CLARITY® SYNTHETIC HYDRAULIC OIL AW

Maximum Protection for High Performance Applications

INDUSTRIAL LUBRICANTS

Clarity® Synthetic Hydraulic Oil AW is an ashless, synthetic, top-of-the-line hydraulic oil for mobile and industrial applications that helps keep your equipment operating longer, faster and harder.

Clarity Synthetic Hydraulic Oil AW provides the following high-performance attributes:

Synthetic

- High viscosity index (VI) for increased temperature operating window (TOW)
- Potential for extended drain intervals

Ashless, Zinc Free, Calcium Free

- Formulated with no heavy metal additives; facilitates conventional recycling
- Stability in the presence of water; facilitates filtration
- Excellent wear, rust and corrosion protection
- Very low acute aquatic toxicity

Cost Effective

- Potential for lowering lubricant use through:
  - Extended drain intervals
  - Decreased fuel consumption by improving overall pump efficiency by up to 8 percent when compared to lower VI products
- Provides cost-effective alternative to readily biodegradable hydraulic fluids such as those that are ester-based and vegetable oil-based

Improved Productivity

In side-by-side excavator efficiency testing[1], Clarity Synthetic Hydraulic Oil AW ISO 46 improved productivity up to 6.2% and fuel efficiency up to 4.5%, when compared to a monograde hydraulic oil (a lower VI product with VI <105). Clarity Synthetic Hydraulic Oil AW ISO 32 provided a 5% increase in fuel efficiency in plastic injection machines when compared to a monograde hydraulic oil.

[1]Clarity Hydraulic Oil AW ISO 32 obtained greater results in both productivity and fuel efficiency compared to an ISO 46.

Take Advantage of the Latest Technology

With Clarity Synthetic Hydraulic Oil AW, you can take advantage of low toxicity and top-of-the-line performance.

Low Toxicity

Clarity Synthetic Hydraulic Oil AW passes stringent EL/LL50 Acute Aquatic Toxicity testing (OECD 201, 202, 203).*

Premium Performance

Clarity Synthetic Hydraulic Oil AW exceeds most major pump manufacturers' requirements. It is suited for most hydraulic pumps including axial piston pumps containing yellow metals.

Environmental Impact Criteria

Comparison: Clarity Synthetic vs. Ester-based Synthetics

	Clarity Synthetic Lubricants	Typical Ester-based Synthetics
Feed stock	Synthetic petroleum-based feed stock	Ester feed stock
Relative energy required to manufacture	Low	Moderate to high
Aquatic toxicity (EL/LL50 OECD 201, 202, 203)	*Pass	*Pass
Oxidation stability — expected lubricant service life	Extended interval	Extended interval
Lubricity	High	High
Seal compatibility	Pass	Pass
Compatibility with mineral-based lubricants	Excellent	Good
Ease of recycling used product	Easy	Moderate to difficult
Relative ease of on-board inventory management and product availability	Easily procured	Potential availability issues
Cost	Relatively lower cost	Relatively higher cost

*Aquatic Toxicity Tested with fingerling rainbow trout, daphnia, freshwater algae, and Mysid shrimp using a water accommodated fraction up to 5000 mg/liter (fifty times the minimum pass rate of the LL50 test). The test results were obtained during the development of the product line and are considered representative of any/all commercial samples.	Zero mortality or toxicity after four days

Always confirm that the product selected is consistent with the original equipment manufacturer's recommendation for the equipment operating conditions and customer's maintenance practices.

Clarity Synthetic Hydraulic Oil AW is available in ISO 32, 46 and 68 viscosity grades and designed specifically for mobile and industrial hydraulic systems. The ashless anti-wear performance of these oils makes them additionally suited for high-performance marine applications.

Test data and performance claims show that Clarity Synthetic Hydraulic Oil AW delivers premium performance.

Typical Test Data

	Clarity Hydraulic Oil AW		
Viscosity Grade	32	46	68
Viscosity, Kinematic cSt at 40°C	32.5	46.5	68.0
Viscosity, Kinematic cSt at 100°C	7.0	9.3	11.4
Viscosity Index	086	186	162
Flash Point, °C / °F	228/442	230/446	218/424
Pour Point, °C / °F	-48/-54	-42/-43	-30/49
FZG Failure Load Stage, DIN 51354	11	≥12	≥12
Rust Prevention, ASTM D 665 Procedure B	Pass	Pass	Pass
Oxidation Stability Hours to 2.0 mg KOH/g acid number, ASTM D 943 Dielectric Strength, kV[a], ASTM D877[b]	 >10,000 >35kV	 >10,000 >35kV	 >10,000 >35kV
Foam Sequence I, II, III ASTM D892	0/0, 30/0, 10/0	0/0, 30/0, 10/0	0/0, 30/0, 10/0

a Dielectric strength value applies only to "point of manufacture" of packaged products produced at a Chevron manufacturing facility. (Does not apply to bulk packaging). The oil will quickly lose its high dielectric strength value when exposed to contamination and to very small amounts of moisture and water.

b Industry standard test method for measuring kV values is not precise and test results can differ significantly.

Performance Claims

Clarity Synthetic Hydraulic Oil AW meets or exceeds the following industry or manufacturer's requirements:	32	46	68
DIN 51524-3 (HVLP, 2006, pt. 3)	•	•	•
ISO 11158 L-HV	•	•	•
Vestas 0000-2843	•		
ASTM D6158, HV	•	•	•
Eaton Vickers 35VQ25A, M-2950-S, I-286 S	•	•	•
Cincinnati Machine P70 (MAG Cincinnati)		•	
Cincinnati Machine P69 (MAG Cincinnati)			•
Cincinnati Machine P68 (MAG Cincinnati)	•		
Frank Mohn, Framo hydraulic cargo pumping		•	
Bosch-Rexroth RD/RE 90220-01	•	•	•
Arburg		•	
Krauss-Maffei Kunststofftechnik		•	

Typical test data are average values only. Minor variations which do not affect product performance are to be expected in normal manufacturing. The results expressed above were obtained during development of the product and are considered representative of any/all commercial samples.

Learn more at chevronlubricants.com

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