



Working together to protect your car



Visit [\[insert local url\]](#).

Ready for the world of tomorrow, today

PETRONAS Lubricants International (PLI) is part of the PETRONAS Group. With 10 blending plants, over 30 sales offices and products distributed in more than 90 countries worldwide, PLI's global network of over 240 scientists, technical professionals and engineers anticipate future mobility challenges and opportunities, then research and develop advanced fluid technology solutions to meet tomorrow's challenges, today.

We strive to deliver maximum value to our customers, the markets in which they compete and consumers – while minimising our impact on the environment; pioneering high performance fluids that are dedicated to emission reduction and manufactured in increasingly low CO₂ environments.

We are quietly confident, ambitious, self-assured, thoughtful and enterprising – yet always responsible and dependable.

**We are always moving forward.
We are PETRONAS.**





PETRONAS *Syntium*

with **CoolTech+™** technology





Control the heat

The heat is on to use energy more efficiently

Modern engines are operating at higher temperatures than ever

With downsized, more compact engines running at incredible heats, and congested stop/start traffic increasing operating temperatures further, the conditions couldn't be more challenging.

Excessive heat causes deposit formation, oxidation and thermal breakdown – all of which reduce the efficiency of the engine.

Wasting energy generates even more heat

Most internal combustion engines (ICE) only convert around 35% of fuel into power. The remaining energy is dissipated mainly as heat. This doesn't just damage a car's engine – wasting energy in this way is unsustainable for our planet.



**Don't waste
a single drop
of energy**

Energy is too precious to waste

When you're physically and mentally overheated, it's easy to waste your energy and this limits your performance.

It's exactly the same under the hood of a car – the engine needs to stay cool in the face of aggressive heat and maintain optimal temperature to avoid wasting energy and perform at its best.

Controlling the heat is the key to more efficient, sustainable motoring.

PETRONAS Syntium helps your car make the most of every drop of available energy, maximising its efficiency by controlling engine-damaging heat.

- **CoolTech™ technology** controls the heat, reducing wear and deposits, extending parts life and delivering efficient performance for longer.
- **CoolTech+™ technology**, with its enhanced ability to control heat generated by friction, maximises a car's efficiency to reduce emissions and fuel consumption by up to 3%*.



Greater efficiency

By more efficiently lubricating moving parts to reduce friction and therefore heat, PETRONAS Syntium with CoolTech+™ technology **cuts emissions and fuel consumption by up to 3%***, for cleaner, more cost-effective and efficient motoring.



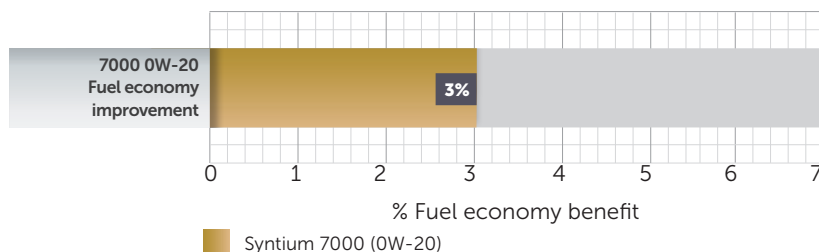
Up to 3% more
fuel economy and
lower emissions*

Up to 3%* better fuel economy and lower emissions

Efficient lubricating of moving parts help protect and reduce wear and remove heat generated by friction and combustion.

Keeping the engine operating at optimum temperatures, improve fuel efficiency – and reduces CO₂ emissions at the same time.

With its superior ability to control heat by reducing friction PETRONAS Syntium with CoolTech+™ is able to reduce emissions and fuel consumption by up to 3%, and reduce the environmental impact our your driving – even when the oil is aged.



*Based on industry standard test SEQUENCE: VIE, against the API SP limit.

Maintain performance

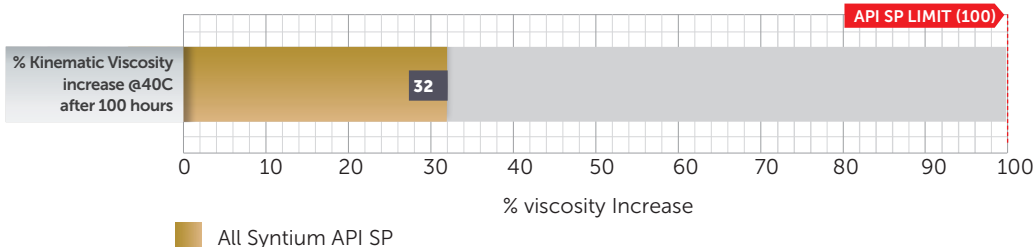
Thanks to its strong oil chains, PETRONAS Syntium with CoolTech™ technology more effectively removes heat generated by friction and combustion to offer **outstanding oxidation resistance – 68% better than industry benchmark[†]**. This maintains performance right up to the scheduled oil change, protecting the efficiency and performance of your engine.



Up to 68% better oxidation resistance[†] for maximum efficiency and lower emissions and fuel consumption

Controlling the heat, resisting oxidation and preventing oil degradation and deposit build-up help protect parts and maintain engine efficiency for the full drain interval.


PETRONAS Syntium with CoolTech™ technology offers outstanding oxidation resistance, to control sludge, delay oil thickening and maintain a stable, protective film. This maximizes engine performance right up to the next scheduled service.



[†]Based on industry standard test SEQUENCE: IIHH, against the API SP limit.

PETRONAS Syntium

Product range and benefits

	 Premium Oil		
	PETRONAS Syntium 300	PETRONAS Syntium 500	PETRONAS Syntium 800/100
38% better protection against bearing wear [¶]			
Up to 3% better fuel economy & emissions reduction [*]			
Maximum protection against LSPI events			
68% better oxidation resistance ^{‡§}			
Up to 43% lower pistons deposits [†]			
Enhanced sludge protection			
38% better wear protection ^{**}			

CoolTech+™ is only available on 7000 products claiming API SP and/or ACEA C6.



