



Protech & Syntech **PRODUCT GUIDE**



INTRODUCTION

PowerUp Auto & industrial are a locally owned and operated manufacturing and distribution company, who supply premium quality products to the automotive, industrial, agricultural, earth moving, mining and marine industries.

PowerUp oils are manufactured using high quality virgin and hydrocracked base oils combined with latest additive packages to give a high performance product that will not let you down. All our products come with quality assurance and are guaranteed to meet the required standards and specifications.

With our technical support we can provide high quality lubricant solutions to suit petrol, diesel and LPG applications. We can also supply speciality products including, hydraulic oils, gear oils, transmission fluids and greases.

Protech BLUE GREASE LITHIUM COMPLEX

PROTECH BLUE GREASE LITHIUM COMPLEX is a premium lithium soap thickened grease formulated with advanced extreme pressure (EP) and anti-wear (AW) additive technology. It is a truly multi-service grease suitable for use in both automotive and industrial applications. In addition to its EP and anti-wear characteristics it also provides a high level of oxidation, rust and water washout protection.

Features and Benefits

- Reduced wear protection under high or shock loads
- Superior protection against rust and corrosion
- Excellent resistance to water washout
- Good pumpability in centralised systems
- Outstanding storage stability
- Lead, Chlorine and Nitrite free
- Suitable for relevant gearbox usage

Applications

Recommended for use in most types of automotive and industrial applications including heavy duty service where high loads are encountered. It is suitable for rolling element bearings, plain bearings, gears and couplings.

Because of its outstanding corrosion and water resistant properties it is particularly suitable where water ingress is present such as underground tunneling or mining and ore crushing plants.

The recommended operating temperature range is from -20°C to 130°C. It can endure higher temperatures for short periods or if the lubrication frequency is increased.

Typical Data

NLGI Grade	2
Soap/Thickener Type	Lithium
Colour	Blue
Worked Penetration	280
Drop Point °C	195
Oil Viscosity cSt, 40°C	150
Timken OK Load, kg	22
4-Ball Weld, kg	250
4-Ball Wear Scar, mm	0.45
Water Washout, wt%	5

Protech HIGH TEMP RED GREASE

Protech Red Grease is a premium, high melting point, lithium complex NLGI 2 grease. It is a high temperature and high EP (Extreme Pressure) grease designed to meet the demands of the most hostile grease applications and conditions.

In addition to the EP, AW and exceptional water resistance properties Protech Red Grease also provides a high level of oxidation, rust and corrosion protection Protech Red Grease is a hi-tech grease with advanced component technology that will ensure outstanding service in the most demanding applications particularly for expensive and key equipment.

Applications

Protech Red Grease is recommended for use in most types of automotive and industrial applications including heavy duty service where high temperatures, high loads and water spray

or ingress are encountered. It is suitable for rolling element bearings, plain bearings, chassis parts, gears and couplings. Because of its outstanding corrosion and water resistant properties

it is particularly suitable where water is present such as steel mills, underground tunneling or mining and ore crushing plants.

The recommended operating temperature range is from -10 degrees C to 200 degreesC.

Protech Red Grease can endure higher temperatures for short periods or if the lubrication frequency is increased.

Features and Benefits

- Excellent resistance to water spray & washout
- Increased wear protection under high or shock loads
- Superior protection against rust and corrosion
- High temperature capability
- Excellent mechanical stability
- Outstanding storage stability
- Lead, Nitrite and Heavy Metals free
- Good pumpability in centralised systems

Typical Data

Typical Tests	
NLGI Grade	2
Soap/Thickener Type	Lithium Complex
Colour	Red
Worked Penetration	280
Drop Point °C	275
Oil Viscosity @ 40°C (cSt)	220
4-Ball Weld, kg	400
4-Ball Wear Scar, mm	0.45
ASTM Rust Test	Pass
ASTM Water Spray-off, wt%	45

Protech MOLY GREASE EP2

MOLY GREASE EP2 is a lubricating grease formulated to meet the extreme conditions encountered on-off highway construction equipment as well as heavy duty applications.

This product is a Lithium Complex thickened grease blended with high viscosity base fluids for exceptional film strength and is fortified with 3% molybdenum disulfide for additional load carrying capacity and anti-wear performance.

Features and Benefits

MOLY GREASE EP2 is ideal for wet environments and better performance at high temperatures. Because it is lithium complex thickened grease,

MOLY GREASE EP2 has a high dropping point which also provides excellent protection in high temperature environments. Ideally suited for Truck and Farm applications.

Typical Properties

Minor variations in product typical test data are to be expected in normal manufacturing

Typical Tests	MOLY GREASE EP2
NLGI Grade	2
Thickener Type	Lithium Complex
Texture	Tacky
Colour	Grey
Dropping Point D-2265 F MIN	500 MIN
TIMKEN OK LOAD, ASTM D-2509, LB MIN	55 MIN

Characteristics	MOLY GREASE EP2
Kinematic Viscosity at 100°C, mm ² /s (cSt)	22-24.5
Kinematic Viscosity at 40°C, mm ² /s (cSt)	327-250
Kinematic Viscosity at 100°F, mm ² /s (cSt)	1715-1875
Viscosity Index	80

Protech NEATCUT EP

PROTECH NEATCUT is an extreme pressure mineral non-soluble cutting oil with low odour characteristics for machine operator's comfort. It contains an extreme pressure additive system, rust and anti-foam additives for long tool life, good heat transfer and surface finish.

Features and Benefits

PROTECH NEATCUT CUTTING OIL is designed for heavy duty machining such as deep hole drilling, tapping, broaching and threading of high carbon alloy and stainless steel.

- Chlorine free
- Low viscosity
- Compatible with all metals
- Non staining on ferrous and non- ferrous metals

Typical Main Characteristics

Characteristics	Protech Neatcut
Specific Gravity @ 15°C	0.8650
Kinematic Viscosity at 40°C, mm ² /s (cSt)	32.0
Kinematic Viscosity at 100°C, mm ² /s (cSt)	5.6
Viscosity Index	114.0

Protech SOLCUT EP

PROTECH SOLCUT EP is a general purpose chlorine free cutting fluid. It forms a stable milky emulsion of high lubricity when diluted with water and is resistant against bacterial spoilage. PROTECH SOLCUT EP contains an advanced Biocide designed to protect against both gram-negative and gram-positive bacteria.

Features and Benefits

PROTECH SOLCUT EP is designed for machining applications such as drilling, milling, tapping and threading of high carbon alloy and stainless steels.

- High emulsion stability
- Excellent cooling and lubrication
- Superior corrosion protection
- Low foaming
- Suitable for both ferrous and non-ferrous metals

Application Rates

Material / Operation	Mild Steel	Alloy Steel	Aluminium
Milling, Turning, Drilling	4%	5%	8%
Sawing	4%	4%	8%
Tapping, Threading	7%	10%	10%

Syntech SYNCUT EP

SYNTECH SYNCUT EP is designed to produce a semi synthetic water extendable cutting fluid for use on ferrous and non-ferrous metals. SYNTECH SYNCUT EP provides excellent corrosion protection and has a superior degree of lubricity with exceptional wetting and cooling properties and forms a clear emulsion when diluted with water. SYNTECH SYNCUT EP contains an advanced Biocide designed to protect against both gram-negative and gram-positive bacteria. This product does not contain any chlorine, nitrites, phenols or active sulphur.

Features and Benefits

SYNTECH SYNCUT EP is designed for machining applications such as drilling, milling, tapping and threading of high carbon alloy and stainless steels.

- High emulsion stability
- Excellent cooling and lubrication
- Premium corrosion protection and high quality output
- Suitable for both ferrous and non-ferrous metals
- Long life
- Low foaming
- Operator and environment friendly
- Transparency allows close inspection of cutting operation

Application Rates

Material / Operation	Mild Steel	Alloy Steel	Aluminium
Milling, Turning, Drilling	4%	5%	8%
Sawing	4%	4%	8%
Tapping, Threading	7%	10%	10%

Protech HYDRAULIC OILS

Protech Hydraulic Oils are mineral oil based and are manufactured in a range of viscosity grades to meet the requirements of manufacturers for rust and oxidation – inhibited and anti –wear mineral-oil Hydraulic fluids. They are compatible with the seal materials commonly used in Hydraulic Oil systems. These Oils are primarily for use in Hydraulic Oils equipment, but are suitable for other duties in which lubricants with good oxidation stability and lubrication performance are required.

Features and Benefits

- Outstanding thermal and oxidation stability and good service life
- Good anti-wear properties and rust inhibitor
- Superior hydrolytic stability and excellent demulsibility
- Compatible with the seals commonly used in Hydraulic Oils systems

Approvals / Recommendations

- Meets the specification requirements of
- DIN 5152 Part 2, ISO Type HM
- Sperry Vickers 35VQ25
- Cincinnati Milacron P-68, P-69, P-70 Denison HF) and HF2

Typical Data

Sr No.	Test Parameters	Test Method			
	Viscosity Grade (ISO VG)		32	46	68
1	Appearance	Visual	C&B*	C&B*	C&B*
2	Density @ 15°C g/cm ³	ASTM D1298	0.870	0.874	0.878
3	Viscosity Index	ASTM D2270	100	98	96
4	Viscosity @ 40°C (cSt)	ASTM D445	32	46	68
5	Pour Point °C	ASTM D97	-12	-12	-12
6	Flash Point (COC) °C	ASTM D92	204	204	204
7	Corrosion-Rust Protection	ASTM D665 (A&B)	Pass	Pass	Pass
8	Air Release @ 50°C (minutes)	ASTM D3427	<3.0	<3.0	<3.0
9	Copper Corrosion 3h/100°C	ASTM D130	1B	1B	1B
10	FZG gear test, load stage failure	IP 334	12	12	12
11	Demulsibility (ml)	ASTM D1401	40/40/40	40/40/40	40/40/40

Protech BIO-HYDRAULIC OIL 32, 46, 68

Features and Benefits

BIODRAULIC HYDRAULIC OILS are fortified vegetable based fluids that are biodegradable and therefore ultimately harmless to the environment.

