



## PRODUCT INFORMATION & DATA SHEET

### PRINCE® FS1 SAE 5W-50

The Flagship P-9 Ester Fully Synthetic Motor Oil.

FS1 SAE 5W-50 is a low volatility 100% chemically synthesizing P-9 Ester based motor oil engineered with ultra-advanced additive technology, offering excellent naturally antioxidant properties, high and stable viscosity index (VI) and enhanced thermal resistance capacities, which are capable of featuring the highest viscosity retention, providing improved lubrication flowability and powerful engine protection at extremely cold and hot operating temperatures.

FS1 exceeds the performance requirements of API SP standard offering increased protection against piston/turbocharger deposits and fuel economy retention. This motor oil ensures direct injection engines have the highest protection against stochastic pre-ignition (LSPI) phenomenon caused by high-pressure build-up in the cylinder parts.

This ester-based motor oil features excellent pumpability with the oil particles spread and penetrate quicker into all engine parts at cold temperatures after starting up, build up oil pressure level rapidly and prevent corrosive and wear in the morning.

This motor oil meets or even exceeds the following list of OEM's approvals and standards:

API SP, ACEA A3/B4, Daimler MB 229.3, Ford WSS-M2C931-C, Porsche A40

Some of the benefits of using this motor oil:

- Contains specially formulated anti-friction and anti-wear additive technology to ensure better fuel efficiency and minimize wear formation.
- Designed with optimal antioxidant and thermal resistant properties to resists high-temperature deposits and sludge to maintain the cleanliness of all engine parts.
- Excellent shear and oxidation stability, minimizes oil degradation and allow viscosity "stay-in-grade" even using for a longer drain interval.
- Fulfils the performance requirements of Ford WSS-M2C931-C specification, providing maximum power output and lubricating protection on high-performance Ford vehicles, including the Mustang GT350 and Focus RS AWD 2.3 EcoBoost.
- High and stable viscosity index (VI) of P-9 Ester base offers very strong and dense lubrication film over a wider operating temperature range.
- Naturally low volatility properties of ester base oils facilitate lower evaporation loss, thence reduce oil consumption and lessen pollution.
- Low pour point protects turbocharger against oil starvation in subzero temperatures and offers a quick return to appropriate oil pressure level after starting up.
- Optimum lubrication flowability in winter ambient, promotes easier cold-start and exceptional pumpability which allowed rapid engine protection.
- Outstanding protection on timing chain of the camshafts and crankshaft allowing precise operation timing of engine valves during each cylinder firing.
- Tested safe on catalytic converters, gasoline particulate filters and sealing materials at large bandwidth of temperatures.

## Areas of application

For use in high-performance and regular naturally aspirated, turbocharged, supercharged, direct/indirect injection, multi-valve, VVT gasoline engines with and without catalytic converter and gasoline particulate filter requiring an API SP specified motor oil. Applicable in LPG and natural gas engines.

The API SP standard is fully backward compatible with previous API specifications.

Note: Not suitable for use in the current EURO 5 and 6 diesel engine designs equipped with modern exhaust gas recirculation systems.

## Typical properties

<u>SAE Viscosity</u>		<b>5W-50</b>
Viscosity Index (VI)	ASTM D2270	180
Viscosity at 100 °C; mm <sup>2</sup> /s	ASTM D445	18.2
Viscosity at 40 °C; mm <sup>2</sup> /s	ASTM D445	116
Density at 20 °C; kg/m <sup>3</sup>	ASTM D4052	847.0
HTHS Viscosity at 150 °C; cP	ASTM D4683	4.3
Flash Point; °C	ASTM D92	244
Pour Point; °C	ASTM D97	-41

## Service recommendations

Follow the oil drain interval required by the respective manufacturers. Observe the owner's manual booklet. Recommend to flush before add in new oil. Change oil filter at time of oil change.

## Commercially available product compatibility

Our fully synthetic motor oil is compatible with other fully synthetic, synthetic and/or conventional motor oils. Peak performance is guaranteed only upon using alone without mixing with other motor oils. Our motor oil products are designed and developed with appropriate additive package. Hence, aftermarket oil additive products are not recommended for used alongside.

## Product availability

This product may not be available locally. Contact your local distributor.

The information show herein is subject to change without noticed. The product indicated here have been developed by PRINCE LUBRICANTS for use in the areas of applications shown. We reserve all right to alter the characteristics and product properties to align with continually technical development.