

## Launch of Anti-Wear Long-Life Hydraulic Fluid, "Super Hyrando WP"

– Achieving superior durability with a high-pressure hydraulic pump –

Nippon Oil Corporation (President: Shinji Nishio) announces that on July 29 we launched a anti-wear, long-life hydraulic fluid\*1 for use in construction machinery, called "Super Highland WP."

The "Super Hyrando WP" has superior anti-wear performance under high-pressure conditions and superior thermal and oxidative stability, which is verified by sufficient performance retention of pumps and hydraulic fluids that have undergone a continuous endurance test at a pressure as high as 38 MPa\*2. This product sufficiently meets the needs of users such as higher pressure for hydraulic pumps and longer life under severe conditions, which is required in construction machinery. In addition to construction machinery, this product prevents wear of high-pressure pumps mounted in large industrial machinery.

This product can be widely supplied overseas with identical quality, and can meet the global needs of construction and industrial machinery. ("WP" stands for "World Product.")

Under our group philosophy, "Your Choice of Energy", we shall develop and sell products that meet customers' needs.

\*1: Hydraulic fluid is used as a power transmission medium in hydraulic systems and it prevents wear and corrosion and cools equipment.

\*2: 1MPa is the force of 10kg applied on 1 cm<sup>2</sup>, and corresponds to 10 atmospheric pressures.

### ● (Reference): Main features of "Super Hyrando WP."

#### 1. Superior anti-wear performance

Use of non-zinc, extreme-pressure additive with superior anti-wear enables prevention of wear of high oil-pressure pumps.

#### 2. Superior thermal and oxidative stability

Use of high-quality base oil and high-performance antioxidant produces minimal sludge formation even when operated at high temperatures, which can prevent valves operational problems and filter blockages.

#### 3. Superior anti stick-slip performance

Use of stick-slip inhibitor enables prevention abnormal noise generation from hydraulic cylinders.

#### 4. Superior brake torque performance

Superior brake torque performance over conventional non-zinc hydraulic fluids prevents various hydraulic brake problems.

#### 5. VG46 and VG68 are "Combustible Liquid"

Of the three types of lineup, VG46 and VG68 are classified as combustible fluids that guarantee over 250°C flash point.