BIODRAULIC HYDRAULIC OILS biodegrade to yield carbon dioxide and water as the end products.

Applications

BIODRAULIC HYDRAULIC OILS are suitable for all types of machinery where leaks of fluid would be unacceptable to the surrounding environment including forklifts in coolstores, golf course equipment, wineries, fruit processing plant, food production areas, grape harvesting equipment, meatworks and abattoirs etc.

BIODRAULIC HYDRAULIC OILS are moderate rated hydraulic oils for use where constant operating temperatures should not exceed 80 deg c in order to achieve optimum fluid life.

BIODRAULIC HYDRAULIC OILS due to their base oil characteristics will give good service life under normal conditions and protect working surfaces from wear due to their special non-zinc additive system.

BIODRAULIC HYDRAULIC OILS may deteriorate under constant severe service conditions of high temperature and pressure, and therefore should be condition monitored to ensure their service life has not been exceeded. More frequent fluid changes will assist in maintaining system cleanliness and pump life.

Typical Data

	ISO 32	ISO 46	ISO68
Specific gravity at 15 C	0.916	0.916	0.920
Kinematic viscosity at 40 C, mm ² /s (cSt)	32	46	68
Kinematic viscosity at 100 C, mm ² /s (cSt)	7.5	10.0	13.5
Viscosity index	214	212	205
Biodegradability CEC-L33-A-93	>90%	>90%	>90%

Protech TRAC TRANS UNIVERSAL

PROTECH Trac Trans Universal A universal tractor transmission oil, TTU is ideally suited to agricultural and industrial equipment operating under severe load conditions, requiring a common oil for transmission, differential, and final drives, hydraulic, wet clutches and wet brakes.

Applications

PROTECH TTU Designed for use in agricultural and industrial machinery requiring a common oil for transmission, hydraulics, differential, final drives, wet clutches, wet brakes, PTO clutches and bearings.

- Meets the strict requirements of Cat TO-2 and Allison C-4 specification
- Minimises wet brake chatter
- Offers maximum performance at low and high temperatures
- Provides superior gear performance and minimises wear and noise in Sundstrand pumps
- Highly shear stable
- Provides extended fluid and performance life under the most arduous conditions

Typical Data

Properties	Unit	Value
SAE Grade		10/W30
Viscosity @ -18°C	cP	4500
Viscosity @ 100°C	cSt	10.5
Density @ 15°C	g/ml	0.90

Approvals/ Recommendations

API: GL-4

Case New Holland MAT 3505/3525/3526

Clark Lift Truck TA 12, TA 18, HR 500,HR 600

Deutz: HTF

Ford New Holland A-2-C-200/A-2-C-201

Kubota

Landini Tractor Hydraulic Fluid

Steiger HTF (SEMS 17001)

Renk Doromat 873/874A/874B Bus ATF

Volvo- VCE 1273.03 and WB101

ESN M2C 86B & C/134A/134B/134C/134D/
77A/86A/86C/41B/43/48B/48C/53A/53B/142A/
143/92A/159A/ 159B/159C

ICH B-5 (International Harvester) / B-6(HyTran)

JI Case MS-1204-1206(PowerGard PFT) /

1207 (HyTran Plus) /1208 &1209

(HyTran Ultra) /1210/1216/1230/1317/143~5

(TCH Fluid) /185 (TFD Fluid) /

B5 John Deere J20C /J20D (supersedes

J20A /J20B / J14A/J14B /JTD303 /J121A)

Allison C-4/C-3/C-2

Caterpillar TO-2 (Obsolete)

Dresser Fiat-Hesston AF-87

Denison HF-0/HF-1/HF2

Komatsu

UDT Fluid & Super UDT

Oliver Type 55 Q-1802

Versatile Gear & HTF 23M/24M

Sperry Vickers/Eaton:1-286-S&M2950

Volvo- VCE 1273.03 and WB101

Chalmers Power Fluid PF-821 XL/257541 &
246634 HTF

Deutz-Allis: 25743/

Danfoss Hydro Static Trans Fluid

Protech 2 STROKE OIL

Features and Benefits

2-STROKE TC is a low ash high performance two stroke engine oil, suitable for use in all two stroke Japanese and European motorcycle engines, lawn mowers, brush cutters and chainsaws.

2-STROKE TC is specifically recommended for lubrication of two-stroke engines that require API TC and JASO FC performance levels.

Applications

2-STROKE TC is not recommended for water-cooled two-stroke marine outboards.

2-STROKE TC should be used in conjunction with the engine manufacturers recommendation regarding fuel/oil ratio, however, in the absence of such information a 50 to 1 fuel/oil ratio is advised

Approvals / Recommendations

- JASO FC
- API TC
- ISO-L-EGC
- TISI 1040-2534
- BIS T-SL4

Technical Data

CHARACTERISTICS	TWO STROKE TC
Color	Green
Specific gravity at 15 C	0.8650
Kinematic viscosity at 40 C, mm ² /s (cSt)	58.0
Kinematic viscosity at 100 C, mm ² /s (cSt)	8.9
Viscosity index	129

Protech OUTBOARD OIL TCW III

PROTECH OUTBOARD OIL is a premium low smoke engine oil combined with an ashless additive system, designed for all water cooled two stroke outboard engines including oil injected and pre mix systems.

OUTBOARD OIL meets and exceeds the following specifications.

- NMMA TCW 3

Applications

SUPER OUTBOARD OIL is self-mixing and suitable for oil injection systems often fitted to modern two stroke outboards.

SUPER OUTBOARD OIL should be mixed according to the ratio recommended by the manufacturer. It can be used at fuel/oil ratios of up to 100/1 however, 50/1 ratio is advised in the absence of engine recommendations.

Approvals / Applications

SUPER OUTBOARD OIL exceeds the National Manufacturers Association (NMMA) specifications for service TC-W3

SUPER OUTBOARD OIL assists in maintaining engine cleanliness in all water cooled two stroke outboard engines or air cooled engines using both leaded and unleaded fuels. **Suitable for use in E85 in competition only.**

Typical Data

Colour	Blue
Specific gravity at 15°C	0.87
Kinematic viscosity at 40°C, mm ² /s (cSt)	48.7
Kinematic viscosity at 100°C, mm ² /s (cSt)	7.2
Viscosity index	110

Suitable for all outboard two stroke engines operating on leaded or unleaded petrol with or without injection lubrication systems:- Evinrude, Mercury, Yamaha, Tohatsu, Johnson, Force, Suzuki, Mariner

Protech CHAIN & BAR OIL

PROTECH Chain & Bar Oil is for chain saw applications formulated to provide maximum protection of chains, bars and sprockets. It contains anti-wear and extreme pressure additives to reduce wear and ensure maximum life for chains, bars and sprockets.

Features and Benefits

- Has a high level of tackiness additive to ensure maximum cling thus reducing oil consumption due to "fling off" from moving chains and sprockets.
- Is compatible with all materials used in chain saws. Minimizes even in professionally used saws running at full power thus reducing maintenance and service costs.
- Experience has shown that the use of low quality chain oil leads to high chain link wear due to build-up of sawdust, sap and chain oil, reducing the linear flexibility of the chain. This ultimately causes the engine to stall, and in some cases the chain will need re-tensioning after only a few cuts. Field trials have shown that Protech Chain & Bar Oil effectively eliminates this problem.

Protech AUTOTRANS FLUID DEXRON III G

ATF DEXRON III G is an automatic transmission fluid designed as a new generation petroleum based product for automatic and power shift transmissions. This highest level product meets both General Motors and Mercon lubricant surpassing 6297-M and Ford M2C185A. In addition it also meets Allison C-4 fluid and is qualified as a Caterpillar TO-2 specification. It is formulated with the latest generation fluid developed from hydrocracked base stock to meet the factory filled requirement of a range of European and Japanese vehicles.

Features and Benefits

Ensures full transmission functionality, offering excellent gear durability, good shift feel on cold start and at operating temperature, giving excellent thermal and chemical stability. Compatible with all gaskets and seals. Provides excellent anti-wear, rust and corrosion protection, resistance to oxidation, retention of frictional characteristics and correct fluidity at all operating temperatures.

Applications

ATF DEXRON III G is recommended for the automatic transmissions of passenger cars, trucks, off highway construction, mining and agricultural equipment, and other applications where Dexron fluids are specified, including automatic transmissions used in all General Motors, GMH, Isuzu and Opel vehicles and hydromatic transmissions in a range of vehicles.

It is recommended for all Ford passenger car and light truck auto trans. Requiring Mercon fluids except in Ford four speed (BTR M85LE & 95LE) Mitsubishi (KM175 & 177) and Hyundai damper clutch auto trans.

It is also recommended for the auto trans. Of certain Mazda, Nissan and Toyota vehicles, and Voith transmissions as per the performance characteristics.

Approvals / Recommendations

- G M Cert No G-34188, GM6297M, HN2126
- Mazda M-III Fluid
- Nissan NissanMatic C, D
- Voith G607, G1363, Diwa Trans
- Ford Mercon, WSP-M2C-185A
- Toyota T Fluid
- Allison C4-Cert No C4-25273097
- ZF TE-ML 03, TE-ML 14

Protech TRANS FLUID 95LE

Features and Benefits

ATF 95LE is a special purpose automatic transmission fluid for late model Ford automatic transmissions; KM175 and KM 177 automatic transmissions fitted to Mitsubishi Magnas from January 1998, and all Hyundai automatic transmissions.

- Ensures full transmission functionality, offering excellent gear durability, good shift feel on cold start and at operating temperature, giving excellent thermal and chemical stability.
- Compatible with all gaskets and seals.
- Miscible with all mineral oil and synthetic oil, thus requires no flushing.

