultural lubricants





Foreword

Mobil – a world leader in agricultural equipment lubrication

Mobil has been a global specialist in lubrication for more than a century. It is a global brand, which is now present in almost two hundred countries across the globe, and is associated with strong values such as performance, innovation and expertise.

Lubrication plays a critical role in the proper maintenance of agricultural machinery, such as tractors and combine harvesters. Maintaining equipment in a perfect operating state is essential for being able to obtain your production objectives – in other words, for the efficient running of your farm.

This is why Mobil lubricants are designed to provide the high level of protection that is indispensable for all of your equipment. Thanks to their high performance levels, they can help improve the productivity and efficiency of your agricultural machinery.

Proven performance in agriculture thanks to advanced technology

Mobil lubricants have been proven, both in the laboratory and in the field. They can help you to improve the reliability and usability of your machinery, optimise the performance of your agricultural equipment and reduce your operating costs. For farmers and agricultural contractors, the high performance of the lubricants translates into numerous potential advantages: helping to improve machinery performance, reduce maintenance costs, potentially extending oil change intervals and the protection of equipment over the long term, which result in optimum conservation of the capital invested in operating equipment. In summary, Mobil lubricants contribute to the optimum management of your agricultural equipment. Their outstanding performance is the result of extensive practical experience in the service of the agricultural sector.

The Mobil range of lubricants meets the needs of the main agricultural applications

Agricultural machinery, including tractors and combine harvesters, are developing constantly and require the use of more advanced lubricants. This is why Mobil is constantly developing products, oils or greases that meet or even exceed the main technical requirements of the manufacturers of agricultural equipment.

The result is a comprehensive range of products that meets the requirements of the main agricultural applications. This range comprises lubricants for specific applications as well as multi-purpose oils.

Our experts are at your disposal, ready to provide you with advice and to answer any of your questions.

For more information, please visit www.mobildelvac.com

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Oils for diesel engines

Mobil Delvac 1 LE 5W-30

Suitable for engines equipped with DPF
(Diesel Particulate Filters)

Mobil Delvac 1 LE 5W-30 is a high-performance, fully synthetic engine oil, designed to maintain the performance of modern low emission diesel engines. Mobil Delvac 1 LE 5W-30 uses the latest technology to extend service life for engines and exhaust gas emission control systems, in particular for those systems equipped with particulate filters. While it helps towards long engine and emission system life, it also provides long drain capability and fuel economy potential.¹

- Excellent fluidity of grade 5W-30
- Improve pumpability and circulation of the lubricant
- Increase protection during cold starts and assisted starts
- Potentially reduced fuel consumption
- Excellent anti-wear and anti-seize properties
- Reduction in wear, which contributes to an increase in engine life
- Low ash
- Protection of exhaust gas emission control systems, especially DPF equipped systems

¹Fuel economy potential is dependent on vehicle/equipment type, outside temperature, driving conditions and your current fluid viscosity.

Meets or exceeds

ACEA E7 / E6 / E4
Renault Truck RXD / RLD / RLD-2
DAF Extended Drain

Builder approvals

MB-Approval 228.51 / 228.5 / 235.28
MAN M 3477
VOLVO VDS-3
MTU Oil Category 3.1
DEUTZ DQC III-10 LA

Mobil Delvac XHP LE 10W-40

Suitable for engines equipped with DPF
(Diesel Particulate Filters)

Mobil Delvac XHP LE 10W-40 is a high-performance, fully synthetic engine oil for diesel engine lubrication. It is suitable for the lubrication of modern high-powered engines subject to intense use and equipped with systems to reduce emissions, such as Diesel Particulate Filters (DPF).

- Low ash
- Enhance protection of exhaust systems equipped with particulate filters
- Excellent anti-wear and corrosion protection properties
- Contributes to prolonged engine life
- Excellent fluidity at low temperature
- Easy start and quick lubrication of all engine components
- Very good resistance to oxidation and stable viscosity of the oil in service

Meets or exceeds

ACEA E7 / E6 / E4
API CI-4
JASO DH-2
DAF Extended Drain
Renault Trucks RXD / RLD-2 / RGD

Builder approvals

MB-Approval 228.51 / 228.5 / 235.27
MAN M 3477
MTU Oil Category 3.1
Volvo VDS-3
Scania Low Ash
Deutz DQC IV-10 LA

Recommended by ExxonMobil for use in applications requiring

MAN M 3277 (CRT)



Oils for diesel engines

Mobil Delvac MX ESP 10W-30

Suitable for engines equipped with DPF
(Diesel Particulate Filters)

Mobil Delvac MX ESP 10W-30 is a high-performance oil for diesel engines, which helps to extend service life, even under extremely severe operating conditions. Its exceptional properties make it highly suited to the latest high-power engines equipped with emission reduction systems, such as EGR (exhaust gas recirculation) and post-treatment systems, such as DPF (Diesel Particulate Filter) or DOC (Diesel Oxidation Catalyst).

