



Product Bulletin

GULF HARMONY[®] AW HYDRAULIC FLUIDS

Gulf Harmony[®] AW Hydraulic Fluids are reliable zinc-containing industrial anti-wear hydraulic oils formulated from high-quality base oils and carefully selected performance additives to offer full protection against oxidation degradation, rust & corrosion and wear. They are designed for use in high pressure, high speed hydraulic pumps used in industrial and mobile hydraulic systems. These high performing hydraulic oils meet and often exceed the performance requirements of many global industry standards viz. ISO 11158 HM, DIN 51524 Part 2-HLP and AFNOR NF E 48-603 (HM).

FEATURES AND BENEFITS:

- Excellent anti-wear property results in longer pump and component life
- Improved air release and foam control minimizes chances of pump cavitation
- Increased protection against rust and corrosion
- Very good hydrolytic stability
- Fast water separation

APPLICATIONS:

Gulf Harmony[®] AW Hydraulic Fluids are recommended for applications where quality anti-wear hydraulic oil is required. They meet most major pump manufacturer's requirements for both high and low pressure industrial and mobile systems that call for: Parker Hannifin (Denison) HF0, HF1 and HF2, Cincinnati Machine P-68, P-69, and P-70, U.S. Steel 127, Eaton-Vickers I-286-S and M-2950-S and various other commercial hydraulic systems. Typical applications include mobile construction equipment, air compressors, hydraulic lifts, hoists, winches, and machine tools and presses.

AVAILABILITY:

Gulf Harmony[®] AW Hydraulic Fluids are available throughout Gulf's marketing area. Your Gulf representative can provide specific information. Need additional information? Call Gulf @ 1-800-566-GULF(4853) or visit www.nu-tierbrands.com

Gulf Harmony® AW Hydraulic Oils

*Typical Properties

ISO Viscosity Grade		22	32	46	68	100	150
Product Code	Test Method	334225	334227	334229	334231	334232	334233
API Gravity, 60°F	ASTM D-4052	33.2	32.3	31.4	30.6	29.5	28.9
Viscosity, cSt @ 40°C	ASTM D-445	21.8	32.5	46.0	67.8	98.5	148.0
Viscosity, cSt @ 100°C	ASTM D-445	4.3	5.4	6.7	8.6	11.1	14.4
Viscosity Index	ASTM D-2270	103	99	98	97	97	95
Color	ASTM D-1500	L1.0	L1.0	L1.5	L2.5	L3.0	L4.5
Water Separability	ASTM D-1401 ³	40-40-0	40-40-0	40-40-0	40-40-0	40-40-0	40-40-0
Pour Point, °F (°C)	ASTM D-5949	-33 (-36)	-26 (-32)	-24 (-31)	-24 (-31)	-8 (-22)	5 (-15)
Flash Point, COC, °F (°C)	ASTM D-92	410 (210)	420 (216)	430 (221)	450 (232)	500 (260)	525 (274)
Rust Test	ASTM D-665 A&B ²	Pass	Pass	Pass	Pass	Pass	Pass
Oxidation Stability, hours	ASTM D-943	>5,000 ¹	>5,000 ¹	>5,000 ¹	>4,000	>3,000	>2,500
Cincinnati Machine		N/A	P-68	P-70	P-69	N/A	N/A
DIN 51524 Part 2-HLP		Yes	Yes	Yes	Yes	Yes	Yes
AFNOR NFE 48-603		Yes	Yes	Yes	Yes	Yes	Yes
ISO 11158 HM		Yes	Yes	Yes	Yes	Yes	Yes

1) ISO 22, 32, 46 still running in ASTM D 943 at 5,000 hrs.

2) Pass-No Rust

3) 30 minutes max. separation time to <3mls emulsion. Test temperature is 130°F for grades up through ISO 68.

Test temperature is 180°F for ISO 100 and 150.

Note: *Typical Properties are average values only. Minor variations are to be expected in normal manufacturing process and site location.