Applications

For BTR M95LE four speed automatic transmissions as fitted to the 8 and 6 cylinder Ford Falcon EB, Fairlane NC and LTD DC and subsequent models and BTR M85LE four speed automatic transmissions fitted to Series Two 6 cylinder Ford Falcon EA, Fairlane NA and LTD DA model passenger cars and for KM175 and KM177 automatic transmissions fitted to Mitsubishi Magnas including TR, TS, TE and TF Magna, KR, KS, KE and KF Verada, HJ Galant, UF Nimbus and CE Lancer. As well as all Hyundai automatic transmissions.

Approvals / Recommendations

- BTR 5M-52 85LE & 95LE
- MMAL ES-X64022SP2;
- Hyundai Part number 05243-33000.

Typical Data

SAE Grade	10W(70W)
Colour	Red
Density @ 15°C	0.874
Viscosity cP at 40°C	38.0
Viscosity @ 100°C	7.4
Viscosity Index	160

Protech GEAR OIL 75W/90

GEAR OIL 75W/90 Semi Synthetic, multigrade, multipurpose, automotive gear oil with outstanding high temperature, high shear stability and performance, plus excellent low temperature fluidity.

Features and Benefits

- Particularly suited to modern, manual gear boxes as used in late model vehicles.
- Can be used whenever SAE 75W, 80W, 85W, 90W and 80W/90 viscosity grades are specified.
- Protects gears against wear and scuffing
- Easy cold-start gear changes
- Light and easy gear shifting and noise control
- Improved fuel economy
- High resistance to oxidation, corrosion and foaming
- Mixes with mineral gear oils
- Improved protection in high-load, high shear stress and high-temperature applications.

Applications

GEAR OIL 75W/90 Recommended for front wheel drive transaxle gear boxes and other manual transmissions. For modern car, SUV and light commercial manual transmissions where manufacturers call for a GL-4 or GL-5 SAE 75W-90 viscosity gear lubricant.

Approvals / Recommendations

- API GL5
- MIL-L-2105 C
- GENERAL MOTORS HN 2013, 1820, 1046,1070
- FORD ESW M2C-83A/B/C
- BTR 5M-42(80)
- MACK GO-G

Protech GEAR OIL 80W/90 & 85W/140

PROTECH Automotive Gear Oils are multipurpose, extreme pressure, gear lubricants designed to meet the requirements of the API Service Classification GL5 and Military Specification MIL-L-2105D. They are fully inhibited against foaming, oxidation and corrosion, and contain sulphur phosphorus extreme pressure additives which ensure that they meet all the requirements of modern automotive differentials, manual transmissions and final drives where such gear oils are required.

Features and Benefits

- Multipurpose Gear Oils provide the best possible lubricants to effect rationalisation of gear oils for manual transmissions, differentials and final drives
- They are based on “clean-gear” sulphur phosphorus extreme pressure additive technology
- They are fully inhibited against rusting, corrosion, oxidation and foaming
- They meet major manufacturers specifications, including Mack GO-J

Applications

These Gear Oils are suitable for all bevel, spiral bevel and hypoid gears operating under all service conditions in differentials, manual transmissions and other gear cases of automotive equipment where API GL5 gear oils are called for.

These Gear Oils may also be used in automotive worm drive axles and most industrial worm drives with reduction ratios below 10:1.

These Gear Oils are not recommended for use in limited slip differentials.

Approvals / Recommendations

	80W/90	85W/140
API Gear Lubricants Designation	GL5(GL6)	GL5(GL6)
US Military	MIL-L-2105D/E	MIL-L-2105D/E
BTR (Borg Warner)	5M-36	
Clark	MS-8	MS-8
Ford	M2C-105A M2C-108A	SM-2C-1013A
GM	HN1181 HN1187 HN1386	
Mack	GO-G/J	GO-G/J
MAN	324	324
MB	235.0	235.0
ZF	TE-ML 01/05/07	TE-ML 01/05/07
International Harvester	B-22	B-22
Rockwell Standard	0-76-D	0-76-A
White	MS-0016	

Protech GEAR OILS LS90 & LS140

PROTECH GEAR OILS LS90 & LS140 Limited Slip (LS) Hypoid Gear Oil for highly stressed normal and limited slip differentials in cars, vans, trucks, buses, tractors, construction and industrial machinery.

Features and Benefits

- Very good viscosity temperature behavior because it stays in grade and maintains its characteristics even in severe conditions
 - Potential for improved fuel economy
 - Outstanding protection against wear.
 - The lubricating film remains stable under very high loads and foaming is minimal at high speeds
 - Friction co-efficient to meet requirement of Limited Slip differentials
 - Quieter running
 - Avoids chattering and screeching even in the severest of conditions
 - No loss of performance.
 - Protects all metals normally found in gearboxes against corrosion and does not leave deposits on oil seals
 - Compatible with all elastomers and other sealing materials.
 - Guarantees the perfect function of synchromesh gearboxes
 - Guarantees the perfect function of Limited Slip differentials
 - Lower maintenance costs
- The long life characteristic of this LS hypoid gear oil reduces wear related down-time

Applications

PROTECH GO LS90 & LS140 For all highly stressed normal and limited slip differentials in cars, vans, trucks, tractors, construction and industrial machinery.

Approvals and Recommendations

- API GL-4, GL-5, GL-5 LS
- Mil-L 2105D (only 90 grade)

Protech MONO, 30W, 40W, 50W

Features and Benefits

Protech Mono oils are mono grade automotive engine oils designed for a wide range of petrol and diesel engines. Primarily recommended for use as a single oil in mixed fleets containing both light and heavy duty, four stroke diesel and petrol engines, both naturally aspirated and turbocharged, where a mono grade oil is recommended. They are available in SAE: 10W, 30, 40 and 50 grades.

The Mid sulphated ash content ensures its use for mixed fleet operators including those with petrol engines with catalytic converters. SAE: 40 can be used for general use in Detroit Diesel 2 Stroke engines.

Applications

Protech Mono oils are also recommended for generator sets and high speed diesel engines in marine service. Can be used in non engine applications where oils of its performance level are suitable, such as manual and power lift transmissions and mobile hydraulic systems.

Protech Mono oils meets or exceeds the following specifications:

- API CF-4, CF-2, CF/SG
- MIL-L-2104E/2104D
- MIL-L-2104F
- DAIMLER BENZ DB 227.0
- Allison C4
- Allison C3 (SAE:30)
- ACEA E2(SAE 30,40)
- Mercedes Benz 228.0 (SAE 30, 40)
- Mack EO-K/2
- Japan Japanese CD
- Caterpillar TO -2
- Detroit Diesel 7SE-270

CHARACTERISTICS

MONO TECH	10W	30W	40W	50W
Specific gravity at 15 C	0.899	0.878	0.901	.905
Kinematic viscosity at 40 C, mm ² /s (cSt)	40	90	140	205
Kinematic viscosity at 100 C, mm ² /s (cSt)	6.2	10.5	14.5	19.0
Viscosity index	100	100	103	104
Flash Point	> 220	> 220	>220	>220
Pour Point	-32	-21	-18	-15
Sulfated ash, %	<1.00	< 1.00	<1.00	<1.00

Protech UNIVERSAL HD 40

UNIVERSAL HD 40 is a mono grade diesel engines oil for use in 2 stroke diesel engines and 4 stroke diesel engines requiring heavier grade oil.

Features and Benefits

- Maintains engine cleanliness
- Prevents rings sticking
- Reduces piston deposits
- For use in normally aspirated and turbocharged engines
- May be used for four stroke diesel engines
- Ideal for application requiring a heavier grade diesel engine oil
- Protects against sludging
- Compatible with all gaskets and seals
- Maybe used in both 2 stroke and 4 stroke engines

Applications

UNIVERSAL HD 40 is a mono grade diesel engine oil specially designed for Detroit Diesel 2 Stroke engines. May also be used in both light and heavy duty 4 Stroke diesel engines in mixed fleet applications where a mono grade oil is preferred, particularly in older engines.

Approvals and Recommendations

- SAE Grade 40
- API CF-2/CF/CD
- DETROIT DIESEL 6V-92TA
- MIL-L-2104 C/D
- MIL-L-46152A
- CATERPILLAR 1M-PC, L-38
- MACK EO-L

Typical Data

Properties	Unit	Value
SAE Grade		40
Viscosity at 40°C	cSt	150
Viscosity at 100°C	cSt	14.5
Density at 15°C	g/ml	0.89
Sulfated Ash Content	%	0.7

Protech UNIVERSAL 15W/50 SL/CF-4

PREMIUM UNIVERSAL 15W/50 is an all season, SAE 15W/50 oil for naturally aspirated and turbocharged gasoline and diesel engines.

Features and Benefits

- Rationalization of grades and packages: Unrestricted use in normally aspirated and turbocharged gasoline and diesel engines
- Provides excellent viscometrics: stays in grade and maintains its characteristics even in very severe operation.
- Maintains engine cleanliness
- Suitable for vehicles using LPG fuel, leaded and unleaded fuel
- Compatible with catalytic converters.
- Suitable for, vehicles operating in dusty or sandy conditions, stop-start driving
- Excellent protection against wear due to stable lubricating film at full-throttle operation
- Protect against sludging
- Compatible with all gaskets and seals

Applications

PREMIUM UNIVERSAL 15W/50 all season, high performance SAE 15W/50 engine Oil. For normally aspirated and turbo-charged gasoline engines, light commercial diesel engines and four-stroke motorcycle.

Approvals and Recommendations

- SAE grade 15W/50
- API SL/CF4
- ACEA A2-98 B2-98 E2-96
- CATERPILLAR TO-2
- Military MIL-L2104E
- Military MIL-L-46152B
- Mercedes 229.1

Protech 25W70 SN/C4

Features and Benefits

Protech 25W70 A high performance, high viscosity engine oil for naturally aspirated gasoline and light commercial diesel engine is especially formulated to protect engines operating under heavy loads or harsh conditions, as well as older model and vintage cars. It may assist in reducing oil consumption in worn engines.

- Maintains engine cleanliness.
- Provides protection against wear, oxidation, rust and corrosion.
- Suitable for vehicles using LPG fuel, leaded and unleaded fuel.
- Compatible with catalytic converters.
- Protect against sludging.
- Compatible with all gaskets and seals.
- Reduces oil consumption.