Fully backwards compatible, Mobil Delvac MX ESP 10W-30 also offers excellent performance for older conventional engines. Mobil Delvac MX ESP 10W-30 meets or exceeds the requirements of standards API CJ-4, CI-4 PLUS and CH-4, as well as the specifications of a large number of manufacturers (see details below).

- Outstanding viscosity and soot control
- Exceptional thermal stability
- Highly resistant to oxidation
- Viscosity stable under shear
- Excellent fluidity at low temperature
- Excellent control of oil consumption
- High TBN reserve
- Very good pumpability when cold
- Outstanding protection against wear and corrosion

Meets or exceeds

API CJ-4, CI-4 PLUS, CI-4, CH-4, SM
ACEA E9, E7
Caterpillar ECF-3
JASO DH-2
Cummins CES 20081

Builder approvals

Volvo VDS-4 / VDS-3
MB-Approval 228.31
Deutz DQC II-10 LA
MAN M 3575
Renault Trucks RLD-3

Recommended by ExxonMobil for use in applications requiring

API CG-4, CF

Mobil Delvac MX ESP 15W-40

Suitable for engines equipped with DPF
(Diesel Particulate Filters)

Mobil Delvac MX ESP 15W-40 is a diesel engine oil, with a low ash content, made using highly refined mineral oils and a high-performance additive system.

It helps to extend the lifetime of high-power, low emission older and modern engines, including those equipped with exhaust gas recirculation systems (EGR), Diesel Particulate Filters (DPF) and Diesel Oxidation Catalysts (DOC).

- Excellent resistance to corrosive wear (alkalinity reserve) and to abrasive wear (soot control)
- Contributes to prolonged engine life
- Outstanding resistance to oxidation and limited formation of high-temperature deposits
- Helps to preserve engine cleanliness
- Excellent control of oil consumption and excellent alkalinity reserve (TBN)
- Helps to increase the intervals between oil changes to improve oil consumption
- Meets the requirements of the latest API petrol and oil class, and is backwards compatible with older conventional engines
- Enables the rationalisation of engine oil storage to simplify the management of mixed fleets of vehicles and agricultural equipment

Meets or exceeds

API CJ-4, CI-4 PLUS, CI-4, CH-4, SM, SL
ACEA E7, E9
Caterpillar ECF-3
JASO DH-2
Renault Trucks RLD-3
Cummins CES 20081

Builder approvals

Detroit Diesel Power Guard Oil Specification 93K218 / 93K214
Mack EO-N Premium Plus 03 / Mack EO-O Premium Plus
MAN M3575
Deutz DQC II-10 LA
MB-Approval 228.31
Volvo VDS-4 / VDS-3 / VDS-2

Recommended by ExxonMobil for use in applications requiring

API CG-4, CF-4, CF-2, CF
MAN M 3275-1

Oils for diesel engines

Mobil Delvac MX Extra 10W-40

Mobil Delvac MX Extra 10W-40 is a high-quality semi-synthetic oil with outstanding performance that is suitable for a large range of diesel engines whether operating in severe or normal service conditions.

- Excellent fluidity at low temperature
- Optimum protection during cold starts
- Enhance protection against wear and corrosion
- Contributes to prolonged engine life
- High thermal stability and excellent resistance to oxidation
- Helps to maintain engine cleanliness
- Increases oil change intervals

Meets or exceeds

ACEA E7
API CI-4 / CH-4 / SL / SJ
Renault Trucks RLD / RLD-2
Cummins CES 20078 / 20077 / 20076

Builder approvals

MB-Approval 228.3 / 235.28
Mack EO-M PLUS
Volvo VDS-2 / VDS-3
MAN M3275-1
MTU Oil Category 1 (Open crankcase only – up to 500 hours ODI)

Recommended by ExxonMobil for use in applications requiring

ACEA B2, A2
API CG-4 / CF-4 / CF
Cummins CES 20072, 20071

Mobil Delvac MX 15W-40

Mobil Delvac MX 15W-40 is a high-performance mineral oil for diesel engines of recent or older design. It has excellent lubricity so that engine life is maintained through the provision of optimum protection against wear.

- High thermal stability and resistance to oxidation
- Effective detergent and soot dispersion properties
- Helps to maintain engine cleanliness
- Large range of uses

Meets or exceeds

API CI-4 / CH-4 / SL / SJ
ACEA E7, A3 / B3, A3 / B4
Caterpillar ECF-2
Cummins CES 20078 / 20077 / 20076 / 20075

Builder approvals

MB-Approval 228.3
Mack EO-M PLUS
Volvo VDS-3 / VDS-2
MTU Oil Category 1 (Open crankcase only – up to 500 hrs ODI)
MAN M3275-1

Recommended by ExxonMobil for use in applications requiring

API CG-4 / CF-4 / CF
Renault Trucks RLD-2
Mack EO-M
Cummins CES 20072 / 20071
Detroit Diesel 7SE 270 (4-Stroke Cycle)



Mobil Delvac Super 1400_E 15W-40

Mobil Delvac Super 1400_E 15W-40 is a mineral oil suitable for numerous older generation diesel engines.

