

ENGINE OILS

HiTEC[®] 9890

Passenger Car Engine Oil Additive Package



Designed to Meet ILSAC GF-5/API SN & answering demand for API SM

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Application

HiTEC® 9890 is a passenger car engine oil additive developed by Afton Chemical to meet ILSAC GF-5/ API SN and API SM performance needs

Key Performance Benefits

- Simplified logistics:
 - With pour-point depressant imbedded.
 - Single additive package that delivers the latest API SN/ILSAC GF-5 specs, and yet taking care of existing API SM market trends.
- Blending optimization:
 - With base stock coverage that includes Group II and Group III base stocks.
 - Viscosity index improver options of HiTEC® 5754A (35 SSI) or HiTEC® 5751 (50 SSI).
- Rigorous quality that is API licensable* for API Certification Mark & API Service Symbol "Donut".
- Delivering excellent results going beyond API SN/ ILSAC GF-5 specification limits in regards to oxidation stability, piston cleanliness, wear protection and fuel economy.

* Please contact your Afton sales representative for specific formulation recommendations for API License matters.

Recommended Dosage

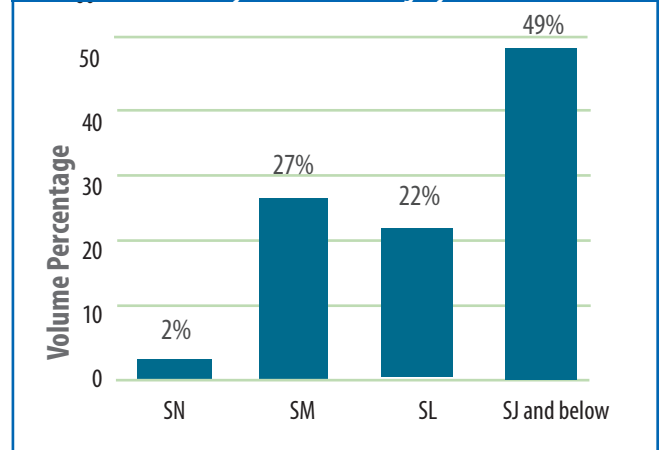
For API SN and ILSAC GF-5, the recommended treat rate for HiTEC® 9890 is 8.5% wt in appropriate Group II or Group III base stocks, with no additional PPD required.

For API SM, the recommended treat rate for HiTEC® 9890 is 7.9% wt in appropriate Group II or Group III base stocks, with no additional PPD required.

Typical Characteristics

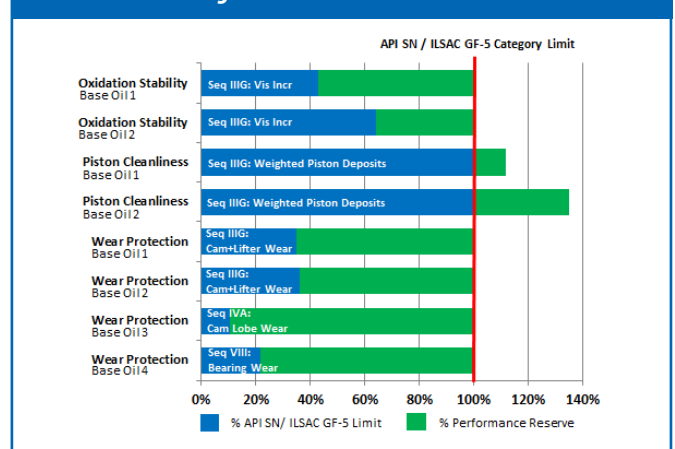
Appearance:	Brown viscous liquid
Flash Point, °C (PMCC):	135 min.
Specific Gravity at 15.6°C:	0.975
Density at 15 °C, g/ml	0.973
Kinematic Viscosity at 100°C, mm ² /s:	73
Boron, % weight	0.21
Calcium, % weight	2.24
Molybdenum, ppm	465
Nitrogen, % weight	0.99
Phosphorus, % weight	0.91
Zinc, % weight	1.00
Total Base Number, mg KOH/g:	81

2012 Asia Pacific key Countries - PCMO Volume Split By API Service Category



Source: Afton Chemical's internal market assessment in 2010

Excellent Engine Test Performance of HiTEC® 9890



Source: HiTEC® 9890 Engine Test Performance

Handling Information

Recommended Storage and Handling Temp:	40-45°C
Max Storage Temp:	50°C
Max Handling Temp:	70°C
Maximum Skin Temp (agitated):	121°C
Maximum Skin Temp (static):	80°C
Maximum Blending Temp:	70°C
Shelf Life:	36 months