Applications

Protech 25W70 All season SAE 25W/70 engine oil. For normally aspirated gasoline engines and light commercial diesel engines where an API CD service classification is recommended.

Approvals / Recommendations

SAE Grade 25W/70 API SN/CF-4

Syntech FS GEAR OIL 70W75 GL-4

FULLY SYNTHETIC

SYNTECH FS GEAR OIL 70W75 is a high viscosity index, full synthetic manual gearbox lubricant containing sophisticated extreme pressure additives and base oils. It is designed to give maximum protection to transaxles and gearboxes operating under the most arduous conditions. Designed for 5 and 6 speed manual gearboxes.

Benefits

- Smooth shift
- Enhanced oxidation stability
- Full Synthetic for longer life
- Superior wear protection

Approvals / Recommendations

- MTF BOT 338
- API GL-4+
- ZF TE-ML 11 (manual)
- TREMEC T-56

Typical Main Characteristics

CHARACTERISTICS	GEAR OIL 70W75 GL-4+ FULL SYN
Specific gravity at 15°C	0.859
Kinematic viscosity at 40°C, mm ² /s (cSt)	38.0
Kinematic viscosity at 100°C, mm ² /s (cSt)	7.5
Viscosity index	177

Syntech FS GEAR OIL 75W80 GL-5

FULLY SYNTHETIC

75W80 GL-5 FULL SYNTHETIC is a high viscosity index, full synthetic manual gearbox lubricant containing sophisticated extreme pressure additives and base oils. It is designed to give maximum protection to transaxles and gearboxes operating under the most arduous conditions.

Benefits

- Smooth shift
- Enhanced oxidation stability
- Full Synthetic for longer life
- Superior wear protection

Approvals / Recommendations

- API MT-1
- API GL-5 / GL-4
- DAF
- Man 342N
- MIL-L-2105D
- Volvo 97310ZF TE-ML 05A / 07A / 12C / 16E / 17B / 1

Typical Main Characteristics

CHARACTERISTICS	GEAR OIL 70W75 GL-4+ FULL SYN
Specific gravity at 15°C	0.855
Kinematic viscosity at 40°C, mm ² /s (cSt)	51.0
Kinematic viscosity at 100°C, mm ² /s (cSt)	9.4
Viscosity index	170

Syntech FS GEAR OIL LS75W90 GL-5 & LS80W140 GL-5 – LIMITED SLIP

FULLY SYNTHETIC

SYNTECH FS GEAR OILS LS75W90 & LS80W140 are fully synthetic multigrade lubricants, providing superior wear protection, high temperature stability and excellent low temperature characteristics, due to their blend of selected synthetic base and extreme pressure additives.

They contain the Sturaco 7098 friction modifier for use in limited slip differentials that suffer from severe chatter.

Applications

SYNTECH FS GEAR OILS LS75W90 & LS80W140 are ideal for use in transaxles with combined manual gearbox and hypoid differentials and are designed to give maximum protection to gearboxes and differentials operating under the most severe of conditions.

Should be used in manual transmissions and axle drives requiring API GL-4, GL-5 and MT-1 performance.

Approvals and Recommendations

SYNTECH FS GEAR OILS LS75W90 & LS80W140 meet or exceed the following Industry Specifications.

- API GL5, MT-1
- MILITARY SPECIFICATIONS MIL-PRF-2105E
- GENERAL MOTORS HN-1561, HN-2040
- ZF TE-ML 05B/05D/07A/21
- SAE J2360
- MACK GO-J * BORG WARNER 5M - 50

Typical Data

Typical Data	LS75W90	LS80W140
Viscosity Index	150	146
Viscosity at 40°C (cSt)	21.5	33.5
Viscosity at 100°C (cSt)	170	320

Syntech DCTF DUAL CLUTCH TRANSMISSION FLUID

Features and Benefits

DCTF (DSG) protects clutches and sustains consistent launch and anti-shudder durability for the lifetime of the transmission. It ensures performance at low temperature for the mechatronics, protection at high temperature for the gears and heat dissipation for the clutches and gears.

- Protection of the transmission against wear and corrosion
- Lubrication of the clutches, gears, shafts, bearings and synchronisers
- Heat dispersal for the entire system
- Hydraulic actuation of the clutches and gear change

Approvals and Recommendations

- BMW (GETRAG) 83 22 2 148 578
- BMW (GETRAG) 83 22 2 148 579
- BMW (GETRAG) 83 22 2 147 477
- BMW (GETRAG) 83 22 0 440 214
- PORSCHE OIL NO. 99.917.080.00
- MZ320065 DIA-QUEEN SSTF-1
- PEUGEOT/ CITROEN 9734.S2
- MB 236.21 (001 989 85 03)
- FORD M2C936A
- VOLVO 1161838
- VOLVO 1161839
- VW TL 052 182
- VW TL 052 529

Technical Data

CHARACTERISTICS	DCTF DUAL CLUTCH
Specific gravity at 15°C	0.8548
Kinematic viscosity at 40°C, mm ² /s (cSt)	37.0
Kinematic viscosity at 100°C, mm ² /s (cSt)	7.2
Viscosity index	170.0

Syntech FS POWERTRANS 50

FULLY SYNTHETIC

SYNTECH FS POWERTRANS 50 is a full synthetic, high performance, multifunctional transmission fluid blended from premium synthetic Group IV PAO base oils and selected additives designed to meet the requirements of Caterpillar and Komatsu final drives, powershift transmissions, torque converters, hydraulic systems, off-highway equipment and any other system calling for TO-4 specification.

Applications

- Superior frictional characteristics for optimum clutch life
- Enhanced wear protection leading to longer life, reduced oxidation and higher film strength
- Wide application range
- Minimises degradation of equipment

Approvals / Recommendations

SYNTECH FS GEAR POWERTRANS 50 meets or exceeds the following Industry Specifications.

- GL-3
- CATERPILLAR TO-4
- ROAD RANGER 50 TRANSMISSIONS
- KOMATSU
- ROCKWELL 0-81
- VOLVO
- ZF TE-ML01

Typical Main Characteristics

Typical Data	GEAR OIL 70W75 GL-4+ FULL SYN
Specific gravity at 15°C	0.8605
Kinematic viscosity at 40°C, mm ² /s (cSt)	150
Kinematic viscosity at 100°C, mm ² /s (cSt)	19.2
Viscosity index	145
Flash Point °C	229

Syntech FS ATF MULTITRANS

Full Synthetic

Syntech ATF MULTITRANS is a premium synthetic ATF multifunctional transmission fluid that is formulated to meet the requirements of most modern and older transmissions while specifically designed for use in Japanese, European, and North American vehicles. It is suitable for extended drain intervals up to 150,000 km's for general use and 80,000 km's for heavy duty applications. It covers a wide range of specifications making it a true multifunctional product.

Features and Benefits

- Outstanding cold flow properties
- Extended drain intervals
- Excellent shear stability
- Minimal viscosity loss
- Greatly reduced wear
- Reduced oxidation
- Optimised frictional characteristics
- Softer gear change
- Excellent thermal and oxidative stability

Approvals / Recommendations

Alison Warner AW1	Jaguar X (2001-2005), 3100
Alison C4	JWS 3309, 3314, 3317, 3324
Alison TES — 295.389	Kia Red-1
AE LT 71141 ZF	MAN 339F, V2, Z1, Z2, 339V1
Audi G 052025-A2	Mazda M III, M V
Audi G 052162-AI	MB 236.1/2/3/5/6/7/9/10/11(LT71141) MB 5 Speed 1996-2006 (Shell 3403) Mitsubishi
BMW 7045E, 807213	SP II, SP IILIV, ATF J2 Nissan Matic D,J,K,S Nissan 402
BMW LA 2634	Porsche(1993 plus) Saab 93 165 147 Shell 403, LA2634 Shell M-1375.4/1375.5/1375.6
BMW LT 71141 P/N 83 22 0 142 516	Subaru ATF, ATF-HP
Chrysler ATF, Mopar AS68RC	Suzuki 3314, 3317
Dexron IID, 111F, 1116, 111H, VI	Texaco ETL 7045 ETL8072B N402
ESSO LT 71141	Toyota T-111, TIV, WS(JWS 3324)
Ford Mercon V.SP.LV	Voith 55.6335)0 (G607)
Daimler Chrysler Sheet 236.11, NAG 1	Voith 55.6336XX (G1363) DIWA 2/3/3E/5
Ford BTR 85LE, 95LE & ZF 6 Speed	Volvo 97340, 97341, 4-6 SpeedAT
Ford FNR5, WSS-M2C92AA, Ford Fiesta	VW G 052.162, 025-A2, 052.990, 055.0054
Honda Z-1, DW-1	VW 162-A1, TL 52162, Polo
Hyundai/Kia SP-II, SP-III, IV, JWS3314/33 1 7	ZF Lifeguard Fluid 5 (schedule 11B)
Hyundai NWS-9638, SPH-IV	ZF TEL ML 03D, 04D, 09, 14A, 14B, 14C, 16L
Idemitsu K17	ZF 17C
JASO 1-A	VW 052 162-AI
JATCO Nissan, Rover 800FWD, VW Polo	ZF TEL ML 03D, 04D, 09, 14A, 14B, 14C, 16L
	17C

Typical Properties

Typical Data	Test Method	Results
SAE Viscosity Grade	SAE J300	IOW
Density @ 15°C (kg/L)	ASTM D1298	0.85
Kinematic Viscosity @ 40°C (cSt)	ASTM D445	35
Kinematic Viscosity @ 100°C (cSt)	ASTM D445	7.2
Viscosity Index	ASTM D2270	181
Pour Point °	ASTM D97	-48
Flash Point (COC) °C	ASTM D92	204

Applications

Syntech ATF MULTITRANS eliminates the need to stock additional fluids and is suitable for older, modern and high performance applications. It is formulated with enhanced friction modifiers has a high VI and can be used where a Dexron VI, IID/G/H, ED, 95LE, etc. are specified.

