

TRU GRIT ENVIRON AW 32 46 & 68

Introduction

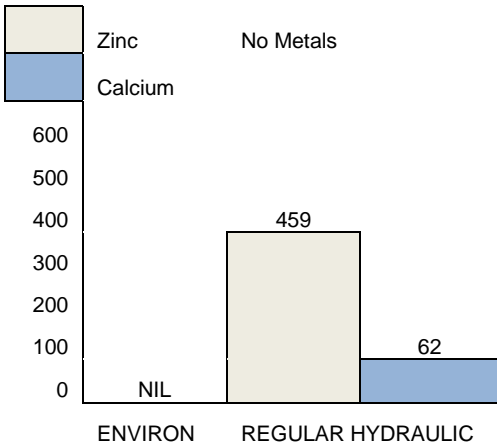
Petro-Canada's ENVIRON AW hydraulic fluids are non-toxic, inherently biodegradable and recyclable and are therefore particularly suited for hydraulic applications in environmentally sensitive locations. ENVIRON AW hydraulic fluids are robust anti-wear straight grade hydraulic fluids designed for use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

ENVIRON AW starts with a 99.9% pure, crystal clear base oil. By removing the impurities that can hinder the performance of competitive conventional oils, and blending in our specialty additives, ENVIRON AW delivers exceptional performance

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 does not contain metal based additives.

ENVIRON AW 32



Non-toxic and very low odour

- Non-toxic to water-inhabiting species (tested on daphnia and trout test protocols)
- ENVIRON AW contributes to a cleaner, safer and more pleasant work environment

Recyclable

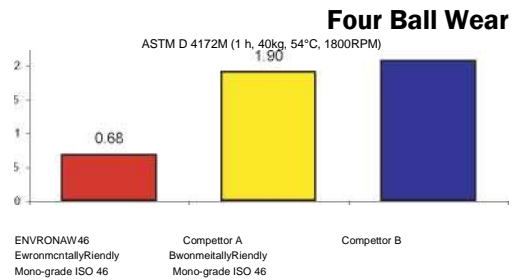
- Can be recycled and reclaimed, unlike vegetable oil based products, which have to be incinerated or land farmed

Inherently biodegradable

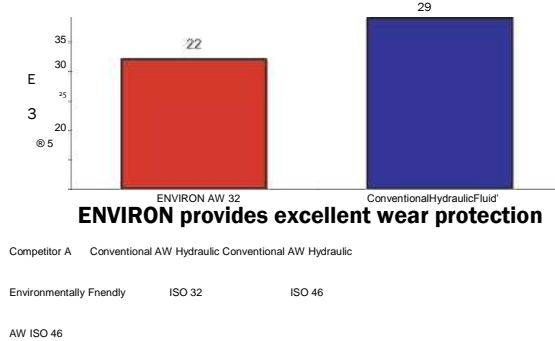
Greater than 20% biodegradable within a 28 day period

Excellent anti-wear, rust and corrosion protection

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



Vickers 35VQ25 Hydraulic Pump Wear Test Comparison



Note that the conventional AW hydraulic fluids are an average of several competitive products

• Outstanding oxidation and thermal stability compared to competitive vegetable oil based products and conventional hydraulic oils

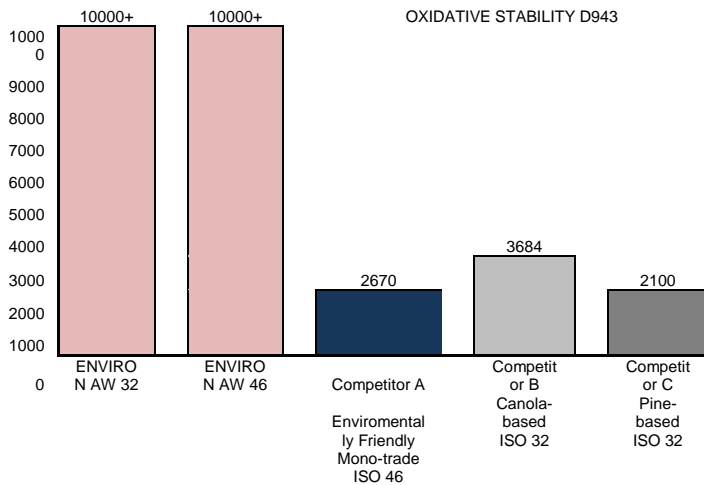
- Longer oil life, which extends the time between oil changes
- Reduce sludge and varnish deposits to ensure smooth, reliable operation of hydraulic valves and actuators