- Good thermal stability
- Good resistance to oxidation
- Good protection against wear and corrosion

Meets or exceeds

ACEA A3 / B3; API SJ
Renault Trucks RD-2, RD

Builder approvals

MB-Approval 228.3; MAN 3275-1; Volvo VDS-2
MTU Oil Category 2

Recommended by ExxonMobil for use in applications requiring

ACEA E3
API CG-4 / CF-4 / CF

High-performance UTTO lubricants for transmissions with hydraulic systems, wet brakes and clutches

Mobilfluid 424

Mobilfluid 424 is an extra high-performance multipurpose tractor oil, developed to meet or exceed the requirements of the majority of agricultural equipment manufacturers. This oil was designed for the lubrication of hydraulic or hydrostatic systems, power steering, differentials and transmissions, with or without wet brakes and clutches.

Its balanced formulation makes it suitable for use in a wide range of operating conditions and environments. This oil is particularly suitable for reducing noise that may occur with wet disc brakes.

- Very high viscosity index
- Excellent fluidity at low temperatures
- Good anti-wear and extreme pressure properties
- Excellent protection against rust and corrosion
- Good thermal stability and high resistance to oxidation
- Optimised friction properties for effective operation of wet brakes and clutches

Meets or exceeds

Kubota UDT

Builder approvals

ZF TE-ML 03E / 05F / 17E
Volvo WB-101

Recommended by ExxonMobil for use in applications requiring

Allison C-4 (Agriculture applications only)
API GL-4
Vickers 35VQ25
Caterpillar TO-2
CNH MAT 3505, 3525
Denison HF-0, HF-1, HF-2 (T5D & P46 pumps only)
Ford New Holland ESN-M2C-134-D
Ford New Holland FNHA-2C-201.00
J I Case MS 1204-07/09
Massey Ferguson M-1135 M-1141
Powerfluid 821 XL
John Deere J20C

Mobilfluid 426

Mobilfluid 426 is an extra high-performance multi-purpose tractor lubricant engineered to meet or exceed transmission and hydraulic fluid requirements. It can enhance stability under shear for more demanding applications so that it is suitable for specific Massey Ferguson and ZF applications not covered by Mobilfluid 424.

- Very high viscosity index and it can enhance stability under shear
- Excellent fluidity at low temperatures

Meets or exceeds

Kubota UDT

Builder approvals

Volvo WB 101
ZF-TE-ML 03E / 05F / 06K / 17E

Recommended by ExxonMobil for use in applications requiring

API GL-4; AGCO Powerfluid 821 XL;
Allison C-4 (Agriculture applications only);
Caterpillar TO-2; CNH MAT 3505, 3525;
Denison HF-0, HF-1, HF-2 (T5D & P46 pumps only);
Ford New Holland FNHA-2-C-201.00;
Ford ESN-M2C134-D; J. I. Case MS 1204-07 / 09;
John Deere J20C; Vickers 35VQ25;
Massey Ferguson MF M-1143, M-1141, M-1135, M-1145

Mobilfluid 422

Mobilfluid 422 is an extra high-performance multi-purpose tractor lubricant engineered to meet or exceed transmission and hydraulic fluid requirements. It can enhance stability under shear for more demanding applications as well as an optimal anti-friction system so that it is suitable for specific Ford and Massey Ferguson applications not covered by Mobilfluid 424.

- High viscosity index and it can enhance stability under shear
- Anti-friction system optimised for specific Ford and MF applications

Recommended by ExxonMobil for use in applications requiring

API GL-4
Case New Holland ESN-M2C 86-B
Massey Ferguson M-1135

UTTO: Universal Tractor Transmission Oil (UTTO) for mixed lubrication of gear systems, axles, hydraulic systems and wet brakes of agricultural machinery and certain construction machinery

Multi-purpose STOU oils for diesel engines and transmissions with hydraulic systems, wet brakes and clutches

Mobil Agri Extra 10W-40

Multi-purpose, semi-synthetic oil with outstanding performance that is intended for use with agricultural tractors used under intensive or normal service conditions. It is suitable both for the lubrication of diesel engines, hydraulic systems and transmissions, with or without wet brakes and clutches.

Mobil Agri Extra 10W-40 is also suitable for the majority of CVT type transmissions (see box below).

- Very good protection against wear
- Very high alkalinity reserve (TBN)
- Excellent fluidity at low temperatures ensures a rapid response from the hydraulic systems
- Good protection against rust and corrosion
- Excellent thermal stability and high resistance to oxidation
- Excellent cleanliness of a range of assemblies and components
- High equipment protection level, even during cold starts at low temperatures
- Versatility and flexibility of use due to its multifunctional character
- Simplification and rationalisation of lubricant stocks

Builder approvals

Massey Ferguson MF 1145
ZF TE-ML 06C / 07B

Recommended by ExxonMobil for use in applications requiring

API CE / SF
API GL-4
Allison C-4 (Agriculture applications only)
Massey Ferguson MF 1139
Massey Ferguson MF 1144
John Deere J27
Ford M2C 159B



STOU: Multi-purpose, universal lubricant (Super Tractor Oil Universal) for the engines, gearing, hydraulic systems and wet brakes of tractors and agricultural machinery.