Meets GM DEXRON 11th & MERCON.

Syntech FS ATF MULTITRANS LV

Full Synthetic, Low Viscosity

Syntech ATF FS LV is a new generation, low viscosity, full synthetic fluid developed for transmissions requiring a lighter viscosity fluid compared to SYN MULTITRANS. ATF SYN LV is designed to meet the current low viscosity requirements of many OEM vehicle manufacturers. The ideal transmission fluid for Ford Mercon LV and GM Dexron VI as well as many others.

Applications/Benefits

Syntech ATF MULTITRANS FULL SYN LV is a very versatile fluid and can be used in almost all Japanese and many European and American vehicles as a service fill, and may also be used as a power steering fluid and in hydraulic systems particularly where high temperatures are encountered.

- AISIN WARNER AW-1
- AUDI G 055 005, G 055 162, G 060 162
- BMW 83 22 0 142 516, 83 22 2 152 426
- HONDA DW-1
- FORD MERCON LV
- GM DEXRON –VI
- HYUNDAI/KIA SP-IV, SPH-IV, SP-IV RR
- HYUNDAI NWS-9638
- JASO 1-A-LV
- JWS 3324
- NISSAN MATIC-S
- MITSUBISHI SP-IV, ATF J2
- TOYOTA WS (JWS 3324)
- VW G 055 540
- ZF LIFEGUARD 6
- MERCEDES BENZ MB: 236.12, 236.14
- MITSUBISHI DIAQUEEN PA

TECHNICAL DATA

- Specific gravity at 15 C
- Kinematic viscosity at 40 C, mm²/s (cSt)
- Kinematic viscosity at 100 C, mm²/s (cSt)
- Viscosity index
- 0.845
- 27.0
- 5.7
- 160

Syntech BRAKE FLUID DOT-4

SYNTECH DOT 4 BRAKE FLUID is a high performance polyglycol-based brake fluid designed for use in a wide range of brake and clutch applications where DOT 3 AND DOT 4 specifications are called for. DOT 4 BRAKE FLUID has a high boiling point and low volatility and is recommended for re-fill or top-up of brake and clutch systems in passenger cars, light and heavy commercial vehicles, four wheel drives, tractors and motorcycles. DO NOT mix with DOT 5.0 brake fluid

Features and Benefits

- Low vapor pressure and High Boiling Point guard.
- Fluidity at low temperatures and excellent thermal stability.
- Excellent chemical stability and corrosion resistance.
- Compatible with all system seals.

Approvals / Recommendations

- US FMVSS 116 DOT 4/ DOT 3
- ISO 4925
- SAE J1704

Typical Properties

CHARACTERISTICS	TYPICAL	SPECIFICATION
BOILING POINT °C (MIN DRY ERBP)	270	260
BOILING POINT °C (MIN WET ERBP)	163	160
KINEMATIC VISCOSITY @ -40°C, cSt	1315	1500 max
@ 100°C cSt	2.34	1.5 min
DENSITY @20°C, g/ml	1.04	NOT REQUIRED

Syntech FS 5W30 (FULL SYNTHETIC)

SYNTECH FS 5W30 is a full synthetic low ash petrol/diesel energy conserving motor oil which provides the highest level of protection from combustion deposits, heat induced oil oxidation and sludge deposits.

SYNTECH FS 5W30 provides protection against wear and corrosion, prevent oxidative thickening and inhibit promotion of engine acids, sludge and varnish deposits.

SYNTECH FS 5W30 is a multi-viscosity, low pour point motor oil ensuring quick lubrication to all moving parts during cold weather starts.

Features and Benefits

SYNTECH FS 5W30 meets or exceeds the requirements of an SN/CF engine oil and is suitable for unleaded or leaded fuelled engines, diesel powered cars, turbo charged and naturally aspirated engines and LPG engines.

SYNTECH FS 5W30 maintains outstanding engine cleanliness.

Approvals / Recommendations

SYNTECH FS 5W30 meets or exceeds the following specifications.

- API SN/CF ACEA A3/B4
- VW 502.00, 505.00 BMW LL-01
- MB 229.5 FORD M2C946-A
- PORSCHE

Typical Main Characteristics

CHARACTERISTICS	SYNTHETIC FS 5W30
Specific Gravity @ 15°C	0.854
Kinematic Viscosity @ 40°C, mm ² /s (cSt)	67
Kinematic Viscosity @ 100°C, mm ² /s (cSt)	11.2
Pour Point °C	-35
Viscosity Index	160

Syntech FS C3 0W30

FULLY SYNTHETIC, LOW SAPS, ULTRA HIGH PERFORMANCE LONG DRAIN

SYNTECH FS C3 0W30 is designed for European engines requiring SHPD (Super High Performance Diesel) level of performance and those which comply with Euro 1, Euro 2, Euro 3 and Euro 4 exhaust emission legislation. SYNTECH FS C3 0W30 is a full synthetic PAO based formulation and is suitable for use where particulate filters are used. SYNTECH FS C3 0W30 offers long drain intervals, sustains maximum performance even under high stress and delivers unsurpassed levels of protection.

Features and Benefits

SYNTECH FS C3 0W30 has outstanding low temperature viscometrics for reduced wear at start up and is a dedicated European formulation with Low/ Mid SAPS (Sulfated Ash, Phosphorus and Sulfur).

SYNTECH FS C3 0W30 has superior soot and sludge control resulting in cleaner engines and reduces fuel consumption due to superior technology.

Approvals and Recommendations

SYNTECH FS C3 0W30 meets or exceeds the following specifications.

- ACEA A3/B3-08, A3/B4-04
- ACEA A1/B1-10, A5/B5-10
- ACEA C2, C3
- API SN/CF
- VW 502 00/505 00/505 01
- MB-APPROVAL 229.31/229.51
- RENAULT RN0700/0710
- BMW LONGLIFE-04
- GM DEXOS 2

Typical Data

CHARACTERISTICS	FS C3 0W30 LOW SAPS
Specific Gravity @ 15°C	0.842
Kinematic Viscosity @ 40°C, mm ² /s (cSt)	66.2
Kinematic Viscosity @ 100°C, mm ² /s (cSt)	11.5
Viscosity Index	169

Syntech FS C3 5W30 LONG DRAIN

FULLY SYNTHETIC, LOW SAPS, ULTRA HIGH PERFORMANCE OIL

SYNTECH FS LOW SAPS 5W30 is the most advanced development in lubrication chemistry and complies with the demanding requirements or Euro 4 exhaust emission legislation.

SYNTECH FS LOW SAPS 5W30 is ideally designed for European engines requiring SHPD level of performance and those which comply with Euro 1, Euro 2, Euro 3 and Euro 4 exhaust emission legislation.

Features and Benefits

- Fully synthetic formulation and is suitable for use where particulate filters are used
- Has excellent soot and sludge control resulting in cleaner engines and reduces fuel consumption due to superior technology
- Has outstanding low temperature viscometrics for reduced wear at start up and is a dedicated European formulation with low/mid SAPS (Sulfated Ash, Phosphorus and Sulfur)

Approvals and Recommendations

SYNTECH FS LOW SAPS 5W30 meets or exceeds the following Industry Specifications.

- ACEA C1
- JASO DL-1
- FORD WSS-M2C 934-B
- MAZDA Diesel engine with Diesel Particulate Filter (DPF)

Typical Main Characteristics

CHARACTERISTICS	Unit	Results
Density @ 15°C	g/cm ³	0.855
Flash Point	COC °C	230
Pour Point	°C	-35
Kinematic Viscosity @ 100°C	mm ² /s	10.55
Kinematic Viscosity @ 40°C	mm ² /s	63.2
TBN, ASTM D2896	Mg KOH/g	7.6
Viscosity Index	-	161
Sulfated Ash	Wt%	0.71

Syntech FS C3 5W40 LONG DRAIN

FULLY SYNTHETIC, LOW SAPS, ULTRA HIGH PERFORMANCE OIL

SYNTECH FS C3 Low SAPS 5W40 LONGDRAIN OIL is the most advanced development in lubrication chemistry and complies with the demanding requirements of Euro 4 exhaust emission legislation. SYNTECH FS C3 Low Saps 5W40 is ideally designed for European engines requiring SHPD level of performance and those which comply with Euro 1, Euro 2, Euro 3 and Euro 4 Exhaust emission legislation.

Approvals and Recommendations

SYNTECH FS C3 0W30 meets or exceeds the following specifications.

- MB 229.51
- ACEA C3-10 (2010)
- ACEA C2
- API SN
- AAPI CF
- BMW LL- 04
- VW 502.00 (2005)
- VW 505.00 (2005)
- VW 505.01 (2005)
- Porsche A40
- GM Dexos 2

Features and Benefits

SYNTECH FS C3 Low Saps 5W40 is a full synthetic formulation and is suitable for use where particulate filters are used.

SYNTECH FS C3 Low Saps 5W40 has excellent soot and sludge control resulting in cleaner engines and reduces fuel consumption due to superior technology.

SYNTECH FS C3 Low Saps 5W40 has outstanding low temperature viscometrics for reduced wear at start up and is a dedicated European Formulation with Low/Mid SAPS (Sulfated Ash, Phosphorus and Sulfur).

Applications

Ensures full transmission functionality, offering excellent gear durability, good shift feel on cold start and at operating temperature, giving excellent thermal and chemical stability.

Compatible with all gaskets and seals. Provides excellent anti-wear, rust and corrosion protection, resistance to oxidation, retention of frictional characteristics and correct fluidity at all operating temperatures.

Typical Main Characteristics

CHARACTERISTICS	SYNTECH FS C3 5W40
Specific Gravity @ 15°C	0.853
Pour Point °C	-38
Kinematic Viscosity @ 100°C, mm ² /s (cSt)	13.45
Kinematic Viscosity @ 40°C, mm ² /s (cSt)	81.8
TBN, ASTM D2896, mg KOH/g	7.5
Viscosity Index	168

Syntech FS 5W30 VW 504-507

FULLY SYNTHETIC, LOW SAPS, ULTRA HIGH PERFORMANCE OIL

SYNTECH FS 5W30 VW 504 is a new Low SAPS generation oil especially developed for Volkswagen Group engines. It is designed to be used in all Diesel and Petrol engines, especially those respecting the Euro 4 standards for the reduction of polluting omissions.