ENVIRON AW is recommended for use in equipment manufactured by Eaton (Vickers), Haggblunds, Denison, Sauer-Danfoss,(Mannesman) Bosch-Rexroth, Racine, Oilgear, Hydreco, Dynex and others.

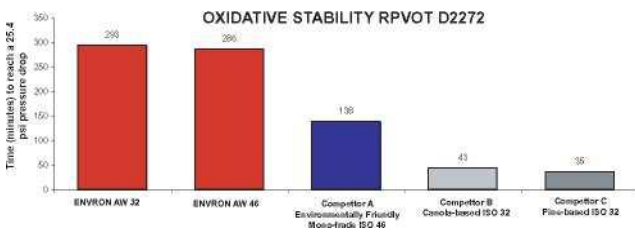
ENVIRON AW 32, 46, 68 are suitable for use when a DIN 51524 Part 2 HLP or ISO 6743/4 Type HM fluid is called for.

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

Longer-Lasting Performance



Longer-Lasting Performance



Applications

Petro-Canada's ENVIRON AW hydraulic fluids are formulated for use within woodlands equipment, drilling, marine and mining operations as well as for use in industrial manufacturing plants.

ENVIRON AW meets the following hydraulic equipment manufacturers' specifications:

- Denison Vane and Piston Pump (HF-0)
- Eaton Vickers M-2950-S and I-286-S
- Cincinnati Machine P-68 (ISO 32), P-70 (ISO 46) and P-69 (ISO 68)
- GMLS 2 Approved

Typical Performance Data

PROPERTY	TEST METHOD	ENVIRON AW		
		AW 32	AW 46	AW 68
Flash Point, °C / °F	D92	233/451	227/441	253/487
Kinetic Viscosity, cSt @ 40°C	D445	32.2	46.03	67.9
cSt @ 100°C		5.4	6.787	8.74
SUS @ 100°F		166	237	352
SUS @ 210°F		44	49	55
Pour Point, °C / °F	D97 / D5950	-42 / -44	-36 / -33	-33 / -27
Rist, procedures A & B, 24 h	D665	Pass	Pass	Pass
Copper Corrosion, 3 hr / 100°C / 212°F	D130	1B	1B	1B
Air Release, @ 50°C / 122 °F	D3427	2.7	3.1	6.0
Water Separability @ 54°C / 129°F	D1401	39-40-1 (5)	40-40-0 (20)	40-40-0 (10)
Oxidation stability, hours to 2.0 TAN	D943	10,000+	10,000+	8000+
Hydrolytic Stability, copper loss, mg/cm ²	D2619	0.07	0.07	0.07
Dielectric Breakdown Voltage, kV	D877	44	44	44
Vickers 35VQ 25 Vane Pump	Vickers M-2950-S	Pass	Pass	Pass
Denison Vane Pump, T-5D	Denison HF-0	Pass	Pass	Pass
Denison Piston Pump, P-46	Denison HF-0	Pass	Pass	Pass
Biodegradability, % Primary	CEC-L-33-T-93	>40	>30	>20
	OECD 301B	>40	>30	>20
Aquatic Acute Toxicity	OECD 202			
EC50 (Daphnia), ppm	EPS 1/RM/9	480	480	480
LC50 (Trout), ppm	July 90	20,000+	20,000+	20,000+
LC50(Inhibition), ppm	OECD 209	10,000+	10,000+	10,000+

ENVIRON AW has greater resistance to oxidation and retains its fresh oil properties longer for fewer hydraulic fluid changes

For more information on this product please contact On Shore Oils on 07 3348 8388.