CoolTech™

PETRONAS
Syntium
3000

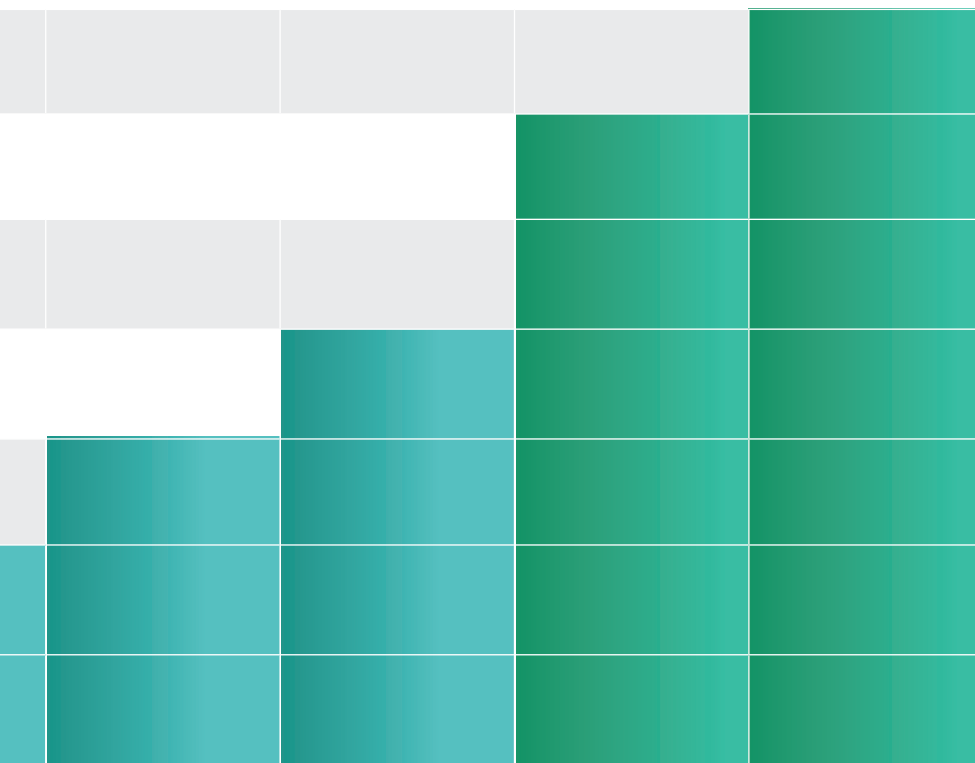
PETRONAS
Syntium
5000



CoolTech+™

PETRONAS
Syntium
7000

PETRONAS
Syntium
7000 HYBRID



From the team behind the world's most efficient racing engine

PETRONAS is the official technology partner to the 8-times FIA Formula One World Championship-winning MERCEDES-AMG PETRONAS Formula One Team, engineering high performance, bespoke engine oil, race fuel and other lubricants, greases and fluids.

A critical part of the team's success lies in the car's unrivalled ability to convert fuel into useful work. Most engines only convert around 35% of the potential fuel energy into power. PETRONAS technology enables the Mercedes-AMG PETRONAS Formula One car to achieve more than 50% thermal efficiency – making it the most efficient racing engine ever created.

Our technicians are world leaders when it comes to maximising the potential of every drop of energy – and they pour all their experience working with the world's fastest, most efficient hybrid car, into developing advanced fluids for drivers all over the world.

PETRONAS Syntium's ability to target and cool critical engine parts controls damaging heat, reduces wear and maintains optimal performance, allowing the car to convert the maximum amount of fuel energy into power, for more efficient, cleaner motoring.