SYNTECH FS 5W30 VW 504-507 is ideally designed for European engines requiring SHPD level of performance and those which comply with Euro 1, Euro 2, Euro 3 and Euro 4 exhaust emission legislation.

Features and Benefits

VW 504/507 has been developed with “Clean performance technology” reducing long term blocking of the particulate filters thereby prolonging its life span and maintaining engine performance.

VW 504/507 guarantees a rapid build-up of a stable oil film at cold start, that remains stable at high operating temperatures, while friction is reduced in order to provide greater fuel economy.

VW 504/507 incorporates the highest level of anti wear, anti corrosion and anti foam properties available and allows extra long drain intervals (30,000 – 50,000 kms), thanks to an exceptional oxidation resistance.

VW 504/507 ensures a greater respect for the environment through its reduced omissions

Approvals / Recommendations

SYNTECH FS 5W30 VW 504-507 meets or exceeds the following Industry Specifications.

- ACEA A3/B4-04 (2004) ACEA C3
- Volkswagen VW 504.00
- Volkswagen VW 507.00
- BMW Longlife 04
- MB 229. 31, 229.51

Typical Main Characteristics

CHARACTERISTICS	5W30 VW504/507
Specific gravity at 15°C	0.852
Flash point, COC °C	224
Pour point C	-36
Kinematic viscosity at 100°C, mm ² /s (cSt)	12.0
Kinematic viscosity at 40°C, mm ² /s (cSt)	73
TBN, ASTM D2896, mg KOH/g	5.9
Viscosity index	161
Sulphated ash, %	0.6

Syntech FS C4 5W30 LONG DRAIN

FULLY SYNTHETIC, LOW SAPS, ULTRA HIGH PERFORMANCE OIL

SYNERGY EURO Low SAPS 5W30 C4 is the most advanced development in lubrication chemistry and complies with the demanding requirements of Euro IV and Euro V exhaust emission legislation. Ideally designed for European engines (especially for late model Renault diesel passenger cars) requiring SHPD (Super High Performance Diesel) level of performance and those which comply with Euro IV and Euro V exhaust emission legislation.

SYNTECH FS LOW SAPS 5W30 C4 is a full synthetic formulation and is suitable for use where diesel particulate filters (DPF) are used. Low SAPS 5W30 C4 has excellent soot and sludge control resulting in cleaner engines and reduces fuel consumption due to superior technology. has outstanding low temperature viscometrics for reduced wear at start up and is a dedicated European formulation with Low SAPS (Sulfated Ash, Phosphorus and Sulfur)

Approvals / Recommendations

SYNTECH FS LOW SAPS 5W30 meets or exceeds the following Industry Specifications.

Typical Main Characteristics

CHARACTERISTICS	5W30 C4 LOW SAPS
Specific gravity at 15°C	0.8503
Kinematic viscosity at 40°C, mm ² /s (cSt)	68.0
Kinematic viscosity at 100°C, mm ² /s (cSt)	11.7
Viscosity index	169.0



Syntech 10W30 SN/CF

SEMI SYNTHETIC MADE FROM HYDROCRACKED BASE STOCKS

SYNTECH 10W30 SN/CF is a petrol oil designed for cars and light trucks, especially those with high revving engines and meets the latest ILSAC GF-5 and SN/CF requirements.

Highlights of this oil include the highest protection against sludge, deposits, valve train wear and catalytic converter fouling due to phosphorous volatility.

Features and Benefits

- Outstanding control of cam wear
- Better piston cleanliness and excellent engine sludge protection
- Excellent control of oxidation and oil loss due to volatility
- Better high temperature wear protection
- Fully compatible with prior ILSAC and API categories

Approvals and Recommendations

SYNTECH 10W30 SN/CF meets a range of OEM/Industry specifications including

- SAE 10W30
- API SN/CF
- ILSAC GF-5
- Legacy GM Service Fill
- Ford Service Fill
- Chrysler Service Fill

Typical Main Characteristics

Typical Data	10W30 SN
API	SN
Specific Gravity @ 15°C	0.878
Kinematic Viscosity @ 40°C, mm ² /s (cSt)	76.0
Kinematic Viscosity @ 100°C, mm ² /s (cSt)	11.5
Viscosity Index	145
Pour Point °C	-30
Flash Point °C	216
ILSAC	GF-5

Minor variations in product typical test data are to be expected in normal manufacturing

Syntech 10W40 SN/CF

SEMI SYNTHETIC MADE FROM HYDROCRACKED BASE STOCKS

SYNTECH 10W40 SN/CF is a petrol oil designed for cars and light trucks, especially those with high revving engines and meets the latest ILSAC GF-5 and SN/CF requirements.

Highlights of this oil include the highest protection against sludge, deposits, valve train wear and catalytic converter fouling due to phosphorous volatility.

Features

- Outstanding control of cam wear
- Better piston cleanliness and excellent engine sludge protection
- Excellent control of oxidation and oil loss due to volatility
- Better high temperature wear protection
- Fully compatible with prior ILSAC and API categories

Approvals and Recommendations

SYNTECH 10W40 SN/CF meets a range of OEM/Industry specifications including

- SAE 10W40
- API SN/CF
- ILSAC GF-5
- Legacy GM Service Fill
- Ford Service Fill
- Chrysler Service Fill

Typical Main Characteristics

Typical Data	10W30 SN
API	SN
Specific Gravity @ 15°C	0.878
Kinematic Viscosity @ 40°C, mm ² /s (cSt)	76.0
Kinematic Viscosity @ 100°C, mm ² /s (cSt)	11.5
Viscosity Index	145
Pour Point °C	-30
Flash Point °C	216
ILSAC	GF-5

Minor variations in product typical test data are to be expected in normal manufacturing

Syntech 15W40 SN/CF

SEMI SYNTHETIC MADE FROM HYDROCRACKED BASE STOCKS

SYNTECH 15W40 SN/CF is a multi grade engine oil that provides superior engine protection suitable for today's multi-valve and conventional engines. Incorporating the latest additive technology, designed for today's conditions, It provides optimum protection against sludge formation, higher temperatures and helps keep the engine clean and free of deposits under high speed high stress motoring conditions.

SYNTECH 15W40 SN provides good wear protection at low temperatures combining easy low temperature engine startup and fast oil circulation at cold start up when the engine is at its most critical.

Applications

SYNTECH 15W40 SN/CF is formulated for all types of passenger, 4WD, and light commercial vehicle engines covering Petrol, Diesel and LPG naturally aspirated or turbo charged.

SYNTECH 15W40 SN/CF meets or exceeds the requirements of an SN/CF engine oil. It has an highly effective detergent and dispersant system to keep engine internals clean.

It provides a high level of protection against wear and assists in energy conservation and fuel economy.

Approvals / Recommendations

SYNTECH 15W40 SN/CF meets or exceeds the following specifications.

- API SN/CF
- FORD ESE-M2C153E
- ACEA A3/B4
- VW 502.00/505.00
- Legacy Service Fill
- Ford Service Fill
- Chrysler Service Fill

Typical Data

Typical Data	Unit	Results
Specific Gravity @ 15°C		0.878
Viscosity @ 40°C	mm ² /s (cSt)	103
Viscosity @ 100°C	mm ² /s (cSt)	14.5
Viscosity Index		14.5

Minor variations in product typical test data are to be expected in normal manufacturing

Syntech OIL 15W40 API CI4/SN

SEMI SYNTHETIC OIL MADE FROM HYDROCRACKED BASE STOCKS

SYNTECH 15W40 API SL/CI-4 is a premium quality engine oil for turbocharged diesel engines running under severe conditions with extended drain intervals according to the manufacturer's recommendation. It is designed for highly rated diesel engines meeting Euro I, II, III, IV and Euro V emission requirements. This oil provides effective control with respect to piston cleanliness and bore polishing. It further provides excellent wear control, soot handling and lubricant stability.

Approvals / Recommendations

SYNTECH 15W40 API SL/CI-4 meets or exceeds the following Industry Specifications.

- API CI-4/SL-licensed (SAE 15W-40)
- MB 228.83 (SAE 15W-40)
- Volvo VDS-3 (SAE 15W-40)
- Cummins CES 20078 (SAE 15W-40)
- MAN M3275 (SAE 15W-40)
- Mack EO-N (SAE 15W-40)
- MTU Category 2 (SAE 15W-40)
- Renault RLD-2 (SAE 15W-40)
- Deutz DQC III-10 (SAE 15W-40)
- JSC "KAMAZ" (SAE 15W-40)
- JSC "Avtodiesel" ("YaMZ") 15W40
- JSC "TMZ" (Tutaev) 15W-40
- API CI-4/SL
- ACEA E7-08, A3/B4-04
- Cummins CES 20071/2/6/7 (SAE 15W-40)
- Mack E-OM Plus (SAE 15W-40)
- Global DHD-1(SAE 15W-40)
- DCAT ECF-1-a / ECF-2 (15W-40)
- Deutz DQC III-05 (SAE 15W-40)

Typical Properties

Typical Data	Unit	Test Method	Results
Density @ 15°C	g/cm ³	ASTM D4052	0.873
Density @ -20°C	mPa.s	ASTM D5293	6900
Density @ 40°C	mm ² /s	ASTM D445	111.8
Density @ 100°C	mm ² /s	ASTM D445	14.5
Viscosity Index	-	ASTM D2270	133
Flash Point	°C	ASTM D92	215
Pour Point	°C	ASTM D97	-27
Total Base Number	Mg KOH/g	ASTM D2896	11.5
Calcium	Wt%	ASTM D5185	0.2912
Zinc	Wt%	ASTM D5185	0.1386
Phosphorus	Wt%	ASTM D5185	0.1274
Sulfated Ash	Wt%	ASTM D874	0.9505
Mini-Rotator Viscometer (-30°C)	cP	ASTM D4684	15950
High Shear Rate Viscosity	mPa.s	ASTM D4683	4.5

Minor variations in product typical test data are to be expected in normal manufacturing.

