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DATA BULLETIN

## European Car Formula Synthetic Motor Oil

# Specially Formulated for European Gasoline and Diesel Engines

AMSOIL European Car Formula Synthetic Motor Oil provides exceptional performance and protection for gasoline and diesel European vehicles. It meets a wide variety of specifications and carries multiple manufacturer approvals. European Car Formula features a broad range of viscosities and different levels of emissions system protection to keep sensitive emissions systems operating efficiently.

AMSOIL, the leader in automotive synthetic lubrication, produced the world's first API-qualified synthetic motor oil in 1972. Trust the extensive experience of AMSOIL, The First in Synthetics<sup>®</sup> to do the best job protecting your engine.

## **Complete Coverage**

AMSOIL European Car Formula meets and often exceeds strict European manufacturer specifications. Its shear-stable synthetic base oils and high-quality anti-wear additives provide outstanding protection in high-temperature conditions and deliver dependable performance throughout the long drain intervals recommended by European manufacturers.

## **Emissions System Protection**

AMSOIL European Car Formula features precisely balanced formulations that consider the needs of modern exhaust treatment devices. Protecting sensitive emissions systems depends on using the optimal blend of SAPS (sulfated ash, phosphorus and sulfur) to keep these systems functioning properly.

## **Superior Engine Cleanliness**

The excellent oxidation stability, heat resistance and detergency properties of AMSOIL European Car Formula help keep engines clean. It is specifically designed to prevent sludge and varnish deposits, reduce oil consumption, extend engine life and provide maximum performance.

## **Excellent For Turbochargers**

AMSOIL European Car Formula has a robust composition that shields engines from the high temperatures produced by turbochargers. Its thermally stable oil formulation resists deposit formation and cools turbochargers. Its low pour point protects turbochargers against oil starvation in subzero temperatures and ensures a rapid return to appropriate oil pressure at startup.





- Engineered to meet European manufacturers' specifications
- Excellent protection for gasoline and diesel engines
- **Fights** sludge for superior engine cleanliness

\*All trademarked names and images are the property of their respective owners and may be registered marks in some countries. There is no affiliation or endorsement claim, express or implied, made by their use. AMSOIL products are formulated to meet or exceed the performance requirements set forth by the manufacturers of all applications shown/listed here.

## Order by Phone 1-800-956-5695 - Give Operator Reference #5192022

| TYPICAL TECHNICAL PROPERTIES                               |             |             |             |
|--|-------------|-------------|-------------|
| AMSOIL European Car Formula Synthetic Motor Oil <b>EFO</b> | EFM         | AEL         | AFL         |
| Kinematic Viscosity @ 100°C, cSt (ASTM D445)13.3           | 13.6        | 11.6        | 14.3        |
| Kinematic Viscosity @ 40°C, cSt (ASTM D445)74.7            | 83.3        | 68.4        | 88.5        |
| Viscosity Index (ASTM D2270)182                            | 168         | 165         | 168         |
| CCS Viscosity cP (ASTM D5293)                              | 5433 (-30)  | 5946 (-30)  | 5855 (-30)  |
| Pour Point °C (°F) (ASTM D97)                              | -39 (-38.2) | -51 (-59.8) | -40 (-40)   |
| Flash Point °C (°F) (ASTM D92)                             | 220 (428)   | 228 (442.4) | 224 (435.2) |
| Fire Point °C (°F) (ASTM D92                               | 238 (460.4) | 250 (482)   | 240 (464)   |
| Four-Ball Wear Test  |             |             |             |
| (ASTM D4172B @ 40 kg, 75°C,1200 rpm, 1 hr), Scar, mm0.47   | 0.47        | 0.47        | 0.44        |
| Noack Volatility, % weight loss (ASTM D5800)               | 8.7%        | 7.1%        | 10%         |
| High-Temperature/High-Shear Viscosity                      |             |             |             |
| cP (ASTM D5481)  | 3.7         | 3.6         | 3.8         |
| Total Base Number  | 10.1        | 8.8         | 8           |

## **APPLICATIONS**

AMSOIL European Car Formula Synthetic Motor Oil is engineered for use in gasoline or diesel vehicles that requires any of the following specifications:

**0W-40 (EFO):** API SN, SM...; ACEA A3/B3, A3/B4; BMW LL-01; Mercedes Benz 229.1, 229.3, 229.5; Porsche A40; Renault 0700, 0710; Volkswagen 502.00, 505.00

**5W-40 (EFM):** API SN, SM...; ACEA A3/B3, A3/B4; BMW LL-01; GM LL-B-025; Renault 0700, 0710; Volkswagen 502.00, 505.00 **Manufacturer Approvals:\*** MB-Approval 229.5; Porsche A40

**5W-30 (AEL):** API SN; SM…; ACEA C3; BMW LL-04; Mercedes Benz 229.51; Porsche C30; GM dexos 2<sup>™</sup>; Chrysler MS-11106 **Manufacturer Approvals:\*** Volkswagen 504.00, 507.00

**5W-40 (AFL):** API SN, SM, CF...; ACEA C3; Chrysler MS-10850; GM dexos 2<sup>™</sup>; Volkswagen 502.00, 505.01; Ford WSS-M2C917-A; Renault 0700, 0710

Manufacturer Approvals:\* BMW Longlife-04; MB-Approval 229.51; Porsche A40

#### SERVICE LIFE

Recommended for the extended drain intervals established by the vehicle manufacturer. Change oil filter at time of oil change.

## COMPATIBILITY

AMSOIL European Car Formula Synthetic Motor Oil is compatible with other synthetic and conventional motor oils. Mixing AMSOIL motor oil with other oils, however, will shorten the oil's life expectancy and reduce its performance benefits. AMSOIL does not support extended drain intervals where oils have been mixed.

Aftermarket oil additives are **not recommended** for use with AMSOIL synthetic motor oils.

#### **AMSOIL PRODUCT WARRANTY**

AMSOIL products are backed by a Limited Liability Warranty. For complete information visit www.amsoil.com/ warranty.aspx.

## **HEALTH & SAFETY**

This product is not expected to cause health concerns when used for the intended applications and according to the recommendations in the Safety Data Sheet (SDS). An SDS is available via the Internet at www.amsoil.com or upon request at (715) 392-7101. **Keep Out of Reach of Children.** Recycle used oil and bottle.

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