Oil Developed For

PETRONAS
Syntium



AMG
PETRONAS
FORMULA ONE TEAM



PETRONAS technology
enables the Mercedes-AMG
PETRONAS Formula One car
to achieve

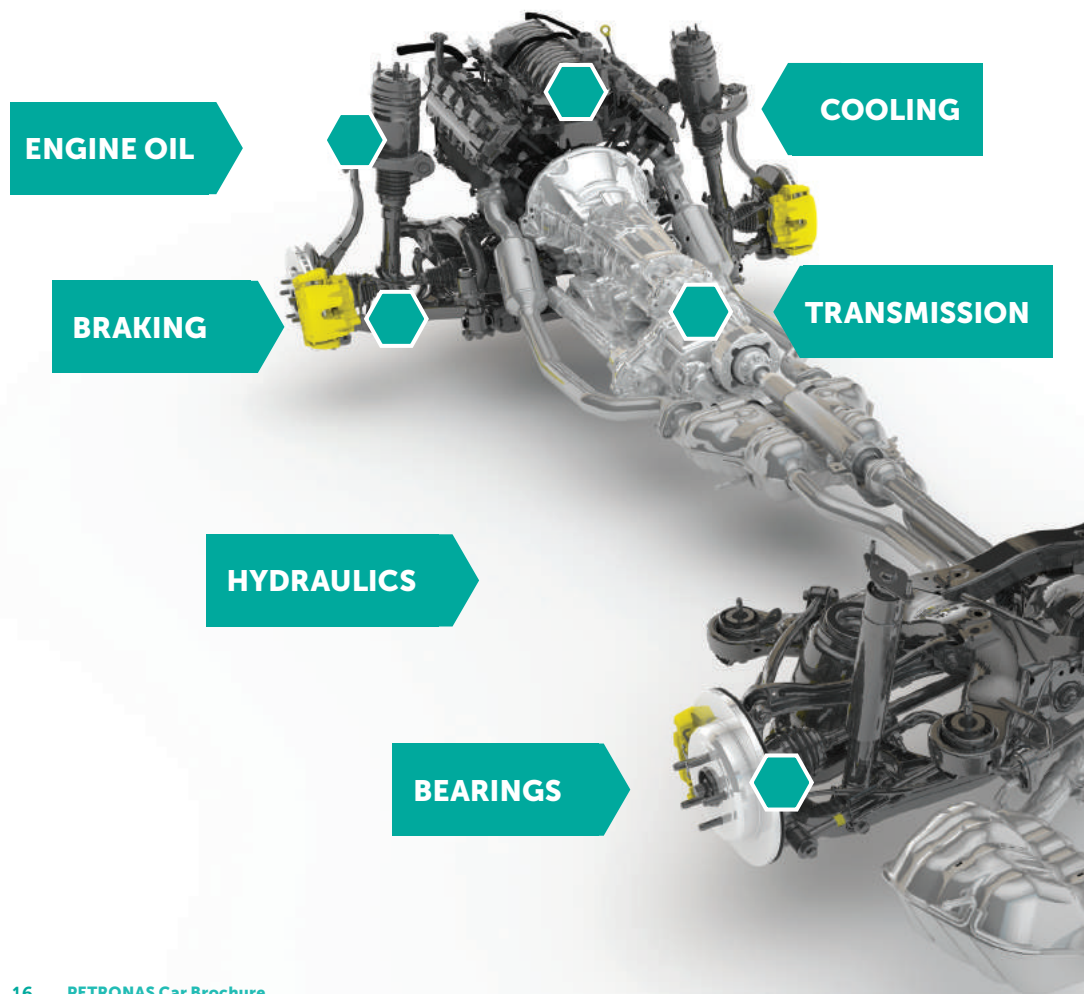
**more than
50% thermal
efficiency**

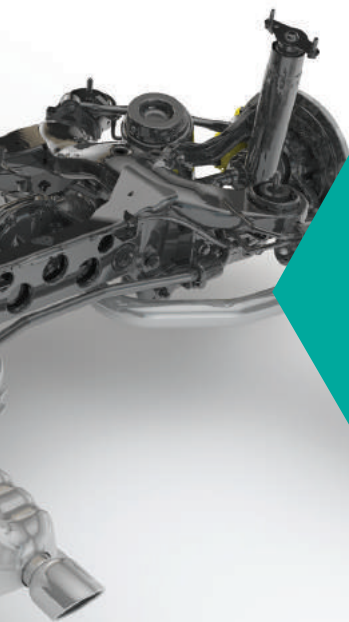
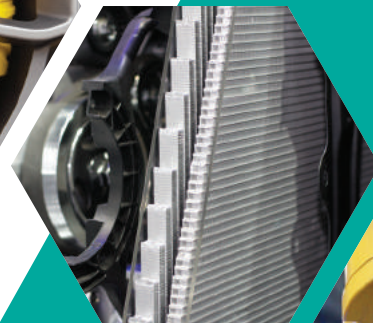
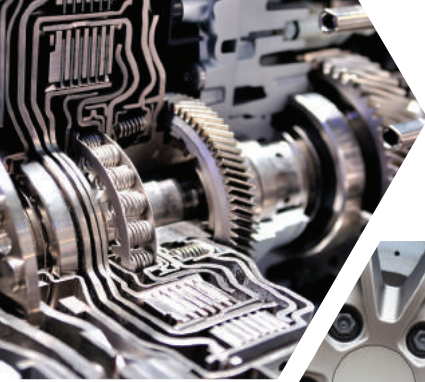
*making it the most efficient
racing engine ever created.*



Meet our heroes

At PETRONAS, we find solutions that get the most out of your vehicle while protecting it at the same time. Which is why we have developed a range of products to fulfil all your car's lubrication needs, ensuring you can enjoy the best possible driving experience on every journey.





PETRONAS Syntium is engineered to control engine-damaging heat and reduce wear and deposits, while also maximising thermal efficiency. It's a high-performance fluid, with CoolTech+™ technology providing enhanced heat-controlling ability that helps reduce emissions and fuel consumption by up to 3%.

The growing Tutela family of technically advanced, specialist fluids is being engineered to specifically protect all of a vehicle's performance-critical systems. Transmission, Braking, Cooling, Hydraulic and Bearings. All uniquely championed by PETRONAS, to protect the whole drive.

Together with PETRONAS Syntium, they're the heroes your car deserves.

PETRONAS Tutela: Protect your car's Hidden Heroes









PETRONAS Tutela

Transmission fluids



The Transmission System: Guardian of the vehicle's power

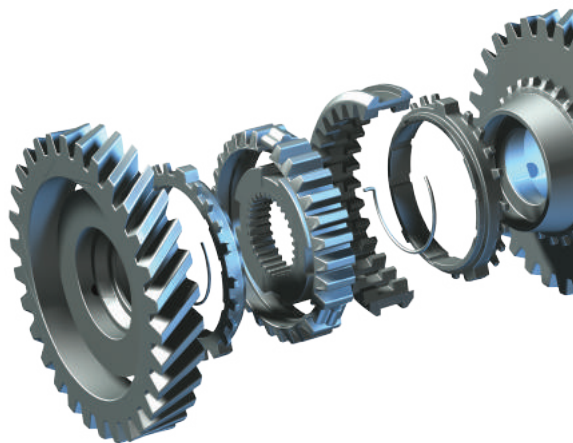
Meet our first Hidden Hero

Complex and operating under continual pressure at high temperatures, a vehicle's Transmission System is the very definition of a Hidden Hero. And all that stands between the full power of a vehicle driving metal against metal is a thin layer of protective molecules. You can trust PETRONAS Tutela to withstand pressure, enhance performance and efficiency and extend the life of moving parts – today and tomorrow.

- **Improved fuel efficiency** – PETRONAS Tutela transmission fluids combine lower viscosity with strengthened fluid film resistance, to reduce friction and improve fuel efficiency without compromising on protection.
- **Defends against mechanical stress, to help avoid unexpected downtime and extend the working life** – our transmission fluids have anti-wear and anti-pitting properties to help extend the life of the Transmission System, and outstanding shock load resistance to protect the axle.
- **Performance even at low temperatures** – PETRONAS Tutela protects the transmission system and provides a smooth gear shift experience from the moment the engine starts up, even in cold and icy conditions.
- **Ready to tackle the increased electrification of the driveline** – PETRONAS Tutela's premium products offer lower electrical conductivity, high heat capacity, high thermal conductivity and low evaporation loss, making them fully compatible with electrical systems.
- **Ready to take on new speeds** – as vehicles continue to increase the number of gears available to drivers, the number of moving components also increases, which means more heat is generated. The lower viscosity and optimised friction characteristics of our newly launched premium products are able to effectively dissipate this heat while compensating for energy losses – we're ready for the speed requirements of tomorrow, today.



- **Multi-purpose fluids for increasingly automated transmissions** – in many transmission systems, the lubricant doubles up as the hydraulic fluid in the actuator and clutch – PETRONAS Tutela transmission fluid's optimised chemistry and viscosity rises to the challenge of multiple applications.
- **Enhanced noise and vibration control qualities** – our transmission fluids have superior anti-foaming properties and oil film resistance, along with optimised friction characteristics, for a more pleasant driver experience, with easier, smoother shift and less noise and shudder.
- **Smoother, more comfortable gear shifts** – with wider Synchroniser compatibility (manual and dual clutch transmission fluids), anti-shudder properties (automatic, dual clutch and continuously variable transmission fluids with torque converter) and torque transfer capacity (continuously variable transmission fluids).



