



marine lubricants

# Clarity<sup>®</sup> Synthetic Hydraulic Oil AW



## Description

Clarity<sup>®</sup> Synthetic Hydraulic Oil AW is designed to help protect both mobile and stationary hydraulic equipment in industrial applications, as well as in environmentally sensitive areas. Clarity Synthetic Hydraulic Oil AW is formulated with synthetic base stock and an ash less, zinc-free additive system that provides oxidation stability, water separability, foam suppression, and helps protect against wear, rust and corrosion. Clarity Synthetic Hydraulic Oil AW is designed to meet or exceed the performance requirements of conventional anti-wear hydraulic oils, especially in severe, high-output applications such as axial piston pumps, while providing an additional level of safety in case of leaks or incidental discharge to the environment.

## Typical Characteristics

ISO Viscosity Grade	32	46	68
<b>MPID</b>	<b>219601</b>	<b>219603</b>	<b>219609</b>
Kinematic viscosity at 40°C, mm <sup>2</sup> /s	30.4	43.7	64.6
Kinematic viscosity at 100°C, mm <sup>2</sup> /s	5.2	6.5	8.4
Viscosity Index	100	98	99
API Gravity	37.1	36	35.9
Pour point, °C	-48	-42	-45
Flash point COC, °C	228	230	218
Oxidation (ASTM D 943), hrs to TAN = 2.0 mg KOH/g (allowed to run beyond 10,000 h)	>10,000	>10,000	>10,000
Copper Corrosion, 3h/150°C	1B	1B	1B
FZG, Pass Stage, DIN 51354	11	>12	>12
Air release @ 50°C, mins	2.1	2.0	3.0
TAN, mg KOH/g	0.33	0.33	0.33
Dielectric Strength, kV AB	>35	>35	>35
Tapered Roller Bearing (CEC L 45 A 99), % viscosity loss	<7%	<10%	<7 %
Timken OK Load, kg	18	18	18

## Recommended Applications

Clarity Synthetic Hydraulic Oil AW is designed for use in mobile and stationary hydraulic vane, piston, and gear type pumps. The anti-wear performance of Clarity Synthetic Hydraulic Oil AW makes it especially suited for high performance industrial applications utilizing axial piston pumps where pressures may exceed 5000 psi. It has a viscosity index much higher than typical conventional anti-wear hydraulic oils, provides optimal flow at low temperatures, and good oil film protection at high operating temperatures. Clarity Synthetic Hydraulic Oil AW is well suited for applications situated in environmentally sensitive areas. The ISO 32 and ISO 46 formulations of this product have good low-temperature pumpability properties that extend to temperatures as low as -30°C (-22°F).

Clarity<sup>®</sup> Synthetic Hydraulic Oils AW are not compatible with zinc/calcium containing fluids, and OEM recommended lubricant change-out procedures including drain and flush requirements need to be adhered to.



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## Clarity Synthetic Hydraulic Oils AW Meet The Requirements Of:

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| <ul style="list-style-type: none"> <li>✓ <b>DIN 51524-3</b> (HVLP, 2006, Part 3)</li> <li>✓ <b>ISO</b> (11158 L-HV), <b>ASTM</b> (D6158, HV)</li> <li>✓ <b>Eaton Vickers</b> (35VQ25A, M-2950-S, I-286-S),</li> <li>✓ <b>Cincinnati Machine</b> P-68 (ISO 32). P-70 (ISO 46), P-69 (ISO 68)</li> <li>✓ <b>Bosch-Rexroth</b> (former specification RE 90220-01)</li> </ul> | <ul style="list-style-type: none"> <li>✓ <b>Frank Mohn</b></li> <li>✓ <b>Framo hydraulic cargo pumping</b> (ISO 46)</li> <li>✓ <b>Arburg</b> (ISO 46)</li> <li>✓ <b>Krauss Maffei Kunststofftechnik</b> (ISO 46)</li> <li>✓ <b>McGregor Hatch Cover Systems</b> (VG 32)</li> </ul> |
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## Performance Benefits

**1. Premium Performance**

Ashless formulation provides wear protection, rust and corrosion protection, hydrolytic stability, water separability, foam inhibition, and filterability.

**2. Long Oil Life**

Ability of the synthetic base stock to withstand oxidation at high operating temperatures results in maximum service life for the oil.

**3. Wear Protection at Start-up**

Minimum change in viscosity over wide operating temperatures due to high viscosity index. Multi-viscosity performance minimizes the need to change viscosity grades for seasonal changes.

**4. Environmental Sensitivity**

Very low acute aquatic toxicity to both fish and invertebrates based on tests of water accommodated fractions. Ashless formulation facilitates conventional recycling programs.

**5. Low Temperature Pumpability**

The ISO 32 and ISO 46 formulations are specifically developed to ensure good low temperature fluidity for low temperature operations as low as -30°C (-22°F).

**6. Zinc-free**

Suited for applications involving yellow metals found in axial piston pumps.



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**Disclaimer.** Data provided in this PDS is based on standard tests under laboratory conditions and is indicative only. Minor variations which do not affect product performance are expected in normal manufacturing. This product should not be used for any purpose other than those expressly set out in this PDS. The user has sole responsibility for verifying that this product is suitable for the user's intended application. Recommendations differ between engine manufacturers so always consult your manual. Neither Chevron nor its subsidiaries make any warranty or representation as to the accuracy or completeness of this PDS and neither Chevron nor its subsidiaries accept liability for any loss or damage suffered as a result of the use of this product other than in accordance with the terms of this PDS. (March 2019)