



LUBRICANTS

AN HF SINCLAIR BRAND

# TECH DATA

## ENVIRON™ AW

### HYDRAULIC FLUIDS

## INTRODUCTION

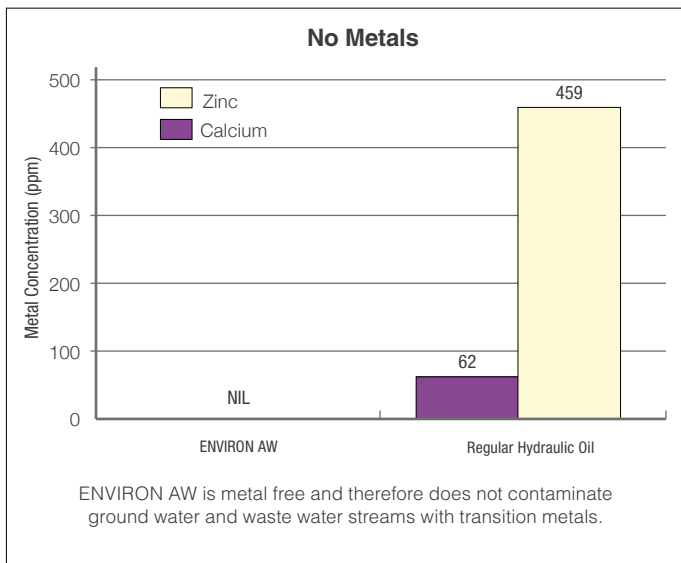
Petro-Canada Lubricants ENVIRON AW hydraulic fluids are ashless, non-toxic, inherently biodegradable and recyclable and are therefore particularly suited for hydraulic applications in environmentally sensitive locations. ENVIRON AW hydraulic fluids are robust anti-wear straight grade hydraulic fluids designed for use in both mobile and stationary heavy duty hydraulic systems.

ENVIRON AW hydraulic fluids are blended with ultra-pure, high quality base oils. By removing the impurities that can hinder the performance of competitive conventional oils, and blending with a premium ashless additive system, ENVIRON AW delivers exceptional performance and protection without compromise.

## FEATURES AND BENEFITS

### Reduce occurrence of waste water contamination by metals

- Transition metal content in ground water or waste water streams is a concern because it bio-accumulates in the food chain. ENVIRON AW is ashless and does not contain any metal-based additives.

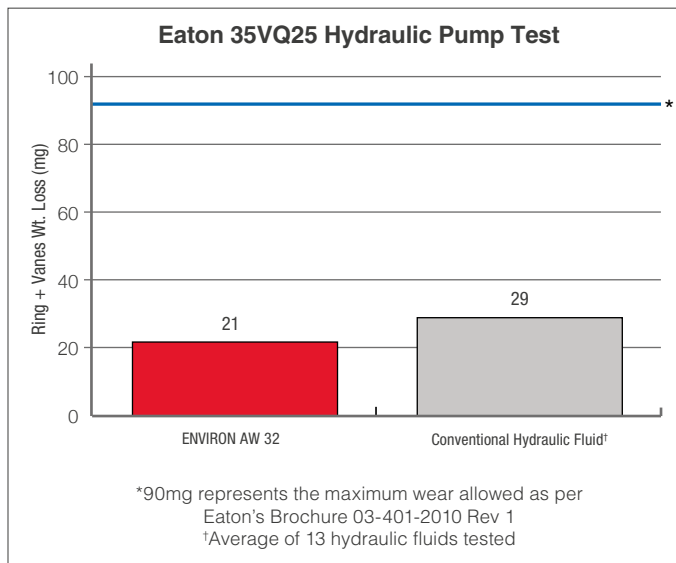


### Inherently biodegradable

- Greater than 30% biodegradability within a 28 day period according to OECD 301B, safely above the 20% minimum requirement for inherently biodegradable classification

### Excellent anti-wear, rust and corrosion protection

- Designed to meet or exceed the performance requirements of conventional anti-wear hydraulic oils



### Non-toxic and very low odour

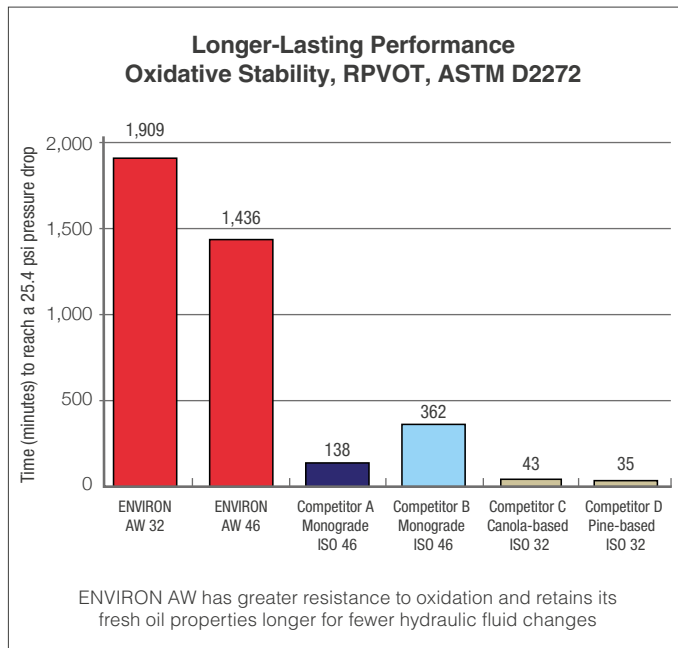
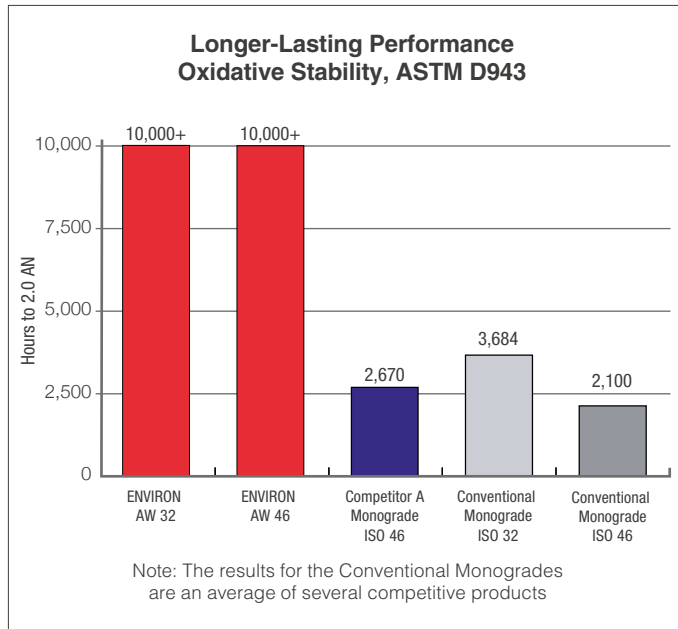
- Not acutely toxic to fish, daphnia or algae according to the United Nations Globally Harmonized System (GHS) criteria
- ENVIRON AW contributes to a cleaner, safer and more pleasant work environment