PETRONAS Tutela Range for Passenger Cars

	Standard	Premium	
	100 Protection	300 Protection	Impro
Automatic Transmission Fluids (ATF)	ATF D2	ATF D3	M
		Multi ATF 300	A
Manual Transmission Fluids (MTF)	MTF 100 SAE 80	MTF 300 80W-90	MT
AXLE		Axle 300 80W-90	Axle
		Axle 300 LS 80W-90	Axle
Gear	Gear 100 EP SAE 90	Gear 300 EP 80W-90	
	Gear 100 EP SAE 140		
	Gear 100 SAE 90		
	Gear 100 SAE 140		

	Prestige
500	700
Improved Protection	Excellent Protection & Longer Oil Life

Multi ATF 500	Multi ATF 700
ATF 500 DM	Multi CVT 700
	Multi DCT 700
	ATF 700 DM

Performance

F 500 75W-90	Multi MTF 700 75W-80
--------------	----------------------

Performance

e 500 75W-90	Axle 700 EHD 75W-90
500 LS 75W-90	

Performance

Performance





PETRONAS Tutela

Automatic transmission fluids



Automatic transmissions generate even more intense heat than manual ones, so lubricant fluids often degenerate more quickly. Low levels of fluid or fluid with deposits within the transmission system can cause slipping and shifting issues – and overheating can lead to malfunction and a decrease in the overall life of parts.

PETRONAS Tutela Automatic Transmission Fluids provide enhanced thermal and oxidation resistance to retain a stable viscosity at a wide range of temperatures. This helps optimise transmission efficiency for a range of vehicle types – leading to improved fuel economy. It also extends the fluid's life by preventing the formation of deposits, delivering a smooth, shudder-free drive.

PETRONAS Tutela Range

Passenger Cars

Performance level	Design principles	Products
700	<ul style="list-style-type: none"> Premium fully synthetic fluids In-warranty current vehicles, and latest out of warranty Normally up to 6yrs old Top tier specifications 	<ul style="list-style-type: none"> Multi ATF 700
		<ul style="list-style-type: none"> ATF 700 DM
		<ul style="list-style-type: none"> Multi CVT 700
		<ul style="list-style-type: none"> Multi DCT 700

This table is intended to provide an indicative overview of the product benefits.

Protection
Longer oil life
Fuel economy
Long drain interval
Longer transmission life
Smoother cold shift
Reduced noise

Product Benefit

Approvals and Performance Specifications

●	●	●	●	●	●	●	<p>Suitable for use: Audi, BMW, Mini, Citroën, Chrysler/Dodge/Jeep, Daihatsu, Fiat/Lancia/Alfa Romeo, Ford, Fuso, GM, Hino, Honda, Hyundai/Kia, Isuzu, Jaguar, Land Rover, Mazda, Mitsubishi, Nissan, Peugeot, Porsche, Renault, Saab, Seat, Skoda, Ssangyong, Subaru, Suzuki, Toyota, VW, Aisin Warner JWS 3309, JWS 3324, ZF 6 to 9 Speed, Bosch TE-ML 09. Specifications: Ford MERCON® LV; JASO M315-2013 1A-LV, 1A, 2A Approvals: GM DEXRON®-VI e-Mobility claims: Ford Escape Hybrid eCVT, Jatco JR712E, Mazda SKYACTIVE-HYBRID, Nissan Altima Hybrid, Toyota THSII</p>
●	●	●	●	●	●	●	<p>Approvals: MB-Approval 236.15</p>
●	●	○	●	●	●	●	<p>Suitable for use: Audi, BMW/Mini, Daihatsu, Chrysler/Dodge/Jeep, GM/Saturn, Honda, Hyundai/Kia, Idemitsu, Mazda, Mitsubishi, Nissan, Punch, Seat, Skoda, Subaru, Suzuki, Toyota (including Hybrids), VW. e-Mobility claims: Ford Escape Hybrid with e-CVT, Honda iMMD, Jatco CVT 8 Hybrid, Mazda SKYACTIVE-HYBRID, Nissan Altima Hybrid, Toyota THSII/ Toyota Prius</p>
●	●	○	●	●	●	●	<p>Suitable for use: BMW Drivelogic 7-speed, DCTF-1, 6-speed DCT, BMW MTF LT-5, DCTF-1+, BYD DCT, Changan DCTF, Chrysler 68044345 EA & GA, Chrysler Powershift 6-speed (Getrag), Ferrari 7-speed (Getrag)/TF DCT-3, Ford Powershift 6-Speed, WSS-M2C936A, WSS-M2C218-A1, Ford F-DC, Geely 7 Speed, Mitsubishi TC-SST 6-speed, SSTF-1, Nissan Powershift 6-Speed, Peugeot / Citroën DCS 6-speed (GFT)/9734.S2, Porsche 999.917.080.01, 999.917.080.00, PDK ZF DCT Oil, Renault EDC 6-speed, EDC-7, Volvo Powershift 6-speed (GFT)/1161838/1161839, Audi/Seat/Skoda/VW 6-speed FWD (G 052 182), DSG7 S-Tronic 7 (G 052 529), wet clutch and electro-hydraulic control circuit (G 055 529), VW G 052 536, VW G 055 536 e-Mobility claims: VW Golf GTE DQ400E</p>

○ Basic level – most fluids can offer this benefit level.

● Max level – only few premium fluids can offer this benefit level.

