

HYDRAULIC OIL AW

# CLARITY<sup>®</sup>



Clarity<sup>®</sup> Hydraulic Oil AW is an ashless, premium hydraulic oil for mobile and industrial applications that helps keep your equipment operating longer, faster and harder.



### Take Advantage of the Latest Technology

With Clarity<sup>®</sup> Hydraulic Oil AW, you can take advantage of low toxicity and premium performance.

## Clarity<sup>®</sup> Hydraulic Oil AW provides the following high-performance attributes:

### Long Life

- Dramatically longer TOST (ASTM D943 Oxidation Stability) when compared to conventional zinc-based or vegetable-based hydraulic oils
- 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
- Provides cost-effective alternative to readily biodegradable hydraulic fluids such as those that are ester-based and vegetable oil-based

# Clarity



A Chevron company product

# Clarity® Hydraulic Oil AW

## Low Toxicity

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

## Premium Performance

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

## Environmental Impact Criteria

### Comparison: Clarity vs. Typical Vegetable-based Products

	Clarity Lubricants	Typical Vegetable-based Hydraulic Fluid
Feed stock	Petroleum-based feed stock	Vegetable feed stock
Aquatic toxicity (EL/LL50 OECD 201, 202, 203)*	Pass*	Pass
Oxidation stability — expected lubricant service life	High, extended interval	Lower, shorter life
Lubricity	High	High
Seal compatibility	Pass	Pass
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
Thermal stability	Highly stable	Potential to thicken at cold ambient temperatures
Oxidative stability	Highly stable	Less stable

#### \*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.

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 Hydraulic Oil AW is available in ISO 22, 32, 46, 68 and 100 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® Hydraulic Oil AW delivers premium performance.

### Typical Test Data

	Clarity Hydraulic Oil AW				
	22	32	46	68	100
Viscosity Grade	22	32	46	68	100
Viscosity, Kinematic cSt at 40°C	22.6	33.6	46.0	64.6	95.0
Viscosity, Kinematic cSt at 100°C	5.3	5.6	6.8	8.5	13.8
Viscosity Index	180	104	101	102	145
Flash Point, °C / °F	200/392	222/432	224/435	224/435	266/511
Pour Point, °C / °F	-52/-62	-33/-27	-30/-22	-30/-22	-40/-40
FZG Failure Load Stage, DIN 51354	-	12	≥12	≥12	-
Rust Prevention, ASTM D 665 Procedure B	Pass	Pass	Pass	Pass	Pass
Oxidation Stability					
Hours to 2.0 mg KOH/g acid number, ASTM D 943	>10,000	>18,000 <sup>1</sup>	>18,000 <sup>1</sup>	>18,000 <sup>1</sup>	>5,000

<sup>1</sup>Modified ASTM D943, allowed to run beyond 10,000 hours

### Performance Claims

Clarity Hydraulic Oil AW meets or exceeds the following industry or manufacturer's requirements:	22	32	46	68	100
DIN 51524-3	•				•
DIN 51524-2		•	•	•	
ISO 11158 L-HV	•				•
ASTM D6158 HM		•	•	•	
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			•		
Denison HF-0, HF-2 (Testing requirements of T5D)		•	•	•	

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.

For more information, go to [www.chevronlubricants.com](http://www.chevronlubricants.com)

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