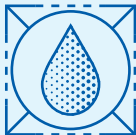




CITGO HyDurance[®] AW NZ Fluids

OVERVIEW



- High-performance lubricants formulated with premium base stocks and ashless additives to provide outstanding protection for demanding hydraulic systems, especially those operating in environmentally sensitive areas.
- Zinc-free; zinc compounds are regulated as priority pollutants under provisions of the Clean Water Act and SARA Title 313.

FEATURES & BENEFITS

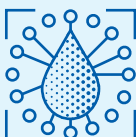


- Non-toxic in acute aquatic toxicity test (LC- 50) per OECD TG 203 limit test.
- Inherently biodegradable.
- Zinc-free formulation for less impact on the environment.
- Excellent thermal stability to virtually eliminate heat-related sludge deposits.
- Provide outstanding rust and corrosion protection.
- Separate readily from water.
- Contain inhibitors to minimize foaming and air entrainment.
- Provide premium anti-wear protection to pumps, motors, and other hydraulic components.
- Offer extended fluid service life capability with a fortified premium formulation to handle severe operating conditions.



CITGO HyDurance AW
NZ 32 Fluid

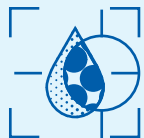
APPLICATIONS



- Recommended for premium non-zinc, anti-wear protection to vane, piston, and gear pumps, motors, valves, and other hydraulic circuit components when used in accordance with manufacturer's recommendations.
- Can be used in circulating systems of machine tools, presses, air compressors, and other gear and bearing applications where rust- and oxidation-inhibited oils are required.
- Meet or exceed the stringent performance requirements of:

GM LS-2	Fives Cincinnati P-68, P-69, P-70
Eaton Brochure 03-401-2010	U.S. Steel 127, 136, 126
DIN 51524 PART 2	Parker Denison HF-0
- Can be used in applications operating in environmentally sensitive areas where the use of a zinc-free, ashless formulated fluid is desired, such as:
 - Marine – offshore rigs, tugs, dredges, hydraulic lifts, cranes, pile-drivers (note: does not meet EPA 2013 Vessel General Permit VGP EAL requirements).
 - Forestry – scalpers, excavators, wheel loaders.
 - Construction – bulldozers, graders, backhoes.
 - Mining – conveyors, crawlers, hole drillers

PROPERTIES



Typical Properties for CITGO HyDurance AW NZ Fluids:

Grade	32	46	68
Material Code	633615001	633616001	633617001
Gravity, ASTM D4052, °API	32.3	31.2	29.3
Density, lb/gal	7.19	7.24	7.33
Flash Point, ASTM D92 (COC), °C (°F)	215 (419)	206 (403)	242 (468)
Viscosity			
cSt at 40°C	32	46	68
cSt at 100°C	5.5	6.9	8.5
Viscosity Index, ASTM D2270	110	105	94
Pour Point ASTM D97, °C (°F)	-39 (-38)	-36 (33)	-24 (-11)
Color, ASTM D1500	L1.0	L1.0	L1.5
Total Acid No., ASTM D664, mgKOH/g	0.10	0.5	0.10
Copper Corrosion, ASTM D130, 3h at 100°C	1A	1A	1A
Rust Test, ASTM D665 A, B	Pass	Pass	Pass
Four Ball Wear, ASTM D4172, at 40 kg, mm	0.70	0.55	0.50
Foam Test, Seq. I, ml	20-0	0-0	0-0
Seq. II, ml	10-0	0-0	20-0
Seq. III, ml	20-0	0-0	0-0
Water Separability, ASTM D1401, at 130°F	40-40-0	40-40-0	40-40-0

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