PETRONAS Tutela Range

Passenger Cars

Performance level	Design principles	Products
500	<ul style="list-style-type: none"> Premium part synthetic fluids For older vehicles, normally out of warranty Normally up to 10yrs old Mid-tier specifications 	<ul style="list-style-type: none"> Multi ATF 500
300	<ul style="list-style-type: none"> Top quality mineral multi-grade oils For older vehicles out of warranty Normally up to 15yrs old Old specifications 	<ul style="list-style-type: none"> ATF D3
100	<ul style="list-style-type: none"> High quality mineral oils For very old vehicles, out of warranty Normally over 15yrs old Very old specifications 	<ul style="list-style-type: none"> ATF D2 ATF TASA

Protection
Longer oil life
Fuel economy
Long drain interval
Longer transmission life
Smoother cold shift
Reduced noise

Product Benefit

Approvals and Performance Specifications

●			●	●	●	●	<p>Suitable for use: Audi/Seat/Skoda/VW, Aisin Warner JWS 3309, BMW, Mini, Citroën, Chrysler/Dodge/Jeep, Daewoo, Ford, Fuso, GM/GMC/Opel/Saturn, Hino, Honda (except in CVTs), Hyundai/Kia, Mazda, Mitsubishi, Nissan, Peugeot, Renault, Subaru, Suzuki, Toyota, ZF 3, 4 & 5 Speed transmissions. Also meets the requirements of JASO M315-2013 1A and 2A – standards recognised by Japanese OEMs for use in Automatic Transmissions.</p> <p>Specifications: JASO M315-2013 1A, 2A; JWS 3309, JWS 3314, JWS 3317 Approvals: GM DEXRON®-VI</p>
●			●	●	●	●	<p>Approvals: MB-Approval 236.14</p>
●				●	●	●	<p>Specifications: JASO M315-2013 1A, M315-2013 2A; DEXRON®-IIIH/DEXRON®-IIIG; Allison C-4; Bosch TE-ML 09, ZF TE-ML 09; CAT TO-2; Ford Mercon® Performance Level: IVECO 18-1807 Power Steering System only</p>
●			●	●	●	●	<p>Specifications: Allison C-4, Bosch TE-ML 09, Ford Mercon®, GM DEXRON®-IIIH, JASO M315-2013 1A, ZF TE-ML 09. Performance level: Aisin Warner JWS 3309 (T-IV), BMW MINI (56 speed), Chrysler/Dodge/Jeep ATF +3, +4, AS68RC, Ford WSS M2C 922A1, 924A (XT-8-QAW), GM9986195 (Aisin AW, JWS 3309), Honda/Acura ATF-Z1 (except in CVTs), Hyundai/Kia SP-II, SP-III, JWS 3309, Idemitsu K17, ATF HP, ISUZU ATF-II, ATF-III, Jaguar JLM 20292, JLM 21044, JLM20238, Mazda ATF M-III, M-V, F-1, Mitsubishi Diaqueen SP, SP-II, SP-III, Nissan Matic Fluid D, J, K, PSA-Peugeot Citroën, Renault Matic, Saab T-IV (JWS 3309), Subaru ATF HP, Suzuki ATF 3314, ATF 3317, Toyota ATF D-II, T-III, T-IV, Audi/VW G 052 025, G 052 055, G 052 162, G 052 990, G 055 025</p>
○					○		<p>Specifications: Allison C-3; DEXRON® IID Performance Level: IVECO 18-1807 Class AG2</p>
○							<p>Specifications: GM Type "A" Suffix "A"</p>



PETRONAS Tutela

Manual transmission fluids



Manual Transmission Fluids have quite a job to prevent overheating – but they also have additional challenges caused by the amount of metal-to-metal contact in manual transmissions. Sub-standard oils struggle to combat the wearing of components, and can run out quickly – putting components at risk and reducing overall transmission life.

PETRONAS Tutela Manual Transmission Fluids extend component life through their enhanced shear stability for constant film strength and anti-wear protection. Not only this, their enhanced thermal and oxidation resistance properties help retain a stable viscosity, optimising transmission efficiency and even contributing towards fuel economy.

Global PETRONAS Tutela

Passenger Cars















Performance level	Design principles	Products
700	<ul style="list-style-type: none">• Premium fully synthetic fluids• In-warranty current vehicles, and latest out of warranty• Normally up to 6yrs old• Top tier specifications	<ul style="list-style-type: none">• Multi MTF 700 75W-80
500	<ul style="list-style-type: none">• Premium part synthetic fluids• For older vehicles, normally out of warranty• Normally up to 10yrs old• Mid-tier specifications	<ul style="list-style-type: none">• MTF 500 75W-90
300	<ul style="list-style-type: none">• Top quality mineral multi-grade oils• For older vehicles out of warranty• Normally up to 15yrs old• Old specifications	<ul style="list-style-type: none">• MTF 300 80W-90
100	<ul style="list-style-type: none">• High quality mineral oils• For very old vehicles, out of warranty• Normally over 15yrs old• Very old specifications	<ul style="list-style-type: none">• MTF 100 SAE 80

This table is intended to provide an indicative overview of the product benefits.

Protection
Longer oil life
Fuel economy
Long drain interval
Longer transmission life
Smoother cold shift
Reduced noise

Product Benefit

Approvals and Performance Specifications

						Suitable for use: Audi, BMW, Citroën, Fiat, Ford, GM, Nissan, Peugeot, Land Rover, Honda, Renault, Seat, Skoda, Volvo, VW. Specifications: API GL-4; Bosch TE-ML 08; ZF TE-ML 08
						Specifications: API GL-4; Bosch TE-ML 08; ZF TE-ML 08
						Specifications: API GL-4; Bosch TE-ML 08; ZF TE-ML 08
						Specifications: API GL-4; ZF TE-ML 24A

○ Basic level – most fluids can offer this benefit level.

● Max level – only few premium fluids can offer this benefit level.





PETRONAS **Tutela** Axle and Gear fluids

Axle Fluids have to look after vehicles used in high shock load situations. Failure to protect axle systems can result in axle damage and costly repairs.

Global PETRONAS Tutela

Passenger Cars

Performance level	Design principles	Products
500	<ul style="list-style-type: none"> Premium part synthetic fluids For older vehicles, normally out of warranty Normally up to 10yrs old Mid-tier specifications 	• Axle 500 75W-90
		• Axle 500 LS 75W-90
300	<ul style="list-style-type: none"> Top quality mineral multi-grade oils For older vehicles out of warranty Normally up to 15yrs old Old specifications 	• Axle 300 80W-90
		• Axle 300 LS 80W-90
		• Gear 300 80W-90 EP
100	<ul style="list-style-type: none"> High quality mineral oils For very old vehicles, out of warranty Normally over 15yrs old Very old specifications Recommended for gears and transmissions requiring API GL-5 	• Gear 100 EP SAE 90
		• Gear 100 EP SAE 140
		• Gear 100 SAE 90
		• Gear 100 SAE 140

This table is intended to provide an indicative overview of the product benefits.

