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# STOU Fluid

SAE 10W-40

**Synthetic based, universal lubricant suitable for the lubrication of engines, hydraulic systems, transmissions, differentials, final drives and axles of machines also with wet brakes/clutches.**

PAKELO STOU FLUID SAE 10W-40 is a special universal lubricant for agricultural machines that allows to simplify lubrication. The special and updated additive package used confers to PAKELO STOU FLUID SAE 10W-40 anti-oxidative, anti-wear, anti-rust, anti-foam, detergent, dispersant, EP (Extreme Pressure) and LS (Limited Slip) properties: furthermore the product provides great thermal stability, protection from corrosion and good compatibility with gaskets.

The use of synthetic bases guarantees better thermo-oxidative stability if compared to a mineral based product. Furthermore, the product provides reduced evaporation losses, better fluency at start-ups and longer lasting performance.

Engines' emission are now ruled also in earth moving and agricultural sector even if emission limits result different from "on-road" field. Furthermore, drain intervals became longer and longer even in more severe working conditions.

This means that lubricants for new generation engines can be affected by an increase in soot content and must treat soot to avoid higher wear rate (of cylinders, pistons, valve train devices), oil thickening (less pumpability during start ups, higher working temperatures and higher fuel consumption), soot agglomeration (filter clogging) and higher level of deposits.

PAKELO STOU FLUID SAE 10W-40 is an API CF-4 performance level lubricant with new dispersant additives that allow to satisfy the more severe and more recent ACEA E7 Specification.

This helps reducing to the minimum any issue due to high soot content.

PAKELO STOU FLUID SAE 10W-40 is suitable for the lubrication of engines, transmissions (gearboxes, differentials, final drives, power take offs, hydraulic joints, torque converters, "powershifts") and hydraulic systems.

Furthermore, thanks to its Limited Slip characteristics and the optimization of friction coefficient, the product can be used in machines with wet brakes/clutches.

PAKELO STOU FLUID SAE 10W-40 provides the following characteristics:

- very good anti-oxidative, anti-wear, anti-rust, anti-foam, EP and LS characteristics;
- resistance to formation of lacquers, sludge, varnishes and deposits;
- great thermal stability;
- friction coefficient optimized to satisfy Constructors' specifications concerning wet brakes/clutches, hydraulic joints, torque converters, "powershift" transmissions, etc.;
- very good compatibility with gaskets even at high temperatures (this avoids any leakage of the product in the system);
- very high engine performance;
- single product solution for several applications.

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## Application fields

PAKELO STOU FLUID SAE 10W-40 is recommended for the lubrication of engines, transmissions (also with wet brakes/clutches), power take offs, hydraulic, hydrostatic and steering systems of earth moving and agricultural machines when a STOU (Super Tractor Oil Universal) product is requested.

The choice of correct Viscosity Grade has to be taken in respect of Constructors' Recommendations and ambient temperatures.

## Performance levels

The additive package used has enabled, in the set Viscosity Grades recommended by Constructors, to meet the following Performance Levels:

**TRACTOR OEM SPECIFICATIONS:** John Deere JDM J27, Ford New Holland 82009201/2/3, Ford M2C159-B /M2C159-C, Massey Ferguson CMS M1135 / M1139 / M1144 / M1145, New Holland NH 030C / 024C.

**TRANSMISSION SPECIFICATIONS:** API GL-4, Allison C4, Caterpillar TO-2, John Deere J20C/J20D, Ford M2C134-D / M2C86B / M2C86B, ZF TE-ML 06A / 06B / 06C / 06D / 06R / 07B, Case MS 1204/6/7/9, CNH MAT 3525 / MAT 3526, New Holland NH 410B /420A.

**HYDRAULIC SPECIFICATIONS:** Sperry Vickers/Eaton I-280-S / M2950S, Sauer Sunstrand/Danfoss Hydro Static Trans Fluid, Conestoga pump test ISO 20763

**ENGINE SPECIFICATIONS:** API CG-4 / CF-4 / CF / CE / CD, API SF, ACEA E2 / E3, MIL-L-2104D, MB 228.3, MB 228.1, MB 227.1, MAN 271, (ACEA E3 level of cam wear and piston cleanliness), (MB 228.3 level of cylinder wear and bore polish, level of piston cleanliness), (ACEA E4 and ACEA E7 level of cam wear, cylinder wear and bore polish, level of piston cleanliness).

## Chemical-Physical Characteristics

| STOU Fluid                             | Method analysis | Unit measure | Value SAE 10W-40 |
|--|-----------------|--------------|------------------|
| Density at 15°C                        | ASTM D1298      | kg/l         | 0,873            |
| Kinematic Viscosity at 40°C            | ASTM D445       | cSt          | 84,1             |
| Kinematic Viscosity at 100°C           | ASTM D445       | cSt          | 13,0             |
| Viscosity Index                        | ASTM D2270      | -            | 155              |
| C.C.S. Viscosity at -25°C              | ASTM D5293      | cP           | < 7000           |
| T.B.N. (Total Base Number)             | ASTM D2896      | mg(KOH)/g    | 10,2             |
| Sulphated Ash                          | ASTM D874       | % (w/w)      | 1,4              |
| Flash Point (C.O.C.)                   | ASTM D92        | °C           | >220             |
| Pour Point                             | ASTM D97        | °C           | -40              |
| Test FZG (A/8,3/90) Failure Load Stage | DIN51354-2      | Stage        | 12               |

The data just above refer to average values and must not be understood as guaranteed characteristics.

This Technical Data Sheet has been carefully checked to guarantee complete and precise information. However, we do not take any responsibility in case of damages caused by any mistakes or omissions. Due to continual product research and development, the information contained herein is subject to change without notification.