Mobil Agri Super 15W-40

High-performance multi-purpose mineral oil intended for the lubrication of agricultural tractors. It is suitable both for the lubrication of diesel engines, hydraulic systems and transmissions, with or without wet brakes and clutches.

- High alkalinity reserve (TBN)
- Good protection of equipment against wear, rust and corrosion
- High thermal stability and good resistance to oxidation
- Excellent cleanliness of different assemblies and components
- Versatility and flexibility of use due to its multifunctional character
- Simplification and rationalisation of lubricant stocks

Builder approvals

ZF-TE-ML 06B / 07B

Recommended by ExxonMobil for use in applications requiring

Allison C-4 (Agriculture applications only)
Massey Fergusson MF 1139, 1144, 1145
API CF / CF-4 / SF, GL-4
Caterpillar TO-2
John Deere J27
Ford New Holland M2C 159B

What is a CVT transmission?

Continuously Variable Transmission (CVT) is a gearless automatic gearbox with continuously variable gearing. The CVT gearbox comprises a metal belt connecting two cone-shaped pulleys: one on the engine side, one on the differential side – the diameters of which are varied automatically – thus matching the demand for the torque supplied by the engine. It provides an infinite number of gear ratios without any gear changes or interruption for the driveability and with constant matching of the engine speed to its instantaneous load.

A computer controls, by hydraulic pressure, where the belt must be located between the pulleys to vary the control-gearing ratio between the engine power and the drive wheels, ensuring that the maximum engine torque is continuously transferred. Therefore, it is important to use a lubricant, having the friction co-efficient intended by the manufacturer and adapted to the selected type of CVT transmission. Mobil Agri Extra 10W-40 can be used in the following CVT transmissions when the required specification levels are satisfied: New Holland TVT / Steyr CVT / Case CVX / Massey Ferguson DYNA VT / Same Deutz-Fahr / Fendt Vario / Valtra CVT DIRECT / John Deere / JCB.

Oils for gearboxes, powered axles and final reduction gears

Mobilube 1 SHC 75W-90

Mobilube 1 SHC 75W-90 is a synthetic high-performance transmission oil. It is produced from a base oil and the latest generation additive system. This lubricant has been developed for heavily loaded manual transmissions and rear-powered axles. It possesses an excellent loading capacity over a wide range of temperatures, for extreme pressures and in case of repeated impacts. It has excellent thermal stability and oxidation resistance, a naturally high viscosity index (VI), a very low pour point and increased fluidity at low temperatures.

- High thermal stability and resistance to oxidation at high temperatures
- Outstanding protection against wear when operating at low speed/high torque
- Very high stability under shear
- Effective protection of copper and copper alloys against oxidation and corrosion
- Improve friction properties
- Outstanding fluidity at low temperatures in comparison with mineral oils
- Wide range of applications
- Good resistance to foaming
- Compatible with most seals

Meets or exceeds

API GL-5 / MT-1
ZF TE-ML 07A
Scania STO 1.0

Builder approvals

JSC AVTODIZEL YaMZ Gearboxes
MAN 341 Typ E3 / Z2
MAN 342 Typ M3
MB-Approval 235.8
ZF TE-ML 02B / 05B / 12B / 16F / 17B / 19C / 21B

Recommended by ExxonMobil for use in applications requiring

API GL-4
ZF TE-ML 08



Mobilube HD 80W-90 and 85W-140

Special high-performance mineral oils for mechanical transmissions.

They are particularly suitable for conventional powered axles and differentials as well as for final drives.

They share the following properties:

- Good thermal stability
- Excellent extreme pressure properties
- Effective protection against wear, rust and corrosion
- Outstanding resistance to high temperature oxidation
- Reduction of deposits, resulting in increased cleanliness of components
- Improve service life for gearboxes, bearings and gaskets

Meet or exceeds

API GL-5

Mobilube LS 85W-90

High-performance oils for no-slip differentials and limited slip differentials.

- Friction properties adapted to limited slip differentials
- Compatibility with gaskets
- Good thermal stability and high resistance to oxidation
- Excellent low temperature properties to improve protection during assisted cold start-ups
- Very good protection against wear, rust and corrosion
- Extend the lifetime of lubricated components

Meets or exceeds

API GL-5

Builder approvals

ZF TE-ML 05C / 12C / 16E



Hydraulic oils

Mobifluid 316M

High-performance hydraulic oils particularly suited to the hydraulic and hydrostatic transmissions of agricultural machinery (tractors, combine harvesters, forage harvesters, grape harvesting machinery for the wine industry, miscellaneous harvesting machinery, etc.) and construction machinery.