Protection
Longer oil life
Fuel economy
Long drain interval
Longer transmission life
Smoother cold shift
Reduced noise

Product Benefit

Approvals and Performance Specifications

●		●		●	●		Specifications: API GL-5; MIL PRF 2105D; Bosch TE-ML 08; ZF TE-ML 07A, 08
●		●		●	●	●	Specifications: API GL-5; MIL PRF-2105D
●				●	○	●	Specifications: API GL-5; MIL PRF-2105D Approvals: ZF TE-ML 05A, 07A, 08, 12E, 16B, 19B, 21A Performance Level: IVECO 18-1805 Class RAM 1, RAM 1/A; MAN 342 Type M1, Type M2; NATO O-226
●				●	○	●	Specifications: API GL-5 Approvals: ZF TE-ML 05C, 12C, 16E, 21C
○						○	Specifications: API GL-5
○							Specifications: API GL-5
○							Specifications: API GL-5
○							Specifications: API GL-4
○							Specifications: API GL-4

○ Basic level – most fluids can offer this benefit level.

● Max level – only few premium fluids can offer this benefit level.





PETRONAS **Tutela** Brake fluids



Always fully
drain and refill
your brake fluid
to remove water
or contaminants
- topping up is
less effective.

The Braking System:

Critical safety guardian



Meet our Second Hidden Hero

The PETRONAS Tutela range of brake fluids has been designed with all the most critical safety features in mind – **protecting vehicles, drivers, passengers and pedestrians in all conditions.**

- **Preventing brake-lock caused by water absorption**

Most brake fluids tend to absorb moisture from the surrounding air, increasing their water content. At high temperatures, the water boils and forms vapour pockets. Braking energy will then be wasted on compressing the vapour pockets instead of activating the brake pads – and this will lengthen braking action time or even prevent any braking at all. If the braking action is delayed by just 1/10th of a second, the braking distance of a vehicle travelling at 100 km/h (62 mph) increases by 2.8 metres – which could be

the difference between stopping safely and crashing. The chemical properties of PETRONAS Tutela Brake Fluid's premium products have extremely high boiling points, helping them mitigate vapour lock failure and prevent accidents.

- **Low viscosity and excellent stability at icy temperatures ensure better performance**

Brake fluids with high viscosity (thickness) at low temperatures build up the braking response more slowly, delaying activation time. Braking Systems can also become locked as a result of precipitations at extremely low temperatures between -40°C and -50°C. PETRONAS Tutela Brake Fluids are tested on their viscosity properties over a wide temperature range of -50°C to 120°C³, and all pass or even exceed



the requirements of international standards FMVSS 116, SAE J 1703, SAE J 1704 and the ISO 4925. In additional tests, a Braking System was made to brake from 130-0 km/h on a highway 10 times repeatedly. PETRONAS Tutela Brake Fluid's premium products remained stable and effective regardless of temperature, maximising safety.

- **Outstanding protection for maximum safety**

PETRONAS Tutela Brake Fluids contain highly effective additives which reliably protect essential metals in the Braking System from oxidation and corrosion, provide excellent lubrication to prevent friction and abrasion, and deliver optimum thermal stability. Compatible with a wide range of elastomers to protect against the loss of fluids, our brake fluids ensure that Braking Systems are protected from damage – guaranteeing lasting performance and safety.

- **For maximum safety, ask your mechanic to check your brake fluid every year** – and it's important that you use the brake fluid type recommended by your car's manufacturer. Replacing your brake fluid costs a fraction of the price to replace than other parts of the Braking System, and it's definitely worth the peace of mind.

Important: fully drain and refill your brake fluid – never simply top it up. Your brake fluid does not remove water or contaminants from the Braking System, rendering the system less effective. Completely draining and refilling brake fluids ensures the Braking System gets totally new brake fluids while removing water or contaminant, so it's highly recommended.

³Simulated service performance test run at 120°C. Fluidity and Appearance at low temperature test run at -40°C and -50°C.

Global PETRONAS Tutela Brake & Clutch Fluids Range

All product groups

Performance level Design principles

DOT Type Brake & Clutch Fluids

DOT 5.1 LV	<ul style="list-style-type: none">• Super premium fluid• For latest hybrid and high performance models operating at higher temperatures• Depends on OEM recommendations• Typically for high performance in-warranty vehicles• Higher tier specifications
DOT 4 LV	<ul style="list-style-type: none">• Premium fluid• Depends on OEM recommendations• Typically for newest generation in-warranty vehicles with electronic control braking systems• High tier specifications
DOT 4	<ul style="list-style-type: none">• Premium fluid• Depends on OEM recommendations• Typically for in-warranty current vehicles and for older vehicles, normally out of warranty• Mid-tier specifications
DOT 3	<ul style="list-style-type: none">• High quality fluid• Depends on OEM recommendations• For older vehicles, out of warranty

Mineral Hydraulic and Brake Fluid*

LHM Plus	<ul style="list-style-type: none">• Premium mineral-based hydraulic fluid• Strictly depends on OEM recommendations• For off-road applications and for PSA cars that meet the PSA B71 2710 specification
---------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

This table is intended to provide an indicative overview of product benefits

* XXXX.

Braking safety
Braking response
Braking effectiveness
during service life
Clutch response

Product Benefit

Approvals and Performance

●	●	●	●	Specifications: FMVSS No. 116 DOT 3, DOT 4 and DOT 5.1; ISO 4925 Class 7; JIS K 2233 Class 6; SAE J 1703; SAE J 1704 Performance Level: FCA 9.55597 DOT 4 PHEV & BEV Models
●	●	●	●	Specifications: FMVSS No. 116 DOT 3, DOT 4; ISO 4925 Class 6; SAE J 1703; SAE J 1704 Performance Level: Continental ATE 553 11.05; Ford WSS-M6C65-A2; Jaguar/Land Rover 4R83-M6C57 BH22-M6C57 PSA S71 2114; Renault 41-02-001/-E
●	●	●	●	Specifications: FMVSS No. 116 DOT 3, DOT 4; ISO 4925 Class 4; SAE J 1703; SAE J 1704 Performance Level: Continental ATE N 553 11 05; FCA 9.55597 DOT 4; IVECO 18-1820; MAT 3630; MS-90039; Nissan NES-M5 055; Renault 41-02-001/-E
●	●	●	●	Specifications: FMVSS No. 116 DOT 3; ISO 4925 Class 3; SAE J 1703 Performance Level: Continental ATE N553 11 05; FCA 9.5559
●	●	●	●	Specifications: ISO 7308 Performance Level: FIAT 9.55597; IVECO 18-1823 Class 1; PSA B71 2710; MAT 3630; Massey Ferguson; MS-2155; NH 610 A; SDFG OF1611S

○ Basic level – most fluids can offer this benefit level.