Syntech 15W40 CJ4/SN

SEMI SYNTHETIC OIL MADE FROM HYDROCRACKED BASE STOCKS

Features and Benefits

Syntech 15W40 CJ4/SN is a heavy duty Low SAPS premium diesel lubricant incorporating the most advanced development in lubrication chemistry and high viscosity index premium base oils resulting in a high performance diesel engine oil.

Syntech 15W40 CJ4/SN has been formulated specifically to meet the requirements of Australian and imported designed low emission engines including those engines which incorporate exhaust gas recycling (EGR) to provide fuel efficiency, high wear protection and long drain capability. EGR can add to deposits forming in the combustion chamber, and therefore the low sulfated ash content assists in maintaining engine cleanliness.

Applications

- Recommended for high speed, turbocharged diesel and petrol engines, in particular all emission design engines.
- Specially formulated to protect exhaust after treatment devices such as diesel particulate filters (DPFs)

Approvals / Recommendations

15W40 CJ4/SN meets or exceeds the following specifications.

- API CJ-4, CI-4 PLUS, CH-4, CF API, SN, SL, SJ... ACEA E9. ACEA E7
- Mack EO-O Premium Plus
- John Deere -PierIV
- Caterpillar ECF-3,
- Cummins CES 20081
- JASO DH-2
- MAN 3275 & 3575
- Volvo VDS-4, VDS-3 extended drain
- MB 228.31
- MTU Type 2.1
- Renault Truck RLD-3
- Deitz DQC III-05
- Detroit Diesel DDC 93K218

Typical Main Characteristics

Characteristics	15W40 CJ - 4/SM
Specific Gravity @ 15°C	0.878
Kinematic Viscosity @ 40°C, mm ² /s (cSt)	110
Kinematic Viscosity @ 100°C, mm ² /s (cSt)	15.3
Viscosity Index	146
Sulfated Ash %	0.985
TBN, Mg KOH/g	8.1

Syntech 15W40 CK4/SN

SEMI SYNTHETIC OIL MADE FROM HYDROCRACKED BASE STOCKS

Features and Benefits

Syntech 15W40 CK4/SN is a Low SAPS, new generation, premium heavy duty diesel oil that has been formulated specifically to meet the latest Euro VI requirements of Australian and imported designed low emission engines. Designed and formulated to provide exceptional protection for highly rated diesel engines running in severe service conditions. It affords increased fuel economy, long drain intervals and prolonged engine life.

- OEM approved – Cummins, Detroit Diesel, Volvo, Mack, Renault
- Specially formulated to protect after exhaust systems
- Excellent soot dispersancy
- Superior friction and wear control
- Longer drain intervals

Approvals / Recommendations

15W40 CK4/SN meets or exceeds the following specifications.

- API CK-4/CJ-4/CI-4+/CI-4
- MAN 3275 & 3575
- ACEA E7-12, E9-12
- DQC III-10-LA
- CATERPILLAR ECF-3
- MTU 2.1
- MB 228.31
- FORD WSS-M2C171-E
- FORD WSS-M2C171-F1
- MACK EO-O PREMIUM PLUS

Volvo VDS-4-	Approval	Yes
Mack EO-S 4.5-	Approval	Yes
Renault VI RLD-3-	Approval	Yes
Cummins CES 20086-	Approval	Yes
Detroit Diesel DDC93k222-	Approval	Yes

Applications

- Recommended for high speed, turbocharged diesel and petrol engines, in particular all emission design engines
- Specially formulated to protect exhaust after treatment devices such as diesel particulate filters (DPFs)

SAE Viscosity Grade

The single most important property an oil must have for it to do its job well is viscosity. Viscosity is defined as the oil's resistance to flow.

Single Grade Oils

A single-grade engine oil does not contain any viscosity index improver. The two types would be single winter grade oil and single non-winter grade oil – although the non-winter single grade oil is the one typically found in Australia. For single winter grade oils, the dynamic viscosity is measured at different cold temperatures. Based on the coldest temperature the oil passes at, that oil is graded as SAE viscosity grade 0W, 5W, 10W, 15W, 20W, or 25W. The lower the viscosity grade, the lower the temperature the oil can pass. For single non-winter grade oils, the kinematic viscosity is measured at a temperature of 100 °C in centistokes (cSt). Based on the range of viscosity the oil falls in at that temperature, the oil is graded as SAE viscosity grade 20, 30, 40, 50, or 60. Higher the viscosity, the higher the SAE viscosity grade is.

Multi Grade Oils

The SAE designation for multi-grade oils includes two viscosity grades; for example, 10W-30 designates a common multi-grade oil. The first number '10W' is the equivalent grade of the single grade oil that has the oil's viscosity at cold temperature and the second number is the grade of the equivalent single-grade oil that describes its viscosity at 100 °C. Note that both numbers are grades and not viscosity values. The two numbers used are individually defined by SAE J300 for single-grade oils. Therefore, an oil labelled as 10W-30 must pass the SAE J300 viscosity grade requirement for both 10W and 30, and all limitations placed on the viscosity grades. Viscosity is rated at 40°C (represented by the number preceding the "W" [for Winter]) and at 100°C (represented by the second number in the viscosity designation). So 10W-30 oil has less viscosity when cold and hot than does 20W-50. Motor oil thins as it heats and thickens as it cools. So, with the right additives to help it resist thinning too much, an oil can be rated for one viscosity when cold, another when hot. The more resistant it is to thinning, the higher the second number (10W-40 versus 10W-30, for example) and that's good. Within reason, thicker oil generally seals better and maintains a better film of lubrication between moving parts. At the low-temperature end, oil must be resistant to thickening so that it flows more easily to all the moving parts in your engine. Also, if the oil is too thick the engine requires more energy to turn the crankshaft, which is partly submerged in a bath of oil. Excessive thickness can make it harder to start the engine, which reduces fuel economy. A 5W oil is typically what's recommended for winter use. However, synthetic oils can be formulated to flow even more easily when cold, so they are able to pass tests that meet the 0W rating. Once the engine is running, the oil heats up. The second number in the viscosity rating--the "40" in 10W-40, for example--tells you that the oil will stay thicker at high temperatures than one with a lower second number--the "30" in 10W-30, for example. What's important is that the oil viscosity must follow your car owner's manual recommendation.

API SERVICE CLASSIFICATIONS

Gasoline Engines

The current and previous API Service Categories are listed here. Oils may have more than one performance level. For automotive gasoline engines, the latest API Service Category includes the performance properties of each earlier category and can be used to service older engines where earlier category oils were recommended.

Category	Status	Service
SN	Current	Introduced in October 2010, designed to provide improved high temperature deposit protection for pistons, more stringent sludge control, and seal compatibility. API SN with Resource Conserving matches ILSAC GF-5 by combining API SN performance with improved fuel economy, turbocharger protection, emission control system compatibility, and protection of engines operating on ethanol-containing fuels up to E85.
SM	Current	For 2010 and older automotive engines.
SL	Current	For 2004 and older automotive engines.
SJ	Current	For 2001 and older automotive engines.

ILSAC Standard For Passenger Car Engine Oils

The current and previous ILSAC standards are listed here. Vehicle owners should refer to their owner's manuals before consulting these charts. Oils may have more than one performance level. For automotive gasoline engines, the latest ILSAC standard includes the performance properties of each earlier category and can be used to service older engines where earlier category oils were recommended.

Name	Status	Service
GF-5	Current	Introduced in October 2010, designed to provide improved high temperature deposit protection for pistons and turbochargers, more stringent sludge control, improved fuel economy, enhanced emission control system compatibility, seal compatibility, and protection of engines operating on ethanol-containing fuels up to E85.
GF-4	Obsolete	Use GF-5 where GF-4 is recommended.
GF-3	Obsolete	Use GF-5 where GF-3 is recommended.
GF-2	Obsolete	Use GF-5 where GF-2 is recommended.
GF-1	Obsolete	Use GF-5 where GF-1 is recommended

Diesel Engines

(Follow your vehicle manufacturer's recommendations on oil performance levels)

Category	Status	Service
CK-4	Current	API Service Category CK-4 describes oils for use in high-speed four-stroke cycle diesel engines designed to meet 2017 model year on-highway and Tier 4 non-road exhaust emission standards as well as for previous model year diesel engines. These oils are formulated for use in all applications with diesel fuels ranging in sulphur content up to 500 ppm (0.05% by weight). However, the use of these oils with greater than 15 ppm (0.0015% by weight) sulphur fuel may impact exhaust aftertreatment system durability and/or oil drain interval. These oils are especially effective at sustaining emission control system durability where particulate filters and other advanced aftertreatment systems are used. API CK-4 oils are designed to provide enhanced protection against oil oxidation, viscosity loss due to shear, and oil aeration as well as protection against catalyst poisoning, particulate filter blocking, engine wear, piston deposits, degradation of low- and high-temperature properties, and soot-related viscosity increase. API CK-4 oils exceed the performance criteria of API CJ-4, CI-4 with CI-4 PLUS, CI-4, and CH-4 and can effectively lubricate engines calling for those API Service Categories. When using CK-4 oil with higher than 15 ppm sulphur fuel, consult the engine manufacturer for service interval recommendations.
CJ-4	Current	For high-speed four-stroke cycle diesel engines designed to meet 2010 model year on-highway and Tier 4 non-road exhaust emission standards as well as for previous model year diesel engines. These oils are formulated for use in all applications with diesel fuels ranging in sulphur content up to 500 ppm (0.05% by weight). However, the use of these oils with greater than 15 ppm (0.0015% by weight) sulphur fuel may impact exhaust aftertreatment system durability and/or drain interval. API CJ-4 oils exceed the performance criteria of API CI-4 with CI-4 PLUS, CI-4, CH-4, CG-4 and CF-4 and can effectively lubricate engines calling for those API Service Categories. When using CJ-4 oil with higher than 15 ppm sulphur fuel, consult the engine manufacturer for service interval.
CI-4	Current	Introduced in 2002. For high-speed, four-stroke engines designed to meet 2004 exhaust emission standards implemented in 2002. CI-4 oils are formulated to sustain engine durability where exhaust gas recirculation (EGR) is used and are intended for use with diesel fuels ranging in sulphur content up to 0.5% weight. Can be used in place of CD, CE, CF-4, CG-4, and CH-4 oils. Some CI-4 oils may also qualify for the CI-4 PLUS designation.
CH-4	Current	Introduced in 1998. For high-speed, four-stroke engines designed to meet 1998 exhaust emission standards. CH-4 oils are specifically compounded for use with diesel fuels ranging in sulphur content up to 0.5% weight. Can be used in place of CD, CE, CF-4, and CG-4 oils.