- Very high viscosity index
- Excellent stability under shear
- Outstanding anti-foaming properties
- Very good anti-wear and anti-corrosion properties
- Good thermal stability and high resistance to oxidation
- Increase longevity of pumps and hydraulic motors
- Good resistance of the oil film, even at high temperatures
- Blue colour permits ready identification of oil levels

Recommendation

This hydraulic fluid is formulated to have a typical kinematic viscosity of 52 cSt at 40°C, which corresponds to an intermediate grade between the viscosity grades ISO 46 and ISO 68. The main advantage of this intermediate viscosity level is that it makes it possible to reduce the number of products needed. Thus, with 316M, it would be possible to use a single hydraulic fluid for tractors and harvesting machinery (combine harvesters for example), instead of, say, hydraulic fluids of class ISO L-HV 46 or ISO L-HV 68 (the two viscosity grades most commonly used).

Mobil Univis N 46 and 68

High-quality anti-wear hydraulic mineral oils, produced to respond to the requirements of a large number of hydraulic systems.

- Good demulsibility
- Good fluidity at low temperatures
- High viscosity index and good resistance to shear
- Rapid de-aeration power and good prevention of foaming
- Excellent protection against rust and corrosion
- Reduction in maintenance costs
- Extend the lifetime of lubricated components

Meets or exceeds

DIN 51524-3 2006-9
ISO 11158 L-HV

Recommended by ExxonMobil for use in applications requiring

Denison HF-0
Eaton I-286-S
Eaton M-2950-S



Hydraulic oils

Mobil DTE 10 Excel 46 and 68

Mobil DTE 10 Excel oils are high-performance anti-wear hydraulic oils, especially designed to meet the needs of modern hydraulic systems operating at high pressure. Zinc-free anti-wear system provides a high degree of protection.

Mobil DTE 10 Excel oils are formulated so that they offer balanced performances in numerous applications, including outstanding resistance to oxidation and exceptional thermal stability. This promotes a long service life for the oil, while helping to reduce deposit formation. Mobil DTE 10 Excel oils are particularly suitable for hydraulic systems using high flow and high pressure pumps, while operating under demanding conditions.

- Excellent hydraulic efficiency
- High viscosity index, resistant to shear
- Resistant to oxidation and thermal stability
- Good compatibility with elastomer seals and hoses
- Anti-wear properties
- Very good separability from air
- Compatible with multiple metals

Meets or exceeds

DIN 51524-2: 2006-09
DIN 51524-3: 2006-09
ISO 11158 L- HV
JCMAS HK
Bosch-Rexroth RE 90220-01
Arburg
Krauss-Maffei Kunststofftechnik

Builder approvals

Denison HF-0
Eaton Vickers 694 (encompasses former I-286-S, M-2950-S or M-2952-S)
Frank Mohn, Framo hydraulic cargo pumping
MAG IAS, LLC



(Mobil DTE 10 Excel oils are also available in the following ISO VG grades: 15, 22, 32, 100 and 150.)

High-performance multi-purpose greases

Mobilgrease XHP 221 and XHP 222

Extreme-pressure lithium complex mineral greases, coloured blue, highly adhesive and offering extremely high performance. They are suitable for a wide range of agricultural applications even when the operating conditions are extremely demanding.

Mobilgrease XHP 222 is particularly suited to the greasing of bearings and wheel hubs, as well as for the articulations and other components of the chassis. Mobilgrease XHP 221 can be easily pumped for use in centralised distribution systems.

- Coloured blue for easy identification
- Very good extreme pressure and anti-wear properties for protection of equipment, even under severe usage conditions
- Structural cohesion ensuring excellent adhesion to improve leak-tightness against contaminants such as dust and water
- Excellent resistance to washing off by water
- High-level protection against rust and corrosion
- Enhance mechanical resistance ensuring excellent in-service behaviour
- Good thermal stability and high resistance to oxidation at high temperatures
- Possible to extend lubrication intervals between greasing and reduce maintenance costs

Meets or exceeds

DIN 51825: (2004-06) KP1N-20

Builder approvals

MAG IAS, LLC P-72

Meets or exceeds

DIN 51825: (2004-06) KP2N-20

Builder approvals

MAG IAS, LLC P-64

(Greases belonging to the Mobilgrease XHP 220 family are available in various NLGI grades: 00, 0, 1, 2 and 3, with a base oil viscosity corresponding to ISO VG 220.)



High-performance multi-purpose greases

Mobilith SHC 220

Extreme-pressure lithium complex synthetic grease, coloured red. This top-quality grease is designed for use in extreme conditions, notably at very low winter temperatures and at high temperatures, and under heavy load during severe and prolonged operation. It is suitable for a wide range of applications, in particular wheel hubs and bearings, as well as for the articulations and other components of the chassis.