● Max level – only few premium fluids can offer this benefit level.





PETRONAS Tutela Coolants

Cooling System:

Protector of key engine components

Meet our Third Hidden Hero

A vehicle's Cooling System is critical for controlling temperatures and preserving engine safety. Damage could lead to all sorts of problems. That's why the Cooling System is our Third Hidden Hero.



Maintains thermal balance to protect vehicles from overheating

The consequences of overheating can be extremely expensive, difficult to fix and, in some cases, fatal to the life of an engine. So, by simply preserving the balance of temperature, the Cooling System protects the engine and its components.



Transferring heat to keep engines operating safely

In an engine, only a third of energy produced is used to propel the vehicle forwards. The rest creates unwanted heat. The engine coolant performs a critical heat transfer role to avoid the formation of solids and gases and ensure that the engine operates safely.



Ensuring passenger safety through effective operation in all conditions

A properly operating Cooling System protects parts and engine operation across all conditions and temperature ranges. Once the desired operating temperature is reached, the thermostat adjusts the flow of coolant to the radiator, preventing significant risks to safety.



Helping engines start in extremely cold conditions

The fluid also plays a protective role, preventing the freezing of the engine at low temperatures.

Global PETRONAS Coolants Range

All product groups

Product	Design principles
Coolant LL-Si	<ul style="list-style-type: none">• Extra Long Life Si-OAT technology• For latest generation vehicles including hybrids• Asian, American and European passenger cars and commercial vehicles• Protection against overheating and freezing -38°C to 125°C*
Coolant LL-G	<ul style="list-style-type: none">• Long Life HOAT technology• Asian, American and European passenger cars and commercial vehicles• Protection against overheating and freezing -38°C to 125°C*
Coolant LL	<ul style="list-style-type: none">• Long Life OAT technology• For passenger cars, commercial vehicles, agriculture and construction machineries• Protection against overheating and freezing -38°C to 125°C*
Coolant	<ul style="list-style-type: none">• Conventional technology• For older passenger cars, commercial vehicles, agriculture and construction machineries• Protection against overheating and freezing -38°C to 125°C*

This table is intended to provide an indicative overview of product benefits.

*Ready to use 50/50 dilution with 14.5 psi (1 bar) radiator cap.

Long system life
Long coolant life
Corrosion protection
Antifreeze protection
Overheating protection

Product Benefit

Approvals and Performance

●	●	●	●	●	<p>Specifications: AS 2108-2004; ASTM D 3306; ASTM D 4985; ASTM D 6210; BS 6580:2010; CUNA NC 956-16; GB 29743-2013; JIS K 2234:2006; ONORM V 5123; SAE J1034; SANS 1251:2005 Performance Level: Cummins CES 14603; Deutz DQC CC-14; Daimler/Mercedes-Benz 325.5 and 325.6; IRIZAR, S. COOP from Sep. 2016; Liebherr Minimum LH-01-COL3A; MAN 324 Type Si-OAT; MTU MTL 5048; Porsche from MY 1996; VW / Audi / Seat / Skoda / Lamborghini / Bentley / Bugatti - TL 774-G</p>
●	●	●	●	●	<p>Specifications: AFNOR NF R 15-601 AS 2108-2004; ASTM D 3306; ASTM D 4985; ASTM D 6210; BS 6580:2010; CUNA NC 956-16; JIS K 2234:2006; ONORM V 5123; SAE J1034; SANS 1251:2005 Performance Level: BMW N 600 69.0; Bez. Reg. Amsberg, Dept. Of; Mining and Energy 84.12.22.63-2001-2; Daimler/Mercedes-Benz 325.0; Deutz H-LV 0161 0188; German Army TL 6850-0038/1; Jenbacher TA-Nr. 1000-0201; Liebherr Machines Bulle TVL 035 / TVL 23009 A; MAN 324-NF; MTU MTL 5048; Opel/General Motors B 040 0240; Porsche for 924, 928, 944, 968; Saab 6901599; VW / Audi / Seat / Skoda TL 774-C</p>
●	●	●	●	●	<p>Specifications: AFNOR NFR 15-601; AS 2108-2004; ASTM D 3306; ASTM D 6210; BS 6580:2010; CUNA 956-16; ONORM V 5123; SAE J1034; SANS 1251:2005; SH 0521-1999 Performance Level: CNHi MAT 3724; CNHi MAT 3624; DAF (MAT 74002); Daimler/Mercedes-Benz 325.3; Fiat 9.55523; IVECO 18-1830; MAN 324 Type SNF; MTU MTL 5048; Porsche from MY 1996 to MY 2010; PSA B71 5110; VW/Audi/Seat/Skoda TL 774-D/F</p>
●	●	●	●	●	<p>Specifications: AFNOR NFR 15-601; AS 2108-2004; ASTM D 3306; ASTM D 6210; BS 6580:2010; CUNA 956-16; ONORM V 5123; SAE J1034; SANS 1251:2005; SH 0521-1999 Performance Level: Chrysler MS-9769; CNHi MAT 3620 (IAT); Daimler/Mercedes-Benz 325.0; Fiat 9.55523; IVECO 18-1830; MTU MTL 5048; John Deere JDM H 24; Ford WSS-M97B51-A1</p>

○ Basic level – most fluids can offer this benefit level.

● Max level – only few premium fluids can offer this benefit level.

