

IND-4016-2104E

# **SUPER HYRANDO SE**

## **Energy-Saving Antiwear Sludgeless Hydraulic Fluid**

**SUPER HYRANDO SE** is hydraulic fluid suitable for all types of hydraulic pumps and motors and all operating pressures from low to high. Because it is blended with friction modifier additives, it provides much better energy-saving performance than conventional mineral-oil-based hydraulic fluids. **SUPER HYRANDO SE** is also blended with highly refined base oil and new ashless additives that prevent sludge formation and ensure longer fluid life. In addition to its excellent antiwear performance, **SUPER HYRANDO SE** also has good seizure prevention performance for withstanding shock loads.

### ● SPECIAL FEATURES

#### 1. Excellent Energy-Saving Performance

**SUPER HYRANDO SE** is blended with friction modifiers that provide excellent friction characteristics and reduce the friction resistance in hydraulic pumps, valves, and actuators. As a result, hydraulic systems that use **SUPER HYRANDO SE** can consume less electricity than systems that use conventional hydraulic fluids.

#### 2. Outstanding Oxidative and Thermal Stability

Because **SUPER HYRANDO SE** is blended with highly refined base oil and new types of ashless additives, it produces extremely little sludge, so it can be used for longer periods without replacement even at high temperatures and pressures.

#### 3. Superb Lubrication

Thanks to **SUPER HYRANDO SE**'s outstanding antiwear performance, it prevents wear and boosts performance in today's high-pressure, high-performance hydraulic pumps and valves.

#### 4. High Viscosity Index and Low Pour Point

**SUPER HYRANDO SE** has a high viscosity index, so its viscosity changes little when the temperature changes. As a result, it provides smooth operation across a wide range of temperatures.

#### 5. Excellent Shear Stability

**SUPER HYRANDO SE** possesses excellent shear stability, so it undergoes almost no drop in viscosity even when used for long periods of time.

### ● GRADES

The optimal viscosity for fluids used in hydraulic equipment depends on the hydraulic pump type and the operating conditions. You should choose a hydraulic fluid according to the viscosity specified by your pump's manufacturer.

**SUPER HYRANDO SE** is available in five viscosity grades from low to high, so you can choose the grade that is best for your operating conditions.

### ● APPLICATIONS

**SUPER HYRANDO SE** can be used in a wide range of low- to high-pressure hydraulic machinery, including forging presses, metalworking machines, injection molding machines, extruders, machine tools, construction machinery, marine deck equipment, cargo handling machinery, mining machinery, etc.

### ● SHIPPING CONTAINERS

200-liter drums and 20-liter cans.

● **TYPICAL PROPERTIES OF SUPER HYRANDO SE**

<b>Viscosity grade</b>		<b>22</b>	<b>32</b>	<b>46</b>	<b>56</b>	<b>68</b>
Color(ASTM)		L0.5	L0.5	L0.5	L0.5	L0.5
Density(15°C)	g/cm <sup>3</sup>	0.838	0.842	0.848	0.861	0.868
Viscosity(40°C)	mm <sup>2</sup> /s	21.8	32.2	46.0	55.7	68.2
Viscosity (100°C)	mm <sup>2</sup> /s	4.64	6.05	7.53	8.42	9.37
Viscosity index		133	137	129	126	115
Flash point (COC)	°C	216	250	260	262	264
Pour point	°C	-35	-32.5	-30	-27.5	-27.5
Acid number	mgKOH/g	0.06	0.06	0.06	0.06	0.06
Copper strip corrosion(100°C, 3 h)		1	1	1	1	1
Rust prevention(artificial seawater, 24 h)		No rust	No rust	No rust	No rust	No rust

Notes


- (1) Viscosity grade 56 is a special grade which is not included in the ISO viscosity grades.
- (2) Note: The typical properties may be changed without notice. (July 2006)



## Handling Precautions

▼ Follow these precautions when handling this product.

### SUPER HYRANDO SE 22

<b>Composition :</b>	Base Oil, Additives
<b>Precautionary pictograms:</b>	
<b>Signal word:</b>	Danger
<b>Hazard Statement:</b>	May be fatal if swallowed and enters airways
<b>Precautionary Statements:</b>	
<b>Prevention</b>	<ul style="list-style-type: none"><li>• Do not handle until all safety precautions have been read and understood.</li><li>• Wear protective gloves/protective clothing/eye protection/face protection.</li><li>• Do not allow the eyes to become exposed to the product. Do not swallow the product.</li><li>• Wash hands thoroughly after handling.</li><li>• Do not eat, drink or smoke when using this product.</li></ul>
<b>Response</b>	<ul style="list-style-type: none"><li>• IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.</li><li>• IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.</li><li>• If the eyes are exposed to the product: Rinse the eyes with plenty of running water and immediately contact a physician.</li><li>• IF ON SKIN: Wash with plenty of soap and water.</li><li>• Do NOT induce vomiting.</li></ul>
<b>Storage</b>	<ul style="list-style-type: none"><li>• The product must be stored in a cool, well-ventilated location where it will not be exposed to direct sunlight.</li><li>• Containers that have been opened must be tightly sealed.</li><li>• Store locked up.</li></ul>
<b>Disposal</b>	<ul style="list-style-type: none"><li>• Dispose of contents/container in accordance with local/regional/national/international regulations.</li><li>• If there are any doubts about proper methods of handling the product, contact the point of purchase before proceeding with usage.</li></ul>

**SUPER HYRANDO SE 32, 46, 56, 68**

<b>Composition :</b>	Base Oil, Additives
<b>Precautionary pictograms:</b>	Not applicable
<b>Signal word:</b>	Not applicable
<b>Hazard Statement:</b>	Not applicable
<b>Precautionary Statements:</b>	
<b>Prevention</b>	<ul style="list-style-type: none"><li>• Do not handle until all safety precautions have been read and understood.</li><li>• Wear protective gloves/protective clothing/eye protection/face protection.</li><li>• Do not allow the eyes to become exposed to the product. Do not swallow the product.</li><li>• Wash hands thoroughly after handling.</li><li>• Do not eat, drink or smoke when using this product.</li></ul>
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