CITGO HYDURANCE® AW NZ FLUIDS

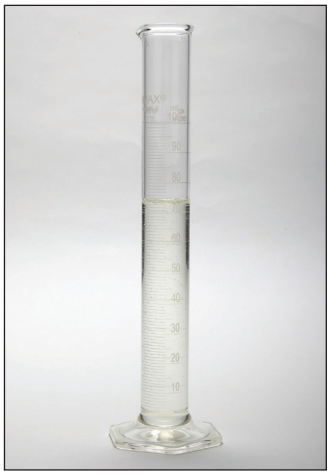
Date 04/14

DESCRIPTION: CITGO HyDurance AW NZ Fluids are 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.

CITGO HyDurance AW NZ Fluids are zinc free. Zinc compounds are regulated as priority pollutants under provisions of the Clean Water Act and SARA Title 313.

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: CITGO HyDurance AW NZ Fluids offer premium non-zinc anti-wear protection to vane, piston and gear pumps, motors, valves and other hydraulic circuit components when used in accordance with the manufacturer's recommendations.

They meet or exceed the stringent performance requirements of:

GM LS-2
Eaton Vickers I-286-S
Eaton Vickers M-2950-S
DIN 51524 PART 2
Cincinnati Machine P-68, P-69, P-70
U.S. Steel 127, 136, 126
Parker Hannifin France (Denison) HF-0

CITGO HyDurance AW NZ Fluids can also 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. They 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
- Forestry — Scalpers, Excavators, Wheel Loaders
- Construction — Bulldozers, Graders, Backhoes
- Mining — Conveyors, Crawlers, Hole Drillers

(Continued)

CITGO HYDURANCE® AW NZ FLUIDS

Date 04/14 - (Continued)

TYPICAL PROPERTIES:

CITGO HYDURANCE® AW NZ FLUIDS

Grade	**32**	**46**	**68**
Material Code	633615001	633616001	633617001
Gravity, ASTM D 4052, °API	32.3	31.2	29.3
Density, lb/gal	7.19	7.24	7.33
Flash Point, ASTM D 92 (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 D 2270	110	105	94
Pour Point, ASTM D 97, °C (°F)	-39 (-38)	-36 (-33)	-24 (-11)
Color, ASTM D 1500	L1.0	L1.0	L1.5
Total Acid No., ASTM D 664, mgKOH/g	0.10	0.5	0.10
Copper Corrosion, ASTM D 130, 3h at 100°C	1A	1A	1A
Rust Test, ASTM D 665 A, B	Pass	Pass	Pass
Four Ball Wear, ASTM D 4172, 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 D 1401, at 130°F	40-40-0	40-40-0	40-40-0

NOTE: Contamination with other fluids can affect environmental benefits and system performance. Contamination with zinc containing and/or emulsifiable fluids may cause foaming, premature filter saturation, and a decrease in water separability.

- **ZINC FREE**
- **INHERENTLY BIODEGRADABLE**
- **NON-TOXIC PER LC-50 AQUATIC TOXICITY TEST**
- **EXTENDED FLUID LIFE CAPABILITY**