- Outstanding performance at high and low temperatures
- Large range of application temperatures (from -40° to +150°C), excellent protection at high temperatures plus low starting torque at low temperatures.
- Excellent structural stability in the presence of water
- Very high protection against wear, rust and corrosion
- Maximised intervals between greasing and maximised bearing service lives
- Possible reduction in downtimes and maintenance costs

Meets or exceeds

DIN 51825: (2004-06) KPHC 2N-30

(Greases in the Mobilith SHC family are available in seven viscosity grades of the base oil, from ISO VG 100 to 1500, and with various NLGI grades ranging from 2 to 00.)



Mobilux EP 2

Standard mineral grease with lithium thickener, suitable for low-load agricultural machinery applications.

- Extreme pressure and anti-wear properties under moderate loads
- Good protection against rust and corrosion
- Protection of equipment under normal or moderately severe operating conditions

Meets or exceeds

DIN 51825: (2004-06) KP2K-30

(Greases belonging to the Mobilux EP family are available in a range of grades extending from grade NLGI 00 to grade 3, with oil viscosities ranging between 150 and 460 cSt at 40°C.)





Lubricants compatible with agri-food applications

Mobil SHC Polyrex 462

Superior-quality synthetic polyurea grease designed for exacting applications such as those presenting a risk of accidental contact with foods or exposed to significant loads, very high temperatures (up to 180°C) and very humid environments.

- Acceptable for accidental contact with food (NSF H1)
- Effective protection against corrosion
- Exceptional behaviour at high temperatures
- High resistance capacity under loading
- Excellent behaviour in the presence of water
- Excellent protection of equipment, including in the presence of water, steam or a slightly acid or alkaline environment

Meets or exceeds

DIN 51825 (2004:06) KPFHC2P-20
FDA 21 CFR 178.3570

Builder approvals

Kosher / Parve

Registered to the requirements of

NSF H1
NSF Registration Number 139558

(Greases belong to the Mobil SHC Polyrex are available in grades NLGI 00 and 2, with a base oil viscosity corresponding to the grades ISO VG 220 and 460.)

Mobil SHC Cibus 32, 46 and 68

Oils for hydraulic applications and air compressors

- Approved for accidental food contact (NSF H1)
- Use helps to extend the intervals between oil changes
- Effective protection of equipment to enhance productivity

Meets or exceeds

FDA 21 CFR 178.3570
Canadian Food Inspection Agency, acceptance
DIN 51506: 1985-09; DIN 51524-2: 2006-09

Builder approvals

Kosher; Halal

Registered to the requirements of

NSF H1
NSF Registration Number 141500 (Cibus 32),
141498 (Cibus 46), 141499 (Cibus 68)

Mobilgrease FM 101 and 222

Multi-purpose greases.

- Approved for accidental food contact (NSF H1)
- Anti-wear protection under heavy loads
- Protection against rust and corrosion
- Excellent resistance to washing off by water
- Mobilgrease FM 101 possesses excellent pumpability and therefore is suitable for centralised greasing systems
- Mobilgrease FM 222 is particularly suited for greasing of bearings and articulations and also exhibits good behaviour in the presence of water

Meets or exceeds*

FDA 21 CFR 178.3570; DIN 51825 (2006:06) KPF1K -20
CIFA for use as a non-food chemical product in food processing facilities

Builder approvals*

MAG IAS, LLC P-72; Kosher/Parve; Halal

Registered to the requirements of

NSF H1
NSF Registration Number 141881

Meets or exceeds**

FDA 21 CFR 178.3570; DIN 51825 (2006:06) KPF2K -20
CIFA for use as a non-food chemical product in food processing facilities

Builder approvals**

MAG IAS, LLC P-64; Kosher / Parve; Halal

Registered to the requirements of

NSF H1
NSF Registration Number 136449

*Mobilgrease FM 101

**Mobilgrease FM 222



Mechanised farming

Mobil 1 Racing 2T

Very high-performance 100% synthetic 2-stroke oil for the engines of intensively used quad bikes and mechanised farming machinery.

- Exceptional protection against wear
- Limited exhaust fume emissions
- Very good corrosion protection
- Prevents pre-ignition
- Red colouring to limit the risks of errors
- Excellent thermal stability with high resistance to oxidation
- Excellent cleanliness and very good engine protection, which contributes to an increase in engine life

Meets or exceeds

API TC
ISO E-GC, E-GD
JASO FC, FD
SAE Grade 1, Grade 2

Mobil Extra 2T

Mobil Extra 2T is a semi-synthetic high-performance 2-stroke oil, developed to satisfy the operating requirements of quad bikes, mechanised farming machinery, chainsaws, lawnmowers, brush cutters, etc. Mobil Extra 2T is prediluted to make mixing with petrol easier.

- Contributes to motor longevity
- Limited exhaust fume emissions
- Prevents pre-ignition
- Excellent protection against wear and corrosion
- Good thermal stability and high resistance to oxidation
- Helps to reduce deposit formation resulting in a potential increase in engine cleanliness

Meets or exceeds

API TC
ISO E-GC
JASO FC

Mobil 1 Racing 4T 15W-50

Very high-performance 100% synthetic 4-stroke oil, intended for the lubrication of intensively used 4-stroke engines to power quad bikes, lawnmowers and other high-power mechanised farming equipment.

