

# INDOL and INDOL (Ultra Clean\*) Premium Anti-Wear Hydraulic Oil

## General Description

Indol Premium Anti-wear Hydraulic Oil is exceptional quality zinc containing anti-wear hydraulic oil designed to exceed the performance requirements of major pump manufacturers.

Indol oils are specially formulated with the highest quality HCG-2 base oils having outstanding stability. The addition of a uniquely balanced additive system provides total anti-wear, oxidation, thermal, hydrolytic stability, anti-rust, demulsibility, and anti-foam performance.

The zinc anti-wear agent used in Indol oils helps minimize wear in high speed, high pressure vane and gear pumps while meeting the lubrication requirements of the axial piston pumps having bronze and steel metallurgy. Indol oils are highly stable under thermal or oxidative stress and are exceptionally stable when in the presence of moisture.

Indol (Ultra Clean\*) series goes through a special fine filtering process during the manufacturing of selected ISO grades. This ensures an ultra clean oil to prevent excess wear under high pressure and close manufacturing tolerances.

Indol MV is a multi-viscosity oil formulated with an extremely shear stable viscosity modifier. It provides exceptional low temperature properties enabling performance over a wide range of start-up and operating temperatures.

## Features and Benefits

**Oxidation Control:** Excellent oxidation and thermal stability reduces sludge and varnish providing protection of critical components while extending oil and equipment life.

**Wear Protection:** The premium anti-wear technology provides protection that passes major hydraulic equipment manufacturers pump tests resulting in longer life.

**Filterability:** Superior hydrolytic stability with quick water separation provides protection against filter plugging and deposits.

**Rust and Corrosion Protection:** Reduced maintenance due to outstanding rust and corrosion prevention capabilities when moisture is present.

**Foam Control:** A special anti-foam agent promotes the rapid break up of foam and reduces air entrainment.

**High Viscosity Index:** The shear stability of Indol MV provides exceptional viscosity stability, resulting in consistent operation throughout wide temperature ranges and drain intervals.

**Ultra Clean: Indol (Ultra Clean\*) series only.** Additional filtering provides ultra clean oils in selected viscosity grades for maximum system protection.

**Reserve Quality:** Indol Premium AW hydraulic oils have the ability to maintain their high level of performance under the toughest operating and extended drain conditions.

## INDOL Premium Anti-Wear Hydraulic Oil

### Typical Application/Recommendations

- Denison HF-0, HF-1, HF-2
- Cincinnati Lamb P-68, P-69, P-70
- Eaton Vickers I-286-S, M2950-S (35VQ25)
- Rexroth, Parker Hannifin
- Marzocchi, Racine S
- DIN 51524-2, GM LS-2, AFNOR 48-603
- U.S. Steel 126, 127, 136
- ASTM D-665, Rust Test A&B: Pass
- ASTM D-943 Oxidation Test: 6000+ Hrs

### Typical Customer

- Owners and Operators of:
- Mobile/Industrial Hydraulic Systems
  - Electric Utility Maintenance Equipment
  - Enclosed Gear Sets
  - Circulating Systems
  - Air Compressors and Vacuum Pumps
  - Injection Molding Machines
  - General Lubrication

### Typical Properties

ISO Viscosity Grade	MV-32	22	32	46	68	100	150	220	460
Approximate SAE Grade	(5W-20)	(5W)	(10W)	(20W)	(20)	(30)	(40)	(50)	--
Viscosity @ 100°C, cSt	6.20	4.35	5.50	6.80	8.80	11.1	14.6	18.7	30.5
	SUS 46.5	40.6	44.3	48.5	55.1	63.2	76.4	93.0	145
@ 40°C, cSt	33.1	21.9	31.9	46.1	67.5	98.4	148	214	461
	SUS 156	106	150	215	313	456	686	992	2136
Viscosity Index	140	103	105	101	100	98	96	95	95
Pour Point, °F	-50	-40	-40	-25	-20	-10	10	10	20
API Gravity/Lbs gallon	32.8/7.2	33.1/7.2	32.3 /7.2	31.0/7.2	30.1/7.2	30.1/7.2	28.9/7.3	28.0/7.4	25.7/7.5
Flash Point, °F	400	400	420	440	460	480	500	540	560
Dielectric Strength, KV	40*	40*	40*	40*	40*				
Indol (Ultra Clean) series	Yes*	Yes*	Yes*	Yes*	Yes*				

\* This Dielectric Strength and Ultra clean specification are only found in the above products that are in new sealed drums, totes, and 2½-gallon containers from CHS Lube manufacturing plants. The drums and totes will have the ultra clean logo on them.

The typical properties listed reflect the general characteristics of the product, and are not manufacturing specifications. Normal batch-to-batch variations should be expected.

**HEALTH & SAFETY:** A complete material safety data sheet is available upon request. Used oil contains by-products, which may be harmful. Avoid prolonged or repeated skin contact. Wash clothing and exposed areas with soap and water. Don't pollute - return used oil to a collection center.