ACEA Engine Oil Sequences

About ACEA

The European Automobile Manufacturers' Association (or Association des Constructeurs Européens d'Automobiles in French, hence the ACEA abbreviation) is an organization that represents the 15 most important European motor vehicle manufacturers. It's the successor of CCMC (Comité des Constructeurs du Marché Commun). According to their statement, ACEA is an advocate for the automobile industry in Europe, representing manufacturers of passenger cars, vans, trucks and buses with production sites in the EU.

Among many other activities ACEA defines specifications for engine oils so called ACEA Oil Sequences. The sequences are usually updated every few years to include the latest developments in engine and lubricant technology. ACEA itself does not approve the oils, they set the standards and oil manufacturer's may make performance claims for their products if those satisfy the relevant requirements.

The first ACEA oil sequences were introduced in 1996 when they replaced the former CCMC specifications. New ACEA oil specifications were issued in 1998, 1999, 2002, 2004, 2007, 2008, 2010, 2012 and 2016 and have product life cycles.

Every ACEA specification is made of a letter or letters that indicate the class (e.g. E stands for the heavy duty class) and a number that defines the category (e.g. the 9 in E9). There are separate categories for oils with different purposes or for different applications within the same class. If the ACEA sequence's implementation year is specified, then it follows the spec's name after a dash (like ACEA E9-12).

There are ACEA specifications for passenger car motor oils (the A/B class) for catalyst compatible motor oils (the C class) and for heavy duty diesel engine oils (the E class). The classes are further divided into categories to meet the requirements of different engines. The A/B class's A5/B5 oils have lower HTHS viscosities, which means that they provide better fuel economy, but they may not provide adequate protection in engines that are not designed for them. ACEA A3/B3 and A3/B4 on the other hand require oils with higher HTHS viscosities that may not provide as good fuel economy as an A5/B5 oil but may offer better engine protection in certain engine designs. The categories within the C class are divided along SAPS limits and along HTHS viscosities. C1 and C4 are low-SAPS oils, while C2 and C3 are mid-SAPS oils. On the other hand, C1 and C2 oils have lower HTHS viscosities, while C3 and C4 oils have higher HTHS viscosities. The C5 category that has been newly introduced in the ACEA 2016 sequences has even lower limit for HTHS viscosity. For an oil to meet this specification it must be a mid-SAPS oil and its HTHS viscosity must be between 2.6 and 2.9 mPa*s. In case of the E class the SAPS content and the drain interval make the difference. E4 and E6 oils offer longer drain intervals where the engine manufacturer allows it while E7 and E9 are designed for medium drain applications. E6 and E9 have limited SAPS content so they can be used in engines that require this including Euro VI engines. Below are the ACEA categories in "Consumer Language".

A/B: gasoline and diesel engine oils

ACEA A1/B1 Category is removed with the ACEA 2016 Oil Sequences. From ACEA 2012: Stable, stay-in-grade oil intended for use at extended drain intervals in gasoline engines and car & light van diesel engines specifically designed to be capable of using low friction low viscosity oils with a high temperature / high shear rate viscosity of 2.6 mPa*s for xW/20 and 2.9 to 3.5 mPa.s for all other viscosity grades. These oils are unsuitable for use in some engines. Consult owner manual or handbook if in doubt.

ACEA A3/B3 Stable, stay-in-grade Engine Oil intended for use in Passenger Car & Light Duty Van Gasoline & Diesel Engines and/or for extended drain intervals where specified by the engine manufacturer, and/or for year-round use of Low Viscosity Oils, and/or for severe operating conditions as defined by the Engine Manufacturer.

ACEA A3/B4 Stable, stay-in-grade Engine Oil intended for use in Passenger Car & Light Duty Van Gasoline & DI Diesel Engines, but also suitable for applications described under A3/B3.

ACEA A5/B5 Stable, stay-in-grade Engine Oil intended for use at extended Drain Intervals in Passenger Car & Light Duty Van Gasoline & Diesel Engines designed to be capable of using Low Viscosity Oils with HTHS Viscosity of 2.9 to 3.5 mPa*s. These Oils are unsuitable for use in certain Engines - consult vehicle-OEM's owner's manual/handbook in case of doubt.

C: Catalyst compatibility oils

Note: These Oils will increase the DPF/GPF and TWC life and maintain the Vehicle's Fuel Economy. Warning: Some of these Categories may be unsuitable for use in certain Engine Types – consult the vehicle – OEM's owner's manual/handbook in case of doubt.

ACEA C1 Stable, stay-in-grade Engine Oil with Lowest SAPS-Level, intended for use as catalyst compatible Oil at extended Drain Intervals in Vehicles with all types of modern After treatment Systems and High Performance Passenger Car & Light Duty Van Gasoline & DI Diesel Engines that are designed to be capable of using Low Viscosity Oils with a minimum HTHS Viscosity of 2.9 mPa*s.

ACEA C2 Stable, stay-in-grade Engine Oil with Mid SAPS-Level, intended for use as catalyst compatible Oil at extended Drain Intervals in Vehicles with all Types of modern Aftertreatment Systems and High Performance Passenger Car & Light Duty Van Gasoline & DI Diesel Engines that are designed to be capable of using Low Viscosity Oils with a minimum HTHS Viscosity of 2.9 mPa*s.

ACEA C3 Stable, stay-in-grade Engine Oil with Mid SAPS-Level, intended for use as catalyst compatible Oil at extended Drain Intervals in Vehicles with all Types of modern Aftertreatment Systems and High Performance Passenger Car & Light Duty Van Gasoline & DI Diesel Engines that are designed to be capable of using Oils with a minimum HTHS Viscosity of 3.5 mPa*s.

ACEA C4 Stable, stay-in-grade Engine Oil with Low SAPS-Level, intended for use as catalyst compatible Oil at extended Drain Intervals in Vehicles with all Types of modern Aftertreatment Systems and High Performance Passenger Car & Light Duty Van Gasoline & DI Diesel Engines that are designed to be capable of using Oils with a minimum HTHS Viscosity of 3.5 mPa*s.

ACEA C5 Stable, stay-in-grade Engine Oil with Mid SAPS-Level, for further improved Fuel Economy, intended for use as catalyst compatible Oil at extended Drain Intervals in Vehicles with all Types of modern Aftertreatment Systems and High Performance Passenger Car & Light Duty Van Gasoline & DI Diesel Engines that are designed to be capable and OEM-approved for use of Low Viscosity Oils with a minimum HTHS Viscosity of 2.6 mPa*s.

E: Heavy Duty Diesel engine oils

ACEA E4 Stable, stay-in-grade oil providing excellent control of piston cleanliness, wear, soot handling and lubricant stability. It is recommended for highly rated diesel engines meeting Euro I, Euro II, Euro III, Euro IV and Euro V emission requirements and running under very severe conditions, e.g. significantly extended oil drain intervals according to the manufacturer's recommendations. It is suitable for engines without particulate filters, and for some EGR engines and some engines fitted with SCR NOx reduction systems. However, recommendations may differ between engine manufacturers, so Driver Manuals and/or Dealers shall be consulted if in doubt.

ACEA E6 Stable, stay-in-grade oil providing excellent control of piston cleanliness, wear, soot handling and lubricant stability. It is recommended for highly rated diesel engines meeting Euro I, Euro II, Euro III, Euro IV, Euro V and Euro VI emission requirements and running under very severe conditions, e.g. significantly extended oil drain intervals according to the manufacturer's recommendations. It is suitable for EGR engines, with or without particulate filters, and for engines fitted with SCR NOx reduction systems. E6 quality is strongly recommended for engines fitted with particulate filters and is designed for use in combination with low sulphur diesel fuel. However, recommendations may differ between engine manufacturers, so Driver Manuals and/or Dealers shall be consulted if in doubt.

ACEA E7 Stable, stay-in-grade oil providing effective control with respect to piston cleanliness and bore polishing. It further provides excellent wear control, soot handling and lubricant stability. It is recommended for highly rated diesel engines meeting Euro I, Euro II, Euro III, Euro IV and Euro V emission requirements and running under severe conditions, e.g. extended oil drain intervals according to the manufacturer's recommendations. It is suitable for engines without particulate filters, and for most EGR engines and most engines fitted with SCR NOx reduction systems. However, recommendations may differ between engine manufacturers, so Driver Manuals and/or Dealers shall be consulted if in doubt.

ACEA E9 Stable, stay-in-grade oil providing effective control with respect to piston cleanliness and bore polishing. It further provides excellent wear control, soot handling and lubricant stability. It is recommended for highly rated diesel engines meeting Euro I, Euro II, Euro III, Euro IV, Euro V and Euro VI emission requirements and running under severe conditions, e.g. extended oil drain intervals according to the manufacturer's recommendations. It is suitable for engines with or without particulate filters, and for most EGR engines and for most engines fitted with SCR NOx reduction systems. E9 is strongly recommended for engines fitted with particulate filters and is designed for use in combination with low sulphur diesel fuel. However, recommendations may differ between engine manufacturers, so Drivers Manuals and/or Dealers should be consulted if in doubt.



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