- Outstanding protection against wear
- Very good corrosion protection
- Exceptional thermal stability and very high resistance to oxidation
- Excellent engine cleanliness, which contributes to an increase in engine life
- Increase viscosity index and excellent fluidity in the cold

Meets or exceeds

API SN, SM, SL, SJ, SH
JASO MA

Mobil Extra 4T 10W-40

Very high-performance semi-synthetic 4-stroke oil for the engines of mechanised farming equipment, lawnmowers, quad bikes, etc.

- Easy cold starts
- Good detergent and dispersion properties
- Excellent thermal stability and high resistance to oxidation
- Very good wear and corrosion protection
- High viscosity index and good fluidity in the cold
- Excellent engine cleanliness and protection, which contributes to a potential increase in engine life

Meets or exceeds

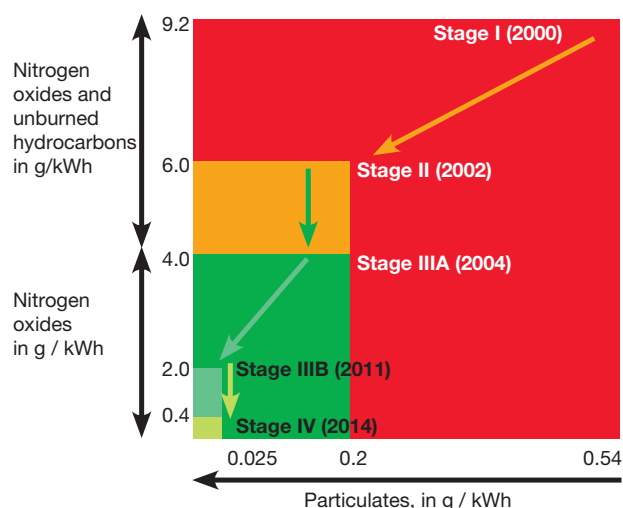
API SL
JASO MA



Standards Stage III / Stage IV and Tier 3 / Tier 4

In Europe, the Auto-Oil programme for the reduction of the polluting emissions of agricultural and forestry equipment led to the publication of directives in 2002, 2004 and 2005, for Stage I to IV of the maximum allowed pollution levels of NO_x (nitrogen oxides), PM (particulates), CO (carbon monoxide) and HC (unburned hydrocarbons). These European stages are close to those defined in the USA under the name 'TIER', which depend on how powerful the engine is. Below is the case for engines of 130 to 560 kW.

Agricultural and forestry equipment in Europe Reduction of emissions for engine powers ranging from 130 to 560 kW



Stage IIIB (TIER 4 Interim) and Stage IV (TIER 4 Final)

Stage IIIB (TIER 4 Interim) will come into effect in 2011 and Stage IV (TIER 4 Final) in 2014 in Europe. Manufacturers will be required to comply with these standards according to a precise timetable.

Timetable for the implementation of standards TIER 4 Interim (Stage IIIB) and TIER 4 Final (Stage IV)
(Approximate the American TIER standards)

EUROPE	2008	2009	2010	2011	2012	2013	2014	2015	2016
Engine power in kW	Maximum authorised level of emissions in g/kWh								
19 kW / 37 kW	STAGE IIIA HC + NOx = 7.5 PM = 0.6								
37 kW / 56 kW	STAGE IIIA HC + NOx = 4.7 PM = 0.4					STAGE IIIB NOx = 4.7 PM = 0.025			
56 kW / 75 kW	STAGE IIIA HC + NOx = 4.7 PM = 0.4				STAGE IIIB NOx = 3.3 PM = 0.025		STAGE IV NOx = 0.4 PM = 0.025		
75 kW / 130 kW	STAGE IIIA HC + NOx = 4.0 PM = 0.3				STAGE IIIB NOx = 3.3 PM = 0.025		STAGE IV NOx = 0.4 PM = 0.025		
130 kW / 560 kW	STAGE IIIA HC + NOx = 4.0 PM = 0.2			STAGE IIIB NOx = 2.0 PM = 0.025			STAGE IV NOx = 0.4 PM = 0.025		

The information above is provided for reference only. The timetable for applying these standards is subject to revision according to the European directives.

Emissions reduction technologies

Standards Stage IV / TIER 4 are aimed at attaining a level of close to zero emissions for nitrogen oxides and particulates. This legislation has led to engine manufacturers developing new technologies.

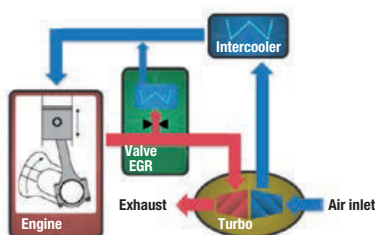
EGR, SCR and DPF processes

NOx reduction

EGR

(Exhaust gas recirculation):

Reduction in the formation of NOx (nitrogen oxides) by means of the recirculation of a controlled quantity of exhaust gas, which is cooled and then reintroduced to the combustion chamber.



