



# Makina Grease & Lubricants Manufacturing L.L.C.

## Rally HD

### Description

Makinalube Rally HD is a premium quality, mono-grade engine oil suitable for, and meeting the performance requirements of American, European and Asian car manufacturers.

Makinalube Rally HD is formulated from highest quality base oils blended with a proven shear-stable viscosity index improver to give fluidity and easy starting in winter, together with good lubrication and low oil consumption at high operating temperatures. It contains a unique low ash, detergent additive package that keeps pistons and rings deposit-free despite adverse peak temperatures. This additive package also disperses and neutralizes harmful acid sludge formed during cold running. Scuffing and undue wear of rings, bores and valve train components are prevented by special anti-wear agents. Additional additive treatment minimizes oil thickening, helps prevent the formation of deposits at high temperatures and gives excellent protection against rust, corrosion and foaming.

### Application

Modern automotive engines are subjecting the motor oil to increasingly severe conditions. Increased power outputs, extended drain intervals, more stop-go operations and high operating temperatures are additional factors influencing the need for higher motor oil quality. Makinalube Rally HD has been specially developed to cope with these arduous conditions using stringent performance tests. It meets CCMC G2/D1 and API SF/CD service classifications for gasoline and diesel engines and also meets the requirements of U.S. Military specification MIL-L-46152B.

Makinalube Rally HD is suitable for year round use in all four-stroke petrol engines, including those with positive crankcase ventilation (PCV) and other anti-pollution devices. It is equally satisfactory in all normally aspirated diesels.

### Typical Characteristics

PROPERTIES	UNITS	TEST METHOD	VALUE				
SAE Grade		DIN 51 511	10W	30	40	50	60
Density @ 15 °C	kg/m <sup>3</sup>	ASTM D-4052	881	891	896	901	900
Viscosity @ - 25 °C	mPa.s	ASTM D-5293	5000	-----	-----	-----	-----
Viscosity @ - 15 °C	mPa.s	ASTM D-5293	-----	-----	-----	-----	-----
Viscosity @ 100 °C	mm <sup>2</sup> /s	ASTM D-445	6.4	11.5	15.4	20.5	25
Viscosity Index		ASTM D-2270	113	100	99	98	106
Flash Point, COC	°C	ASTM D-92	240	240	248	260	250
Pour Point	°C	ASTM D-97	- 27	- 18	- 12	- 9	-12
Base Number	mg KOH/g	ASTM D-2896	5	5	5	5	5