### Recyclable

- Can be recycled and reclaimed, unlike vegetable oil based products, which have to be incinerated or land farmed

**Superior oxidation and thermal stability compared to competitive vegetable oil based products and conventional hydraulic oils**

- Longer oil life, which extends the time between oil changes
- Helps reduce sludge and varnish deposits to ensure smooth, reliable operation of hydraulic valves and actuators



**Excellent water separability and hydrolytic stability**

- Eases water removal and helps preserve the performance of the oil over a longer period of time

**Excellent foaming resistance and air release performance**

- Provides consistent lubrication film to ensure equipment protection and performance

**APPLICATIONS**

ENVIRON AW hydraulic fluids are formulated for use in equipment used primarily in environmentally sensitive areas as well as for use in industrial manufacturing plants.

ENVIRON AW 32, 46 and 68 are approved against the following hydraulic OEM specifications:

- Parker Denison HF-0, HF-1, HF-2
- Eaton Brochure 03-401-2010 Rev 1
- Engel (AW 46)
- Krauss Maffei (AW 46)

ENVIRON AW fluids meet the requirements of the following industry standards:

- DIN 51524 Part 2 HLP
- ISO 11158 HV
- WGK (German Water Hazard Classification) of 1

ENVIRON AW fluids are suitable for use where Bosch Rexroth RDE 90220 specification is required and in equipment manufactured by Sauer-Danfoss, Racine, Oilgear, Hydreco, Dynex and others.

ENVIRON AW fluids are NSF H2 listed (no allowable food contact).

ENVIRON AW fluids do not contain zinc-based antiwear additives so they can be used in hydraulic pumps with silver bearings, such as Lucas pumps, because they will not displace the silver in these bearings.

The high oxidation stability and wear protection performance of ENVIRON AW fluids make them well suited for use in severe applications such as injection molding machines where the OEM recommends a zinc-free hydraulic fluid.

## TYPICAL PERFORMANCE DATA

Property	Test Method	ENVIRON AW		
		32	46	68
Density, kg/L @ 15°C	D4052	0.849	0.867	0.871
Kinematic Viscosity, cSt @ 40°C cSt @ 100°C SUS @ 100°F SUS @ 210°F	D445	31.7 5.7 163 45	45.4 6.8 234 49	69.3 9.1 359 57
Viscosity Index	D2270	121	104	106
Flash Point, COC, °C / °F	D92	216 / 421	233 / 451	242 / 468
Pour Point, °C / °F	D5950	-42 / -44	-33 / -27	-33 / -27
Rust Prevention, Procedures A & B, 24 h	D665	Pass	Pass	Pass
Copper Corrosion 3 h @ 100°C / 212°F	D130	1b	1b	1b
Water Separability @ 54°C / 129°F Oil-Water-Emulsion (Minutes)	D1401	40-40-0 (10)	40-40-0 (10)	40-40-0 (20)
Air Release @ 50°C / 122°F, Minutes	D3427	2.0	2.5	4.7
Oxidation Stability, Hours to 2.0 AN	D943	10,000+	10,000+	10,000+
Dielectric Breakdown Voltage, kV	D877	58	51	46
FZG Failure Load Stage (A/8.3/90)	D5182	> 12	> 12	> 12
Denison Hybrid T6H20C Pump Test	TP-30533	Pass	Pass	Pass
Eaton's Vickers 35VQ25 Vane Pump Test	Eaton ATS 373 D6973	Pass	Pass	Pass
Biodegradability, %	OECD 301B	> 30	> 30	> 30
Aquatic Acute Toxicity <sup>1</sup> EC <sub>50</sub> (Algae), ppm (mg/L) EC <sub>50</sub> (Daphnia), ppm (mg/L) LC <sub>50</sub> (Trout), ppm (mg/L)	OECD 201 OECD 202 OECD 203	> 10,000 > 10,000 > 1,000	> 10,000 > 10,000 > 1,000	> 10,000 > 10,000 > 1,000

The values quoted above are typical of normal production. They do not constitute a specification.

<sup>1</sup> According to GHS, a substance is "not environmentally toxic" if LC<sub>50</sub> and EC<sub>50</sub> values for OECD 201, 202 and 203 are >100 mg/L.

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Contact us: [lubecsr@hfsinclair.com](mailto:lubecsr@hfsinclair.com)

Committed to the disciplined operation of our business.



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