Global PETRONAS Coolants Range

All product groups

Product	Design principles
Coolant LL-Si	<ul style="list-style-type: none">• Extra Long Life Si-OAT technology• For latest generation vehicles including hybrids• Asian, American and European passenger cars and commercial vehicles• Protection against overheating and freezing -38°C to 125°C*
Coolant LL-T	<ul style="list-style-type: none">• Long Life P-OAT technology• For Japanese vehicles• Protection against overheating and freezing -37°C to 129°C
Coolant LL-H	<ul style="list-style-type: none">• Long Life P-OAT technology• For Japanese and Korean vehicles• Protection against overheating and freezing -37°C to 129°C*
Coolant LL-K	<ul style="list-style-type: none">• Long Life P-OAT technology• For Japanese and Korean vehicles• Protection against overheating and freezing -37°C to 129°C*
Coolant LL-G	<ul style="list-style-type: none">• Long Life HOAT technology• Asian, American and European passenger cars and commercial vehicles• Protection against overheating and freezing -38°C to 125°C*
Coolant LL	<ul style="list-style-type: none">• Long Life OAT technology• For passenger cars, commercial vehicles, agriculture and construction machineries• Protection against overheating and freezing -38°C to 125°C*
Coolant	<ul style="list-style-type: none">• Conventional technology• For older passenger cars, commercial vehicles, agriculture and construction machineries• Protection against overheating and freezing -38°C to 125°C*

This table is intended to provide an indicative overview of product benefits.
For more detailed benefit descriptions, please visit the individual product pages.

*Ready to use 50/50 dilution with 14.5 psi (1 bar) radiator cap.

Long system life
Long coolant life
Corrosion protection
Antifreeze protection
Overheating protection

Product Benefit

Approvals and Performance

●	●	●	●	●	<p>Specifications: AS 2108-2004; ASTM D 3306; ASTM D 4985; ASTM D 6210; BS 6580:2010; CUNA NC 956-16; GB 29743-2013; JIS K 2234:2006; ONORM V 5123; SAE J1034; SANS 1251:2005</p> <p>Performance Level: Cummins CES 14603; Deutz DQC CC-14; Daimler/Mercedes-Benz 325.5 and 325.6; IRIZAR, S. COOP from Sep. 2016; Liebherr Minimum LH-01-COL3A; MAN 324 Type Si-OAT; MTU MTL 5048; Porsche from MY 1996; VW / Audi / Seat / Skoda / Lamborghini / Bentley / Bugatti - TL 774-G</p>
●	●	●	●	●	<p>Specifications: ASTM D 3306; JIS K 2234:2006</p> <p>Performance Level: Toyota; Lexus; Kia; Hyundai</p>
●	●	●	●	●	<p>Specifications: ASTM D 3306; JIS K 2234:2006</p> <p>Performance Level: Acura, Honda; Infiniti, Nissan; Mitsubishi; Subaru; Suzuki</p>
●	●	●	●	●	<p>Specifications: ASTM D 3306; JIS K 2234:2006</p> <p>Performance Level: Hyundai, Kia; Infiniti, Nissan; Mazda; Mitsubishi; Subaru; Suzuki</p>
●	●	●	●	●	<p>Specifications: AFNOR NF R 15-601 AS 2108-2004; ASTM D 3306; ASTM D 4985; ASTM D 6210; BS 6580:2010; CUNA NC 956-16; JIS K 2234:2006; ONORM V 5123; SAE J1034; SANS 1251:2005</p> <p>Performance Level: BMW N 600 69.0; Bez. Reg. Amsberg, Dept. Of; Mining and Energy 84.12.22.63-2001-2; Daimler/Mercedes-Benz 325.0; Deutz H-LV 0161 0188; German Army TL 6850-0038/1; Jenbacher TA-Nr. 1000-0201; Liebherr Machines Bulle TVL 035 / TVL 23009 A; MAN 324-NF; MTU MTL 5048; Opel/General Motors B 040 0240; Porsche for 924, 928, 944, 968; Saab 6901599; VW / Audi / Seat / Skoda TL 774-C</p>
●	●	●	●	●	<p>Specifications: AFNOR NFR 15-601; AS 2108-2004; ASTM D 3306; ASTM D 6210; BS 6580:2010; CUNA 956-16; ONORM V 5123; SAE J1034; SANS 1251:2005; SH 0521-1999</p> <p>Performance Level: CNHi MAT 3724; CNHi MAT 3624; DAF (MAT 74002); Daimler/Mercedes-Benz 325.3; Fiat 9.55523; IVECO 18-1830; MAN 324 Type SNF; MTU MTL 5048; Porsche from MY 1996 to MY 2010; PSA B71 5110; VW/Audi/Seat/Skoda TL 774-D/F</p>
●	●	●	●	●	<p>Specifications: AFNOR NFR 15-601; AS 2108-2004; ASTM D 3306; ASTM D 6210; BS 6580:2010; CUNA 956-16; ONORM V 5123; SAE J1034; SANS 1251:2005; SH 0521-1999</p> <p>Performance Level: Chrysler MS-9769; CNHi MAT 3620 (IAT); Daimler/Mercedes-Benz 325.0; Fiat 9.55523; IVECO 18-1830; MTU MTL 5048; John Deere JDM H 24; Ford WSS-M97B51-A1</p>

○ Basic level – most fluids can offer this benefit level.

● Max level – only few premium fluids can offer this benefit level.

Dominating on the track. Performing on the road.

If you want to win in Formula One, you need only the very best fluid and lubricants in your vehicle. That's why PETRONAS Syntium and PETRONAS Tutela are used in the Mercedes AMG PETRONAS Formula One car, helping it perform at astonishing speeds race after race.

You can enjoy the same reassurance and satisfaction in your everyday driving, too. Our expert fluid technologists have put all their specialist knowledge into developing PETRONAS Syntium and PETRONAS Tutela products that bring the Formula One experience to the road. So you can drive with confidence, get more out of your car and feel like a champion whenever you get behind the wheel.

From engine oil to transmission fluids, PETRONAS fluid solutions have been rigorously tested on the race track. Co-engineering winning lubricants and functional fluids with our partners in motorsports means we see things from a perspective others don't – so you never have to settle for anything other than first place when it comes to what goes into your car.



Find out more about how we can keep your vehicle moving.

Contacts

Jane Doe

jane.doe@pli-petronas.com

123 lorem ipsum,
Location country,
Address street building,
Postcode

DL: +98 7654 3210

Details
TBC

PETRONAS LUBRICANTS INTERNATIONAL SDN BHD (485509-D)

Level 26, Integra Tower, The Intermark, 348 Jalan Tun Razak, 50400 Kuala Lumpur, Malaysia.

www.pli-petronas.com