

# PennGrade 1<sup>®</sup> Monograde High Performance Oils



## Product Description

**PennGrade 1<sup>®</sup> Monograde High Performance Oils** are specially formulated using high quality, premium base stocks and select additive technologies to meet stringent lubricating demands of high performance, highly stressed street and racing engines.

**PennGrade 1<sup>®</sup> Monograde High Performance Oils** deliver excellent shock load and high temperature protection to heavily stressed engine parts including bearings, camshafts, rings, and pistons. They reduce internal friction for increased horsepower output while maintaining their strong lubricating film protection even under the most demanding torque and extreme temperature conditions. These high performance formulations also possess good anti-foaming and shear stability characteristics, excellent high temperature protection from thermal breakdown, outstanding film strength, and strong anti-wear properties.

**PennGrade 1<sup>®</sup> Monograde High Performance Oils** have a distinct green color and are available in (5) monograde viscosities to meet virtually all lubricating requirements of high performance street and racing engines. The SAE 30\*, SAE 40\*, SAE 50\*, SAE 60\* and “Nitro” 70\* products are suitable for use in most naturally aspirated, turbocharged or supercharged gasoline engines. Additionally, they offer a typical TBN of 9.45, 9.5 and 10.6 (SAE 30). They are fortified with an anti-wear agent proven to be highly effective in the regime of extremely stressed engines.

**PennGrade 1<sup>®</sup> “Nitro” 70 Monograde High Performance Oil** is specifically formulated for gas, alcohol and nitromethane fueled engines that experience extreme torque, load and high temperature conditions. The PennGrade 1<sup>®</sup> SAE 50 and SAE 60 are suitable for use in gas, alcohol and nitromethane fueled engines where an SAE 50 or SAE 60 are desired. The initial high viscosity of the SAE 50, SAE 60 and “Nitro” 70 allow excessive dumping of fuel (“blow by”) into the lubricating fluid while maintaining critical protection for expensive, high performance racing engines and their components. Additionally, the SAE 50, SAE 60 and “Nitro” 70 are ideally suited for the heavier viscosity lubrication needs of the early classic motorcycles/engines like Harley Davidson<sup>®</sup> (Flathead<sup>®</sup>, Knucklehead<sup>®</sup>, Panhead<sup>®</sup>, Shovelhead<sup>®</sup>, etc.) and others.

\* Not recommended for use in vehicles equipped with catalytic converters



## Typical Properties

SAE Viscosity Grade	Test Method	30	40	50	60	70 "Nitro"
Viscosity @ 100°C, cSt	ASTM D445	11.65	15.5	20	23.3	28
@ 40°C, cSt	ASTM D445	97	150	218.5	274.4	314.8
Viscosity Index	ASTM D2270	118	108	106	105	114
Pour Point, °F (°C)	ASTM D97	-22 (-30)	0 (-18)	5 (-15)	5 (-15)	20 (-6)
Flash Point, COC, °F (°C)	ASTM D92	425 (218)	425 (218)	440 (227)	425 (218)	450 (232)
Sulfated Ash, Weight %	ASTM D874	1.2	1.0	1.0	1.0	1.0
API Gravity	ASTM D4052	28	27.5	26.8	26.2	26.7
Density, lbs/gal (g/L)	Calculated	7.40 (887)	7.41 (888)	7.44 (891)	7.485 (897)	7.45 (892)
Zinc, Mass %	ASTM D6481	0.15	0.15	0.15	0.15	0.15
Phosphorous, Mass %	ASTM D6481	0.14	0.14	0.14	0.14	0.14
Color	ASTM D1500	Green	Green	Green	Green	Green
TBN	ASTM D2896	10.6	9.5	9.45	9.45	9.45

