



## Super S® SuperSyn™ 5W-40 Heavy Duty Engine Oil

**SuperSyn™ Heavy Duty Engine Oil** is a premium quality, high performance, low-ash formulation of 100% synthetic base oils and the most advanced additive technology available that meets or exceeds the service requirements of virtually all diesel engine manufacturers; both emission compliant and older engines, as well as new engines using SCR or EGR systems for EPA emission compliance. It is suitable for virtually all on- and off-highway service applications and can be used in extended drain service programs.

The premium synthetic base oils provide excellent cold temperature cranking and pumping performance for maximum protection in freezing conditions allowing oil to quickly reach all areas of the engine. Cold cranking is one of the most severe operating environments experienced in a combustion engine, ensuring acceptable flow is critical to extending the life of your engine.

The full synthetic formulation also offers exceptional protection against oxidation allowing for extended oil drain intervals. In today's fleets, most heavy duty on-highway trucks are now requiring oil drain intervals between 15-25,000 miles in severe service conditions. The excellent stability provided by use of SuperSyn HD engine oils allows to meet or even exceed these marks with an acceptable oil monitoring program.

The technology used to formulate SuperSyn CK-4 engine oils have now driven over 30 million miles of on-highway operation without one reported break down to inadequate engine protection providing peace of mind under the most severe conditions. The exceptional shear stability resists oil thinning which can lead contacting parts unprotected.

**SuperSyn™ Heavy Duty Engine Oil** is manufactured to our Advanced Quality Assurance™ standards of quality control that exceed industry standards. Every batch is laboratory tested from base stocks and additives to finished product to consistently deliver an exceptional level of performance and protection.

### FEATURES/ BENEFITS

- Full Synthetic base stock provides outstanding oxidation resistance and resistance to sludge formation
- Formulated for high heat, high stress operating environments
- Meets or exceeds requirements of today's high performance, low emission diesel engines
- Provides excellent performance in older engines allowing operators use of one oil for many engines
- Provides significantly improved wear protection, deposit and viscosity control, and oxidation resistance
- **Low-SAPS** technology resists catalyst poisoning
- Improved soot control and an exclusive detergent system for outstanding engine cleanliness
- Exceptional low temperature flow properties helps to protect engine components and speed cold starts
- Reduced fuel consumption
- Outstanding performance reserve provides protection and lubrication throughout the entire oil drain interval
- Capable of supporting extended drain programs
- Outstanding shear stability for viscosity control
- Simplifies inventories - one oil for all your 4-stroke engines; gasoline and diesel

### APPLICATIONS

- Engines calling for API Service Classification CK-4, CJ-4, CI-4 Plus, CI-4 or SN
- Meets the needs of all 4-stroke engines in a fleet in the appropriate viscosity grades
- SAE 5W-40 viscosity provides significant improvements in fuel economy
- Reduces the time needed on block heaters in cold climates
- Satisfies requirements for naturally aspirated and turbocharged engines
- Excellent for use in engines with shorter piston crowns, higher power density, inter-cooling, electronic fuel management, exhaust gas recirculation, and exhaust particulate traps
- Meets needs of the older engines in on-highway service
- Satisfies off-highway engines calling for multi-grade engine oils
- Works well with both on- and off-highway diesel fuels

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## RECOMMENDATIONS/SPECIFICATIONS

**SuperSyn Heavy Duty Engine Oils meet or exceed the following specifications:**

**Licensed as:**

API Service Categories CK-4/SN

ACEA E9-16

**Meets requirements of :**

API Service Categories CJ-4, CI-4+, CI-4 and CH-4

Cummins - CES 20086

MTU 2.1

Mack – EOS-4.5

MB 228.31

Renault VI RLD-4

Caterpillar - ECF-3

Detroit Diesel - DFS93K222

Ford WSS-M2C171-F1

MAN - M3575

Volvo - VDS 4.5

### TYPICAL CHARACTERISTICS

<b>Super S® SuperSyn™ Heavy Duty Engine Oil</b>		
<i>Properties</i>	<i>Test Method ASTM D-</i>	<i>Typical Results</i>
SAE Viscosity Grade		5W-40
		Full Synthetic
Flash Point, COC °C /°F	92	238/460
Pour Point, °C /°F	97	-31/-28
Viscosity	445	
cSt @ 40°C		101.0
cSt @ 100°C		14.3
	227	145
CCS Viscosity (mPa·s)	529	<6600@-30
Sulfated Ash	874	0.8
TBN	289	11

Typical test data are average values only.

Minor variations which do not affect product performance are to be expected during normal manufacturing.

### SPECIAL HANDLING, NOTICES OR WARNINGS

Use the same care and handling that you would use with petroleum products.