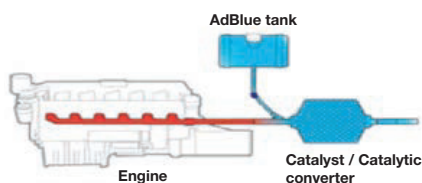
SCR

(Selective Catalytic Reduction):

The NOx (nitrogen oxides) are reduced to nitrogen and water vapour by the action of a catalyst made of an aqueous solution of urea commercially referred to as **AdBlue**.

This solution, stored in a special tank, is injected into the exhaust circuit in order to initiate a reaction in the catalytic converter.

The system concerned is an exhaust gas post-treatment system.

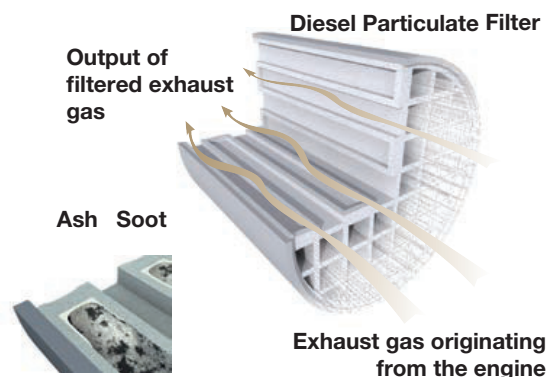


Particulates reduction

DPF / FAP

(Diesel Particulate Filter):

The catalytic filter retains the soot particles that are subsequently burned to produce carbon dioxide. Over time, the accumulation of ash in the filter may necessitate filter replacement.



The implementation of various standards has led to the development of new lubricants (low SAPS) with a low content of substances forming sulphate, phosphorus and sulphur ashes.

Indeed, certain elements of the post-treatment system are sensitive to the presence of these chemical substances present in the lubricant and the fuel. This leads to the poisoning and clogging of the catalysts and particulate filters.

Glossary

Nitrogen oxides (NOx): Emitted during the high-temperature combustion of fuels, nitrogen oxides contribute to atmospheric pollution. In particular, they contribute to the greenhouse effect and may also have detrimental consequences for public health.

Particulates (PM: Particulate Matter): This refers to soot particles, the residues of the incomplete combustion of heavy hydrocarbons originating from diesel engines. They are suspected to be toxic at high concentrations.

AdBlue: Commercial name for synthesised urea in aqueous solution with a concentration of 32.5%. This value corresponds to the correct concentration, necessary for vehicles equipped with an exhaust gas post-treatment system of SCR type.

Low SAPS: Term used to describe lubricants compatible with exhaust gas post-treatment systems, in particular diesel particulate filters. These lubricants contain low concentrations of sulphate, phosphorous and sulphur ash forming constituents.



Mobil – a comprehensive range to cover all of the lubrication needs for your agricultural machinery



Please note:

The standards and specifications contained in this catalogue are up to date at the time of print. Standards and specifications may change. Please consult the product data sheets available from our website www.mobildelvac.com for more up-to-date information.

Always check in the maintenance manual to ensure the standards and specifications of the lubricants selected effectively meet the manufacturers' requirements.

Moreover, the drainage intervals must always be determined and appropriate dependent on the application.

Oils for diesel engines

Mobil Delvac 1 LE 5W-30

Mobil Delvac XHP LE 10W-40

Mobil Delvac MX Extra 10W-40

Mobil Delvac MX ESP 10W-30 / 15W-40

Mobil Delvac MX 15W-40

Mobil Delvac Super 1400_E 15W-40

Lubricants for transmissions with hydraulic systems, wet brakes and clutches

Mobilfluid 426

Mobilfluid 424

Mobilfluid 422

Multi-purpose greases

Mobilith SHC 220

Mobilgrease XHP 222 / XHP 221

Mobilux EP 2

Multi-purpose oils

Mobil Agri Extra 10W-40

Mobil Agri Super 15W-40

Oils for gearboxes, powered axles and final reduction gears

Mobilube 1 SHC 75W-90

Mobilube HD 80W-90

Mobilube HD 85W-140

Mobilube LS 85W-90

(limited slip differentials)

All the recommendations that are presented in this document are given for information only and are not in any way binding on the manufacturer. The customer is responsible for ensuring that the product selected is suitable for the purpose for which it is to be used. If in doubt, please consult the maintenance manual supplied by the manufacturer.

Mobil oils are formulated for industrial diesel engines used in sectors such as agriculture, road transport or construction. Worldwide, many manufacturers choose Mobil Delvac.

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For more information on Mobil lubricants for agriculture or any other Mobil lubricants, you can contact our technical assistance team by telephone: **0800 970 215** or email: **TechDeskEurope@exxonmobil.com**



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