



## Shield® Defense

Phillips 66® Shield Defense Synthetic Blend Motor Oil is a premium quality, part-synthetic automotive engine oil specially designed to provide excellent engine protection for both turbocharged gasoline direct-injection, conventional gasoline-fueled and flex-fueled passenger cars and light trucks under all operating conditions. It also is recommended for use in lower-mileage vehicles, including new cars under warranty.

Shield Defense Synthetic Blend Motor Oil is formulated with a blend of synthetic and conventional base stocks. The part-synthetic formulation provides enhanced protection against viscosity breakdown and the formation of sludge and varnish compared with conventional engine oils. Our proprietary High Mileage chemistry provides a concentrated boost of engine protection. These performance benefits help to maximize engine performance and extend engine life in high-mileage vehicles, while also providing excellent engine protection in newer vehicles.

Shield Defense Synthetic Blend Motor Oil meets new car warranty requirements as defined by ILSAC GF-6A. It is uniquely formulated to help combat low speed pre-ignition (LSPI) in turbocharged gasoline direct injection engines. It meets or exceeds “Resource Conserving” requirements for fuel economy improvement, emission system and turbocharger protection, and protection of engines operating on ethanol-containing fuels up to E85. It is backward serviceable for use where API SN or earlier “S” category engine oils are recommended.

### Applications

- Turbocharged gasoline direct injection, conventional gasoline-fueled and flex-fuel passenger cars, light trucks and sport utility vehicles, including gasoline-electric hybrids, especially when operating under severe conditions.

Shield Defense Motor Oil is licensed for:

- ILSAC GF-6A (SAE 5W-20, 5W-30, 10W-30)
- API Service SP, SN PLUS with Resource Conserving (SAE 5W-20, 5W-30, 10W-30)
- API Service SP, SN PLUS (SAE 10W-40)

Shield Defense Motor Oil meets or exceeds the requirements of:

- Chrysler MS-6395 (Rev. T)
- Ford WSS-M2C960-A1 (SAE 5W-20)
- Ford WSS-M2C961-A1 (SAE 5W-30)
- GM6094M (obsolete specification)

**Synthetic Blend  
Passenger Car  
Engine Oil for  
High Mileage  
Vehicles;  
Blended with  
High Mileage  
Chemistry**

KEEPING THE  
WORLD  
RUNNING  
SMOOTHLY. 



## Features/Benefits

- Helps protect against low speed pre-ignition (LSPI) in turbocharged gasoline direct injection engines (TGDI)
- Meets ILSAC GF-6A requirements for new cars under warranty
- Part-synthetic formulation provides enhanced protection against deposit formation and oil thickening, compared with conventional engine oils
- Proprietary High Mileage Booster provides tailored engine protection to high mileage vehicles
- Protects against rust and bearing corrosion
- Low volatility for reduced oil consumption
- Excellent low-temperature pumpability for protection during cold starts
- Highly resistant to foaming
- Helps maximize engine performance and minimize exhaust smoke
- Formulated to protect turbochargers and emissions control system catalysts
- Formulated for use in vehicles operating on ethanol-containing fuels up to E85

## Shield® Defense

Typical Properties				
SAE Grade	5W-20	5W-30	10W-30	10W-40
Specific Gravity @ 60°F	0.862	0.862	0.866	0.869
Density, lbs/gal @ 60°F	7.19	7.17	7.22	7.25
Color, ASTM D1500	3.0	3.0	3.0	3.0
Flash Point (COC), °C (°F)	218 (424)	216 (421)	229 (444)	227 (440)
Pour Point, °C (°F)	-30 (-22)	-30 (-22)	-30 (-22)	-30 (-22)
Viscosity, Kinematic				
cSt @ 40°C	51.3	68.0	65.1	112
cSt @ 100°C	8.8	11.2	10.4	16.0
Viscosity Index	152	159	148	153
Cold Cranking Viscosity, cP	5,600	6,000	4,900	6,100
@ (°C)	(-30)	(-30)	(-25)	(-25)
High-Temp/High-Shear Viscosity, cP @ 150°C	2.6	3.1	3.0	4.1
Sulfated Ash, ASTM D874, wt %	0.9	0.9	0.9	0.9
Total Base Number (TBN), ASTM D2896	7.7	7.7	7.7	7.7
Phosphorus, wt %	0.077	0.077	0.077	0.077
Zinc, wt %	0.085	0.085	0.085	0.085

## Health Safety Information

For recommendations on safe handling and use of this product, please refer to the Material Safety Data Sheet via <http://www.phillips66.com/SDS>

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Typical properties are average values only and do not constitute a specification. Minor variations that do not affect product performance are to be expected during normal manufacture, and at different blending locations. Product formulations are subject to change without notification.