

IND-4030-2007E

# FOOD MACHINE HYDRO

## Hydraulic Oil for Food Machinery

**FOOD MACHINE HYDRO** is a high-performance hydraulic oil for food machines formulated with approved raw materials by US FDA (Food and Drug Administration), which meets US NSF (National Sanitation Foundation) H1. Interest in "food safety" increases in the world, and a food manufacturing process is watched strictly. **FOOD MACHINE HYDRO** can minimize a risk in the process of manufacture in response to expectation for "security" and "the quality" of the food industry. It is anti-wear hydraulic oil with high viscosity index and low pour point, because it is formulated with synthetic base oil and optimal additives. Therefore, in the hydraulic system with narrow and long pipes of refrigeration factory and cold storage warehouse etc., the viscosity resistance of a lubricant becomes small, and smooth driving is enabled. In addition, it can contribute to the saving of electric power or energy because the warm-up of the hydraulic pump at low temperature becomes needless.

### ● SPECIAL FEATURES

#### 1. US NSF H1 Registration Product

**FOOD MACHINE HYDRO** is a hydraulic oil formulated with only raw materials which FDA approves, and US NSF H1 registration product. Therefore, it is the lubricant which can reduce a risk in the public sanitation for a food manufacturer and a processor.

#### 2. Adaptation to HACCP

On the occasion of the problems in the food hygiene that may occur at all stages such as raw materials, processing, packing and shipment in the food industry, **FOOD MACHINE HYDRO** adapts to the management method to prevent or decrease the outbreak of problems.

\* HACCP: Hazard Analysis Critical Control Point

(International standard of the hygiene system of administration of the food)

#### 3. Outstanding Oxidation and Thermal Stability

**FOOD MACHINE HYDRO** shows outstanding oxidation and thermal stability superior to general hydraulic oil by the combination of synthetic base oil and ash-less additives. It produces extremely little sludge which reduces the blockage of the valve and the filter of the hydraulic system, and can be used for

longer periods without replacement even at high temperatures and pressures.

#### 4. Excellent Low Temperature Property

**FOOD MACHINE HYDRO** can make the start-up of the hydraulic system smooth especially in cold districts due to its superior low temperature fluidity.

#### 5. Superior Viscosity Property

**FOOD MACHINE HYDRO** has high viscosity index which contributes to the energy saving because the warm-up of the hydraulic pump at low temperature becomes needless.

### ● GRADES

**FOOD MACHINE HYDRO** is available in three viscosity grades from low to high, so you can choose the grade that is best for your operating conditions.

### ● APPLICATIONS

**FOOD MACHINE HYDRO** can be used in a wide range of low- to high-pressure food machinery, including production equipment, processing equipment, carrying device, etc.

### ● CONTAINERS

200-liter drums and 20-liter cans

## ● TYPICAL PROPERTIES OF FOOD MACHINE HYDRO

ISO Viscosity Grade			32	46	68
Color	(ASTM)		L0.5	L0.5	L0.5
Density	(15°C)	g/cm <sup>3</sup>	0.828	0.835	0.838
Kinematic Viscosity	(40°C)	mm <sup>2</sup> /s	31.0	44.0	65.3
	(100°C)	mm <sup>2</sup> /s	5.94	7.61	10.2
Viscosity Index			140	141	142
Flash Point	(COC)	°C	250	268	270
Pour Point		°C	-45.0	-42.5	-42.5
Acid Number		mgKOH/g	0.24	0.24	0.24
Copper Corrosion	(100°C, 3h)		1	1	1
Rust Prevention	(distilled water, 60°C, 24 h)		No rust	No rust	No rust

Note: The typical properties may be changed without notice. (October 2019)



### Handling Precautions

▼ Follow these precautions when handling this product.

#### FOOD MACHINE HYDRO 32, 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>	<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> </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> </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>

**FOOD MACHINE HYDRO 46**

<b>Composition :</b>	Base Oil(s), Additives
<b>Precautionary pictograms:</b>	Not applicable
<b>Signal word:</b>	Not applicable
<b>Hazard Statement:</b>	Harmful to aquatic life Harmful to aquatic life with long lasting effects
<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>• Avoid release to the environment.</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></ul>
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