



Hi-Tec Oil Traders Pty Ltd ABN 28 053 837 362

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PRODUCT DATA SHEET

FARM OIL 15W/40

DESCRIPTION:

Hi-Tec FARM OIL 15W/40 is a special Super Tractor Oil Universal (STOU) specifically formulated to service tractors with just one lubricant where formerly up to four or more oils were required.

Hi-Tec FARM OIL 15W/40 possesses all the lubrication characteristics necessary to give long trouble-free life to a wide range of agricultural power driven equipment. It is recommended for most engines: modern 4-stroke diesel normally aspirated and turbocharged as well as gasoline engines, transmissions, differentials, final drives, hydraulic systems, wet brakes and power take-off clutches.

The recommendations of **Hi-Tec FARM OIL 15W/40** do not end at the farm since it will improve the performance in many other services including the tough demands on power driven equipment used in off-highway construction, transport, mining, industrial and marine. Reduced lubricant inventories are a further bonus.

CHARACTERISTICS:

ONE FLUID REDUCES INVENTORY **Hi-Tec FARM OIL 15W/40** can replace four or more tractor lubricants. It is recommended for engines (diesel and gasoline), wet brake transmissions, differentials, final drives, hydraulics and power take-off clutches. **Hi-Tec FARM OIL 15W/40** simplifies tractor services and overcomes the possibility of misapplication of incorrect lubricant which otherwise may result in damage to the engine components.

DIESEL DETERGENCY & DISPERSANCY - High temperature detergents and dispersants in **Hi-Tec FARM OIL 15W/40** minimise the formation of top land ring and valve deposits and sludge development in both high and low load conditions. These additives guard against ring sticking and are further enhanced by oxidation, rust and corrosion inhibitors.

BORE POLISH DEFEATED - Top land and ring carbonaceous deposits are effectively minimised by **Hi-Tec FARM OIL 15W/40** so that the polishing action of the carbonised materials is avoided. If left uncontrolled the deposits result in bore polish which leads to progressively higher oil consumption and shorter engine life.

ANTI-WEAR & EP ACTIVITY. These special characteristics of **Hi-Tec FARM OIL 15W/40** ensure effective lubrication when high load conditions are experienced in transmissions, axles, engines and hydraulic systems. They cumulatively promote long service life and trouble-free operation to tractors.



AUSTRALIAN FAMILY OWNED SINCE 1989





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POWER TAKE-OFF LIFE is greatly extended because **Hi-Tec FARM OIL 15W/40** has the special ability to quickly stall to prevent the clutches from slipping and burning out when a tractor driven implement hits any large object in the field. **Hi-Tec FARM OIL 15W/40** provides faster stall times which reduce clutch wear and prolong PTO life.

BRAKE CHATTER can mean greater braking difficulty and ultimately premature failure. **Hi-Tec FARM OIL 15W/40** suppresses chatter without loss of braking capacity. The balanced friction control ensures proper functioning of the wet brake and PTO clutches.

SEAL SWELL properties of **Hi-Tec FARM OIL 15W/40** are especially balanced so that seal gasket and wet brake compositions do not deteriorate, thereby avoiding costly repairs and down time.

FILTERABILITY is superior to competitive fluids. **Hi-Tec FARM OIL 15W/40** overcomes the tendency of filter plugging, which can occur with other fluids when operating in moisture contaminated service conditions, and thus lubricant supply is assured to all the appropriate moving surfaces.

RECOMMENDATIONS:

Hi-Tec FARM OIL 15W/40 meets most tractor OEM specifications, as well as many hydraulic pump and hydraulic transmission specifications.

Hi-Tec FARM OIL 15W/40 meets and exceeds the following performance requirements:

Diesel Engines	API: CF-4, CF, CE, CD ACEA: E2
Gasoline Engines	API: SF
Transmission	API: GL-4

OEM'S

Caterpillar TO-2 (obsolete)
Daimler Benz 227.1, 228.1
Ford ESN M2C 159A, 159B
John Deere JDM J27D
MAN 271
Massey Ferguson CMS M1144, M1145
MIL-L-2104D
ZF Transmissions TE-ML 07B, TE-ML 06A, B, C.



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Hi-Tec FARM OIL 15W/40 meets and exceeds the following engine performance requirements:

ACEA E7-08 and API CI-4 level of soot control (Mack T-8E)

ACEA E4-08 and MB 228.3 level of wear performance (OM 602A and OM 646 LA)

ACEA E7-08 and MB 228.3 level of piston cleanliness (OM 441LA and OM 646 LA on B05 fuel).

Hi-Tec FARM OIL 15W/40 is recommended for the following equipment manufacturers and performance requirements:

NORTH AMERICAN OEMs

Allis Chalmers
Case International
Ford
J I Case
Massey Ferguson

Allison
Caterpillar
International Harvester
John Deere

MAJOR EUROPEAN OEMs

Case UK
David Brown
Fiat
MAN
MWM Engines
Poclain Hydraulics
Sperry Vickers Hydraulics
ZF Transmissions (TE ML 06, 07)

Daimler Benz
Fendt Vario
K H Deutz
MB Trac and Unimog
Perkins Engines
SAME
Sunstrand Hydraulics

NATIONAL EUROPEAN OEMs

Ebro
Hurlimann
Schluter
Volvo BM Valmet

Eicher
Landini
Steyr Daimler Puch

JAPANESE/CMEA OEMs

Belarus
Kubota
Universal
Yanmar

IMT
Lely-Iseki
Ursus
Zetor



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TYPICAL TEST

	<u>ASTM METHOD</u>	<u>Hi-Tec FARM OIL 15W/40</u>
Density, Kg/Lt at 15°C	D.1298	0.89
Viscosity, cSt at 100°C	D.445	14.0
at 100°C, Sonic Shear for 30 mins	D.445	12.6
at 40°C	D.445	103
cP at -20°C	D.5293	6439
Viscosity Index	D.2270	138
Pour Point, °C	D.97	-30
Flash Point, COC, °C	D.92	231
Calcium, % wt		0.38
Zinc, % wt		0.16
Phosphorus, % wt		0.16
Boron, % wt		0.005
Nitrogen, % wt		0.07
Sulphated Ash, % wt		1.55
Total Base Number, mgKOH/g	D.4739	10.4
Foaming Characteristics, mls	D.892	
Sequence 1, Initial/After Settling 10 mins		10/0
" 2, "		30/0
" 3, "		20/0
Oxidation Test, 100 hr, 150°C	IP.294	
% Viscosity Increase	D.445	+0.4
Copper Strip Corrosion, 3 hr, 150°C	D.130	1a
Rust Protection Characteristics	D.665B	No Rust
Four Ball, 1500 RPM, 40Kg, 1 hr, Scar Diameter, mm	D.2266	0.36
Timken, OK Load, Kg	D.2509	15
Seal Tests, 70 hour, 125°C, 100 Buna N		(Ford ATRR)
Volume change, %		+2.9
Hardness Change, Points		-2

"Hi-Tec Oil Traders Pty Ltd (Hi-Tec Oils) has endeavoured to ensure that all information, representations and specifications contained in this product data sheet are accurate at the time of publication. This general information should be used in conjunction with appropriate inquiries by users of the product including consultation with the vehicle or equipment manufacturers published information.

It is the responsibility of users of the product to use the product safely. Users should consult the safety data sheets for each product at www.hi-tecoils.com.au. Hi-Tec Oils takes no responsibility for injury or damage if the product is used in an inappropriate or unsafe manner. Our product warranty and product quality statement can be viewed at www.hi-tecoils.com.au"

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